TRAFFIC IMPACT ANALYSIS

MEDICAL OFFICE BUILDING-
SOUTHWEST CORNER OF JOHNSON STREET AND N 35TH AVENUE

HOLLYWOOD, FLORIDA

AUGUST 2018

PREPARED FOR: ZINGALE CONSTRUCTION, INC.

PREPARED BY:

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PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Marlin Engineering, Incorporated, a corporation authorized to operate as an engineering business by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice hereby for:

PROJECT: Medical Office Building Traffic Impact Analysis

LOCATION: Hollywood, FL

PREPARED FOR: Zingale Construction, Inc.

I acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

NAME: Steven Schindler, PE, PTOE

P.E. NO.: 57862

DATE: August, 2018

SIGNATURE: _____

EXECUTIVE SUMMARY

Marlin Engineering, Inc. (MEI) has been retained by Zingale Construction, Inc. to perform a traffic impact analysis (TIA) for a proposed development consisting of a 18,776 square foot, two-story medical office building that is proposed to be located adjacent to the southwest corner of the intersection of Johnson Street and N 35th Avenue in Hollywood, Florida (across the street from Memorial Regional Hospital, which is located adjacent to the northwest corner of the intersection).

It is proposed that the entrance/exit driveway for the development be a right-in/right-out only driveway located along the west side of N 35th Avenue, approximately midway between the intersections of N 35th Avenue and Johnson Street, and N 35th Avenue and N Rainbow Drive. Since these two intersections are located approximately only 245 feet (center to center) from each other, and noting that the intersection of N 35th Avenue and Johnson Street is a signalized intersection, the driveway would be located within the functional area of both intersections. It is necessitated that the driveway be a right-in/right-out driveway.

The medical office building development would be expected to generate 718 net new daily trips, with 69 net new trips during the AM peak hour (54 In, 15 Out), and 62 net new trips during the PM peak hour (18 In, 44 Out). The site is currently a vacant lot.

The analysis demonstrated that while including traffic from committed developments from the adjoining Memorial Regional Hospital developments, including the currently under construction expansion to the Joe DiMaggio Children's Hospital, and net new trips generated as per the previous paragraph from the medical office building development, that all of the study intersections will continue to operate acceptably at the anticipated 2020 build-out. The only exception is the southbound left-turn exit from the Memorial Regional Hospital's Emergency driveway on Johnson Street, which would have an approach LOS of F during the AM and PM peak hours. With the potential construction of a traffic signal at the Hospital's proposed parking garage driveway, which would be located approximately 250 feet west of the Emergency driveway, more acceptable gaps would be anticipated in the traffic flow, which would improve the LOS and reduce delay on this approach.

Since the proposed driveway is located within functional area of the intersections of Johnson Street and N 35th Avenue (signalized) and N 35th Avenue and N Rainbow Drive (unsignalized), it is recommended to construct a four-foot wide concrete traffic separator in the center of N 35th Avenue between Johnson Street and N Rainbow Drive, and reconfigure the six-lane wide section to three northbound lanes and three southbound lanes, thus allowing for U-turns to be accommodated. In addition, it is recommended that a dedicated right-turn lane be constructed on the eastbound Johnson Street approach of the signalized intersection of Johnson Street and N 35th Avenue. Refer to **Figure 8** on Page 30 for an improvement diagram.

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1.0 INTRODUCTION

Marlin Engineering, Inc. (MEI) has been retained by Zingale Construction, Inc. to perform a traffic impact analysis (TIA) for a proposed development consisting of a 18,776 square foot, two-story medical office building that is proposed to be located adjacent to the southwest corner of the intersection of Johnson Street and N 35th Avenue in Hollywood, Florida (across the street from Memorial Regional Hospital, which is located adjacent to the northwest corner of the intersection). A location map of the site is shown in **Figure 1** below. A site plan is attached in **Appendix A.**

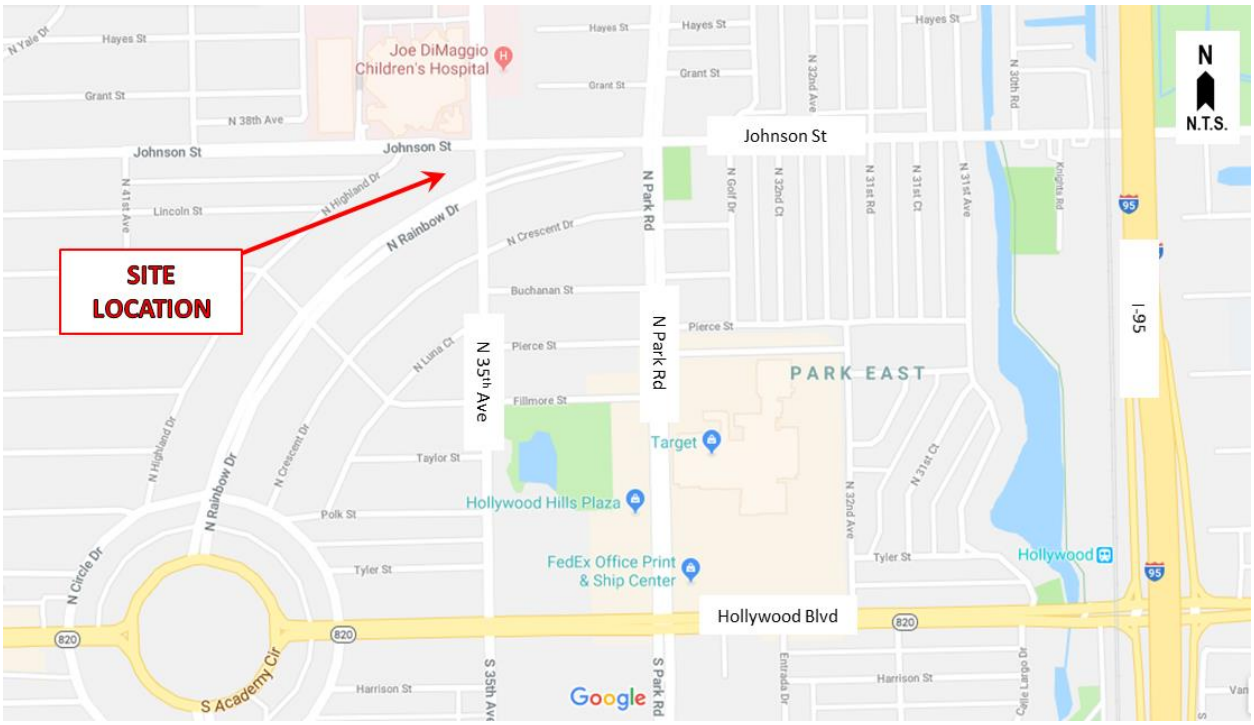


Figure 1. Location Map

2.0 PROJECT ACCESS

It is proposed that the entrance/exit driveway for the development be a right-in/right-out only driveway located along the west side of N 35th Avenue, approximately midway between the intersections of N 35th Avenue and Johnson Street, and N 35th Avenue and N Rainbow Drive. Since these two intersections are located approximately only 245 feet (center to center) from each other, and noting that the intersection of N 35th Avenue and Johnson Street is a signalized intersection, it is necessitated that the driveway be a right-in/right-out driveway.

This traffic impact analysis (TIA) will analyze existing conditions, and proposed conditions at build-out, which is scheduled to occur in 2020.

3.0 STUDY AREA

As the medical office building development is projected to generate no more than 69 two-way peak hour external trips (this occurs during the AM peak hour), the study area is limited to approximately one-half mile radius from the project site.

Intersections to be analyzed in the study area include:

- Johnson Street at Memorial Regional Hospital Driveway
- Johnson Street at N Highland Drive
- Johnson Street at N 35th Avenue
- Johnson Street at N Park Road
- N 35th Avenue at N Rainbow Drive
- N Highland Drive at Buchanan Street/N Highlands Court
- N Rainbow Drive at N Highlands Court

Six-hour turning movement counts were collected at the above intersections from 6AM to 9AM, and 3PM to 6PM on a typical weekday, which was Tuesday, June 12, 2018. The turning movement counts are included in **Appendix C.**

All of the intersections are controlled by STOP-signs, except the intersections of Johnson Street at N 35th Avenue, and Johnson Street at N Park Road are controlled by traffic signals.

A methodology describing the traffic impact analysis process for this development was submitted to the City of Hollywood, and was approved on June 20, 2018. The methodology is attached as **Appendix B.**

Existing traffic signal timings for the signalized intersections were obtained from Broward County Traffic Engineering. The timings are attached in **Appendix I.**

4.0 STUDY ROADWAY SEGMENTS AND INTERSECTIONS

All of the roadways/intersections analyzed in this TIA are maintained by the City of Hollywood.

Johnson Street is an east-west major urban collector. It has one travel lane in each direction with dedicated left-turn lanes at the study intersections, and usually has dedicated right-turn lanes at the study intersections also. It has an urban typical section with a posted 30 miles per hour (mph) speed limit.

N 35th Avenue is a north-south major urban collector. It has one travel lane in each direction with dedicated left-turn lanes at the study intersections, and usually has dedicated right-turn lanes at the study intersections also. It has an urban typical section with a posted 30 mph speed limit. South of N Rainbow Drive, the roadway has a rural typical section and is a two-lane roadway with one travel lane in each direction.

N Rainbow Drive is a northeast-southwest local street on a gently curved alignment which connects Academy Circle to N 35th Avenue. It is a divided roadway with an approximately 36 foot wide grass median, and grass swales. It has two travel lanes in each direction with a 30 mph posted speed limit. Since it is a local street with four travel lanes and low traffic volumes, which invites speeding, the roadway has traffic calming devices (speed tables) placed at regular intervals.

