IMPERIAL BEACH
TRAFFIC IMPACT STUDY
EXECUTIVE SUMMARY

February 2009

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City of Imperial Beach

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EXECUTIVE SUMMARY

The project goals are to provide traffic calming measures, aesthetic enhancements and improved pedestrian connections along State Route 75 (SR-75)/Palm Avenue between 13th Street and Rainbow Avenue. To accomplish this, modifications are proposed to existing motor vehicle travel lanes, parking areas, medians, landscaping, sidewalks, crosswalks, curbs, and gutters. The project team assembled together to conceptualize the elements put forth in the proposed plan. This traffic study analyzes the existing and proposed project for the current year as well as the "horizon year" for increased traffic expected in the future.

PROJECT DESCRIPTION

The project traffic data and existing street network was studied to help understand the nature of the SR-75 corridor. From this information four subareas were defined, each with distinct road geometries, traffic demands, and street character. These areas were named based on their relative location along the corridor: the East End Gateway from Florida Street to the eastern City limit, the Mid-Town Sector from Delaware Street to Florida Street, the Park Sector encompassing roads around the triangular park from 7th Street to Delaware Street, and the West End Gateway from the western City limit to 7th Street.

East End Gateway

The East End Gateway sector is the first taste of Imperial Beach for those entering the city coming westbound along SR-75. This sector receives the highest amount of traffic along the corridor and requires the most capacity. Because of this, no changes in the number of lanes was proposed. However, the generous existing paved width of the roadway allows for landscaped pop-outs, bike lanes, and parking while maintaining standard Caltrans lane widths. Pop-outs added to corners of the signalized intersections will reduce the crosswalk length and time needed for pedestrians to cross the roadway. This reduction in pedestrian crossing time can positively effect the operation of the traffic signals. The addition of pop-outs and bike lanes along the study segment does not directly affect the analysis of traffic operations, but should provide traffic calming effects and safer travel for bicyclists, vehicles, and pedestrians alike.

Mid-Town Sector

In the Mid-Town Sector, the project team sought to reduce the speed and to enhance the safety of the side street traffic and the traffic getting in and out of the commercial establishments. The project proposes the addition of two auxiliary medians to separate the local traffic lanes from the inner two through lanes. This segregation of the local /curbside lanes would change the functionality of these lanes, making it more like a service lane for the side streets and the commercial establishments adjoining the street. The proposed design would reclassify this segment of Palm Avenue from a six lane major to a "modified" six lane major with less capacity due to the downgraded serviceability of the new access road. The project also proposes the addition of a new full-access traffic signal at 10th Street by removing the existing medians there while simultaneously closing the existing left turns at 11th Street. This would change the traffic patterns of streets adjacent to the 10th Street intersection, as some of the traffic at nearby intersections may be diverted onto the 10th Street and SR-75/Palm Avenue intersection. Pop-outs at the intersections will again lessen the length of travel time pedestrian need to cross SR-75.

Park Sector
The most prominent portion of the project lies in the heart of the corridor in what is referred to as the Park Sector. This area is a bound by SR-75, Palm Avenue, 7th Street and Delaware Street that form three signalized intersections in close proximity to one another, with a triangular park in the middle. The proposed configuration seeks to improve pedestrian bicycle connections across SR-75 and should make the westbound transition from SR-75 to Palm Avenue more instinctive while maintaining acceptable levels of service for SR-75.

Due to the complexity of the existing roadway alignments multiple options were studied to find the best fit for the goals set forth by the City of Imperial Beach, Caltrans, and the design team. Three alternatives were studied in detail and a preferred alternative was chosen by the City Council to integrate into the recommended project plan.

West End Sector
The far west end of the project corridor already exists as a 4-lane roadway. Although a bike lane/shoulder exists along the eastbound travel lanes, infrequently used parking on the westbound side of the street was removed to provide bike lanes along both sides of the street. Crosswalks were added to both the Rainbow Drive and 7th Street intersections for better pedestrian connections. The striping at the Rainbow Drive signal was also changed to improve operations at the intersection due to high northbound left turning traffic volumes although not associated with any project impacts.

EXISTING CONDITIONS

SR-75 is a 6-lane highway through the majority of Imperial Beach from 13th Street to 7th Street. West of 7th Street the highway reduces down to 4-lanes. Average daily traffic (ADT) volumes range from 18,800 to 38,000 vehicles per day, incrementally decreasing moving west along SR-75. KOA studied all the existing signalized intersections along SR-75 and the segments between these intersections to determine operation in the current year. The results are reported in levels of service (LOS) and form the basis for comparison for the effects of the proposed project. Any results worse than LOS D are considered unacceptable.

Segment Results
In the existing conditions it can be seen from the table below that the all the segments along the study corridor of SR-75 operate at an acceptable LOS.

Table 1
Existing Conditions – Segment Conditions

Roadway Segment	Existing Conditions				
	Lanes/ Class	LOS E Capacity	ADT	V/C	LOS
SR-75/Palm Avenue					
13th Street to Florida Street	6MA	50,000	38,000	0.760	C
Florida Street to 10th Street	6MA	50,000	36,900	0.738	C
10th Street to 9th Street	6MA	50,000	36,900	0.738	C
9th Street to Delaware Street	6MA	50,000	25,000	0.500	B
Delaware Street to 7th Street	6MA	50,000	22,400	0.448	B
7th Street to Rainbow Drive	4MA	40,000	18,800	0.470	B

Intersection Results
In the existing conditions it can be seen from the table below that the all the intersections along the study corridor of SR-75 operate at an acceptable LOS with the exception of Palm Avenue and 7th Street, which operates at LOS E.

Table 2
Existing Conditions – Intersection Conditions

Intersection	Existing Conditions	
	Delay	LOS
AM Peak Hour		
1. Palm Ave. and 13th St.	31.5	C
2. Palm Ave. and Florida St.	8.7	A
3. Palm Ave. and 10th St.*	NA*	NA*
4. Palm Ave. and 9th St.	33.7	C
5. SR-75 and Delaware St.	26.7	C
6. Palm Ave. and Delaware St.	NA*	NA*
7. SR-75 and 7th St.	16.3	B
8. Palm Ave. and 7th St.	50.3	D
9. SR-75 and Rainbow Dr.	31	C
PM Peak Hour		
1. Palm Ave. and 13th St.	55.6	E
2. Palm Ave. and Florida St.	15.9	B
3. Palm Ave. and 10th St.*	0	A
4. Palm Ave. and 9th St.	45.6	D
5. SR-75 and Delaware St.	27.3	C
6. Palm Ave. and Delaware St.	NA*	NA*
7. SR-75 and 7th St.	16	B
8. Palm Ave. and 7th St.	55.5	E
9. SR-75 and Rainbow Dr.	26.8	C

**Unsignalized*

PARK SECTOR ALTERNATIVES

The Park Sector specifically looked at three different alternatives before one was chosen as a preferred option. The intersections in the direct vicinity of the park along SR-75, including SR-75/7th Street, Palm Avenue/7th Street and Palm Avenue/Delaware change with each alternative, the proposed treatments to other periphery intersections do not change. Below are descriptions of each study alternative done for the Park Sector.

Park Sector Alternative 1
The first study alternative converts the existing street system surrounding the park to a one-way, two-lane counter-clockwise street system. To accomplish this, eastbound traffic on SR75 was rerouted to southbound 7th Street and then to eastbound Palm Avenue before returning to its original alignment. The existing eastbound SR-75 travel lanes adjacent to the park would be vacated and converted into additional green space. The realignment of the roadway creates four signalized intersections, one on each corner of the park: SR-75 and 7th Street, Palm Avenue and 7th Street, Delaware Street and Palm Avenue, and SR-75 and Delaware Street.

With this redirection of traffic, the traffic signals and roadway segments were found to operate with acceptable levels of service at all study intersections and segments through proper traffic signal timing and synchronization. One positive effect of the signalization of all corners of the park is the improvement to pedestrian access to each side of SR-75 that the area currently lacks. However, the relative ease of progression of westbound traffic to Palm Avenue and onward to Seacoast Drive and the beaches is made more complicated through the alignment changes. Heavy turns, more difficult truck access, and lane assignment conflicts were seen as negatives that could not be easily overcome.

Park Sector Alternative 2

Alternative 2 prioritizes the desire to redirect westbound traffic flow from SR-75 to Palm Avenue by realigning SR-75 at Delaware Street to connect directly with Palm Avenue at 7th Street. With this, eastbound and westbound traffic is routed more easily to and from the western portions of Imperial Beach and the Seacoast Drive area. This alternative abandons the existing section of SR-75 between 7th Street and Delaware Street. Traffic coming from and going to Coronado along SR-75 must turn on to 7th Street before continuing.

Traffic results show failing levels of service at the two primary intersections in the AM or the PM peak hour. Given that the dominant traffic movements along SR-75 is not bound for Palm Avenue, it forces the highest volumes to make a combination right-then-left turn, creating an inconvenient detour for the majority of travelers. This traffic pattern did not operate efficiently and was therefore not recommended.

Park Sector Alternative 3

In an effort to balance the traffic demands on SR-75 with the interest to make the transition from SR-75 to Palm Avenue more conspicuous and understandable, a third alternative was suggested by the design team. This scenario maintains the existing alignment of SR-75, but moves eastbound Palm Avenue traffic to align with the existing westbound connection at SR-75, intersecting at Delaware Street. The existing segment of eastbound Palm Avenue between Delaware Street and 9th Street would be abandoned, as would Delaware Street south of Palm Avenue. The existing traffic signal at SR-75/Palm Avenue/Delaware Street would be modified to provide for eastbound movements from Palm Avenue and pedestrian crossings, but will not be fully accessible by traffic on Delaware Street, as it currently exists.

The addition of crosswalks at the traffic signal of SR-75/Palm Avenue/Delaware Street benefits pedestrian access and provides a more understandable transition to and from Palm Avenue by removing confusing connector streets and adding emphasis to the signal. The land gained from the proposed street vacations south of the intersection can be used as part of the improvements planned for the future 9th Street development at this location. Traffic operations for this alternative resulted in little change from the existing conditions and acceptable level of service. This scenario was chosen as the recommended alternative for the Park Sector for successfully meeting the desired goals.

ANALYSIS RESULTS

This evaluation studied all of the signalized intersections along SR-75 and the segments between these intersections to determine operations both with and without the project in both the current and future years. Results are reported in levels of service and any potentially significant environmental impacts due to traffic coming from these results have been noted. Any results worse than LOS D are considered unacceptable. The proposed project considers Park Sector Alternative 3 integrated into the overall proposed project.

Segment Results

In the study year 2008 it can be seen from the tables below that the all the segments along the study corridor of SR-75 operate at an acceptable LOS. In the horizon study year 2030 all the segments operate at an acceptable LOS after the implementation of the proposed project.

Table 3
Preferred Alternative – Segment Conditions

Roadway Segment	2008						Horizon Year					
	Without Project		With Project		Δ V/C	Sig?	Without Project		With Project		Δ V/C	Sig?
	V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS		
SR-75/Palm Avenue												
13th Street to Florida Street	0.760	C	0.760	C	0.000	No	0.887	D	0.887	D	0.000	No
Florida Street to 10th Street	0.738	C	0.738	C	0.000	No	0.862	D	0.862	D	0.000	No
10th Street to 9th Street	0.738	C	0.738	C	0.000	No	0.862	D	0.862	D	0.000	No
9th Street to Delaware Street	0.500	B	0.500	B	0.000	No	0.586	C	0.586	C	0.000	No
Delaware Street to 7th Street	0.448	B	0.560	C	0.112	No	0.520	B	0.650	C	0.130	No
7th Street to Rainbow Drive	0.470	B	0.470	B	0.000	No	0.545	C	0.545	C	0.000	No

Intersection Results

In the study years 2008 and 2030 it can be seen from the tables below that the all the intersections along the study corridor of SR-75 operate at an acceptable LOS after the implementation of the proposed project.

Table 4
Preferred Alternative – Intersection Conditions

Intersection	2008					Horizon Year				
	Without Project		With Project			Without Project		With Project		
	Delay	LOS	Delay	LOS	Sig?	Delay	LOS	Delay	LOS	Sig?
AM Peak Hour										
1. Palm Ave. and 13th St.	31.5	C	24.3	C	No	31.3	C	24.3	C	No
2. Palm Ave. and Florida St.	8.7	A	9.3	A	No	9.7	A	9.3	A	No
3. Palm Ave. and 10th St.	NA*	NA*	8.8	A	No	NA*	NA*	8.8	A	No
4. Palm Ave. and 9th St.	33.7	C	26.2	C	No	33.8	C	26.2	C	No
5. SR-75 and Delaware St.	26.7	C	7.3	A	No	29.5	C	7.3	A	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA*	NA*	NA*	NA*	NA
7. SR-75 and 7th St.	16.3	B	14.8	B	No	23.1	C	14.8	B	No
8. Palm Ave. and 7th St.	50.3	D	18.6	B	No	49.4	D	18.6	B	No
9. SR-75 and Rainbow Dr.	31.0	C	18.3	B	No	43.5	D	18.3	B	No
PM Peak Hour										
1. Palm Ave. and 13th St.	55.6	E	38.4	D	No	67.8	E	48.0	D	No
2. Palm Ave. and Florida St.	15.9	B	10.7	A	No	14.0	B	12.7	B	No
3. Palm Ave. and 10th St.	0.0	A	21.5	A	No	NA	NA	8.5	A	No
4. Palm Ave. and 9th St.	45.6	D	32.2	D	No	46.7	D	44.2	D	No
5. SR-75 and Delaware St.	27.3	C	8.9	A	No	29.8	C	11.3	B	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA*	NA*	NA*	NA*	NA
7. SR-75 and 7th St.	16.0	B	12.7	B	No	20.5	C	17.1	B	No
8. Palm Ave. and 7th St.	55.5	E	16.3	B	No	55.5	E	22.4	C	No
9. SR-75 and Rainbow Dr.	26.8	C	22.6	C	No	46.5	D	29.8	C	No

**Unsignalized or does not exist with project*

CONSTRUCTION PHASING

The project is envisioned to be implemented in segments as funding resources become available. For this reason, the construction phasing was assumed by project sub-area; East End Gateway, Mid-Town Sector, Park Sector, and West End Gateway. Each segment is assumed to be constructed independent of one another. However, due to the realignment needed for the Park Sector, construction for that phase would be extended to include improvements from 7th Street to 9th Street. Certain portions of the corridor may have priority for construction or have less regulatory processing required by Caltrans, leading to the need for flexibility in their construction phasing. The segment limits are then described as:

- *East End Gateway*: SR-75 from Florida Street to the eastern City limit
- *Mid-Town Sector*: SR-75 from 9th Street to Florida Street
- *Park Sector*: SR-75 from 7th Street to 9th Street and the roadways encompassing the park
- *West End Gateway*: SR-75 from western City limit to 7th Street

The roadway is currently within Caltrans jurisdiction, because it is a State Route. Caltrans approval will be necessary during the design phase of these segments.

COST ESTIMATES

Cost estimates were based on quantities measured electronically in the AutoCAD concepts created for the project. Quantities were separated by each phased segment based upon the limits of each sector described above. Unit prices were based on recent, local costs for each pay item. Lump sum items, such as mobilization, traffic control, and clearing and grubbing, used standard percentages of construction costs. Because the project is in the preliminary concept stage, a 30% contingency was applied to the project costs, along with an additional 12% for design and 3% for environmental documentation. Table 5 shows the breakdown of costs.

Table 5
Cost Estimates

Item	West End Gateway	Park Sector	Mid-Town Sector	East End Gateway	TOTAL
Road Improvements	$1,158,000	$4,107,900	$2,524,000	$2,415,100	$10,205,000
Landscaping and Accessories	$355,000	$809,000	$693,000	$366,000	$2,223,000
Project Construction Sub-Total	*$1,513,000*	*$4,916,900*	*$3,217,000*	*$2,781,100*	*$12,428,000*
30% Contingency	$454,000	$1,475,000	$965,000	$834,000	$3,728,000
Design & Construction Admin.	$236,000	$767,000	$502,000	$434,000	$1,939,000
Environmental Documentation	$59,000	$192,000	$125,500	$108,500	$485,000
PROJECT TOTAL	*$2,262,000*	*$7,350,900*	*$4,809,500*	*$4,157,600*	***$18,580,000***

The cost estimates indicate that the overall project cost to be approximately $18.6 million for construction, design, and environmental processing.

SUMMARY OF RESULTS

The existing SR-75 corridor is predominately dedicated to vehicular travel and does not currently lend itself to other modes of travel, such as pedestrian and bicycles. Wide roads and high speeds suggest the need for traffic calming, aesthetic and safety enhancements along this area in order to begin the revitalization process. The proposed project adds traffic signals with crosswalks, proposes curb pop-outs, realigns roadways, and reassigns existing drivable space to pedestrians and bicyclists in order to accomplish these goals. In some areas, the number of primary driving lanes was reduced or changed to local / access roads by proposing auxiliary medians on each side of the street.

Technical results indicate that the project will operate effectively at all intersections. Additionally, the project shows an increase in the levels of service for intersections after the implementation of the project, suggesting an overall improvement to the corridor through road improvements and signal coordination.

IMPERIAL BEACH SR-75 CORRIDOR
TRAFFIC IMPACT ANALYSIS

February 2009

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CHAPTER 1
THE PROJECT

This traffic impact analysis has been prepared for the proposed characteristic change of State Route 75 (SR-75)/Palm Avenue, to create more of a main street character within the city limits. The proposed project is located in the City of Imperial Beach connecting Interstate 5 (I-5) to its east and SR-75 to Silver Strand and The City of Coronado to its west. Palm Avenue is the same roadway as SR-75 from the eastern city limit to Delaware Street and then diverges as its own road connecting the beach to its west. Figure 1-1 shows the project vicinity and study area.

PROJECT DESCRIPTION

The project traffic data and existing street network was studied to help understand the nature of the SR-75 corridor. From this information four subareas were defined, each with distinct road geometries, traffic demands, and street character. These areas were named based on their relative location along the corridor: the East End Gateway from Florida Street to the eastern City limit, the Mid-Town Sector from Delaware Street to Florida Street, the Park Sector encompassing roads around the triangular park from 7th Street to Delaware Street, and the West End Gateway from the western City limit to 7th Street.

In general, traffic calming, reduction of travel lanes, addition of crosswalks and coordinated traffic signals were the primary elements considered for the proposed project. Chapter 5 discusses the conceptualized project in more detail.

STUDY AREA

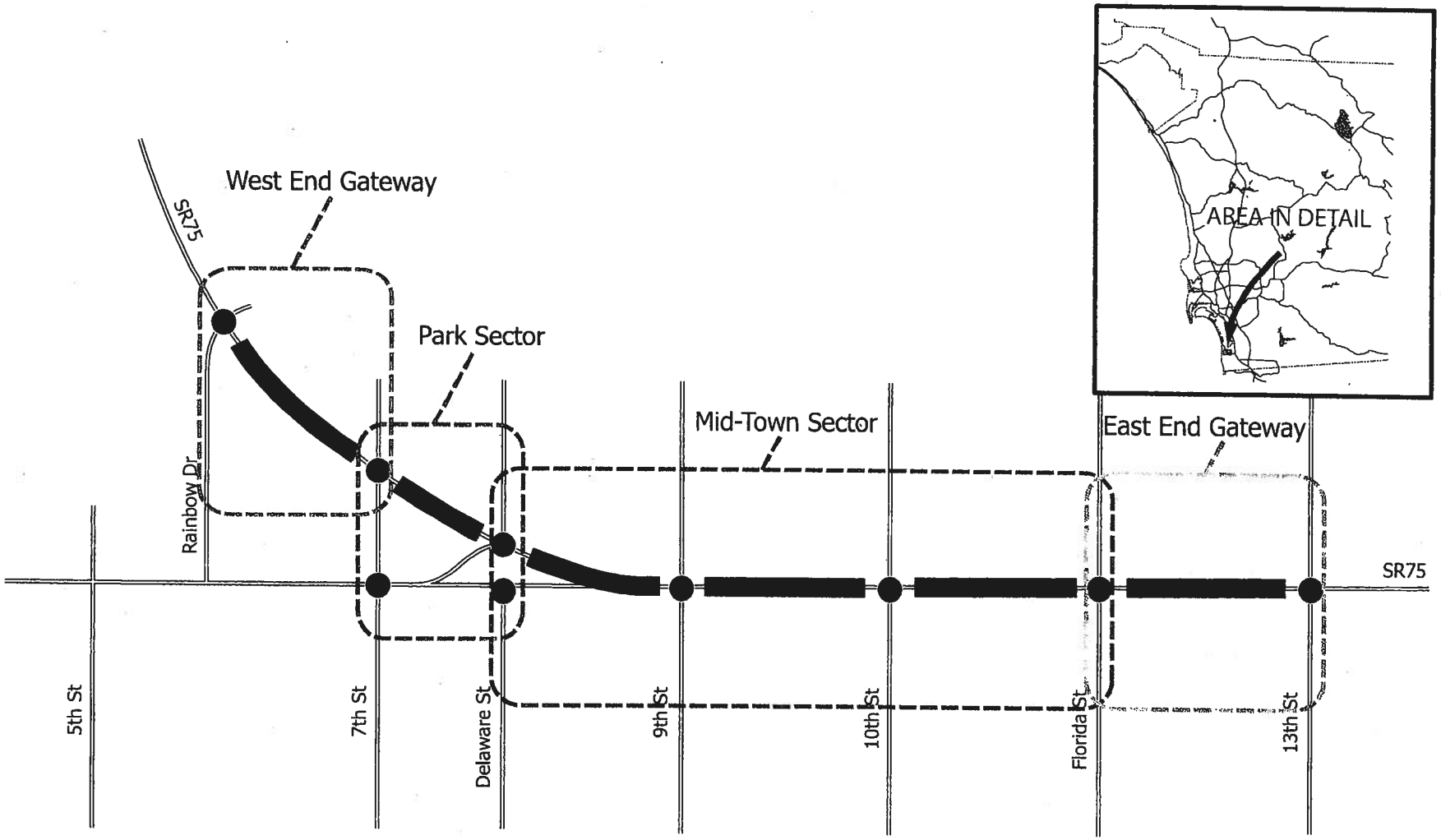
The study area for this project includes the intersections and segments between the *13th Street* and *Rainbow Drive*. The study area is shown in Figure 1-1. The specific study area includes nine intersections and six roadway segments:

Roadway Segments

- *SR-75/Palm Avenue* between *13th Street* and *Florida Street*
- *SR-75/Palm Avenue* between *Florida Street* and *10th Street.*
- *SR-75/Palm Avenue* between *10th Street* and *9th Street*
- *SR-75/Palm Avenue* between *9th Street* and *Delaware Street.*
- *SR-75/Palm Avenue* between *Delaware Street* and *7th Street*
- *SR-75/Palm Avenue* between *7th Street* and *Rainbow Drive.*

Intersections

- *SR-75/Palm Avenue* and *13th Street*
- *SR-75/Palm Avenue* and *Florida Street*
- *SR-75/Palm Avenue* and *10th Street*
- *SR-75/Palm Avenue* and *9th Street*
- *SR-75/Palm Avenue* and *Delaware Street*
- *SR-75/Palm Avenue* and *7th Street*
- *SR-75* and *Rainbow Drive*
- *Palm Avenue* and *Delaware Street*
- *Palm Avenue* and *7th Street*



LEGEND

- Study Intersection Locations
- Study Segments

Figure 1-1
Project Study Area

N
Not To Scale

CHAPTER 2
METHODOLOGIES

This chapter documents the methodologies and assumptions used to conduct the traffic impact analysis for the project. The study methodology and analysis is based on the San Diego Traffic Engineers' Council (SANTEC). These guidelines are used to determine the project's potential significant impacts. This section contains the following background information:

- Study scenarios
- Capacity analysis methodologies

STUDY SCENARIOS

This report presents an analysis of the following analysis scenarios:

- Existing Conditions without Project
- Existing Conditions with Project
- Horizon Year Conditions without Project (Year 2030)
- Horizon Conditions with Project (Year 2030)

ANALYSIS METHODOLOGIES

Street system operating conditions are typically described in terms of "level of service." Level of service is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. Level of service (LOS) ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion). A more detailed description of the concepts described in this section is provided in Appendix A of this document. The following methods are outlined in this publication and used in this study.

Roadway Segment Capacity Analysis
The City of San Diego has published daily traffic volume standards for roadways within its jurisdiction. To determine service levels on study area roadway segments, we compared the appropriate average daily traffic thresholds for level of service to the daily capacity of the study area roadway segments, and the existing and future volumes in the study area. The thresholds for determining level of service used in this analysis are summarized in Appendix A.

Intersection Capacity Analysis
The analysis of peak hour intersection performance was conducted using the Traffix analysis software program, which uses methodologies defined in the 2000 Highway Capacity Manual (HCM) to calculate results. Level of service (LOS) for intersections is determined by control delay. Control delay is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue. Appendix A lists the HCM delay/LOS criteria for both signalized and unsignalized intersections.

Signalized Intersections
The HCM analysis methodology for evaluating signalized intersections is based on the "operational analysis" procedure. This technique uses 1,900 passenger cars per hour of green per lane (pcphgpl) as the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition, (e.g., the percentage of vehicles that are trucks) and shared lane movements (e.g., through and right-turn movements from the same lane). Average control delay is calculated by taking a volume-weighted average of all the delays for all vehicles entering the intersection.

All-way Stop-controlled (AWSC) Intersections
The HCM analysis methodology for evaluating all-way Stop-controlled intersections is based on the degree of conflict for each independent approach created by the opposing approach and each conflicting approach. Level of Service for AWSC intersections is also based on the average control delay. However, AWSC intersections have different threshold values than those applied to signalized intersections. This is based on the rationale that drivers expect AWSC intersections to carry lower traffic volumes than at signalized intersections. Therefore, a higher level of delay is acceptable at a signalized intersection for the same LOS.

Two-way Stop-controlled (TWSC) Intersections
The HCM analysis methodology for evaluating two-way Stop-controlled (TWSC) intersections are based on gap acceptance and conflicting traffic for vehicles stopped on the minor-street approaches. The critical gap (or minimum gap that would be acceptable) is defined as the minimum time interval in the major-street traffic stream that allows intersection entry for one minor-street vehicle. Average control delay and LOS for the "worst approach" are reported. Level of service is not defined for the intersection as a whole.

Analysis of Significance
To determine direct project impacts, the SANTEC has developed a series of thresholds based on allowable increases in volume-to-capacity ratios that become more stringent as level of service worsens. Appendix A summarizes these thresholds. The acceptable level of service for roadway segments and intersections is LOS D or better. Where roadway segments would operate at LOS E or F, and the increase in v/c is greater than 0.02 and 0.01 respectively, the determination of significance (Yes/No) will be shown in bold type to indicate a significant project impacts for the with project scenario that requires mitigation. Where intersections would operate at LOS E or F and the increase in delay is greater than two seconds and 1 second respectively, the determination of significance (Yes/No) will be shown in bold type to indicate a significant impact from the project scenario that requires mitigation.

CHAPTER 3
EXISTING CONDITIONS

TRAFFIC VOLUMES

The intersection turning movement counts were conducted during the weekday morning peak period from 7:00 AM to 9:00 AM and during the weekday evening peak period from approximately 4:00 PM to 6:00 PM in November 2007. Traffic counts are included in Appendix B. Average daily traffic volumes were obtained from the SANDAG website for the year 2006. The existing lane configurations for each intersection and road classifications for the study segments are shown on Figure 3-1. The daily traffic volumes are shown in Figure 3-2 and the resultant existing weekday morning and evening peak hour intersection volumes are shown in Figures 3-3 and 3-4 respectively.

ROADWAY NETWORK

The principal roadway in the project study area is described briefly below. The description includes the physical characteristics, adjacent land uses, and traffic control devices along the roadway. The existing roadway geometry and control conditions are shown in Figure 3-2. Additional details regarding specific intersection operating conditions can be found on the capacity analysis worksheets in the Appendix.

State Route 75/Palm Avenue
The proposed limit of the project runs in the east/west direction, connecting *Interstate 5* on its east end and the *Silver Strand,* which runs north/south, on its west end. The proposed project also connects the beach with the *Palm Avenue* extending on its west. It has a functional classification of a six lane major with three lanes in each direction between *13th Street* and *9th Street*; four lane primary arterial between *9th Street* and *Delaware Street*; six lane primary arterial between *Delaware Street* and *7th Street* and four lane primary arterial between *7th Street* and *Rainbow Drive.* The street operates at a speed limit of 40 mph and is divided by a raised median with median breaks at some minor side streets to accommodate left turning traffic. The SR-75 and Palm Avenue deviates from each other at Delaware Street, with SR-75 connecting with Silver Strand to the north and Palm Avenue continuing west. The two streets are separated with a park between Delaware Street and 7th Street. *SR-75/Palm Avenue* provides access to the driveways located on both north and south sides of the street which is comprised of commercial establishments. The majority of the side streets are two lane collector roadways, which provide access to the residential land uses. All of the study intersections except Palm Avenue and 10th Street are signalized. The intersection at Palm Avenue and 10th Street has a median break for the westbound left turning traffic. The project area also serves as part of the bus route with several bus stops in each direction. The northbound vehicular traffic, west of Delaware Street, attempting to access Silver Strand can either take 7th Street or the Rainbow Drive.

EXISTING CONDITIONS TRAFFIC ANALYSIS

KOA studied all the existing signalized intersections along SR-75 and the segments between these intersections to determine operation in the current year. The results are reported in levels of service (LOS) and form the basis for comparison for the effects of the proposed project. Any results worse than LOS D are considered unacceptable.

Segment Results

In the existing conditions it can be determined from Table 3-1 below that the all of the evaluated segments along the study corridor of SR-75 operate at an acceptable LOS.

Table 3-1
Existing Conditions – Segment Conditions

Roadway Segment	Existing Without Project				
	Lanes/Class	LOS E Capacity	ADT	V/C	LOS
SR-75/Palm Avenue					
13th Street to Florida Street	6MA	50,000	38,000	0.760	C
Florida Street to 10th Street	6MA	50,000	36,900	0.738	C
10th Street to 9th Street	6MA	50,000	36,900	0.738	C
9th Street to Delaware Street	6MA	50,000	25,000	0.500	B
Delaware Street to 7th Street	6MA	50,000	22,400	0.448	B
7th Street to Rainbow Drive	4MA	40,000	18,800	0.470	B

Intersection Results

In the existing conditions it can be seen from Table 3-2 below that the all the intersections along the study corridor of SR-75 operate at an acceptable LOS with the exception of Palm Avenue and 7th Street, which operates at LOS E in the PM peak hour.

Table 3-2
Existing Conditions – Intersection Conditions

Intersection	Existing Conditions	
	Delay	LOS
AM Peak Hour		
1. Palm Ave. and 13th St.	31.5	C
2. Palm Ave. and Florida St.	8.7	A
3. Palm Ave. and 10th St.*	NA*	NA*
4. Palm Ave. and 9th St.	33.7	C
5. SR-75 and Delaware St.	26.7	C
6. Palm Ave. and Delaware St.	NA*	NA*
7. SR-75 and 7th St.	16.3	B
8. Palm Ave. and 7th St.	50.3	D
9. SR-75 and Rainbow Dr.	31	C
PM Peak Hour		
1. Palm Ave. and 13th St.	55.6	E
2. Palm Ave. and Florida St.	15.9	B
3. Palm Ave. and 10th St.*	0	A
4. Palm Ave. and 9th St.	45.6	D
5. SR-75 and Delaware St.	27.3	C
6. Palm Ave. and Delaware St.	NA*	NA*
7. SR-75 and 7th St.	16	B
8. Palm Ave. and 7th St.	55.5	E
9. SR-75 and Rainbow Dr.	26.8	C

**Unsignalized*

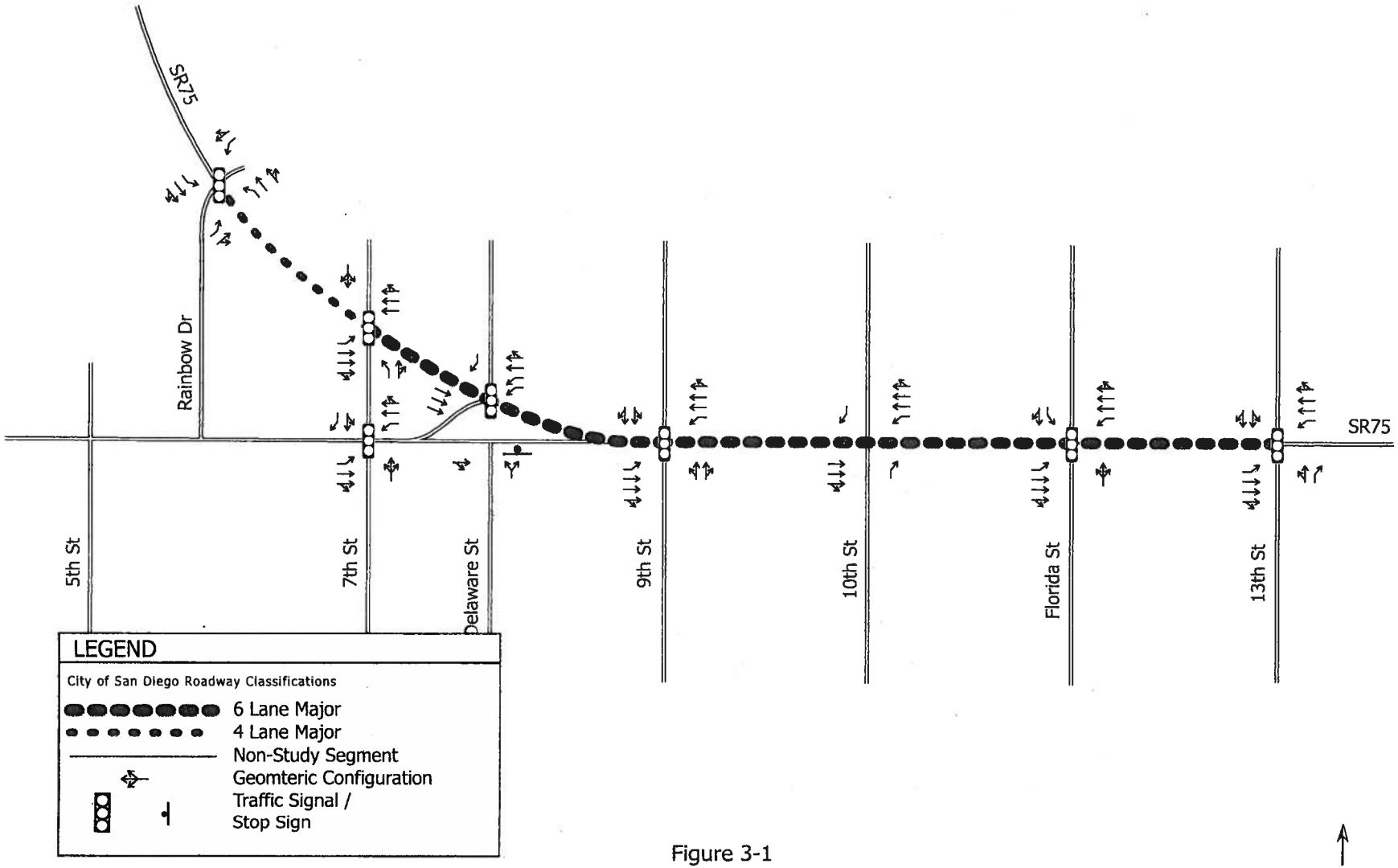
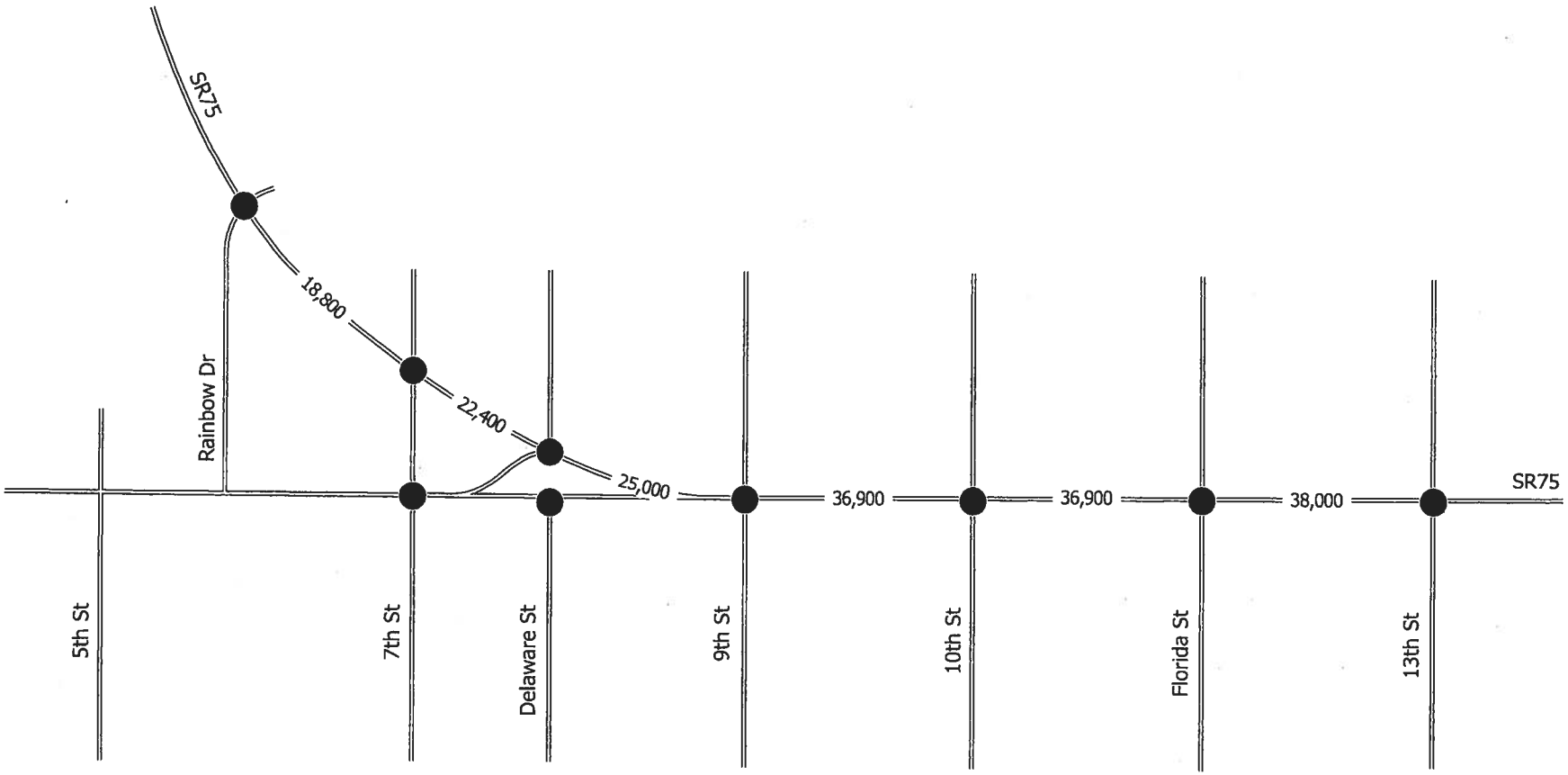


Figure 3-1
Existing Geometry Configuration

N
Not To Scale

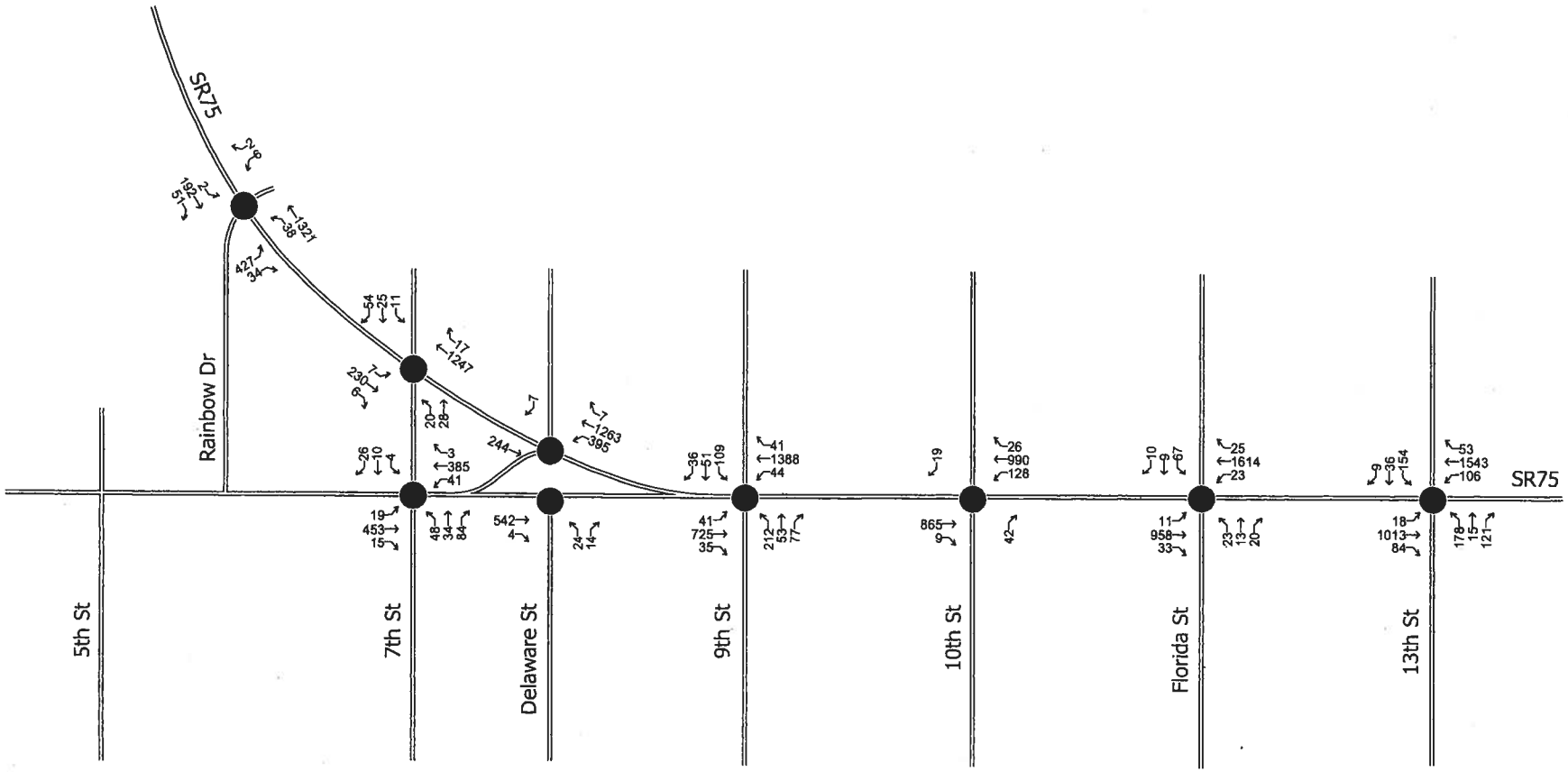


LEGEND

—1,500— Average Daily Traffic

Figure 3-2
Existing Roadway Segment Volumes

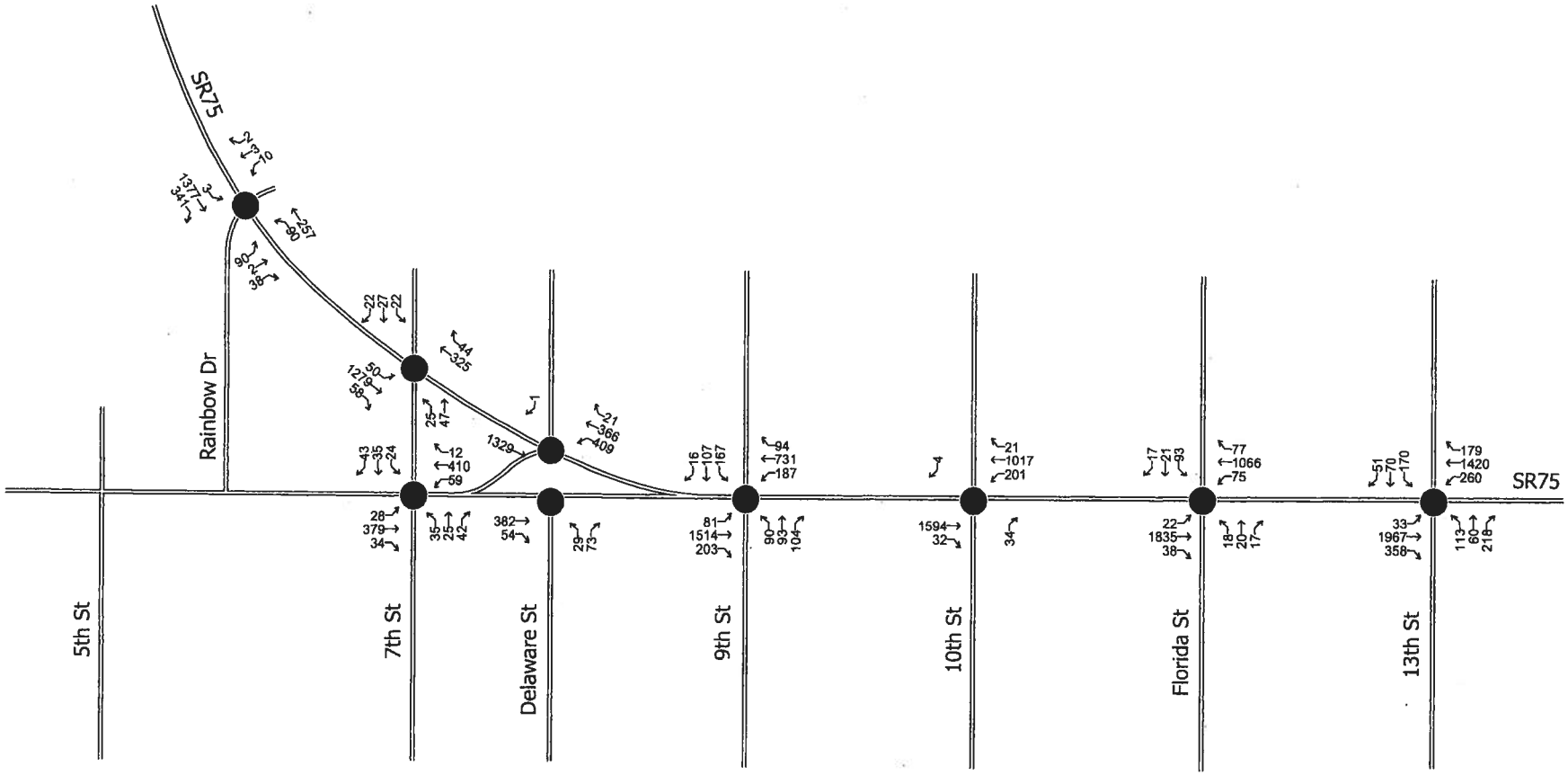
N
Not To Scale



LEGEND	
10	AM Peak Hour Traffic

Figure 3-3
Existing AM Peak Hour Intersection Volumes

N
Not To Scale



LEGEND	
10	PM Peak Hour Traffic

Figure 3-4
Existing PM Peak Hour Intersection Volumes

N
Not To Scale

CHAPTER 4
PARK SECTOR ALTERNATIVES

Although most of the elements for the proposed project had been determined, the Park Sector specifically looked at three different alternatives before one was chosen as a preferred option. Although the intersections in the direct vicinity of the park change with each alternative, the proposed treatments to other periphery intersections do not change. To evaluate each alternative, operations at the signalized intersections along SR-75 and the segments between these intersections was analyzed both with and without the project in both the current and future "Horizon" years. Horizon year conditions represent traffic conditions in 2030, according to regional growth models. Discussion regarding future traffic volume growth calculations for this project is in described in more detail in Chapter 6. Below are descriptions of each study alternatives done for the Park Sector.

ALTERNATIVE DESCRIPTIONS

Park Sector Alternative 1

The first study alternative converts the existing street system surrounding the park to a one-way, two-lane counter-clockwise street system. To accomplish this, eastbound traffic on SR-75 was rerouted to southbound 7th Street and then to eastbound Palm Avenue before returning to its original alignment. The existing eastbound SR-75 travel lanes adjacent to the park would be vacated and converted into additional green space. The realignment of the roadway creates four signalized intersections on each corner of the park: SR-75 and 7th Street, Palm Avenue and 7th Street, Delaware Street and Palm Avenue, and SR-75 and Delaware Street.

Table 4-1
Park Sector Alternative 1 Intersection Conditions

Intersection	2008					Horizon Year				
	Without Project		With Project			Without Project		With Project		
	Delay	LOS	Delay	LOS	Sig?	Delay	LOS	Delay	LOS	Sig?
AM Peak Hour										
5. SR-75 and Delaware St.	26.7	C	3.9	A	No	29.5	C	6.7	A	No
6. Palm Ave. and Delaware St.	NA	NA	1.5	A	NA	NA	NA	2.2	A	NA
7. SR-75 and 7th St.	16.3	B	9.0	A	No	23.1	C	11.1	B	No
8. Palm Ave. and 7th St.	50.3	D	23.5	C	No	49.4	D	22.8	C	No
PM Peak Hour										
5. SR-75 and Delaware St.	27.3	C	2.7	A	No	29.8	C	4.1	A	No
6. Palm Ave. and Delaware St.	NA	NA	4.3	A	NA	NA	NA	5.2	A	NA
7. SR-75 and 7th St.	16.0	B	8.2	A	No	20.5	C	11.7	B	No
8. Palm Ave. and 7th St.	55.5	E	19.8	B	No	55.5	E	30.8	C	No

This alternative operates with acceptable levels of service at all study intersections and segments through proper traffic signal timing and synchronization. One positive effect of the signalization of all corners of the park is the improved pedestrian access crossing SR-75. However, the relative ease of progression of westbound traffic to Palm Avenue and onward to Seacoast Drive is made more complicated through the alignment changes. Heavy turns, difficult truck access, and lane assignment conflicts were seen as negatives that could not be easily overcome; therefore this alternative was not recommended. Figures 4-1.1 to 4-1.3 show the Park Alternative 1 geometries and volumes.

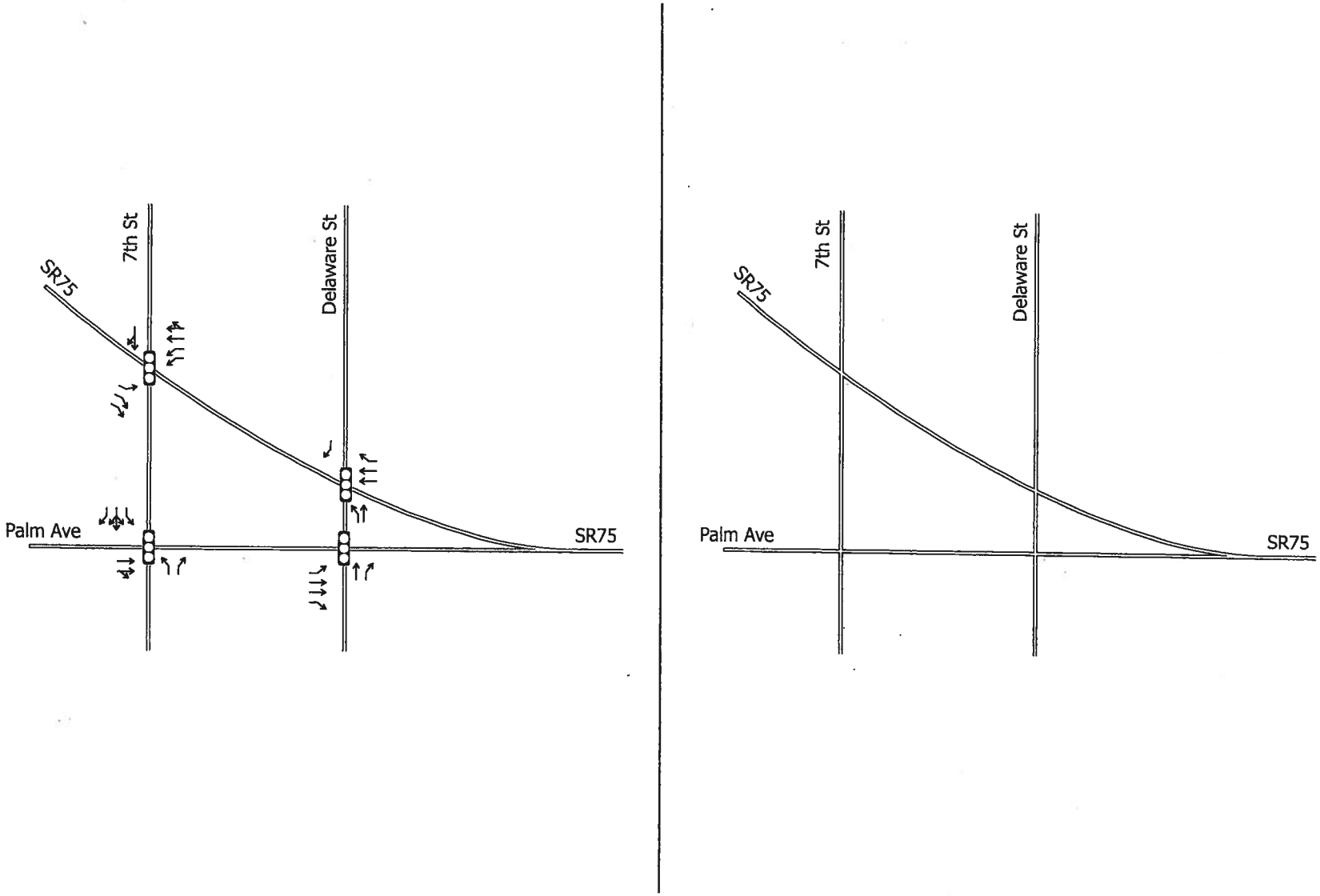
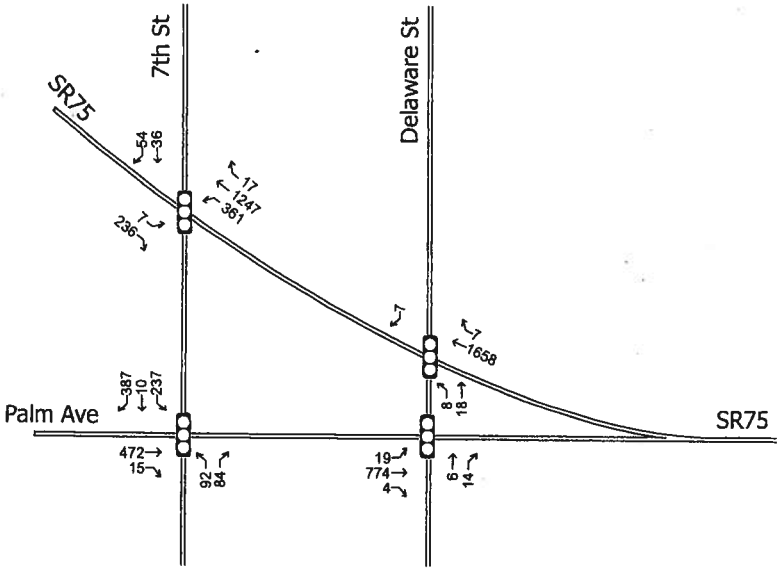


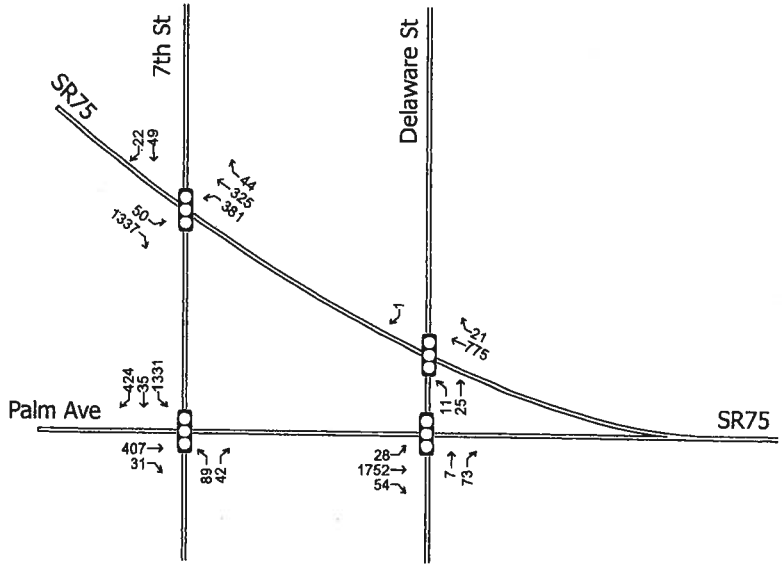
Figure 4-1.1
Park Sector Alternative 1: Proposed Geometry Configuration

N
Not To Scale

Figure 4-1.2 – Park Alternative 1: Year 2008 AM and PM Peak Hour Intersection Volumes



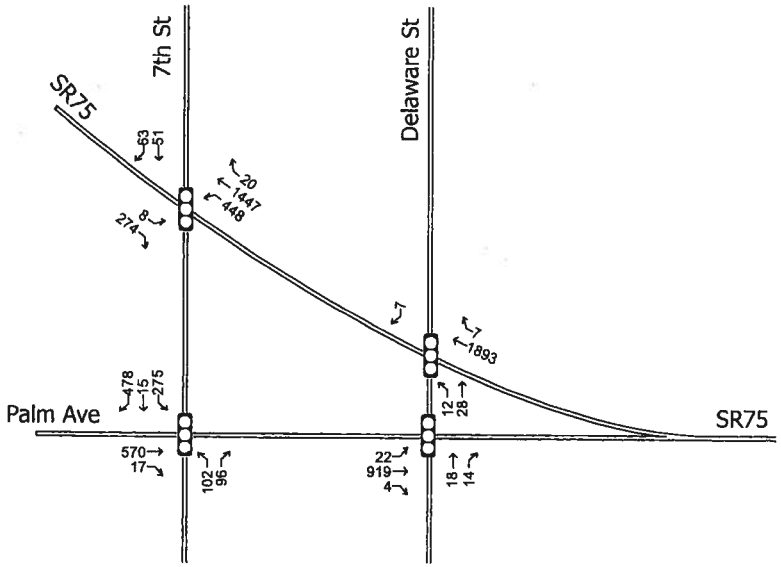
AM Peak Hour



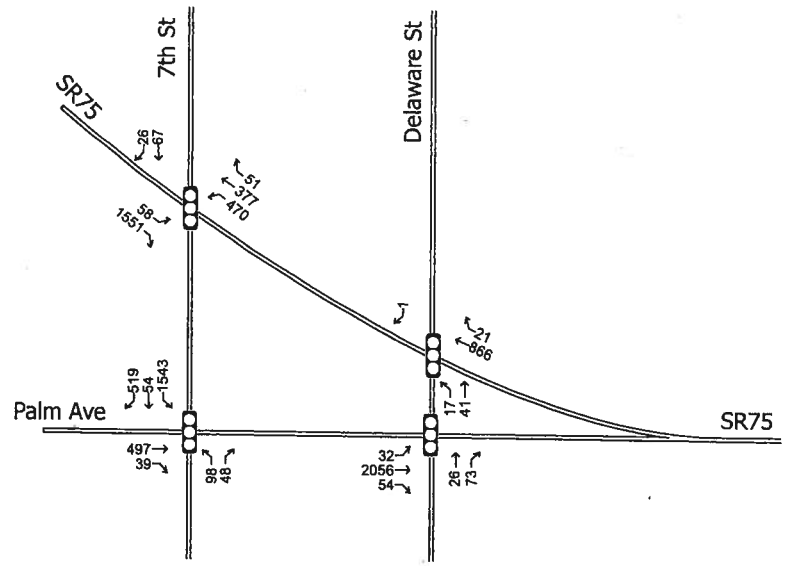
PM Peak Hour

Figure 4-1.2
Park Sector Alternative 1: Year 2008 AM and PM Peak Hour Intersection Volumes

N
Not To Scale



AM Peak Hour



PM Peak Hour

Figure 4-1.3
Park Sector Alternative 1: Horizon Year AM and PM Peak Hour Intersection Volumes

N
Not To Scale

Park Sector Alternative 2

Alternative 2 prioritizes the desire to redirect westbound traffic flow from SR-75 to Palm Avenue by realigning SR-75 at Delaware Street to connect directly with Palm Avenue at 7th Street. With this, Eastbound and westbound traffic is routed more easily to and from the western portions of Imperial Beach and the Seacoast Drive area. This alternative abandons the existing section of SR-75 between 7th Street and Delaware Street. Traffic coming from and going to Coronado along SR-75 must turn on to 7th Street before continuing.

Table 4-2
Park Sector Alternative 2 Intersection Conditions

Intersection	2008					Horizon Year				
	Without Project		With Project			Without Project		With Project		
	Delay	LOS	Delay	LOS	Sig?	Delay	LOS	Delay	LOS	Sig?
AM Peak Hour										
5. SR-75 and Delaware St.	26.7	C	12.6	B	No	29.5	C	14.2	B	No
6. Palm Ave. and Delaware St.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7. SR-75 and 7th St.	16.3	B	60.8	E	**Yes**	23.1	C	178.8	F	**Yes**
8. Palm Ave. and 7th St.	50.3	D	18.2	B	No	49.4	D	22.4	C	No
PM Peak Hour										
5. SR-75 and Delaware St.	27.3	C	43.1	D	No	29.8	C	68.0	E	**Yes**
6. Palm Ave. and Delaware St.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7. SR-75 and 7th St.	16.0	B	12.8	B	No	20.5	C	15.0	B	No
8. Palm Ave. and 7th St.	55.5	E	130.2	F	**Yes**	55.5	E	145.8	F	**Yes**

Traffic results show failing levels of service at the two primary intersections in the AM or the PM peak hour. Given that the dominant traffic movements along SR-75 is not bound for Palm Avenue, it forces the highest volumes to make a combination right-then-left turn, creating an inconvenient detour for the majority of travelers. This traffic pattern did not operate efficiently and was therefore not recommended. Figures 4-2.1 to 4-2.3 show the Park Alternative 2 geometries and volumes.