Intersection No. 1, Johnson Street at Memorial Regional Hospital Emergency entrance, is located approximately 685 feet west of the intersection of Johnson Street and N 35th Avenue. It is a STOP-sign controlled intersection, with east-west Johnson Street being free-flow, and the southbound Hospital exit being controlled by a STOP-sign. The intersection is a “T”-intersection. The southbound exit has dedicated left- and right-turn lanes, although the dedicated left-turn lane is very short in length (approximately 50 feet). There is an eastbound left-turn lane with a storage length of approximately 115 feet, and a dedicated westbound right-turn lane with a length of approximately 150 feet on Johnson Street.

Intersection No. 2, Johnson Street at N Highland Drive, is a right-out only intersection where northeast-bound N Highland Drive approaches eastbound Johnson Street with a right-out only, STOP-sign controlled intersection. No other movements are permitted.

Intersection No. 3, Johnson Street at N 35th Avenue, is a signalized intersection of these two major urban collectors. Left-turns are controlled by protected-permissive phasing. Each approach has one through travel lane, one dedicated left-turn lane, and one dedicated right-turn lane, except the eastbound approach of Johnson Street does not have a dedicated right-turn lane. The northbound approach of N 35th Avenue has two through lanes between Johnson Street and N Rainbow Drive. The intersection has pedestrian crosswalks across all four legs, controlled by pedestrian signals with pushbutton detectors. Approximate turn lane storage lengths are: EBL: 130 feet, NBL: 150 feet, NBR: 125 feet, WBL: 225 feet, WBR: 850 feet, SBL: 225 feet, SBR: 475 feet.

Intersection No. 4, Johnson Street at N Park Road, located approximately 995 feet east of the intersection of Johnson Street and N 35th Avenue, is a signalized intersection of these two major urban collectors. Left-turns are controlled by protected-permissive phasing. Each approach on Johnson Street has one through travel lane, one dedicated left-turn lane, and one dedicated right-turn lane. Each approach of N Park Road has two through travel lanes, one dedicated left-turn lane, and one dedicated right-turn lane. The intersection has pedestrian crosswalks across all four legs, controlled by pedestrian signals with pushbutton detectors. Approximate turn lane storage lengths are: EBL: 230 feet, EBR: 230 feet, NBL: 150 feet, NBR: 150 feet, WBL: 175 feet, WBR: 275 feet, SBL: 150 feet, SBR: 150 feet.

Intersection No. 5 would be the proposed intersection of the entrance/exit driveway of the medical office building parking lot with N 35th Avenue, approximately midway between the intersections of Johnson Street and N 35th Avenue, and N 35th Avenue and N Rainbow Drive, which are located approximately 245 feet center-to-center from each other. The driveway would be a right-in/right-out only driveway on the west side of N 35th Avenue. The eastbound exit would be controlled by a STOP-sign with a diagrammatic RIGHT TURN ONLY (R3-5R) regulatory sign beneath the STOP sign.

Intersection No. 6, N 35th Avenue at N Rainbow Drive, is a STOP-sign controlled intersection where north-south oriented N 35th Avenue is free-flow, and northeast-southwest oriented N Rainbow Drive is STOP-controlled. N Rainbow Drive is a four-lane roadway with a wide grass median (approximately 36 feet in width) and two travel lanes in each direction. Since the intersection is so broad north-to-south, N 35th Avenue has six lanes north of the intersection, and two lanes south of the intersection. There is a dedicated right-turn lane for southbound N 35th Avenue to southwest-bound N Rainbow Drive.

Intersection No. 7 is the intersection of N Rainbow Drive at N Highlands Court. N Highlands Court is a local two-lane street and is controlled by STOP-signs, while N Rainbow Drive is free-flow.

Intersection No. 8 is the intersection of N Highland Drive at Buchanan Street/N Highlands Court. This is a small local residential street intersection where N Highland Drive is free-flow, and Buchanan Street/N Highlands Court is controlled by STOP-signs.

Intersections No. 7 and No. 8 were added to the analysis to determine impacts of cut-through traffic on local residential streets. The analysis showed that adding these intersections to the analysis was unnecessary (detailed further in this TIA).

The intersection locations are shown in the following **Figures 3, 4, 5, 6, and 7** and are numbered accordingly.

Figure 2 shows the existing configuration of N 35th Avenue between the signalized intersection at Johnson Street and the STOP-sign controlled intersection at N Rainbow Drive. As previously noted, these two intersections are approximately only 245 feet apart from each other. The proposed development driveway, Intersection No. 5, would be a right-in/right-out only intersection on the west side of N 35th Avenue approximately midway between the two existing intersections. The N 35th Avenue roadway section between the two existing intersections consists of six lanes- four northbound, and two southbound. Northbound consists of a dedicated left-turn lane, two through lanes, and a dedicated right-turn lane for the approach of the Johnson Street intersection. The southbound direction consists of one combination through/left-turn lane, and a dedicated right-turn lane for the approach of the N Rainbow Drive intersection. Opposing directions of travel are separated simply by double yellow solid line pavement marking with no raised concrete traffic separator.

Figure 2. Existing configuration of N 35th Avenue between Johnson Street and N Rainbow Drive

5.0 EXISTING CONDITIONS

Six-hour turning movement counts were collected at the study intersections from 6AM to 9AM, and 3PM to 6PM on a typical weekday, which was Tuesday, June 12, 2018. The turning movement counts are included in **Appendix C.** The peak hour for both the AM peak hour and PM peak hour was determined. The AM peak hour and PM peak hour for all of the intersections combined was determined so that the SYNCHRO model would be analyzing all of the study intersections on the same timeframe (not using slightly different peak hours for the various intersections individually). The AM peak hour occurs from 7:45AM to 8:45AM, and the PM peak hour occurs from 4:30PM to 5:30PM. The turning movement counts were then factored by the Florida Department of Transportation (FDOT) Peak Season Conversion Factor (PSCF) for Central Broward County (between SR 7 (US 441) to the west and SR 5 (US 1) to the east), which was obtained from the Florida Traffic Online website. The report page is included as **Appendix D.** The peak season conversion factor adjusts the counts to mimic peak season conditions. The factor is 1.04 since the counts were taken between June 11 and June 17. **Figure 3** shows the existing turning movement counts at the study intersections after being factored by 1.04. With each turning movement volume, the first number is the AM peak volume, and the second number in parenthesis is the PM peak volume.

Level of Service and Delays

Level of service, or LOS, is a qualitative measure used to relate the quality of motor vehicle traffic service. LOS is used to analyze roadways and intersections by categorizing traffic flow and assigning quality levels of traffic based on performance measure like vehicle speed, density, congestion, and other factors.

As per the *Highway Capacity Manual 2010* (Transportation Research Board, 2010):

"Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour).

Level of Service Criteria for Signalized Intersections

LOS	Average Intersection Delay	General Description
A	Less than or equal to 10 seconds	Free flow
B	Greater than 10 to 20 seconds	Stable flow (slight delays)
C	Greater than 20 to 35 seconds	Stable flow (acceptable delays)
D	Greater than 35 to 55 seconds	Approaching unstable flow (tolerable delays)
E	Greater than 55 to 80 seconds	Unstable flow (intolerable delays)
F	Greater than 80 seconds	Forced flow (congested; queues failing to clear)

Unsignalized intersection LOS criteria can be further reduced into three intersection types: all-way stop, two-way stop, and roundabout control. All-way stop and roundabout control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements.

Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	Less than or equal to 10 seconds
B	Greater than 10 to 15 seconds
C	Greater than 15 to 25 seconds
D	Greater than 25 to 35 seconds
E	Greater than 35 to 50 seconds
F	Greater than 50 seconds"

Note that the delays per LOS "grade" are lower for unsignalized intersections than signalized intersections. This is due to motorist expectation- when at a signalized intersection, motorists instinctively understand that they are at an intersection with supposedly higher traffic volumes which would justify it being signalized and they are conditioned to expect delays to be higher than they would expect to encounter at an usually smaller unsignalized intersection.

Control delays of LOS E or F on individual approaches at the unsignalized intersections were determined to indicate unacceptable/failing conditions.

The AM & PM peak-hour existing operating conditions of the study area intersections were evaluated using Synchro 10 software, which utilizes analysis methodologies contained in the 2010 Highway Capacity Manual. Existing peak hour turning movement volumes, existing roadway geometry, and traffic signal timings were utilized in the analyses. Based on the Synchro analyses, the existing overall level of service (LOS) and average delay for the study's two signalized and six unsignalized intersections are as follows. The signalized intersection delay is shown as the average delay for all of the approaches of the intersection combined. The delays for the unsignalized intersections are shown as control delay per approach. Synchro printouts for the existing conditions are included in **Appendix E** (AM) and **Appendix F** (PM). The following table, **Table 1,** details existing traffic conditions during the AM peak hour. **Table 2** details existing traffic conditions during the PM peak hour.