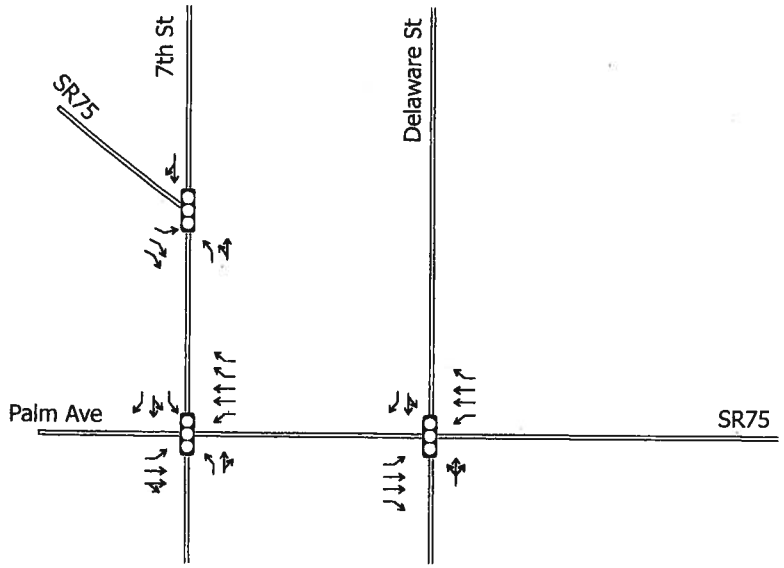
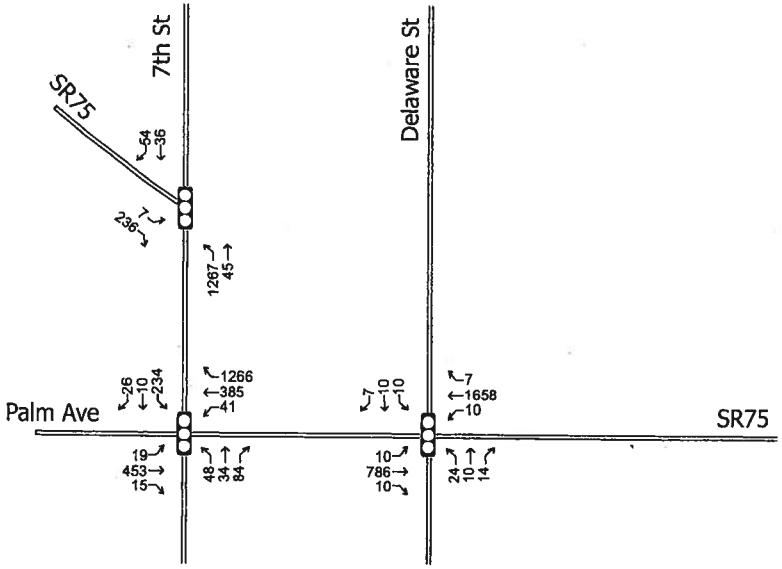
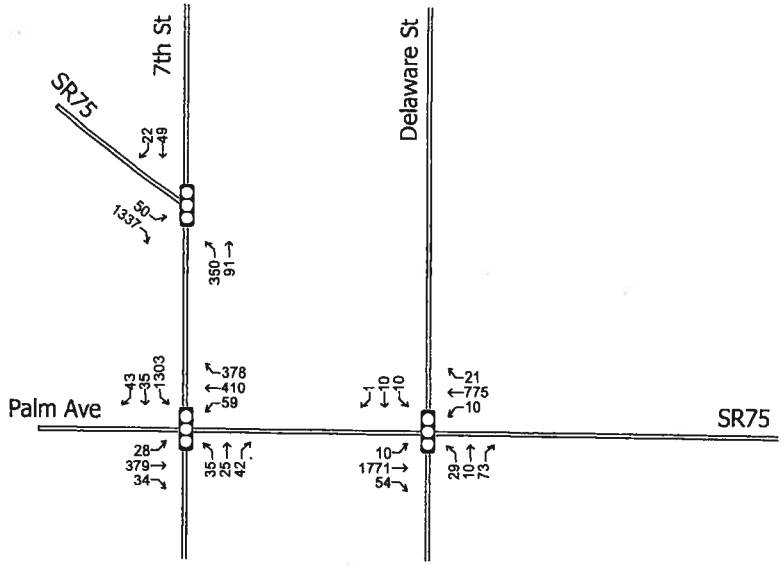


Figure 4-2.1
Park Sector Alternative 2: Proposed Geometry Configuration

N
Not To Scale



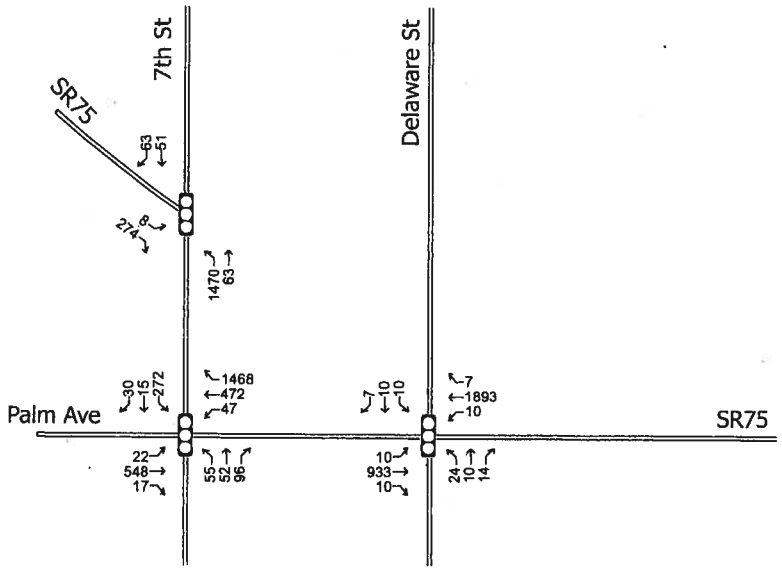
AM Peak Hour



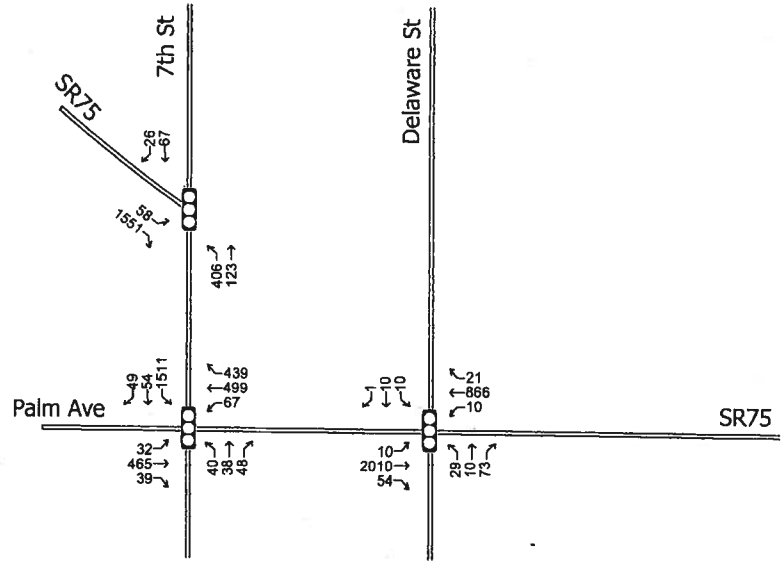
PM Peak Hour

Figure 4-2.2
Park Sector Alternative 2: Year 2008 AM and PM Peak Hour Intersection Volumes

N
Not To Scale



AM Peak Hour



PM Peak Hour

Figure 4-2.3
Park Sector Alternative 2: Horizon Year AM and PM Peak Hour Intersection Volumes

N
Not To Scale

Park Sector Alternative 3

In an effort to balance the traffic demands on SR-75 with the interest to make the transition from SR-75 to Palm Avenue more conspicuous and understandable, a third alternative was suggested by the design team. This scenario maintains the existing alignment of SR-75, but moves eastbound Palm Avenue traffic to align with the existing westbound connection at SR-75, intersecting at Delaware Street. The existing segment of eastbound Palm Avenue between Delaware Street and 9th Street would be abandoned, as would Delaware Street south of Palm Avenue. The existing traffic signal at SR-75/Palm Avenue/Delaware Street would be modified to provide for eastbound movements from Palm Avenue and pedestrian crossings, but will not be fully accessible by traffic on Delaware Street, as it currently exists.

Table 4-3
Park Sector Alternative 3 Intersection Conditions

Intersection	2008					Horizon Year				
	Without Project		With Project			Without Project		With Project		
	Delay	LOS	Delay	LOS	Sig?	Delay	LOS	Delay	LOS	Sig?
AM Peak Hour										
5. SR-75 and Delaware St.	26.7	C	7.3	A	No	29.5	C	7.3	A	No
6. Palm Ave. and Delaware St.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7. SR-75 and 7th St.	16.3	B	14.8	B	No	23.1	C	14.8	B	No
8. Palm Ave. and 7th St.	50.3	D	18.6	B	No	49.4	D	18.6	B	No
PM Peak Hour										
5. SR-75 and Delaware St.	27.3	C	8.9	A	No	29.8	C	11.3	B	No
6. Palm Ave. and Delaware St.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7. SR-75 and 7th St.	16.0	B	12.7	B	No	20.5	C	17.1	B	No
8. Palm Ave. and 7th St.	55.5	E	16.3	B	No	55.5	E	22.4	C	No

The addition of crosswalks at the traffic signal of SR-75/Palm Avenue/Delaware Street benefits pedestrian access and provides a more understandable transition to and from Palm Avenue by removing confusing connector streets and adding emphasis to the signal. The land gained from the proposed street vacations south of the intersection can be used as part of the improvements planned for the future 9th Street development at this location. Traffic operations do not change drastically from the existing conditions and acceptable level of service results. This scenario was the recommended alternative for the Park Sector for successfully meeting the desired goals. Figures 4-3.1 to 4-3.3 show the Park Alternative 3 geometries and volumes.

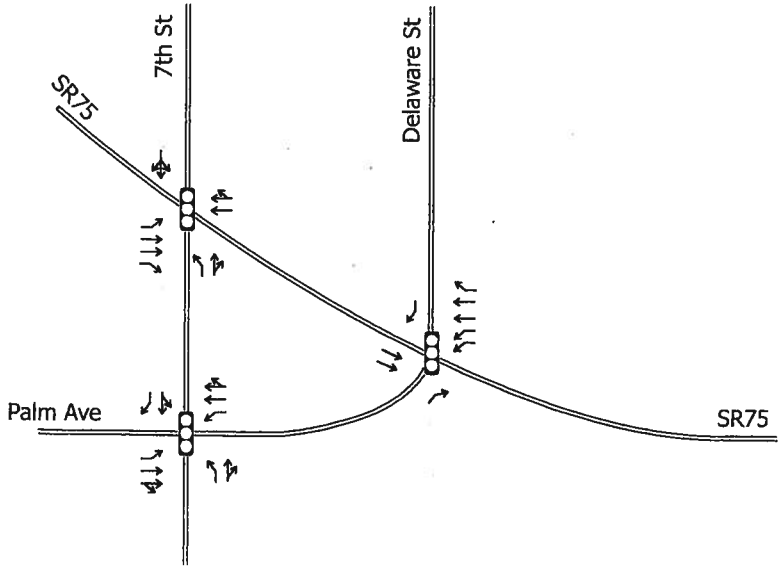
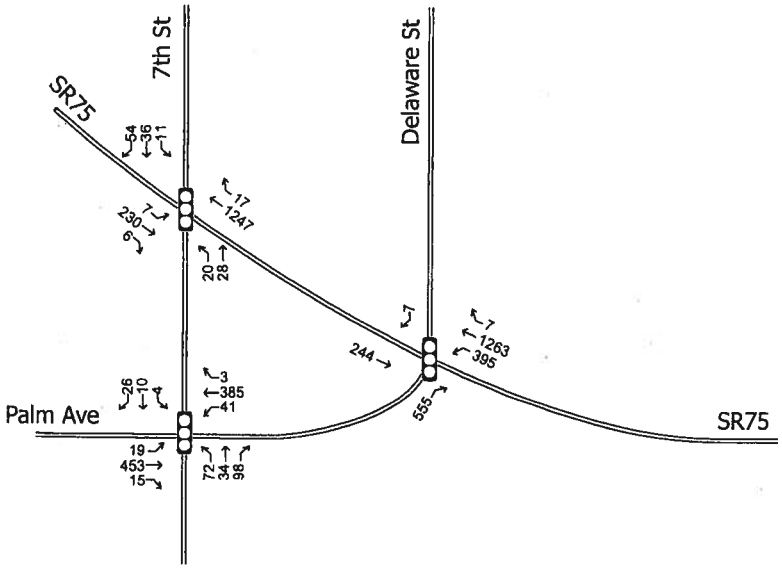
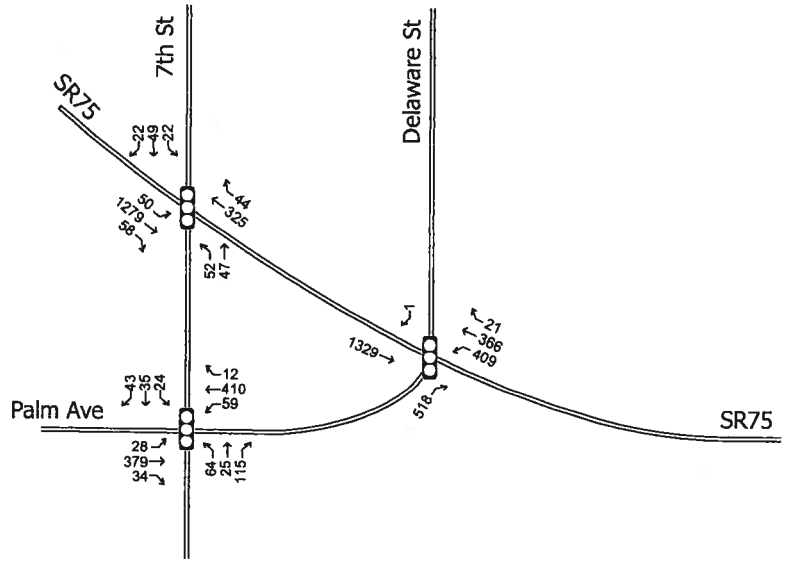


Figure 4-3.1
Park Sector Alternative 3: Proposed Geometry Configuration

N
Not To Scale



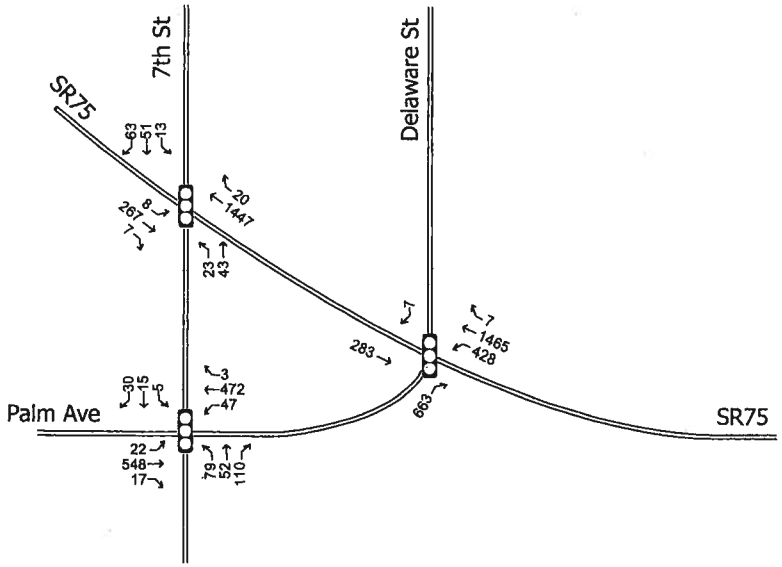
AM Peak Hour



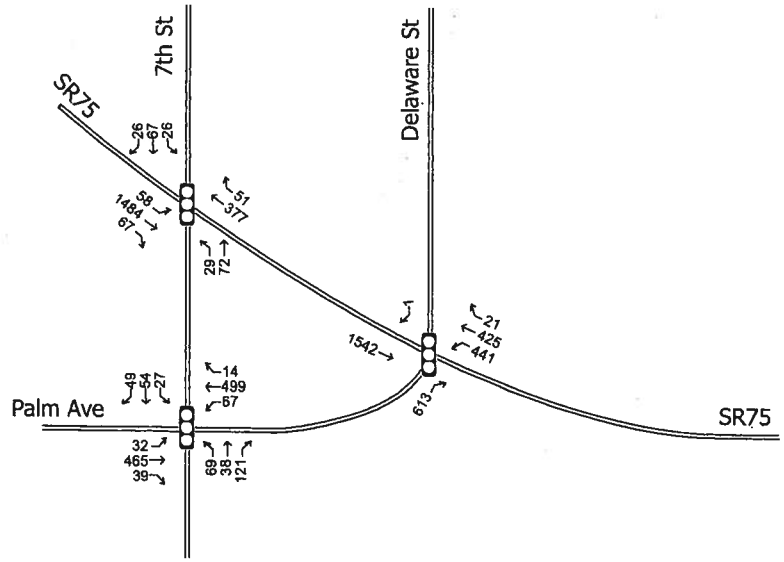
PM Peak Hour

Figure 4-3.2
Park Sector Alternative 3: Year 2008 AM and PM Peak Hour Intersection Volumes

N
Not To Scale



AM Peak Hour



PM Peak Hour

Figure 4-3.3
Park Sector Alternative 3: Horizon Year AM and PM Peak Hour Intersection Volumes

N
Not To Scale

SELECTED ALTERNATIVE

Park Sector Alternative 3 was selected by the City Council with agreement from the design team and conditional acceptance by Caltrans, pending review of the overall traffic analysis results. It should be noted that while this concept considers Delaware Street south of Palm Avenue to be closed, that other suggestions were made that could also be ultimately included in the future.

Close 7th Street Between SR-75 and Palm Avenue
This short segment of 7th Street north is only about 100 feet in length with signalized intersections on 7th Street at both SR-75 and Palm Avenue. The removal of the 7th Street and SR-75 signal might help traffic operations along the primary corridor, but controlled pedestrian crossings at this intersection would be lost as a result. Other probable effects would be added traffic to Rainbow Drive and the required realignment of the planned EcoRoute bikeway that uses this segment.

Close Delaware Street North of SR-75
The closure of Delaware Street on the north side of SR-75 would need to be done in conjunction with development opportunities that may arise in the future. Development on the south side of SR-75 is more likely to happen because of the City's recent purchases of much of this property. Closure of both of these segments would most likely result in traffic impacts and is not recommended.

The traffic analysis in the following chapters uses the Park Sector Alternative 3 and only assumes the Delaware Street closure south of Palm Avenue. Additional analysis would be required for any other segment closure.

CHAPTER 5
YEAR 2008 WITH PROJECT CONDITIONS

PROJECT DESCRIPTION

The project traffic data and existing street network was studied to help understand the nature of the SR-75 corridor. From this information four subareas were defined, each with distinct road geometries, traffic demands, and street character. These areas were named based on their relative location along the corridor: the East End Gateway from Florida Street to the eastern City limit, the Mid-Town Sector from Delaware Street to Florida Street, the Park Sector encompassing roads around the triangular park from 7th Street to Delaware Street, and the West End Gateway from the western City limit to 7th Street.

East End Gateway

The East End Gateway sector is the first taste of Imperial Beach for those entering the city coming westbound along SR-75. This sector receives the highest amount of traffic along the corridor and requires the most capacity. Because of this, no changes in the number of lanes was proposed. However, the generous existing paved width of the roadway allows for landscaped pop-outs, bike lanes, and parking while maintaining standard Caltrans lane widths. Pop-outs added to corners of the signalized intersections will reduce the crosswalk length and time needed for pedestrians to cross the roadway. This reduction in pedestrian crossing time can positively effect the operation of the traffic signal. The addition of pop-outs and bike lanes along a study segment does not directly affect the analysis of traffic operations, but should provide traffic calming effects and safer travel for bicyclists, vehicles, and pedestrians alike.

Mid-Town Sector

In the Mid-Town Sector, the team sought to reduce the speed and to enhance the safety of the side street traffic and the traffic getting in and out of the commercial establishments. The project proposes the addition of two auxiliary medians to separate the local traffic lanes from the inner two through-lanes. This segregation of the local /curbside lanes would change the functionality of these lanes, making it more like a service lanes for the side streets and the commercial establishments adjoining the street. The proposed design would reclassify this segment of Palm Avenue from a six lane major to a "modified" six lane major with less capacity due to the downgraded serviceability of the new access road. The project also proposes the addition of a new full-access traffic signal at 10th Street by removing the existing medians there while simultaneously closing the existing left turns at 11th Street. This would change the traffic patterns of streets adjacent to the 10th Street intersection, as some of the traffic at nearby intersections may be diverted onto the 10th Street and SR-75/Palm Avenue intersection. Pop-outs at the intersections will again lessen the length of travel time pedestrian need to cross SR-75.

Park Sector

The most prominent portion of the project lies in the heart of the corridor in what is referred to as the Park Sector. This area is a bound by SR-75, Palm Avenue, 7th Street and Delaware Street that form three signalized intersections in close proximity to one another, with a triangular park in the middle. The existing configuration is seeks to improve pedestrian bicycle connections across SR-75 and make the westbound transition from SR-75 to Palm Avenue more instinctive while maintaining acceptable levels of service for SR-75.

Due to the complexity of the existing roadway alignments multiple options were studied to find the best fit for the goals set forth by the City of Imperial Beach, Caltrans, and the design team. Three

alternatives were studied in detail and a preferred alternative was chosen by the City Council to integrate into the recommended project plan.

Alternative 3 was selected as the preferred configuration for the Park Sector. This scenario maintains the existing alignment of SR-75, but moves eastbound Palm Avenue traffic to align with the existing westbound connection at SR-75, intersecting at Delaware Street. The existing segment of eastbound Palm Avenue between Delaware Street and 9th Street would be abandoned, as would Delaware Street south of Palm Avenue. The existing traffic signal at SR-75/Palm Avenue/Delaware Street would be modified to provide for eastbound movements from Palm Avenue and pedestrian crossings, but will not be fully accessible by Delaware Street, as it currently exists. The addition of crosswalks at the traffic signal of SR-75/Palm Avenue/Delaware Street benefits pedestrian access and provides a more understandable transition to and from Palm Avenue by removing confusing connector streets and adding emphasis to the signal.

West End Sector

The far west end of the project corridor already exists as a 4-lane roadway. Although a bike lane/shoulder exists along the eastbound travel lanes, infrequently used parking on the westbound side of the street was removed to provide bike lanes along both sides of the street. Crosswalks were added to both the Rainbow Drive and 7th Street intersections for better pedestrian connections. The striping at the Rainbow Drive signal was also changed to improve operations at the intersection due to high left turning traffic volumes although not associated with any project impacts.

Figure 5-1.1 to Figure 5.1-6 shows the concept design of the project.

TRAFFIC VOLUMES WITH PROJECT

The proposed project involves altering the roadway and intersection configurations, namely at intersections in the park sector. As a result traffic volumes at these intersections have been reassigned to match the alterations. Daily segment volumes can be seen in Figure 5-3 while the AM and PM peak hour intersection volumes for the study year 2008 can be seen in Figures 5-4 and 5-5 respectively.

YEAR 2008 WITH PROJECT TRAFFIC ANALYSIS

The effect of the proposed project was compared with the without project scenario for both segments and intersections and are shown in Table 5-1 and 5-2 respectively.

Table 5-1
Year 2008 Roadway Segment Conditions

Roadway Segment	Existing Conditions					2008 With Project					Δ V/C	Sig?
	Lanes/ Class	LOS E Capacity	ADT	V/C	LOS	Lanes/ Class	LOS E Capacity	ADT	V/C	LOS		
SR-75/Palm Avenue												
13th Street to Florida Street	6MA	50,000	38,000	0.760	C	6MA	50,000	38,000	0.760	C	0.000	No
Florida Street to 10th Street	6MA	50,000	36,900	0.738	C	6MA	50,000	36,900	0.738	C	0.000	No
10th Street to 9th Street	6MA	50,000	36,900	0.738	C	6MA	50,000	36,900	0.738	C	0.000	No
9th Street to Delaware Street	6MA	50,000	25,000	0.500	B	6MA	50,000	25,000	0.500	B	0.000	No
Delaware Street to 7th Street	6MA	50,000	22,400	0.448	B	4MA	40,000	22,400	0.560	C	0.112	No
7th Street to Rainbow Drive	4MA	40,000	18,800	0.470	B	4MA	40,000	18,800	0.470	B	0.000	No

Abbreviations: 4MA is a 4 lane Major Arterial. 6MA is a 6 lane Major Arterial.

Table 5-2
Existing Intersection Conditions

Intersection	Existing Conditions		2008 With Project		Δ Delay	Sig?
	Delay	LOS	Delay	LOS		
AM Peak Hour						
1. Palm Ave. and 13th St.	31.5	C	24.3	C	-7.2	No
2. Palm Ave. and Florida St.	8.7	A	9.3	A	0.6	No
3. Palm Ave. and 10th St.	NA*	NA*	8.8	A	8.8	No
4. Palm Ave. and 9th St.	33.7	C	26.2	C	-7.5	No
5. SR-75 and Delaware St.	26.7	C	7.3	A	-19.4	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA
7. SR-75 and 7th St.	16.3	B	14.8	B	-1.5	No
8. Palm Ave. and 7th St.	50.3	D	18.6	B	-31.7	No
9. SR-75 and Rainbow Dr.	31.0	C	18.3	B	-12.7	No
PM Peak Hour						
1. Palm Ave. and 13th St.	55.6	E	38.4	D	-17.2	No
2. Palm Ave. and Florida St.	15.9	B	10.7	B	-5.2	No
3. Palm Ave. and 10th St.	NA*	NA*	21.5	C	21.5	No
4. Palm Ave. and 9th St.	45.6	D	32.2	C	-13.4	No
5. SR-75 and Delaware St.	27.3	C	8.9	A	-18.4	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA
7. SR-75 and 7th St.	16.0	B	12.7	B	-3.3	No
8. Palm Ave. and 7th St.	55.5	E	16.3	B	-39.2	No
9. SR-75 and Rainbow Dr.	26.8	C	22.6	C	-4.2	No

**Unsignalized or does not exist with project*

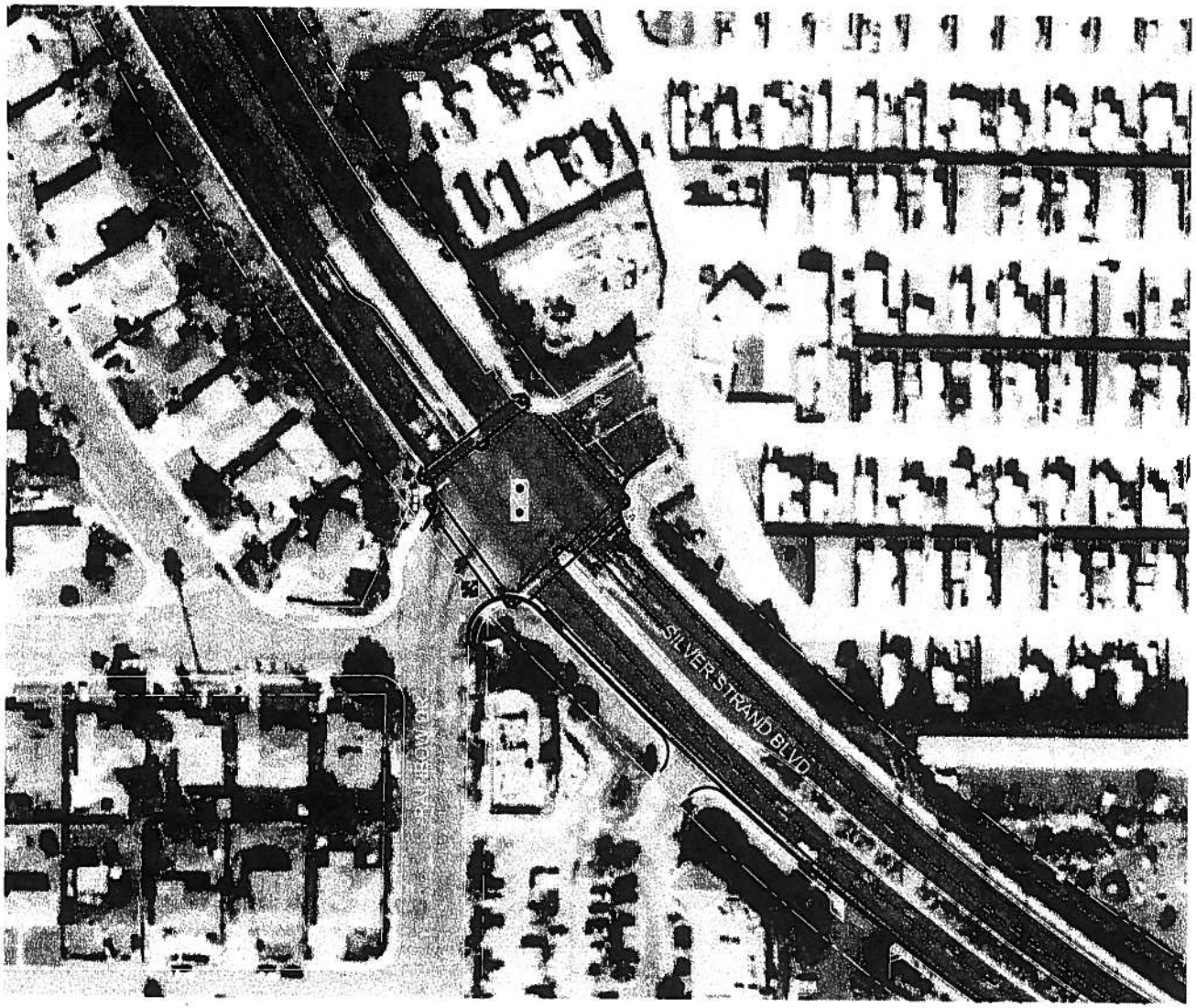


Figure 5-1.1
Proposed Conceptual Design

N
Not To Scale

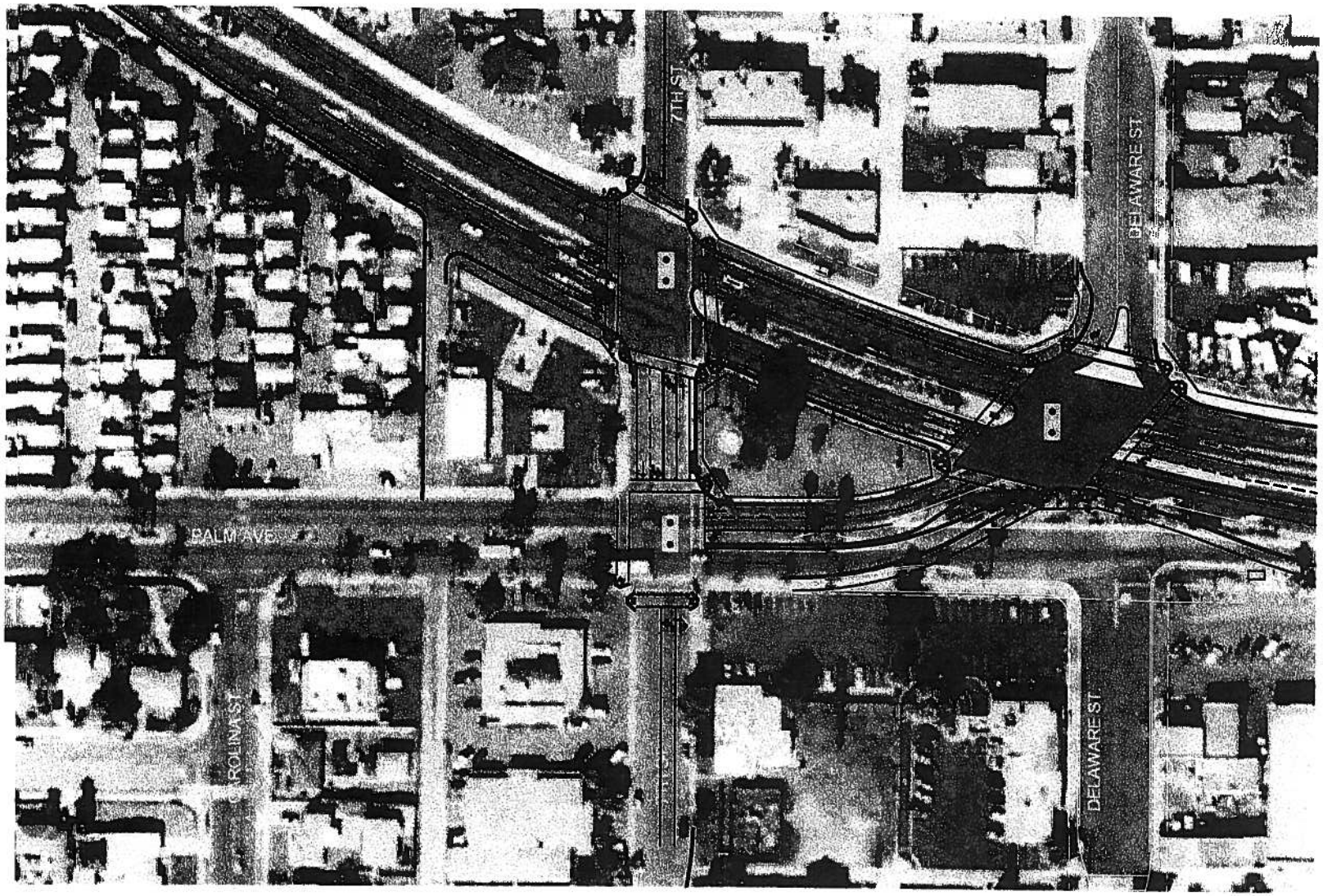


Figure 5-1.2
Proposed Conceptual Design

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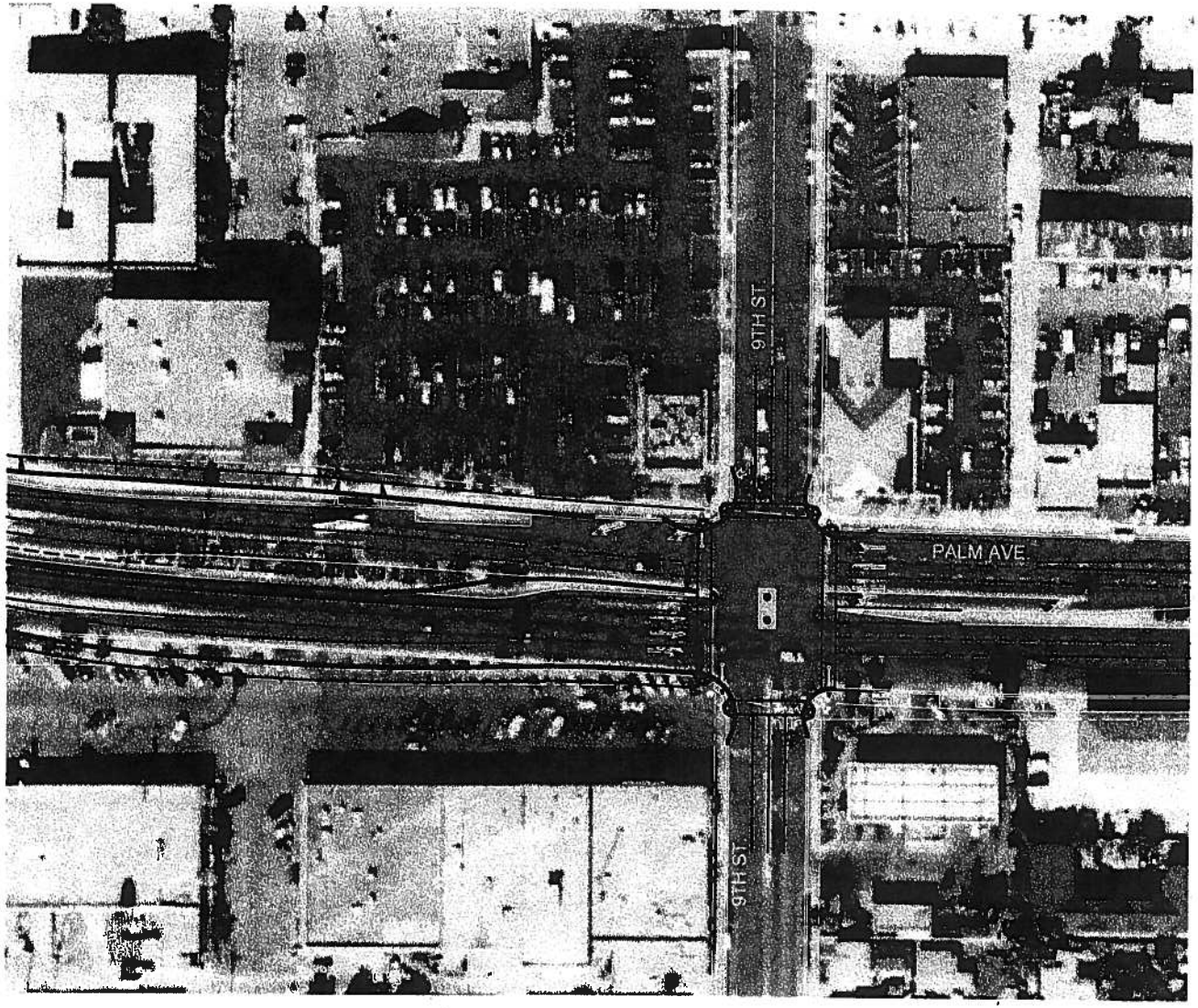

Figure 5-1.3
Proposed Conceptual Design

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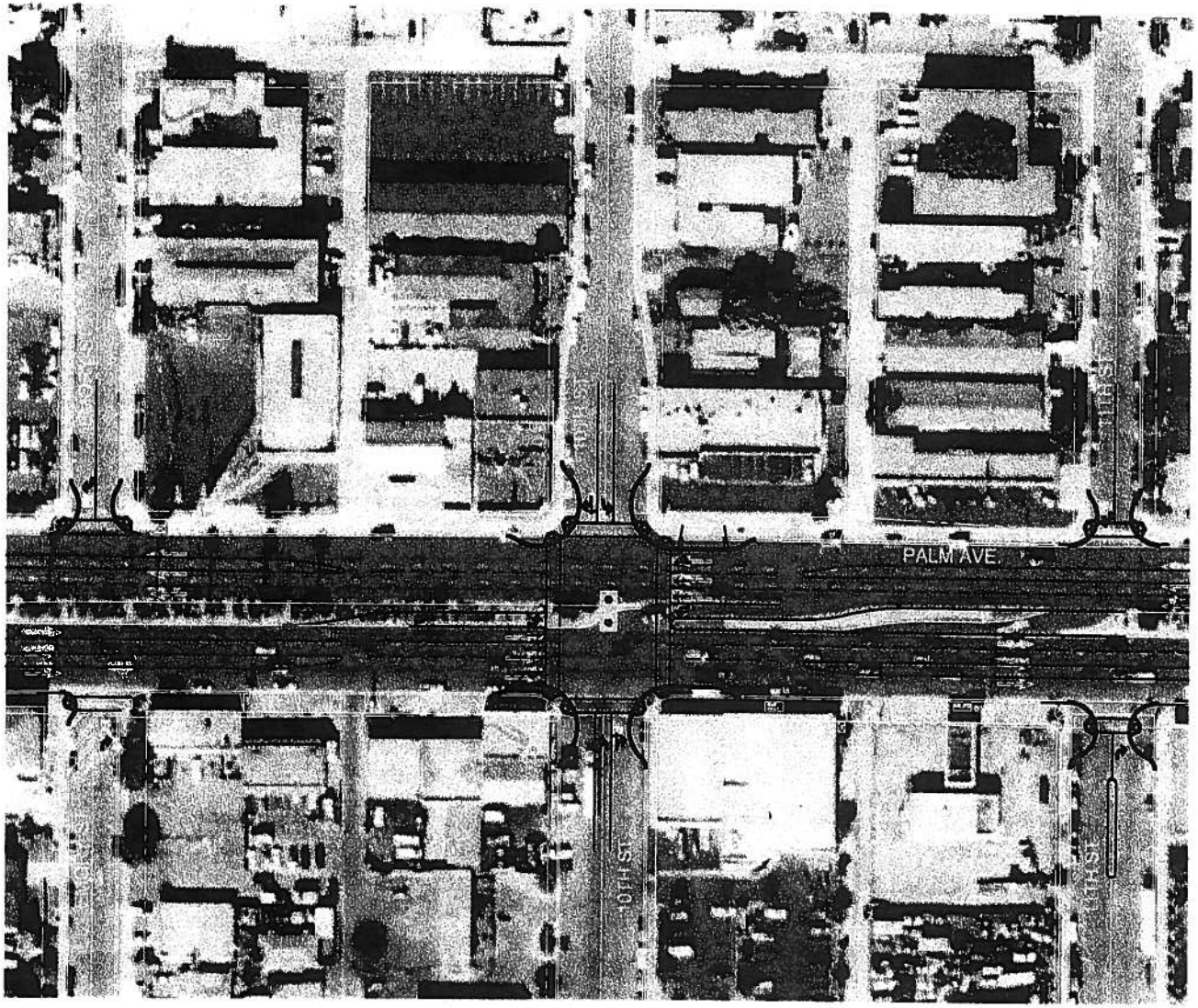

Figure 5-1.4
Proposed Conceptual Design

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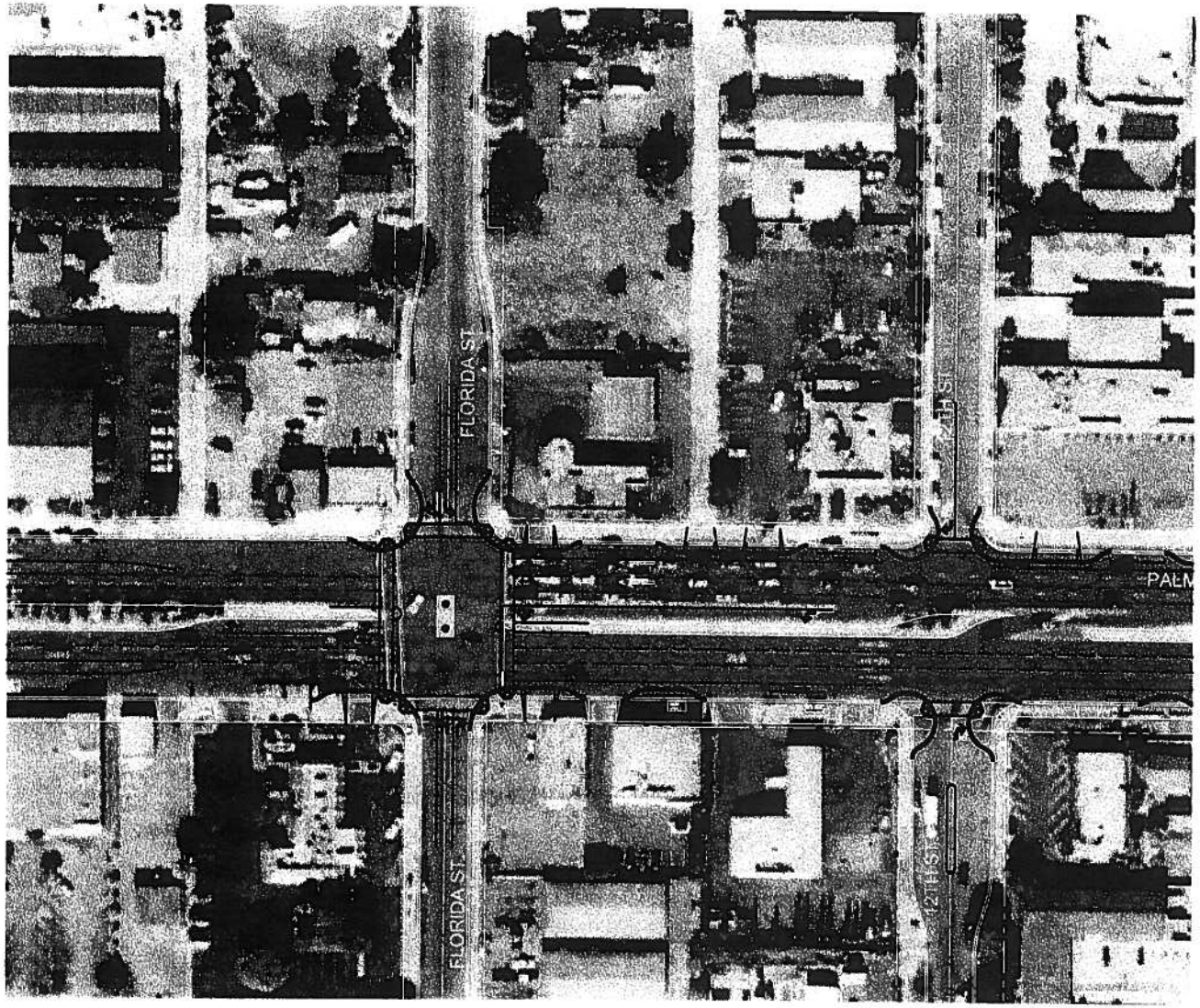

Figure 5-1.5
Proposed Conceptual Design

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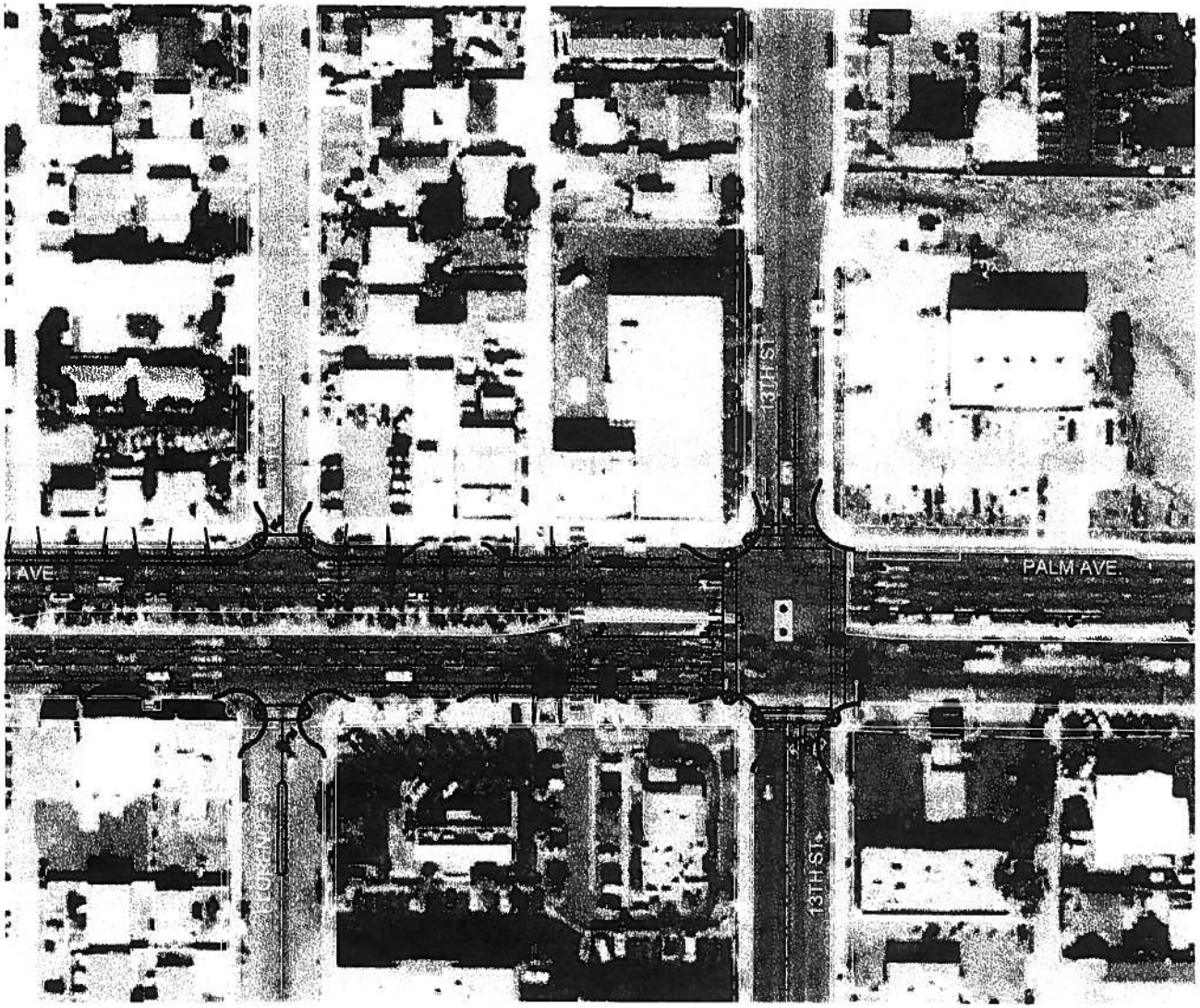

Figure 5-1.6
Proposed Conceptual Design

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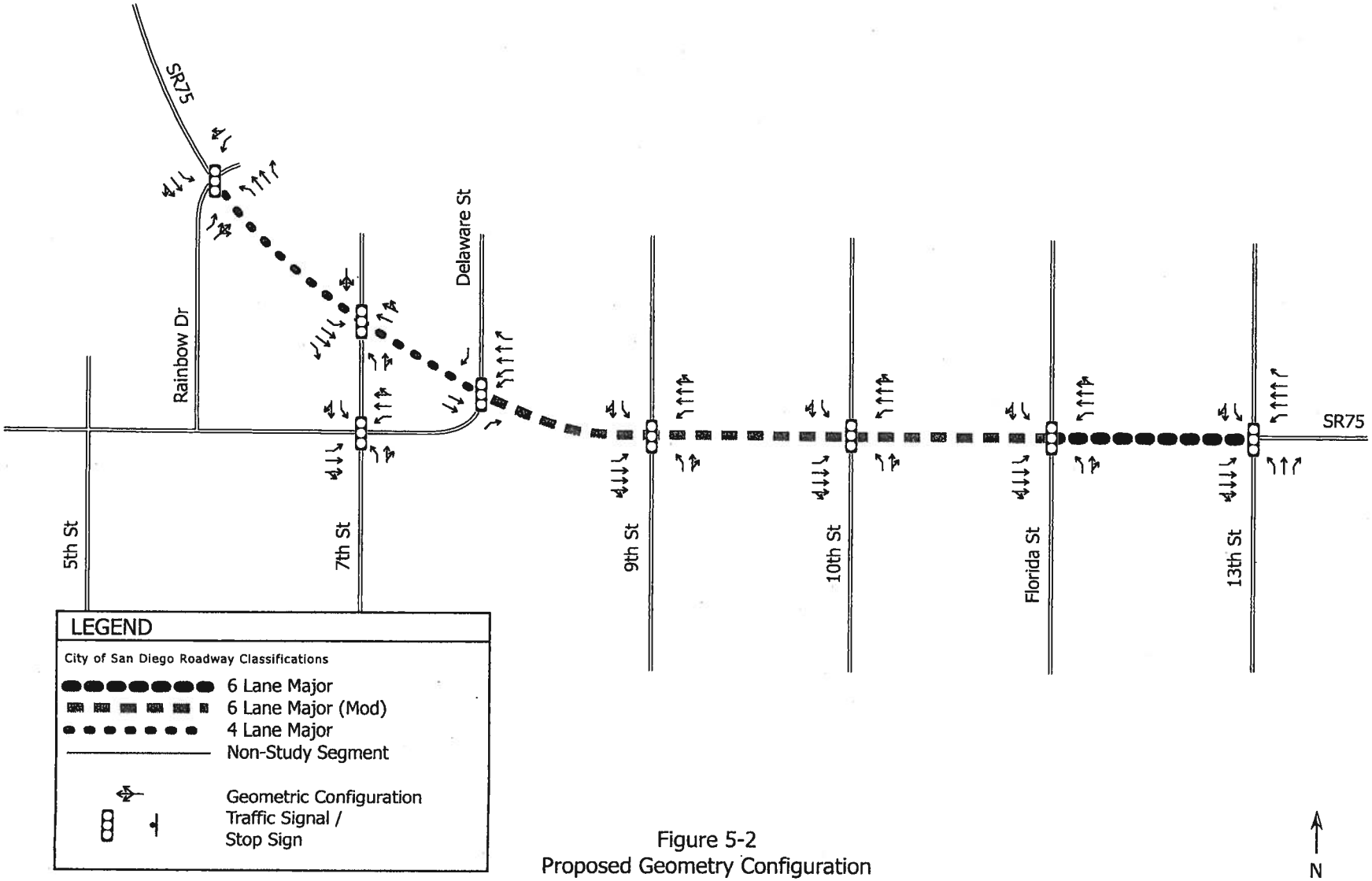
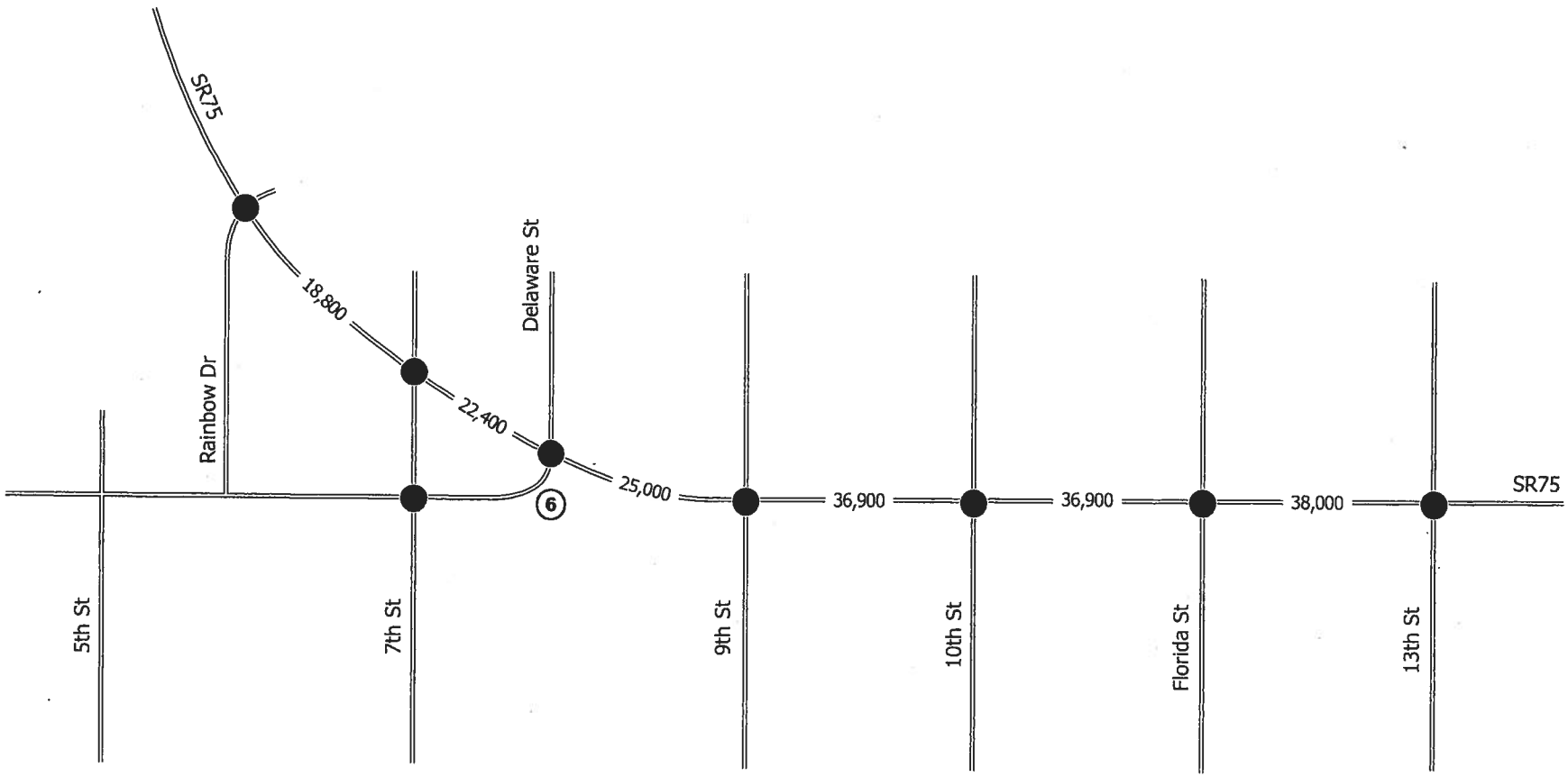


Figure 5-2
Proposed Geometry Configuration



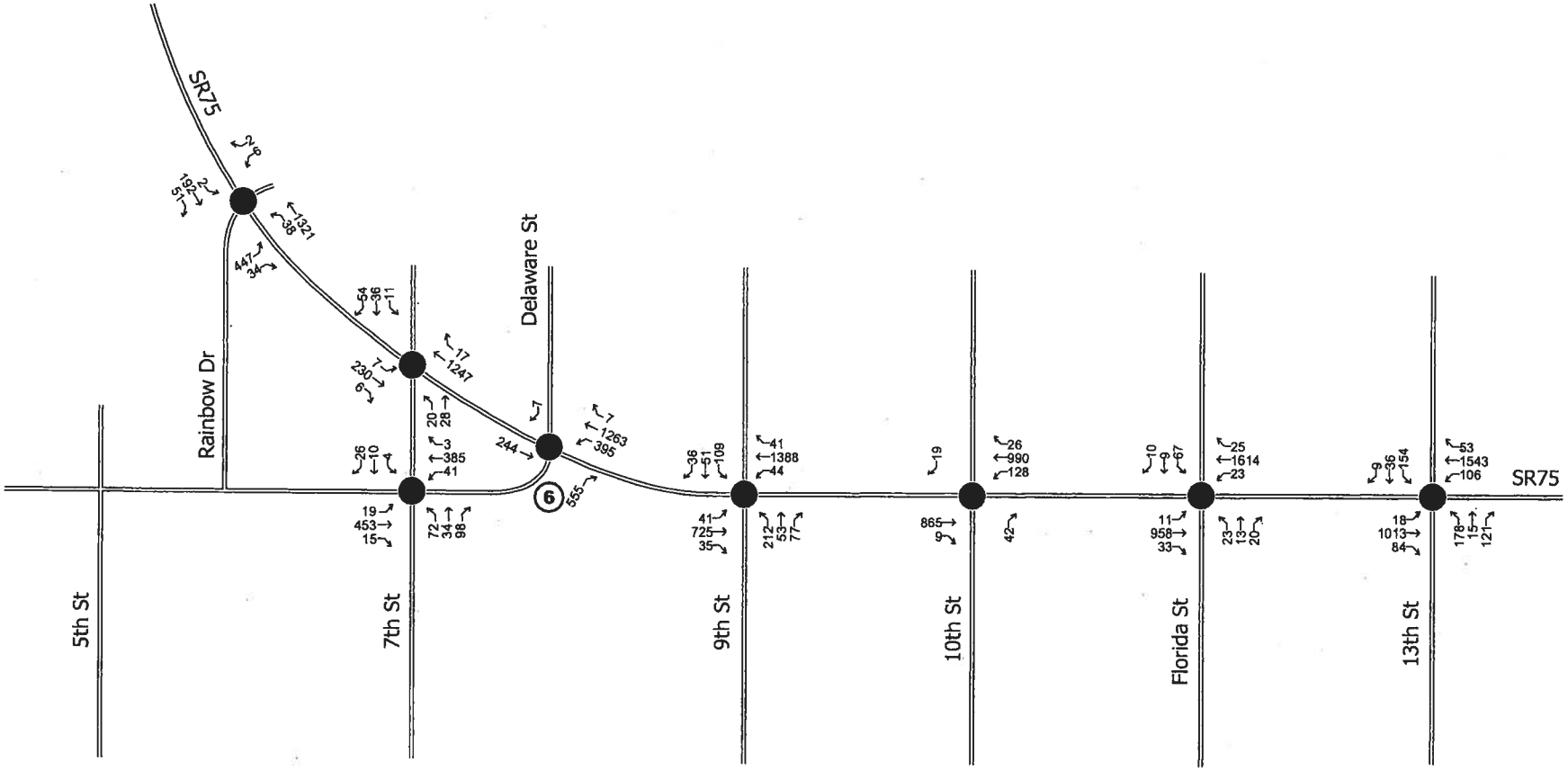
LEGEND

—1,500— Average Daily Traffic

● ⑥ Study Intersection / Abandonned Intersection

Figure 5-3
Year 2008 With Project Roadway Segment Volumes

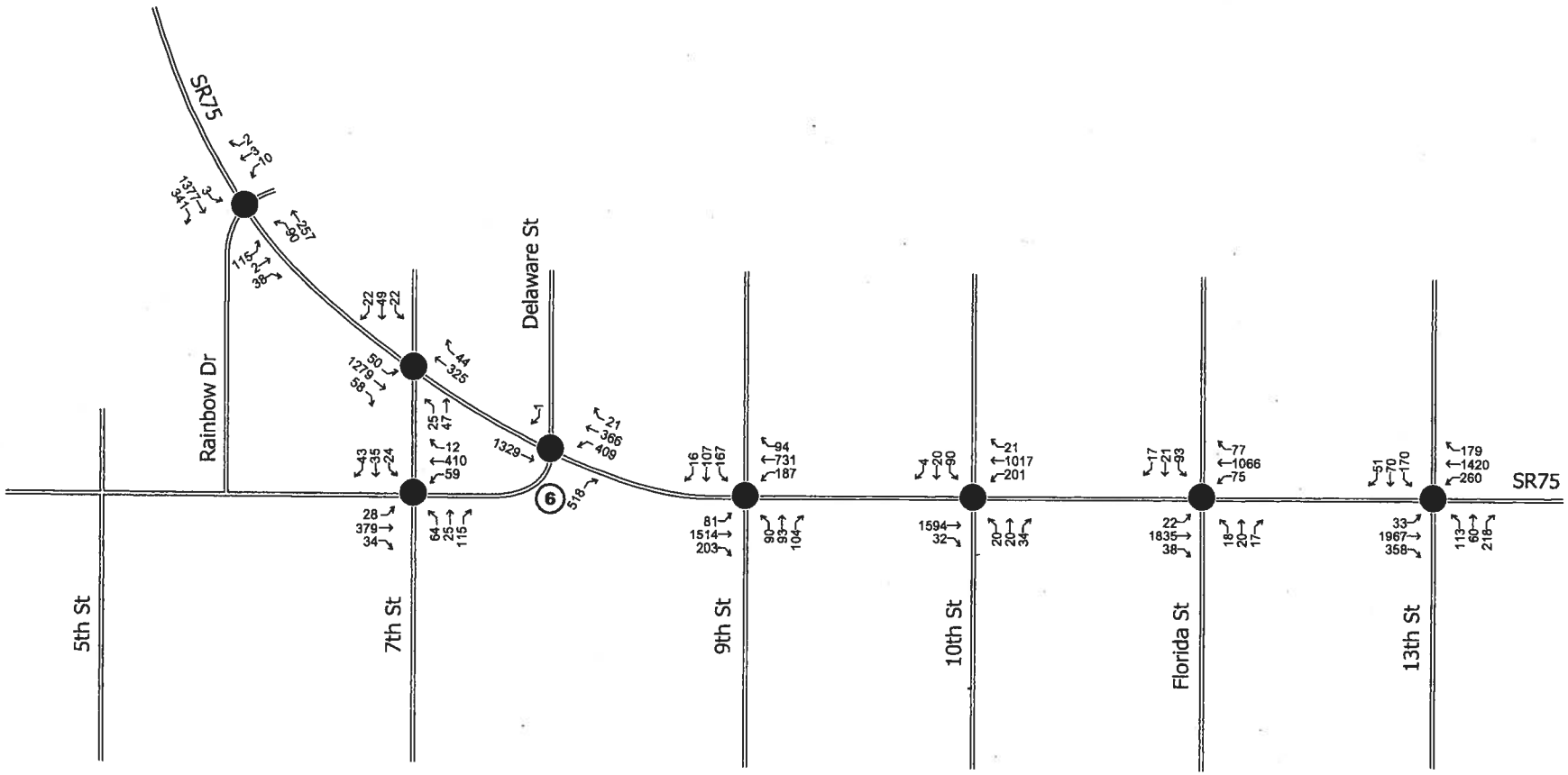
N
Not To Scale



LEGEND	
10	AM Peak Hour Traffic

Figure 5-4
Year 2008 With Project AM Peak Hour Intersection Volumes

N
Not To Scale



LEGEND	
10	PM Peak Hour Traffic

Figure 5-5
Year 2008 With Project PM Peak Hour Intersection Volumes

N
Not To Scale

CHAPTER 6
HORIZON YEAR CONDITIONS

Horizon year conditions represent traffic conditions in 2030, according to regional growth models. Traffic growth on area roadways is a function of the expected land development, economic activity, and changes in demographics. Several methods can be used to estimate this growth.