Figure 3: Existing AM (PM) Peak Hour Turning Movements

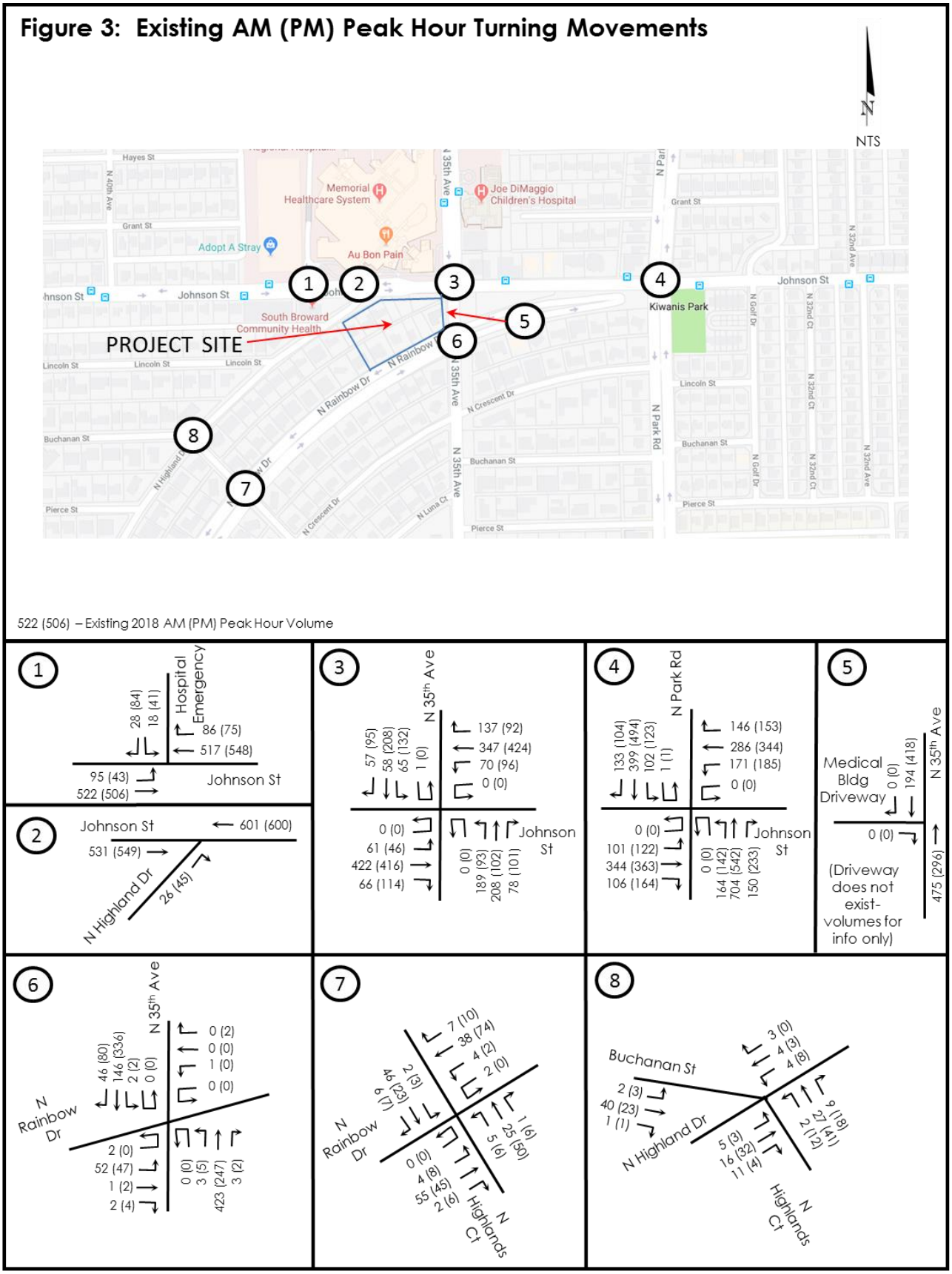


Table 1. Existing traffic conditions at the study intersections during AM peak hour (7:45AM to 8:45AM)

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
3) Johnson Street at N 35th Avenue	C	24.5
4) Johnson Street at N Park Road	C	21.6

Intersection (Unsignalized)	Approach LOS	Control Delay (sec/veh)
1) Johnson Street at Hospital Emergency Driveway (STOP-control for Hospital Emergency Driveway)	SB Left- D SB Right- B EB Left- A	32.2 12.3 9.3
2) Johnson St EB at N Highland Dr (STOP-control for N Highland Dr)	NB Right- B	12.3
6) N 35th Ave at N Rainbow Dr (STOP-control for N Rainbow Dr)	EB Left- C EB Through- B WB Left- B WB Through- B NB Left- A SB Left- A	15.7 10.1 14.6 14.6 7.6 8.3
7) N Rainbow Dr at N Highlands Ct (STOP-control for N Highlands Ct)	SE Left/Through- A SW Left- A NW Left/Through- A NE Left- A	9.9 7.3 9.9 7.3
8) N Highland Dr at Buchanan St/N Highlands Ct (STOP-control for Buchanan/N Highlands)	EB Left/Through- A NW Left/Through- A SW Left- A NE Left- A	8.8 9.3 7.3 7.2

Approaches not listed under unsignalized are free-flow

Table 2. Existing traffic conditions at the study intersections during PM peak hour (4:30PM to 5:30PM)

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
3) Johnson Street at N 35th Avenue	C	28.6
4) Johnson Street at N Park Road	C	21.2

Intersection (Unsignalized)	Approach LOS	Control Delay (sec/veh)
1) Johnson Street at Hospital Emergency Driveway (STOP-control for Hospital Emergency Driveway)	SB Left- D SB Right- B EB Left- A	30.9 13.7 9.3
2) Johnson St EB at N Highland Dr (STOP-control for N Highland Dr)	NB Right- B	13.0
6) N 35th Ave at N Rainbow Dr (STOP-control for N Rainbow Dr)	EB Left- C EB Through- B WB Left- A WB Through- A NB Left- A SB Left- A	15.9 11.1 9.7 9.7 8.2 7.8
7) N Rainbow Dr at N Highlands Ct (STOP-control for N Highlands Ct)	SE Left/Through- A SW Left- A NW Left/Through- B NE Left- A	9.9 7.3 10.3 7.4
8) N Highland Dr at Buchanan St/N Highlands Ct (STOP-control for Buchanan/N Highlands)	EB Left/Through- A NW Left/Through- A SW Left- A NE Left- A	9.1 9.5 7.4 7.2

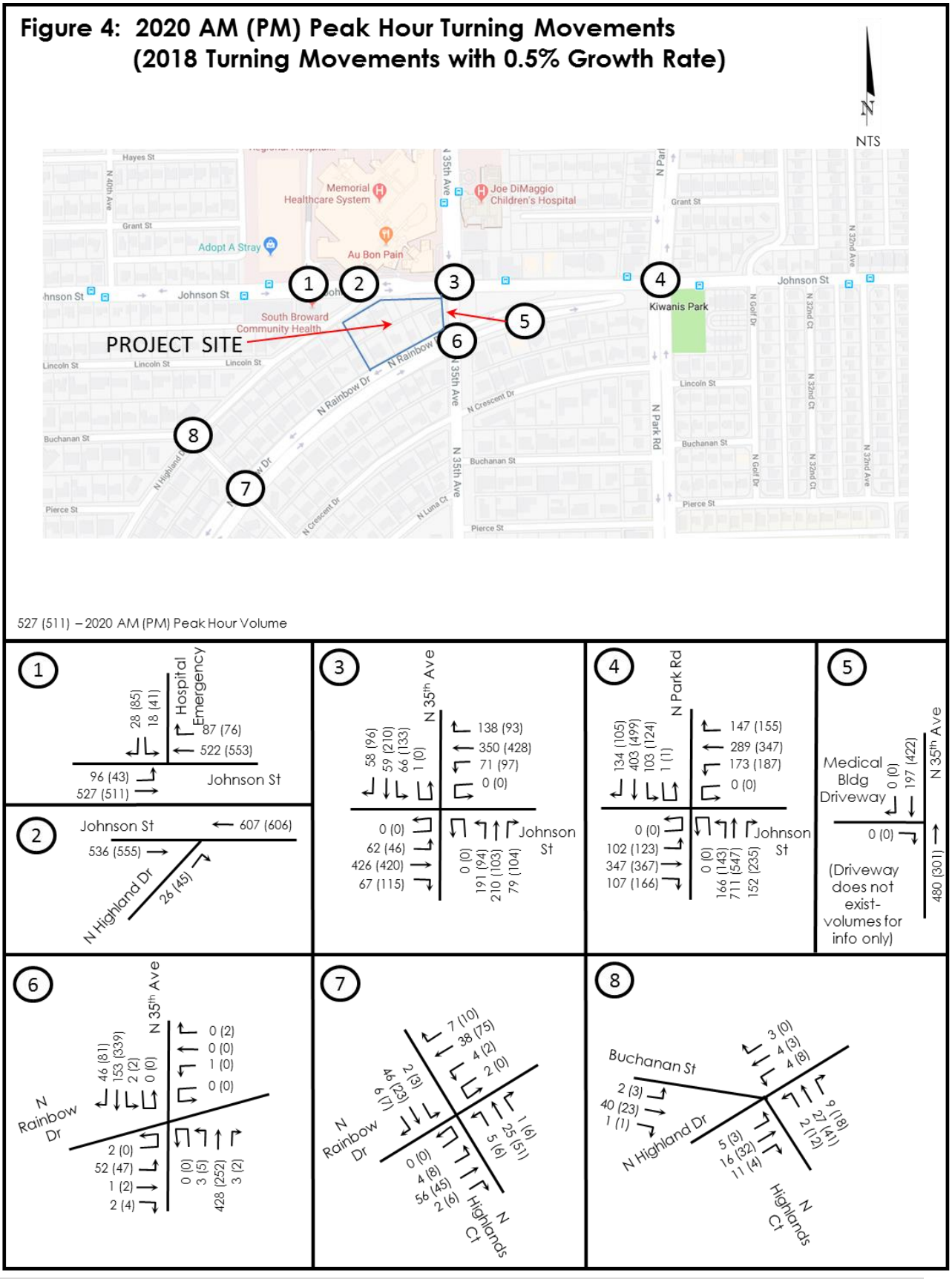
Approaches not listed under unsignalized are free-flow

As can be seen by the above two tables, all of the existing intersections operate acceptably during the AM and PM peak hours.