HORIZON YEAR TRAFFIC VOLUMES

For this analysis a growth rate of 16.0% was calculated using the SANDAG Series 11 traffic forecast model (Internet based) and was applied to existing volumes. Additionally, specific project traffic from cumulative projects was added to develop horizon year base volumes. The growth factor was calculated by comparing the year 2003 and 2030 SANDAG models and is a conservative estimation for regional growth in the horizon year. The growth shown in the SANDAG model Series 11 accounts for a major growth due to new developments or redevelopments along the beach on the west side of Palm Avenue and along SR-75/Palm Avenue. Horizon year segment volumes can be seen in Figure 6-1, while AM and PM peak hour intersection volumes can be found in Figures 6-2 and 6-3 respectively. Horizon year segment volumes with project implementation can be seen in Figure 6-4, while AM and PM peak hour intersection volumes can be seen in Figures 6-5 and 6-6 respectively.

Cumulative projects are planned new developments that will add traffic to the study area roadways. A list of cumulative projects is shown in the table below. Appendix C contains detailed information about volume development.

Cumulative Projects

Project Name	Description
NAB and NRRF	Future expansion of training facility
2 Single Family Dwelling Units	684-686 Ocean Lane west of Palm Ave.
4 Single Family Dwelling Units	690 Ocean Lane west of Palm Ave.

The training expansion program of the Naval Radio Receiver Facility and the Naval Amphibious Base which is located north of *Palm Avenue* will add up cumulative project traffic as the access to the base from I-5 is through *Palm Avenue*. A conservative approach in determining the trip generation was made which was added to the existing volume that was grown to develop the future volume.

HORIZON YEAR CIRCULATION NETWORK

No circulation network changes are assumed for the horizon year Without Project condition.

HORIZON YEAR TRAFFIC ANALYSIS

The effect of the proposed project was compared with the without project scenario for both segments and intersections and are shown in Table 6-1 and 6-2 respectively.

Table 6-1
Horizon Year Roadway Segment Conditions – SANTEC Method

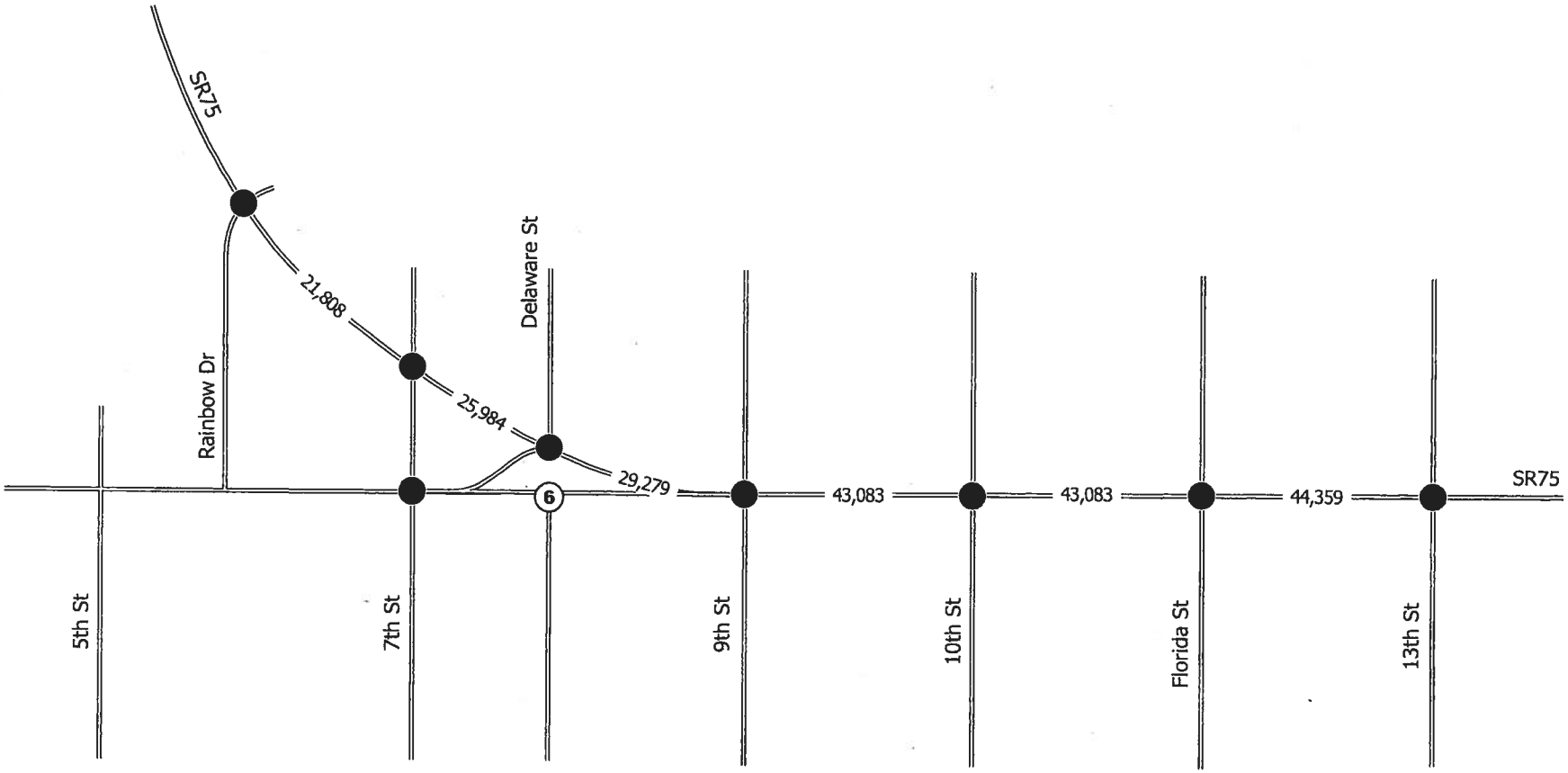
Roadway Segment	Horizon Year Without Project					Horizon Year With Project					Δ V/C	Sig?
	Lanes/ Class	LOS E Capacity	ADT	V/C	LOS	Lanes/ Class	LOS E Capacity	ADT	V/C	LOS		
SR-75/Palm Avenue												
13th Street to Florida Street	6MA	50,000	44,359	0.887	D	6MA	50,000	44,359	0.887	D	0.000	No
Florida Street to 10th Street	6MA	50,000	43,083	0.862	D	6MA	50,000	43,083	0.862	D	0.000	No
10th Street to 9th Street	6MA	50,000	43,083	0.862	D	6MA	50,000	43,083	0.862	D	0.000	No
9th Street to Delaware Street	6MA	50,000	29,279	0.586	C	6MA	50,000	29,279	0.586	C	0.000	No
Delaware Street to 7th Street	6MA	50,000	25,984	0.520	B	4MA	40,000	25,984	0.650	C	0.130	No
7th Street to Rainbow Drive	4MA	40,000	21,808	0.545	C	4MA	40,000	21,808	0.545	C	0.000	No

Abbreviations: 4MA is a 4 lane Major Arterial. 6MA is a 6 lane Major Arterial.

Table 6-2
Horizon Year Intersection Conditions

Intersection	Horizon Year Without Project		Horizon Year With Project		Δ Delay	Sig?
	Delay	LOS	Delay	LOS		
AM Peak Hour						
1. Palm Ave. and 13th St.	31.3	C	24.3	C	-7.0	No
2. Palm Ave. and Florida St.	9.7	A	9.3	A	-0.4	No
3. Palm Ave. and 10th St.	NA*	NA*	8.8	A	8.8	No
4. Palm Ave. and 9th St.	33.8	C	26.2	C	-7.6	No
5. SR-75 and Delaware St.	29.5	C	7.3	A	-22.2	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA
7. SR-75 and 7th St.	23.1	C	14.8	B	-8.3	No
8. Palm Ave. and 7th St.	49.4	D	18.6	B	-30.8	No
9. SR-75 and Rainbow Dr.	43.5	D	18.3	B	-25.2	No
PM Peak Hour						
1. Palm Ave. and 13th St.	67.8	E	48.0	D	-19.8	No
2. Palm Ave. and Florida St.	14.0	B	12.7	B	-1.3	No
3. Palm Ave. and 10th St.	NA*	NA*	8.5	A	8.5	No
4. Palm Ave. and 9th St.	46.7	D	44.2	D	-2.5	No
5. SR-75 and Delaware St.	29.8	C	11.3	B	-18.5	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA
7. SR-75 and 7th St.	20.5	C	17.1	B	-3.4	No
8. Palm Ave. and 7th St.	55.5	E	22.4	C	-33.1	No
9. SR-75 and Rainbow Dr.	46.5	D	29.8	C	-16.7	No

**Unsignalized or does not exist with project*



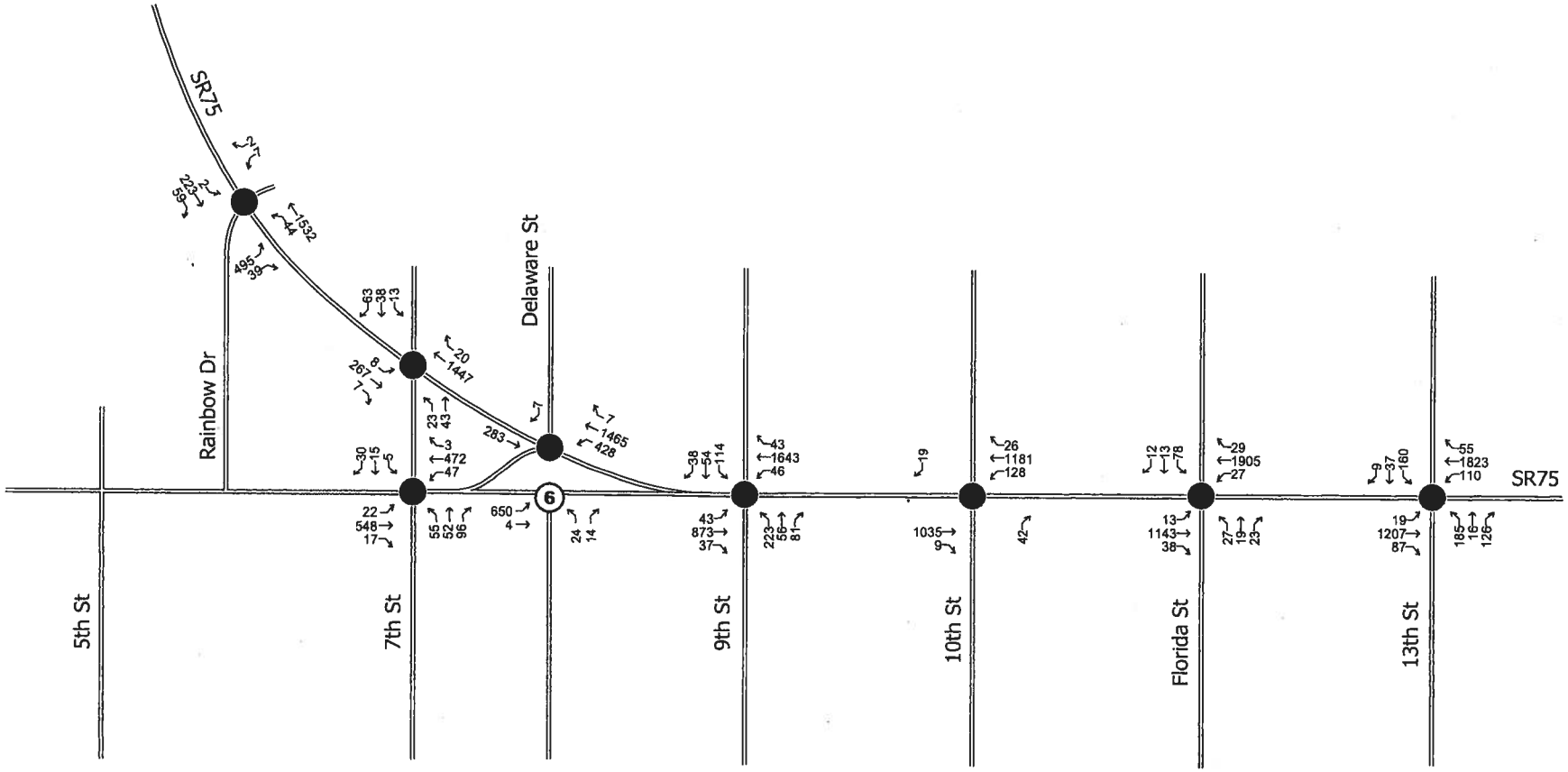
LEGEND

—1,500— Average Daily Traffic

● ⑥ Study Intersection / Abandonned Intersection

Figure 6-1
Horizon Year Roadway Segment Volumes

N
Not To Scale

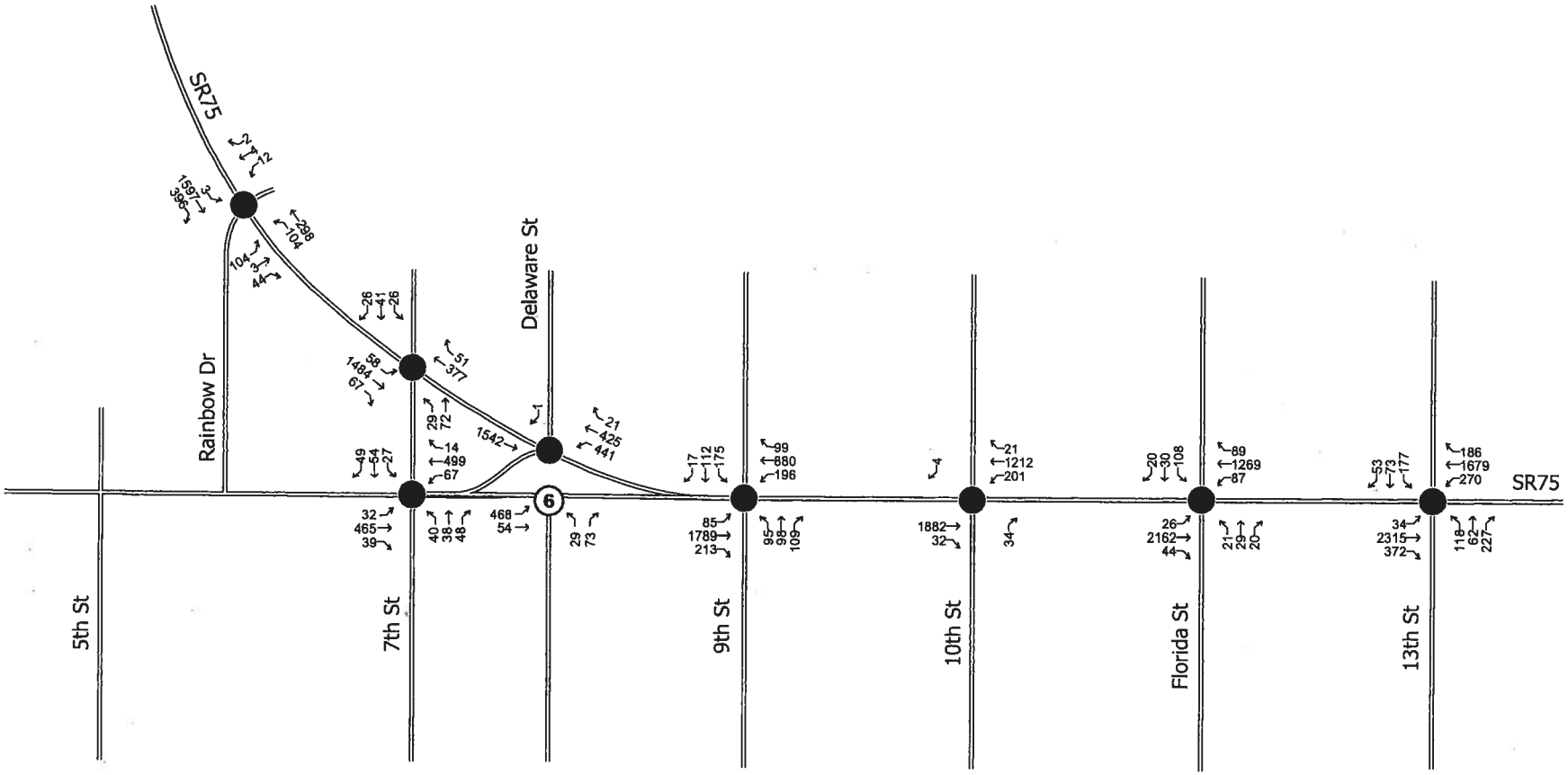


LEGEND

10 AM Peak Hour Traffic

Figure 6-2
Horizon Year AM Peak Hour Intersection Volumes

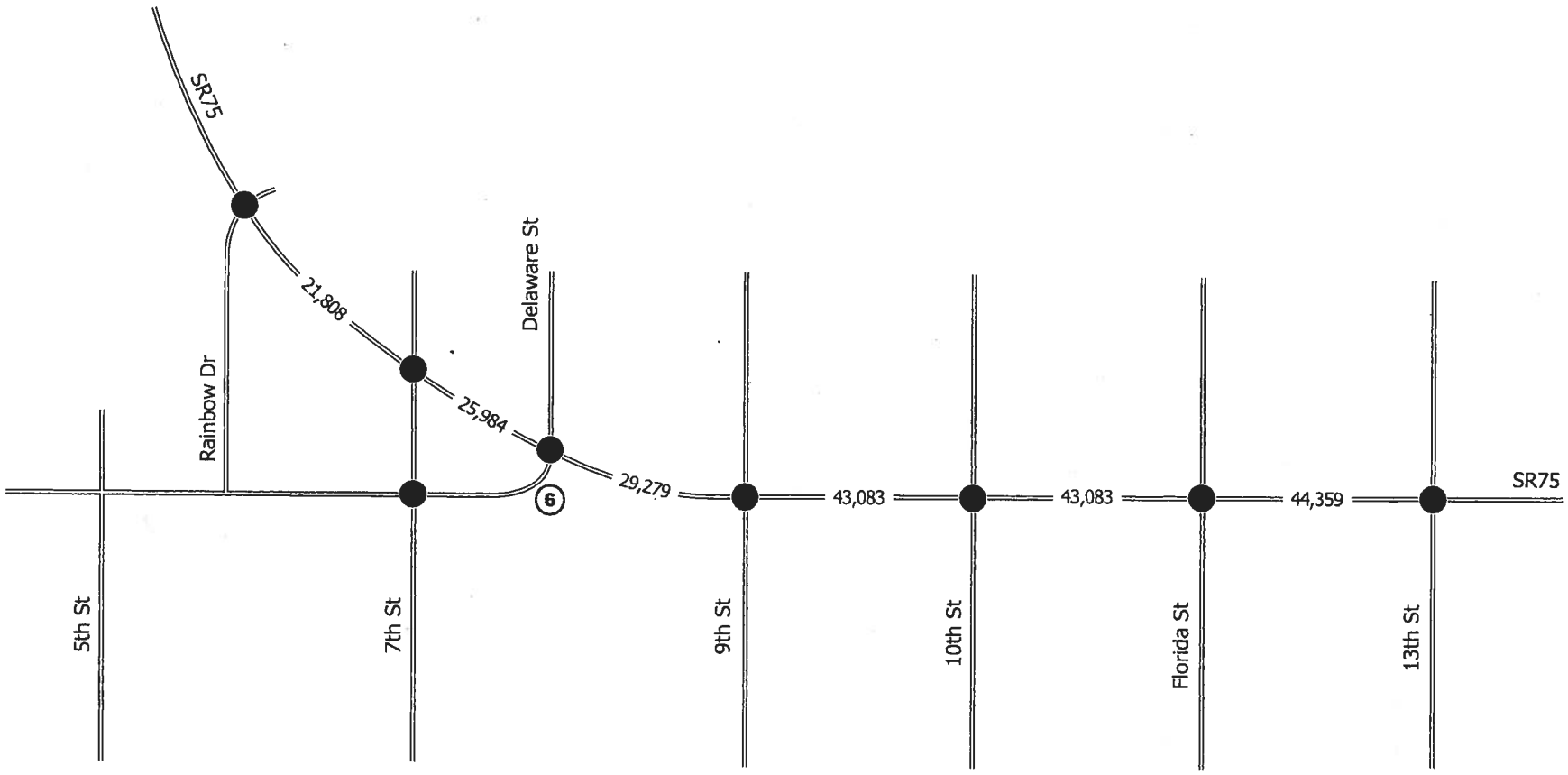
N
Not To Scale



LEGEND	
10	PM Peak Hour Traffic

Figure 6-3
Horizon Year PM Peak Hour Intersection Volumes

N
Not To Scale



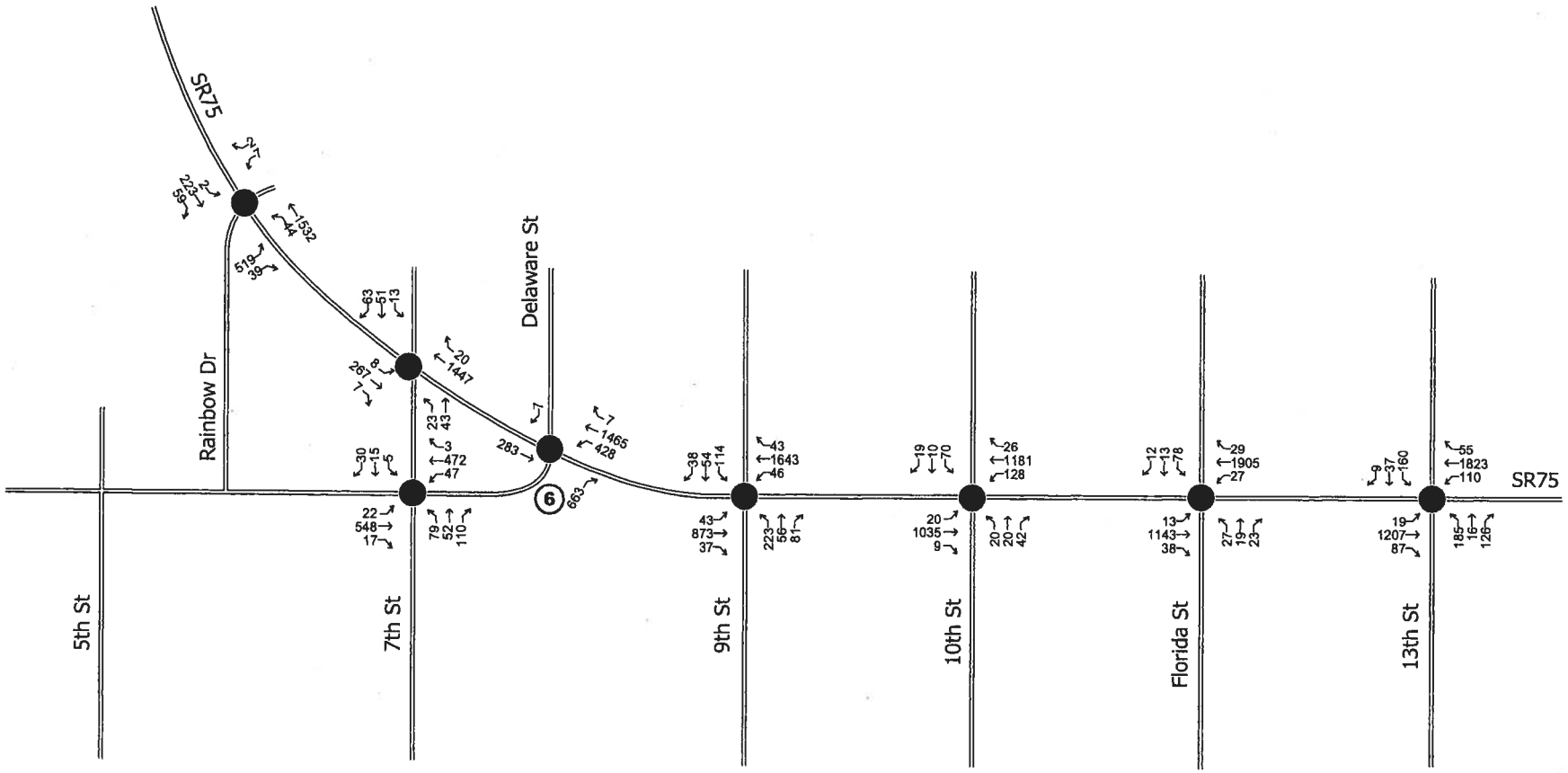
LEGEND

—1,500— Average Daily Traffic

● ⑥ Study Intersection / Abandonned Intersection

Figure 6-4
Horizon Year With Project Roadway Segment Volumes

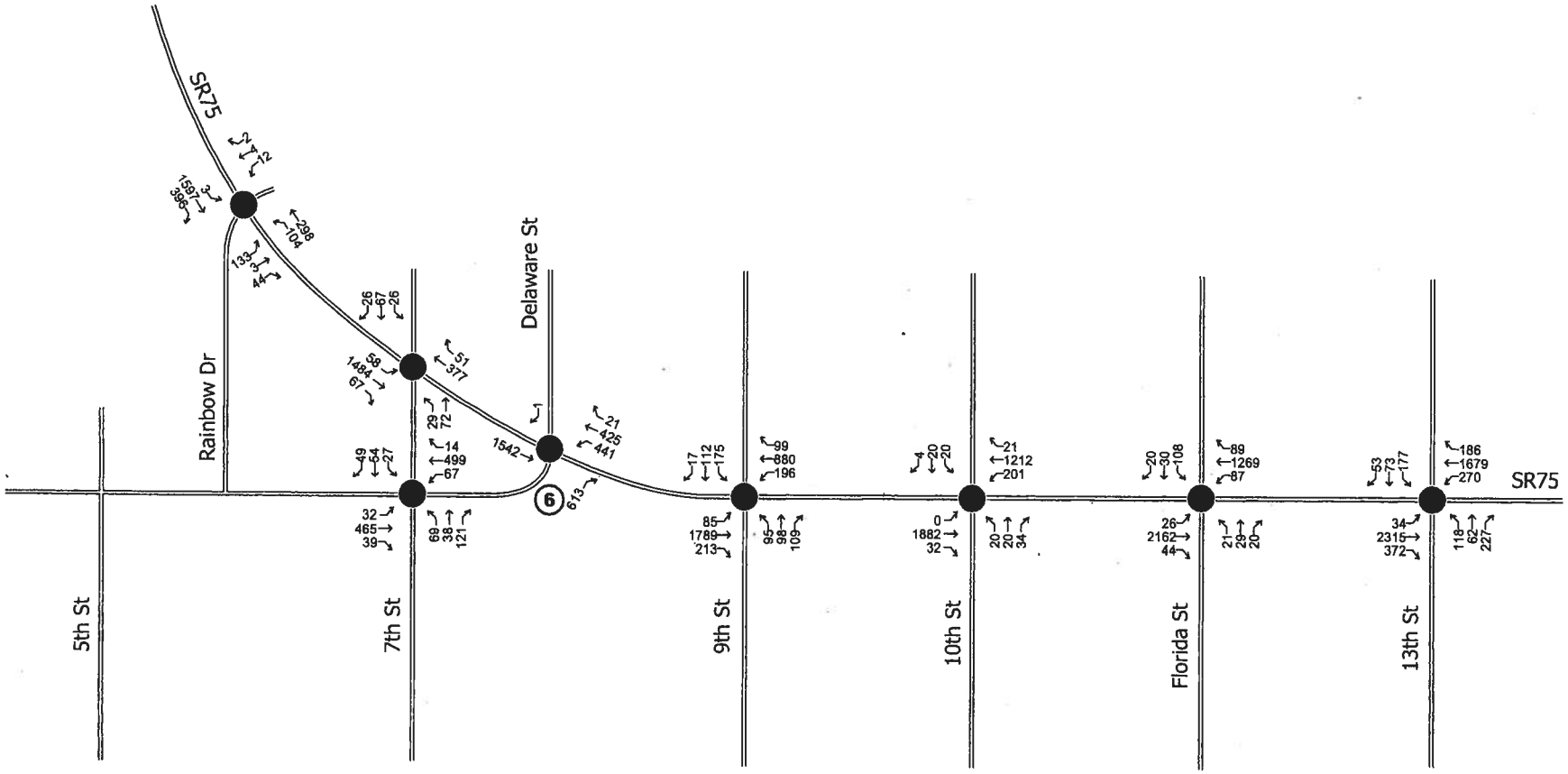
N
Not To Scale



LEGEND	
10	AM Peak Hour Traffic

Figure 6-5
Horizon Year With Project AM Peak Hour Intersection Volumes

N
Not To Scale



LEGEND	
10	PM Peak Hour Traffic

Figure 6-6
Horizon Year With Project PM Peak Hour Intersection Volumes

N
Not To Scale

CHAPTER 7
TRANSIT, BICYCLE, AND PEDESTRIAN CIRCULATION

TRANSIT

The regional transit agency, MTS, has bus service in the City of Imperial Beach with several stops along SR-75. Bus stops along Palm Avenue and SR-75 are located at:

- East of 9th Street and Palm Avenue / SR-75 (Eastbound)
- West of 11th Street and Palm Avenue / SR-75 (Eastbound)
- West of 12th Street and Palm Avenue / SR-75 (Eastbound)
- East of 13th Street and Palm Avenue / SR-75 (Eastbound)

- West of Rainbow Drive and Silver Strand Boulevard / SR-75 (Westbound)
- East of 7th Street and Silver Strand Boulevard / SR-75 (Westbound)
- West of 9th Street and Palm Avenue / SR-75 (Westbound)
- East of Emory Street and Palm Avenue / SR-75 (Westbound)
- West of 11th Street and Palm Avenue / SR-75 (Westbound)
- East of 12th Street and Palm Avenue / SR-75 (Westbound)
- East of 13th Street and Palm Avenue / SR-75 (Westbound)

The project should not affect the operation of the buses significantly. Where there are auxiliary medians that are proposed to separate traffic, the location of the bus stops should allow buses to choose the local / access or the through lanes. The proposed project design would also require some of the mid block bus stops to be relocated to the closest traffic signal to facilitate accessibility of the passengers. This would discourage the passengers from illegally crossing the streets at mid block locations.

BICYCLE CIRCULATION

The Imperial Beach Bicycle Transportation Plan (BTP) is a part of the city's General Plan, designed to illustrate the existing bike routes and facilities as well as lay out future bicycle transportation elements. The BTP covers the entire city's street and bicycle path network, classifying each as Class I, II and III type bike routes. Class I routes are separated bicycle paths set apart from vehicular traffic; Class II bike routes are designated bike lanes within a roadway, traveling adjacent to the vehicular traffic; and Class III routes share vehicular travel lanes with the automotive traffic designated with signs. The project is consistent with the designations set forth within this document.

The project proposes bike lanes on both direction between 13th Street and Florida Street. In the Mid-Town Sector between Florida Street and Delaware Street where the multi-way boulevard with auxiliary medians are proposed, the bike traffic would have the option of using the local / access lanes in lieu of Class II striped bike lanes. The bike lanes would continue again from Delaware Street to Rainbow Drive. Bike lanes would also be added on 7th Street between SR-75 and Palm Avenue as an extension of the EcoRoute Bikeway.

PEDESTRIAN CIRCULATION

The proposed geometric design of SR-75 includes bulb outs on most intersections within the project limits, reducing the walking distance and the time that the pedestrians are in the street. The design would also improve the ability of the pedestrians, bicyclists and motorist to see each other and would encourage the motorists to travel at a slower speed, thereby improving the safety of the pedestrians. The proposed design reduces the pedestrian travel distance approximately 10 feet to 20 feet across SR-75 and involves installation of pedestrian ramps for ADA compliance. The reduction of this distance would reduce the length of the signal's programmed pedestrian phase and as a result would improve intersection operations.

New crosswalks have been proposed for each traffic signal along the corridor to promote the movements of pedestrians across SR-75. Also, a proposed new signal at 10th Street and an upgraded traffic signal at Delaware Street would provide new, controlled pedestrian crossing points that will enhance safety and again discourage dangerous midblock crossings along SR-75. In addition, as mentioned in the Transit section of this chapter, the bus stops are proposed to be relocated to make the crosswalks at the intersections more accessible to the pedestrians.

CHAPTER 8
IMPACTS AND MITIGATION

SIGNIFICANT TRAFFIC IMPACTS

A typical impact, either segment level or intersection level, occurs when the LOS deteriorates to E or F. An impact can also occur if the intersection or segment is already at LOS E or F in the Without Project scenario and the project implementation causes more than the allowable increase set by local jurisdictional guidelines. As seen from the previous tables in Chapter 6, the intersections for both the AM and PM peak hour conditions, and the segments for the 24-hour condition are not impacted for the with project scenario for the existing and horizon year time period.

MITIGATION

No mitigation is necessary based upon the traffic analysis results.

CHAPTER 9
COST ESTIMATES AND CONSTRUCTION PHASING

CONSTRUCTION PHASING

The project is envisioned to be implemented in segments as funding resources become available. For this reason, the construction phasing was assumed by project sub-area; East End Gateway, Mid-Town Sector, Park Sector, and West End Gateway. Each segment is assumed to be able to be constructed independent of one another. However, due to the realignment needed for the Park Sector, construction for that phase would be extended to include improvements from 7th Street to 9th Street. Certain portions of the corridor may have priority for construction or have less regulatory processing required by Caltrans, leading to the need for flexibility in their construction phasing. The segment limits are then described as:

- *East End Gateway*: SR-75 from Florida Street to the eastern City limit
- *Mid-Town Sector*: SR-75 from 9th Street to Florida Street
- *Park Sector*: SR-75 from 7th Street to 9th Street and the roadways encompassing the park
- *West End Gateway*: SR-75 from western City limit to 7th Street

Caltrans Processing

The roadway is currently within Caltrans jurisdiction, and is a State Route. Caltrans approval will be necessary during the design phase of these segments. During this phase, Caltrans may require different levels of processing in order to obtain approval of these projects. Some segments will need design exceptions for lane or shoulder width variations, while others may be greatly disparate to the Caltrans standard cross sections and may require the complete relinquishment of the highway in order to implement. The level of each will be negotiated by the City of Imperial Beach and Caltrans at the time of design processing.

COST ESTIMATES

Cost estimates were based on quantities measured electronically in the AutoCAD concepts created for the project. Quantities were separated by each phased segment based upon the limits of each sector described above. Unit prices were based on recent, local costs for each pay item. Lump sum items, such as mobilization, traffic control, and clearing and grubbing, used standard percentages of construction costs. Because the project is in the preliminary concept stage, a 30% contingency was applied to the project costs, along with an additional 12% for design and 3% for environmental documentation. Table 9-1 shows the breakdown of costs.

Table 9-1
Cost Estimates

Item	West End Gateway	Park Sector*	Mid-Town Sector**	East End Gateway	TOTAL
Road Improvements	$1,158,000	$4,107,900	$2,524,000	$2,415,100	$10,205,000
Landscaping and Accessories	$355,000	$809,000	$693,000	$366,000	$2,223,000
Project Construction Sub-Total	*$1,513,000*	*$4,916,900*	*$3,217,000*	*$2,781,100*	*$12,428,000*
30% Contingency	$454,000	$1,475,000	$965,000	$834,000	$3,728,000
Design & Construction Admin.	$236,000	$767,000	$502,000	$434,000	$1,939,000
Environmental Documentation	$59,000	$192,000	$125,500	$108,500	$485,000
PROJECT TOTAL	*$2,262,000*	*$7,350,900*	*$4,809,500*	*$4,157,600*	***$18,580,000***

**Park Sector limits are defined as SR-75 from 7th Street to 9th Street and the roadways encompassing the park*
*** Mid-Town Sector limits are defined as SR-75 from 9th Street to Florida Street*

The cost estimates indicate that the overall project cost to be approximately $18.6 million for construction, design, and environmental processing.

CHAPTER 10
SUMMARY OF ANALYSIS

This evaluation studied all of the signalized intersections along SR-75 and the segments between these intersections to determine operations both with and without the project in both the current and future years. Results are reported in levels of service and any potentially significant environmental impacts due to traffic coming from these results have been noted. Any results worse than LOS D are considered unacceptable. The proposed project considers Park Sector Alternative 3 integrated into the overall proposed project. Table 10-1 shows the summary of roadway segment conditions for each scenario. Table 10-2 shows the summary of intersection conditions for each scenario.

Segment Results

In the study years 2008 and 2030 it can be seen from Table 10-1 that the all the segments along the study corridor of SR-75 operate at an acceptable LOS after the implementation of the proposed project.

Table 10-1
Preferred Alternative – Segment Conditions

Roadway Segment	2008						Horizon Year					
	Without Project		With Project		Δ V/C	Sig?	Without Project		With Project		Δ V/C	Sig?
	V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS		
SR-75/Palm Avenue												
13th Street to Florida Street	0.760	C	0.760	C	0.000	No	0.887	D	0.887	D	0.000	No
Florida Street to 10th Street	0.738	C	0.738	C	0.000	No	0.862	D	0.862	D	0.000	No
10th Street to 9th Street	0.738	C	0.738	C	0.000	No	0.862	D	0.862	D	0.000	No
9th Street to Delaware Street	0.500	B	0.500	B	0.000	No	0.586	C	0.586	C	0.000	No
Delaware Street to 7th Street	0.448	B	0.560	C	0.112	No	0.520	B	0.650	C	0.130	No
7th Street to Rainbow Drive	0.470	B	0.470	B	0.000	No	0.545	C	0.545	C	0.000	No

Intersection Results

In the study years 2008 and 2030 it can be seen from Table 10-2 that the all the intersections along the study corridor of SR-75 operate at an acceptable LOS after the implementation of the proposed project.

Table 10-2
Preferred Alternative – Intersection Conditions

Intersection	2008					Horizon Year				
	Without Project		With Project			Without Project		With Project		
	Delay	LOS	Delay	LOS	Sig?	Delay	LOS	Delay	LOS	Sig?
AM Peak Hour										
1. Palm Ave. and 13th St.	31.5	C	24.3	C	No	31.3	C	24.3	C	No
2. Palm Ave. and Florida St.	8.7	A	9.3	A	No	9.7	A	9.3	A	No
3. Palm Ave. and 10th St.	NA*	NA*	8.8	A	No	NA*	NA*	8.8	A	No
4. Palm Ave. and 9th St.	33.7	C	26.2	C	No	33.8	C	26.2	C	No
5. SR-75 and Delaware St.	26.7	C	7.3	A	No	29.5	C	7.3	A	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA*	NA*	NA*	NA*	NA
7. SR-75 and 7th St.	16.3	B	14.8	B	No	23.1	C	14.8	B	No
8. Palm Ave. and 7th St.	50.3	D	18.6	B	No	49.4	D	18.6	B	No
9. SR-75 and Rainbow Dr.	31.0	C	18.3	B	No	43.5	D	18.3	B	No
PM Peak Hour										
1. Palm Ave. and 13th St.	55.6	E	38.4	D	No	67.8	E	48.0	D	No
2. Palm Ave. and Florida St.	15.9	B	10.7	A	No	14.0	B	12.7	B	No
3. Palm Ave. and 10th St.[1]	0.0	A	21.5	A	No	NA	NA	8.5	A	No
4. Palm Ave. and 9th St.	45.6	D	32.2	D	No	46.7	D	44.2	D	No
5. SR-75 and Delaware St.	27.3	C	8.9	A	No	29.8	C	11.3	B	No
6. Palm Ave. and Delaware St.	NA*	NA*	NA*	NA*	NA	NA*	NA*	NA*	NA*	NA
7. SR-75 and 7th St.	16.0	B	12.7	B	No	20.5	C	17.1	B	No
8. Palm Ave. and 7th St.	55.5	E	16.3	B	No	55.5	E	22.4	C	No
9. SR-75 and Rainbow Dr.	26.8	C	22.6	C	No	46.5	D	29.8	C	No

**Unsignalized or does not exist with project*

SUMMARY OF RESULTS

The existing SR-75 corridor is predominately dedicated to vehicular travel and does not currently lend itself to other modes of travel, such as pedestrian and bicycles. Wide roads and high speeds suggest the need for traffic calming, aesthetic and safety enhancements along this area in order to begin the revitalization process. The proposed project adds traffic signals with crosswalks, proposes curb pop-outs, realigns roadways, and reassigns existing drivable space to pedestrians and bicyclists in order to accomplish these goals. In some areas, the number of primary driving lanes was reduced or changed to local / access roads by proposing auxiliary medians on each side of the street.

Technical results indicate that the project will operate effectively at all intersections and segments. Additionally, the project shows an increase in the levels of service for intersections after the implementation of the project through road improvements and signal coordination.

Sincerely,
KOA Corporation

Joe De La Garza, C.E., T.E.
Vice President

Prepared By: RKZ

REGISTERED PROFESSIONAL ENGINEER
JOSE R. DELAGARZA JR.
No. 2095
Exp. 06/30/09
TRAFFIC
STATE OF CALIFORNIA

APPENDIX A

LEVEL OF SERVICE CONCEPTS, ANALYSIS METHODOLOGIES, STANDARDS OF SIGNIFICANCE

Roadway Segment Level of Service Definitions

LOS	V/C	Congestion/Delay	Traffic Description
(Used for surface streets, freeways, expressways and conventional highways)			
"A"	≤0.41	None	Free flow.
"B"	>0.41-0.62	None	Free to stable flow, light to moderate volumes.
"C"	>0.62-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	>0.80-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	>0.92-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
(Used for surface streets and conventional highways)			
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.
(Used for freeways and expressways)			
"F(0)"	>1.00-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F(1)"	>1.25-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues.
"F(2)"	>1.35-1.45	Very Severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F(3)"	>1.45	Extremely Severe 3+ hours of delay	Gridlock

Source: Caltrans, 1992.

LEVEL OF SERVICE (LOS) DEFINITIONS

The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety. Levels of service for freeway segments can generally be categorized as shown in the table above.

City of San Diego
Roadway Capacity Standards

Street Classification	Lanes	Cross Sections* (Approx.)	Level of Service ADT**				
			A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) (continuous left-turn lane)	4 lanes 2 lanes	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multi-family)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	---	---	2,200	---	---

Legend:

*Curb to curb width (feet)/right of way width (feet): based upon the City of San Diego Street Design Manual and other jurisdictions within the San Diego region.

**Approximate recommended ADT based upon the City of San Diego Street Design Manual.

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline.

Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

Signalized Intersection Level of Service
Highway Capacity Manual Operational Analysis Method

The operational analysis method for evaluation of signalized intersections presented in the *2000 Highway Capacity Manual* (Transportation Research Board Special Report 209) defines level of service in terms of delay, or more specifically, control stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time.

Control Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
>10 – 20	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
>20 – 35	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
>35 – 55	LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
>55 – 80	LOS E is considered to be the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80	LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 2000, Exhibit 16-2

Minor Street Stop and All-Way Stop Controlled Intersection Level of Service
Highway Capacity Manual Operational Analysis Method

The Highway Capacity Manual (HCM) analysis method for evaluating minor street stop intersections is based on the average total delay for each impeded movement. For all-way stop controlled intersections it is based on the average total delay for the entire intersection. As used here, total delay is defined as the total elapsed time from when a when a vehicle stops at the end of a queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The resulting delay is used to determine the level of service as shown in the following table.

Average Total Delay	Level of Service (LOS) Characteristics
0-10	*LOS A* – Little or no delay
>10 – 15	*LOS B* – Short traffic delay
>15 – 25	*LOS C* – Average traffic delay
>25 – 35	*LOS D* – Long traffic delays
>35 – 50	*LOS E* – Very long traffic delays
>50	*LOS F* – When the demand exceeds the capacity of the lane, extreme delays will be encountered and queuing may cause severe congestion to the intersection.

Source: Highway Capacity Manual 2000, Exhibit 17-22

City of San Diego
Measure of Significant Project Traffic Impacts

Level of Service with Project*	Allowable Change due to Project Impact**					
	Freeways		Roadway Sections		Intersections	Ramps***
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E	0.01	1	0.02	1	2	2
F	0.005	0.5	0.01	0.5	1	1

Notes:

* All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2 or an equivalent LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, project traffic impacts are generally acceptable if they do not cause any traffic queues to exceed ramp storage capacities.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. These impact changes may be measured from acceptable computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigation within the Traffic Impact Study [TIS] report that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project is "E" or "F," the project applicant shall be responsible for mitigating significant impact changes.

***See Attachment B for ramp metering analysis.

Key:
- V/C = Volume to Capacity ratio
- Speed = Speed measured in miles per hour
- Delay = Average stopped delay per vehicle measured in seconds, or minutes
- LOS = Level of Service

APPENDIX B

TRAFFIC COUNT DATA

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.06.13TH ST.PALM /
Site Code : 00000000
Start Date : 11/15/2007
Page No : 1

Groups Printed- Vehicles

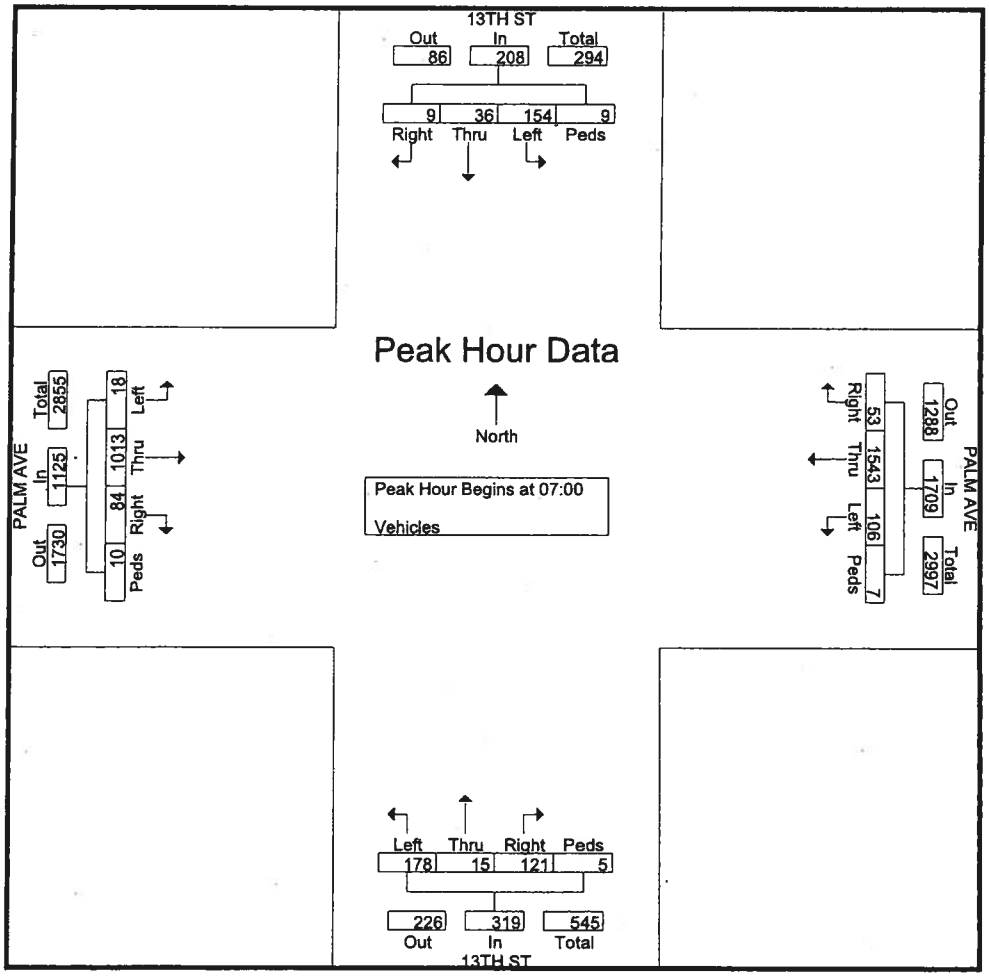
	13TH ST Southbound				PALM AVE Westbound				13TH ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	30	5	2	1	23	451	13	3	51	4	22	1	4	186	20	3	819
07:15	20	5	2	1	27	450	17	0	64	3	43	0	8	258	18	3	919
07:30	48	10	5	2	30	310	11	0	36	5	23	1	4	292	19	1	797
07:45	56	16	0	5	26	332	12	4	27	3	33	3	2	277	27	3	826
Total	154	36	9	9	106	1543	53	7	178	15	121	5	18	1013	84	10	3361
08:00	42	10	2	2	35	266	8	2	43	13	27	0	5	243	20	2	720
08:15	20	8	1	1	30	314	10	0	34	1	16	1	7	276	19	1	739
08:30	36	7	1	1	43	305	10	2	42	1	19	2	4	238	39	0	750
08:45	39	5	3	7	43	234	7	9	28	3	23	0	10	269	20	0	700
Total	137	30	7	11	151	1119	35	13	147	18	85	3	26	1026	98	3	2909
*** BREAK ***																	
16:00	56	22	10	0	49	293	20	0	31	16	25	0	3	391	17	0	933
16:15	38	22	13	0	58	381	39	0	26	10	39	0	10	493	29	1	1159
16:30	50	20	9	0	48	337	52	0	23	9	30	0	8	417	46	0	1049
16:45	46	19	10	0	57	346	71	3	26	15	41	0	8	517	87	0	1246
Total	190	83	42	0	212	1357	182	3	106	50	135	0	29	1818	179	1	4387
17:00	47	15	10	0	58	446	47	0	31	16	67	0	13	557	103	1	1411
17:15	34	20	7	0	53	303	36	1	28	11	68	0	3	444	81	0	1089
17:30	43	16	24	0	92	325	25	0	28	18	42	0	9	449	87	0	1158
17:45	28	12	12	0	65	298	31	0	22	15	31	0	9	423	73	1	1020
Total	152	63	53	0	268	1372	139	1	109	60	208	0	34	1873	344	2	4678
Grand Total	633	212	111	20	737	5391	409	24	540	143	549	8	107	5730	705	16	15335
Apprch %	64.9	21.7	11.4	2	11.2	82.2	6.2	0.4	43.5	11.5	44.3	0.6	1.6	87.4	10.8	0.2	
Total %	4.1	1.4	0.7	0.1	4.8	35.2	2.7	0.2	3.5	0.9	3.6	0.1	0.7	37.4	4.6	0.1	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.06.13TH ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 2

	13TH ST Southbound					PALM AVE Westbound					13TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	30	5	2	1	38	23	**451**	13	3	490	51	4	22	1	78	4	186	20	**3**	213	819
07:15	20	5	2	1	28	27	450	**17**	0	**494**	**64**	3	**43**	0	**110**	**8**	258	18	3	287	**919**
07:30	48	10	**5**	2	65	**30**	310	11	0	351	36	**5**	23	1	65	4	**292**	19	1	**316**	797
07:45	**56**	**16**	0	**5**	**77**	26	332	12	**4**	374	27	3	33	**3**	66	2	277	**27**	3	309	826
Total Volume	154	36	9	9	208	106	1543	53	7	1709	178	15	121	5	319	18	1013	84	10	1125	3361
% App. Total	74	17.3	4.3	4.3		6.2	90.3	3.1	0.4		55.8	4.7	37.9	1.6		1.6	90	7.5	0.9		
PHF	.688	.563	.450	.450	.675	.883	.855	.779	.438	.865	.695	.750	.703	.417	.725	.563	.867	.778	.833	.890	.914

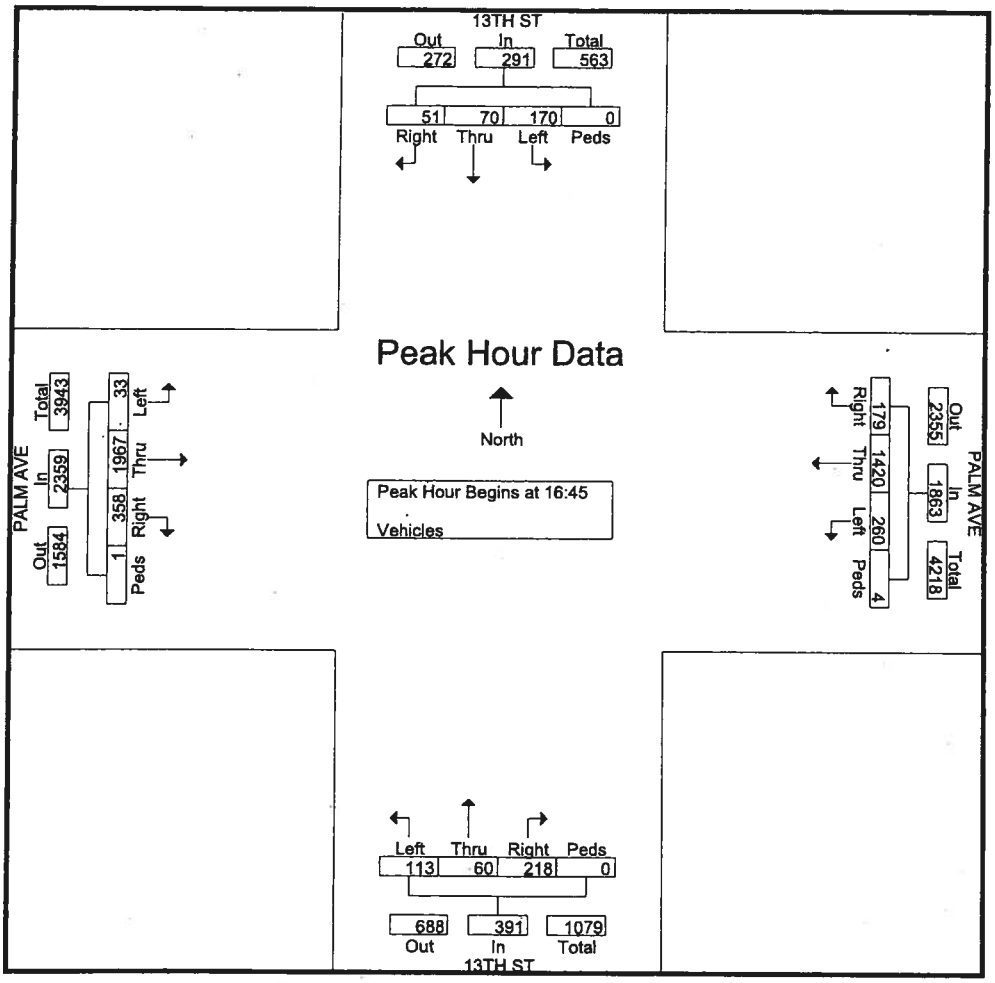


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.06.13TH ST.PALM A
Site Code : 00000000
Start Date : 11/15/2007
Page No : 3

	13TH ST Southbound					PALM AVE Westbound					13TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:30 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	46	19	10	0	75	57	346	71	3	477	26	15	41	0	82	8	517	87	0	612	1246
17:00	47	15	10	0	72	58	446	47	0	551	31	16	67	0	114	13	557	103	1	674	1411
17:15	34	20	7	0	61	53	303	36	1	393	28	11	68	0	107	3	444	81	0	528	1089
17:30	43	16	24	0	83	92	325	25	0	442	28	18	42	0	88	9	449	87	0	545	1158
Total Volume	170	70	51	0	291	260	1420	179	4	1863	113	60	218	0	391	33	1967	358	1	2359	4904
% App. Total	58.4	24.1	17.5	0		14	76.2	9.6	0.2		28.9	15.3	55.8	0		1.4	83.4	15.2	0		
PHF	.904	.875	.531	.000	.877	.707	.796	.630	.333	.845	.911	.833	.801	.000	.857	.635	.883	.869	.250	.875	.869



True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.05.FLORIDA ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 1

Groups Printed- Vehicles

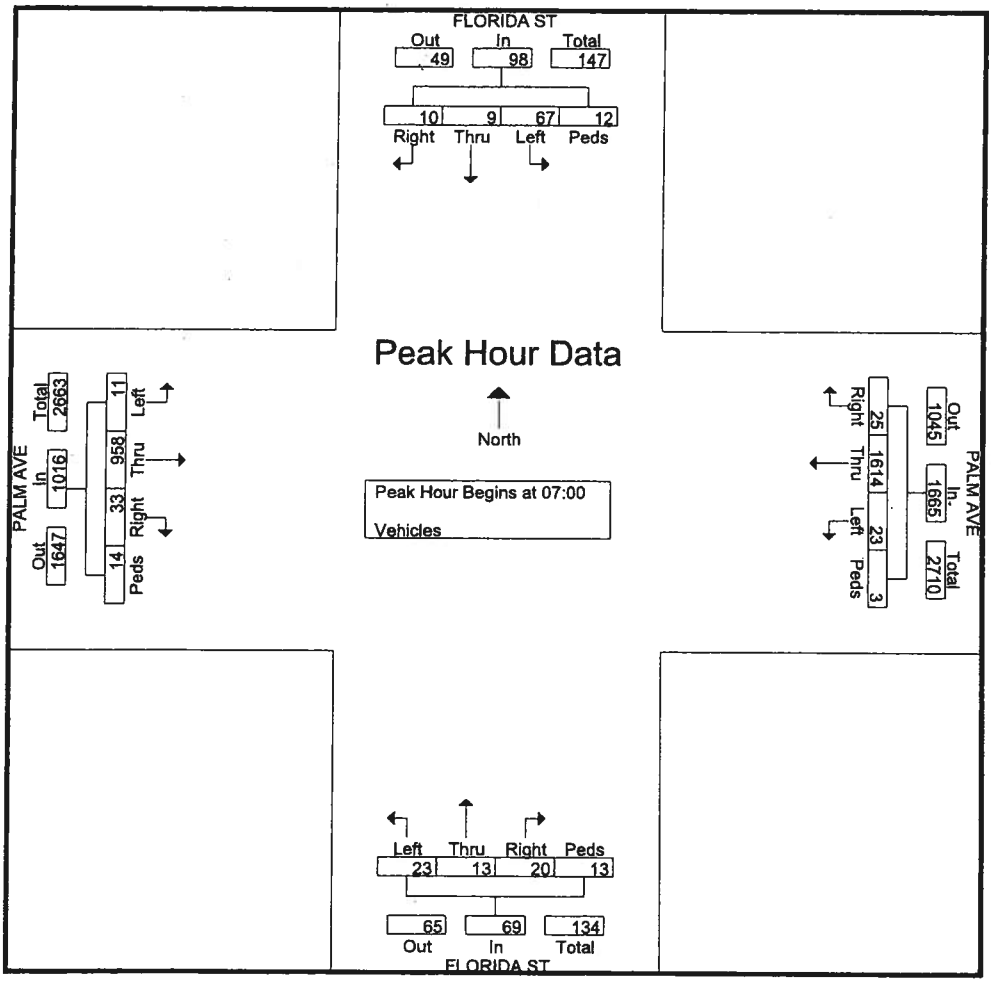
	FLORIDA ST Southbound				PALM AVE Westbound				FLORIDA ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	9	2	5	6	6	471	3	0	3	5	3	0	4	190	2	3	712
07:15	16	3	0	2	5	501	8	0	4	1	7	5	1	261	11	9	834
07:30	12	3	2	3	2	317	7	0	9	1	1	5	1	275	8	2	648
07:45	30	1	3	1	10	325	7	3	7	6	9	3	5	232	12	0	654
Total	67	9	10	12	23	1614	25	3	23	13	20	13	11	958	33	14	2848
08:00	20	5	3	6	11	291	3	2	9	8	5	4	3	206	8	3	587
08:15	13	4	3	0	6	299	3	1	5	2	7	1	4	244	8	1	601
08:30	7	3	1	1	13	287	8	0	5	3	7	2	7	280	9	0	633
08:45	16	2	6	8	10	213	7	1	8	2	5	0	7	213	11	0	509
Total	56	14	13	15	40	1090	21	4	27	15	24	7	21	943	36	4	2330
*** BREAK ***																	
16:00	19	3	1	5	14	279	11	8	2	6	11	6	6	443	11	9	834
16:15	20	1	2	2	25	232	49	1	4	9	7	3	6	466	8	11	846
16:30	22	8	5	5	19	265	4	2	4	2	4	3	7	426	7	2	785
16:45	19	6	8	5	17	253	11	2	4	3	2	8	5	504	8	4	859
Total	80	18	16	17	75	1029	75	13	14	20	24	20	24	1839	34	26	3324
17:00	32	6	2	5	14	316	13	1	6	6	4	4	4	439	15	0	867
17:15	22	2	3	1	18	256	2	0	8	5	9	4	5	444	7	0	786
17:30	27	5	0	2	16	253	12	6	2	5	4	8	6	394	6	6	752
17:45	13	3	3	6	27	245	4	6	4	0	3	2	4	341	7	3	671
Total	94	16	8	14	75	1070	31	13	20	16	20	18	19	1618	35	9	3076
Grand Total	297	57	47	58	213	4803	152	33	84	64	88	58	75	5358	138	53	11578
Apprch %	64.7	12.4	10.2	12.6	4.1	92.3	2.9	0.6	28.6	21.8	29.9	19.7	1.3	95.3	2.5	0.9	
Total %	2.6	0.5	0.4	0.5	1.8	41.5	1.3	0.3	0.7	0.6	0.8	0.5	0.6	46.3	1.2	0.5	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.05.FLORIDA ST.PALM A
Site Code : 00000000
Start Date : 11/15/2007
Page No : 2

	FLORIDA ST Southbound					PALM AVE Westbound					FLORIDA ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	9	2	5	6	22	6	471	3	0	480	3	5	3	0	11	4	190	2	3	199	712
07:15	16	3	0	2	21	5	501	8	0	514	4	1	7	5	17	1	261	11	9	282	834
07:30	12	3	2	3	20	2	317	7	0	326	9	1	1	5	16	1	275	8	2	286	648
07:45	30	1	3	1	35	10	325	7	3	345	7	6	9	3	25	5	232	12	0	249	654
Total Volume	67	9	10	12	98	23	1614	25	3	1665	23	13	20	13	69	11	958	33	14	1016	2848
% App. Total	68.4	9.2	10.2	12.2		1.4	96.9	1.5	0.2		33.3	18.8	29	18.8		1.1	94.3	3.2	1.4		
PHF	.558	.750	.500	.500	.700	.575	.805	.781	.250	.810	.639	.542	.556	.650	.690	.550	.871	.688	.389	.888	.854

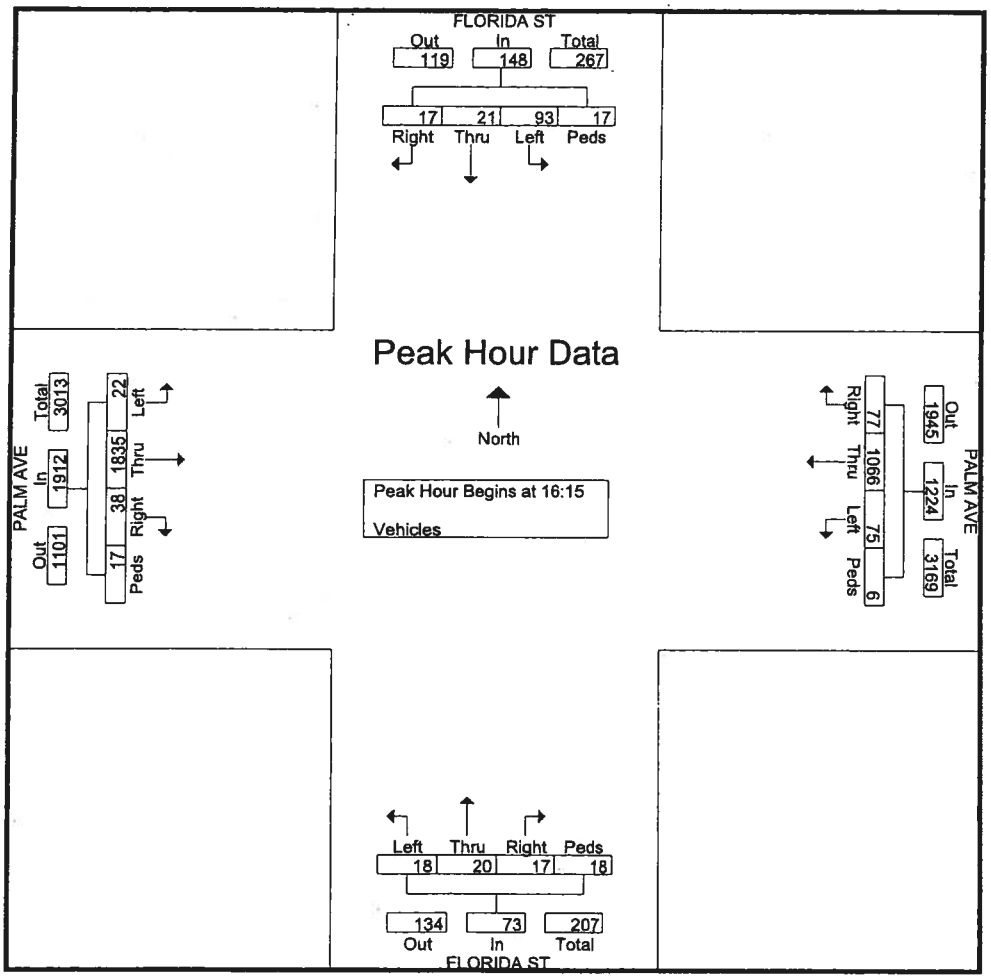


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.05.FLORIDA ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 3

	FLORIDA ST Southbound					PALM AVE Westbound					FLORIDA ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	20	1	2	2	25	**25**	232	**49**	1	307	4	**9**	7	3	**23**	6	466	8	**11**	491	846
16:30	22	**8**	5	**5**	40	19	265	4	**2**	290	4	2	4	3	13	**7**	426	7	2	442	785
16:45	19	6	**8**	5	38	17	253	11	2	283	4	3	2	**8**	17	5	**504**	8	4	**521**	859
17:00	**32**	6	2	5	**45**	14	**316**	13	1	**344**	**6**	6	4	4	20	4	439	**15**	0	458	**867**
Total Volume	93	21	17	17	148	75	1066	77	6	1224	18	20	17	18	73	22	1835	38	17	1912	3357
% App. Total	62.8	14.2	11.5	11.5		6.1	87.1	6.3	0.5		24.7	27.4	23.3	24.7		1.2	96	2	0.9		
PHF	.727	.656	.531	.850	.822	.750	.843	.393	.750	.890	.750	.556	.607	.563	.793	.786	.910	.633	.386	.917	.968



True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8062.01.10TH ST.PALM A
Site Code : 00000000
Start Date : 7/24/2008
Page No : 1

Groups Printed- Vehicles

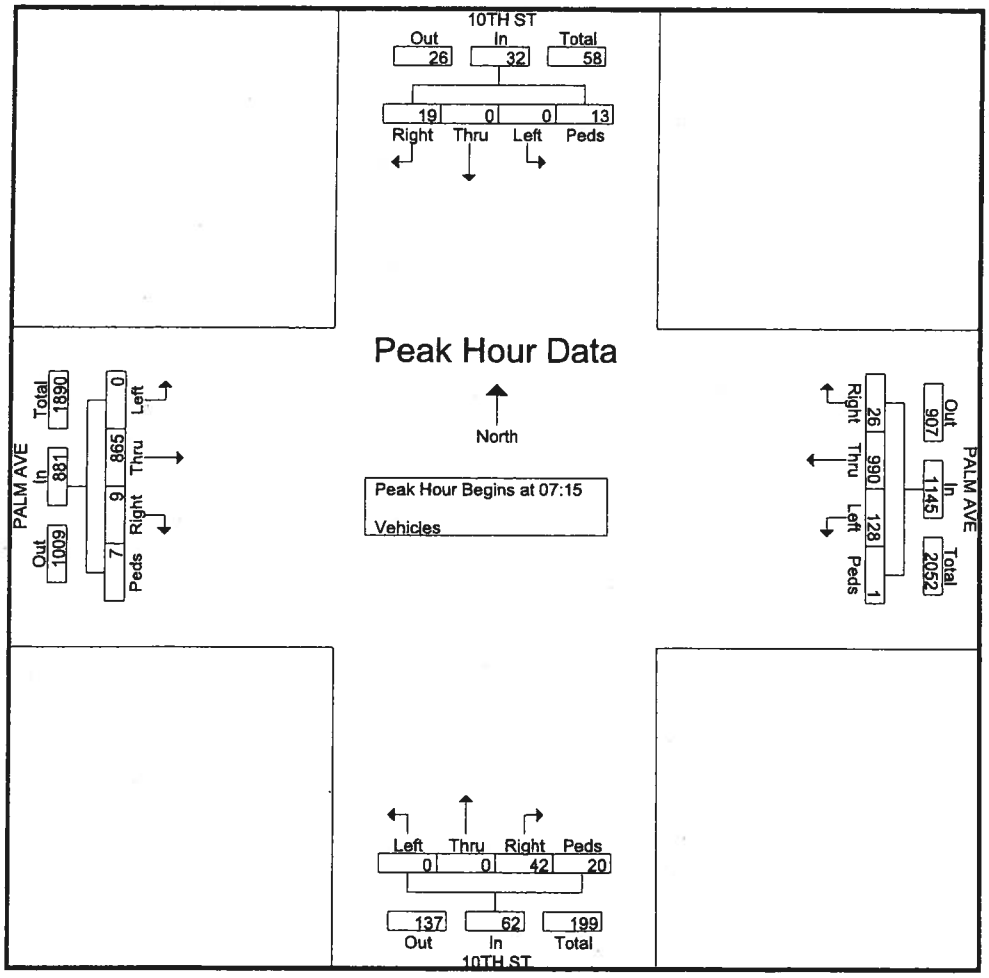
	10TH ST Southbound				PALM AVE Westbound				10TH ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	0	0	5	2	17	290	9	1	0	0	8	0	0	136	3	0	471
07:15	0	0	6	1	32	257	6	0	0	0	13	6	0	171	1	3	496
07:30	0	0	5	1	38	263	12	1	0	0	10	7	0	221	3	0	561
07:45	0	0	5	5	31	261	3	0	0	0	13	2	0	229	3	1	553
Total	0	0	21	9	118	1071	30	2	0	0	44	15	0	757	10	4	2081
08:00	0	0	3	6	27	209	5	0	0	0	6	5	0	244	2	3	510
08:15	0	0	4	1	21	202	8	2	0	0	10	3	0	208	2	0	461
08:30	0	0	1	8	28	247	5	0	0	0	15	3	0	221	1	0	529
08:45	0	0	4	5	29	228	6	0	0	0	8	8	0	218	4	0	510
Total	0	0	12	20	105	886	24	2	0	0	39	19	0	891	9	3	2010
*** BREAK ***																	
16:00	0	0	0	1	43	248	13	0	0	0	5	7	0	378	9	0	704
16:15	0	0	1	2	53	252	9	0	0	0	9	7	0	416	11	5	765
16:30	0	0	0	4	44	234	4	0	0	0	8	2	0	380	6	1	683
16:45	0	0	0	4	48	290	6	0	0	0	6	4	0	408	9	1	776
Total	0	0	1	11	188	1024	32	0	0	0	28	20	0	1582	35	7	2928
17:00	0	0	3	15	56	241	2	0	0	0	11	14	0	390	6	2	740
17:15	0	0	2	8	38	238	5	0	0	0	13	4	0	330	6	0	644
17:30	0	0	1	5	40	244	4	0	0	0	16	7	0	324	7	0	648
17:45	0	0	5	6	48	237	4	2	0	0	7	2	0	272	4	0	587
Total	0	0	11	34	182	960	15	2	0	0	47	27	0	1316	23	2	2619
Grand Total	0	0	45	74	593	3941	101	6	0	0	158	81	0	4546	77	16	9638
Apprch %	0	0	37.8	62.2	12.8	84.9	2.2	0.1	0	0	66.1	33.9	0	98	1.7	0.3	
Total %	0	0	0.5	0.8	6.2	40.9	1	0.1	0	0	1.6	0.8	0	47.2	0.8	0.2	

True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8062.01.10TH ST.PALM AVE
Site Code : 00000000
Start Date : 7/24/2008
Page No : 2

	10TH ST Southbound					PALM AVE Westbound					10TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	**6**	1	7	32	257	6	0	295	0	0	**13**	6	**19**	0	171	1	**3**	175	496
07:30	0	0	5	1	6	**38**	**263**	**12**	**1**	**314**	0	0	10	**7**	17	0	221	**3**	0	224	**561**
07:45	0	0	5	5	**10**	31	261	3	0	295	0	0	13	2	15	0	229	3	1	233	553
08:00	0	0	3	**6**	9	27	209	5	0	241	0	0	6	5	11	0	**244**	2	3	**249**	510
Total Volume	0	0	19	13	32	128	990	26	1	1145	0	0	42	20	62	0	865	9	7	881	2120
% App. Total	0	0	59.4	40.6		11.2	86.5	2.3	0.1		0	0	67.7	32.3		0	98.2	1	0.8		
PHF	.000	.000	.792	.542	.800	.842	.941	.542	.250	.912	.000	.000	.808	.714	.816	.000	.886	.750	.583	.885	.945

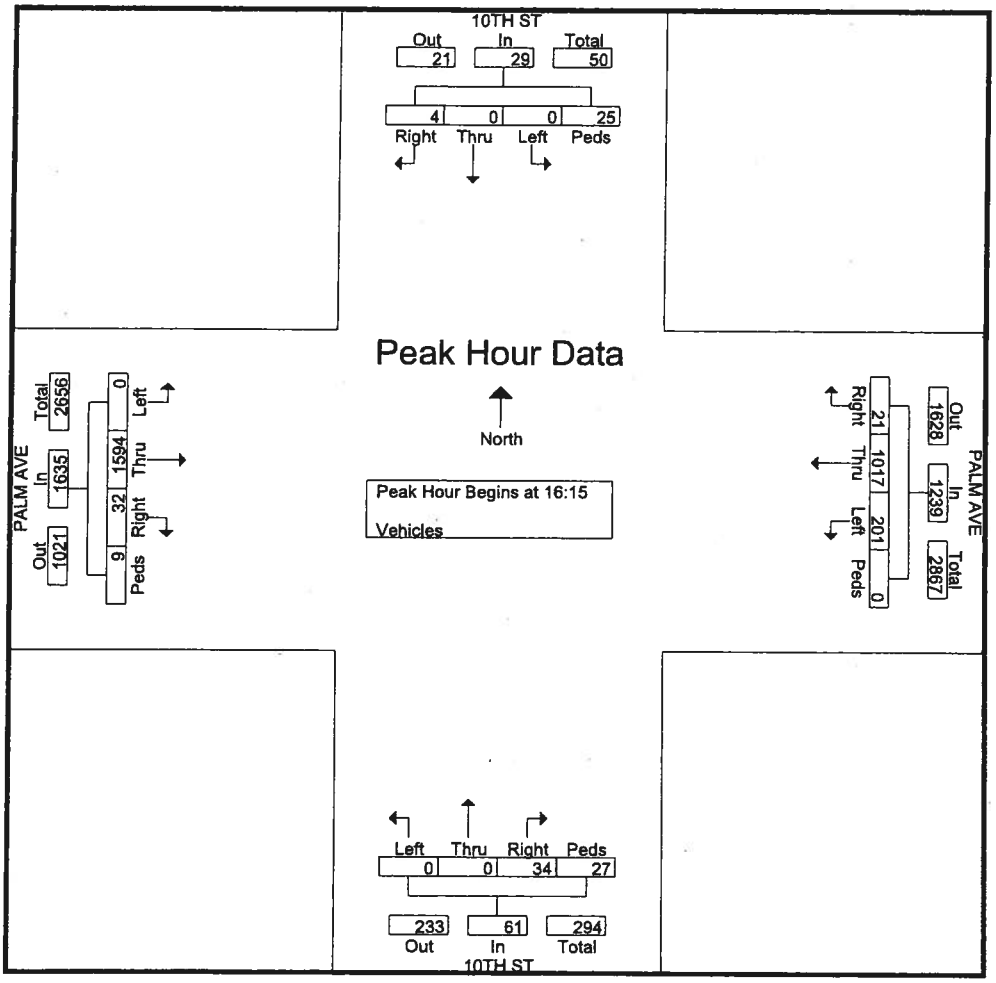


True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8062.01.10TH ST.PALM A.
Site Code : 00000000
Start Date : 7/24/2008
Page No : 3

	10TH ST Southbound					PALM AVE Westbound					10TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	1	2	3	53	252	9	0	314	0	0	9	7	16	0	416	11	5	432	765
16:30	0	0	0	4	4	44	234	4	0	282	0	0	8	2	10	0	380	6	1	387	683
16:45	0	0	0	4	4	48	290	6	0	344	0	0	6	4	10	0	408	9	1	418	776
17:00	0	0	3	15	18	56	241	2	0	299	0	0	11	14	25	0	390	6	2	398	740
Total Volume	0	0	4	25	29	201	1017	21	0	1239	0	0	34	27	61	0	1594	32	9	1635	2964
% App. Total	0	0	13.8	86.2		16.2	82.1	1.7	0		0	0	55.7	44.3		0	97.5	2	0.6		
PHF	.000	.000	.333	.417	.403	.897	.877	.583	.000	.900	.000	.000	.773	.482	.610	.000	.958	.727	.450	.946	.955



True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.04.9TH ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 1

Groups Printed- Vehicles

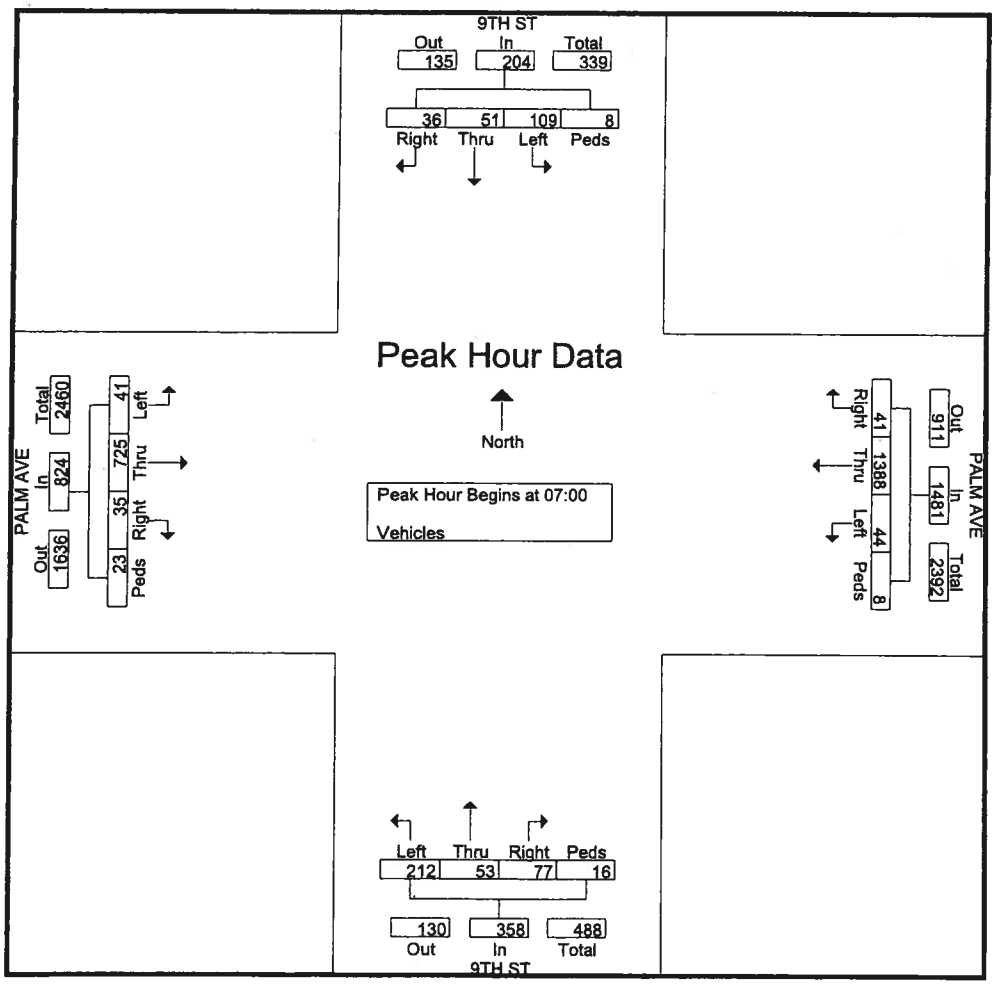
	9TH ST Southbound				PALM AVE Westbound				9TH ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	24	9	7	3	5	419	8	4	56	10	13	6	4	130	6	11	715
07:15	33	8	15	2	10	430	8	1	71	14	18	2	7	214	8	3	844
07:30	18	10	7	1	8	296	13	3	52	13	29	2	15	212	12	3	694
07:45	34	24	7	2	21	243	12	0	33	16	17	6	15	169	9	6	614
Total	109	51	36	8	44	1388	41	8	212	53	77	16	41	725	35	23	2867
08:00	24	12	9	3	25	269	14	2	49	14	14	3	6	182	12	2	640
08:15	34	9	5	1	11	241	15	0	25	16	13	2	16	195	12	5	600
08:30	23	10	1	3	21	233	20	2	31	10	25	5	14	218	7	4	627
08:45	35	5	3	3	15	174	20	0	23	6	13	2	17	144	11	6	477
Total	116	36	18	10	72	917	69	4	128	46	65	12	53	739	42	17	2344
*** BREAK ***																	
16:00	28	35	11	2	48	199	26	5	17	20	11	16	19	382	49	13	881
16:15	33	32	3	3	35	169	23	11	18	23	15	8	30	392	36	11	842
16:30	41	21	7	3	41	168	17	10	20	15	20	16	18	338	45	17	797
16:45	46	24	3	9	54	155	23	5	17	23	30	6	18	409	47	14	883
Total	148	112	24	17	178	691	89	31	72	81	76	46	85	1521	177	55	3403
17:00	29	31	4	5	47	213	28	9	20	31	20	8	22	395	55	18	935
17:15	46	33	2	0	43	174	19	2	30	21	38	7	19	349	44	10	837
17:30	46	19	7	5	43	189	24	0	23	18	16	1	22	361	57	7	838
17:45	17	16	1	6	38	193	14	3	20	16	25	13	29	270	34	15	710
Total	138	99	14	16	171	769	85	14	93	86	99	29	92	1375	190	50	3320
Grand Total	511	298	92	51	465	3765	284	57	505	266	317	103	271	4360	444	145	11934
Apprch %	53.7	31.3	9.7	5.4	10.2	82.4	6.2	1.2	42.4	22.3	26.6	8.6	5.2	83.5	8.5	2.8	
Total %	4.3	2.5	0.8	0.4	3.9	31.5	2.4	0.5	4.2	2.2	2.7	0.9	2.3	36.5	3.7	1.2	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.04.9TH ST.PALM A
Site Code : 00000000
Start Date : 11/15/2007
Page No : 2

	9TH ST Southbound					PALM AVE Westbound					9TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	24	9	7	3	43	5	419	8	4	436	56	10	13	6	85	4	130	6	11	151	715
07:15	33	8	15	2	58	10	430	8	1	449	71	14	18	2	105	7	214	8	3	232	844
07:30	18	10	7	1	36	8	296	13	3	320	52	13	29	2	96	15	212	12	3	242	694
07:45	34	24	7	2	67	21	243	12	0	276	33	16	17	6	72	15	169	9	6	199	614
Total Volume	109	51	36	8	204	44	1388	41	8	1481	212	53	77	16	358	41	725	35	23	824	2867
% App. Total	53.4	25	17.6	3.9		3	93.7	2.8	0.5		59.2	14.8	21.5	4.5		5	88	4.2	2.8		
PHF	.801	.531	.600	.667	.761	.524	.807	.788	.500	.825	.746	.828	.664	.667	.852	.683	.847	.729	.523	.851	.849

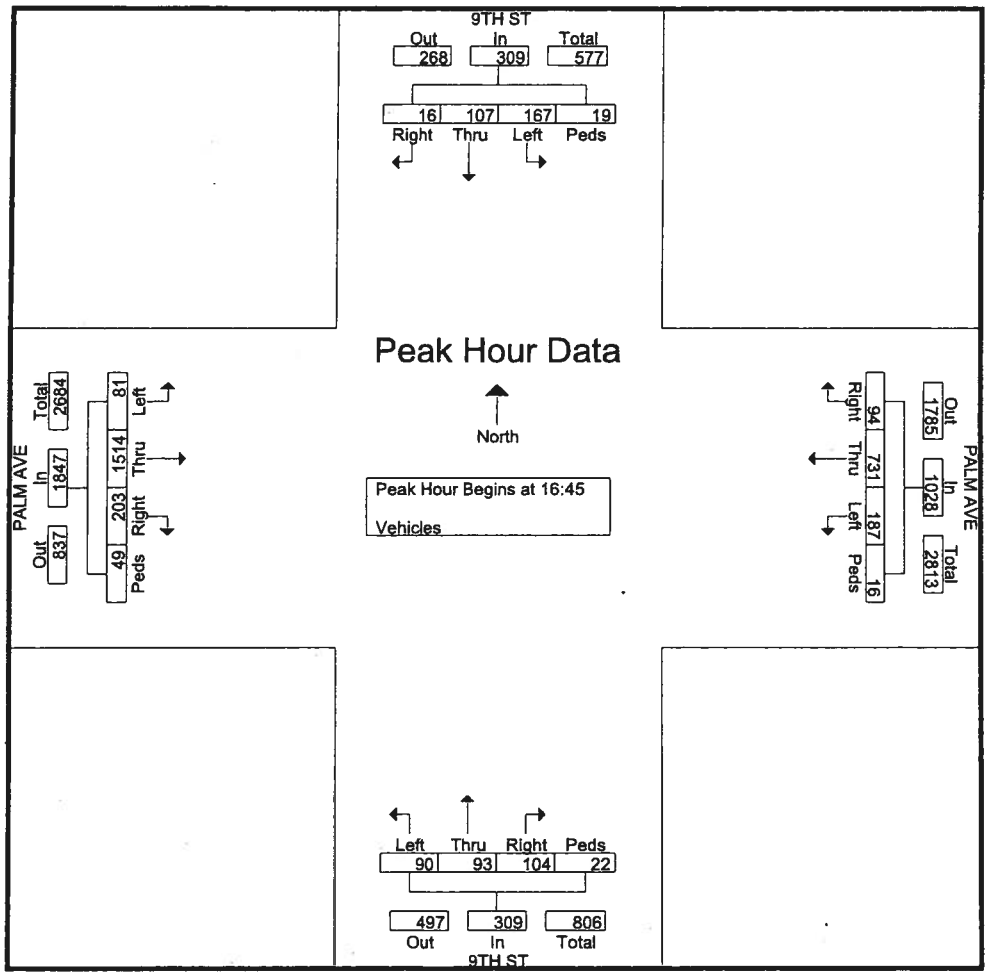


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.04.9TH ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 3

	9TH ST Southbound					PALM AVE Westbound					9TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**46**	24	3	**9**	**82**	**54**	155	23	5	237	17	23	30	6	76	18	**409**	47	14	488	883
17:00	29	31	4	5	69	47	**213**	**28**	**9**	**297**	20	**31**	20	**8**	79	**22**	395	55	**18**	**490**	**935**
17:15	46	**33**	2	0	81	43	174	19	2	238	**30**	21	**38**	7	**96**	19	349	44	10	422	837
17:30	46	19	**7**	5	77	43	189	24	0	256	23	18	16	1	58	22	361	**57**	7	447	838
Total Volume	167	107	16	19	309	187	731	94	16	1028	90	93	104	22	309	81	1514	203	49	1847	3493
% App. Total	54	34.6	5.2	6.1		18.2	71.1	9.1	1.6		29.1	30.1	33.7	7.1		4.4	82	11	2.7		
PHF	.908	.811	.571	.528	.942	.866	.858	.839	.444	.865	.750	.750	.684	.688	.805	.920	.925	.890	.681	.942	.934



True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.03.DELAWARE ST.PALM
Site Code : 00000000
Start Date : 11/15/2007
Page No : 1

Groups Printed- Vehicles

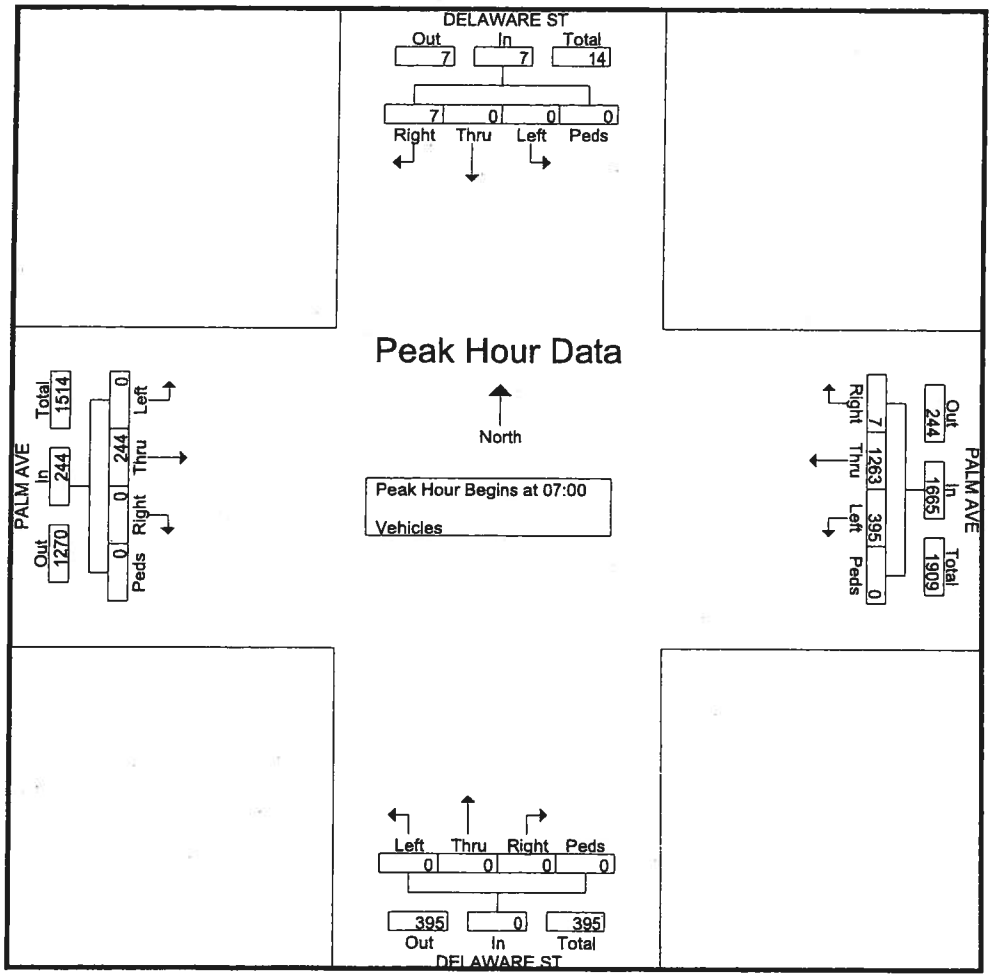
	DELAWARE ST Southbound				PALM AVE Westbound				DELAWARE ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	0	0	4	0	84	398	1	0	0	0	0	0	0	50	0	0	537
07:15	0	0	0	0	145	375	2	0	0	0	0	0	0	55	0	0	577
07:30	0	0	2	0	76	272	3	0	0	0	0	0	0	60	0	0	413
07:45	0	0	1	0	90	218	1	0	0	0	0	0	0	79	0	0	389
Total	0	0	7	0	395	1263	7	0	0	0	0	0	0	244	0	0	1916
08:00	0	0	3	0	97	214	1	0	0	0	0	0	0	90	0	0	405
08:15	0	0	0	0	95	162	3	0	0	0	0	0	0	100	0	0	360
08:30	0	0	1	0	82	157	5	0	0	0	0	0	0	113	0	0	358
08:45	0	0	0	0	96	114	5	0	0	0	0	0	0	83	0	0	298
Total	0	0	4	0	370	647	14	0	0	0	0	0	0	386	0	0	1421
*** BREAK ***																	
16:00	0	0	0	0	118	94	5	0	0	0	0	0	0	321	0	0	538
16:15	0	0	1	1	94	93	4	0	0	0	0	0	0	327	0	1	521
16:30	0	0	0	0	98	94	3	0	0	0	0	0	0	314	0	0	509
16:45	0	0	1	0	72	87	6	0	0	0	0	0	0	353	0	0	519
Total	0	0	2	1	382	368	18	0	0	0	0	0	0	1315	0	1	2087
17:00	0	0	0	0	123	94	7	0	0	0	0	0	0	324	0	0	548
17:15	0	0	0	0	121	91	4	0	0	0	0	0	0	325	0	0	541
17:30	0	0	0	0	93	94	4	0	0	0	0	0	0	327	0	0	518
17:45	0	0	0	0	115	74	5	0	0	0	0	0	0	215	0	0	409
Total	0	0	0	0	452	353	20	0	0	0	0	0	0	1191	0	0	2016
Grand Total	0	0	13	1	1599	2631	59	0	0	0	0	0	0	3136	0	1	7440
Apprch %	0	0	92.9	7.1	37.3	61.3	1.4	0	0	0	0	0	0	100	0	0	
Total %	0	0	0.2	0	21.5	35.4	0.8	0	0	0	0	0	0	42.2	0	0	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.03.DELAWARE ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 2

	DELAWARE ST Southbound					PALM AVE Westbound					DELAWARE ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	**4**	0	**4**	84	**398**	1	0	483	0	0	0	0	0	0	50	0	0	50	537
07:15	0	0	0	0	0	**145**	375	2	0	**522**	0	0	0	0	0	0	55	0	0	55	**577**
07:30	0	0	2	0	2	76	272	**3**	0	351	0	0	0	0	0	0	60	0	0	60	413
07:45	0	0	1	0	1	90	218	1	0	309	0	0	0	0	0	0	**79**	0	0	**79**	389
Total Volume	0	0	7	0	7	395	1263	7	0	1665	0	0	0	0	0	0	244	0	0	244	1916
% App. Total	0	0	100	0		23.7	75.9	0.4	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.438	.000	.438	.681	.793	.583	.000	.797	.000	.000	.000	.000	.000	.000	.772	.000	.000	.772	.830

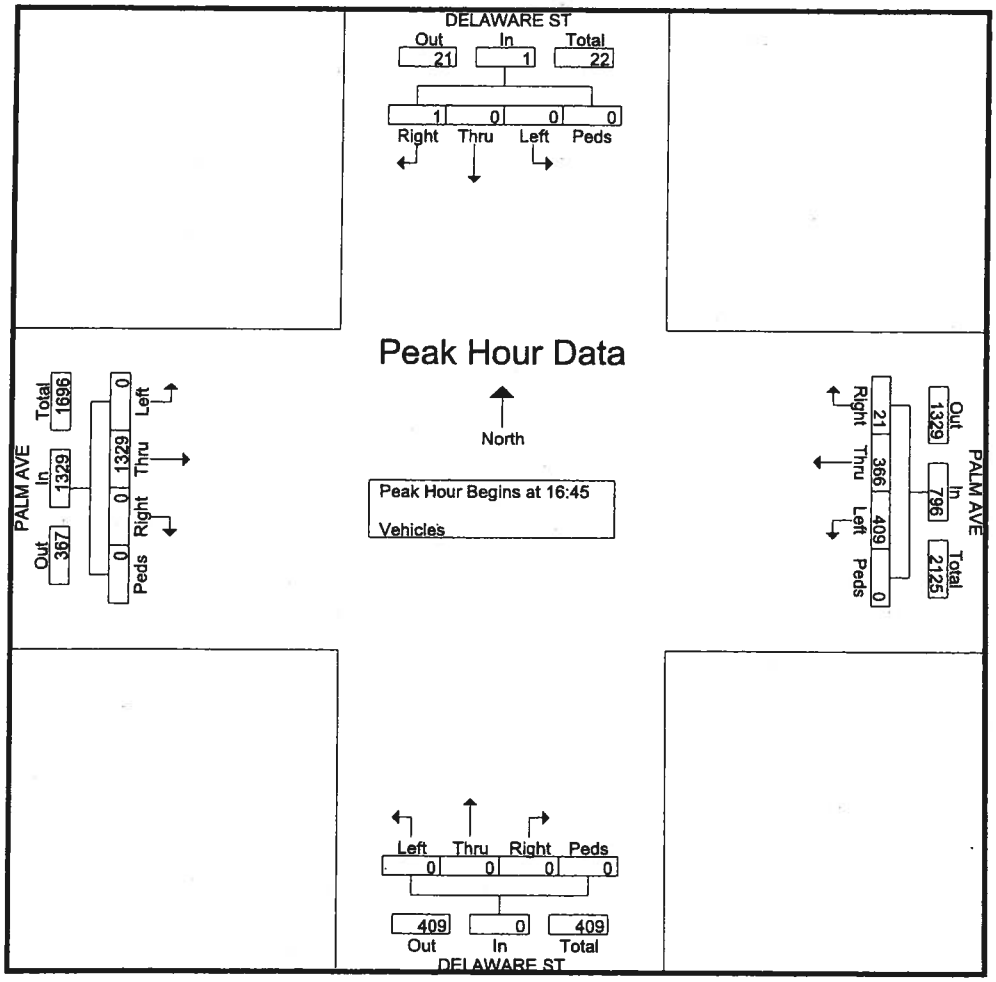


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.03.DELAWARE ST.PALM A
Site Code : 00000000
Start Date : 11/15/2007
Page No : 3

	DELAWARE ST Southbound					PALM AVE Westbound					DELAWARE ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	1	0	1	72	87	6	0	165	0	0	0	0	0	0	353	0	0	353	519
17:00	0	0	0	0	0	123	94	7	0	224	0	0	0	0	0	0	324	0	0	324	548
17:15	0	0	0	0	0	121	91	4	0	216	0	0	0	0	0	0	325	0	0	325	541
17:30	0	0	0	0	0	93	94	4	0	191	0	0	0	0	0	0	327	0	0	327	518
Total Volume	0	0	1	0	1	409	366	21	0	796	0	0	0	0	0	0	1329	0	0	1329	2126
% App. Total	0	0	100	0		51.4	46	2.6	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.250	.000	.250	.831	.973	.750	.000	.888	.000	.000	.000	.000	.000	.000	.941	.000	.000	.941	.970



True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.02.7TH ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 1

Groups Printed- Vehicles

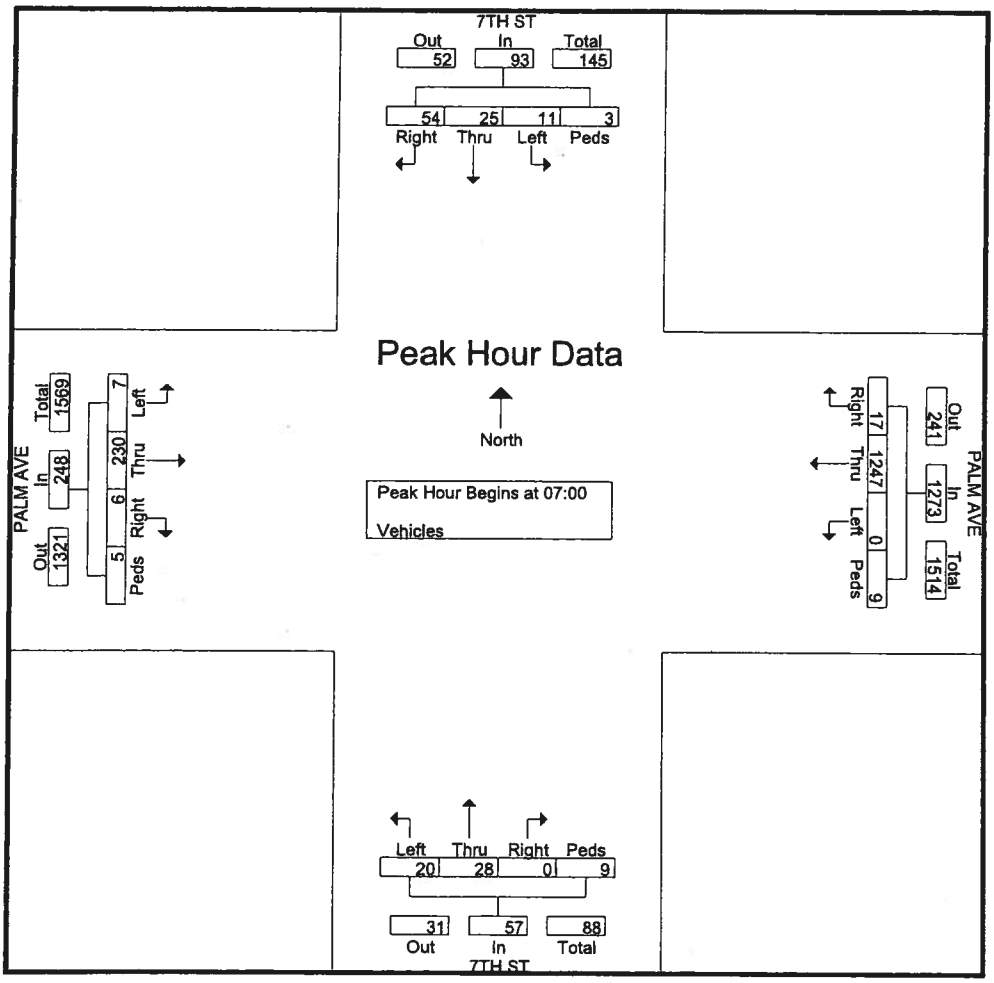
	7TH ST Southbound				PALM AVE Westbound				7TH ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	3	5	17	1	0	389	3	3	3	5	0	0	1	48	1	0	479
07:15	3	11	16	0	0	368	8	0	4	6	0	6	2	50	2	4	480
07:30	2	5	9	2	0	287	2	2	8	11	0	2	1	59	2	1	393
07:45	3	4	12	0	0	203	4	4	5	6	0	1	3	73	1	0	319
Total	11	25	54	3	0	1247	17	9	20	28	0	9	7	230	6	5	1671
08:00	3	4	6	1	0	207	5	5	11	7	0	0	3	85	5	1	343
08:15	3	7	5	0	0	148	6	4	6	2	0	1	0	98	2	2	284
08:30	3	7	9	0	0	139	9	3	8	5	0	2	1	111	4	0	301
08:45	2	5	9	1	0	126	6	4	5	8	0	1	4	86	1	0	258
Total	11	23	29	2	0	620	26	16	30	22	0	4	8	380	12	3	1186
*** BREAK ***																	
16:00	2	6	2	0	1	92	3	3	7	6	0	2	16	321	16	0	477
16:15	6	7	1	7	0	82	7	4	3	3	0	0	15	332	18	1	486
16:30	3	2	7	3	0	72	6	0	4	8	0	2	10	316	21	0	454
16:45	2	8	4	2	0	73	8	2	5	11	0	0	16	321	16	2	470
Total	13	23	14	12	1	319	24	9	19	28	0	4	57	1290	71	3	1887
17:00	8	3	8	0	0	81	14	6	4	16	0	3	11	323	12	0	489
17:15	9	14	3	3	0	99	16	7	12	12	0	1	13	319	9	1	518
17:30	6	9	6	6	1	68	8	2	9	9	0	0	10	301	12	0	447
17:45	3	6	3	0	0	64	12	0	2	6	0	0	12	213	13	0	334
Total	26	32	20	9	1	312	50	15	27	43	0	4	46	1156	46	1	1788
Grand Total	61	103	117	26	2	2498	117	49	96	121	0	21	118	3056	135	12	6532
Apprch %	19.9	33.6	38.1	8.5	0.1	93.7	4.4	1.8	40.3	50.8	0	8.8	3.6	92	4.1	0.4	
Total %	0.9	1.6	1.8	0.4	0	38.2	1.8	0.8	1.5	1.9	0	0.3	1.8	46.8	2.1	0.2	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.02.7TH ST.PALM A
Site Code : 00000000
Start Date : 11/15/2007
Page No : 2

	7TH ST Southbound					PALM AVE Westbound					7TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	**3**	5	**17**	1	26	0	**389**	3	3	**395**	3	5	0	0	8	1	48	1	0	50	479
07:15	3	**11**	16	0	**30**	0	368	**8**	0	376	4	6	0	**6**	16	2	50	**2**	**4**	58	**480**
07:30	2	5	9	**2**	18	0	287	2	2	291	**8**	**11**	0	2	**21**	1	59	2	1	63	393
07:45	3	4	12	0	19	0	203	4	**4**	211	5	6	0	1	12	**3**	**73**	1	0	**77**	319
Total Volume	11	25	54	3	93	0	1247	17	9	1273	20	28	0	9	57	7	230	6	5	248	1671
% App. Total	11.8	26.9	58.1	3.2		0	98	1.3	0.7		35.1	49.1	0	15.8		2.8	92.7	2.4	2		
PHF	.917	.568	.794	.375	.775	.000	.801	.531	.563	.806	.625	.636	.000	.375	.679	.583	.788	.750	.313	.805	.870

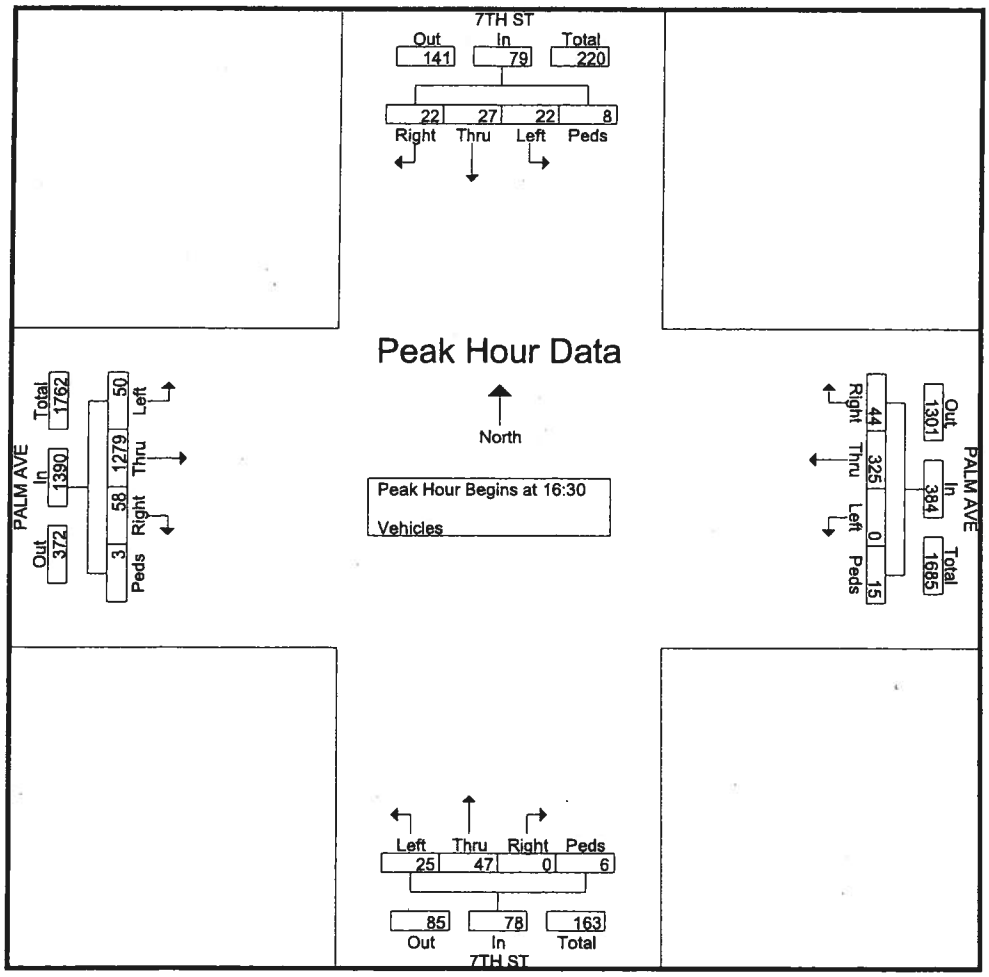


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.02.7TH ST.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 3

	7TH ST Southbound					PALM AVE Westbound					7TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	3	2	7	3	15	0	72	6	0	78	4	8	0	2	14	10	316	21	0	347	454
16:45	2	8	4	2	16	0	73	8	2	83	5	11	0	0	16	16	321	16	2	355	470
17:00	8	3	8	0	19	0	81	14	6	101	4	16	0	3	23	11	323	12	0	346	489
17:15	9	14	3	3	29	0	99	16	7	122	12	12	0	1	25	13	319	9	1	342	518
Total Volume	22	27	22	8	79	0	325	44	15	384	25	47	0	6	78	50	1279	58	3	1390	1931
% App. Total	27.8	34.2	27.8	10.1		0	84.6	11.5	3.9		32.1	60.3	0	7.7		3.6	92	4.2	0.2		
PHF	.611	.482	.688	.667	.681	.000	.821	.688	.536	.787	.521	.734	.000	.500	.780	.781	.990	.690	.375	.979	.932



True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.01.RAINBOW DR.PALM A
Site Code : 00000000
Start Date : 11/15/2007
Page No : 1

Groups Printed- Vehicles

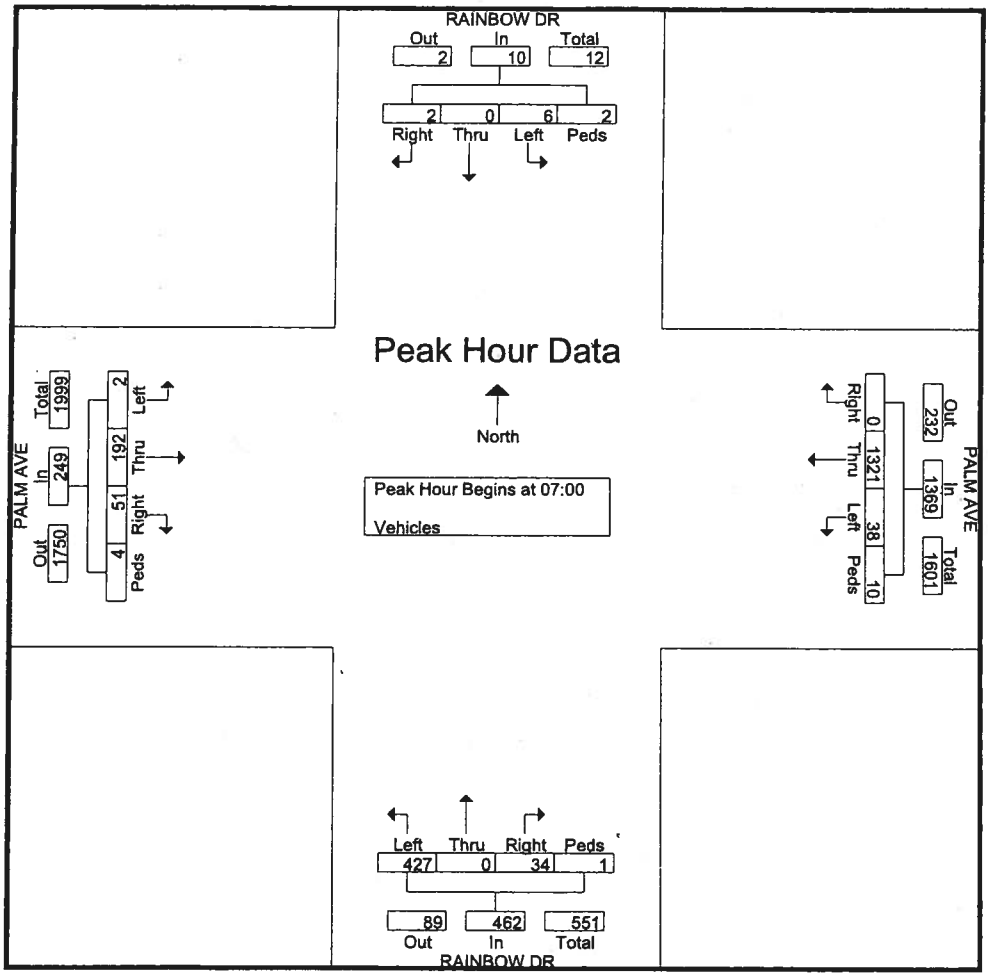
	RAINBOW DR Southbound				PALM AVE Westbound				RAINBOW DR Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	2	0	1	0	6	390	0	5	139	0	10	1	1	33	8	2	598
07:15	3	0	0	0	14	422	0	2	128	0	8	0	1	43	7	1	629
07:30	1	0	0	0	9	270	0	1	91	0	6	0	0	51	11	1	441
07:45	0	0	1	2	9	239	0	2	69	0	10	0	0	65	25	0	422
Total	6	0	2	2	38	1321	0	10	427	0	34	1	2	192	51	4	2090
08:00	1	0	0	0	9	208	0	2	65	0	9	2	0	79	27	0	402
08:15	3	2	1	0	24	150	0	0	60	0	14	0	0	84	23	0	361
08:30	0	0	0	0	13	158	0	1	42	0	10	0	1	92	16	0	333
08:45	2	0	1	0	5	131	0	1	47	0	11	0	0	74	17	1	290
Total	6	2	2	0	51	647	0	4	214	0	44	2	1	329	83	1	1386
*** BREAK ***																	
16:00	1	0	1	0	19	56	0	2	25	0	5	0	2	289	69	0	469
16:15	2	0	0	0	11	72	0	1	18	0	8	0	0	333	92	0	537
16:30	0	0	0	0	22	71	0	0	26	0	12	0	1	358	98	0	588
16:45	1	0	0	0	21	63	0	0	21	0	9	0	0	342	78	0	535
Total	4	0	1	0	73	262	0	3	90	0	34	0	3	1322	337	0	2129
17:00	5	2	2	0	22	60	0	1	17	2	5	0	0	337	83	0	536
17:15	4	1	0	0	25	63	0	1	26	0	12	0	2	340	82	1	557
17:30	0	0	0	0	18	60	0	1	28	1	16	1	1	332	117	0	575
17:45	2	0	0	0	14	50	0	0	18	0	12	0	0	186	81	0	363
Total	11	3	2	0	79	233	0	3	89	3	45	1	3	1195	363	1	2031
Grand Total	27	5	7	2	241	2463	0	20	820	3	157	4	9	3038	834	6	7636
Apprch %	65.9	12.2	17.1	4.9	8.8	90.4	0	0.7	83.3	0.3	16	0.4	0.2	78.2	21.5	0.2	
Total %	0.4	0.1	0.1	0	3.2	32.3	0	0.3	10.7	0	2.1	0.1	0.1	39.8	10.9	0.1	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.01.RAINBOW DR.PALM AVE
Site Code : 00000000
Start Date : 11/15/2007
Page No : 2

	RAINBOW DR Southbound					PALM AVE Westbound					RAINBOW DR Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	2	0	1	0	3	6	390	0	5	401	139	0	10	1	150	1	33	8	2	44	598
07:15	3	0	0	0	3	14	422	0	2	438	128	0	8	0	136	1	43	7	1	52	629
07:30	1	0	0	0	1	9	270	0	1	280	91	0	6	0	97	0	51	11	1	63	441
07:45	0	0	1	2	3	9	239	0	2	250	69	0	10	0	79	0	65	25	0	90	422
Total Volume	6	0	2	2	10	38	1321	0	10	1369	427	0	34	1	462	2	192	51	4	249	2090
% App. Total	60	0	20	20		2.8	96.5	0	0.7		92.4	0	7.4	0.2		0.8	77.1	20.5	1.6		
PHF	.500	.000	.500	.250	.833	.679	.783	.000	.500	.781	.768	.000	.850	.250	.770	.500	.738	.510	.500	.692	.831

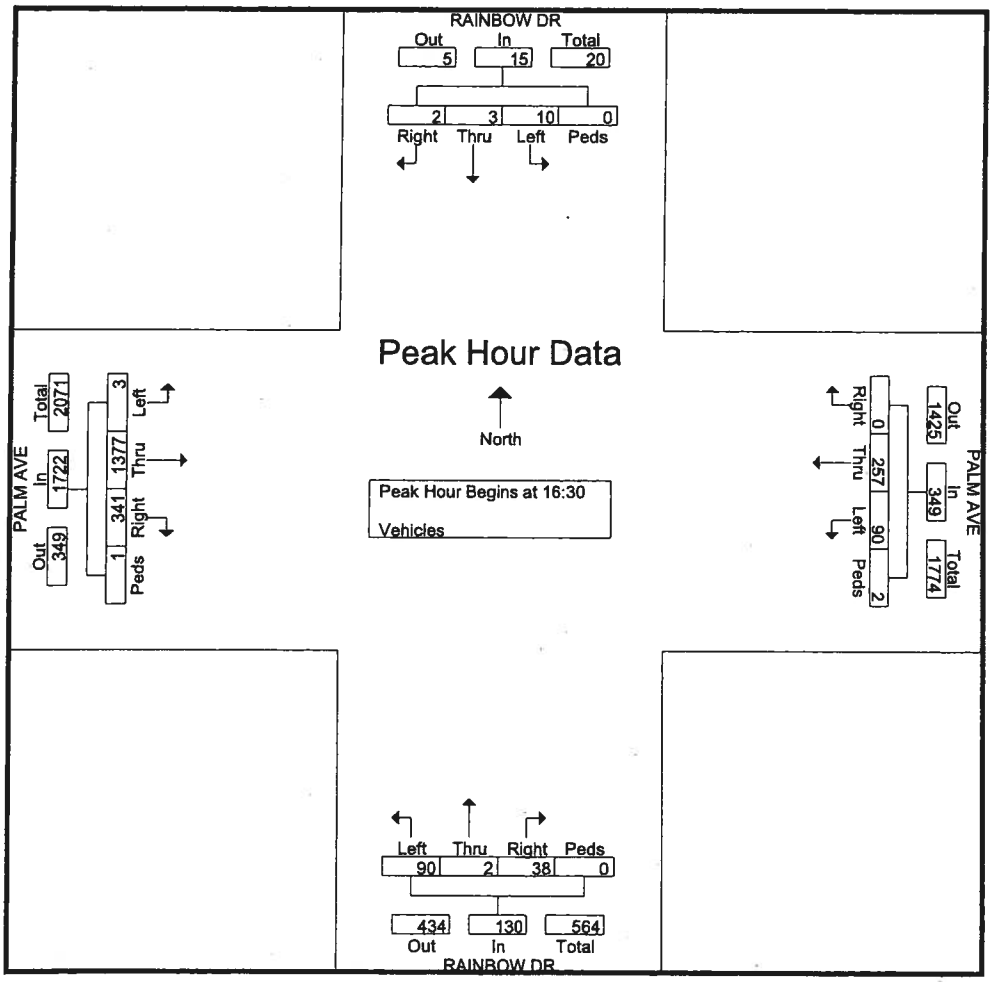


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1104.01.RAINBOW DR.PALM A
Site Code : 00000000
Start Date : 11/15/2007
Page No : 3

	RAINBOW DR Southbound					PALM AVE Westbound					RAINBOW DR Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	22	**71**	0	0	**93**	**26**	0	**12**	0	**38**	1	**358**	**98**	0	**457**	**588**
16:45	1	0	0	0	1	21	63	0	0	84	21	0	9	0	30	0	342	78	0	420	535
17:00	**5**	**2**	**2**	0	**9**	22	60	0	**1**	83	17	**2**	5	0	24	0	337	83	0	420	536
17:15	4	1	0	0	5	**25**	63	0	1	89	26	0	12	0	38	**2**	340	82	**1**	425	557
Total Volume	10	3	2	0	15	90	257	0	2	349	90	2	38	0	130	3	1377	341	1	1722	2216
% App. Total	66.7	20	13.3	0		25.8	73.6	0	0.6		69.2	1.5	29.2	0		0.2	80	19.8	0.1		
PHF	.500	.375	.250	.000	.417	.900	.905	.000	.500	.938	.865	.250	.792	.000	.855	.375	.962	.870	.250	.942	.942



True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1063.05.7TH ST.PALM AVE
Site Code : 00000000
Start Date : 5/1/2007
Page No : 1

Groups Printed- Vehicles

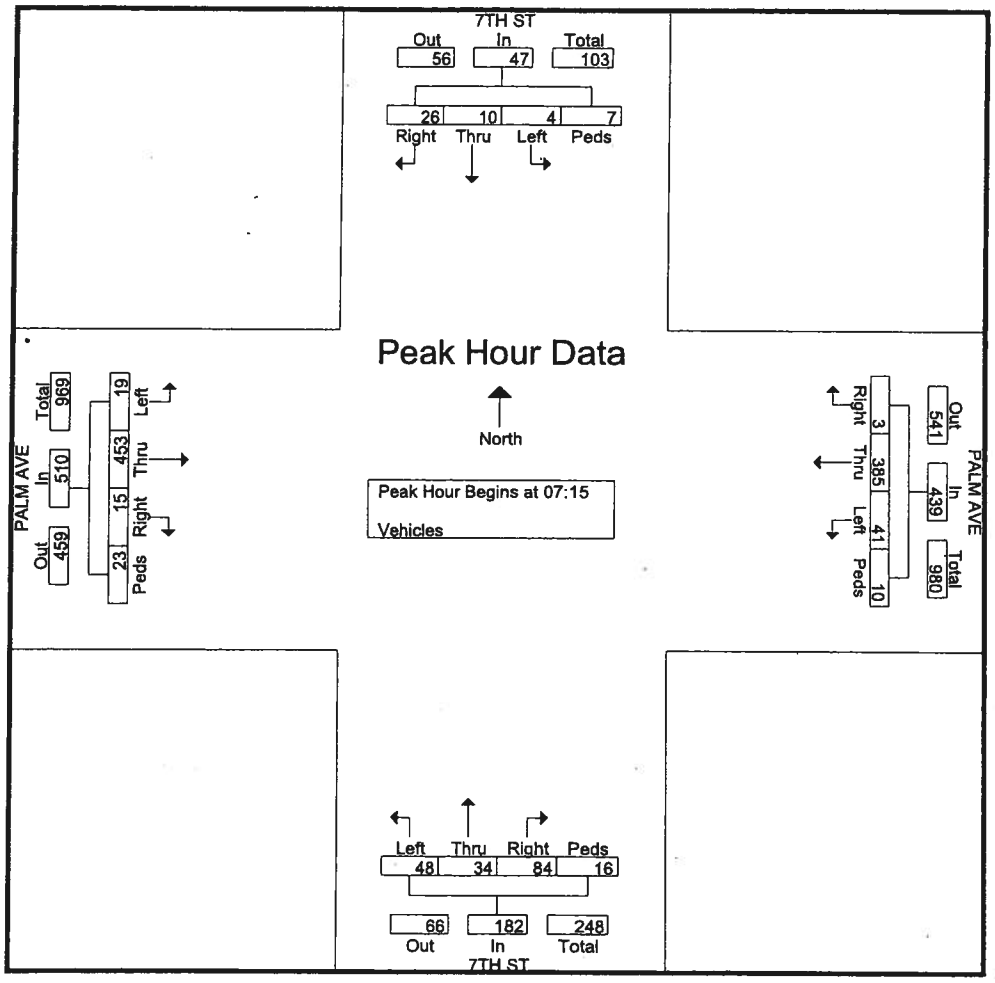
	7TH ST Southbound				PALM AVE Westbound				7TH ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	0	1	6	2	6	95	2	1	8	6	12	2	5	109	0	10	265
07:15	1	2	11	2	8	129	0	5	14	12	29	6	7	143	4	11	384
07:30	0	3	6	1	8	95	1	1	8	9	32	4	5	121	7	4	305
07:45	0	1	5	2	9	78	0	2	6	3	13	1	4	89	4	4	221
Total	1	7	28	7	31	397	3	9	36	30	86	13	21	462	15	29	1175
08:00	3	4	4	2	16	83	2	2	20	10	10	5	3	100	0	4	268
08:15	1	4	5	1	12	63	2	6	11	13	16	3	3	101	9	3	253
08:30	1	6	5	0	18	72	2	3	11	2	21	5	4	99	2	1	252
08:45	0	4	6	0	12	68	1	2	12	9	17	2	4	102	5	0	244
Total	5	18	20	3	58	286	7	13	54	34	64	15	14	402	16	8	1017
BREAK																	
16:00	6	5	14	0	16	107	10	5	8	7	13	4	9	96	13	1	314
16:15	10	11	13	1	19	110	1	4	15	7	11	5	4	101	12	1	325
16:30	3	5	8	2	12	99	0	8	6	6	5	9	6	95	7	3	274
16:45	5	14	8	1	12	94	1	3	6	5	13	4	9	87	2	4	268
Total	24	35	43	4	59	410	12	20	35	25	42	22	28	379	34	9	1181
17:00	6	7	9	1	17	113	0	3	5	3	11	1	12	102	8	2	300
17:15	3	13	9	2	14	92	1	0	6	12	14	3	5	92	7	0	273
17:30	5	10	11	1	8	84	4	1	13	7	16	2	5	98	3	3	271
17:45	0	8	9	0	11	117	0	0	7	2	14	5	5	96	3	0	277
Total	14	38	38	4	50	406	5	4	31	24	55	11	27	388	21	5	1121
Grand Total	44	98	129	18	198	1499	27	46	156	113	247	61	90	1631	86	51	4494
Apprch %	15.2	33.9	44.6	6.2	11.2	84.7	1.5	2.6	27	19.6	42.8	10.6	4.8	87.8	4.6	2.7	
Total %	1	2.2	2.9	0.4	4.4	33.4	0.6	1	3.5	2.5	5.5	1.4	2	36.3	1.9	1.1	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1063.05.7TH ST.PALM
Site Code : 00000000
Start Date : 5/1/2007
Page No : 2

	7TH ST Southbound					PALM AVE Westbound					7TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	1	2	**11**	**2**	**16**	8	**129**	0	**5**	**142**	14	**12**	29	**6**	**61**	**7**	**143**	4	**11**	**165**	**384**
07:30	0	3	6	1	10	8	95	1	1	105	8	9	**32**	4	53	5	121	**7**	4	137	305
07:45	0	1	5	2	8	9	78	0	2	89	6	3	13	1	23	4	89	4	4	101	221
08:00	**3**	**4**	4	2	13	**16**	83	**2**	2	103	**20**	10	10	5	45	3	100	0	4	107	268
Total Volume	4	10	26	7	47	41	385	3	10	439	48	34	84	16	182	19	453	15	23	510	1178
% App. Total	8.5	21.3	55.3	14.9		9.3	87.7	0.7	2.3		26.4	18.7	46.2	8.8		3.7	88.8	2.9	4.5		
PHF	.333	.625	.591	.875	.734	.641	.746	.375	.500	.773	.600	.708	.656	.667	.746	.679	.792	.536	.523	.773	.767