6.0 GROWTH RATE TO BUILD-OUT YEAR (2020)

The build-out year for the medical office building project is anticipated to be 2020. Future 2020 traffic volumes were developed by utilizing the same growth rate utilized in the traffic impact analysis for the nearby Joe DiMaggio Children's Hospital Expansion project, which also has a build-out anticipated in 2020. The traffic impact analysis for that project was completed in November 2017 by Calvin, Giordano and Associates, Inc. It is included as **Appendix K.** The study area for the Children's Hospital Expansion TIA includes some of the same intersections and roadway segments as this TIA. The growth rate utilized was 0.5 percent, based on FDOT historical data from FDOT traffic count stations located on Johnson Street west of Interstate 95, Johnson Street east of 46th Avenue, and N 35th Avenue north of Hollywood Boulevard (just south of N Rainbow Drive). Therefore, an 0.5 percent growth rate was applied to the existing turning movement counts shown in **Figure 3** for two years (2018 to 2019, then 2019 to 2020 build-out year). The resulting turning movement volumes are shown in **Figure 4.**

Figure 4: 2020 AM (PM) Peak Hour Turning Movements (2018 Turning Movements with 0.5% Growth Rate)

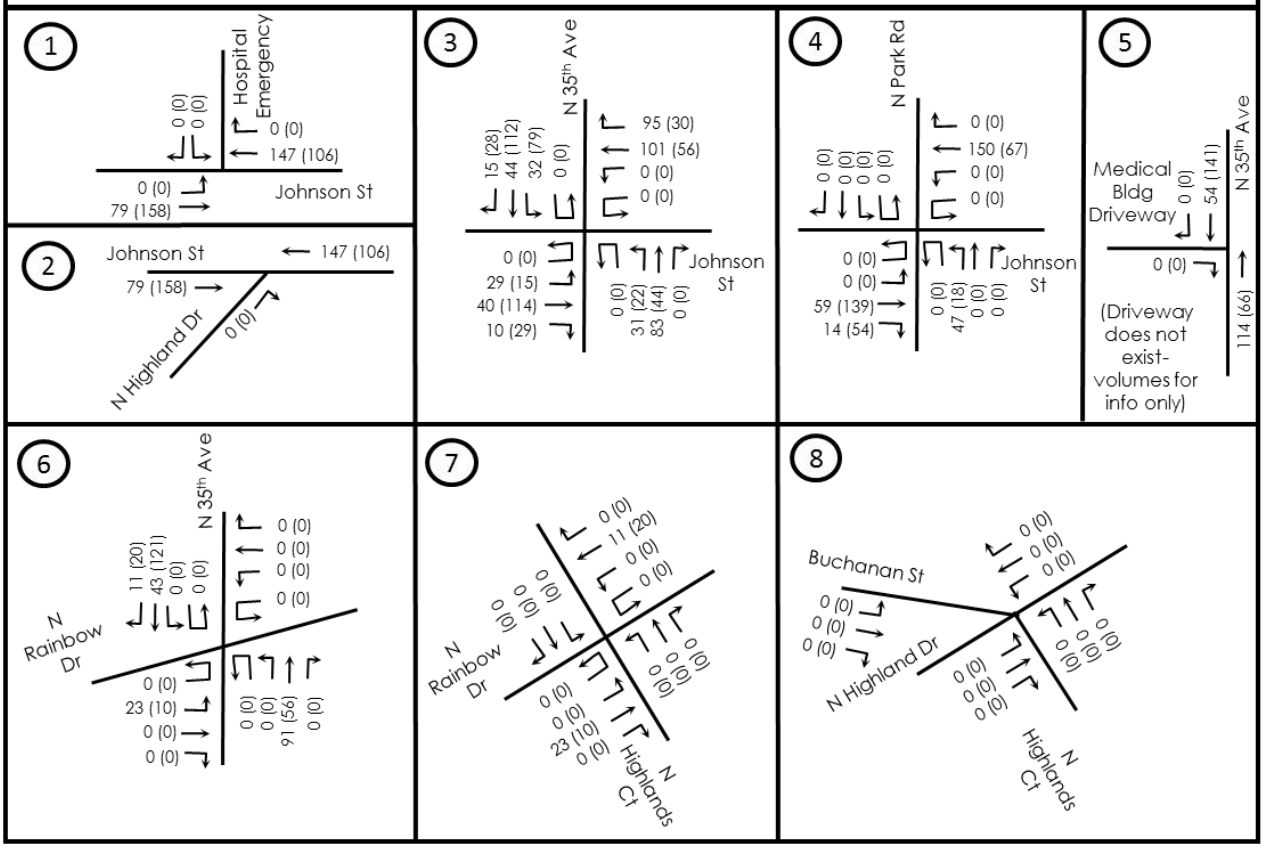


7.0 COMMITTED TRIPS FROM PREVIOUSLY APPROVED MEMORIAL REGIONAL HOSPITAL MASTER PLAN TRAFFIC STUDY, AND NET NEW TRIPS FROM JOE DiMAGGIO CHILDREN'S HOSPITAL EXPANSION

The Calvin, Giordano and Associates, Inc. TIA included as **Appendix K** detailed previously approved developments as part of the Memorial Regional Hospital Master Traffic Plan Study, as well as net new trips generated by the expansion of the Joe DiMaggio Children's Hospital itself, which has a build-out year anticipated to be 2020 and is currently under construction as of this writing in mid-2018. These trips were added onto the study intersections as shown in **Figure 5.** Thus, the committed trips added to this analysis include Phases 1, 2, and 3 of the Memorial Regional Hospital Master Plan (the Children's Hospital expansion is a Phase 3 project in this plan).

Figure 5: 2020 AM (PM) Committed Trips from Other Developments

79 (158) – 2020 AM (PM) Peak Hour Volume- Committed Trips from Other Developments



8.0 TRIP GENERATION

All trip generation data which follows was determined based on trip generation equations and rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition.* This is the latest edition. For the AM Peak and PM Peak trips, the Peak Hour of Adjacent Street Traffic, One Hour Between 7AM-9AM, and 4PM-6PM criteria, respectively, was utilized. The day of week utilized was Weekday. Land Use Code 630, Clinic, was used. All trip generation data that was obtained was based on the average rate and not the regression curve. The trip generation for this development is shown in **Table 3** below. ITE *Trip Generation Manual* printouts, with a description of Land Use Code 630, is attached in **Appendix J.**

Table 3. Proposed Development Trip Generation

Land Use	Intensity	Units	Daily			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total	In	Out	Total
Clinic	18.8	1000 SQ FT GFA	359	359	718	54	15	69	18	44	62

Clinic Land Use Code 630

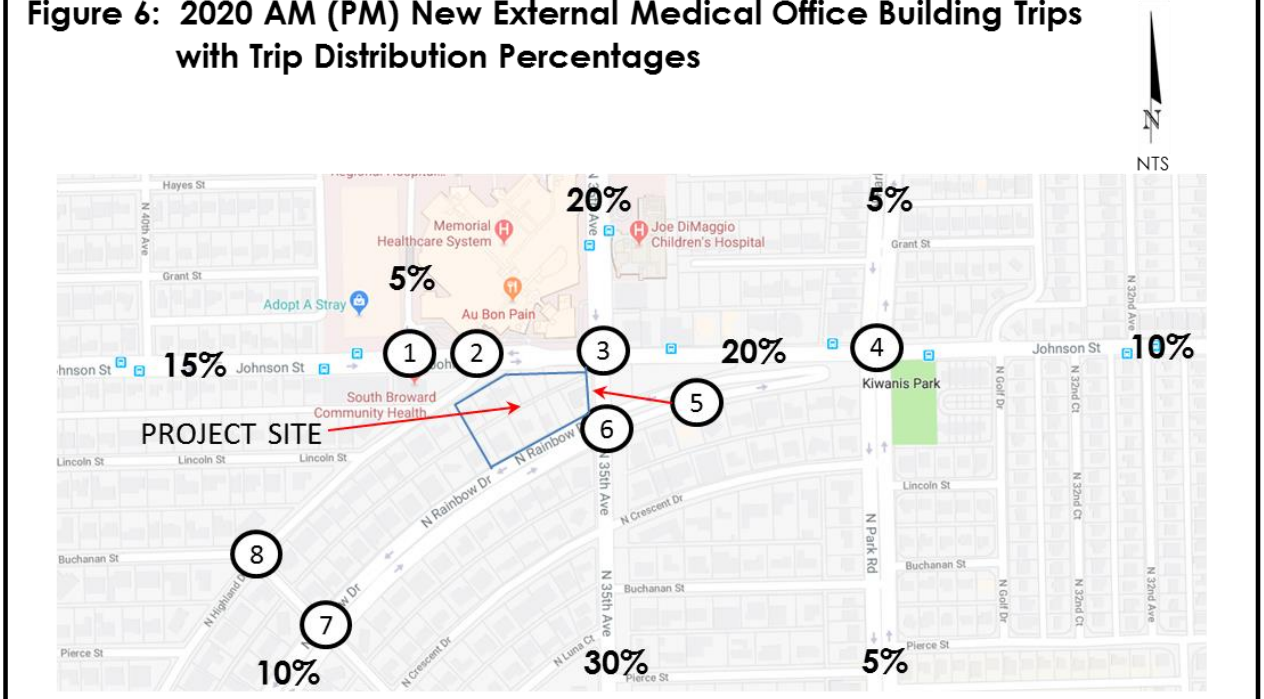
Daily: 50% In, 50% Out
AM Peak: 78% In, 22% Out
PM Peak: 29% In, 71% Out

The medical office building development would be expected to generate 718 net new daily trips, with 69 net new trips during the AM peak hour (54 In, 15 Out), and 62 net new trips during the PM peak hour (18 In, 44 Out). The site is currently a vacant lot.

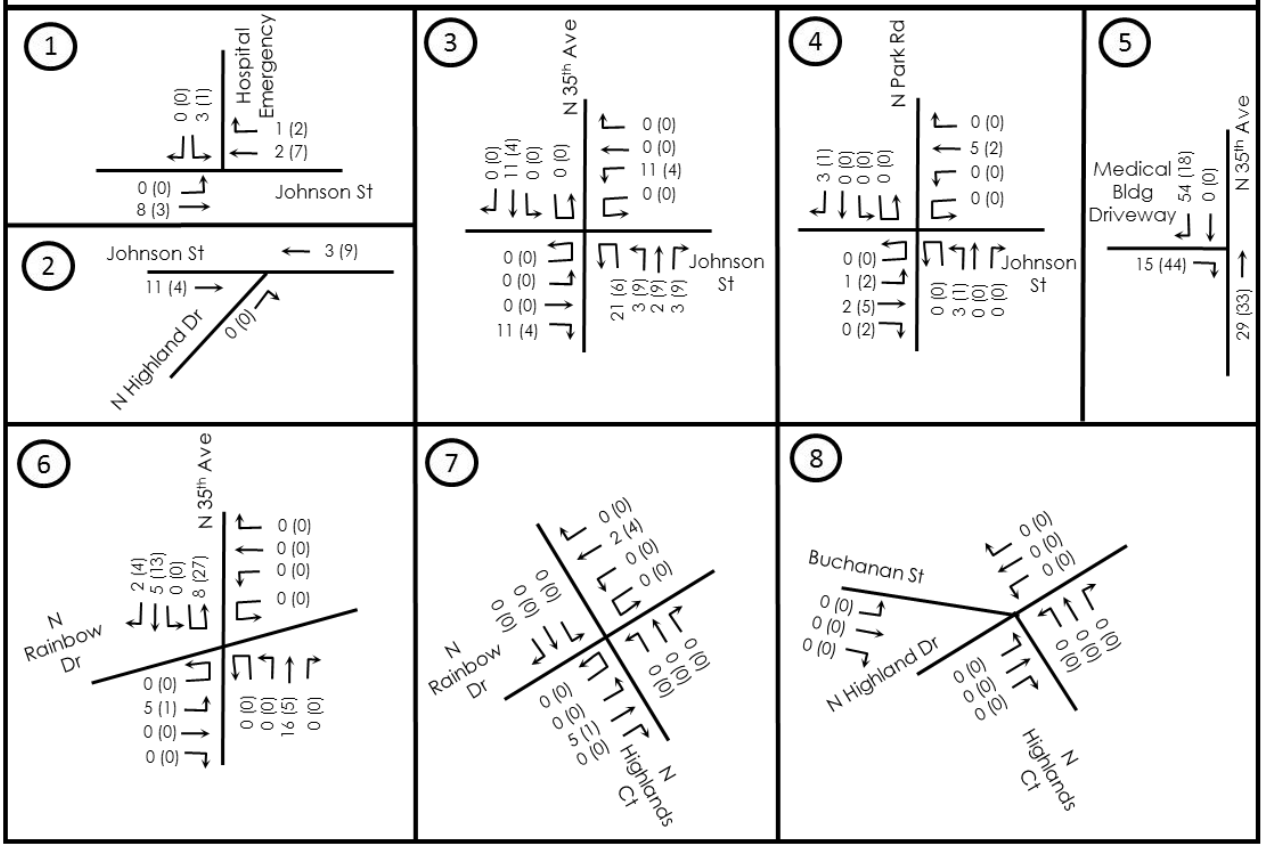
9.0 TRIP DISTRIBUTION

The trip distribution for the net new trips that are anticipated to be generated by the medical office building development was arrived at through following the trip distribution utilized for the Joe DiMaggio Children's Hospital expansion in the Calvin, Giordano and Associates, Inc. TIA attached in **Appendix K** as that development is located just north of the medical office building development. In addition, engineering judgement was utilized through analyzing the turning movement counts and through the application of local knowledge. The resulting trip distribution percentages applied to the surrounding street network is shown in the top half of **Figure 6.** The net new trips for the AM peak hour and PM peak hour were then distributed onto the surrounding street network accordingly, as shown in the bottom half of **Figure 6.**

Figure 6: 2020 AM (PM) New External Medical Office Building Trips with Trip Distribution Percentages



8 (3) – 2020 AM (PM) Peak Hour Volume- New Trips Generated by Medical Office Building: AM: 54 In, 15, Out; PM: 18 In, 44 Out



10.0 2020 BUILD-OUT YEAR FUTURE CONDITIONS

Figure 7 is the summation of Figures 4, 5, and 6 combined. Figure 4 is the 2020 turning movement volumes which were arrived at through applying a 0.5 percent growth rate for two years from the 2018 turning movement volumes in Figure 3. Figures 5 (Committed trips) and Figure 6 (net new trips from medical office building) were then added to Figure 4 to arrive at the total 2020 build-out conditions anticipated to be in effect when the project is completed and open for business. The turning movement volumes in Figure 7 were then utilized to analyze the study intersections under future conditions with the new right-in/right-out driveway (Intersection No. 5) included. The results are shown in **Table 4** (AM peak hour) and **Table 5** (PM peak hour). Synchro printouts are included in **Appendix G** (AM) and **Appendix H** (PM).

Figure 7: 2020 AM (PM) Peak Hour Total Turning Movements (Figures 4, 5, and 6 combined)

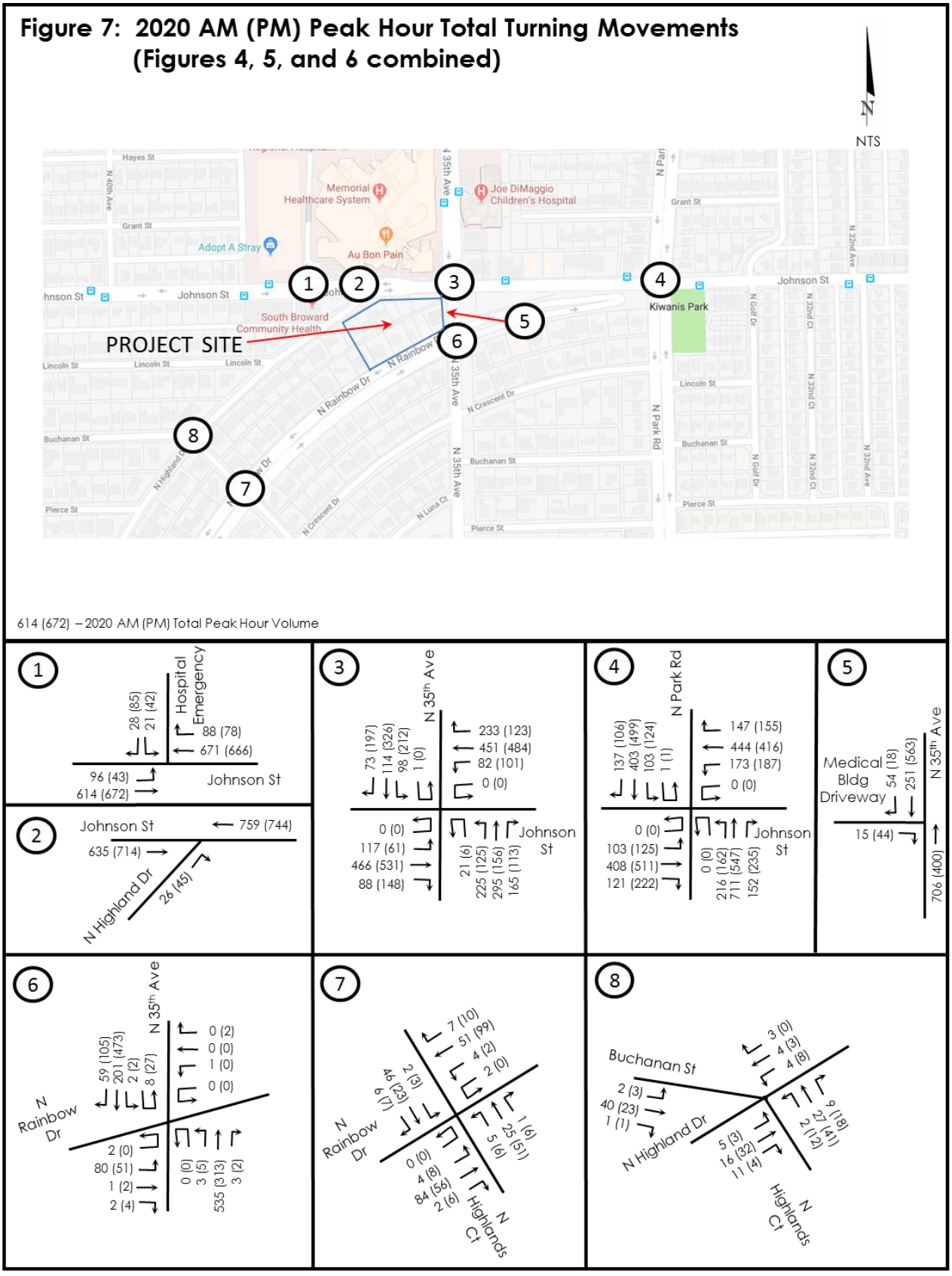


Table 4. Future traffic conditions at the study intersections during AM peak hour (7:45AM to 8:45AM)

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
3) Johnson Street at N 35th Avenue	C	28.6
4) Johnson Street at N Park Road	C	21.2