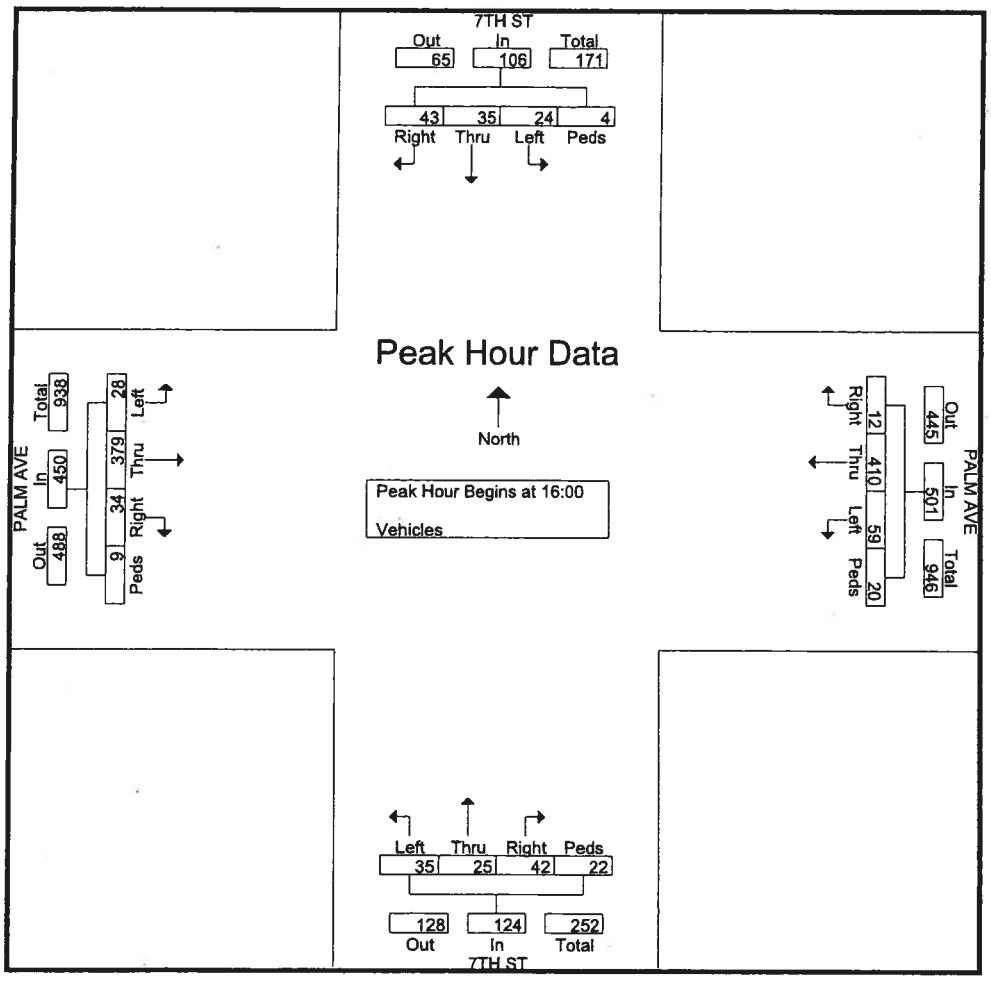


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1063.05.7TH ST.PALM AVE
Site Code : 00000000
Start Date : 5/1/2007
Page No : 3

	7TH ST Southbound					PALM AVE Westbound					7TH ST Northbound					PALM AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	6	5	**14**	0	25	16	107	**10**	5	**138**	8	**7**	**13**	4	32	**9**	96	**13**	1	**119**	314
16:15	**10**	11	13	1	**35**	**19**	**110**	1	4	134	**15**	7	11	5	**38**	4	**101**	12	1	118	**325**
16:30	3	5	8	**2**	18	12	99	0	**8**	119	6	6	5	**9**	26	6	95	7	3	111	274
16:45	5	**14**	8	1	28	12	94	1	3	110	6	5	13	4	28	9	87	2	**4**	102	268
Total Volume	24	35	43	4	106	59	410	12	20	501	35	25	42	22	124	28	379	34	9	450	1181
% App. Total	22.6	33	40.6	3.8		11.8	81.8	2.4	4		28.2	20.2	33.9	17.7		6.2	84.2	7.6	2		
PHF	.600	.625	.768	.500	.757	.776	.932	.300	.625	.908	.583	.893	.808	.611	.816	.778	.938	.654	.563	.945	.908



True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1063.04.DELAWARE ST.PALM A
Site Code : 00000000
Start Date : 5/1/2007
Page No : 1

Groups Printed- Vehicles

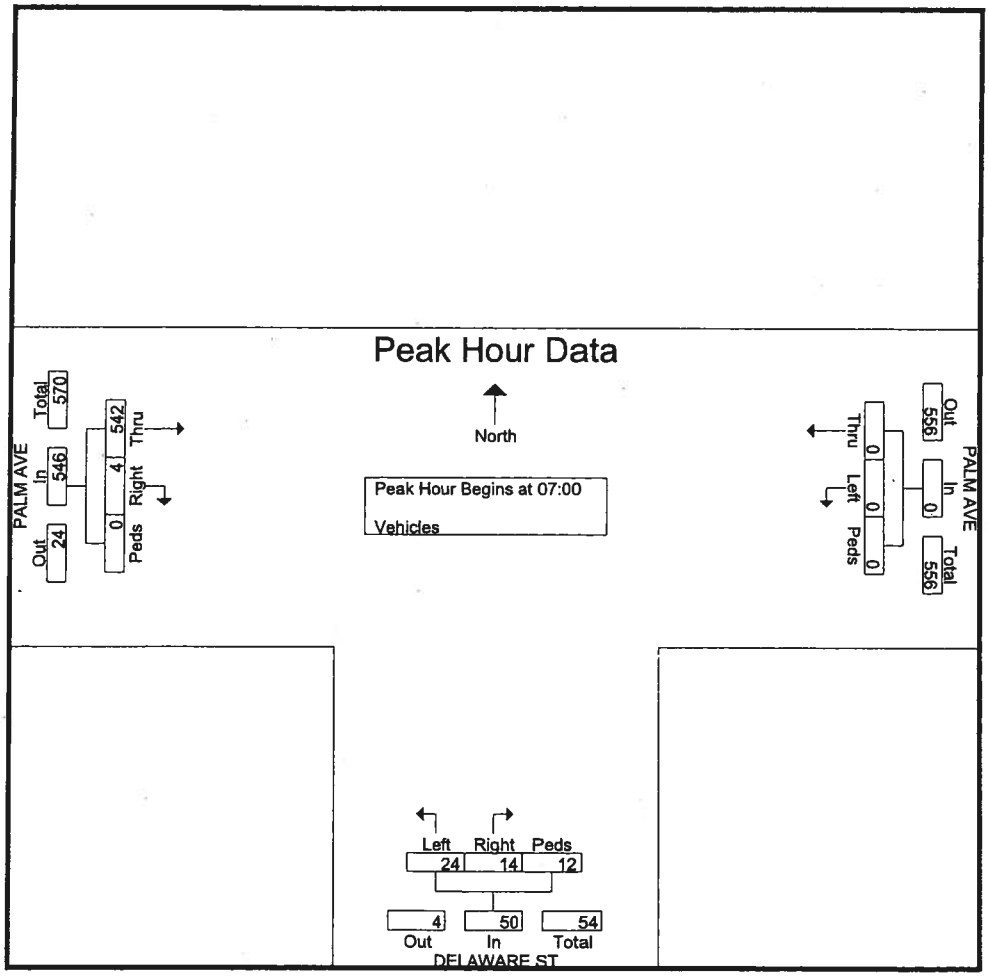
	PALM AVE Westbound			DELAWARE ST Northbound			PALM AVE Eastbound			
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Int. Total
07:00	0	0	0	3	4	5	125	1	0	138
07:15	0	0	0	8	2	1	195	0	0	206
07:30	0	0	0	5	0	3	129	0	0	137
07:45	0	0	0	8	8	3	93	3	0	115
Total	0	0	0	24	14	12	542	4	0	596
08:00	0	0	0	7	2	2	107	5	0	123
08:15	0	0	0	6	4	4	113	3	0	130
08:30	0	0	0	6	3	6	113	2	0	130
08:45	0	0	0	5	1	2	107	2	0	117
Total	0	0	0	24	10	14	440	12	0	500
BREAK										
16:00	0	0	0	6	15	1	106	9	0	137
16:15	0	0	0	9	18	2	101	17	0	147
16:30	0	0	0	4	13	3	86	11	0	117
16:45	0	0	0	10	23	1	92	8	0	134
Total	0	0	0	29	69	7	385	45	0	535
17:00	0	0	0	6	19	0	103	18	0	146
17:15	0	0	0	5	10	1	97	10	0	123
17:30	0	0	0	6	11	2	105	8	0	132
17:45	0	0	0	8	5	1	98	4	0	116
Total	0	0	0	25	45	4	403	40	0	51[illegible]
Grand Total	0	0	0	102	138	37	1770	101	0	2148
Apprch %	0	0	0	36.8	49.8	13.4	94.6	5.4	0	
Total %	0	0	0	4.7	6.4	1.7	82.4	4.7	0	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1063.04.DELAWARE ST.PALM AVE
Site Code : 00000000
Start Date : 5/1/2007
Page No : 2

	PALM AVE Westbound				DELAWARE ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00													
07:00	0	0	0	0	3	4	5	12	125	1	0	126	138
07:15	0	0	0	0	**8**	2	1	11	**195**	0	0	**195**	**206**
07:30	0	0	0	0	5	0	3	8	129	0	0	129	137
07:45	0	0	0	0	8	**8**	3	**19**	93	**3**	0	96	115
Total Volume	0	0	0	0	24	14	12	50	542	4	0	546	596
% App. Total	0	0	0		48	28	24		99.3	0.7	0		
PHF	.000	.000	.000	.000	.750	.438	.600	.658	.695	.333	.000	.700	.723

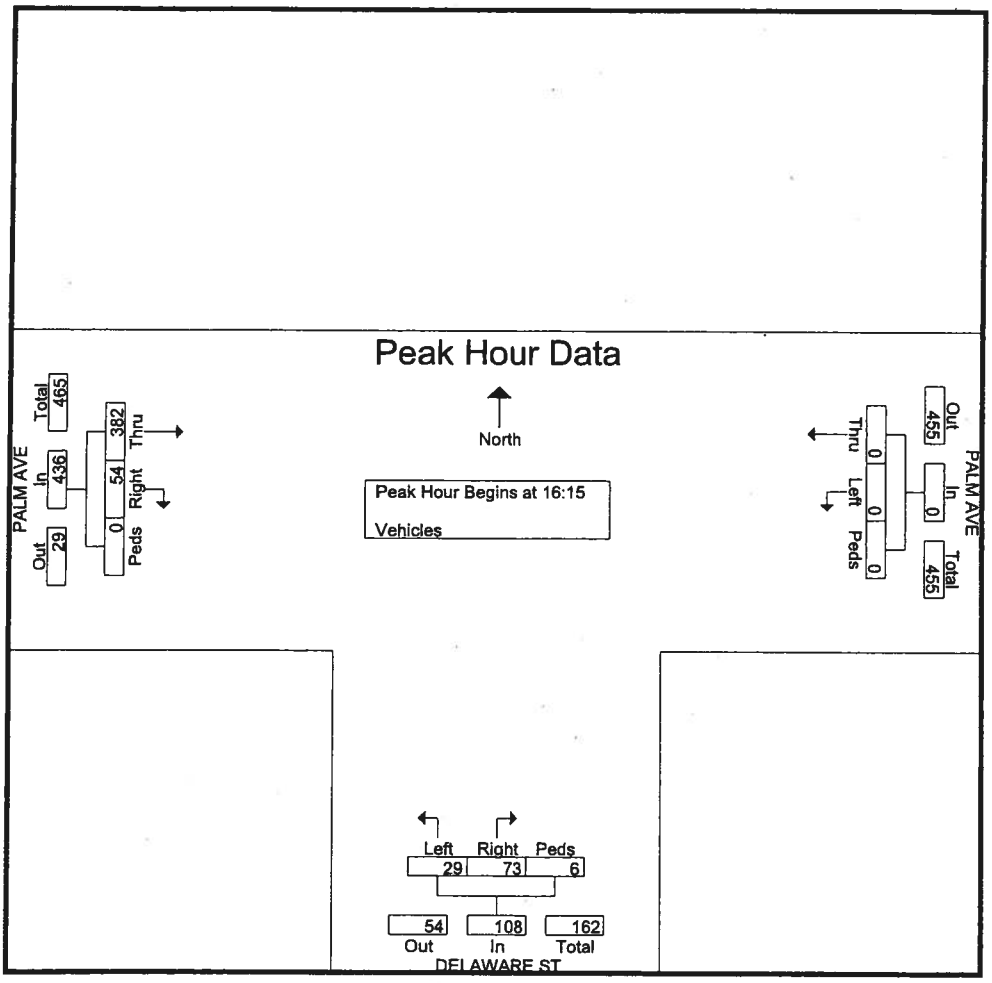


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1063.04.DELAWARE ST.PALM A
Site Code : 00000000
Start Date : 5/1/2007
Page No : 3

	PALM AVE Westbound				DELAWARE ST Northbound				PALM AVE Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 16:15													
16:15	0	0	0	0	9	18	2	29	101	17	0	118	**147**
16:30	0	0	0	0	4	13	3	20	86	11	0	97	117
16:45	0	0	0	0	**10**	**23**	1	**34**	92	8	0	100	134
17:00	0	0	0	0	6	19	0	25	**103**	**18**	0	**121**	146
Total Volume	0	0	0	0	29	73	6	108	382	54	0	436	544
% App. Total	0	0	0		26.9	67.6	5.6		87.6	12.4	0		
PHF	.000	.000	.000	.000	.725	.793	.500	.794	.927	.750	.000	.901	.925

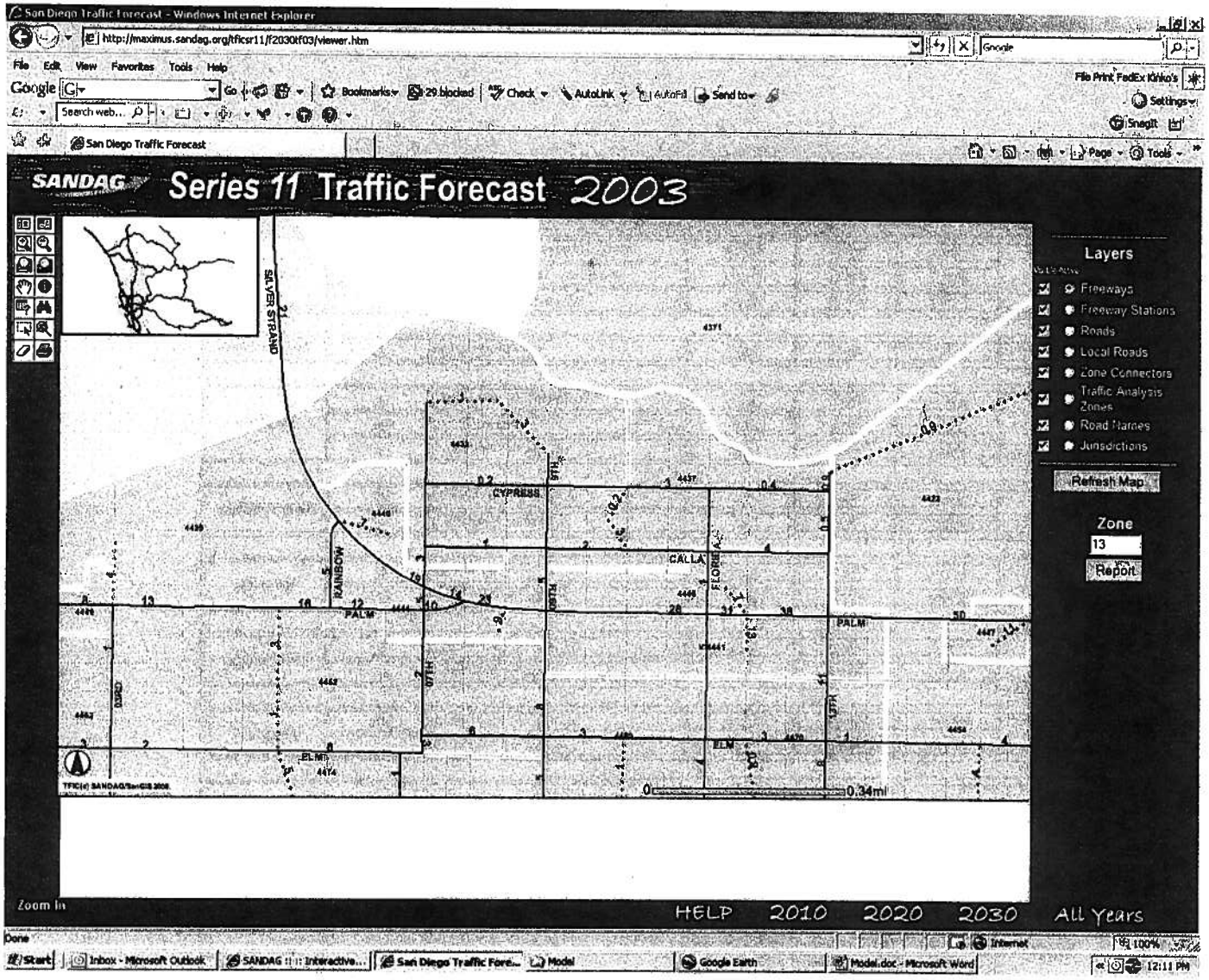


District	Route	Rte Suf	County	PM Pre	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	75		SD		9.000	SAN DIEGO, SOUTH JCT RTE 5				5800	71000	69000
11	75		SD		9.310	SAN DIEGO, SATURN/19TH STREET	5800	71000	69000	4350	54000	52000
11	75		SD		10.070	IMPERIAL BEACH, 13TH STREET	4350	54000	52000	3000	37000	36000
11	75		SD		10.570	IMPERIAL BEACH, 9TH STREET	3000	37000	36000	2000	24500	23700
11	75		SD		10.720	IMPERIAL BEACH, DELAWARE STREET	2000	24500	23700	1800	21900	21200
11	75		SD		10.790	IMPERIAL BEACH, 7TH STREET	1800	21900	21200	1400	17400	16800
11	75		SD		10.990	RAINBOW DRIVE	1400	17400	16800	2300	22000	19600
11	75		SD		13.973	INTERCHANGE	2300	22000	19600	2550	26500	23500

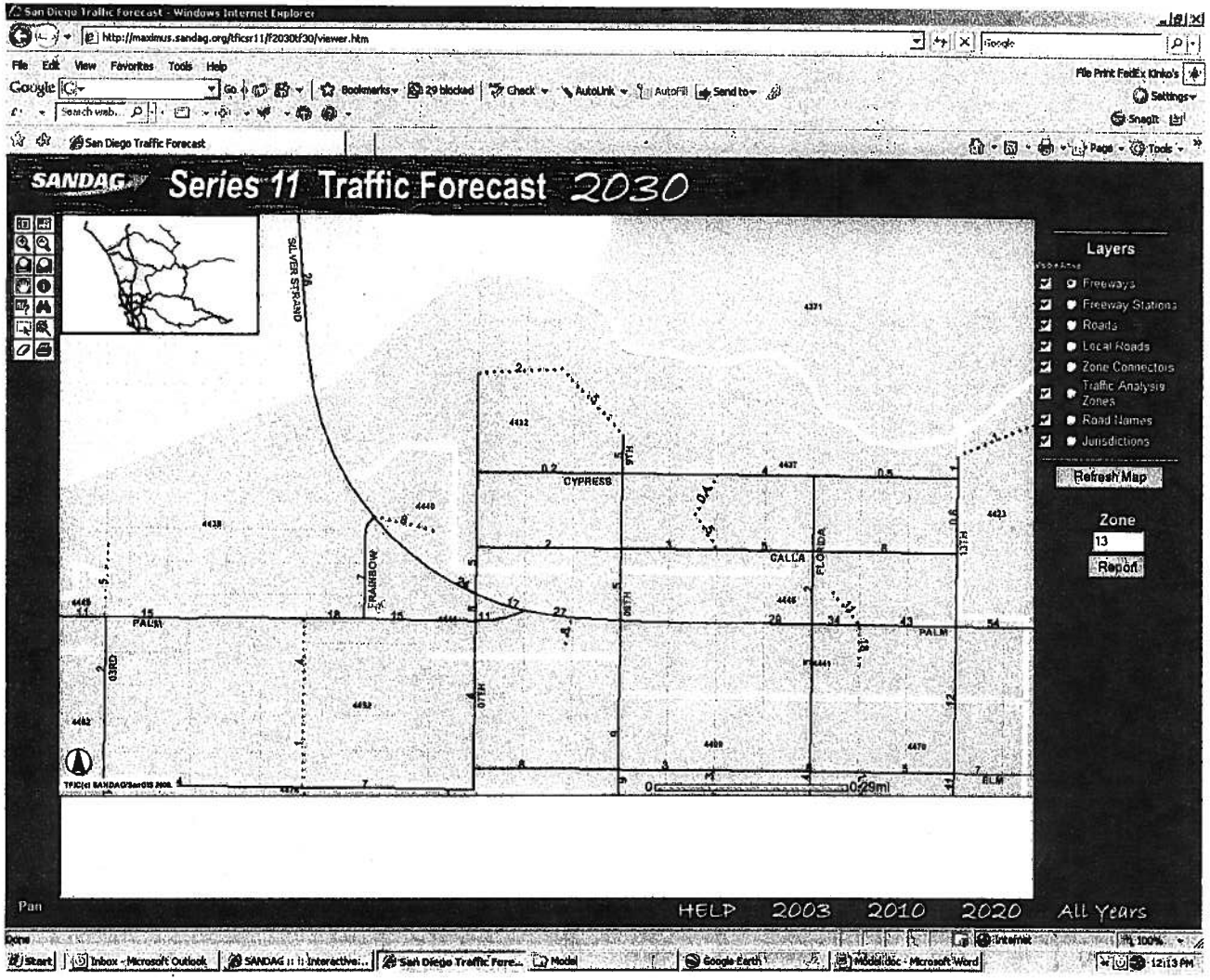
APPENDIX C

MODELING / GROWTH INFORMATION

	SEG ID	Segments	2003 SANDAG Series 11(Web)	2030 SANDAG Series 11(Web)	2030 (Model to Model 2030/2000) Growth Factor	2030 GF		Adj. 2030 Growth Factor
SR-75	1	13rd Street to Florida Street	38,000	43,000	1.1316	1.153		1.16
	2	Florida Street to 9th Street	26,000	29,000	1.1154			
	3	9th Street to Delaware Street	23,000	27,000	1.1739			
	4	Delaware Street to 7th Street	14,000	17,000	1.2143			
	5	7th Street to Rainbow Dr.	19,000	24,000	1.2632			
13th Street	9	Calla Ave. to SR-75	5,000	5,000	1.0000	1.039		1.04
	10	Donax Ave. to SR-75	11,000	12,000	1.0909			
Florida Street	11	Calla Ave. to SR-75	1,000	2,000	2.0000	1.426		1.45
	12	Donax Ave. to SR-75	5,000	5,000	1.0000			
9th Street	13	Calla Ave. to SR-75	5,000	5,000	1.0000	1.053		1.05
	14	Donax Ave. to SR-75	8,000	9,000	1.1250			
Delaware Street	15	Calla Ave. to SR-75	100	100	1.0000	1.000		1.00
	16	Donax Ave. to SR-75	100	100	1.0000			
7th Street	17	Calla Ave. to SR-75	3,000	5,000	1.6667	1.530	1.170	1.53
	18	SR-75 to Palm Ave.	5,000	6,000	1.2000			
	19	Palm Ave. to Donax Ave.	2,000	4,000	2.0000			
Rainbow Drive	20	SR-75 to Palm Ave.	5,000	7,000	1.4000	1.341		1.34
Palm Ave	6	West of Rainbow Ave.	16,000	18,000	1.1250	1.135		1.14
	7	Rainbow Ave. to 7th Street	12,000	15,000	1.2500			
	8	7th Street to Delaware Street	10,000	11,000	1.1000			


San Diego Traffic Forecast - Windows Internet Explorer
http://maximus.sandag.org/tficsr11/f2030tf03/viewer.htm
SANDAG
Series 11 Traffic Forecast 2003
SILVER STRAND
RAINBOW
PALM
CYPRESS
CALLA
FLORIDA
ELM
0.34mi
Layers
Freeways
Freeway Stations
Roads
Local Roads
Zone Connectors
Traffic Analysis Zones
Road Names
Jurisdictions
Refresh Map
Zone
13
Report
Zoom In
HELP
2010
2020
2030
All Years

New


San Diego Traffic Forecast - Windows Internet Explorer
http://maximus.sandag.org/tficsr11/f2030tf30/viewer.htm
SANDAG
Series 11 Traffic Forecast 2030
SILVER STRAND
CYPRESS
GALLA
FLORIDA
PALM
ELM
Layers
Freeways
Freeway Stations
Roads
Local Roads
Zone Connectors
Traffic Analysis Zones
Road Names
Jurisdictions
Refresh Map
Zone
13
Report
Pan
HELP
2003
2010
2020
All Years

Cumulative Projects List and Generation

Description						AM			PM		
	Land Use	Units	Quantity	Rate	ADT	In	Out	Total	In	Out	Total
NAB and NRRF	Navel Facility	Personnel	100	2.5	250	30	20	50	20	30	50
2 Single Family Dwelling Units	Dwelling	Number	2	4.5	9	1	4	5	4	1	5
4 Single Family Dwelling Units	Dwelling	Number	4	5	20	2	8	10	8	2	10
Total					**279**	**33**	**32**	**65**	**32**	**33**	**65**

APPENDIX D

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS 2008 CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.989			0.995				0.850		0.993	
Flt Protected	0.950			0.950				0.956			0.963	
Satd. Flow (prot)	1770	5029	0	1770	5060	0	0	1781	1583	0	3384	0
Flt Permitted	0.950			0.950				0.956			0.963	
Satd. Flow (perm)	1770	5029	0	1770	5060	0	0	1781	1583	0	3384	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			3				132		2	
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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	18	1013	84	106	1543	53	178	15	121	154	36	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	20	1192	0	115	1735	0	0	209	132	0	216	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases									3			
Total Split (s)	20.0	80.0	0.0	20.0	80.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0
Act Effct Green (s)	6.2	104.2		16.0	117.7			25.0	25.0		18.8	
Actuated g/C Ratio	0.03	0.58		0.09	0.65			0.14	0.14		0.10	
v/c Ratio	0.33	0.41		0.73	0.52			0.85	0.40		0.89dl	
Control Delay	108.2	19.8		105.5	20.2			102.9	12.2		82.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	108.2	19.8		105.5	20.2			102.9	12.2		82.4	
LOS	F	B		F	C			F	B		F	
Approach Delay		21.3			25.5			67.8			82.4	
Approach LOS		C			C			E			F	
Queue Length 50th (ft)	23	240		135	372			246	0		132	
Queue Length 95th (ft)	m59	272		#236	655			325	63		160	
Internal Link Dist (ft)		1048			273			168			173	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	117			240								
Base Capacity (vph)	157	2914		157	3310			356	422		678	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.13	0.41		0.73	0.52			0.59	0.31		0.32	

Intersection Summary

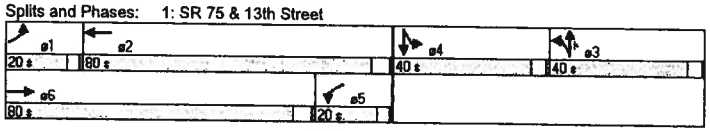
Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 154 (86%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 31.5 — Intersection LOS: C
Intersection Capacity Utilization 62.5% — ICU Level of Service B
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 1: SR 75 & 13th Street



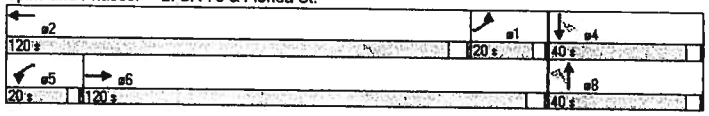
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	0		0	0		120
Storage Lanes	1		0	1		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.998			0.951			0.921	
Flt Protected	0.950			0.950				0.980		0.950		
Satd. Flow (prot)	1770	5060	0	1770	5075	0	0	1736	0	1770	1716	0
Flt Permitted	0.950			0.950				0.894		0.694		
Satd. Flow (perm)	1770	5060	0	1770	5075	0	0	1584	0	1293	1716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			2			14			11	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.09
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	11	958	33	23	1614	25	23	13	20	67	9	10
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	12	1077	0	25	1781	0	0	61	0	73	21	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	1	6		5	2			8			4	
Permitted Phases							8			4		
Total Split (s)	20.0	120.0	0.0	20.0	120.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Act Effct Green (s)	9.5	143.5		6.6	142.4			21.6		21.6	21.6	
Actuated g/C Ratio	0.05	0.80		0.04	0.79			0.12		0.12	0.12	
v/c Ratio	0.13	0.27		0.38	0.44			0.30		0.47	0.10	
Control Delay	80.9	6.4		114.6	3.2			55.4		80.5	38.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	80.9	6.4		114.6	3.2			55.4		80.5	38.4	
LOS	F	A		F	A			E		F	D	
Approach Delay		7.2			4.8			55.4			71.1	
Approach LOS		A			A			E			E	
Queue Length 50th (ft)	14	91		30	4			54		86	11	
Queue Length 95th (ft)	37	198		m55	93			94		130	38	
Internal Link Dist (ft)		668			1048			224			161	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	125			275								
Base Capacity (vph)	157	4035		157	4014			328		259	352	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.08	0.27		0.16	0.44			0.19		0.28	0.06	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 8.7 — Intersection LOS: A
Intersection Capacity Utilization 48.3% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



3: SR 75 & 10th Street

Existing Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		0	1		0	0		1	0		1
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt												
Flt Protected												
Satd. Flow (prot)	0	5085	0	1863	5085	0	0	0	1863	0	0	1863
Flt Permitted												
Satd. Flow (perm)	0	5085	0	1863	5085	0	0	0	1863	0	0	1863
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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 0.0% ICU Level of Service A
Analysis Period (min) 15

4: SR 75 & 9th Street

Existing Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.993			0.996			0.966			0.972	
Flt Protected	0.950			0.950				0.970			0.973	
Satd. Flow (prot)	1770	5050	0	1770	5065	0	0	3316	0	0	3347	0
Flt Permitted	0.950			0.950				0.970			0.973	
Satd. Flow (perm)	1770	5050	0	1770	5065	0	0	3316	0	0	3347	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			3			19			13	
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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	41	725	35	44	1388	41	212	53	77	109	51	36
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	45	826	0	48	1554	0	0	372	0	0	212	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases												
Total Split (s)	25.0	80.0	0.0	20.0	75.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Act Effct Green (s)	7.9	108.2		13.8	114.2			26.1			17.7	
Actuated g/C Ratio	0.04	0.60		0.08	0.63			0.14			0.10	
v/c Ratio	0.58	0.27		0.35	0.48			0.75			0.62	
Control Delay	112.2	17.9		84.9	21.2			78.9			79.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	112.2	17.9		84.9	21.2			78.9			79.9	
LOS	F	B		F	C			E			E	
Approach Delay		22.8			23.1			78.9			79.9	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	54	128		54	308			219			123	
Queue Length 95th (ft)	100	282		103	582			260			151	
Internal Link Dist (ft)		43			301			189			182	

4: SR 75 & 9th Street

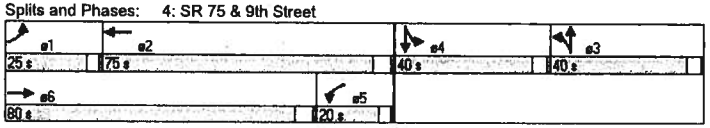
Existing Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	115			225								
Base Capacity (vph)	207	3038		157	3214			678			680	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.22	0.27		0.31	0.48			0.55			0.31	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 147 (82%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 33.7 — Intersection LOS: C
Intersection Capacity Utilization 65.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: SR 75 & 9th Street



5: SR 75 & Delaware St.

Existing Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50							50
Trailing Detector (ft)		0		0	0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.999							0.865
Flt Protected				0.950								
Satd. Flow (prot)	0	5085	0	3433	3536	0	0	0	0	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	5085	0	3433	3536	0	0	0	0	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												180
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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			193			214	
Travel Time (s)		8.9			11.6			4.4			4.9	
Volume (vph)	0	244	0	395	1263	7	0	0	0	0	0	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	265	0	429	1381	0	0	0	0	0	0	8
Turn Type				Prot								Free
Protected Phases		6		5	2							
Permitted Phases												Free
Total Split (s)	0.0	155.0	0.0	25.0	180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Act Effct Green (s)		151.0		21.0	180.0							180.0
Actuated g/C Ratio		0.84		0.12	1.00							1.00
v/c Ratio		0.06		1.07	0.39							0.00
Control Delay		1.3		125.5	1.0							0.0
Queue Delay		0.0		0.0	0.0							0.0
Total Delay		1.3		125.5	1.0							0.0
LOS		A		F	A							A
Approach Delay		1.3			30.5							
Approach LOS		A			C							
Queue Length 50th (ft)		6		~290	20							0
Queue Length 95th (ft)		8		#408	5							0
Internal Link Dist (ft)		313			432			113			134	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)				255								
Base Capacity (vph)		4266		401	3536							1611
Starvation Cap Reductn		0		0	0							0
Spillback Cap Reductn		0		0	8							3
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.06		1.07	0.39							0.00

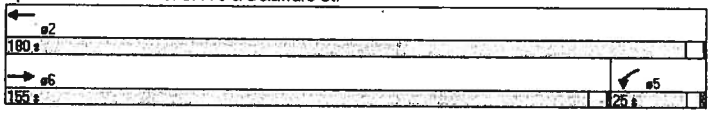
Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 38.5% ICU Level of Service A
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: SR 75 & Delaware St.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.951	
Flt Protected					0.969	
Satd. Flow (prot)	1861	0	0	0	1717	0
Flt Permitted					0.969	
Satd. Flow (perm)	1861	0	0	0	1717	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	209			176	179	
Travel Time (s)	4.8			4.0	4.1	
Volume (vph)	542	4	0	0	24	14
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	593	0	0	0	41	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 38.8% ICU Level of Service A
Analysis Period (min) 15

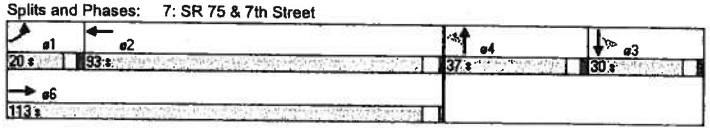
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.996			0.998						0.919	
Flt Protected	0.950						0.950				0.994	
Satd. Flow (prot)	1770	5065	0	0	5075	0	1770	1863	0	0	1702	0
Flt Permitted	0.950						0.138				0.968	
Satd. Flow (perm)	1770	5065	0	0	5075	0	257	1863	0	0	1657	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1						35	
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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	7	230	6	0	1247	17	20	28	0	11	25	54
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	8	257	0	0	1373	0	22	30	0	0	98	0
Turn Type	Prot	-					Perm			Perm		
Protected Phases	1	6			2			4			3	
Permitted Phases							4			3		
Total Split (s)	20.0	113.0	0.0	0.0	93.0	0.0	37.0	37.0	0.0	30.0	30.0	0.0
Act Effct Green (s)	6.4	134.2			130.0		22.3	22.3			14.6	
Actuated g/C Ratio	0.04	0.75			0.72		0.12	0.12			0.08	
v/c Ratio	0.13	0.07			0.37		0.69	0.13			0.59	
Control Delay	88.6	7.8			11.1		134.8	49.0			64.8	
Queue Delay	0.0	0.0			0.2		0.0	0.5			0.0	
Total Delay	88.6	7.8			11.3		134.8	49.5			64.8	
LOS	F	A			B		F	D			E	
Approach Delay		10.3			11.3			85.6			64.8	
Approach LOS		B			B			F			E	
Queue Length 50th (ft)	9	28			132		26	28			73	
Queue Length 95th (ft)	31	53			279		#70	41			139	
Internal Link Dist (ft)		114			313			118			234	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)	157	3778		3665			47	342			269	
Starvation Cap Reductn	0	0		1261			0	174			0	
Spillback Cap Reductn	0	0		0			0	0			0	
Storage Cap Reductn	0	0		0			0	0			0	
Reduced v/c Ratio	0.05	0.07		0.57			0.47	0.18			0.36	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 16.3 — Intersection LOS: B
Intersection Capacity Utilization 43.0% — ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: SR 75 & 7th Street



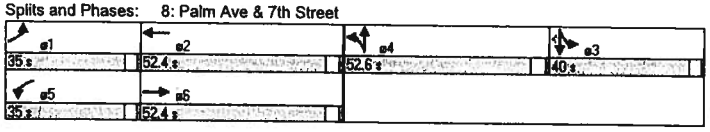
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.999			0.932				0.850
Flt Protected	0.950			0.950				0.986			0.987	
Satd. Flow (prot)	1770	3522	0	1770	3536	0	0	1712	0	0	1839	1583
Flt Permitted	0.950			0.950				0.986			0.987	
Satd. Flow (perm)	1770	3522	0	1770	3536	0	0	1712	0	0	1839	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						28				28
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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	19	453	15	41	385	3	48	34	84	4	10	26
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	21	508	0	45	421	0	0	180	0	0	15	28
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Total Split (s)	35.0	52.4	0.0	35.0	52.4	0.0	52.6	52.6	0.0	40.0	40.0	40.0
Act Effct Green (s)	5.9	54.4		7.8	58.2			67.5			36.0	36.0
Actuated g/C Ratio	0.03	0.30		0.04	0.32			0.38			0.20	0.20
v/c Ratio	0.36	0.48		0.58	0.37			0.27			0.04	0.08
Control Delay	101.7	52.8		112.5	48.0			35.1			37.6	7.2
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	101.7	52.8		112.5	48.0			35.1			37.6	7.2
LOS	F	D		F	D			D			D	A
Approach Delay		54.8			54.2			35.1			17.8	
Approach LOS		D			D			D			B	
Queue Length 50th (ft)	25	262		53	207			124			15	2
Queue Length 95th (ft)	59	315		101	252			204			m30	m30
Internal Link Dist (ft)		236			86			90			118	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	305	1066		305	1142			660			368	339
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.07	0.48		0.15	0.37			0.27			0.04	0.08

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 158 (88%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 50.3 — Intersection LOS: D
Intersection Capacity Utilization 43.4% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



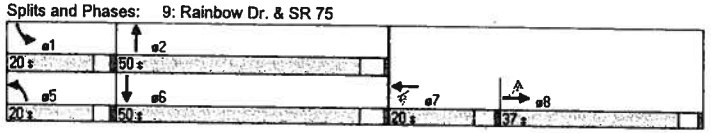
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.850			0.850						0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	0	1770	3429	0
Flt Permitted	0.757			0.250			0.950			0.950		
Satd. Flow (perm)	1410	1583	0	466	1583	0	1770	3539	0	1770	3429	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		740			224						29	
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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	427	0	34	6	0	2	38	1321	0	2	192	51
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	464	37	0	7	2	0	41	1436	0	2	264	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			7		5	2		1	6	
Permitted Phases	8			7								
Total Split (s)	37.0	37.0	0.0	20.0	20.0	0.0	20.0	50.0	0.0	20.0	50.0	0.0
Act Effct Green (s)	33.4	33.4		7.3	7.3		6.5	51.3		5.2	46.5	
Actuated g/C Ratio	0.34	0.34		0.07	0.07		0.06	0.53		0.05	0.48	
v/c Ratio	0.96	0.04		0.22	0.01		0.36	0.77		0.02	0.16	
Control Delay	65.3	0.1		64.0	0.0		55.6	22.9		51.5	14.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.3	0.1		64.0	0.0		55.6	22.9		51.5	14.6	
LOS	E	A		E	A		E	C		D	B	
Approach Delay		60.5			49.8			23.8			14.9	
Approach LOS		E			D			C			B	
Queue Length 50th (ft)	278	0		4	0		25	308		1	41	
Queue Length 95th (ft)	#613	0		20	0		66	#685		10	88	
Internal Link Dist (ft)		75			76			662			138	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	485	1030		66	415		258	1875		247	1661	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.96	0.04		0.11	0.00		0.16	0.77		0.01	0.16	

Intersection Summary

Area Type: Other
Cycle Length: 127
Actuated Cycle Length: 96.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 31.0 — Intersection LOS: C
Intersection Capacity Utilization 73.5% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Rainbow Dr. & SR 75



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4968	0	1770	4999	0	0	1803	1583	0	3351	0
Flt Permitted	0.950			0.950				0.968			0.972	
Satd. Flow (perm)	1770	4968	0	1770	4999	0	0	1803	1583	0	3351	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			15				229		12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	33	1967	358	260	1420	179	113	60	218	170	70	51
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	36	2527	0	283	1738	0	0	188	237	0	316	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases									3			
Detector Phases	1	6		5	2		3	3	3	4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.5	26.5		9.2	23.5		39.6	39.6	39.6	39.6	39.6	
Total Split (s)	20.0	80.0	0.0	20.0	80.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0
Total Split (%)	11.1%	44.4%	0.0%	11.1%	44.4%	0.0%	22.2%	22.2%	22.2%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	7.5	102.3		16.0	112.6			23.2	23.2		22.5	
Actuated g/C Ratio	0.04	0.57		0.09	0.63			0.13	0.13		0.12	
v/c Ratio	0.49	0.89		1.80	0.55			0.81	0.59		0.73	
Control Delay	108.6	33.0		425.3	23.0			100.5	14.2		82.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	108.6	33.0		425.3	23.0			100.5	14.2		82.6	
LOS	F	C		F	C			F	B		F	
Approach Delay		34.1			79.3			52.4			82.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			E			D			F	
Queue Length 50th (ft)	43	531		~500	401			221	9		187	
Queue Length 95th (ft)	m84	#1353		#703	675			292	91		223	
Internal Link Dist (ft)		1048			273			168			173	
Turn Bay Length (ft)	117			240								
Base Capacity (vph)	157	2834		157	3134			361	500		680	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.23	0.89		1.80	0.55			0.52	0.47		0.46	

Intersection Summary

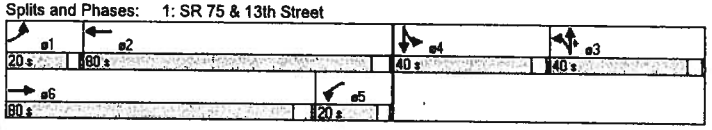
Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 154 (86%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.80
Intersection Signal Delay: 55.6 — Intersection LOS: E
Intersection Capacity Utilization 92.6% — ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 75 & 13th Street



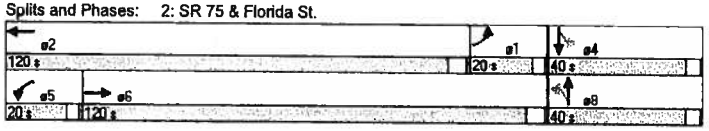
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	0		0	0		120
Storage Lanes	1		0	1		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5070	0	1770	5034	0	0	1760	0	1770	1740	0
Flt Permitted	0.950			0.950				0.912		0.691		
Satd. Flow (perm)	1770	5070	0	1770	5034	0	0	1631	0	1287	1740	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			13			11			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	22	1835	38	75	1066	77	18	20	17	93	21	17
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	24	2036	0	82	1243	0	0	60	0	101	41	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	1	6		5	2			8			4	
Permitted Phases							8			4		
Detector Phases	1	6		5	2		8	8		4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		10.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		39.6	39.6		35.6	35.6	
Total Split (s)	20.0	120.0	0.0	20.0	120.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	11.1%	66.7%	0.0%	11.1%	66.7%	0.0%	22.2%	22.2%	0.0%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	11.7	133.3		11.6	136.9			23.1		23.1	23.1	
Actuated g/C Ratio	0.06	0.74		0.06	0.76			0.13		0.13	0.13	
v/c Ratio	0.21	0.54		0.72	0.32			0.28		0.61	0.17	
Control Delay	81.5	12.5		125.5	4.4			57.1		87.4	41.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	81.5	12.5		125.5	4.4			57.1		87.4	41.3	
LOS	F	B		F	A			E		F	D	
Approach Delay		13.3			11.9			57.1			74.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	27	313		99	72			55		118	25	
Queue Length 95th (ft)	61	538		m160	83			96		173	61	
Internal Link Dist (ft)		668			1048			224			161	
Turn Bay Length (ft)	125			275								
Base Capacity (vph)	157	3755		157	3833			335		257	362	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.15	0.54		0.52	0.32			0.18		0.39	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 15.9 — Intersection LOS: B
Intersection Capacity Utilization 62.3% — ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



3: SR 75 & 10th Street

Existing Conditions
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		0	1		0	0		1	0		1
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	5085	0	1863	5085	0	0	0	1863	0	0	1863
Flt Permitted												
Satd. Flow (perm)	0	5085	0	1863	5085	0	0	0	1863	0	0	1863
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 0.0% ICU Level of Service A
Analysis Period (min) 15

4: SR 75 & 9th Street

Existing Conditions
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4994	0	1770	4999	0	0	3298	0	0	3413	0
Flt Permitted	0.950			0.950				0.985			0.972	
Satd. Flow (perm)	1770	4994	0	1770	4999	0	0	3298	0	0	3413	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			15			55			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	81	1514	203	187	731	94	90	93	104	167	107	16
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	88	1867	0	203	897	0	0	312	0	0	315	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	3		4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.2	26.5		9.2	26.5		39.6	39.6		39.6	39.6	
Total Split (s)	25.0	80.0	0.0	20.0	75.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	13.9%	44.4%	0.0%	11.1%	41.7%	0.0%	22.2%	22.2%	0.0%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	12.3	102.9		16.0	106.7			23.2			21.8	
Actuated g/C Ratio	0.07	0.57		0.09	0.59			0.13			0.12	
v/c Ratio	0.73	0.65		1.29	0.30			0.66			0.76	
Control Delay	111.1	23.6		229.7	21.1			66.7			86.8	
Queue Delay	0.0	0.2		0.0	0.0			0.0			0.0	
Total Delay	111.1	23.8		229.7	21.1			66.7			86.8	
LOS	F	C		F	C			E			F	
Approach Delay		27.7			59.6			66.7			86.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			E			E			F	
Queue Length 50th (ft)	93	480		~304	163			161			193	
Queue Length 95th (ft)	151	796		#485	309			195			227	
Internal Link Dist (ft)		43			301			189			182	
Turn Bay Length (ft)	115			225								
Base Capacity (vph)	207	2863		157	2968			704			685	
Starvation Cap Reductn	0	277		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.43	0.72		1.29	0.30			0.44			0.46	

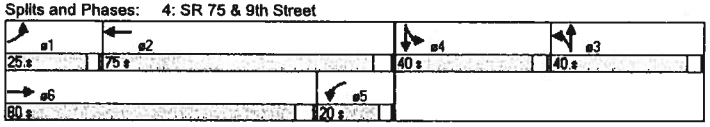
Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 147 (82%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 45.6 — Intersection LOS: D
Intersection Capacity Utilization 75.2% — ICU Level of Service D
Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 75 & 9th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50							50
Trailing Detector (ft)		0		0	0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	5085	0	3433	3511	0	0	0	0	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	5085	0	3433	3511	0	0	0	0	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												656
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			193			214	
Travel Time (s)		8.9			11.6			4.4			4.9	
Volume (vph)	0	1329	0	409	366	21	0	0	0	0	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	1445	0	445	421	0	0	0	0	0	0	1
Turn Type				Prot								Free
Protected Phases		6		5	2							
Permitted Phases												Free
Detector Phases		6		5	2							
Minimum Initial (s)		15.0		5.0	10.0							
Minimum Split (s)		20.5		10.2	15.5							
Total Split (s)	0.0	155.0	0.0	25.0	180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	0.0%	86.1%	0.0%	13.9%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)		4.5		3.2	4.5							
All-Red Time (s)		1.0		2.0	1.0							
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?												
Recall Mode		C-Max		None	C-Max							
Act Effct Green (s)		151.0		21.0	180.0							180.0
Actuated g/C Ratio		0.84		0.12	1.00							1.00
v/c Ratio		0.34		1.11	0.12							0.00
Control Delay		1.6		136.5	0.1							0.0
Queue Delay		0.1		0.0	0.0							0.0
Total Delay		1.7		136.5	0.1							0.0
LOS		A		F	A							A
Approach Delay		1.7			70.2							

5: SR 75 & Delaware St.

Existing Conditions
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			E							
Queue Length 50th (ft)		34		~309	0							0
Queue Length 95th (ft)		36		#431	0							0
Internal Link Dist (ft)		313			432			113			134	
Turn Bay Length (ft)				255								
Base Capacity (vph)		4266		401	3511							1611
Starvation Cap Reductn		982		0	0							0
Spillback Cap Reductn		219		0	0							0
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.44		1.11	0.12							0.00

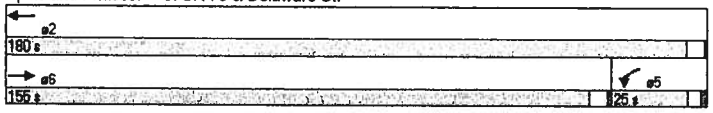
Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 27.3 — Intersection LOS: C
Intersection Capacity Utilization 44.0% — ICU Level of Service A
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: SR 75 & Delaware St.



6: Palm Ave & Delaware St.

Existing Conditions
PM Peak Hour

Lane Group	EBL	EBR	WBL	WBR	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	1831	0	0	0	1660	0
Flt Permitted					0.986	
Satd. Flow (perm)	1831	0	0	0	1660	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	209			176	179	
Travel Time (s)	4.8			4.0	4.1	
Volume (vph)	382	54	0	0	29	73
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	474	0	0	0	111	0
Sign Control	Free			Free	Stop	

Intersection Summary

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

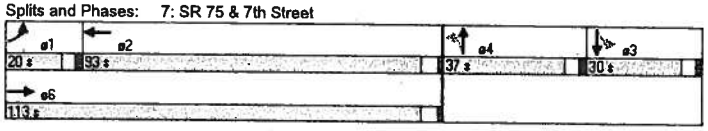
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5050	0	0	4994	0	1770	1863	0	0	1758	0
Flt Permitted	0.950						0.312				0.902	
Satd. Flow (perm)	1770	5050	0	0	4994	0	581	1863	0	0	1610	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			19						11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	50	1279	58	0	325	44	25	47	0	22	27	22
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	54	1453	0	0	401	0	27	51	0	0	77	0
Turn Type	Prot						Perm			Perm		
Protected Phases	1	6			2			4			3	
Permitted Phases							4			3		
Detector Phases	1	6			2		4	4		3	3	
Minimum Initial (s)	5.0	15.0			10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.2	22.5			22.5		36.6	36.6		15.6	15.6	
Total Split (s)	20.0	113.0	0.0	0.0	93.0	0.0	37.0	37.0	0.0	30.0	30.0	0.0
Total Split (%)	11.1%	62.8%	0.0%	0.0%	51.7%	0.0%	20.6%	20.6%	0.0%	16.7%	16.7%	0.0%
Yellow Time (s)	3.2	4.5			4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	2.0	1.0			1.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead				Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	C-Max			C-Max		None	None		None	None	
Act Effct Green (s)	10.1	138.5			126.4		17.9	17.9			14.7	
Actuated g/C Ratio	0.06	0.77			0.70		0.10	0.10			0.08	
v/c Ratio	0.54	0.37			0.11		0.47	0.28			0.54	
Control Delay	101.5	8.5			7.9		87.5	64.4			81.5	
Queue Delay	0.0	0.0			0.0		0.0	0.5			0.0	
Total Delay	101.5	8.5			7.9		87.5	64.9			81.5	
LOS	F	A			A		F	E			F	
Approach Delay		11.8			7.9			72.7			81.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			E			F	
Queue Length 50th (ft)	63	181			32		33	61			76	
Queue Length 95th (ft)	114	333			47		m69	102			136	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)												
Base Capacity (vph)	157	3887			3513		107	342			242	
Starvation Cap Reductn	0	0			0		0	129			0	
Spillback Cap Reductn	0	0			0		0	0			0	
Storage Cap Reductn	0	0			0		0	0			0	
Reduced v/c Ratio	0.34	0.37			0.11		0.25	0.24			0.32	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 16.0 — Intersection LOS: B
Intersection Capacity Utilization 43.3% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: SR 75 & 7th Street



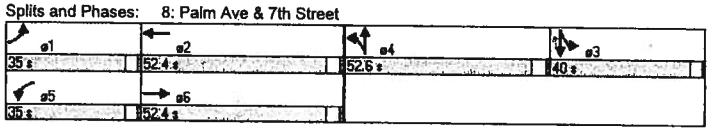
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3497	0	1770	3525	0	0	1729	0	0	1825	1583
Flt Permitted	0.950			0.950				0.983			0.980	
Satd. Flow (perm)	1770	3497	0	1770	3525	0	0	1729	0	0	1825	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			2			19				47
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	28	379	34	59	410	12	35	25	42	24	35	43
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	30	449	0	64	459	0	0	111	0	0	64	47
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Detector Phases	1	6		5	2		4	4		3	3	3
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	9.0	15.0		9.0	24.6		26.6	26.6		14.0	14.0	14.0
Total Split (s)	35.0	52.4	0.0	35.0	52.4	0.0	52.6	52.6	0.0	40.0	40.0	40.0
Total Split (%)	19.4%	29.1%	0.0%	19.4%	29.1%	0.0%	29.2%	29.2%	0.0%	22.2%	22.2%	22.2%
Yellow Time (s)	3.0	3.6		3.0	3.6		3.6	3.6		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min		None	C-Min		Max	Max		Max	Max	Max
Act Effct Green (s)	6.6	48.5		9.5	53.2			70.1			36.0	36.0
Actuated g/C Ratio	0.04	0.27		0.05	0.30			0.39			0.20	0.20
v/c Ratio	0.47	0.48		0.69	0.44			0.16			0.18	0.13
Control Delay	106.9	56.2		117.4	52.7			31.4			49.9	8.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			8.2	2.2
Total Delay	106.9	56.2		117.4	52.7			31.4			58.1	11.0
LOS	F	E		F	D			C			E	B
Approach Delay		59.4			60.7			31.4			38.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			E			C			D	
Queue Length 50th (ft)	36	233		76	234			70			66	10
Queue Length 95th (ft)	75	288		132	285			127			95	m18
Internal Link Dist (ft)		236			86			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	305	955		305	1042			685			365	354
Starvation Cap Reductn	0	0		0	0			0			263	227
Spillback Cap Reductn	0	0		0	0			8			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.10	0.47		0.21	0.44			0.16			0.63	0.37

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 158 (88%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 55.5 — Intersection LOS: E
Intersection Capacity Utilization 38.4% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



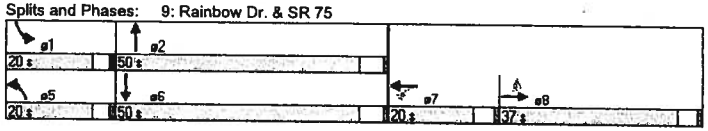
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1596	0	1770	1751	0	1770	3539	0	1770	3433	0
Flt Permitted	0.754			0.250			0.950			0.950		
Satd. Flow (perm)	1405	1596	0	466	1751	0	1770	3539	0	1770	3433	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			2						27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	90	2	38	10	3	2	90	257	0	3	1377	341
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	98	43	0	11	5	0	98	279	0	3	1868	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			7		5	2		1	6	
Permitted Phases	8			7								
Detector Phases	8	8		7	7		5	2		1	6	
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.6	36.6		9.6	9.6		9.2	29.5		9.2	31.5	
Total Split (s)	37.0	37.0	0.0	20.0	20.0	0.0	20.0	50.0	0.0	20.0	50.0	0.0
Total Split (%)	29.1%	29.1%	0.0%	15.7%	15.7%	0.0%	15.7%	39.4%	0.0%	15.7%	39.4%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	4.5		3.2	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	13.7	13.7		8.2	8.2		9.0	68.4		5.3	58.4	
Actuated g/C Ratio	0.14	0.14		0.08	0.08		0.09	0.72		0.05	0.62	
v/c Ratio	0.49	0.16		0.29	0.03		0.59	0.11		0.03	0.87	
Control Delay	43.3	13.0		64.3	38.0		55.8	8.6		52.7	27.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.3	13.0		64.3	38.0		55.8	8.6		52.7	27.2	
LOS	D	B		E	D		E	A		D	C	
Approach Delay		34.1			56.1			20.8			27.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			E			C			C	
Queue Length 50th (ft)	44	1		5	1		45	13		1	353	
Queue Length 95th (ft)	112	31		28	15		131	97		13	#1211	
Internal Link Dist (ft)		75			76			662			138	
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	410	495		70	266		283	2564		257	2135	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.09		0.16	0.02		0.35	0.11		0.01	0.87	

Intersection Summary

Area Type: Other
Cycle Length: 127
Actuated Cycle Length: 94.4
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 26.8 — Intersection LOS: C
Intersection Capacity Utilization 75.6% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Rainbow Dr. & SR 75



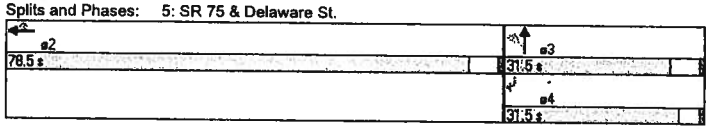
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑	↱	↰	↑				↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)					50	50	50	50				50
Trailing Detector (ft)					0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)						5	9					30
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			87			214	
Travel Time (s)		8.9			11.6			2.0			4.9	
Volume (vph)	0	0	0	0	1658	7	8	18	0	0	0	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	0	1802	8	9	20	0	0	0	8
Turn Type						Perm	Perm					custom
Protected Phases					2			3				
Permitted Phases						2	3					4
Detector Phases					2	2	3	3				4
Minimum Initial (s)					10.0	10.0	10.0	10.0				5.0
Minimum Split (s)					22.5	22.5	25.5	25.5				25.5
Total Split (s)	0.0	0.0	0.0	0.0	78.5	78.5	31.5	31.5	0.0	0.0	0.0	31.5
Total Split (%)	0.0%	0.0%	0.0%	0.0%	71.4%	71.4%	28.6%	28.6%	0.0%	0.0%	0.0%	28.6%
Yellow Time (s)					4.5	4.5	4.5	4.5				3.2
All-Red Time (s)					1.0	1.0	1.0	1.0				1.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode					C-Min	C-Min	None	None				None
Act Effct Green (s)					100.4	100.4	13.3	13.3				8.3
Actuated g/C Ratio					0.91	0.91	0.12	0.12				0.08
v/c Ratio					0.56	0.01	0.04	0.09				0.05
Control Delay					3.2	0.0	32.0	52.2				0.7
Queue Delay					0.1	0.0	0.0	0.0				0.0
Total Delay					3.2	0.0	32.0	52.2				0.7
LOS					A	A	C	D				A
Approach Delay					3.2			45.9				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					A			D				
Queue Length 50th (ft)					32	0	1	15				0
Queue Length 95th (ft)					237	m0	17	39				1
Internal Link Dist (ft)		313			432			7			134	
Turn Bay Length (ft)						120						
Base Capacity (vph)					3230	1445	449	466				425
Starvation Cap Reductn					213	0	0	0				0
Spillback Cap Reductn					0	0	0	0				0
Storage Cap Reductn					0	0	0	0				0
Reduced v/c Ratio					0.60	0.01	0.02	0.04				0.02

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 108 (98%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 3.9 — Intersection LOS: A
Intersection Capacity Utilization 85.6% — ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 75 & Delaware St.



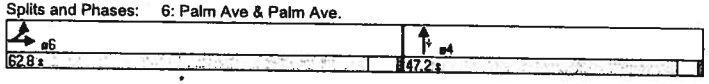
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50	50			
Trailing Detector (ft)	0	0	0					0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	17		1						15			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		209			176			179			87	
Travel Time (s)		4.8			4.0			4.1			2.0	
Volume (vph)	19	774	4	0	0	0	0	6	14	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	21	841	4	0	0	0	0	7	15	0	0	0
Turn Type	Split		Free						Perm			
Protected Phases	6	6						4				
Permitted Phases			Free						4			
Detector Phases	6	6						4	4			
Minimum Initial (s)	10.0	10.0						5.0	5.0			
Minimum Split (s)	23.5	23.5						22.2	22.2			
Total Split (s)	62.8	62.8	0.0	0.0	0.0	0.0	0.0	47.2	47.2	0.0	0.0	0.0
Total Split (%)	57.1%	57.1%	0.0%	0.0%	0.0%	0.0%	0.0%	42.9%	42.9%	0.0%	0.0%	0.0%
Yellow Time (s)	4.5	4.5						3.2	3.2			
All-Red Time (s)	1.0	1.0						1.0	1.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min						None	None			
Act Effct Green (s)	102.1	102.1	110.0					7.8	7.8			
Actuated g/C Ratio	0.93	0.93	1.00					0.07	0.07			
v/c Ratio	0.01	0.26	0.00					0.05	0.12			
Control Delay	0.3	0.8	0.0					44.8	21.2			
Queue Delay	0.0	0.0	0.0					0.0	0.0			
Total Delay	0.3	0.8	0.0					44.8	21.2			
LOS	A	A	A					D	C			
Approach Delay		0.8						28.7				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A						C				
Queue Length 50th (ft)	0	0	0					5	0			
Queue Length 95th (ft)	m1	50	m0					18	19			
Internal Link Dist (ft)		129			96			99			7	
Turn Bay Length (ft)	100		100									
Base Capacity (vph)	1644	3285	1583					732	631			
Starvation Cap Reductn	0	341	0					0	0			
Spillback Cap Reductn	724	0	0					243	0			
Storage Cap Reductn	0	0	0					0	0			
Reduced v/c Ratio	0.02	0.29	0.00					0.01	0.02			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 108 (98%), Referenced to phase 6:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.26
Intersection Signal Delay: 1.5 — Intersection LOS: A
Intersection Capacity Utilization 85.6% — ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Palm Ave & Palm Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		2	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50						50	
Trailing Detector (ft)	0		0	0	0						0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	0	2787	3433	3532	0	0	0	0	0	1712	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	0	2787	3433	3532	0	0	0	0	0	1712	0
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			257	225	2						59	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	7	0	236	361	1247	17	0	0	0	0	36	54
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	8	0	257	392	1373	0	0	0	0	0	98	0
Turn Type	Prot		custom	Prot								
Protected Phases	1		6	5	2						3	
Permitted Phases			6									
Detector Phases	1		6	5	2						3	
Minimum Initial (s)	5.0		10.0	5.0	10.0						10.0	
Minimum Split (s)	10.2		15.5	9.2	25.5						42.6	
Total Split (s)	10.2	0.0	26.9	18.5	57.2	0.0	0.0	0.0	0.0	0.0	42.6	0.0
Total Split (%)	9.3%	0.0%	24.5%	16.8%	52.0%	0.0%	0.0%	0.0%	0.0%	0.0%	38.7%	0.0%
Yellow Time (s)	3.2		4.5	3.2	4.5						3.6	
All-Red Time (s)	1.0		1.0	1.0	1.0						1.0	
Lead/Lag	Lag			Lag	Lead							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None		C-Min	None	C-Min						None	
Act Effct Green (s)	5.2		74.2	9.3	90.8						13.0	
Actuated g/C Ratio	0.05		0.67	0.08	0.83						0.12	
v/c Ratio	0.09		0.13	0.79	0.47						0.39	
Control Delay	52.7		2.5	37.2	0.7						24.0	
Queue Delay	0.0		0.0	0.0	0.1						0.0	
Total Delay	52.7		2.5	37.2	0.8						24.0	
LOS	D		A	D	A						C	
Approach Delay					8.9						24.0	

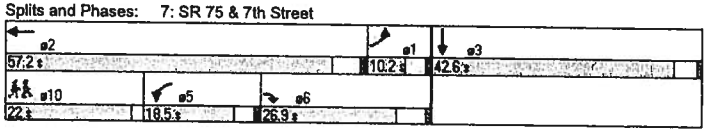
Lane Group	
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phases	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lead.
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	

Lane Group	SEBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SET	SBR
Approach LOS					A						C	
Queue Length 50th (ft)	6		0	62	3						26	
Queue Length 95th (ft)	22		28	87	10						68	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)	150			390								
Base Capacity (vph)	100		1964	648	2917						639	
Starvation Cap Reductn	0		0	0	461						0	
Spillback Cap Reductn	0		0	0	0						0	
Storage Cap Reductn	0		0	0	0						0	
Reduced v/c Ratio	0.08		0.13	0.60	0.56						0.15	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 8 (7%), Referenced to phase 2:WBT and 6:EBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 9.0 — Intersection LOS: A
Intersection Capacity Utilization 50.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: SR 75 & 7th Street



Lane Group	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

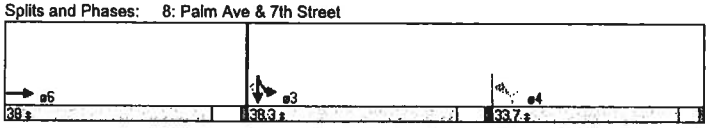
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	0		0	0		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50					50		50	50	50	50
Trailing Detector (ft)		0					0		0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3522	0	0	0	0	1770	0	1583	1681	1472	1504
Flt Permitted							0.598			0.950	0.995	
Satd. Flow (perm)	0	3522	0	0	0	0	1114	0	1583	1681	1472	1504
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		3							91	233	208	219
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	0	472	15	0	0	0	92	0	84	237	10	387
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	529	0	0	0	0	100	0	91	233	238	219
Turn Type							custom		custom	Split		Perm
Protected Phases		6								3	3	
Permitted Phases							4		4			3
Detector Phases		6					4		4	3	3	3
Minimum Initial (s)		10.0					5.0		5.0	10.0	10.0	10.0
Minimum Split (s)		25.5					22.2		22.2	25.5	25.5	25.5
Total Split (s)	0.0	38.0	0.0	0.0	0.0	0.0	33.7	0.0	33.7	38.3	38.3	38.3
Total Split (%)	0.0%	34.5%	0.0%	0.0%	0.0%	0.0%	30.6%	0.0%	30.6%	34.8%	34.8%	34.8%
Yellow Time (s)		4.5					3.2		3.2	4.5	4.5	4.5
All-Red Time (s)		1.0					1.0		1.0	1.0	1.0	1.0
Lead/Lag							Lag		Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes		Yes	Yes	Yes	Yes
Recall Mode		Min					None		None	C-Max	C-Max	C-Max
Act Effct Green (s)		25.2					12.8		12.8	60.0	60.0	60.0
Actuated g/C Ratio		0.23					0.12		0.12	0.55	0.55	0.55
v/c Ratio		0.65					0.77		0.34	0.23	0.27	0.24
Control Delay		41.7					80.6		12.1	1.4	2.0	1.5
Queue Delay		0.0					0.0		0.0	1.0	1.2	1.0
Total Delay		41.7					80.6		12.1	2.4	3.2	2.6
LOS		D					F		B	A	A	A
Approach Delay		41.7									2.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D										A	
Queue Length 50th (ft)	178						70		0	0	0	0
Queue Length 95th (ft)	218						121		44	m0	m0	m0
Internal Link Dist (ft)	236				86			90			118	
Turn Bay Length (ft)												
Base Capacity (vph)	1091						301		494	1022	897	920
Starvation Cap Reductn	0						0		0	560	451	482
Spillback Cap Reductn	0						0		0	0	0	0
Storage Cap Reductn	0						0		0	0	0	0
Reduced v/c Ratio	0.48						0.33		0.18	0.50	0.53	0.50

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 96 (87%), Referenced to phase 3:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 23.5 — Intersection LOS: C
Intersection Capacity Utilization 39.5% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



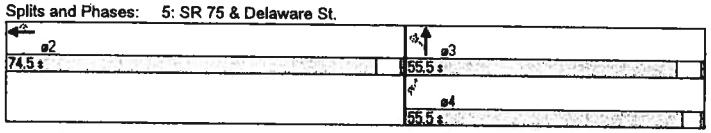
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑	↱	↰	↑				↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)					50	50	50	50				50
Trailing Detector (ft)					0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)						18	12					141
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			87			214	
Travel Time (s)		8.9			11.6			2.0			4.9	
Volume (vph)	0	0	0	0	775	21	11	25	0	0	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	0	842	23	12	27	0	0	0	1
Turn Type						Perm	Perm					custom
Protected Phases					2			3				
Permitted Phases						2	3					4
Detector Phases					2	2	3	3				4
Minimum Initial (s)					10.0	10.0	10.0	10.0				5.0
Minimum Split (s)					22.5	22.5	25.5	25.5				25.5
Total Split (s)	0.0	0.0	0.0	0.0	74.5	74.5	55.5	55.5	0.0	0.0	0.0	55.5
Total Split (%)	0.0%	0.0%	0.0%	0.0%	57.3%	57.3%	42.7%	42.7%	0.0%	0.0%	0.0%	42.7%
Yellow Time (s)					4.5	4.5	4.5	4.5				3.2
All-Red Time (s)					1.0	1.0	1.0	1.0				1.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode					C-Min	C-Min	None	None				None
Act Effct Green (s)					116.5	116.5	13.3	13.3				8.3
Actuated g/C Ratio					0.90	0.90	0.10	0.10				0.06
v/c Ratio					0.27	0.02	0.06	0.14				0.00
Control Delay					0.7	0.0	26.5	55.8				0.0
Queue Delay					0.0	0.0	0.0	0.0				0.0
Total Delay					0.7	0.0	26.5	55.8				0.0
LOS					A	A	C	E				A
Approach Delay					0.7			46.8				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					A			D				
Queue Length 50th (ft)					8	0	1	23				0
Queue Length 95th (ft)					4	m0	16	44				0
Internal Link Dist (ft)	313				432			7			134	
Turn Bay Length (ft)						120						
Base Capacity (vph)					3171	1420	708	738				723
Starvation Cap Reductn					0	0	0	0				0
Spillback Cap Reductn					0	0	0	0				0
Storage Cap Reductn					0	0	0	0				0
Reduced v/c Ratio					0.27	0.02	0.02	0.04				0.00

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 11 (8%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 2.7 — Intersection LOS: A
Intersection Capacity Utilization 88.5% — ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 75 & Delaware St.



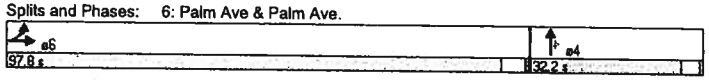
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50	50			
Trailing Detector (ft)	0	0	0					0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	15		8						31			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		209			176			179			87	
Travel Time (s)		4.8			4.0			4.1			2.0	
Volume (vph)	28	1752	54	0	0	0	0	7	73	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	30	1904	59	0	0	0	0	8	79	0	0	0
Turn Type	Split		Free						Perm			
Protected Phases	6	6						4				
Permitted Phases			Free						4			
Detector Phases	6	6						4	4			
Minimum Initial (s)	10.0	10.0						5.0	5.0			
Minimum Split (s)	23.5	23.5						22.2	22.2			
Total Split (s)	97.8	97.8	0.0	0.0	0.0	0.0	0.0	32.2	32.2	0.0	0.0	0.0
Total Split (%)	75.2%	75.2%	0.0%	0.0%	0.0%	0.0%	0.0%	24.8%	24.8%	0.0%	0.0%	0.0%
Yellow Time (s)	4.5	4.5						3.2	3.2			
All-Red Time (s)	1.0	1.0						1.0	1.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min						None	None			
Act Effct Green (s)	115.6	115.6	130.0					9.1	9.1			
Actuated g/C Ratio	0.89	0.89	1.00					0.07	0.07			
v/c Ratio	0.02	0.61	0.04					0.06	0.57			
Control Delay	0.6	2.2	0.0					53.6	51.5			
Queue Delay	0.0	0.1	0.0					0.0	0.0			
Total Delay	0.6	2.3	0.0					53.6	51.5			
LOS	A	A	A					D	D			
Approach Delay		2.2						51.7				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A						D				
Queue Length 50th (ft)	1	68	0					7	40			
Queue Length 95th (ft)	m2	119	m0					22	86			
Internal Link Dist (ft)		129			96			99			7	
Turn Bay Length (ft)	100		100									
Base Capacity (vph)	1575	3146	1583					404	368			
Starvation Cap Reductn	0	319	0					0	0			
Spillback Cap Reductn	680	0	0					188	0			
Storage Cap Reductn	0	0	0					0	0			
Reduced v/c Ratio	0.03	0.67	0.04					0.04	0.21			

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 6:EBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 4.3 — Intersection LOS: A
Intersection Capacity Utilization 88.5% — ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Palm Ave & Palm Ave.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		2	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50						50	
Trailing Detector (ft)	0		0	0	0						0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	0	2787	3433	3476	0	0	0	0	0	1785	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	0	2787	3433	3476	0	0	0	0	0	1785	0
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			1370	414	18						18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	50	0	1337	381	325	44	0	0	0	0	49	22
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	54	0	1453	414	401	0	0	0	0	0	77	0
Turn Type	Prot		custom	Prot								
Protected Phases	1		6	5	2						3	
Permitted Phases			6									
Detector Phases	1		6	5	2						3	
Minimum Initial (s)	5.0		10.0	5.0	10.0						10.0	
Minimum Split (s)	10.2		15.5	9.2	25.5						42.6	
Total Split (s)	13.5	0.0	50.4	15.0	73.9	0.0	0.0	0.0	0.0	0.0	42.6	0.0
Total Split (%)	10.4%	0.0%	38.8%	11.5%	56.8%	0.0%	0.0%	0.0%	0.0%	0.0%	32.8%	0.0%
Yellow Time (s)	3.2		4.5	3.2	4.5						3.6	
All-Red Time (s)	1.0		1.0	1.0	1.0						1.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None		C-Min	None	C-Min						None	
Act Effct Green (s)	7.5		94.3	9.1	102.9						13.2	
Actuated g/C Ratio	0.06		0.73	0.07	0.79						0.10	
v/c Ratio	0.53		0.61	0.66	0.15						0.39	
Control Delay	77.8		2.6	14.0	5.6						46.3	
Queue Delay	0.0		0.0	0.0	0.0						0.0	
Total Delay	77.8		2.6	14.0	5.6						46.3	
LOS	E		A	B	A						D	
Approach Delay					9.9						46.3	

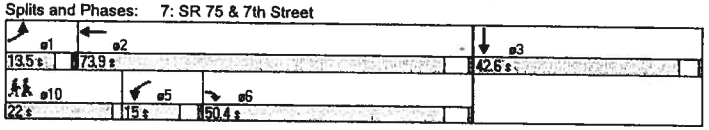
Lane Group	ø10
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phases	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	17%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					A						D	
Queue Length 50th (ft)	45		7	20	91						48	
Queue Length 95th (ft)	90		71	165	122						91	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)	150			390								
Base Capacity (vph)	129		2398	700	2756						543	
Starvation Cap Reductn	0		0	0	0						0	
Spillback Cap Reductn	0		51	9	0						16	
Storage Cap Reductn	0		0	0	0						0	
Reduced v/c Ratio	0.42		0.62	0.60	0.15						0.15	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 19 (15%), Referenced to phase 2:WBT and 6:EBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 8.2 — Intersection LOS: A
Intersection Capacity Utilization 76.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: SR 75 & 7th Street



Lane Group	G10
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

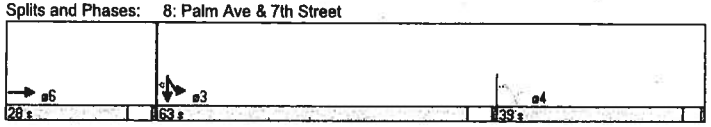
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	0		0	0		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50					50		50	50	50	50
Trailing Detector (ft)		0					0		0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3497	0	0	0	0	1770	0	1583	1681	1619	1504
Flt Permitted							0.357			0.950	0.955	
Satd. Flow (perm)	0	3497	0	0	0	0	665	0	1583	1681	1619	1504
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		6							22	550	550	345
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	0	407	34	0	0	0	89	0	42	1331	35	424
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	479	0	0	0	0	97	0	46	740	745	461
Turn Type							custom		custom	Split		Perm
Protected Phases		6								3	3	
Permitted Phases							4		4			3
Detector Phases		6					4		4	3	3	3
Minimum Initial (s)		10.0					5.0		5.0	10.0	10.0	10.0
Minimum Split (s)		25.5					22.2		22.2	25.5	25.5	25.5
Total Split (s)	0.0	28.0	0.0	0.0	0.0	0.0	39.0	0.0	39.0	63.0	63.0	63.0
Total Split (%)	0.0%	21.5%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	30.0%	48.5%	48.5%	48.5%
Yellow Time (s)		4.5					3.2		3.2	4.5	4.5	4.5
All-Red Time (s)		1.0					1.0		1.0	1.0	1.0	1.0
Lead/Lag							Lag		Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes		Yes	Yes	Yes	Yes
Recall Mode		Min					None		None	C-Max	C-Max	C-Max
Act Effct Green (s)		25.2					21.8		21.8	71.0	71.0	71.0
Actuated g/C Ratio		0.19					0.17		0.17	0.55	0.55	0.55
v/c Ratio		0.70					0.87		0.16	0.63	0.66	0.47
Control Delay		54.3					105.9		26.0	6.0	6.5	5.1
Queue Delay		0.0					0.0		0.0	0.9	0.9	1.2
Total Delay		54.3					105.9		26.0	6.9	7.4	6.3
LOS		D					F		C	A	A	A
Approach Delay		54.3									6.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D										A	
Queue Length 50th (ft)	193						81		17	108	120	55
Queue Length 95th (ft)	262						134		47	63	73	55
Internal Link Dist (ft)	236			86				90			118	
Turn Bay Length (ft)												
Base Capacity (vph)	702						179		442	1168	1134	978
Starvation Cap Reductn	0						0		0	188	159	303
Spillback Cap Reductn	0						0		0	0	0	0
Storage Cap Reductn	0						0		0	0	0	0
Reduced v/c Ratio	0.68						0.54		0.10	0.76	0.76	0.68

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 121 (93%), Referenced to phase 3:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 19.8 — Intersection LOS: B
Intersection Capacity Utilization 69.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 8: Palm Ave & 7th Street



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	2	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	2787	1681	1690	1712	0
Flt Permitted	0.950		0.950	0.955		
Satd. Flow (perm)	1770	2787	1681	1690	1712	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		257			59	
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			198	314	
Travel Time (s)	12.5			4.5	7.1	
Volume (vph)	7	236	1267	45	36	54
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	8	257	695	731	98	0
Turn Type		pt+ov	Split			
Protected Phases	7	7 5	5	5	6	
Permitted Phases						
Detector Phases	7	7 5	5	5	6	
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	36.6		36.6	36.6	15.6	
Total Split (s)	20.0	84.0	64.0	64.0	20.0	0.0
Total Split (%)	19.2%	80.8%	61.5%	61.5%	19.2%	0.0%
Yellow Time (s)	3.6		3.6	3.6	3.6	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	None	
Act Effct Green (s)	12.5	87.9	70.6	70.6	12.1	
Actuated g/C Ratio	0.12	0.85	0.68	0.68	0.12	
v/c Ratio	0.04	0.11	0.61	0.64	0.39	
Control Delay	39.9	0.4	13.6	14.3	24.4	
Queue Delay	0.0	0.0	56.4	64.1	0.0	
Total Delay	39.9	0.4	70.0	78.4	24.5	
LOS	D	A	E	E	C	
Approach Delay	1.6			74.3	24.5	

Lane Group	EBL	EBR	NB	NBT	SBT	SBR
Approach LOS	A			E	C	
Queue Length 50th (ft)	5	0	253	275	24	
Queue Length 95th (ft)	19	7	456	497	73	
Internal Link Dist (ft)	468			118	234	
Turn Bay Length (ft)						
Base Capacity (vph)	272	2394	1141	1147	313	
Starvation Cap Reductn	0	0	515	500	0	
Spillback Cap Reductn	0	48	0	0	4	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.11	1.11	1.13	0.32	

Intersection Summary

Area Type: Other
Cycle Length: 104
Actuated Cycle Length: 104
Offset: 61.9 (60%), Referenced to phase 5:NBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 60.8 — Intersection LOS: E
Intersection Capacity Utilization 57.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: SR 75 & 7th Street

ø5	ø6	ø7
64 s	20 s	20 s

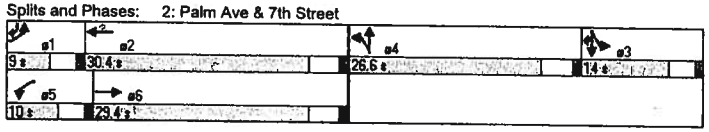
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		2	1		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3522	0	1770	3539	2787	1770	1663	0	1681	1692	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.956	
Satd. Flow (perm)	1770	3522	0	1770	3539	2787	1770	1663	0	1681	1692	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				1376		91				28
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			367			170			198	
Travel Time (s)		7.2			8.3			3.9			4.5	
Volume (vph)	19	453	15	41	385	1266	48	34	84	234	10	26
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	21	508	0	45	418	1376	52	128	0	129	136	28
Turn Type	Prot			Prot		Perm	Split			Split		pt+ov
Protected Phases	1	6		5	2		4	4		3	3	1 3
Permitted Phases						2						
Detector Phases	1	6		5	2	2	4	4		3	3	1 3
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	15.0		9.0	24.6	24.6	26.6	26.6		14.0	14.0	
Total Split (s)	9.0	29.4	0.0	10.0	30.4	30.4	26.6	26.6	0.0	14.0	14.0	23.0
Total Split (%)	11.3%	36.8%	0.0%	12.5%	38.0%	38.0%	33.3%	33.3%	0.0%	17.5%	17.5%	28.8%
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.6	3.6		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	C-Min	C-Min	Max	Max		Max	Max	
Act Effct Green (s)	5.0	21.5		5.5	21.9	21.9	30.7	30.7		10.0	10.0	19.0
Actuated g/C Ratio	0.06	0.27		0.07	0.27	0.27	0.38	0.38		0.12	0.12	0.24
v/c Ratio	0.19	0.54		0.37	0.43	0.78	0.08	0.18		0.61	0.64	0.07
Control Delay	39.8	27.2		44.5	25.4	5.0	18.7	8.3		47.2	48.8	10.2
Queue Delay	0.4	0.0		0.0	0.0	1.2	0.0	0.1		2.6	3.4	0.0
Total Delay	40.2	27.2		44.5	25.4	6.2	18.7	8.3		49.8	52.1	10.2
LOS	D	C		D	C	A	B	A		D	D	B
Approach Delay		27.7			11.5			11.3			47.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			B			D	
Queue Length 50th (ft)	10	122	22	98	0	16	11		65	69	0	
Queue Length 95th (ft)	32	148	54	120	47	46	53		#137	#148	19	
Internal Link Dist (ft)		236		287			90			118		
Turn Bay Length (ft)	55		50									
Base Capacity (vph)	111	1121	133	1168	1842	679	694		210	212	397	
Starvation Cap Reductn	0	0	0	0	0	0	0		26	28	0	
Spillback Cap Reductn	14	0	0	0	247	0	83		0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio	0.22	0.45	0.34	0.36	0.86	0.08	0.21		0.70	0.74	0.07	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.2 — Intersection LOS: B
Intersection Capacity Utilization 66.8% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Palm Ave & 7th Street



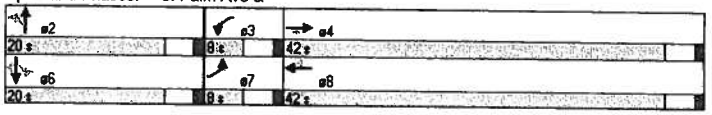
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1747	0	0	1818	1583
Flt Permitted	0.950			0.950				0.885			0.902	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1584	0	0	1680	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			11			8		15				8
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		367			264			139			116	
Travel Time (s)		8.3			6.0			3.2			2.6	
Volume (vph)	10	786	10	10	1658	7	24	10	14	10	10	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	11	854	11	11	1802	8	0	52	0	0	22	8
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phases	7	4	4	3	8	8	2	2		6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (s)	8.0	42.0	42.0	8.0	42.0	42.0	20.0	20.0	0.0	20.0	20.0	20.0
Total Split (%)	11.4%	60.0%	60.0%	11.4%	60.0%	60.0%	28.6%	28.6%	0.0%	28.6%	28.6%	28.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	C-Max	C-Max	Max	Max		Max	Max	Max
Act Effct Green (s)	4.0	44.4	44.4	4.0	44.4	44.4		16.0			16.0	16.0
Actuated g/C Ratio	0.06	0.63	0.63	0.06	0.63	0.63		0.23			0.23	0.23
v/c Ratio	0.11	0.38	0.01	0.11	0.80	0.01		0.14			0.06	0.02
Control Delay	33.8	7.2	3.7	33.8	14.5	3.9		17.9			21.7	12.9
Queue Delay	0.0	0.4	0.0	0.0	0.1	0.0		0.0			0.0	0.0
Total Delay	33.8	7.6	3.7	33.8	14.6	3.9		17.9			21.7	12.9
LOS	C	A	A	C	B	A		B			C	B
Approach Delay		7.9			14.6			17.9			19.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			B			B	
Queue Length 50th (ft)	5	74	0	5	242	0		13			7	0
Queue Length 95th (ft)	19	147	6	19	#537	5		39			24	10
Internal Link Dist (ft)		287			184			59			36	
Turn Bay Length (ft)												
Base Capacity (vph)	101	2245	1008	101	2245	1007		374			384	368
Starvation Cap Reductn	0	783	0	0	0	0		0			0	0
Spillback Cap Reductn	0	0	0	0	23	0		3			0	3
Storage Cap Reductn	0	0	0	0	0	0		0			0	0
Reduced v/c Ratio	0.11	0.58	0.01	0.11	0.81	0.01		0.14			0.06	0.02

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 28 (40%), Referenced to phase 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 12.6 — Intersection LOS: B
Intersection Capacity Utilization 62.5% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Palm Ave &



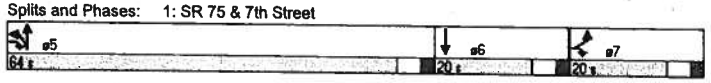
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	2	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	2787	1681	1718	1785	0
Flt Permitted	0.950		0.950	0.971		
Satd. Flow (perm)	1770	2787	1681	1718	1785	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1238			19	
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			198	314	
Travel Time (s)	12.5			4.5	7.1	
Volume (vph)	50	1337	350	91	49	22
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	54	1453	233	246	77	0
Turn Type		pt+ov	Split			
Protected Phases	7	7 5	5	5	6	
Permitted Phases						
Detector Phases	7	7 5	5	5	6	
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	36.6		36.6	36.6	15.6	
Total Split (s)	20.0	84.0	64.0	64.0	20.0	0.0
Total Split (%)	19.2%	80.8%	61.5%	61.5%	19.2%	0.0%
Yellow Time (s)	3.6		3.6	3.6	3.6	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None		None	None	C-Max	
Act Effct Green (s)	15.1	49.1	29.9	29.9	46.9	
Actuated g/C Ratio	0.15	0.47	0.29	0.29	0.45	
v/c Ratio	0.21	0.74	0.48	0.50	0.09	
Control Delay	40.8	4.7	32.2	32.5	16.8	
Queue Delay	0.0	0.2	0.3	0.3	0.0	
Total Delay	40.8	4.9	32.5	32.9	16.8	
LOS	D	A	C	C	B	
Approach Delay	6.2			32.7	16.8	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	A			C	B	
Queue Length 50th (ft)	32	45	136	145	21	
Queue Length 95th (ft)	69	62	168	176	63	
Internal Link Dist (ft)	468			118	234	
Turn Bay Length (ft)						
Base Capacity (vph)	272	2417	970	991	816	
Starvation Cap Reductn	0	0	341	350	0	
Spillback Cap Reductn	0	308	0	0	86	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.20	0.69	0.37	0.38	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 104
Actuated Cycle Length: 104
Offset: 81.9 (79%), Referenced to phase 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 12.8 — Intersection LOS: B
Intersection Capacity Utilization 61.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: SR 75 & 7th Street



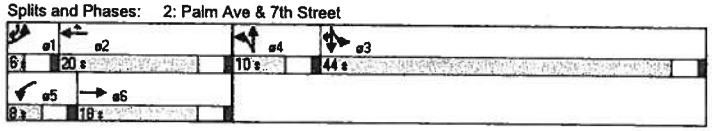
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		2	1		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3497	0	1770	3539	2787	1770	1686	0	1681	1690	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.955	
Satd. Flow (perm)	1770	3497	0	1770	3539	2787	1770	1686	0	1681	1690	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				411		46				47
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			373			170			198	
Travel Time (s)		7.2			8.5			3.9			4.5	
Volume (vph)	28	379	34	59	410	378	35	25	42	1303	35	43
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	30	449	0	64	446	411	38	73	0	708	746	47
Turn Type	Prot			Prot		Perm	Split			Split		pt+ov
Protected Phases	1	6		5	2		4	4		3	3	1 3
Permitted Phases						2						
Detector Phases	1	6		5	2	2	4	4		3	3	1 3
Minimum Initial (s)	1.0	5.4		1.0	5.4	5.4	1.0	1.0		1.0	1.0	
Minimum Split (s)	5.0	10.4		6.0	10.4	10.4	10.0	10.0		10.0	10.0	
Total Split (s)	6.0	18.0	0.0	8.0	20.0	20.0	10.0	10.0	0.0	44.0	44.0	50.0
Total Split (%)	7.5%	22.5%	0.0%	10.0%	25.0%	25.0%	12.5%	12.5%	0.0%	55.0%	55.0%	62.5%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min	C-Min	Max	Max		Max	Max	
Act Effct Green (s)	2.0	14.5		4.0	16.1	16.1	7.1	7.1		40.0	40.0	46.0
Actuated g/C Ratio	0.02	0.18		0.05	0.20	0.20	0.09	0.09		0.50	0.50	0.58
v/c Ratio	0.68	0.70		0.72	0.63	0.46	0.24	0.38		0.84	0.88	0.05
Control Delay	105.0	37.0		73.0	27.5	12.1	39.1	23.8		28.8	32.5	2.6
Queue Delay	1.9	0.0		0.0	0.0	0.4	0.0	1.2		201.8	213.6	0.0
Total Delay	106.9	37.0		73.0	27.5	12.5	39.1	24.9		230.6	246.1	2.6
LOS	F	D		E	C	B	D	C		F	F	A
Approach Delay		41.4			24.0			29.8			231.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C			C			F	
Queue Length 50th (ft)	15	110		32	111	27	18	13		304	332	0
Queue Length 95th (ft)	#62	160		#100	156	86	47	52		#535	#577	13
Internal Link Dist (ft)		236			293			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	44	655		89	726	898	157	192		841	845	930
Starvation Cap Reductn	0	0		0	0	0	0	0		352	340	0
Spillback Cap Reductn	1	0		0	0	157	0	34		109	110	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.70	0.69		0.72	0.61	0.55	0.24	0.46		1.45	1.48	0.05

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 130.2 — Intersection LOS: F
Intersection Capacity Utilization 68.6% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Palm Ave & 7th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1679	0	0	1818	1583
Flt Permitted	0.950			0.950				0.927			0.879	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1577	0	0	1637	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			59			23		79				1
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		373			297			142			102	
Travel Time (s)		8.5			6.8			3.2			2.3	
Volume (vph)	10	1771	54	10	775	21	29	10	73	10	10	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	11	1925	59	11	842	23	0	122	0	0	22	1
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phases	7	4	4	3	8	8	2	2		6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (s)	8.0	52.0	52.0	8.0	52.0	52.0	20.0	20.0	0.0	20.0	20.0	20.0
Total Split (%)	10.0%	65.0%	65.0%	10.0%	65.0%	65.0%	25.0%	25.0%	0.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)	4.0	48.5	48.5	4.0	48.5	48.5		21.9			21.9	21.9
Actuated g/C Ratio	0.05	0.61	0.61	0.05	0.61	0.61		0.27			0.27	0.27
v/c Ratio	0.12	0.90	0.06	0.12	0.39	0.02		0.25			0.05	0.00
Control Delay	48.1	17.4	1.8	39.5	8.6	2.6		12.6			25.0	20.0
Queue Delay	0.0	44.6	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	48.1	62.1	1.8	39.5	8.6	2.6		12.6			25.0	20.0
LOS	D	E	A	D	A	A		B			C	B
Approach Delay		60.2			8.8			12.6			24.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			A			B			C	
Queue Length 50th (ft)	6	499	1	5	97	0		16			8	0
Queue Length 95th (ft)	m8	#630	m2	21	141	8		62			28	4
Internal Link Dist (ft)		293			217			62			22	
Turn Bay Length (ft)												
Base Capacity (vph)	89	2201	1007	89	2201	993		489			448	434
Starvation Cap Reductn	0	444	0	0	0	0		0			0	0
Spillback Cap Reductn	0	0	0	0	0	0		0			0	0
Storage Cap Reductn	0	0	0	0	0	0		0			0	0
Reduced v/c Ratio	0.12	1.10	0.06	0.12	0.38	0.02		0.25			0.05	0.00

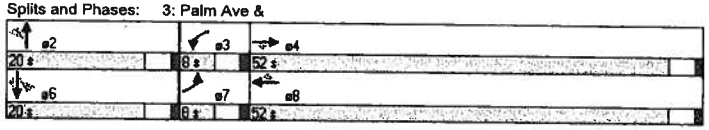
Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 43.1 — Intersection LOS: D
Intersection Capacity Utilization 68.9% — ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Palm Ave &



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	250		0	250		0
Storage Lanes	1		0	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5034	0	1770	5085	1583	1770	1863	1583	1770	1807	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5034	0	1770	5085	1583	1770	1863	1583	1770	1807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				28			137		10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	19	1207	87	110	1823	55	185	16	126	160	37	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	21	1407	0	120	1982	60	201	17	137	174	50	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phases	1	6		5	2	2	3	8	8	7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.5	26.5		9.2	23.5	23.5	9.2	39.6	39.6	9.2	39.6	
Total Split (s)	9.5	39.3	0.0	14.9	44.7	44.7	16.2	40.0	40.0	15.8	39.6	0.0
Total Split (%)	8.6%	35.7%	0.0%	13.5%	40.6%	40.6%	14.7%	36.4%	36.4%	14.4%	36.0%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5	4.5	3.2	3.6	3.6	3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	5.3	55.7		10.9	66.8	66.8	17.7	15.6	15.6	11.8	15.5	
Actuated g/C Ratio	0.05	0.51		0.10	0.61	0.61	0.16	0.14	0.14	0.11	0.14	
v/c Ratio	0.24	0.55		0.69	0.64	0.06	0.71	0.06	0.40	0.92	0.19	
Control Delay	52.4	16.5		68.5	18.0	9.4	60.7	36.5	9.2	95.7	33.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	16.5		68.5	18.0	9.4	60.7	36.5	9.2	95.7	33.3	
LOS	D	B		E	B	A	E	D	A	F	C	
Approach Delay		17.1			20.6			39.6			81.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			D			F	
Queue Length 50th (ft)	13	309		83	238	7	~151	11	0	123	27	
Queue Length 95th (ft)	m31	430		#167	#653	43	#299	24	43	#255	48	
Internal Link Dist (ft)		1048			273			168			173	
Turn Bay Length (ft)	117			240		140	250			250		
Base Capacity (vph)	89	2554		175	3087	972	285	610	610	192	592	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.55		0.69	0.64	0.06	0.71	0.03	0.22	0.91	0.08	

Intersection Summary

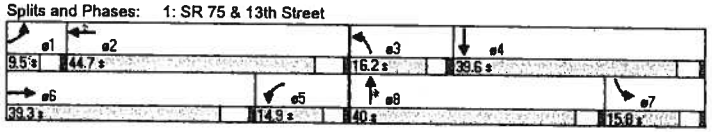
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 26 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 24.3 — Intersection LOS: C
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 75 & 13th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	100		0	100		120
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4615	0	1770	5075	0	1770	1710	0	1770	1729	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4615	0	1770	5075	0	1770	1710	0	1770	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			2			25			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	13	1143	38	27	1905	29	27	19	23	78	13	12
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	14	1283	0	29	2103	0	29	46	0	85	27	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.5	39.6		9.5	35.6	
Total Split (s)	9.2	50.1	0.0	10.0	50.9	0.0	10.0	39.6	0.0	10.3	39.9	0.0
Total Split (%)	8.4%	45.5%	0.0%	9.1%	46.3%	0.0%	9.1%	36.0%	0.0%	9.4%	36.3%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.2	75.8		5.6	78.0		8.5	12.1		8.0	14.4	
Actuated g/C Ratio	0.05	0.69		0.05	0.71		0.08	0.11		0.07	0.13	
v/c Ratio	0.17	0.40		0.32	0.58		0.21	0.22		0.66	0.11	
Control Delay	36.5	2.2		61.7	9.0		50.8	23.7		75.3	25.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.5	2.2		61.7	9.0		50.8	23.7		75.3	25.5	
LOS	D	A		E	A		D	C		E	C	
Approach Delay		2.6			9.7			34.2			63.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			C			E	
Queue Length 50th (ft)	11	29		17	349		18	14		61	9	
Queue Length 95th (ft)	m18	115		m27	598		49	38		#154	29	
Internal Link Dist (ft)		668			1048			224			161	
Turn Bay Length (ft)	125			275			100			100		
Base Capacity (vph)	84	3182		97	3599		143	570		129	573	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.40		0.30	0.58		0.20	0.08		0.66	0.05	

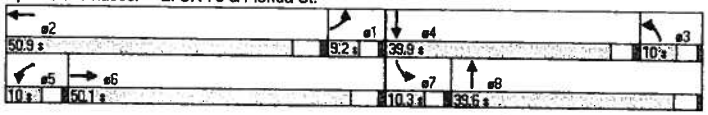
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 84 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 9.3 — Intersection LOS: A
Intersection Capacity Utilization 55.1% — ICU Level of Service B
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	110		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4634	0	1770	4624	0	1770	1675	0	1770	1680	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4634	0	1770	4624	0	1770	1675	0	1770	1680	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			3			46			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	20	1035	9	128	1181	26	20	20	42	70	10	19
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	22	1135	0	139	1312	0	22	68	0	76	32	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.2	36.6		9.2	35.6	
Total Split (s)	10.2	41.0	0.0	21.2	52.0	0.0	10.2	37.6	0.0	10.2	37.6	0.0
Total Split (%)	9.3%	37.3%	0.0%	19.3%	47.3%	0.0%	9.3%	34.2%	0.0%	9.3%	34.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	Min		None	Min	
Act Effct Green (s)	5.7	60.7		16.7	77.1		5.5	10.6		6.1	16.6	
Actuated g/C Ratio	0.05	0.55		0.15	0.70		0.05	0.10		0.06	0.15	
v/c Ratio	0.24	0.44		0.52	0.40		0.25	0.33		0.78	0.12	
Control Delay	74.4	4.3		35.9	1.5		56.9	25.1		97.1	25.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.4	4.3		35.9	1.5		56.9	25.1		97.1	25.0	
LOS	E	A		D	A		E	C		F	C	
Approach Delay		5.6			4.8			32.9			75.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			C			E	
Queue Length 50th (ft)	0	47		97	14		15	14		54	6	
Queue Length 95th (ft)	m40	64		129	36		41	58		#136	38	
Internal Link Dist (ft)		295			668			213			215	
Turn Bay Length (ft)	125			110			100			100		
Base Capacity (vph)	103	2556		277	3244		100	544		101	528	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.44		0.50	0.40		0.22	0.13		0.75	0.06	

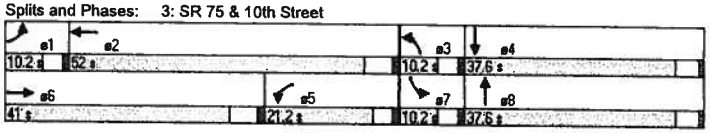
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 76 (69%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 8.8 — Intersection LOS: A
Intersection Capacity Utilization 48.1% — ICU Level of Service A
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: SR 75 & 10th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4610	0	1770	4620	0	1770	1697	0	1770	1749	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4610	0	1770	4620	0	1770	1697	0	1770	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			4			72			34	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	43	873	37	46	1643	43	223	56	81	114	54	38
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	47	989	0	50	1833	0	242	149	0	124	100	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	26.5		9.2	26.5		9.2	39.6		9.2	39.6	
Total Split (s)	9.2	40.8	0.0	12.6	44.2	0.0	17.0	41.5	0.0	15.1	39.6	0.0
Total Split (%)	8.4%	37.1%	0.0%	11.5%	40.2%	0.0%	15.5%	37.7%	0.0%	13.7%	36.0%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.2	60.6		7.9	63.3		14.6	15.6		11.7	15.6	
Actuated g/C Ratio	0.05	0.55		0.07	0.58		0.13	0.14		0.11	0.14	
v/c Ratio	0.56	0.39		0.39	0.69		1.03	0.49		0.66	0.36	
Control Delay	81.7	9.5		53.8	18.6		114.6	26.6		64.0	29.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.7	9.5		53.8	18.6		114.6	26.6		64.0	29.8	
LOS	F	A		D	B		F	C		E	C	
Approach Delay		12.8			19.5			81.0			48.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			F			D	
Queue Length 50th (ft)	34	149		34	173		~202	52		84	45	
Queue Length 95th (ft)	m#75	128		68	#675		#360	88		147	73	
Internal Link Dist (ft)		43			301			189			182	
Turn Bay Length (ft)	115			225			100			100		
Base Capacity (vph)	84	2543		138	2661		235	626		202	589	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.39		0.36	0.69		1.03	0.24		0.61	0.17	

Intersection Summary

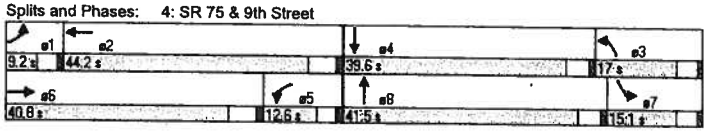
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 70 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 26.2 — Intersection LOS: C
Intersection Capacity Utilization 68.9% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: SR 75 & 9th Street



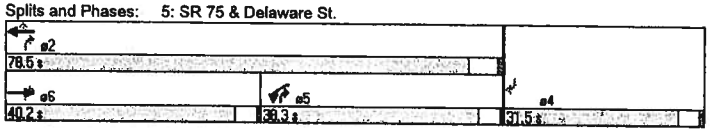
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	0		1	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50	50			50			50
Trailing Detector (ft)		0		0	0	0			0			0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						6			1091			46
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			383			214	
Travel Time (s)		8.9			11.6			8.7			4.9	
Volume (vph)	0	283	0	428	1465	7	0	0	663	0	0	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	308	0	465	1592	8	0	0	721	0	0	8
Turn Type				Prot		Perm			custom			custom
Protected Phases		6		5	2				5			
Permitted Phases						2			2 6			4
Detector Phases		6		5	2	2			5			4
Minimum Initial (s)		4.0		4.0	10.0	10.0			4.0			5.0
Minimum Split (s)		20.0		20.0	22.5	22.5			20.0			25.5
Total Split (s)	0.0	40.2	0.0	38.3	78.5	78.5	0.0	0.0	38.3	0.0	0.0	31.5
Total Split (%)	0.0%	36.5%	0.0%	34.8%	71.4%	71.4%	0.0%	0.0%	34.8%	0.0%	0.0%	28.6%
Yellow Time (s)		3.5		3.5	4.5	4.5			3.5			3.2
All-Red Time (s)		0.5		0.5	1.0	1.0			0.5			1.0
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Recall Mode		None		C-Max	C-Min	C-Min			C-Max			None
Act Effct Green (s)		14.4		82.7	104.4	104.4			104.4			8.2
Actuated g/C Ratio		0.13		0.75	0.95	0.95			0.95			0.07
v/c Ratio		0.66		0.18	0.47	0.01			0.46			0.05
Control Delay		45.4		1.2	1.5	0.0			7.8			0.6
Queue Delay		0.0		0.0	0.0	0.0			0.1			0.0
Total Delay		45.4		1.2	1.6	0.0			7.9			0.6
LOS		D		A	A	A			A			A
Approach Delay		45.4			1.5							

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D				A							
Queue Length 50th (ft)	113		15	0	0	0			187			0
Queue Length 95th (ft)	171		m28	m86		m0			468			0
Internal Link Dist (ft)	313				432			303			134	
Turn Bay Length (ft)				255		120						
Base Capacity (vph)	1165		2582	3358		1502			1584			437
Starvation Cap Reductn	0		0	108		0			201			0
Spillback Cap Reductn	0		0	186		0			0			2
Storage Cap Reductn	0		0	0		0			0			0
Reduced v/c Ratio	0.26		0.18	0.50		0.01			0.52			0.02

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:WBT and 5:WBL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 7.3 — Intersection LOS: A
Intersection Capacity Utilization 55.5% — ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 75 & Delaware St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50		50	50	
Trailing Detector (ft)	0	0	0		0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	3532	0	1770	1863	0	0	1729	0
Flt Permitted	0.950						0.950				0.995	
Satd. Flow (perm)	1770	3539	1583	0	3532	0	1770	1863	0	0	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			8		1						50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	8	267	7	0	1447	20	23	43	0	13	51	63
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	9	290	8	0	1595	0	25	47	0	0	137	0
Turn Type	Prot		Perm				Split			Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases			6									
Detector Phases	1	6	6		2		4	4		3	3	
Minimum Initial (s)	5.0	4.0	4.0		10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.2	20.0	20.0		25.5		25.5	25.5		42.6	42.6	
Total Split (s)	10.2	41.9	41.9	0.0	31.7	0.0	25.5	25.5	0.0	42.6	42.6	0.0
Total Split (%)	9.3%	38.1%	38.1%	0.0%	28.8%	0.0%	23.2%	23.2%	0.0%	38.7%	38.7%	0.0%
Yellow Time (s)	3.2	3.5	3.5		4.5		4.5	4.5		3.6	3.6	
All-Red Time (s)	1.0	0.5	0.5		1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes				
Recall Mode	None	C-Max	C-Max		C-Min		Min	Min		None	None	
Act Effct Green (s)	5.4	70.9	70.9		68.8		13.6	13.6			13.5	
Actuated g/C Ratio	0.05	0.64	0.64		0.63		0.12	0.12			0.12	
v/c Ratio	0.10	0.13	0.01		0.72		0.11	0.20			0.54	
Control Delay	41.2	6.7	4.0		14.1		16.2	17.8			35.3	
Queue Delay	0.0	0.0	0.0		0.2		0.0	0.0			0.0	
Total Delay	41.2	6.7	4.0		14.2		16.2	17.8			35.3	
LOS	D	A	A		B		B	B			D	
Approach Delay		7.6			14.2			17.2			35.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			B			D	
Queue Length 50th (ft)	6	26	0	347			11	21			59	
Queue Length 95th (ft)	m22	m48	m3	#814			m16	m29			109	
Internal Link Dist (ft)		114		313				118			234	
Turn Bay Length (ft)	150											
Base Capacity (vph)	100	2280	1023	2211			346	364			639	
Starvation Cap Reductn	0	0	0	106			0	0			0	
Spillback Cap Reductn	0	0	0	0			0	0			0	
Storage Cap Reductn	0	0	0	0			0	0			0	
Reduced v/c Ratio	0.09	0.13	0.01	0.76			0.07	0.13			0.21	

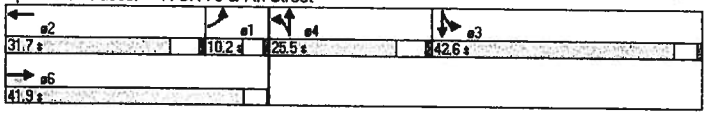
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.8 — Intersection LOS: B
Intersection Capacity Utilization 61.2% — ICU Level of Service B
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: SR 75 & 7th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3525	0	1770	3536	0	1770	1673	0	1770	1675	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3525	0	1770	3536	0	1770	1673	0	1770	1675	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			1			82			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			383			170			198	
Travel Time (s)		7.7			8.7			3.9			4.5	
Volume (vph)	22	548	17	47	472	3	79	52	110	5	15	30
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	24	614	0	51	516	0	86	177	0	5	49	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												
Detector Phases	1	6		5	2		4	4		3	3	
Minimum Initial (s)	4.0	10.0		10.0	4.0		4.0	4.0		10.0	10.0	
Minimum Split (s)	8.0	25.5		25.5	20.0		20.0	20.0		25.5	25.5	
Total Split (s)	10.0	35.0	0.0	26.5	51.5	0.0	22.0	22.0	0.0	26.5	26.5	0.0
Total Split (%)	9.1%	31.8%	0.0%	24.1%	46.8%	0.0%	20.0%	20.0%	0.0%	24.1%	24.1%	0.0%
Yellow Time (s)	3.5	4.5		4.5	3.5		3.5	3.5		4.5	4.5	
All-Red Time (s)	0.5	1.0		1.0	0.5		0.5	0.5		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.9	64.3		13.7	72.8		11.9	11.9		13.5	13.5	
Actuated g/C Ratio	0.05	0.58		0.12	0.66		0.11	0.11		0.12	0.12	
v/c Ratio	0.25	0.30		0.23	0.22		0.45	0.70		0.02	0.21	
Control Delay	56.8	17.0		49.1	3.1		52.1	39.3		27.0	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.6		0.0	0.1	
Total Delay	56.8	17.0		49.1	3.1		52.1	39.9		27.0	13.4	
LOS	E	B		D	A		D	D		C	B	
Approach Delay		18.5			7.3			43.9			14.6	

8: Palm Ave & 7th Street

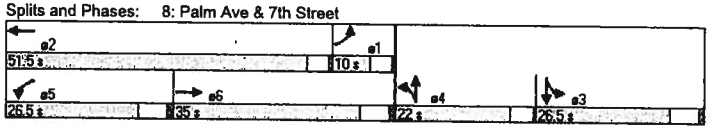
2008 Build Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			D			B	
Queue Length 50th (ft)	17	121		30	35		58	65		3	7	
Queue Length 95th (ft)	45	251		51	27		102	132		m3	m3	
Internal Link Dist (ft)		258			303			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	97	2061		362	2341		290	342		362	369	
Starvation Cap Reductn	0	0		0	0		0	0		0	75	
Spillback Cap Reductn	0	138		0	0		0	32		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.32		0.14	0.22		0.30	0.57		0.01	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 18.6 — Intersection LOS: B
Intersection Capacity Utilization 45.1% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



KOA Corporation
Katz, Okitsu & Associates

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1660	0	1770	1583	0	1770	3539	1863	1770	3429	0
Flt Permitted	0.950	0.959		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1660	0	1770	1583	0	1770	3539	1863	1770	3429	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			106						39	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	519	0	39	7	0	2	44	1532	0	2	223	59
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	318	288	0	8	2	0	48	1665	0	2	306	0
Turn Type	Split			Split			Prot		Perm	Prot		
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases									2			
Detector Phases	8	8		7	7		5	2	2	1	6	
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	36.6	36.6		9.6	9.6		9.2	29.5	29.5	9.2	31.5	
Total Split (s)	36.6	36.6	0.0	9.6	9.6	0.0	11.2	54.6	54.6	9.2	52.6	0.0
Total Split (%)	33.3%	33.3%	0.0%	8.7%	8.7%	0.0%	10.2%	49.6%	49.6%	8.4%	47.8%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	4.5	4.5	3.2	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	24.7	24.7		5.6	5.6		6.8	73.5		5.2	66.4	
Actuated g/C Ratio	0.22	0.22		0.05	0.05		0.06	0.67		0.05	0.60	
v/c Ratio	0.84	0.76		0.09	0.01		0.44	0.70		0.02	0.15	
Control Delay	59.9	51.2		52.1	0.0		42.4	5.2		50.5	10.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.9	51.2		52.1	0.0		42.4	5.2		50.5	10.6	
LOS	E	D		D	A		D	A		D	B	
Approach Delay		55.8			41.7			6.2			10.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			D			A			B	
Queue Length 50th (ft)	226	195		6	0		35	29		1	40	
Queue Length 95th (ft)	308	271		22	0		m46	#824		10	87	
Internal Link Dist (ft)		75			76			662			138	
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	498	498		90	181		116	2366		84	2086	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.64	0.58		0.09	0.01		0.41	0.70		0.02	0.15	

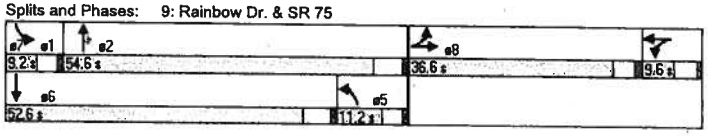
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 90 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 18.3 — Intersection LOS: B
Intersection Capacity Utilization 71.2% — ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Rainbow Dr. & SR 75



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	250		0	250		0
Storage Lanes	1		0	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4968	0	1770	5085	1583	1770	1863	1583	1770	1745	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4968	0	1770	5085	1583	1770	1863	1583	1770	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				118			237		28	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	33	1967	358	260	1420	179	113	60	218	170	70	51
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	36	2527	0	283	1543	195	123	65	237	185	131	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phases	1	6		5	2	2	3	8	8	7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.5	26.5		9.2	23.5	23.5	9.2	39.6	39.6	9.2	39.6	
Total Split (s)	10.9	55.4	0.0	20.0	64.5	64.5	14.0	39.6	39.6	15.0	40.6	0.0
Total Split (%)	8.4%	42.6%	0.0%	15.4%	49.6%	49.6%	10.8%	30.5%	30.5%	11.5%	31.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5	4.5	3.2	3.6	3.6	3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	6.2	70.8		16.0	84.2	84.2	9.9	16.2	16.2	11.0	17.3	
Actuated g/C Ratio	0.05	0.54		0.12	0.65	0.65	0.08	0.12	0.12	0.08	0.13	
v/c Ratio	0.42	0.93		1.30	0.47	0.18	0.91	0.28	0.59	1.23	0.51	
Control Delay	58.6	22.8		208.0	14.3	6.0	116.0	51.7	11.3	197.7	46.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.6	22.8		208.0	14.3	6.0	116.0	51.7	11.3	197.7	46.1	
LOS	E	C		F	B	A	F	D	B	F	D	
Approach Delay		23.3			40.6			47.8			134.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			D			D			F	
Queue Length 50th (ft)	30	520		~305	219	22	105	53	0	~193	85	
Queue Length 95th (ft)	m48	#1053		#485	410	83	#226	80	63	#347	122	
Internal Link Dist (ft)		1048			273			168			173	
Turn Bay Length (ft)	117			240		140	250			250		
Base Capacity (vph)	94	2720		218	3295	1067	136	510	606	150	511	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.38	0.93		1.30	0.47	0.18	0.90	0.13	0.39	1.23	0.26	

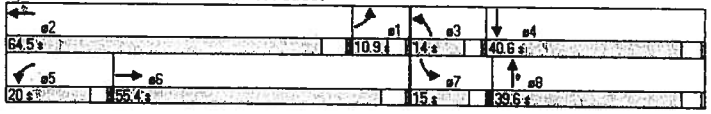
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 38.4 — Intersection LOS: D
Intersection Capacity Utilization 91.5% — ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 75 & 13th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	100		0	100		120
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4624	0	1770	5034	0	1770	1736	0	1770	1740	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4624	0	1770	5034	0	1770	1736	0	1770	1740	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			12			18			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	22	1835	38	75	1066	77	18	20	17	93	21	17
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	24	2036	0	82	1243	0	20	40	0	101	41	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.5	39.6		9.5	35.6	
Total Split (s)	10.0	65.4	0.0	12.0	67.4	0.0	9.7	39.6	0.0	13.0	42.9	0.0
Total Split (%)	7.7%	50.3%	0.0%	9.2%	51.8%	0.0%	7.5%	30.5%	0.0%	10.0%	33.0%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.6	88.6		8.0	94.7		6.7	11.6		9.6	14.4	
Actuated g/C Ratio	0.04	0.68		0.06	0.73		0.05	0.09		0.07	0.11	
v/c Ratio	0.32	0.65		0.75	0.34		0.22	0.23		0.77	0.20	
Control Delay	88.0	4.7		83.1	5.2		63.3	34.5		93.8	33.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	88.0	4.7		83.1	5.2		63.3	34.5		93.8	33.6	
LOS	F	A		F	A		E	C		F	C	
Approach Delay		5.6			10.0			44.1			76.4	

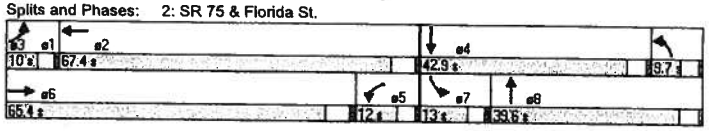
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			D			E	
Queue Length 50th (ft)	21	63		70	56		17	18		86	18	
Queue Length 95th (ft)	m33	m186		m#146	m110		43	45		#189	46	
Internal Link Dist (ft)		668			1048			224			161	
Turn Bay Length (ft)	125			275			100			100		
Base Capacity (vph)	82	3151		109	3669		96	488		131	533	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.29	0.65		0.75	0.34		0.21	0.08		0.77	0.08	

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 16 (12%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 10.7 — Intersection LOS: B
Intersection Capacity Utilization 62.3% — ICU Level of Service B
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	110		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4624	0	1770	4624	0	1770	1688	0	1770	1820	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4624	0	1770	4624	0	1770	1688	0	1770	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			3			37			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	20	1594	32	201	1017	21	20	20	34	90	20	4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	22	1768	0	218	1128	0	22	59	0	98	26	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.2	36.6		9.2	35.6	
Total Split (s)	9.2	59.2	0.0	25.0	75.0	0.0	9.2	36.6	0.0	9.2	36.6	0.0
Total Split (%)	7.1%	45.5%	0.0%	19.2%	57.7%	0.0%	7.1%	28.2%	0.0%	7.1%	28.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	Min		None	Min	
Act Effct Green (s)	17.0	78.3		19.9	84.9		5.2	10.6		5.2	14.3	
Actuated g/C Ratio	0.13	0.60		0.15	0.65		0.04	0.08		0.04	0.11	
v/c Ratio	0.10	0.64		0.80	0.37		0.31	0.34		1.38	0.13	
Control Delay	22.0	2.5		62.8	18.5		72.2	32.3		282.0	50.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.0	2.5		62.8	18.5		72.2	32.3		282.0	50.4	
LOS	C	A		E	B		E	C		F	D	
Approach Delay		2.8			25.7			43.1			233.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			C			D			F	
Queue Length 50th (ft)	13	76		184	302		18	18		~110	18	
Queue Length 95th (ft)	m13	m38		266	435		49	63		#229	48	
Internal Link Dist (ft)		295			668			213			215	
Turn Bay Length (ft)	125			110			100			100		
Base Capacity (vph)	231	2784		309	3066		71	451		71	459	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	17		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.64		0.71	0.37		0.31	0.13		1.38	0.06	

Intersection Summary

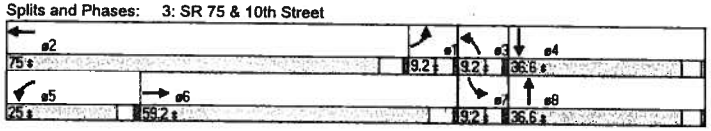
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 120 (92%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 21.5 — Intersection LOS: C
Intersection Capacity Utilization 64.3% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: SR 75 & 10th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4555	0	1770	4559	0	1770	1716	0	1770	1827	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4555	0	1770	4559	0	1770	1716	0	1770	1827	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			18			43			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	81	1514	203	187	731	94	90	93	104	167	107	16
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	88	1867	0	203	897	0	98	214	0	182	133	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	26.5		9.2	26.5		9.2	39.6		9.2	39.6	
Total Split (s)	17.0	55.0	0.0	18.4	56.4	0.0	14.6	39.6	0.0	17.0	42.0	0.0
Total Split (%)	13.1%	42.3%	0.0%	14.2%	43.4%	0.0%	11.2%	30.5%	0.0%	13.1%	32.3%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	13.0	67.6		14.4	69.0		15.4	19.0		13.0	16.7	
Actuated g/C Ratio	0.10	0.52		0.11	0.53		0.12	0.15		0.10	0.13	
v/c Ratio	0.50	0.79		1.04	0.37		0.47	0.74		1.03	0.56	
Control Delay	54.1	15.9		130.1	8.8		61.4	56.5		131.9	57.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.1	15.9		130.1	8.8		61.4	56.5		131.9	57.8	
LOS	D	B		F	A		E	E		F	E	
Approach Delay		17.6			31.2			58.0			100.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			E			F	
Queue Length 50th (ft)	77	236		~190	0		77	144		~164	106	
Queue Length 95th (ft)	132	#762		#352	357		141	195		#316	141	
Internal Link Dist (ft)		43			301			189			182	
Turn Bay Length (ft)	115			225			100			100		
Base Capacity (vph)	177	2377		196	2427		209	501		177	538	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.79		1.04	0.37		0.47	0.43		1.03	0.25	

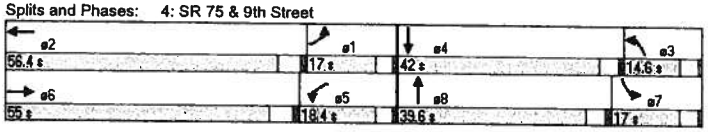
Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 112 (86%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 32.2 — Intersection LOS: C
Intersection Capacity Utilization 78.0% — ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 75 & 9th Street



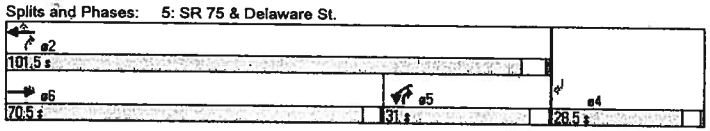
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	0		1	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50	50			50			50
Trailing Detector (ft)		0		0	0	0			0			0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						23			1091			552
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			383			214	
Travel Time (s)		8.9			11.6			8.7			4.9	
Volume (vph)	0	1329	0	409	366	21	0	0	518	0	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	1445	0	445	398	23	0	0	563	0	0	1
Turn Type				Prot		Perm			custom			custom
Protected Phases		6		5	2				5			
Permitted Phases						2			2 6			4
Detector Phases		6		5	2	2			5			4
Minimum Initial (s)		4.0		4.0	10.0	10.0			4.0			5.0
Minimum Split (s)		20.0		20.0	22.5	22.5			20.0			25.5
Total Split (s)	0.0	70.5	0.0	31.0	101.5	101.5	0.0	0.0	31.0	0.0	0.0	28.5
Total Split (%)	0.0%	54.2%	0.0%	23.8%	78.1%	78.1%	0.0%	0.0%	23.8%	0.0%	0.0%	21.9%
Yellow Time (s)		3.5		3.5	4.5	4.5			3.5			3.2
All-Red Time (s)		0.5		0.5	1.0	1.0			0.5			1.0
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Recall Mode		C-Max		None	Min	Min			None			None
Act Effct Green (s)		94.5		22.6	124.4	124.4			124.4			8.2
Actuated g/C Ratio		0.73		0.17	0.96	0.96			0.96			0.06
v/c Ratio		0.56		0.74	0.12	0.02			0.35			0.00
Control Delay		2.9		44.4	0.1	0.0			2.9			0.0
Queue Delay		0.0		0.0	0.0	0.0			0.0			0.0
Total Delay		2.9		44.4	0.1	0.0			3.0			0.0
LOS		A		D	A	A			A			A
Approach Delay		2.9			22.8							

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A				C							
Queue Length 50th (ft)	35	171		0	0				99			0
Queue Length 95th (ft)	74	261		2	m0				198			0
Internal Link Dist (ft)	313			432				303			134	
Turn Bay Length (ft)				255		120						
Base Capacity (vph)	2573			713	3385	1515			1586			752
Starvation Cap Reductn	0			0	0	0			110			0
Spillback Cap Reductn	0			0	0	0			0			0
Storage Cap Reductn	0			0	0	0			0			0
Reduced v/c Ratio	0.56			0.62	0.12	0.02			0.38			0.00

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 104 (80%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 8.9 — Intersection LOS: A
Intersection Capacity Utilization 75.5% — ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 75 & Delaware St.