Intersection (Unsignalized)	Approach LOS	Control Delay (sec/veh)
1) Johnson Street at Hospital Emergency Driveway (STOP-control for Hospital Emergency Driveway)	SB Left- F SB Right- B EB Left- B	50.2 14.2 10.1
2) Johnson St EB at N Highland Dr (STOP-control for N Highland Dr)	NB Right- B	13.6
5) N 35th Avenue at Medical Office Building Driveway (STOP-control for medical office building exit)	EB Right- B	10.1
6) N 35th Ave at N Rainbow Dr (STOP-control for N Rainbow Dr)	EB Left- C EB Through- B WB Left- C WB Through- C NB Left- A SB Left- A	23.0 10.9 18.2 18.2 7.8 8.7
7) N Rainbow Dr at N Highlands Ct (STOP-control for N Highlands Ct)	SE Left/Through- B SW Left- A NW Left/Through- B NE Left- A	10.2 7.4 10.1 7.3
8) N Highland Dr at Buchanan St/N Highlands Ct (STOP-control for Buchanan/N Highlands)	EB Left/Through- A NW Left/Through- A SW Left- A NE Left- A	8.8 9.3 7.3 7.2

Approaches not listed under unsignalized are free-flow

Table 5. Future traffic conditions at the study intersections during PM peak hour (4:30PM to 5:30PM)

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
3) Johnson Street at N 35th Avenue	C	32.8
4) Johnson Street at N Park Road	C	25.8

Intersection (Unsignalized)	Approach LOS	Control Delay (sec/veh)
1) Johnson Street at Hospital Emergency Driveway (STOP-control for Hospital Emergency Driveway)	SB Left- F SB Right- C EB Left- A	52.3 15.9 9.6
2) Johnson St EB at N Highland Dr (STOP-control for N Highland Dr)	NB Right- C	15.2
5) N 35th Avenue at Medical Office Building Driveway (STOP-control for medical office building exit)	EB Right- B	11.8
6) N 35th Ave at N Rainbow Dr (STOP-control for N Rainbow Dr)	EB Left- C EB Through- B WB Left- B WB Through- B NB Left- A SB Left- A	24.5 13.0 10.2 10.2 8.8 8.0
7) N Rainbow Dr at N Highlands Ct (STOP-control for N Highlands Ct)	SE Left/Through- B SW Left- A NW Left/Through- B NE Left- A	10.1 7.3 10.5 7.4
8) N Highland Dr at Buchanan St/N Highlands Ct (STOP-control for Buchanan/N Highlands)	EB Left/Through- A NW Left/Through- A SW Left- A NE Left- A	9.1 9.5 7.3 7.2

Approaches not listed under unsignalized are free-flow

As can be seen by the above two tables, all of the existing intersections operate acceptably during the AM and PM peak hours. The only approach that does not operate acceptably is the southbound left-turn exit of the Memorial Hospital Emergency driveway at Johnson Street (Intersection No. 1). This condition is not due to the medical office building development, as the net new trips generated by the medical office building development adds only 10 two-way trips during the AM peak hour and 10 two-way trips during the PM peak hour on Johnson Street through this intersection. The LOS F condition on the southbound STOP-sign controlled approach is caused by a notable increase in committed trips shown in **Figure 5** on Johnson Street as it runs past the emergency driveway. The Calvin, Giordano and

Associates, Inc. TIA included in **Appendix K** recommended that further coordination with Broward County Traffic Engineering be continued, as they were reviewing a traffic signal warrant at the proposed parking garage expansion driveway, which would be located approximately 250 feet west of the existing Emergency driveway as of fall 2017. If that intersection were signalized, the availability of acceptable gaps to allow motorists to make a left-turn from the Emergency driveway onto eastbound Johnson Street would increase, and delays from this approach would decrease. Acceptable gaps at the emergency driveway are highly important to reduce delays imposed on emergency response times.

Finally, the City, Memorial Regional Hospital, and Broward County Traffic Engineering should consider whether an emergency traffic signal should be installed at the Johnson Street and Emergency driveway to allow emergency vehicles to easily exit the driveway without excessive delay.

11.0 EASTBOUND DEDICATED RIGHT-TURN LANE ON JOHNSON STREET APPROACH TO N 35TH AVENUE SIGNALIZED INTERSECTION

It was requested that adding a new dedicated right-turn lane on the eastbound approach of Johnson Street to the N 35th Avenue signalized intersection be analyzed. Synchro printouts are included in **Appendix G** and **Appendix H.**

Future 2020 Build-Out Conditions comparisons without and with an eastbound dedicated right-turn lane at Intersection No. 3, Johnson Street at N 35th Avenue:

Table 6. Eastbound Dedicated Right-Turn Lane Analysis

<u>2020 AM Peak without Right-Turn Lane</u>	
Overall Intersection LOS:	C
Overall Intersection Delay (sec/veh):	28.6
EB Through/Right Lane Lane Group LOS:	D
EB Through/Right Lane Group Delay (sec/veh):	46.8
EB Through/Right 95th percentile queue length (ft):	466
EB Left Lane Group LOS:	B
EB Left Lane Group Delay (sec/veh):	17.1
EB Left 95th percentile queue length (ft):	63
<u>2020 AM Peak WITH Right-Turn Lane</u>	
Overall Intersection LOS:	C
Overall Intersection Delay (sec/veh):	26.1
EB Right Lane Lane Group LOS:	B
EB Right Lane Group Delay (sec/veh):	19.1
EB Right Lane 95th percentile queue length (ft):	5
EB Through Lane Group LOS:	C
EB Through Lane Group Delay (sec/veh):	32.7
EB Through Lane 95th percentile queue length (ft):	377
EB Left Lane Group LOS:	C
EB Left Lane Group Delay (sec/veh):	20.8
EB Left 95th percentile queue length (ft):	73

During the AM peak hour, the 95th percentile queue length in the eastbound through lane would decrease by approximately 89 feet (almost four car lengths) if a dedicated right-turn lane was constructed. The overall average intersection delay for all vehicles traversing the intersection would decrease by approximately 2.5 seconds per vehicle. The eastbound right-turn lane delay would

decrease by approximately 27.7 seconds per vehicle, thus making a noticeable difference for motorists trying to access the proposed medical clinic from eastbound Johnson Street approaching from the west, or any other destinations reached via this right-turn movement.

2020 PM Peak without Right-Turn Lane	
Overall Intersection LOS:	C
Overall Intersection Delay (sec/veh):	32.8
EB Through/Right Lane Lane Group LOS:	D
EB Through/Right Lane Group Delay (sec/veh):	43.3
EB Through/Right 95th percentile queue length (ft):	623
EB Left Lane Group LOS:	B
EB Left Lane Group Delay (sec/veh):	15.6
EB Left 95th percentile queue length (ft):	36

2020 PM Peak WITH Right-Turn Lane	
Overall Intersection LOS:	C
Overall Intersection Delay (sec/veh):	27.5
EB Right Lane Lane Group LOS:	C
EB Right Lane Group Delay (sec/veh):	20.3
EB Right Lane 95th percentile queue length (ft):	20
EB Through Lane Group LOS:	D
EB Through Lane Group Delay (sec/veh):	35.4
EB Through Lane 95th percentile queue length (ft):	457
EB Left Lane Group LOS:	B
EB Left Lane Group Delay (sec/veh):	19.6
EB Left 95th percentile queue length (ft):	33

During the PM peak hour, the 95th percentile queue length in the eastbound through lane would decrease by approximately 166 feet (almost seven car lengths) if a dedicated right-turn lane was constructed. The overall average intersection delay for all vehicles traversing the intersection would decrease by approximately 5.3 seconds per vehicle. The eastbound right-turn lane delay would decrease by approximately 23.0 seconds per vehicle, thus making a noticeable difference for motorists trying to access the proposed medical clinic from eastbound Johnson Street approaching from the west, or any other destinations reached via this right-turn movement.

Constructing a dedicated right-turn lane on eastbound Johnson Street at the approach to the N 35th Avenue intersection is recommended. While relatively costly due to the necessity to relocate concrete electrical utility poles and relocating the traffic signal mast arm installation at the southwest corner of

the intersection, in addition to the curb and gutter, pavement, sidewalk, and associated work necessary, the operational and safety benefits (likely a reduction in rear-end crashes) would provide a benefit to the City of Hollywood.

The length of the right-turn lane should preferably have a queue length of at least 100 feet (as per Section 212.14.2 of the FDOT Florida Design Manual), a total deceleration distance of 145 feet, clearance distance of 70 feet, and a 50 foot taper for a 35 mph design speed (design speed 5 mph above the posted speed), as per FDOT Design Standards Index 301.

Constructing the dedicated right-turn lane would require relocating concrete electrical utility power poles, relocation or replacement (either with a new concrete foundation) of the existing traffic signal dual-arm mast arm located at the southwest corner of the intersection, storm drainage modifications, and other associated work to construct the right-turn lane. Note that if the existing traffic signal dual-arm mast arm was simply relocated onto a new concrete foundation, the mast arm length may possibly be not long enough to accommodate the traffic signal heads facing oncoming westbound traffic on Johnson Street.

Finally, the dedicated right-turn lane would require reconfiguring the location of the pedestrian crosswalk across the south leg of the intersection. The existing crosswalk is constructed of pavers instead of bituminous concrete (asphalt). It is recommended that the paver crosswalk be removed and replaced with conventional roadway asphalt pavement. Stamped asphalt can be utilized, overlaid with a colored coating to mimic a brick sidewalk. Crosswalks constructed of pavers have gone out of favor due to higher construction costs, maintenance issues such as settlement which create bumps for motorists or tripping hazards for pedestrians, as well as being unable to have high-emphasis crosswalk pavement markings applied over the pavers if high-emphasis markings were desired.