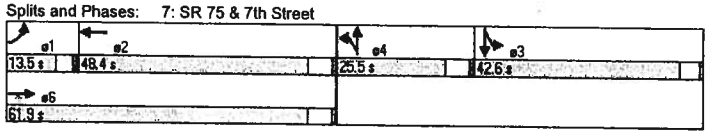
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50		50	50	
Trailing Detector (ft)	0	0	0		0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	3476	0	1770	1863	0	0	1781	0
Flt Permitted	0.950						0.950				0.988	
Satd. Flow (perm)	1770	3539	1583	0	3476	0	1770	1863	0	0	1781	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			47		12						12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	50	1279	58	0	325	44	25	47	0	22	49	22
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	54	1390	63	0	401	0	27	51	0	0	101	0
Turn Type	Prot		Perm				Split			Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases			6									
Detector Phases	1	6	6		2		4	4		3	3	
Minimum Initial (s)	5.0	10.0	10.0		10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.2	15.5	15.5		25.5		25.5	25.5		42.6	42.6	
Total Split (s)	13.5	61.9	61.9	0.0	48.4	0.0	25.5	25.5	0.0	42.6	42.6	0.0
Total Split (%)	10.4%	47.6%	47.6%	0.0%	37.2%	0.0%	19.6%	19.6%	0.0%	32.8%	32.8%	0.0%
Yellow Time (s)	3.2	4.5	4.5		4.5		4.5	4.5		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead				Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes				
Recall Mode	None	C-Min	C-Min		Min		Min	Min		None	None	
Act Effct Green (s)	7.4	90.0	90.0		80.4		14.2	14.2			13.9	
Actuated g/C Ratio	0.06	0.69	0.69		0.62		0.11	0.11			0.11	
v/c Ratio	0.53	0.57	0.06		0.19		0.14	0.25			0.50	
Control Delay	80.4	5.8	0.6		10.0		53.9	56.8			55.9	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.6			0.0	
Total Delay	80.4	5.8	0.6		10.0		53.9	57.4			55.9	
LOS	F	A	A		B		D	E			E	
Approach Delay		8.3			10.0			56.2			55.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	42	347	6		55		22	41			73	
Queue Length 95th (ft)	m54	96	m0		57		m44	m72			122	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)	150											
Base Capacity (vph)	129	2450	1110		2154		293	308			537	
Starvation Cap Reductn	0	0	0		0		0	108			0	
Spillback Cap Reductn	0	0	0		0		0	0			0	
Storage Cap Reductn	0	0	0		0		0	0			0	
Reduced v/c Ratio	0.42	0.57	0.06		0.19		0.09	0.26			0.19	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 110 (85%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 12.7 — Intersection LOS: B
Intersection Capacity Utilization 53.8% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: SR 75 & 7th Street



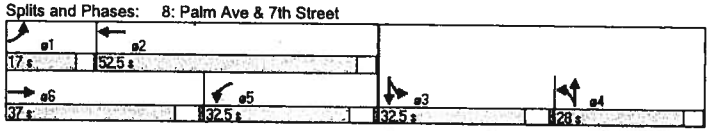
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3497	0	1770	3525	0	1770	1634	0	1770	1708	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3497	0	1770	3525	0	1770	1634	0	1770	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			125			44	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		319			383			170			198	
Travel Time (s)		7.3			8.7			3.9			4.5	
Volume (vph)	28	379	34	59	410	12	64	25	115	24	35	43
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	30	449	0	64	459	0	70	152	0	26	85	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												
Detector Phases	1	6		5	2		4	4		3	3	
Minimum Initial (s)	4.0	10.0		10.0	4.0		4.0	4.0		10.0	10.0	
Minimum Split (s)	8.0	25.5		25.5	20.0		20.0	20.0		25.5	25.5	
Total Split (s)	17.0	37.0	0.0	32.5	52.5	0.0	28.0	28.0	0.0	32.5	32.5	0.0
Total Split (%)	13.1%	28.5%	0.0%	25.0%	40.4%	0.0%	21.5%	21.5%	0.0%	25.0%	25.0%	0.0%
Yellow Time (s)	3.5	4.5		4.5	3.5		3.5	3.5		4.5	4.5	
All-Red Time (s)	0.5	1.0		1.0	0.5		0.5	0.5		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	None		None	None		None	None	
Act Effct Green (s)	7.6	80.8		15.2	89.2		10.3	10.3		13.9	13.9	
Actuated g/C Ratio	0.06	0.62		0.12	0.69		0.08	0.08		0.11	0.11	
v/c Ratio	0.29	0.21		0.31	0.19		0.50	0.62		0.14	0.38	
Control Delay	65.0	14.2		16.7	1.4		68.8	25.9		41.7	22.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.2	
Total Delay	65.0	14.2		16.7	1.4		68.8	25.9		41.7	22.5	
LOS	E	B		B	A		E	C		D	C	
Approach Delay		17.4			3.2			39.4			27.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			D			C	
Queue Length 50th (ft)	25	85		30	9		58	22		17	27	
Queue Length 95th (ft)	57	165		m61	17		105	90		m44	82	
Internal Link Dist (ft)		239			303			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	177	2175		388	2420		327	404		388	409	
Starvation Cap Reductn	0	0		0	0		0	0		0	85	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.21		0.16	0.19		0.21	0.38		0.07	0.26	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 16.3 — Intersection LOS: B
Intersection Capacity Utilization 49.8% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



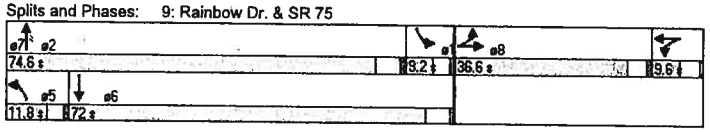
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1599	0	1770	1751	0	1770	3539	1863	1770	3433	0
Flt Permitted	0.950	0.977		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1599	0	1770	1751	0	1770	3539	1863	1770	3433	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			2						35	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	115	2	38	10	3	2	90	257	0	3	1377	341
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	86	82	0	11	5	0	98	279	0	3	1868	0
Turn Type	Split			Split			Prot		Perm	Prot		
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases									2			
Detector Phases	8	8		7	7		5	2	2	1	6	
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	36.6	36.6		9.6	9.6		9.2	29.5	29.5	9.2	31.5	
Total Split (s)	36.6	36.6	0.0	9.6	9.6	0.0	11.8	74.6	74.6	9.2	72.0	0.0
Total Split (%)	28.2%	28.2%	0.0%	7.4%	7.4%	0.0%	9.1%	57.4%	57.4%	7.1%	55.4%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	4.5	4.5	3.2	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	14.5	14.5		5.6	5.6		7.8	101.8		5.2	91.9	
Actuated g/C Ratio	0.11	0.11		0.04	0.04		0.06	0.78		0.04	0.71	
v/c Ratio	0.46	0.39		0.14	0.06		0.92	0.10		0.04	0.77	
Control Delay	59.2	33.7		64.3	51.6		116.8	7.0		61.3	17.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.2	33.7		64.3	51.6		116.8	7.0		61.3	17.5	
LOS	E	C		E	D		F	A		E	B	
Approach Delay		46.8			60.3			35.6			17.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			E			D			B	
Queue Length 50th (ft)	74	37		9	3		73	5		3	365	
Queue Length 95th (ft)	109	76		30	17		#189	142		13	#1019	
Internal Link Dist (ft)		75			76			662			138	
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	422	429		76	77		106	2772		71	2436	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.19		0.14	0.06		0.92	0.10		0.04	0.77	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 8 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 22.6 — Intersection LOS: C
Intersection Capacity Utilization 75.0% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Rainbow Dr. & SR 75



APPENDIX E

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS 2030 CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5034	0	1770	5065	0	0	1781	1583	0	3384	0
Flt Permitted	0.950			0.950				0.956			0.963	
Satd. Flow (perm)	1770	5034	0	1770	5065	0	0	1781	1583	0	3384	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3				137		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	19	1207	87	110	1823	55	185	16	126	160	37	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	21	1407	0	120	2042	0	0	218	137	0	224	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases									3			
Detector Phases	1	6		5	2		3	3	3	4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.5	26.5		9.2	23.5		39.6	39.6	39.6	39.6	39.6	
Total Split (s)	20.0	80.0	0.0	20.0	80.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0
Total Split (%)	11.1%	44.4%	0.0%	11.1%	44.4%	0.0%	22.2%	22.2%	22.2%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	6.3	103.2		16.0	116.6			25.7	25.7		19.1	
Actuated g/C Ratio	0.04	0.57		0.09	0.65			0.14	0.14		0.11	
v/c Ratio	0.34	0.49		0.76	0.62			0.86	0.40		0.92dl	
Control Delay	114.5	17.8		108.7	23.2			103.7	11.9		82.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	114.5	17.8		108.7	23.2			103.7	11.9		82.7	
LOS	F	B		F	C			F	B		F	
Approach Delay		19.2			27.9			68.3			82.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			E			F	
Queue Length 50th (ft)	25	193		141	496			256	0		137	
Queue Length 95th (ft)	m61	289		#250	842			338	64		165	
Internal Link Dist (ft)		1048			273			168			173	
Turn Bay Length (ft)	117			240								
Base Capacity (vph)	157	2889		157	3282			356	426		678	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.13	0.49		0.76	0.62			0.61	0.32		0.33	

Intersection Summary

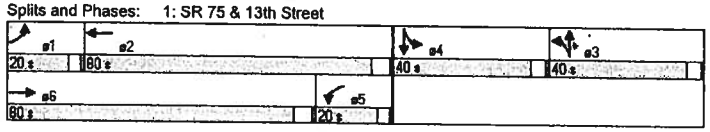
Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 154 (86%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 31.3 — Intersection LOS: C
Intersection Capacity Utilization 68.4% — ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 1: SR 75 & 13th Street



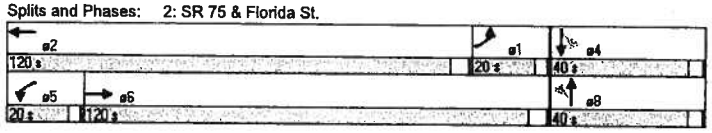
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	0		0	0		120
Storage Lanes	1		0	1		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5060	0	1770	5075	0	0	1745	0	1770	1729	0
Flt Permitted	0.950			0.950				0.892		0.666		
Satd. Flow (perm)	1770	5060	0	1770	5075	0	0	1587	0	1241	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			2			12			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	13	1143	38	27	1905	29	27	19	23	78	13	12
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	14	1283	0	29	2103	0	0	75	0	85	27	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	1	6		5	2			8			4	
Permitted Phases							8			4		
Detector Phases	1	6		5	2		8	8		4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		10.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		39.6	39.6		35.6	35.6	
Total Split (s)	20.0	120.0	0.0	20.0	120.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	11.1%	66.7%	0.0%	11.1%	66.7%	0.0%	22.2%	22.2%	0.0%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	11.7	140.6		6.9	137.6			22.4		22.4	22.4	
Actuated g/C Ratio	0.06	0.78		0.04	0.76			0.12		0.12	0.12	
v/c Ratio	0.12	0.32		0.43	0.54			0.36		0.55	0.12	
Control Delay	79.2	4.6		111.9	5.6			62.0		84.7	39.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	79.2	4.6		111.9	5.6			62.0		84.7	39.8	
LOS	E	A		F	A			E		F	D	
Approach Delay		5.4			7.1			62.0			73.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			E			E	
Queue Length 50th (ft)	17	89		35	114			72		100	15	
Queue Length 95th (ft)	m43	108		m55	230			117		149	45	
Internal Link Dist (ft)		668			1048			224			161	
Turn Bay Length (ft)	125			275								
Base Capacity (vph)	157	3953		157	3881			327		248	356	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.09	0.32		0.18	0.54			0.23		0.34	0.08	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 9.7 — Intersection LOS: A
Intersection Capacity Utilization 54.7% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



3: SR 75 & 10th Street

2030 No Build Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		0	1		0	0		1	0		1
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	5080	0	1770	5070	0	0	0	1611	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	5080	0	1770	5070	0	0	0	1611	0	0	1611
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	0	1035	9	128	1181	26	0	0	42	0	0	19
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	1135	0	139	1312	0	0	0	46	0	0	21
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

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

4: SR 75 & 9th Street

2030 No Build Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5055	0	1770	5065	0	0	3316	0	0	3351	0
Flt Permitted	0.950			0.950				0.970			0.973	
Satd. Flow (perm)	1770	5055	0	1770	5065	0	0	3316	0	0	3351	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			2			19			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	43	873	37	46	1643	43	223	56	81	114	54	38
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	47	989	0	50	1833	0	0	391	0	0	224	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	3		4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.2	26.5		9.2	26.5		39.6	39.6		39.6	39.6	
Total Split (s)	25.0	80.0	0.0	20.0	75.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	13.9%	44.4%	0.0%	11.1%	41.7%	0.0%	22.2%	22.2%	0.0%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	8.1	107.3		13.8	113.0			26.7			18.1	
Actuated g/C Ratio	0.04	0.60		0.08	0.63			0.15			0.10	
v/c Ratio	0.59	0.33		0.37	0.58			0.87dl			0.64	
Control Delay	116.6	18.8		79.8	22.9			79.9			80.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	116.6	18.8		79.8	22.9			79.9			80.6	
LOS	F	B		E	C			E			F	
Approach Delay		23.2			24.4			79.9			80.6	

4: SR 75 & 9th Street

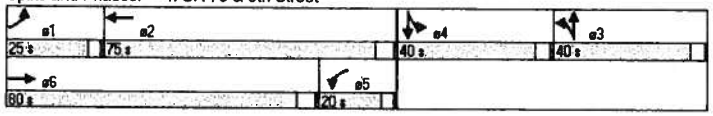
2030 No Build Conditions
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			E			F	
Queue Length 50th (ft)	57	163		54	252			231			131	
Queue Length 95th (ft)	102	347		99	721			273			160	
Internal Link Dist (ft)		43			301			189			182	
Turn Bay Length (ft)	115			225								
Base Capacity (vph)	207	3014		157	3181			678			681	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.23	0.33		0.32	0.58			0.58			0.33	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 147 (82%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 33.8 — Intersection LOS: C
Intersection Capacity Utilization 68.9% — ICU Level of Service C
Analysis Period (min) 15
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: SR 75 & 9th Street



5: SR 75 & Delaware St.

2030 No Build Conditions
AM Peak Hour

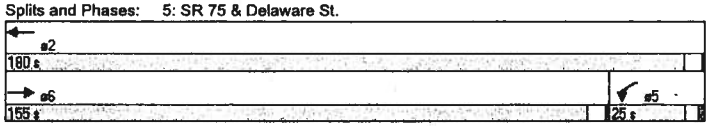
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50							50
Trailing Detector (ft)		0		0	0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	5085	0	3433	3536	0	0	0	0	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	5085	0	3433	3536	0	0	0	0	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												134
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			193			214	
Travel Time (s)		8.9			11.6			4.4			4.9	
Volume (vph)	0	283	0	428	1465	7	0	0	0	0	0	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	308	0	465	1600	0	0	0	0	0	0	8
Turn Type				Prot								Free
Protected Phases		6		5	2							
Permitted Phases												Free
Detector Phases		6		5	2							
Minimum Initial (s)		15.0		5.0	10.0							
Minimum Split (s)		20.5		10.2	15.5							
Total Split (s)	0.0	155.0	0.0	25.0	180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	0.0%	86.1%	0.0%	13.9%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)		4.5		3.2	4.5							
All-Red Time (s)		1.0		2.0	1.0							
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?												
Recall Mode		C-Max		None	C-Max							
Act Effct Green (s)		151.0		21.0	180.0							180.0
Actuated g/C Ratio		0.84		0.12	1.00							1.00
v/c Ratio		0.07		1.16	0.45							0.00
Control Delay		1.3		146.2	1.1							0.0
Queue Delay		0.0		0.0	0.1							0.0
Total Delay		1.3		146.2	1.1							0.0
LOS		A		F	A							A
Approach Delay		1.3			33.8							

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			C							
Queue Length 50th (ft)		7		~331	17							0
Queue Length 95th (ft)		9		#453	12							0
Internal Link Dist (ft)		313			432			113			134	
Turn Bay Length (ft)				255								
Base Capacity (vph)		4266		401	3536							1611
Starvation Cap Reductn		0		0	0							0
Spillback Cap Reductn		0		0	442							201
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.07		1.16	0.52							0.01

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 29.5 Intersection LOS: C
Intersection Capacity Utilization 44.1% ICU Level of Service A
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: SR 75 & Delaware St.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	1861	0	0	0	1717	0
Flt Permitted					0.969	
Satd. Flow (perm)	1861	0	0	0	1717	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	209			176	179	
Travel Time (s)	4.8			4.0	4.1	
Volume (vph)	650	4	0	0	24	14
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	711	0	0	0	41	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 44.5% ICU Level of Service A
Analysis Period (min) 15

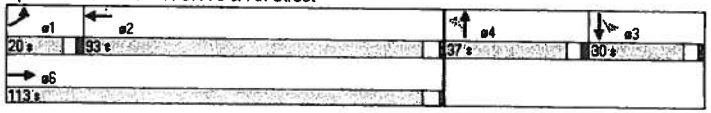
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5065	0	0	5075	0	1770	1863	0	0	1713	0
Flt Permitted	0.950						0.132				0.967	
Satd. Flow (perm)	1770	5065	0	0	5075	0	246	1863	0	0	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			2						29	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	8	267	7	0	1447	20	23	43	0	13	38	63
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	9	298	0	0	1595	0	25	47	0	0	123	0
Turn Type	Prot						Perm			Perm		
Protected Phases	1	6			2			4			3	
Permitted Phases							4			3		
Detector Phases	1	6			2		4	4		3	3	
Minimum Initial (s)	5.0	15.0			10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.2	22.5			22.5		36.6	36.6		15.6	15.6	
Total Split (s)	20.0	113.0	0.0	0.0	93.0	0.0	37.0	37.0	0.0	30.0	30.0	0.0
Total Split (%)	11.1%	62.8%	0.0%	0.0%	51.7%	0.0%	20.6%	20.6%	0.0%	16.7%	16.7%	0.0%
Yellow Time (s)	3.2	4.5			4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	2.0	1.0			1.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead				Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	C-Max			C-Max		None	None		None	None	
Act Effct Green (s)	6.4	129.5			125.2		24.3	24.3			17.3	
Actuated g/C Ratio	0.04	0.72			0.70		0.14	0.14			0.10	
v/c Ratio	0.14	0.08			0.45		0.76	0.19			0.66	
Control Delay	89.0	9.5			18.5		136.1	44.0			75.9	
Queue Delay	0.0	0.0			0.2		0.0	1.3			0.0	
Total Delay	89.0	9.5			18.7		136.1	45.3			75.9	
LOS	F	A			B		F	D			E	
Approach Delay		11.8			18.7			76.9			75.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	11	39			285		29	29			109	
Queue Length 95th (ft)	33	65			433		#83	49			182	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)												
Base Capacity (vph)	157	3646			3532		45	342			265	
Starvation Cap Reductn	0	0			953		0	191			0	
Spillback Cap Reductn	0	0			0		0	0			0	
Storage Cap Reductn	0	0			0		0	0			0	
Reduced v/c Ratio	0.06	0.08			0.62		0.56	0.31			0.46	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 23.1 — Intersection LOS: C
Intersection Capacity Utilization 48.3% — ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: SR 75 & 7th Street



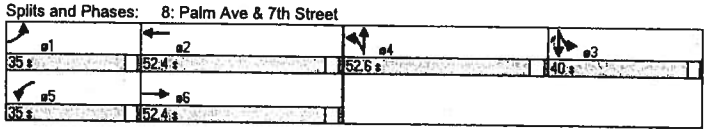
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3525	0	1770	3536	0	0	1721	0	0	1840	1583
Flt Permitted	0.950			0.950				0.987			0.988	
Satd. Flow (perm)	1770	3525	0	1770	3536	0	0	1721	0	0	1840	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						24				33
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	22	548	17	47	472	3	55	52	96	5	15	30
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	24	614	0	51	516	0	0	221	0	0	21	33
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Detector Phases	1	6		5	2		4	4		3	3	3
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	9.0	15.0		9.0	24.6		26.6	26.6		14.0	14.0	14.0
Total Split (s)	35.0	52.4	0.0	35.0	52.4	0.0	52.6	52.6	0.0	40.0	40.0	40.0
Total Split (%)	19.4%	29.1%	0.0%	19.4%	29.1%	0.0%	29.2%	29.2%	0.0%	22.2%	22.2%	22.2%
Yellow Time (s)	3.0	3.6		3.0	3.6		3.6	3.6		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min		None	C-Min		Max	Max		Max	Max	Max
Act Effct Green (s)	6.1	59.5		8.4	63.5			62.0			36.0	36.0
Actuated g/C Ratio	0.03	0.33		0.05	0.35			0.34			0.20	0.20
v/c Ratio	0.40	0.53		0.62	0.41			0.36			0.06	0.10
Control Delay	103.3	50.7		114.0	45.4			42.4			30.1	7.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	2.3
Total Delay	103.3	50.7		114.0	45.4			42.4			30.1	10.2
LOS	F	D		F	D			D			C	B
Approach Delay		52.7			51.6			42.4			18.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			D			D			B	
Queue Length 50th (ft)	28	315		60	251			174			23	10
Queue Length 95th (ft)	64	368		112	295			273			m31	m31
Internal Link Dist (ft)		236			86			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	305	1166		305	1247			608			368	343
Starvation Cap Reductn	0	0		0	0			0			0	240
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.08	0.53		0.17	0.41			0.36			0.06	0.32

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 158 (88%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 49.4 — Intersection LOS: D
Intersection Capacity Utilization 48.2% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3539	0	1770	3429	0
Flt Permitted	0.757			0.250			0.950			0.950		
Satd. Flow (perm)	1410	1583	0	466	1583	0	1770	3539	0	1770	3429	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		704			211						29	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	495	0	39	7	0	2	44	1532	0	2	223	59
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	538	42	0	8	2	0	48	1665	0	2	306	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			7		5	2		1	6	
Permitted Phases	8			7								
Detector Phases	8	8		7	7		5	2		1	6	
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.6	36.6		9.6	9.6		9.2	29.5		9.2	31.5	
Total Split (s)	37.0	37.0	0.0	20.0	20.0	0.0	20.0	50.0	0.0	20.0	50.0	0.0
Total Split (%)	29.1%	29.1%	0.0%	15.7%	15.7%	0.0%	15.7%	39.4%	0.0%	15.7%	39.4%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	4.5		3.2	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	33.4	33.4		7.6	7.6		6.8	51.7		5.2	46.6	
Actuated g/C Ratio	0.34	0.34		0.07	0.07		0.07	0.53		0.05	0.48	
v/c Ratio	1.11	0.04		0.24	0.01		0.40	0.89		0.02	0.18	
Control Delay	108.1	0.1		65.7	0.0		56.9	28.5		52.0	15.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	108.1	0.1		65.7	0.0		56.9	28.5		52.0	15.2	
LOS	F	A		E	A		E	C		D	B	
Approach Delay		100.3			52.6			29.3			15.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			D			C			B	
Queue Length 50th (ft)	~388	0		5	0		29	402		1	50	
Queue Length 95th (ft)	#748	0		23	0		74	#880		10	104	
Internal Link Dist (ft)		75			76			662			138	
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	484	1005		66	404		258	1879		246	1655	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.11	0.04		0.12	0.00		0.19	0.89		0.01	0.18	

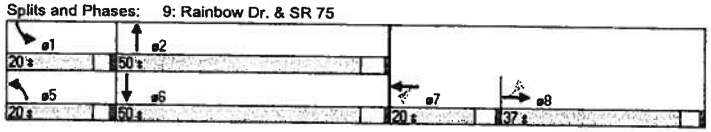
Intersection Summary

Area Type: Other
Cycle Length: 127
Actuated Cycle Length: 97.4
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 43.5 — Intersection LOS: D
Intersection Capacity Utilization 83.1% — ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Rainbow Dr. & SR 75



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4979	0	1770	5009	0	0	1803	1583	0	3351	0
Flt Permitted	0.950			0.950				0.968			0.972	
Satd. Flow (perm)	1770	4979	0	1770	5009	0	0	1803	1583	0	3351	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			13				224		13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	34	2315	372	270	1679	186	118	62	227	177	73	53
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	37	2920	0	293	2027	0	0	195	247	0	329	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases									3			
Detector Phases	1	6		5	2		3	3	3	4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.5	26.5		9.2	23.5		39.6	39.6	39.6	39.6	39.6	
Total Split (s)	20.0	80.0	0.0	20.0	80.0	0.0	40.0	40.0	40.0	40.0	40.0	0.0
Total Split (%)	11.1%	44.4%	0.0%	11.1%	44.4%	0.0%	22.2%	22.2%	22.2%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	7.6	101.3		16.0	111.5			23.7	23.7		23.0	
Actuated g/C Ratio	0.04	0.56		0.09	0.62			0.13	0.13		0.13	
v/c Ratio	0.49	1.04		1.87	0.65			0.82	0.61		0.75	
Control Delay	108.6	58.0		451.6	26.2			101.2	17.2		82.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	108.6	58.0		451.6	26.2			101.2	17.2		82.8	
LOS	F	E		F	C			F	B		F	
Approach Delay		58.6			79.9			54.3			82.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			E			D			F	
Queue Length 50th (ft)	45	~560		~524	526			230	25		195	
Queue Length 95th (ft)	m73	#1702		#730	857			303	113		232	
Internal Link Dist (ft)		1048			273			168			173	
Turn Bay Length (ft)	117			240								
Base Capacity (vph)	157	2811		157	3108			361	496		681	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.24	1.04		1.87	0.65			0.54	0.50		0.48	

Intersection Summary

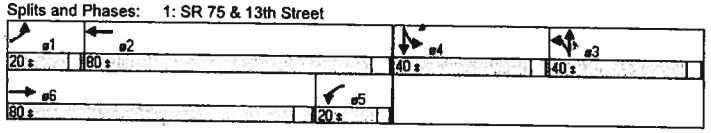
Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 154 (86%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.87
Intersection Signal Delay: 67.8 — Intersection LOS: E
Intersection Capacity Utilization 100.9% — ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 75 & 13th Street



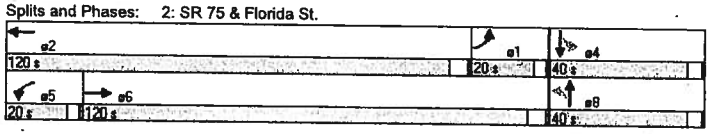
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	0		0	0		120
Storage Lanes	1		0	1		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5070	0	1770	5034	0	0	1763	0	1770	1751	0
Flt Permitted	0.950			0.950				0.912		0.653		
Satd. Flow (perm)	1770	5070	0	1770	5034	0	0	1633	0	1216	1751	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			12			10			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	26	2162	44	87	1269	89	21	29	20	108	30	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	28	2398	0	95	1476	0	0	77	0	117	55	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	1	6		5	2			8			4	
Permitted Phases							8			4		
Detector Phases	1	6		5	2		8	8		4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		10.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		39.6	39.6		35.6	35.6	
Total Split (s)	20.0	120.0	0.0	20.0	120.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	11.1%	66.7%	0.0%	11.1%	66.7%	0.0%	22.2%	22.2%	0.0%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	13.8	130.7		12.6	131.4			24.6		24.6	24.6	
Actuated g/C Ratio	0.08	0.73		0.07	0.73			0.14		0.14	0.14	
v/c Ratio	0.21	0.65		0.77	0.40			0.33		0.70	0.22	
Control Delay	70.4	7.1		124.8	7.0			61.9		94.3	47.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	70.4	7.1		124.8	7.0			61.9		94.3	47.3	
LOS	E	A		F	A			E		F	D	
Approach Delay		7.8			14.1			61.9			79.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	34	331		115	84			74		137	41	
Queue Length 95th (ft)	m50	199		m175	183			123		199	83	
Internal Link Dist (ft)		668			1048			224			161	
Turn Bay Length (ft)	125			275								
Base Capacity (vph)	157	3683		157	3677			335		243	364	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.18	0.65		0.61	0.40			0.23		0.48	0.15	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 70.2% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



3: SR 75 & 10th Street

2030 No Build Conditions
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		0	1		0	0		1	0		1
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	5070	0	1770	5070	0	0	0	1611	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	5070	0	1770	5070	0	0	0	1611	0	0	1611
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	0	1882	32	201	1212	21	0	0	34	0	0	4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	2081	0	218	1340	0	0	0	37	0	0	4
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15

4: SR 75 & 9th Street

2030 No Build Conditions
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5004	0	1770	5009	0	0	3298	0	0	3413	0
Flt Permitted	0.950			0.950				0.985			0.972	
Satd. Flow (perm)	1770	5004	0	1770	5009	0	0	3298	0	0	3413	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			13			54			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	85	1789	213	196	880	99	95	98	109	175	112	17
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	92	2177	0	213	1065	0	0	328	0	0	330	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	3		4	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.2	26.5		9.2	26.5		39.6	39.6		39.6	39.6	
Total Split (s)	25.0	80.0	0.0	20.0	75.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	13.9%	44.4%	0.0%	11.1%	41.7%	0.0%	22.2%	22.2%	0.0%	22.2%	22.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	12.7	101.8		16.0	105.1			23.7			22.5	
Actuated g/C Ratio	0.07	0.57		0.09	0.58			0.13			0.12	
v/c Ratio	0.74	0.77		1.36	0.36			0.68			0.85dl	
Control Delay	120.5	25.9		245.4	23.6			68.1			87.2	
Queue Delay	0.0	0.2		0.0	0.0			0.0			0.0	
Total Delay	120.5	26.1		245.4	23.6			68.1			87.2	
LOS	F	C		F	C			E			F	
Approach Delay		29.9			60.6			68.1			87.2	

4: SR 75 & 9th Street

2030 No Build Conditions
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			E			E			F	
Queue Length 50th (ft)	104	639		~325	120			171			203	
Queue Length 95th (ft)	160	#1069		#510	436			207			239	
Internal Link Dist (ft)		43			301			189			182	
Turn Bay Length (ft)	115			225								
Base Capacity (vph)	207	2837		157	2930			703			685	
Starvation Cap Reductn	0	132		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.44	0.80		1.36	0.36			0.47			0.48	

Intersection Summary

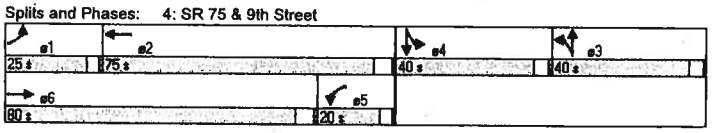
Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 147 (82%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.36
Intersection Signal Delay: 46.7 — Intersection LOS: D
Intersection Capacity Utilization 82.2% — ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: SR 75 & 9th Street



5: SR 75 & Delaware St.

2030 No Build Conditions
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↰↰↑	↑↑↱							↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50							50
Trailing Detector (ft)		0		0	0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	5085	0	3433	3514	0	0	0	0	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	5085	0	3433	3514	0	0	0	0	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												604
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			193			214	
Travel Time (s)		8.9			11.6			4.4			4.9	
Volume (vph)	0	1542	0	441	425	21	0	0	0	0	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	1676	0	479	485	0	0	0	0	0	0	1
Turn Type				Prot								Free
Protected Phases		6		5	2							
Permitted Phases												Free
Detector Phases		6		5	2							
Minimum Initial (s)		15.0		5.0	10.0							
Minimum Split (s)		20.5		10.2	15.5							
Total Split (s)	0.0	155.0	0.0	25.0	180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Split (%)	0.0%	86.1%	0.0%	13.9%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)		4.5		3.2	4.5							
All-Red Time (s)		1.0		2.0	1.0							
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?												
Recall Mode		C-Max		None	C-Max							
Act Effct Green (s)		151.0		21.0	180.0							180.0
Actuated g/C Ratio		0.84		0.12	1.00							1.00
v/c Ratio		0.39		1.19	0.14							0.00
Control Delay		1.6		158.5	0.1							0.0
Queue Delay		0.0		0.0	0.0							0.0
Total Delay		1.6		158.5	0.1							0.0
LOS		A		F	A							A
Approach Delay		1.6			78.8							

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SNBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			E							
Queue Length 50th (ft)		39	~346		0							0
Queue Length 95th (ft)		41	#470		0							0
Internal Link Dist (ft)		313			432			113			134	
Turn Bay Length (ft)			255									
Base Capacity (vph)		4266	401		3514							1611
Starvation Cap Reductn		576	0		0							0
Spillback Cap Reductn		291	0		0							0
Storage Cap Reductn		0	0		0							0
Reduced v/c Ratio		0.45	1.19		0.14							0.00

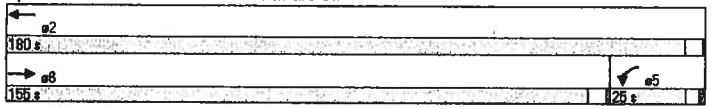
Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 29.8 — Intersection LOS: C
Intersection Capacity Utilization 49.0% — ICU Level of Service A
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: SR 75 & Delaware St.



Lane Group	EBL	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Turning Speed (mph)		9	15		15	9
Satd. Flow (prot)	1837	0	0	0	1660	0
Flt Permitted					0.986	
Satd. Flow (perm)	1837	0	0	0	1660	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	209			176	179	
Travel Time (s)	4.8			4.0	4.1	
Volume (vph)	468	54	0	0	29	73
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	568	0	0	0	111	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 40.7% — ICU Level of Service A
Analysis Period (min) 15

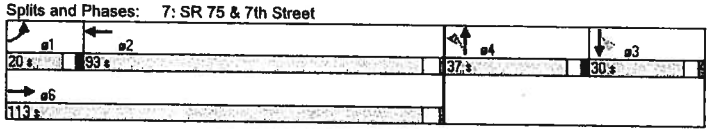
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5055	0	0	4994	0	1770	1863	0	0	1769	0
Flt Permitted	0.950						0.279				0.900	
Satd. Flow (perm)	1770	5055	0	0	4994	0	520	1863	0	0	1614	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			19						9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	58	1484	67	0	377	51	29	72	0	26	41	26
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	63	1686	0	0	465	0	32	78	0	0	101	0
Turn Type	Prot						Perm			Perm		
Protected Phases	1	6			2			4			3	
Permitted Phases							4			3		
Detector Phases	1	6			2		4	4		3	3	
Minimum Initial (s)	5.0	15.0			10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.2	22.5			22.5		36.6	36.6		15.6	15.6	
Total Split (s)	20.0	113.0	0.0	0.0	93.0	0.0	37.0	37.0	0.0	30.0	30.0	0.0
Total Split (%)	11.1%	62.8%	0.0%	0.0%	51.7%	0.0%	20.6%	20.6%	0.0%	16.7%	16.7%	0.0%
Yellow Time (s)	3.2	4.5			4.5		3.6	3.6		3.6	3.6	
All-Red Time (s)	2.0	1.0			1.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead				Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	C-Max			C-Max		None	None		None	None	
Act Effct Green (s)	10.9	131.5			116.5		19.4	19.4			17.1	
Actuated g/C Ratio	0.06	0.73			0.65		0.11	0.11			0.10	
v/c Ratio	0.58	0.46			0.14		0.57	0.39			0.62	
Control Delay	102.7	11.5			14.9		95.1	64.0			87.2	
Queue Delay	0.0	0.0			0.0		0.2	1.1			0.7	
Total Delay	102.7	11.5			14.9		95.3	65.1			87.8	
LOS	F	B			B		F	E			F	
Approach Delay		14.8			14.9			73.9			87.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			E			F	
Queue Length 50th (ft)	74	258			89		39	91			107	
Queue Length 95th (ft)	128	434			57		m78	116			173	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)												
Base Capacity (vph)	157	3694			3240		95	342			241	
Starvation Cap Reductn	0	0			0		3	137			0	
Spillback Cap Reductn	0	0			0		0	0			28	
Storage Cap Reductn	0	0			0		0	0			0	
Reduced v/c Ratio	0.40	0.46			0.14		0.35	0.38			0.47	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 20.5 — Intersection LOS: C
Intersection Capacity Utilization 48.7% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: SR 75 & 7th Street



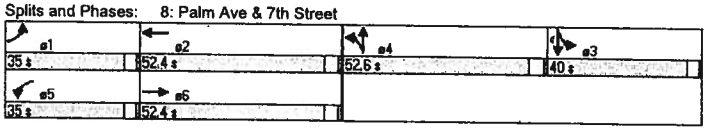
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3497	0	1770	3525	0	0	1738	0	0	1833	1583
Flt Permitted	0.950			0.950				0.984			0.984	
Satd. Flow (perm)	1770	3497	0	1770	3525	0	0	1738	0	0	1833	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			1			17				53
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	32	465	39	67	499	14	40	38	48	27	54	49
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	35	547	0	73	557	0	0	136	0	0	88	53
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Detector Phases	1	6		5	2		4	4		3	3	3
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	9.0	15.0		9.0	24.6		26.6	26.6		14.0	14.0	14.0
Total Split (s)	35.0	52.4	0.0	35.0	52.4	0.0	52.6	52.6	0.0	40.0	40.0	40.0
Total Split (%)	19.4%	29.1%	0.0%	19.4%	29.1%	0.0%	29.2%	29.2%	0.0%	22.2%	22.2%	22.2%
Yellow Time (s)	3.0	3.6		3.0	3.6		3.6	3.6		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min		None	C-Min		Max	Max		Max	Max	Max
Act Effct Green (s)	7.0	52.7		10.4	57.9			65.0			36.0	36.0
Actuated g/C Ratio	0.04	0.29		0.06	0.32			0.36			0.20	0.20
v/c Ratio	0.51	0.53		0.72	0.49			0.21			0.24	0.15
Control Delay	109.0	54.8		117.8	50.8			37.0			50.6	10.1
Queue Delay	0.0	0.0		0.0	0.1			0.0			19.3	2.5
Total Delay	109.0	54.8		117.8	51.0			37.0			69.9	12.6
LOS	F	D		F	D			D			E	B
Approach Delay		58.1			58.7			37.0			48.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	41	284		87	284			97			88	8
Queue Length 95th (ft)	84	342		145	335			166			136	m28
Internal Link Dist (ft)		236			86			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	305	1027		305	1134			638			367	359
Starvation Cap Reductn	0	0		0	0			0			261	228
Spillback Cap Reductn	0	0		0	76			12			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.11	0.53		0.24	0.53			0.22			0.83	0.40

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 158 (88%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 55.5 — Intersection LOS: E
Intersection Capacity Utilization 42.2% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1600	0	1770	1770	0	1770	3539	0	1770	3433	0
Flt Permitted	0.754			0.250			0.950			0.950		
Satd. Flow (perm)	1405	1600	0	466	1770	0	1770	3539	0	1770	3433	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			2						27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	104	3	44	12	4	2	104	298	0	3	1597	396
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	113	51	0	13	6	0	113	324	0	3	2166	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			7		5	2		1	6	
Permitted Phases	8			7								
Detector Phases	8	8		7	7		5	2		1	6	
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.6	36.6		9.6	9.6		9.2	29.5		9.2	31.5	
Total Split (s)	37.0	37.0	0.0	20.0	20.0	0.0	20.0	50.0	0.0	20.0	50.0	0.0
Total Split (%)	29.1%	29.1%	0.0%	15.7%	15.7%	0.0%	15.7%	39.4%	0.0%	15.7%	39.4%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	4.5		3.2	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	14.2	14.2		8.5	8.5		9.6	67.6		5.3	57.2	
Actuated g/C Ratio	0.15	0.15		0.08	0.08		0.10	0.72		0.05	0.61	
v/c Ratio	0.55	0.18		0.33	0.04		0.64	0.13		0.03	1.03	
Control Delay	45.7	13.0		67.9	39.3		58.0	8.9		54.0	52.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.7	13.0		67.9	39.3		58.0	8.9		54.0	52.2	
LOS	D	B		E	D		E	A		D	D	
Approach Delay		35.5			58.9			21.6			52.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			E			C			D	
Queue Length 50th (ft)	52	1		6	2		53	17		1	~617	
Queue Length 95th (ft)	130	35		33	17		150	113		13	#1503	
Internal Link Dist (ft)		75			76			662			138	
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	412	503		70	269		284	2548		257	2103	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.10		0.19	0.02		0.40	0.13		0.01	1.03	

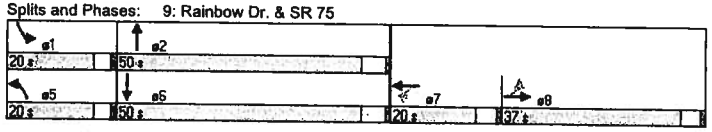
Intersection Summary

Area Type: Other
Cycle Length: 127
Actuated Cycle Length: 93.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 46.5 — Intersection LOS: D
Intersection Capacity Utilization 85.0% — ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Rainbow Dr. & SR 75



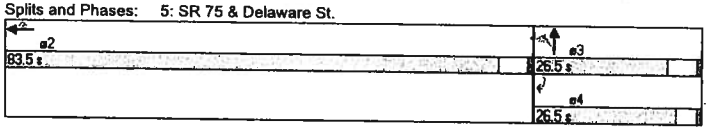
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)					50	50	50	50				50
Trailing Detector (ft)					0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)						5	13					23
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			87			214	
Travel Time (s)		8.9			11.6			2.0			4.9	
Volume (vph)	0	0	0	0	1893	7	12	28	0	0	0	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	0	2058	8	13	30	0	0	0	8
Turn Type						Perm	Perm					custom
Protected Phases					2			3				
Permitted Phases						2	3					4
Detector Phases					2	2	3	3				4
Minimum Initial (s)					10.0	10.0	10.0	10.0				5.0
Minimum Split (s)					22.5	22.5	25.5	25.5				25.5
Total Split (s)	0.0	0.0	0.0	0.0	83.5	83.5	26.5	26.5	0.0	0.0	0.0	26.5
Total Split (%)	0.0%	0.0%	0.0%	0.0%	75.9%	75.9%	24.1%	24.1%	0.0%	0.0%	0.0%	24.1%
Yellow Time (s)					4.5	4.5	4.5	4.5				3.2
All-Red Time (s)					1.0	1.0	1.0	1.0				1.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode					C-Min	C-Min	None	None				None
Act Effct Green (s)					96.4	96.4	13.4	13.4				8.3
Actuated g/C Ratio					0.88	0.88	0.12	0.12				0.08
v/c Ratio					0.66	0.01	0.06	0.13				0.06
Control Delay					6.1	0.0	17.3	38.2				4.9
Queue Delay					0.0	0.0	0.0	0.0				0.0
Total Delay					6.2	0.0	17.3	38.2				4.9
LOS					A	A	B	D				A
Approach Delay					6.1			31.9				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					A			C				
Queue Length 50th (ft)					44	0	1	23				0
Queue Length 95th (ft)					m258	m0	9	29				5
Internal Link Dist (ft)		313			432			7			134	
Turn Bay Length (ft)						120						
Base Capacity (vph)					3102	1388	372	381				348
Starvation Cap Reductn					70	0	0	0				0
Spillback Cap Reductn					38	0	0	0				0
Storage Cap Reductn					0	0	0	0				0
Reduced v/c Ratio					0.68	0.01	0.03	0.08				0.02

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 1 (1%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 6.7 — Intersection LOS: A
Intersection Capacity Utilization 96.1% — ICU Level of Service F
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 75 & Delaware St.



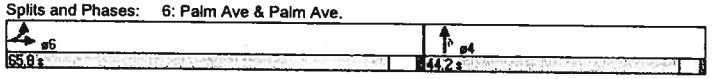
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50	50			
Trailing Detector (ft)	0	0	0					0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	17		1						15			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		209			176			179			87	
Travel Time (s)		4.8			4.0			4.1			2.0	
Volume (vph)	22	919	4	0	0	0	0	18	14	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	24	999	4	0	0	0	0	20	15	0	0	0
Turn Type	Split		Free						Perm			
Protected Phases	6	6						4				
Permitted Phases			Free						4			
Detector Phases	6	6						4	4			
Minimum Initial (s)	10.0	10.0						5.0	5.0			
Minimum Split (s)	23.5	23.5						22.2	22.2			
Total Split (s)	65.8	65.8	0.0	0.0	0.0	0.0	0.0	44.2	44.2	0.0	0.0	0.0
Total Split (%)	59.8%	59.8%	0.0%	0.0%	0.0%	0.0%	0.0%	40.2%	40.2%	0.0%	0.0%	0.0%
Yellow Time (s)	4.5	4.5						3.2	3.2			
All-Red Time (s)	1.0	1.0						1.0	1.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min						None	None			
Act Effct Green (s)	99.5	99.5	110.0					7.8	7.8			
Actuated g/C Ratio	0.90	0.90	1.00					0.07	0.07			
v/c Ratio	0.01	0.31	0.00					0.15	0.12			
Control Delay	0.3	0.9	0.0					47.7	21.1			
Queue Delay	0.0	0.1	0.0					0.1	0.0			
Total Delay	0.3	1.1	0.0					47.8	21.1			
LOS	A	A	A					D	C			
Approach Delay		1.1						36.4				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A						D				
Queue Length 50th (ft)	0	8	0					14	0			
Queue Length 95th (ft)	m1	45	m0					34	19			
Internal Link Dist (ft)		129			96			99			7	
Turn Bay Length (ft)	100		100									
Base Capacity (vph)	1602	3200	1583					681	588			
Starvation Cap Reductn	0	1065	0					0	0			
Spillback Cap Reductn	683	0	0					219	0			
Storage Cap Reductn	0	0	0					0	0			
Reduced v/c Ratio	0.03	0.47	0.00					0.04	0.03			

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 9 (8%), Referenced to phase 6:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.31
Intersection Signal Delay: 2.2 — Intersection LOS: A
Intersection Capacity Utilization 96.1% — ICU Level of Service F
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Palm Ave & Palm Ave.



7: SR 75 & 7th Street

Alternative 1
2030 Build AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		2	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50						50	
Trailing Detector (ft)	0		0	0	0						0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	0	2787	3433	3532	0	0	0	0	0	1723	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	0	2787	3433	3532	0	0	0	0	0	1723	0
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			298	250	2						62	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	8	0	274	448	1447	20	0	0	0	0	51	63
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	9	0	298	487	1595	0	0	0	0	0	123	0
Turn Type	Prot		custom	Prot								
Protected Phases	1		6	5	2						3	
Permitted Phases			6									
Detector Phases	1		6	5	2						3	
Minimum Initial (s)	5.0		10.0	5.0	10.0						10.0	
Minimum Split (s)	10.2		15.5	9.2	25.5						42.6	
Total Split (s)	10.2	0.0	23.5	21.9	57.2	0.0	0.0	0.0	0.0	0.0	42.6	0.0
Total Split (%)	9.3%	0.0%	21.4%	19.9%	52.0%	0.0%	0.0%	0.0%	0.0%	0.0%	38.7%	0.0%
Yellow Time (s)	3.2		4.5	3.2	4.5						3.6	
All-Red Time (s)	1.0		1.0	1.0	1.0						1.0	
Lead/Lag	Lag			Lag	Lead							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None		C-Min	None	C-Min						None	
Act Effct Green (s)	5.3		68.1	12.4	86.9						13.2	
Actuated g/C Ratio	0.05		0.62	0.11	0.79						0.12	
v/c Ratio	0.11		0.16	0.80	0.57						0.47	
Control Delay	52.9		2.6	40.1	2.0						28.6	
Queue Delay	0.0		0.0	0.0	0.3						0.0	
Total Delay	52.9		2.6	40.1	2.2						28.6	
LOS	D		A	D	A						C	
Approach Delay					11.1						28.6	

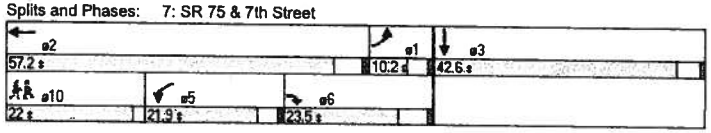
Lane Group	ø10
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phases	
Minimum Initial (s)	1.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					B						C	
Queue Length 50th (ft)	6		0	107	2						41	
Queue Length 95th (ft)	23		32	126	226						88	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)	150			390								
Base Capacity (vph)	100		1839	768	2792						645	
Starvation Cap Reductn	0		0	0	470						0	
Spillback Cap Reductn	0		0	0	0						0	
Storage Cap Reductn	0		0	0	0						0	
Reduced v/c Ratio	0.09		0.16	0.63	0.69						0.19	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 10 (9%), Referenced to phase 2:WBT and 6:EBR, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 11.1 — Intersection LOS: B
Intersection Capacity Utilization 55.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: SR 75 & 7th Street



Lane Group	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary	

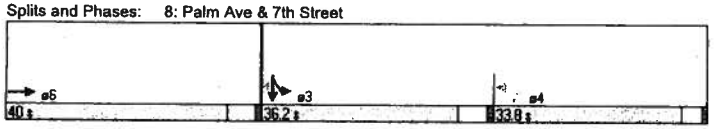
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	0		0	0		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50					50		50	50	50	50
Trailing Detector (ft)		0					0		0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3525	0	0	0	0	1770	0	1583	1681	1467	1504
Flt Permitted							0.569			0.950	0.997	
Satd. Flow (perm)	0	3525	0	0	0	0	1060	0	1583	1681	1467	1504
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		3							104	281	256	267
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	0	570	17	0	0	0	102	0	96	275	15	478
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	638	0	0	0	0	111	0	104	281	287	267
Turn Type							custom		custom	Split		Perm
Protected Phases		6								3	3	
Permitted Phases							4		4			3
Detector Phases		6					4		4	3	3	3
Minimum Initial (s)		10.0					5.0		5.0	10.0	10.0	10.0
Minimum Split (s)		25.5					22.2		22.2	25.5	25.5	25.5
Total Split (s)	0.0	40.0	0.0	0.0	0.0	0.0	33.8	0.0	33.8	36.2	36.2	36.2
Total Split (%)	0.0%	36.4%	0.0%	0.0%	0.0%	0.0%	30.7%	0.0%	30.7%	32.9%	32.9%	32.9%
Yellow Time (s)		4.5					3.2		3.2	4.5	4.5	4.5
All-Red Time (s)		1.0					1.0		1.0	1.0	1.0	1.0
Lead/Lag							Lag		Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes		Yes	Yes	Yes	Yes
Recall Mode		Min					None		None	C-Max	C-Max	C-Max
Act Effct Green (s)		29.4					14.4		14.4	54.2	54.2	54.2
Actuated g/C Ratio		0.27					0.13		0.13	0.49	0.49	0.49
v/c Ratio		0.68					0.80		0.35	0.29	0.34	0.30
Control Delay		39.2					81.3		10.9	2.6	3.3	2.7
Queue Delay		0.0					0.0		0.0	1.0	1.2	1.0
Total Delay		39.2					81.3		10.9	3.6	4.5	3.8
LOS		D					F		B	A	A	A
Approach Delay		39.2									3.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D										A	
Queue Length 50th (ft)	212					77		0	53	73	55	
Queue Length 95th (ft)	248					130		45	m2	m2	m2	
Internal Link Dist (ft)	236			86			90			118		
Turn Bay Length (ft)												
Base Capacity (vph)	1160					287		505	971	853	877	
Starvation Cap Reductn	0					0		0	457	359	388	
Spillback Cap Reductn	0					0		0	0	0	0	
Storage Cap Reductn	0					0		0	0	0	0	
Reduced v/c Ratio	0.55					0.39		0.21	0.55	0.58	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 101 (92%), Referenced to phase 3:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 22.8 — Intersection LOS: C
Intersection Capacity Utilization 45.1% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



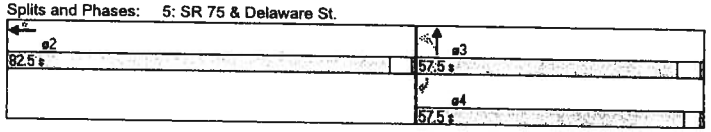
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)					50	50	50	50				50
Trailing Detector (ft)					0	0	0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	3539	1583	1770	1863	0	0	0	1611
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)						16	18					119
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			87			214	
Travel Time (s)		8.9			11.6			2.0			4.9	
Volume (vph)	0	0	0	0	866	21	17	41	0	0	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	0	0	0	941	23	18	45	0	0	0	1
Turn Type						Perm	Perm					custom
Protected Phases					2			3				
Permitted Phases						2	3					4
Detector Phases					2	2	3	3				4
Minimum Initial (s)					10.0	10.0	10.0	10.0				5.0
Minimum Split (s)					22.5	22.5	25.5	25.5				25.5
Total Split (s)	0.0	0.0	0.0	0.0	82.5	82.5	57.5	57.5	0.0	0.0	0.0	57.5
Total Split (%)	0.0%	0.0%	0.0%	0.0%	58.9%	58.9%	41.1%	41.1%	0.0%	0.0%	0.0%	41.1%
Yellow Time (s)					4.5	4.5	4.5	4.5				3.2
All-Red Time (s)					1.0	1.0	1.0	1.0				1.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode					C-Min	C-Min	None	None				None
Act Effct Green (s)					122.1	122.1	13.8	13.8				8.3
Actuated g/C Ratio					0.87	0.87	0.10	0.10				0.06
v/c Ratio					0.30	0.02	0.09	0.24				0.00
Control Delay					0.8	0.0	31.3	65.2				0.0
Queue Delay					0.0	0.0	0.0	0.0				0.0
Total Delay					0.8	0.0	31.3	65.2				0.0
LOS					A	A	C	E				A
Approach Delay					0.7			55.5				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A						E				
Stops (vph)		31	0	20				38				0
Fuel Used(gal)		5	0	0				1				0
CO Emissions (g/hr)		379	9	16				55				0
NOx Emissions (g/hr)		74	2	3				11				0
VOC Emissions (g/hr)		88	2	4				13				0
Dilemma Vehicles (#)		0	0	0				0				0

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 95 (68%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.30
Intersection Signal Delay: 4.1 — Intersection LOS: A
Intersection Capacity Utilization 99.5% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 5: SR 75 & Delaware St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50	50			
Trailing Detector (ft)	0	0	0					0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	3539	1583	0	0	0	0	1863	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	17		6						22			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		209			176			179			87	
Travel Time (s)		4.8			4.0			4.1			2.0	
Volume (vph)	32	2056	54	0	0	0	0	26	73	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	35	2235	59	0	0	0	0	28	79	0	0	0
Turn Type	Split		Free						Perm			
Protected Phases	6	6						4				
Permitted Phases			Free						4			
Detector Phases	6	6						4	4			
Minimum Initial (s)	10.0	10.0						5.0	5.0			
Minimum Split (s)	23.5	23.5						22.2	22.2			
Total Split (s)	112.8	112.8	0.0	0.0	0.0	0.0	0.0	27.2	27.2	0.0	0.0	0.0
Total Split (%)	80.6%	80.6%	0.0%	0.0%	0.0%	0.0%	0.0%	19.4%	19.4%	0.0%	0.0%	0.0%
Yellow Time (s)	4.5	4.5						3.2	3.2			
All-Red Time (s)	1.0	1.0						1.0	1.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min						None	None			
Act Effct Green (s)	124.9	124.9	140.0					9.8	9.8			
Actuated g/C Ratio	0.89	0.89	1.00					0.07	0.07			
v/c Ratio	0.02	0.71	0.04					0.22	0.60			
Control Delay	0.4	2.4	0.0					62.8	63.2			
Queue Delay	0.0	0.3	0.0					0.6	0.0			
Total Delay	0.4	2.7	0.0					63.4	63.2			
LOS	A	A	A					E	E			
Approach Delay		2.6						63.3				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A						E				
Stops (vph)	1	265	0					25	50			
Fuel Used(gal)	0	8	0					1	1			
CO Emissions (g/hr)	7	592	11					35	92			
NOx Emissions (g/hr)	1	115	2					7	18			
VOC Emissions (g/hr)	2	137	3					8	21			
Dilemma Vehicles (#)	0	0	0					0	0			

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 17 (12%), Referenced to phase 6:EBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 5.2 — Intersection LOS: A
Intersection Capacity Utilization 99.5% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Palm Ave & Palm Ave.

ø6	ø4
112.8 s	27.2 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		2	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50						50	
Trailing Detector (ft)	0		0	0	0						0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	0	2787	3433	3476	0	0	0	0	0	1794	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	0	2787	3433	3476	0	0	0	0	0	1794	0
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			1296	511	17						14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	58	0	1551	470	377	51	0	0	0	0	67	26
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	63	0	1686	511	465	0	0	0	0	0	101	0
Turn Type	Prot		custom	Prot								
Protected Phases	1		6	5	2						3	
Permitted Phases			6									
Detector Phases	1		6	5	2						3	
Minimum Initial (s)	5.0		10.0	5.0	10.0						10.0	
Minimum Split (s)	10.2		15.5	9.2	25.5						42.6	
Total Split (s)	14.6	0.0	61.4	14.0	82.8	0.0	0.0	0.0	0.0	0.0	42.6	0.0
Total Split (%)	10.4%	0.0%	43.9%	10.0%	59.1%	0.0%	0.0%	0.0%	0.0%	0.0%	30.4%	0.0%
Yellow Time (s)	3.2		4.5	3.2	4.5						3.6	
All-Red Time (s)	1.0		1.0	1.0	1.0						1.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None		C-Min	None	C-Min						None	
Act Effct Green (s)	8.3		100.7	8.9	107.6						14.0	
Actuated g/C Ratio	0.06		0.72	0.06	0.77						0.10	
v/c Ratio	0.60		0.71	0.73	0.17						0.53	
Control Delay	87.0		5.1	19.4	4.7						60.4	
Queue Delay	0.0		0.1	0.9	0.3						0.1	
Total Delay	87.0		5.2	20.3	4.9						60.4	
LOS	F		A	C	A						E	
Approach Delay					13.0						60.4	

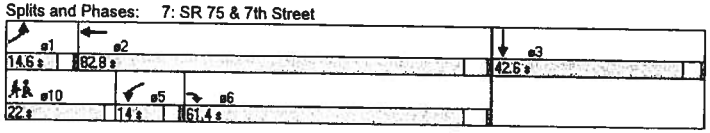
Lane Group		ø10
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Storage Length (ft)		
Storage Lanes		
Total Lost Time (s)		
Leading Detector (ft)		
Trailing Detector (ft)		
Turning Speed (mph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Growth Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
Mid-Block Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases		10
Permitted Phases		
Detector Phases		
Minimum Initial (s)		1.0
Minimum Split (s)		22.0
Total Split (s)		22.0
Total Split (%)		16%
Yellow Time (s)		2.0
All-Red Time (s)		0.0
Lead/Lag		Lead
Lead-Lag Optimize?		Yes
Recall Mode		None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					B						E	
Stops (vph)	55	270	282	168							74	
Fuel Used(gal)	2	15	5	3							2	
CO Emissions (g/hr)	125	1081	339	185							124	
NOx Emissions (g/hr)	24	210	66	36							24	
VOC Emissions (g/hr)	29	251	79	43							29	
Dilemma Vehicles (#)	0	0	0	0							0	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 27 (19%), Referenced to phase 2:WBT and 6:EBR, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 11.7 — Intersection LOS: B
Intersection Capacity Utilization 86.0% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 7: SR 75 & 7th Street



Lane Group	All
Approach LOS	
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	

Intersection Summary

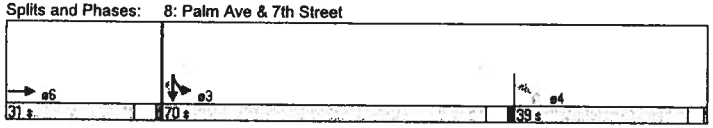
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	0		0	0		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50					50		50	50	50	50
Trailing Detector (ft)		0					0		0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3500	0	0	0	0	1770	0	1583	1681	1619	1504
Flt Permitted							0.314			0.950	0.955	
Satd. Flow (perm)	0	3500	0	0	0	0	585	0	1583	1681	1619	1504
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		5							13	494	494	347
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			166			170			198	
Travel Time (s)		7.2			3.8			3.9			4.5	
Volume (vph)	0	497	39	0	0	0	98	0	48	1543	54	519
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	582	0	0	0	0	107	0	52	866	870	564
Turn Type							custom		custom	Split		Perm
Protected Phases		6								3	3	
Permitted Phases							4		4			3
Detector Phases		6					4		4	3	3	3
Minimum Initial (s)		10.0					5.0		5.0	10.0	10.0	10.0
Minimum Split (s)		25.5					22.2		22.2	25.5	25.5	25.5
Total Split (s)	0.0	31.0	0.0	0.0	0.0	0.0	39.0	0.0	39.0	70.0	70.0	70.0
Total Split (%)	0.0%	22.1%	0.0%	0.0%	0.0%	0.0%	27.9%	0.0%	27.9%	50.0%	50.0%	50.0%
Yellow Time (s)		4.5					3.2		3.2	4.5	4.5	4.5
All-Red Time (s)		1.0					1.0		1.0	1.0	1.0	1.0
Lead/Lag							Lag		Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes		Yes	Yes	Yes	Yes
Recall Mode		Min					None		None	C-Max	C-Max	C-Max
Act Effct Green (s)		28.6					27.6		27.6	71.8	71.8	71.8
Actuated g/C Ratio		0.20					0.20		0.20	0.51	0.51	0.51
v/c Ratio		0.81					0.93		0.16	0.79	0.81	0.60
Control Delay		62.5					120.1		34.3	15.2	16.6	10.1
Queue Delay		0.0					0.0		0.0	4.2	4.5	3.0
Total Delay		62.5					120.1		34.3	19.4	21.1	13.2
LOS		E					F		C	B	C	B
Approach Delay		62.5									18.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E										B	
Stops (vph)	485						91		29	368	373	175
Fuel Used(gal)	11						3		1	6	6	3
CO Emissions (g/hr)	755						212		39	400	419	198
NOx Emissions (g/hr)	147						41		8	78	82	39
VOC Emissions (g/hr)	175						49		9	93	97	46
Dilemma Vehicles (#)	0						0		0	0	0	0

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 8 (6%), Referenced to phase 3:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 30.8 — Intersection LOS: C
Intersection Capacity Utilization 79.8% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: Palm Ave & 7th Street



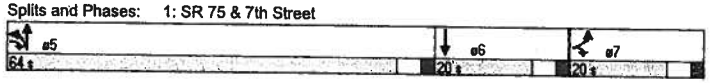
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	2	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	2787	1681	1692	1723	0
Flt Permitted	0.950		0.950	0.956		
Satd. Flow (perm)	1770	2787	1681	1692	1723	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		298			51	
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			198	314	
Travel Time (s)	12.5			4.5	7.1	
Volume (vph)	8	274	1470	63	51	63
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	9	298	812	854	123	0
Turn Type		pt+ov	Split			
Protected Phases	7	7 5	5	5	6	
Permitted Phases						
Detector Phases	7	7 5	5	5	6	
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	36.6		36.6	36.6	15.6	
Total Split (s)	20.0	84.0	64.0	64.0	20.0	0.0
Total Split (%)	19.2%	80.8%	61.5%	61.5%	19.2%	0.0%
Yellow Time (s)	3.6		3.6	3.6	3.6	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None		None	None	C-Max	
Act Effct Green (s)	12.5	73.8	57.3	57.3	22.2	
Actuated g/C Ratio	0.12	0.71	0.55	0.55	0.21	
v/c Ratio	0.04	0.14	0.88	0.92	0.30	
Control Delay	39.9	0.5	32.1	36.6	24.6	
Queue Delay	0.0	0.0	184.8	192.0	0.0	
Total Delay	39.9	0.5	216.8	228.6	24.7	
LOS	D	A	F	F	C	
Approach Delay	1.7			222.9	24.7	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	A			F	C	
Queue Length 50th (ft)	5	0	436	478	41	
Queue Length 95th (ft)	20	9	#666	#782	99	
Internal Link Dist (ft)	468			118	234	
Turn Bay Length (ft)						
Base Capacity (vph)	272	2128	970	976	408	
Starvation Cap Reductn	0	0	394	378	0	
Spillback Cap Reductn	0	60	0	0	7	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.14	1.41	1.43	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 104
Actuated Cycle Length: 104
Offset: 81.9 (79%), Referenced to phase 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 178.8 — Intersection LOS: F
Intersection Capacity Utilization 64.0% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: SR 75 & 7th Street



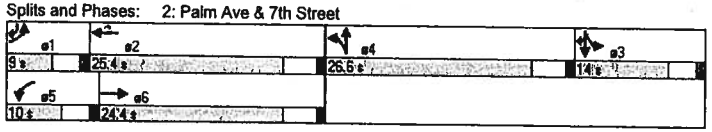
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		2	1		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3525	0	1770	3539	2787	1770	1682	0	1681	1694	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.957	
Satd. Flow (perm)	1770	3525	0	1770	3539	2787	1770	1682	0	1681	1694	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				1581		104				33
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			374			170			198	
Travel Time (s)		7.2			8.5			3.9			4.5	
Volume (vph)	22	548	17	47	472	1468	55	52	96	272	15	30
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	24	614	0	51	513	1596	60	161	0	152	160	33
Turn Type	Prot			Prot		Perm	Split			Split		pt+ov
Protected Phases	1	6		5	2		4	4		3	3	1 3
Permitted Phases						2						
Detector Phases	1	6		5	2	2	4	4		3	3	1 3
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	15.0		9.0	24.6	24.6	26.6	26.6		14.0	14.0	
Total Split (s)	9.0	24.4	0.0	10.0	25.4	25.4	26.6	26.6	0.0	14.0	14.0	23.0
Total Split (%)	12.0%	32.5%	0.0%	13.3%	33.9%	33.9%	35.5%	35.5%	0.0%	18.7%	18.7%	30.7%
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.6	3.6		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min	C-Min	Max	Max		Max	Max	
Act Effct Green (s)	5.0	22.2		5.5	22.7	22.7	24.9	24.9		10.0	10.0	19.0
Actuated g/C Ratio	0.07	0.30		0.07	0.30	0.30	0.33	0.33		0.13	0.13	0.25
v/c Ratio	0.20	0.59		0.39	0.48	0.82	0.10	0.26		0.68	0.71	0.08
Control Delay	37.5	25.6		42.1	23.5	5.9	19.3	9.3		48.2	50.2	8.8
Queue Delay	0.6	0.0		0.0	0.0	9.7	0.0	0.2		3.6	5.3	0.0
Total Delay	38.0	25.6		42.1	23.5	15.6	19.3	9.5		51.8	55.5	8.8
LOS	D	C		D	C	B	B	A		D	E	A
Approach Delay		26.0			18.1			12.2			49.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			B			D	
Queue Length 50th (ft)	11	131		23	105	2	20	19		71	75	0
Queue Length 95th (ft)	33	184		56	150	55	46	61		#157	#167	20
Internal Link Dist (ft)		236			294			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	118	1046		142	1076	1948	588	629		224	226	426
Starvation Cap Reductn	0	0		0	0	0	0	0		27	30	0
Spillback Cap Reductn	20	7		0	0	342	0	104		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.24	0.59		0.36	0.48	0.99	0.10	0.31		0.77	0.82	0.08

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 22.4 — Intersection LOS: C
Intersection Capacity Utilization 74.2% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Palm Ave & 7th Street