12.0 RECOMMENDED IMPROVEMENT DISCUSSION

The recommended improvement concept at the location of the proposed medical office building is shown in **Figure 8.** As previously noted, the driveway for the medical office building ingress/egress would be located on the west side of N 35th Avenue approximately midway between Johnson Street and N Rainbow Drive. Due to the proximity of the driveway to both of these intersections (the Johnson Street at N 35th Avenue intersection is signalized), it would be right-in/right-out only driveway, as the driveway would be located within the functional area of both intersections.

Between Johnson Street and N Rainbow Drive, N 35th Avenue has six lanes in its current configuration, and would remain at six lanes in the proposed revised configuration. No widening would be necessary. The existing configuration consists of four northbound lanes, and two southbound lanes. The northbound direction has a dedicated left-turn lane, two through lanes, and a dedicated right-turn lane on the approach to the Johnson Street intersection. The southbound direction has a combination through/left-turn lane and a dedicated right-turn lane on the approach to the N Rainbow Drive intersection. Southbound left-turns to eastbound N Rainbow Drive are extremely low in volume, as N Rainbow Drive dead-ends shortly to the east. Opposing directions of travel are delineated by a solid double yellow pavement marking, with no raised concrete traffic separator.

With the addition of the right-in/right-out medical office building driveway within the functional area of both the signalized Johnson Street and unsignalized N Rainbow Drive intersections, constructing a concrete traffic separator on this segment of N 35th Avenue would be a necessity. It is proposed that a four-foot wide concrete traffic separator be constructed at the center of the roadway, thus providing three lanes in each direction. Each direction would have a dedicated left-turn/U-turn lane, dedicated through lane, and dedicated right-turn lane. If a concrete traffic separator was not constructed, the incidence of crashes would likely increase due to northbound motorists attempting to turn left directly into the medical office building driveway even though it would be right-in/right-out only driveway.

The existing roadway pavement for N 35th Avenue between Johnson Street and N Rainbow Drive is approximately 66 feet (six lanes at 11 foot wide each). With a four-foot wide traffic separator installed in the center of the roadway, approximately 31 feet of pavement would remain on each side of the separator. The lanes could be marked at 11 feet wide for the through lane, and 10 feet wide for the turn lanes in each direction. The pavement would be milled and resurfaced to accommodate the new pavement markings.

LEGEND:

Existing Pavement Marking	Proposed Sign			
Proposed Pavement Marking				

MARLIN ENGINEERING INC.
1700 NW 66th Ave, Suite 106
Plantation, Florida 33313
(305) 477-7575
Steven Schindler, P.E. No. 57862

N 35TH AVE & JOHNSON ST
Improvement Diagram

FIGURE 8

In addition, motorists leaving the medical office building desiring to head north to reach Johnson Street or continue northward on N 35th Avenue would likely often attempt to make a left-turn. By requiring these motorists to turn right and then make a U-turn at N Rainbow Drive, safety would be increased and the number of conflict points would be reduced. A northbound motorist on N 35th Avenue that desired to reach the medical office building would have to make a U-turn at the Johnson Street intersection. Since each direction of N 35th Avenue would be three lanes, U-turn movements can be easily accommodated. One through lane would be deleted from the N 35th Avenue northbound approach to Johnson Street, but there is currently a lane drop just north of the intersection for a dedicated right-turn lane, and N 35th Avenue quickly has a single northbound travel lane again. The Synchro analysis shows that two through lanes are not necessary at the northbound approach to the Johnson Street intersection.

Northbound N 35th Avenue would have an approximately five degree deflection for the through travel lane as it traverses the N Rainbow Drive intersection. This is well within the maximum eight degree deflection allowable for a 30 mph speed (the posted speed limit is 30 mph) as per the FDOT Florida Design Manual. The deflection would be denoted by a 6 inch yellow 2'/4' skip dotted guideline across the intersection. The nose on each end of the four-foot wide concrete traffic separator should be delineated by diagrammatic KEEP RIGHT (R4-7R) signs with a yellow object marker (OM1-1) beneath the sign.

The Highway Capacity Manual (HCM) methodologies cannot analyze U-turn movements. Although U-turns can be input into Synchro and viewed with SimTraffic simulation software, U-turns must be converted to left-turns for the production of the results detailed previously and the analysis printouts which are included in the Appendix. However, the future conditions were analyzed using the SimTraffic add-on to the Synchro software, which is a microsimulation model which graphically shows how vehicles are navigating the various intersections in the model in real-time. The SimTraffic simulation showed that the proposed concept would operate acceptably. Vehicles were easily able to make the U-turn movements at each end of the proposed concrete traffic separator. Vehicles exiting the medical office building driveway were easily able to enter the southbound left-turn lane approaching N Rainbow Drive to head north to access Johnson Street or continue northward on N 35th Avenue. If desired, the SimTraffic simulation can be displayed as part of a presentation in regards to the project.

Finally, the City of Hollywood engineering department noted that they were concerned with possible cut-through traffic generated by the project. Since making the U-turn movements were demonstrated

to be not difficult, and that the volumes entering and exiting the medical office building are relatively low, it was determined that any cut-through traffic (such as using N Rainbow Drive southeast to N Highlands Court, then to N Highland Drive to access eastbound Johnson Street) would not be an issue with this project. The project is located adjacent to an intersection of east-west and north-south major urban collectors, and the intersection operates acceptably during both the AM and PM peak hours, both in the existing condition and the future 2020 build-out condition. Also, N Rainbow Drive, a four-lane roadway with excess capacity, provides easy access to Academy Circle and Hollywood Boulevard to the southeast. The project only generates 69 net new trips (in and out combined) during the AM peak hour, and 62 during the PM peak hour. That is an average of approximately one trip per minute.

13.0 CONCLUSION

Marlin Engineering, Inc. (MEI) has been retained by Zingale Construction, Inc. to perform a traffic impact analysis (TIA) for a proposed development consisting of a 18,776 square foot, two-story medical office building that is proposed to be located adjacent to the southwest corner of the intersection of Johnson Street and N 35th Avenue in Hollywood, Florida (across the street from Memorial Regional Hospital, which is located adjacent to the northwest corner of the intersection).

It is proposed that the entrance/exit driveway for the development be a right-in/right-out only driveway located along the west side of N 35th Avenue, approximately midway between the intersections of N 35th Avenue and Johnson Street, and N 35th Avenue and N Rainbow Drive. Since these two intersections are located approximately only 245 feet (center to center) from each other, and noting that the intersection of N 35th Avenue and Johnson Street is a signalized intersection, the driveway would be located within the functional area of both intersections. It is necessitated that the driveway be a right-in/right-out driveway.

The medical office building development would be expected to generate 718 net new daily trips, with 69 net new trips during the AM peak hour (54 In, 15 Out), and 62 net new trips during the PM peak hour (18 In, 44 Out). The site is currently a vacant lot.

The analysis demonstrated that while including traffic from committed developments from the adjoining Memorial Regional Hospital developments, including the currently under construction expansion to the Joe DiMaggio Children's Hospital, and net new trips generated as per the previous paragraph from the medical office building development, that all of the study intersections will continue to operate acceptably at the anticipated 2020 build-out. The only exception is the southbound left-turn exit from the Memorial Regional Hospital's Emergency driveway on Johnson Street, which would have an approach LOS of F during the AM and PM peak hours. With the potential construction of a traffic signal at the Hospital's proposed parking garage driveway, which would be located approximately 250 feet west of the Emergency driveway, more acceptable gaps would be anticipated in the traffic flow, which would improve the LOS and reduce delay on this approach.