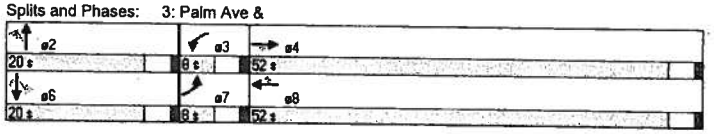
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBL	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1747	0	0	1818	1583
Flt Permitted	0.950			0.950				0.880			0.899	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1575	0	0	1675	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			11			8		15				8
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		374			333			254			242	
Travel Time (s)		8.5			7.6			5.8			5.5	
Volume (vph)	10	933	10	10	1893	7	24	10	14	10	10	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	11	1014	11	11	2058	8	0	52	0	0	22	8
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phases	7	4	4	3	8	8	2	2		6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (s)	8.0	52.0	52.0	8.0	52.0	52.0	20.0	20.0	0.0	20.0	20.0	20.0
Total Split (%)	10.0%	65.0%	65.0%	10.0%	65.0%	65.0%	25.0%	25.0%	0.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)	4.0	53.6	53.6	4.0	53.6	53.6		16.8			16.8	16.8
Actuated g/C Ratio	0.05	0.67	0.67	0.05	0.67	0.67		0.21			0.21	0.21
v/c Ratio	0.12	0.43	0.01	0.12	0.87	0.01		0.15			0.06	0.02
Control Delay	39.5	7.1	3.2	39.5	16.6	3.3		21.8			26.6	15.3
Queue Delay	0.0	0.8	0.0	0.0	0.2	0.0		0.0			0.0	0.0
Total Delay	39.5	7.8	3.2	39.5	16.8	3.3		21.8			26.6	15.3
LOS	D	A	A	D	B	A		C			C	B
Approach Delay		8.1			16.9			21.8			23.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			C			C	
Queue Length 50th (ft)	5	93	0	5	324	0		15			9	0
Queue Length 95th (ft)	21	178	6	21	#690	5		45			28	11
Internal Link Dist (ft)		294			253			174			162	
Turn Bay Length (ft)												
Base Capacity (vph)	89	2369	1063	89	2369	1063		343			353	340
Starvation Cap Reductn	0	946	0	0	0	0		0			0	0
Spillback Cap Reductn	0	0	0	0	39	0		11			0	11
Storage Cap Reductn	0	0	0	0	0	0		0			0	0
Reduced v/c Ratio	0.12	0.71	0.01	0.12	0.88	0.01		0.16			0.06	0.02

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 14.2 — Intersection LOS: B
Intersection Capacity Utilization 69.0% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Palm Ave &



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	2	1			0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Turning Speed (mph)	15	9	15			9
Satd. Flow (prot)	1770	2787	1681	1722	1794	0
Flt Permitted	0.950		0.950	0.973		
Satd. Flow (perm)	1770	2787	1681	1722	1794	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1045			16	
Link Speed (mph)	30			30	30	
Link Distance (ft)	548			198	314	
Travel Time (s)	12.5			4.5	7.1	
Volume (vph)	58	1551	406	123	67	26
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Lane Group Flow (vph)	63	1686	280	295	101	0
Turn Type		pt+ov	Split			
Protected Phases	7	7 5	5	5	6	
Permitted Phases						
Detector Phases	7	7 5	5	5	6	
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	36.6		36.6	36.6	15.6	
Total Split (s)	20.0	84.0	64.0	64.0	20.0	0.0
Total Split (%)	19.2%	80.8%	61.5%	61.5%	19.2%	0.0%
Yellow Time (s)	3.6		3.6	3.6	3.6	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None		None	None	C-Max	
Act Effct Green (s)	16.0	59.2	39.2	39.2	36.8	
Actuated g/C Ratio	0.15	0.57	0.38	0.38	0.35	
v/c Ratio	0.23	0.83	0.44	0.45	0.16	
Control Delay	41.2	9.2	24.5	24.7	25.7	
Queue Delay	0.0	0.5	1.1	1.1	0.0	
Total Delay	41.2	9.8	25.6	25.9	25.7	
LOS	D	A	C	C	C	
Approach Delay	10.9			25.7	25.7	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	B			C	C	
Queue Length 50th (ft)	37	202	150	160	36	
Queue Length 95th (ft)	77	105	145	151	102	
Internal Link Dist (ft)	468			118	234	
Turn Bay Length (ft)						
Base Capacity (vph)	272	2385	970	993	646	
Starvation Cap Reductn	0	0	462	473	0	
Spillback Cap Reductn	0	304	0	0	61	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.81	0.55	0.57	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 104
Actuated Cycle Length: 104
Offset: 81.9 (79%), Referenced to phase 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 15.0 — Intersection LOS: B
Intersection Capacity Utilization 69.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: SR 75 & 7th Street

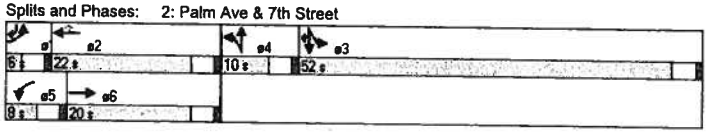
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		2	1		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3497	0	1770	3539	2787	1770	1706	0	1681	1690	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.955	
Satd. Flow (perm)	1770	3497	0	1770	3539	2787	1770	1706	0	1681	1690	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				477		51				53
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		316			382			170			198	
Travel Time (s)		7.2			8.7			3.9			4.5	
Volume (vph)	32	465	39	67	499	439	40	38	48	1511	54	49
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	35	547	0	73	542	477	43	93	0	829	872	53
Turn Type	Prot			Prot		Perm	Split			Split		pt+ov
Protected Phases	1	6		5	2		4	4		3	3	1 3
Permitted Phases						2						
Detector Phases	1	6		5	2	2	4	4		3	3	1 3
Minimum Initial (s)	1.0	5.4		2.0	5.4	5.4	5.4	5.4		1.0	1.0	
Minimum Split (s)	5.0	10.0		6.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	6.0	20.0	0.0	8.0	22.0	22.0	10.0	10.0	0.0	52.0	52.0	58.0
Total Split (%)	6.7%	22.2%	0.0%	8.9%	24.4%	24.4%	11.1%	11.1%	0.0%	57.8%	57.8%	64.4%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min	C-Min	Max	Max		Max	Max	
Act Effct Green (s)	2.0	15.6		4.0	17.6	17.6	6.4	6.4		48.0	48.0	54.0
Actuated g/C Ratio	0.02	0.17		0.04	0.20	0.20	0.07	0.07		0.53	0.53	0.60
v/c Ratio	0.90	0.89		0.92	0.78	0.51	0.34	0.55		0.92	0.97	0.05
Control Delay	164.4	54.5		122.3	38.2	12.2	48.0	34.6		37.5	45.2	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.4	0.0	3.0		215.3	222.3	0.0
Total Delay	164.4	54.5		122.3	38.2	12.6	48.0	37.6		252.8	267.5	2.4
LOS	F	D		F	D	B	D	D		F	F	A
Approach Delay		61.1			32.7			40.9			252.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			C			D			F	
Queue Length 50th (ft)	20	158		42	154	25	24	23		430	474	0
Queue Length 95th (ft)	#80	#248		#130	213	96	57	#82		#714	#767	14
Internal Link Dist (ft)		236			302			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	39	628		79	708	939	126	168		897	901	971
Starvation Cap Reductn	0	0		0	0	0	0	0		339	324	0
Spillback Cap Reductn	0	0		0	0	145	0	26		111	112	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.90	0.87		0.92	0.77	0.60	0.34	0.65		1.49	1.51	0.05

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 145.8 — Intersection LOS: F
Intersection Capacity Utilization 77.7% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Palm Ave & 7th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1679	0	0	1818	1583
Flt Permitted	0.950			0.950				0.925			0.875	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1573	0	0	1630	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			59			23		79				1
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		382			338			200			179	
Travel Time (s)		8.7			7.7			4.5			4.1	
Volume (vph)	10	2010	54	10	866	21	29	10	73	10	10	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	11	2185	59	11	941	23	0	122	0	0	22	1
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phases	7	4	4	3	8	8	2	2		6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (s)	8.0	62.0	62.0	8.0	62.0	62.0	20.0	20.0	0.0	20.0	20.0	20.0
Total Split (%)	8.9%	68.9%	68.9%	8.9%	68.9%	68.9%	22.2%	22.2%	0.0%	22.2%	22.2%	22.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)	4.0	61.1	61.1	4.0	61.1	61.1		19.3			19.3	19.3
Actuated g/C Ratio	0.04	0.68	0.68	0.04	0.68	0.68		0.21			0.21	0.21
v/c Ratio	0.14	0.91	0.05	0.14	0.39	0.02		0.30			0.06	0.00
Control Delay	52.4	16.8	1.4	45.4	6.9	2.1		15.8			31.1	24.0
Queue Delay	0.0	83.5	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	52.4	100.3	1.4	45.4	6.9	2.1		15.8			31.1	24.0
LOS	D	F	A	D	A	A		B			C	C
Approach Delay		97.5			7.2			15.8			30.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			A			B			C	
Queue Length 50th (ft)	6	654	1	6	94	0		20			10	0
Queue Length 95th (ft)	m7	m#751	m1	23	158	8		69			32	4
Internal Link Dist (ft)		302			258			120			99	
Turn Bay Length (ft)												
Base Capacity (vph)	79	2408	1096	79	2408	1084		400			350	340
Starvation Cap Reductn	0	566	0	0	0	0		0			0	0
Spillback Cap Reductn	0	0	0	0	0	0		0			0	0
Storage Cap Reductn	0	0	0	0	0	0		0			0	0
Reduced v/c Ratio	0.14	1.19	0.05	0.14	0.39	0.02		0.31			0.06	0.00

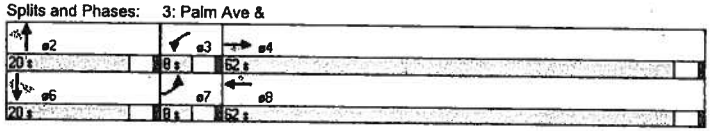
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 68.0 — Intersection LOS: E
Intersection Capacity Utilization 75.5% — ICU Level of Service D
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Palm Ave &



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	250		0	250		0
Storage Lanes	1		0	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5034	0	1770	5085	1583	1770	1863	1583	1770	1807	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5034	0	1770	5085	1583	1770	1863	1583	1770	1807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				28			137		10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	19	1207	87	110	1823	55	185	16	126	160	37	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	21	1407	0	120	1982	60	201	17	137	174	50	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phases	1	6		5	2	2	3	8	8	7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.5	26.5		9.2	23.5	23.5	9.2	39.6	39.6	9.2	39.6	
Total Split (s)	9.5	39.3	0.0	14.9	44.7	44.7	16.2	40.0	40.0	15.8	39.6	0.0
Total Split (%)	8.6%	35.7%	0.0%	13.5%	40.6%	40.6%	14.7%	36.4%	36.4%	14.4%	36.0%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5	4.5	3.2	3.6	3.6	3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	5.3	55.7		10.9	66.8	66.8	17.7	15.6	15.6	11.8	15.5	
Actuated g/C Ratio	0.05	0.51		0.10	0.61	0.61	0.16	0.14	0.14	0.11	0.14	
v/c Ratio	0.24	0.55		0.69	0.64	0.06	0.71	0.06	0.40	0.92	0.19	
Control Delay	52.4	16.5		68.5	18.0	9.4	60.7	36.5	9.2	95.7	33.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	16.5		68.5	18.0	9.4	60.7	36.5	9.2	95.7	33.3	
LOS	D	B		E	B	A	E	D	A	F	C	
Approach Delay		17.1			20.6			39.6			81.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			D			F	
Queue Length 50th (ft)	13	309		83	238	7	~151	11	0	123	27	
Queue Length 95th (ft)	m31	430		#167	#653	43	#299	24	43	#255	48	
Internal Link Dist (ft)		1048			273			168			173	
Turn Bay Length (ft)	117			240		140	250			250		
Base Capacity (vph)	89	2554		175	3087	972	285	610	610	192	592	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.55		0.69	0.64	0.06	0.71	0.03	0.22	0.91	0.08	

Intersection Summary

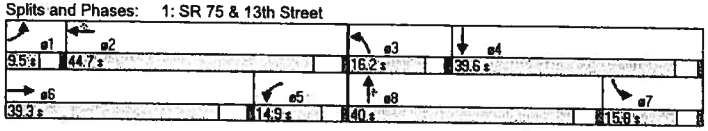
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 26 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 24.3 — Intersection LOS: C
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 75 & 13th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	100		0	100		120
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4615	0	1770	5075	0	1770	1710	0	1770	1729	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4615	0	1770	5075	0	1770	1710	0	1770	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			2			25			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	13	1143	38	27	1905	29	27	19	23	78	13	12
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	14	1283	0	29	2103	0	29	46	0	85	27	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.5	39.6		9.5	35.6	
Total Split (s)	9.2	50.1	0.0	10.0	50.9	0.0	10.0	39.6	0.0	10.3	39.9	0.0
Total Split (%)	8.4%	45.5%	0.0%	9.1%	46.3%	0.0%	9.1%	36.0%	0.0%	9.4%	36.3%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.2	75.8		5.6	78.0		8.5	12.1		8.0	14.4	
Actuated g/C Ratio	0.05	0.69		0.05	0.71		0.08	0.11		0.07	0.13	
v/c Ratio	0.17	0.40		0.32	0.58		0.21	0.22		0.66	0.11	
Control Delay	36.5	2.2		61.7	9.0		50.8	23.7		75.3	25.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.5	2.2		61.7	9.0		50.8	23.7		75.3	25.5	
LOS	D	A		E	A		D	C		E	C	
Approach Delay		2.6			9.7			34.2			63.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			C			E	
Queue Length 50th (ft)	11	29		17	349		18	14		61	9	
Queue Length 95th (ft)	m18	115		m27	598		49	38		#154	29	
Internal Link Dist (ft)		668			1048			224			161	
Turn Bay Length (ft)	125			275			100			100		
Base Capacity (vph)	84	3182		97	3599		143	570		129	573	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.40		0.30	0.58		0.20	0.08		0.66	0.05	

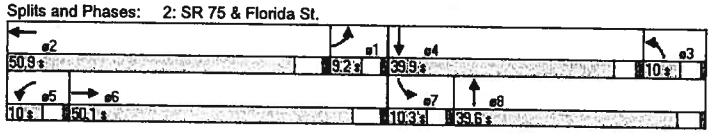
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 84 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 9.3 — Intersection LOS: A
Intersection Capacity Utilization 55.1% — ICU Level of Service B
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	110		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4634	0	1770	4624	0	1770	1675	0	1770	1680	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4634	0	1770	4624	0	1770	1675	0	1770	1680	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			3			46			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	20	1035	9	128	1181	26	20	20	42	70	10	19
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	22	1135	0	139	1312	0	22	68	0	76	32	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.2	36.6		9.2	35.6	
Total Split (s)	10.2	41.0	0.0	21.2	52.0	0.0	10.2	37.6	0.0	10.2	37.6	0.0
Total Split (%)	9.3%	37.3%	0.0%	19.3%	47.3%	0.0%	9.3%	34.2%	0.0%	9.3%	34.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	Min		None	Min	
Act Effct Green (s)	5.7	60.7		16.7	77.1		5.5	10.6		6.1	16.6	
Actuated g/C Ratio	0.05	0.55		0.15	0.70		0.05	0.10		0.06	0.15	
v/c Ratio	0.24	0.44		0.52	0.40		0.25	0.33		0.78	0.12	
Control Delay	74.4	4.3		35.9	1.5		56.9	25.1		97.1	25.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.4	4.3		35.9	1.5		56.9	25.1		97.1	25.0	
LOS	E	A		D	A		E	C		F	C	
Approach Delay		5.6			4.8			32.9			75.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			C			E	
Queue Length 50th (ft)	0	47	97	14		15	14		54	6		
Queue Length 95th (ft)	m40	64	129	36		41	58		#136	38		
Internal Link Dist (ft)		295		668			213			215		
Turn Bay Length (ft)	125		110			100			100			
Base Capacity (vph)	103	2556	277	3244		100	544		101	528		
Starvation Cap Reductn	0	0	0	0		0	0		0	0		
Spillback Cap Reductn	0	0	0	0		0	0		0	0		
Storage Cap Reductn	0	0	0	0		0	0		0	0		
Reduced v/c Ratio	0.21	0.44	0.50	0.40		0.22	0.13		0.75	0.06		

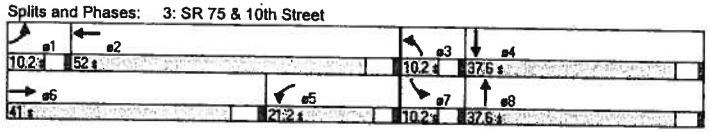
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 76 (69%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 8.8 — Intersection LOS: A
Intersection Capacity Utilization 48.1% — ICU Level of Service A
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: SR 75 & 10th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4610	0	1770	4620	0	1770	1697	0	1770	1749	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4610	0	1770	4620	0	1770	1697	0	1770	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			4			72			34	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	43	873	37	46	1643	43	223	56	81	114	54	38
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	47	989	0	50	1833	0	242	149	0	124	100	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	26.5		9.2	26.5		9.2	39.6		9.2	39.6	
Total Split (s)	9.2	40.8	0.0	12.6	44.2	0.0	17.0	41.5	0.0	15.1	39.6	0.0
Total Split (%)	8.4%	37.1%	0.0%	11.5%	40.2%	0.0%	15.5%	37.7%	0.0%	13.7%	36.0%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.2	60.6		7.9	63.3		14.6	15.6		11.7	15.6	
Actuated g/C Ratio	0.05	0.55		0.07	0.58		0.13	0.14		0.11	0.14	
v/c Ratio	0.56	0.39		0.39	0.69		1.03	0.49		0.66	0.36	
Control Delay	81.7	9.5		53.8	18.6		114.6	26.6		64.0	29.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.7	9.5		53.8	18.6		114.6	26.6		64.0	29.8	
LOS	F	A		D	B		F	C		E	C	
Approach Delay		12.8			19.5			81.0			48.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			F			D	
Queue Length 50th (ft)	34	149		34	173		~202	52		84	45	
Queue Length 95th (ft)	m#75	128		68	#675		#360	88		147	73	
Internal Link Dist (ft)		43			301			189			182	
Turn Bay Length (ft)	115			225			100			100		
Base Capacity (vph)	84	2543		138	2661		235	626		202	589	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.39		0.36	0.69		1.03	0.24		0.61	0.17	

Intersection Summary

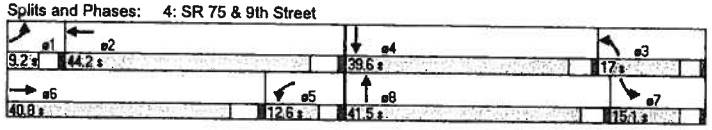
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 70 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 26.2 — Intersection LOS: C
Intersection Capacity Utilization 68.9% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: SR 75 & 9th Street



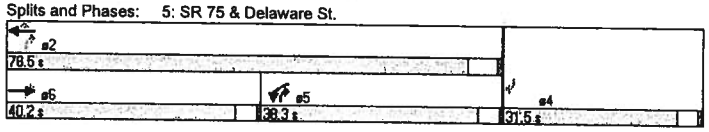
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	0		1	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50	50			50			50
Trailing Detector (ft)		0		0	0	0			0			0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						6			1091			46
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			383			214	
Travel Time (s)		8.9			11.6			8.7			4.9	
Volume (vph)	0	283	0	428	1465	7	0	0	663	0	0	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	308	0	465	1592	8	0	0	721	0	0	8
Turn Type				Prot		Perm			custom			custom
Protected Phases		6		5	2				5			
Permitted Phases						2			2 6			4
Detector Phases		6		5	2	2			5			4
Minimum Initial (s)		4.0		4.0	10.0	10.0			4.0			5.0
Minimum Split (s)		20.0		20.0	22.5	22.5			20.0			25.5
Total Split (s)	0.0	40.2	0.0	38.3	78.5	78.5	0.0	0.0	38.3	0.0	0.0	31.5
Total Split (%)	0.0%	36.5%	0.0%	34.8%	71.4%	71.4%	0.0%	0.0%	34.8%	0.0%	0.0%	28.6%
Yellow Time (s)		3.5		3.5	4.5	4.5			3.5			3.2
All-Red Time (s)		0.5		0.5	1.0	1.0			0.5			1.0
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Recall Mode		None		C-Max	C-Min	C-Min			C-Max			None
Act Effct Green (s)		14.4		82.7	104.4	104.4			104.4			8.2
Actuated g/C Ratio		0.13		0.75	0.95	0.95			0.95			0.07
v/c Ratio		0.66		0.18	0.47	0.01			0.46			0.05
Control Delay		45.4		1.2	1.5	0.0			7.8			0.6
Queue Delay		0.0		0.0	0.0	0.0			0.1			0.0
Total Delay		45.4		1.2	1.6	0.0			7.9			0.6
LOS		D		A	A	A			A			A
Approach Delay		45.4			1.5							

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D				A							
Queue Length 50th (ft)	113	15	0	0					187			0
Queue Length 95th (ft)	171	m28	m86	m0					468			0
Internal Link Dist (ft)	313		432					303			134	
Turn Bay Length (ft)				255		120						
Base Capacity (vph)	1165		2582	3358	1502				1584			437
Starvation Cap Reductn	0		0	108	0				201			0
Spillback Cap Reductn	0		0	186	0				0			2
Storage Cap Reductn	0		0	0	0				0			0
Reduced v/c Ratio	0.26		0.18	0.50	0.01				0.52			0.02

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:WBT and 5:WBL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 7.3 — Intersection LOS: A
Intersection Capacity Utilization 55.5% — ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 75 & Delaware St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50		50	50	
Trailing Detector (ft)	0	0	0		0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	3532	0	1770	1863	0	0	1729	0
Flt Permitted	0.950						0.950				0.995	
Satd. Flow (perm)	1770	3539	1583	0	3532	0	1770	1863	0	0	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			8		1						50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	8	267	7	0	1447	20	23	43	0	13	51	63
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	9	290	8	0	1595	0	25	47	0	0	137	0
Turn Type	Prot		Perm				Split			Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases			6									
Detector Phases	1	6	6		2		4	4		3	3	
Minimum Initial (s)	5.0	4.0	4.0		10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.2	20.0	20.0		25.5		25.5	25.5		42.6	42.6	
Total Split (s)	10.2	41.9	41.9	0.0	31.7	0.0	25.5	25.5	0.0	42.6	42.6	0.0
Total Split (%)	9.3%	38.1%	38.1%	0.0%	28.8%	0.0%	23.2%	23.2%	0.0%	38.7%	38.7%	0.0%
Yellow Time (s)	3.2	3.5	3.5		4.5		4.5	4.5		3.6	3.6	
All-Red Time (s)	1.0	0.5	0.5		1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes				
Recall Mode	None	C-Max	C-Max		C-Min		Min	Min		None	None	
Act Effct Green (s)	5.4	70.9	70.9		68.8		13.6	13.6			13.5	
Actuated g/C Ratio	0.05	0.64	0.64		0.63		0.12	0.12			0.12	
v/c Ratio	0.10	0.13	0.01		0.72		0.11	0.20			0.54	
Control Delay	41.2	6.7	4.0		14.1		16.2	17.8			35.3	
Queue Delay	0.0	0.0	0.0		0.2		0.0	0.0			0.0	
Total Delay	41.2	6.7	4.0		14.2		16.2	17.8			35.3	
LOS	D	A	A		B		B	B			D	
Approach Delay		7.6			14.2			17.2			35.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			B			D	
Queue Length 50th (ft)	6	26	0		347		11	21			59	
Queue Length 95th (ft)	m22	m48	m3		#814		m16	m29			109	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)	150											
Base Capacity (vph)	100	2280	1023		2211		346	364			639	
Starvation Cap Reductn	0	0	0		106		0	0			0	
Spillback Cap Reductn	0	0	0		0		0	0			0	
Storage Cap Reductn	0	0	0		0		0	0			0	
Reduced v/c Ratio	0.09	0.13	0.01		0.76		0.07	0.13			0.21	

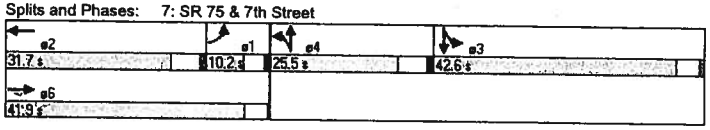
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 2 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.8 — Intersection LOS: B
Intersection Capacity Utilization 61.2% — ICU Level of Service B
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: SR 75 & 7th Street



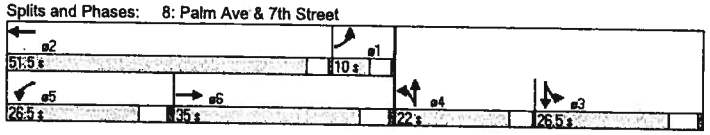
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3525	0	1770	3536	0	1770	1673	0	1770	1675	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3525	0	1770	3536	0	1770	1673	0	1770	1675	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			1			82			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			383			170			198	
Travel Time (s)		7.7			8.7			3.9			4.5	
Volume (vph)	22	548	17	47	472	3	79	52	110	5	15	30
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	24	614	0	51	516	0	86	177	0	5	49	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												
Detector Phases	1	6		5	2		4	4		3	3	
Minimum Initial (s)	4.0	10.0		10.0	4.0		4.0	4.0		10.0	10.0	
Minimum Split (s)	8.0	25.5		25.5	20.0		20.0	20.0		25.5	25.5	
Total Split (s)	10.0	35.0	0.0	26.5	51.5	0.0	22.0	22.0	0.0	26.5	26.5	0.0
Total Split (%)	9.1%	31.8%	0.0%	24.1%	46.8%	0.0%	20.0%	20.0%	0.0%	24.1%	24.1%	0.0%
Yellow Time (s)	3.5	4.5		4.5	3.5		3.5	3.5		4.5	4.5	
All-Red Time (s)	0.5	1.0		1.0	0.5		0.5	0.5		1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.9	64.3		13.7	72.8		11.9	11.9		13.5	13.5	
Actuated g/C Ratio	0.05	0.58		0.12	0.66		0.11	0.11		0.12	0.12	
v/c Ratio	0.25	0.30		0.23	0.22		0.45	0.70		0.02	0.21	
Control Delay	56.8	17.0		49.1	3.1		52.1	39.3		27.0	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.6		0.0	0.1	
Total Delay	56.8	17.0		49.1	3.1		52.1	39.9		27.0	13.4	
LOS	E	B		D	A		D	D		C	B	
Approach Delay		18.5			7.3			43.9			14.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			D			B	
Queue Length 50th (ft)	17	121		30	35		58	65		3	7	
Queue Length 95th (ft)	45	251		51	27		102	132		m3	m3	
Internal Link Dist (ft)		258			303			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	97	2061		362	2341		290	342		362	369	
Starvation Cap Reductn	0	0		0	0		0	0		0	75	
Spillback Cap Reductn	0	138		0	0		0	32		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.32		0.14	0.22		0.30	0.57		0.01	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 18.6 — Intersection LOS: B
Intersection Capacity Utilization 45.1% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1660	0	1770	1583	0	1770	3539	1863	1770	3429	0
Flt Permitted	0.950	0.959		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1660	0	1770	1583	0	1770	3539	1863	1770	3429	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			106						39	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	519	0	39	7	0	2	44	1532	0	2	223	59
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	318	288	0	8	2	0	48	1665	0	2	306	0
Turn Type	Split			Split			Prot		Perm	Prot		
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases									2			
Detector Phases	8	8		7	7		5	2	2	1	6	
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	36.6	36.6		9.6	9.6		9.2	29.5	29.5	9.2	31.5	
Total Split (s)	36.6	36.6	0.0	9.6	9.6	0.0	11.2	54.6	54.6	9.2	52.6	0.0
Total Split (%)	33.3%	33.3%	0.0%	8.7%	8.7%	0.0%	10.2%	49.6%	49.6%	8.4%	47.8%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	4.5	4.5	3.2	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	24.7	24.7		5.6	5.6		6.8	73.5		5.2	66.4	
Actuated g/C Ratio	0.22	0.22		0.05	0.05		0.06	0.67		0.05	0.60	
v/c Ratio	0.84	0.76		0.09	0.01		0.44	0.70		0.02	0.15	
Control Delay	59.9	51.2		52.1	0.0		42.4	5.2		50.5	10.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.9	51.2		52.1	0.0		42.4	5.2		50.5	10.6	
LOS	E	D		D	A		D	A		D	B	
Approach Delay		55.8			41.7			6.2			10.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			D			A			B	
Queue Length 50th (ft)	226	195		6	0		35	29		1	40	
Queue Length 95th (ft)	308	271		22	0		m46	#824		10	87	
Internal Link Dist (ft)		75			76			662			138	
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	498	498		90	181		116	2366		84	2086	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.64	0.58		0.09	0.01		0.41	0.70		0.02	0.15	

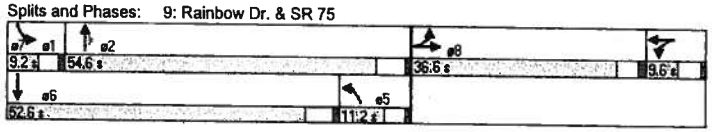
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 90 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 18.3 — Intersection LOS: B
Intersection Capacity Utilization 71.2% — ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Rainbow Dr. & SR 75



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	117		100	240		140	250		0	250		0
Storage Lanes	1		0	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4979	0	1770	5085	1583	1770	1863	1583	1770	1744	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4979	0	1770	5085	1583	1770	1863	1583	1770	1744	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26				98			233		23	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1128			353			248			253	
Travel Time (s)		25.6			8.0			5.6			5.8	
Volume (vph)	34	2315	372	270	1679	186	118	62	227	177	73	53
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	37	2920	0	293	1825	202	128	67	247	192	137	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phases	1	6		5	2	2	3	8	8	7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.5	26.5		9.2	23.5	23.5	9.2	39.6	39.6	9.2	39.6	
Total Split (s)	12.7	70.4	0.0	23.0	80.7	80.7	15.8	39.6	39.6	17.0	40.8	0.0
Total Split (%)	8.5%	46.9%	0.0%	15.3%	53.8%	53.8%	10.5%	26.4%	26.4%	11.3%	27.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5	4.5	3.2	3.6	3.6	3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	8.0	85.0		19.0	97.8	97.8	12.9	17.0	17.0	13.0	17.1	
Actuated g/C Ratio	0.05	0.57		0.13	0.65	0.65	0.09	0.11	0.11	0.09	0.11	
v/c Ratio	0.39	1.03		1.31	0.55	0.19	0.84	0.32	0.64	1.25	0.63	
Control Delay	62.0	41.7		215.7	16.8	7.3	107.6	62.2	15.7	209.7	63.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.0	41.7		215.7	16.8	7.3	107.6	62.2	15.7	209.7	63.5	
LOS	E	D		F	B	A	F	E	B	F	E	
Approach Delay		42.0			41.1			49.4			148.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			D			D			F	
Queue Length 50th (ft)	34	441		~367	323	35	127	63	13	~234	111	
Queue Length 95th (ft)	m46	#1401		#560	542	102	#208	97	87	#400	161	
Internal Link Dist (ft)		1048			273			168			173	
Turn Bay Length (ft)	117			240		140	250			250		
Base Capacity (vph)	103	2832		224	3316	1066	152	442	553	153	445	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.36	1.03		1.31	0.55	0.19	0.84	0.15	0.45	1.25	0.31	

Intersection Summary

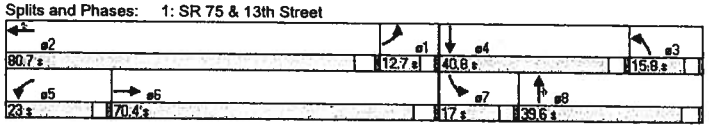
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 28 (19%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 48.0 — Intersection LOS: D
Intersection Capacity Utilization 99.4% — ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 75 & 13th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	275		0	100		0	100		120
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4624	0	1770	5034	0	1770	1749	0	1770	1751	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4624	0	1770	5034	0	1770	1749	0	1770	1751	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			11			22			22	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		748			1128			304			241	
Travel Time (s)		17.0			25.6			6.9			5.5	
Volume (vph)	26	2162	44	87	1269	89	21	29	20	108	30	20
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	28	2398	0	95	1476	0	23	54	0	117	55	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.5	39.6		9.5	35.6	
Total Split (s)	10.6	83.0	0.0	13.0	85.4	0.0	10.2	39.6	0.0	14.4	43.8	0.0
Total Split (%)	7.1%	55.3%	0.0%	8.7%	56.9%	0.0%	6.8%	26.4%	0.0%	9.6%	29.2%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	5.9	96.2		9.0	102.9		11.3	16.9		13.9	21.2	
Actuated g/C Ratio	0.04	0.64		0.06	0.69		0.08	0.11		0.09	0.14	
v/c Ratio	0.40	0.81		0.90	0.43		0.17	0.25		0.72	0.21	
Control Delay	104.4	7.3		112.4	4.5		65.1	37.1		89.5	36.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	104.4	7.3		112.4	4.5		65.1	37.1		89.5	36.5	
LOS	F	A		F	A		E	D		F	D	
Approach Delay		8.4			11.1			45.5			72.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			D			E	
Queue Length 50th (ft)	29	53		94	35		21	31		111	31	
Queue Length 95th (ft)	m44	#1034		m#204	41		51	65		#213	68	
Internal Link Dist (ft)		668			1048			224			161	
Turn Bay Length (ft)	125			275			100			100		
Base Capacity (vph)	78	2966		106	3458		138	432		163	481	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.36	0.81		0.90	0.43		0.17	0.13		0.72	0.11	

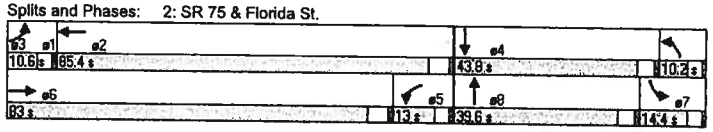
Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 34 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 12.7 — Intersection LOS: B
Intersection Capacity Utilization 70.2% — ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 75 & Florida St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		0	110		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1863	4624	0	1770	4624	0	1770	1688	0	1770	1820	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	1863	4624	0	1770	4624	0	1770	1688	0	1770	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			3			37			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		375			748			293			295	
Travel Time (s)		8.5			17.0			6.7			6.7	
Volume (vph)	0	1882	32	201	1212	21	20	20	34	20	20	4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	2081	0	218	1340	0	22	59	0	22	26	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	24.5		9.2	30.5		9.2	36.6		9.2	35.6	
Total Split (s)	9.2	77.1	0.0	27.1	95.0	0.0	10.1	36.6	0.0	9.2	35.7	0.0
Total Split (%)	6.1%	51.4%	0.0%	18.1%	63.3%	0.0%	6.7%	24.4%	0.0%	6.1%	23.8%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	Min		None	Min	
Act Effct Green (s)		100.4		20.6	124.9		6.1	10.7		6.1	10.6	
Actuated g/C Ratio		0.67		0.14	0.83		0.04	0.07		0.04	0.07	
v/c Ratio		0.67		0.90	0.35		0.31	0.38		0.31	0.20	
Control Delay		1.5		82.1	2.5		80.2	37.8		80.6	61.7	
Queue Delay		0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		1.6		82.1	2.5		80.2	37.8		80.6	61.7	
LOS		A		F	A		F	D		F	E	
Approach Delay		1.6			13.6			49.3			70.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			D			E	
Queue Length 50th (ft)	70		211	72		21	21		21	21		
Queue Length 95th (ft)	m45		#328	79		52	70		53	54		
Internal Link Dist (ft)	295			668			213			215		
Turn Bay Length (ft)			110			100			100			
Base Capacity (vph)	3095		273	3852		78	396		72	388		
Starvation Cap Reductn	193		0	0		0	0		0	.0		
Spillback Cap Reductn	0		0	0		0	0		0	0		
Storage Cap Reductn	0		0	0		0	0		0	0		
Reduced v/c Ratio	0.72		0.80	0.35		0.28	0.15		0.31	0.07		

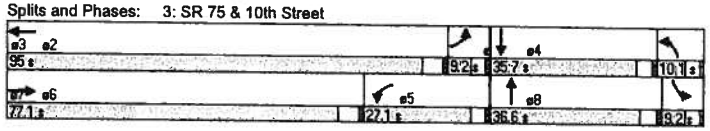
Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 18 (12%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 8.5 — Intersection LOS: A
Intersection Capacity Utilization 66.5% — ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: SR 75 & 10th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		100	225		55	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	4564	0	1770	4569	0	1770	1716	0	1770	1827	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4564	0	1770	4569	0	1770	1716	0	1770	1827	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			15			35			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		123			381			269			262	
Travel Time (s)		2.8			8.7			6.1			6.0	
Volume (vph)	85	1789	213	196	880	99	95	98	109	175	112	17
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	92	2177	0	213	1065	0	103	225	0	190	140	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												
Detector Phases	1	6		5	2		3	8		7	4	
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.2	26.5		9.2	26.5		9.2	39.6		9.2	39.6	
Total Split (s)	19.3	69.7	0.0	21.2	71.6	0.0	16.2	39.6	0.0	19.5	42.9	0.0
Total Split (%)	12.9%	46.5%	0.0%	14.1%	47.7%	0.0%	10.8%	26.4%	0.0%	13.0%	28.6%	0.0%
Yellow Time (s)	3.2	4.5		3.2	4.5		3.2	3.6		3.2	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	11.0	77.3		17.2	83.6		10.9	24.0		15.5	28.6	
Actuated g/C Ratio	0.07	0.52		0.11	0.56		0.07	0.16		0.10	0.19	
v/c Ratio	0.71	0.92		1.05	0.42		0.80	0.74		1.04	0.40	
Control Delay	98.2	25.5		132.7	23.9		107.1	63.8		140.1	52.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	98.2	25.5		132.7	23.9		107.1	63.8		140.1	52.8	
LOS	F	C		F	C		F	E		F	D	
Approach Delay		28.5			42.0			77.4			103.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			D			E			F	
Queue Length 50th (ft)	85	733		~227	113		100	186		~200	122	
Queue Length 95th (ft)	m137	#1035		#394	351		#193	252		#364	171	
Internal Link Dist (ft)		43			301			189			182	
Turn Bay Length (ft)	115			225			100			100		
Base Capacity (vph)	181	2360		203	2552		144	434		183	478	
Starvation Cap Reductn	0	3		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.51	0.92		1.05	0.42		0.72	0.52		1.04	0.29	

Intersection Summary

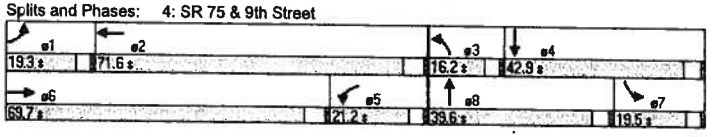
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 42.2 — Intersection LOS: D
Intersection Capacity Utilization 85.0% — ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: SR 75 & 9th Street



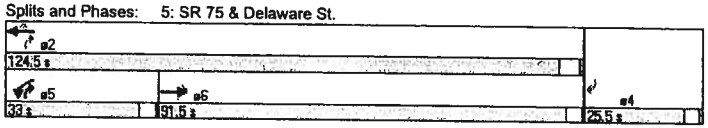
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	255		120	0		0	0		0
Storage Lanes	0		0	0		1	0		1	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50	50			50			50
Trailing Detector (ft)		0		0	0	0			0			0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Flt Permitted				0.950								
Satd. Flow (perm)	0	3539	0	3433	3539	1583	0	0	1611	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						23			1091			521
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		393			512			383			214	
Travel Time (s)		8.9			11.6			8.7			4.9	
Volume (vph)	0	1542	0	441	425	21	0	0	613	0	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	1676	0	479	462	23	0	0	666	0	0	1
Turn Type				Prot		Perm			custom			custom
Protected Phases		6		5	2				5			
Permitted Phases						2			2 6			4
Detector Phases		6		5	2	2			5			4
Minimum Initial (s)		4.0		4.0	10.0	10.0			4.0			5.0
Minimum Split (s)		20.0		20.0	22.5	22.5			20.0			25.5
Total Split (s)	0.0	91.5	0.0	33.0	124.5	124.5	0.0	0.0	33.0	0.0	0.0	25.5
Total Split (%)	0.0%	61.0%	0.0%	22.0%	83.0%	83.0%	0.0%	0.0%	22.0%	0.0%	0.0%	17.0%
Yellow Time (s)		3.5		3.5	4.5	4.5			3.5			3.2
All-Red Time (s)		0.5		0.5	1.0	1.0			0.5			1.0
Lead/Lag		Lag		Lead					Lead			
Lead-Lag Optimize?		Yes		Yes					Yes			
Recall Mode		C-Max		None	Min	Min			None			None
Act Effct Green (s)		110.3		26.9	144.4	144.4			144.4			8.2
Actuated g/C Ratio		0.74		0.18	0.96	0.96			0.96			0.05
v/c Ratio		0.64		0.78	0.14	0.02			0.42			0.00
Control Delay		1.7		61.9	2.2	2.4			5.6			0.0
Queue Delay		0.1		0.0	0.0	0.0			0.1			0.0
Total Delay		1.8		61.9	2.2	2.4			5.7			0.0
LOS		A		E	A	A			A			A
Approach Delay		1.8			31.9							

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			C								
Queue Length 50th (ft)	12		212	0	0			161				0
Queue Length 95th (ft)	32		285	101	m10			338				0
Internal Link Dist (ft)	313			432			303			134		
Turn Bay Length (ft)			255		120							
Base Capacity (vph)	2602		680	3406	1524			1591				677
Starvation Cap Reductn	0		0	0	0			195				0
Spillback Cap Reductn	130		0	0	0			59				0
Storage Cap Reductn	0		0	0	0			0				0
Reduced v/c Ratio	0.68		0.70	0.14	0.02			0.48				0.00

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 138 (92%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 11.3 — Intersection LOS: B
Intersection Capacity Utilization 87.2% — ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 75 & Delaware St.



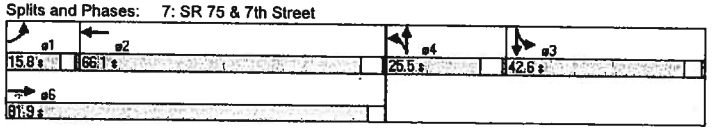
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	390		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50		50	50	
Trailing Detector (ft)	0	0	0		0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	0	3476	0	1770	1863	0	0	1789	0
Flt Permitted	0.950						0.950				0.989	
Satd. Flow (perm)	1770	3539	1583	0	3476	0	1770	1863	0	0	1789	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			47		12						9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		194			393			198			314	
Travel Time (s)		4.4			8.9			4.5			7.1	
Volume (vph)	58	1484	67	0	377	51	29	72	0	26	67	26
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	63	1613	73	0	465	0	32	78	0	0	129	0
Turn Type	Prot		Perm				Split			Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases			6									
Detector Phases	1	6	6		2		4	4		3	3	
Minimum Initial (s)	5.0	4.0	4.0		10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.2	20.0	20.0		25.5		25.5	25.5		42.6	42.6	
Total Split (s)	15.8	81.9	81.9	0.0	66.1	0.0	25.5	25.5	0.0	42.6	42.6	0.0
Total Split (%)	10.5%	54.6%	54.6%	0.0%	44.1%	0.0%	17.0%	17.0%	0.0%	28.4%	28.4%	0.0%
Yellow Time (s)	3.2	3.5	3.5		4.5		4.5	4.5		3.6	3.6	
All-Red Time (s)	1.0	0.5	0.5		1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead				Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes				
Recall Mode	None	C-Max	C-Max		Min		Min	Min		None	None	
Act Effct Green (s)	8.7	106.5	106.5		95.6		15.8	15.8			15.8	
Actuated g/C Ratio	0.06	0.71	0.71		0.64		0.11	0.11			0.11	
v/c Ratio	0.62	0.64	0.06		0.21		0.17	0.40			0.66	
Control Delay	94.2	5.1	0.4		20.1		64.0	71.6			75.2	
Queue Delay	0.0	0.4	0.0		0.3		0.0	2.8			0.1	
Total Delay	94.2	5.5	0.4		20.4		64.0	74.4			75.3	
LOS	F	A	A		C		E	E			E	
Approach Delay		8.5			20.4			71.4			75.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			C			E			E	
Queue Length 50th (ft)	59	210	2		123		32	76			115	
Queue Length 95th (ft)	m65	90	m0		236		m59	m122			180	
Internal Link Dist (ft)		114			313			118			234	
Turn Bay Length (ft)	150											
Base Capacity (vph)	139	2512	1137		2220		254	267			467	
Starvation Cap Reductn	0	380	0		1067		0	114			0	
Spillback Cap Reductn	0	0	26		0		0	0			41	
Storage Cap Reductn	0	0	0		0		0	0			0	
Reduced v/c Ratio	0.45	0.76	0.07		0.40		0.13	0.51			0.30	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 140 (93%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 17.1 — Intersection LOS: B
Intersection Capacity Utilization 60.9% — ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: SR 75 & 7th Street



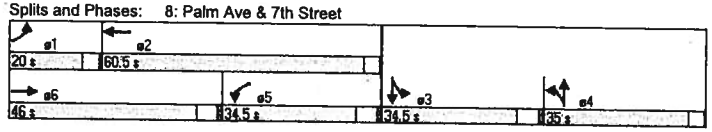
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3497	0	1770	3525	0	1770	1650	0	1770	1730	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3497	0	1770	3525	0	1770	1650	0	1770	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			2			97			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		325			383			170			198	
Travel Time (s)		7.4			8.7			3.9			4.5	
Volume (vph)	32	465	39	67	499	14	69	38	121	27	54	49
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	35	547	0	73	557	0	75	173	0	29	112	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												
Detector Phases	1	6		5	2		4	4		3	3	
Minimum Initial (s)	4.0	10.0		10.0	4.0		4.0	4.0		10.0	10.0	
Minimum Split (s)	8.0	25.5		25.5	20.0		20.0	20.0		25.5	25.5	
Total Split (s)	20.0	46.0	0.0	34.5	60.5	0.0	35.0	35.0	0.0	34.5	34.5	0.0
Total Split (%)	13.3%	30.7%	0.0%	23.0%	40.3%	0.0%	23.3%	23.3%	0.0%	23.0%	23.0%	0.0%
Yellow Time (s)	3.5	4.5		4.5	3.5		3.5	3.5		4.5	4.5	
All-Red Time (s)	0.5	1.0		1.0	0.5		0.5	0.5		1.0	1.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	None		None	None		None	None	
Act Effct Green (s)	8.3	89.7		18.4	98.6		12.8	12.8		16.1	16.1	
Actuated g/C Ratio	0.06	0.60		0.12	0.66		0.09	0.09		0.11	0.11	
v/c Ratio	0.36	0.26		0.33	0.24		0.50	0.75		0.15	0.53	
Control Delay	77.3	18.0		20.4	2.8		75.2	49.2		46.0	40.8	
Queue Delay	0.2	0.0		0.0	0.2		0.0	0.1		0.0	0.8	
Total Delay	77.6	18.0		20.4	3.0		75.2	49.3		46.0	41.6	
LOS	E	B		C	A		E	D		D	D	
Approach Delay		21.6			5.0			57.1			42.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			A			E			D	
Queue Length 50th (ft)	34	124		47	23		72	73		26	80	
Queue Length 95th (ft)	72	250		m20	41		122	152		m49	m141	
Internal Link Dist (ft)		245			303			90			118	
Turn Bay Length (ft)	55			50								
Base Capacity (vph)	189	2095		366	2318		366	418		360	373	
Starvation Cap Reductn	0	0		0	961		0	0		0	101	
Spillback Cap Reductn	25	130		0	95		0	10		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.28		0.20	0.41		0.20	0.42		0.08	0.41	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 18 (12%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 22.4 — Intersection LOS: C
Intersection Capacity Utilization 53.5% — ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Palm Ave & 7th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	170		120	115		0
Storage Lanes	1		0	1		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1681	1601	0	1770	1770	0	1770	3539	1863	1770	3433	0
Flt Permitted	0.950	0.977		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1601	0	1770	1770	0	1770	3539	1863	1770	3433	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			2						34	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		155			156			742			218	
Travel Time (s)		3.5			3.5			16.9			5.0	
Volume (vph)	133	3	44	12	4	2	104	298	0	3	1597	396
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	99	97	0	13	6	0	113	324	0	3	2166	0
Turn Type	Split			Split			Prot		Perm	Prot		
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases									2			
Detector Phases	8	8		7	7		5	2	2	1	6	
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	36.6	36.6		9.6	9.6		9.2	29.5	29.5	9.2	31.5	
Total Split (s)	36.6	36.6	0.0	9.6	9.6	0.0	13.6	94.6	94.6	9.2	90.2	0.0
Total Split (%)	24.4%	24.4%	0.0%	6.4%	6.4%	0.0%	9.1%	63.1%	63.1%	6.1%	60.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	4.5	4.5	3.2	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	16.1	16.1		5.6	5.6		9.6	118.3		5.2	106.6	
Actuated g/C Ratio	0.11	0.11		0.04	0.04		0.06	0.79		0.03	0.71	
v/c Ratio	0.55	0.49		0.20	0.09		1.00	0.12		0.05	0.88	
Control Delay	72.8	49.3		77.1	61.8		156.5	1.4		71.7	24.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	72.8	49.3		77.1	61.8		156.5	1.4		71.7	24.1	
LOS	E	D		E	E		F	A		E	C	
Approach Delay		61.2			72.3			41.5			24.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	101	67		13	4		97	1		3	810	
Queue Length 95th (ft)	145	113		37	20		m#241	40		15	#1377	
Internal Link Dist (ft)		75			76			662			138	
Turn Bay Length (ft)							170			115		
Base Capacity (vph)	365	371		66	68		113	2792		61	2449	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.26		0.20	0.09		1.00	0.12		0.05	0.88	

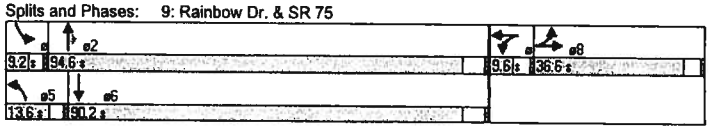
Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 18 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 29.8 — Intersection LOS: C
Intersection Capacity Utilization 84.3% — ICU Level of Service E
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Rainbow Dr. & SR 75



APPENDIX F

PRELIMINARY COST ESTIMATES

KOA CORPORATION
PLANNING & ENGINEERING

By: RKZ
Date: 2/5/2009

SR75 Corridor Improvements Project
Cost Estimate
A72117

1	Remove Existing Concrete Curb	11,800	LF	$15		$177,000
2	Remove Existing Sidewalk	49,100	SF	$3		$147,300
3	Remove Fair Asphalt Concrete	172,400	SF	$2		$344,800
4	Remove Existing Streetlights	5	EA	$1,000		$5,000
5	Grind Asphalt Concrete	370,000	SF	$2		$740,000
6	Construct 8" Concrete Curb & Gutter	8,000	LF	$30		$240,000
7	Construct 6" Mid-air Concrete Curb	7,680	LF	$25		$192,000
8	Construct Sidewalk	80,000	SF	$10		$800,000
9	Construct Curb Ramps	72	EA	$3,000		$216,000
10	Construct Concrete Driveway	8,700	SF	$40		$348,000
11	Construct Decorative Concrete	15,500	SF	$30		$465,000
12	Construct Asphalt Concrete Pavement and Base	85,000	SF	$10		$850,000
13	Asphalt Overlay	370,000	SF	$3		$1,110,000
14	Install Striping	23,800	LF	$3		$59,500
15	Install Signage	66	EA	$400		$26,400
16	Install Street Lighting	38	EA	$8,000		$304,000
17	Install New Traffic Signal	1	EA	$250,000		$250,000
18	Modify Existing Traffic Signal	7	EA	$200,000		$1,400,000
19	Install Signal Interconnection	1.0	LS	$200,000		$200,000
20	Construct Drainage Improvements	1.0	LS	$600,000		$600,000
21	Utility Adjustments and Relocations	1.0	LS	$800,000		$800,000
				Construction Improvements Sub-Total		$9,275,000
22	Mobilization	1.0	LS	$280,000	3%	$280,000
23	Traffic Control	1.0	LS	$460,000	5%	$460,000
24	Clearing and Grubbing	1.0	LS	$190,000	2%	$190,000
				Contract LS Pay Items Sub-Total		$930,000
				Construction Improvements with LS Pay Items Sub-Total		$10,205,000
25	Landscaping	1	LS	$1,728,000		$1,728,000
26	Irrigation	1	LS	$402,000		$402,000
27	Street Furniture	1	LS	$48,000		$48,000
28	Gateway Feature	1	LS	$45,000		$45,000
				Roadway Accessory and Landscaping Sub-Total		$2,223,000
				Project Sub-Total		
				Contingency	30%	$3,728,000
				Project & Contingency Sub-Total		$16,156,000
				Design & Construction Admin.	12%	$1,939,000
				Environmental Documents	3%	$485,000

ASSUMPTIONS:
This cost estimate is based upon preliminary designs.

KOA CORPORATION
PLANNING & ENGINEERING

By: RKZ
Date: 2/5/2009

SR75 Corridor Improvements Project: West End Gateway (Rainbow to w/o 7th Street)
Cost Estimate
A72117

1	Remove Existing Concrete Curb	1,500	LF	$15		$22,500
2	Remove Existing Sidewalk	8,700	SF	$3		$26,100
3	Remove Existing Asphalt Concrete	6,000	SF	$2		$12,000
4	Remove Existing Street Light	0	EA	$1,000		$0
5	Install Asphalt Concrete	73,000	SF	$2		$146,000
6	Construct Concrete Curb & Gutter	1,500	LF	$30		$45,000
7	Construct Median Concrete Curb	80	LF	$25		$2,000
8	Construct Sidewalk	11,000	SF	$10		$110,000
9	Construct Curb Ramp	10	EA	$3,000		$30,000
10	Construct Concrete Driveway	800	SF	$40		$32,000
11	Construct Decorative Concrete	0	SF	$30		$0
12	Construct Asphalt Concrete Pavement and Base	0	SF	$10		$0
13	Asphalt Overlay	73,000	SF	$3		$219,000
14	Install Striping	4,000	LF	$3		$10,000
15	Install Signage	6	EA	$400		$2,400
16	Install Street Lighting	6	EA	$8,000		$48,000
17	Install New Traffic Signal	0	EA	$250,000		$0
18	Modify Existing Traffic Signal	1	EA	$200,000		$200,000
19	Install Signal Interconnection	0.1	LS	$200,000		$20,000
20	Construct Drainage Improvements	0.1	LS	$600,000		$60,000
21	Utility Relocation	0.1	LS	$800,000		$80,000
				Construction Improvements Sub-Total		**$1,065,000**
22	Mobilization	0.1	LS	$280,000		$28,000
23	Traffic Control	0.1	LS	$460,000		$46,000
24	Clearing and Grubbing	0.1	LS	$190,000		$19,000
				LS Pay Items Sub-Total		**$93,000**
				Construction Improvements with LS Pay Items Sub-Total		**$1,158,000**
25	Landscaping	1	LS	$279,000		$279,000
26	Irrigation	1	LS	$72,000		$72,000
27	Site Furniture	1	LS	$4,000		$4,000
28	Gateway Feature	1	LS	$0		$0
				Roadway Accessory and Landscaping Sub-Total		**$355,000**
				Project Sub-Total		
				Contingency	30%	$454,000
				Project + Contingency Sub-Total		**$1,967,000**
				Design & Construction Admin.	12%	$236,000
				Environmental Documents	3%	$59,000

ASSUMPTIONS:
This cost estimate is based upon preliminary designs.
Drainage design and utility conflicts and adjustments have not been assessed and have been included as a general allowance in the estimate.
No right of way is assumed to be necessary for the proposed improvements.

KOA CORPORATION
PLANNING & ENGINEERING

By: RKZ
Date: 2/5/2009

SR75 Corridor Improvements Project: Park Sector (7th Street to w/o 9th Street)
Cost Estimate
A72117

1	Remove Existing Concrete Curb	6,600	LF	$15		$99,000
2	Remove Existing Sidewalk	9,700	SF	$3		$29,100
3	Remove Exist. Asphalt Concrete	108,000	SF	$2		$216,000
4	Remove Existing Structure	5	EA	$1,000		$5,000
5	Cold Asphalt Concrete	29,000	SF	$2		$58,000
6	Construct A Concrete Curb & Gutter	3,000	LF	$30		$90,000
7	Construct B Mount Concrete Curb	3,600	LF	$25		$90,000
8	Construct Sidewalk	29,000	SF	$10		$290,000
9	Construct Curb Ramps	20	EA	$3,000		$60,000
10	Construct Portland Driveway	900	SF	$40		$36,000
11	Construct Decorative Concrete	15,500	SF	$30		$465,000
12	Construct Asphalt Concrete Pavement and Base	85,000	SF	$10		$850,000
13	Asphalt Overlay	29,000	SF	$3		$87,000
14	Install Striping	8,000	LF	$3		$20,000
15	Install Signs	12	EA	$400		$4,800
16	Install Street Lighting	12	EA	$8,000		$96,000
17	Install New Traffic Signal	0	EA	$250,000		$0
18	Modify Existing Traffic Signal	3	EA	$200,000		$600,000
19	Install Signal Interconnection	0.4	LS	$200,000		$80,000
20	Construct Drainage Improvements	0.4	LS	$600,000		$240,000
21	Utility Relocations	0.4	LS	$800,000		$320,000
				Construction Improvements Sub-Total		**$3,735,900**
22	Mobilization	0.4	LS	$280,000		$112,000
23	Traffic Control	0.4	LS	$460,000		$184,000
24	Clearing and Grubbing	0.4	LS	$190,000		$76,000
				LS Pay Items Sub-Total		**$372,000**
				Construction Improvements with LS Pay Items Sub-Total		**$4,107,900**
25	Landscaping	1	LS	$650,000		$650,000
26	Irrigation	1	LS	$123,000		$123,000
27	Street Furniture	1	LS	$11,000		$11,000
28	Gateway Feature	1	LS	$25,000		$25,000
				Roadway Accessory and Landscaping Sub-Total		**$809,000**
				Project Sub-Total		
				Contingency	30%	$1,475,000
				Project + Contingency Sub-Total		**$6,391,900**
				Design & Construction Admin.	12%	$767,000
				Environmental Documents	3%	$192,000

ASSUMPTIONS:
This cost estimate is based upon preliminary designs.
Drainage design and utility conflicts and adjustments have not been assessed and have been included as a general allowance in the estimate.
No right of way is assumed to be necessary for the proposed improvements.

KOA CORPORATION
PLANNING & ENGINEERING

By: RKZ
Date: 2/5/2009

SR75 Corridor Improvements Project: Mid-Town Sector (9th Street to w/o Florida Street)
Cost Estimate
A72117

1	Remove Existing Concrete Curb	1,700	LF	$15		$25,500
2	Remove Existing Sidewalk	9,600	SF	$3		$28,800
3	Remove Exist. Asphalt Concrete	37,200	SF	$2		$74,400
4	Remove Existing Structures	0	EA	$1,000		$0
5	Grind Asphalt Concrete	144,000	SF	$2		$288,000
6	Construct 6" Concrete Curb & Gutter	1,500	LF	$30		$45,000
7	Construct 6" Mount Concrete Curb	3,500	LF	$25		$87,500
8	Construct Sidewalk	13,000	SF	$10		$130,000
9	Construct Curb Ramp	24	EA	$3,000		$72,000
10	Construct Concrete Driveway	600	SF	$40		$24,000
11	Construct Decorative Pavement	0	SF	$30		$0
12	Construct Asphalt Concrete Pavement and Base	0	SF	$10		$0
13	Asphalt Overlay	144,000	SF	$3		$432,000
14	Install Striping	6,000	LF	$3		$15,000
15	Install Signage	32	EA	$400		$12,800
16	Install Street Lighting	10	EA	$8,000		$80,000
17	Install New Traffic Signal	1	EA	$250,000		$250,000
18	Modify Existing Traffic Signal	1	EA	$200,000		$200,000
19	Install Traffic Interconnect	0.3	LS	$200,000		$60,000
20	Construct Drainage Improvements	0.3	LS	$600,000		$180,000
21	Utility Relocations	0.3	LS	$800,000		$240,000
				Construction Improvements Sub-Total		**$2,245,000**
22	Mobilization	0.3	LS	$280,000		$84,000
23	Traffic Control	0.3	LS	$460,000		$138,000
24	Clearing and Grubbing	0.3	LS	$190,000		$57,000
				LS Pay Items Sub-Total		**$279,000**
				Construction Improvements with LS Pay Items Sub-Total		**$2,524,000**
25	Landscaping	1	LS	$534,000		$534,000
26	Irrigation	1	LS	$137,000		$137,000
27	Bus Furniture	1	LS	$22,000		$22,000
28	Gateway Features	1	LS	$0		$0
				Roadway Accessory and Landscaping Sub-Total		**$693,000**
				Project Sub-Total		
				Contingency	30%	$965,000
				Project + Contingency Sub-Total		**$4,182,000**
				Design & Construction Admin.	12%	$502,000
				Environmental Documents	3%	$125,500

ASSUMPTIONS:
This cost estimate is based upon preliminary designs.
Drainage design and utility conflicts and adjustments have not been assessed and have been included as a general allowance in the estimate.
No right of way is assumed to be necessary for the proposed improvements.

KOA CORPORATION
PLANNING & ENGINEERING

By: RKZ
Date: 2/5/2009

SR75 Corridor Improvements Project: East End Gateway (Florida Street to 13th Street)
Cost Estimate
A72117

1	Remove Existing Concrete Curb	2,000	LF	$15		$30,000
2	Remove Existing Sidewalk	21,100	SF	$3		$63,300
3	Remove Existing Asphalt Concrete	21,200	SF	$2		$42,400
4	Remove Existing Structures	0	EA	$1,000		$0
5	Grind Asphalt Concrete	124,000	SF	$2		$248,000
6	Construct 6" Concrete Curb & Gutter	2,000	LF	$30		$60,000
7	Construct 6" Median Concrete Curb	500	LF	$25		$12,500
8	Construct Sidewalk	27,000	SF	$10		$270,000
9	Construct Curb Ramps	18	EA	$3,000		$54,000
10	Construct Concrete Driveway	6,400	SF	$40		$256,000
11	Construct Decorative Concrete	0	SF	$30		$0
12	Construct Asphalt Concrete Pavement and Base	0	SF	$10		$0
13	Asphalt Overlay	124,000	SF	$3		$372,000
14	Install Striping	5,800	LF	$3		$14,500
15	Install Signage	16	EA	$400		$6,400
16	Install Street Lighting	10	EA	$8,000		$80,000
17	Install New Traffic Signal	0	EA	$250,000		$0
18	Modify Existing Traffic Signal	2	EA	$200,000		$400,000
19	Install Signal Interconnection	0.2	LS	$200,000		$40,000
20	Construct Drainage Improvements	0.2	LS	$600,000		$120,000
21	Utility Relocations	0.2	LS	$800,000		$160,000
				Construction Improvements Sub-Total		**$2,229,100**
23	Mobilization	0.2	LS	$280,000		$56,000
23	Traffic Control	0.2	LS	$460,000		$92,000
24	Clearing and Grubbing	0.2	LS	$190,000		$38,000
				LS Pay Items Sub-Total		**$186,000**
				Construction Improvements with LS Pay Items Sub-Total		**$2,415,100**
25	Landscaping	1	LS	$265,000		$265,000
26	Irrigation	1	LS	$70,000		$70,000
27	Area Furniture	1	LS	$11,000		$11,000
28	Gateway Feature	1	LS	$20,000		$20,000
				Roadway Accessory and Landscaping Sub-Total		**$366,000**
				Project Sub-Total		
				Contingency	30%	$834,000
				Project + Contingency Sub-Total		**$3,615,100**
				Design & Construction Admin.	12%	$434,000
				Environmental Documents	3%	$108,500

ASSUMPTIONS:
This cost estimate is based upon preliminary designs.
Drainage design and utility conflicts and adjustments have not been assessed and have been included as a general allowance in the estimate.
No right of way is assumed to be necessary for the proposed improvements.