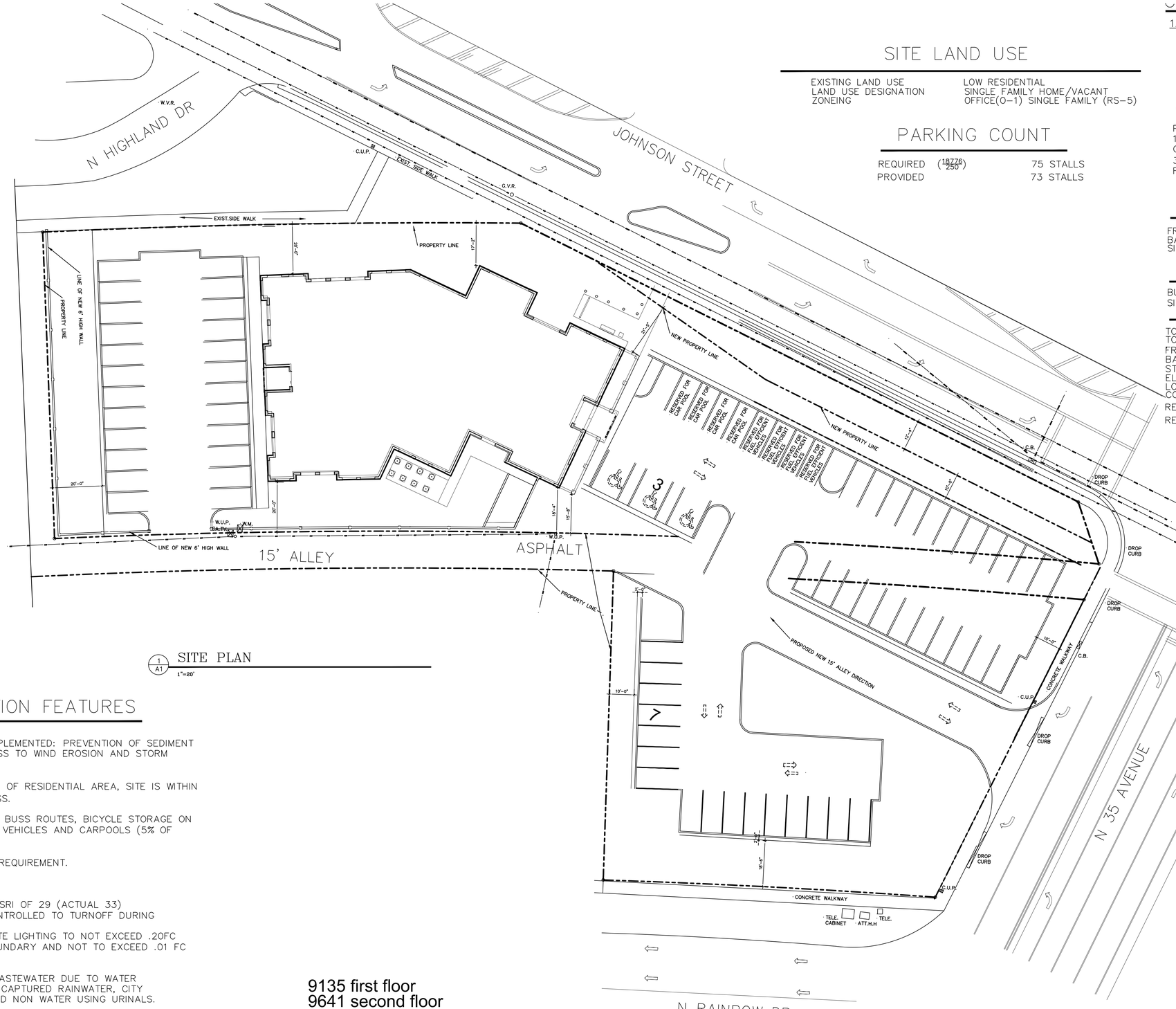
Since the proposed driveway is located within functional area of the intersections of Johnson Street and N 35th Avenue (signalized) and N 35th Avenue and N Rainbow Drive (unsignalized), it is recommended to construct a four-foot wide concrete traffic separator in the center of N 35th Avenue

between Johnson Street and N Rainbow Drive, and reconfigure the six-lane wide section to three northbound lanes and three southbound lanes, thus allowing for U-turns to be accommodated. Refer to **Figure 8** for an improvement diagram. The existing pavement would be milled and resurfaced between Johnson Street and N Rainbow Drive to accommodate slightly revised lane widths and new pavement markings. In addition, it is recommended that a dedicated right-turn lane be constructed on eastbound Johnson Street approaching the intersection of Johnson Street and N 35th Avenue.

- Construct new right-in/right-out driveway for the proposed medical office building along the west side of N 35th Avenue, approximately midway between Johnson Street and N 35th Avenue.
- Construct a new four-foot wide concrete traffic separator in the center of N 35th Avenue between Johnson Street and N 35th Avenue.
- Construct a dedicated right-turn lane with a six-foot wide sidewalk attached to the back of the curb on eastbound Johnson Street approaching N 35th Avenue. Whether it has a keyhole bicycle lane should be determined by the City of Hollywood. There is a proposed project on Johnson Street to add bicycle lanes with funds programmed by the Broward MPO and the FDOT).
- The length of the right-turn lane should preferably have a queue length of at least 100 feet (as per Section 212.14.2 of the FDOT Florida Design Manual), a total deceleration distance of 145 feet, clearance distance of 70 feet, and a 50 foot taper for a 35 mph design speed (design speed 5 mph above the posted speed), as per FDOT Design Standards Index 301.
- Relocate or replace the existing dual-arm mast arm traffic signal at the southwest corner of the intersection, along with other associated work to construct the dedicated right-turn lane.
- Remove the existing brick paver crosswalk across the south leg of the Johnson Street at N 35th Avenue intersection and replace with a stamped asphalt crosswalk at the new location of the crosswalk, due to the dedicated right-turn lane causing the southwest corner to be relocated.
- Mill and resurface N 35th Avenue between Johnson Street and N Rainbow Drive to allow for a 10-foot wide left-turn lane, 11-foot wide through lane, and 10-foot wide right-turn lane in each direction.
- As the northbound to westbound left-turn lane on N 35th Avenue at Johnson Street would be relocated one lane to the east, the stop line on eastbound Johnson Street can be relocated to be four feet from the crosswalk, instead of the existing approximately twenty foot distance it is currently set back from the stop line.

APPENDIX

APPENDIX A
SITE PLAN



1 A1 SITE PLAN
1"=20'

SITE LAND USE

EXISTING LAND USE	LOW RESIDENTIAL
LAND USE DESIGNATION	SINGLE FAMILY HOME/VACANT
ZONEING	OFFICE(O-1) SINGLE FAMILY (RS-5)

PARKING COUNT

REQUIRED $(\frac{18776}{250})$	75 STALLS
PROVIDED	73 STALLS

CODE INFORMATION

1. APPLICABLE CODES:
   - 2014 FLORIDA BUILDING CODE
   - 2014 NATIONAL ELECTRIC CODE
   - 2014 FLORIDA PLUMBING CODE
   - 2014 MECHANICAL CODE
   - 2014 EXISTING BUILDING CODE

SITE INFO

PROPOSED MEDICAL OFFICE
16,891 SQUARE FEET, TWO STORY
CONTEMPORARY TUSCAN BUILDING
30'-0" MAX ROOF HEIGHT.
FINISH FLOOR HEIGHT 11.50 NAVD

SETBACKS

FRONT	25'0"
BACK	20'0"
SIDES	20'0"

SITE AREA

BUILDING	16516.46 S.F. A/C
SITE AREA	60,522 S.F. (1.39 ACRES)

TOTAL SQUARE FEET 1ST. FLOOR	9135'
TOTAL SQUARE FEET 2ND. FLOOR	9641
FRONT ENTRY	163.61'
BACK ENTRY	35.81'
STAIRWELL	202.50'
ELEVATOR SHAFT	78.75'
LOBBY	245.41'
COMMAND HALLWAY	659.55'
RESTROOMS 1ST FLOOR	192.0'
RESTROOMS 2ND FLOOR	192.0'

NOTE:

GREEN BUILDING CERTIFICATION SHALL BE ACHIEVED

GREEN BUILDING CERTIFICTION FEATURES

SITE:
EROSION AND SEDIMENTATION PLAN WILL BE IMPLEMENTED: PREVENTION OF SEDIMENT FROM STORM SEWERS, PREVENTION OF SOIL LOSS TO WIND EROSION AND STORM WATER RUNOFF.

COMMUNITY CONNECTIVITY: SITE IS WITHIN ½ MILE OF RESIDENTIAL AREA, SITE IS WITHIN A ½ MILE OF SERVICES WITH PEDESTRIAN ACCESS.

ALTERNATIVE TRANSPORTATION: ACCESS TO TWO BUSS ROUTES, BICYCLE STORAGE ON SITE, PREFERRED PARKING FOR FUEL EFFICIENT VEHICLES AND CARPOOLS (5% OF TOTAL EACH CATEGORY)

PARKING DOES NOT EXCEED MINIMUM PARKING REQUIREMENT.

STRUCTURE
HEAT ISLAND: 100% OF ROOF AREA TO EXCEED SRI OF 29 (ACTUAL 33)
LIGHT POLLUTION: INTERIOR LIGHTING AUTO-CONTROLLED TO TURNOFF DURING BUSINESS HOURS
EXTERIOR: LZ3 ZONE-SITE LIGHTING TO NOT EXCEED .20FC (HORIZ & VERT.)AT BOUNDARY AND NOT TO EXCEED .01 FC BEYOND SITE.

WASTEWATER EFFICIENCY: 50% REDUCTION IN WASTEWATER DUE TO WATER CONSERVING FIXTURES, CAPTURED RAINWATER, CITY SEWAGE TREATMENT AND NON WATER USING URINALS.

OPTIMIZE ENERGY PERFORMANCE: HIGH EFFICIENCY MECHANICAL SYSTEMS (A/C.) HWH, LED LIGHTING, WINDOW RATINGS FOR WIND LOAD AND THERMAL TRANSMISSION, BUILDING INSULATION, COOL ROOF.

STORAGE AND COLLECTION OF RECYCLABLES: DEDICATED RECYCLE AREA (DUMPSTER), LOCALLY SOURCE

INDOOR AIR QUALITY: LOW EMITTING MATERIALS, ADHESIVES AND SEALANTS WILL BE SPECIFIED.
NO SMOKING EXCEPT IN DESIGNATED SMOKING AREA WITHIN THE BUILDING OR 25' FROM ENTRANCE OUTSIDE OF BUILDING.

9135 first floor
9641 second floor

18776 SQ.FT total divided by 250 = 75 spaces
have = 73 spaces

SPECIAL EXCEPTION

PROPOSED PARKING IN A SINGLE-FAMILY DISTRICT (RS-5) FOR USE BY AN ABUTTING COMMERCIAL USE

SPECIAL REQUEST

REQUEST FOR APPLYING OF A 16516.46 SQUARE OF OFFICE IS BEING REQUESTED FOR COMMERCIAL FLEX IN A RESIDENTIAL FUTURE LAND USE DESIGNATION FOR FLEX ZONE 88

SITE PLAN

SHEET A-1 OF 7 DATE 03/08/2018

REVISION #1
REVISION #1

REVISION #1
REVISION #1

APPENDIX B
APPROVED METHODOLOGY

TIA METHODOLOGY MEMORANDUM

TO: Rick Mitinger, PE
Transportation Engineer
City of Hollywood, FL Department of Development Services
2600 Hollywood Blvd, Room 308
Hollywood, FL 33022

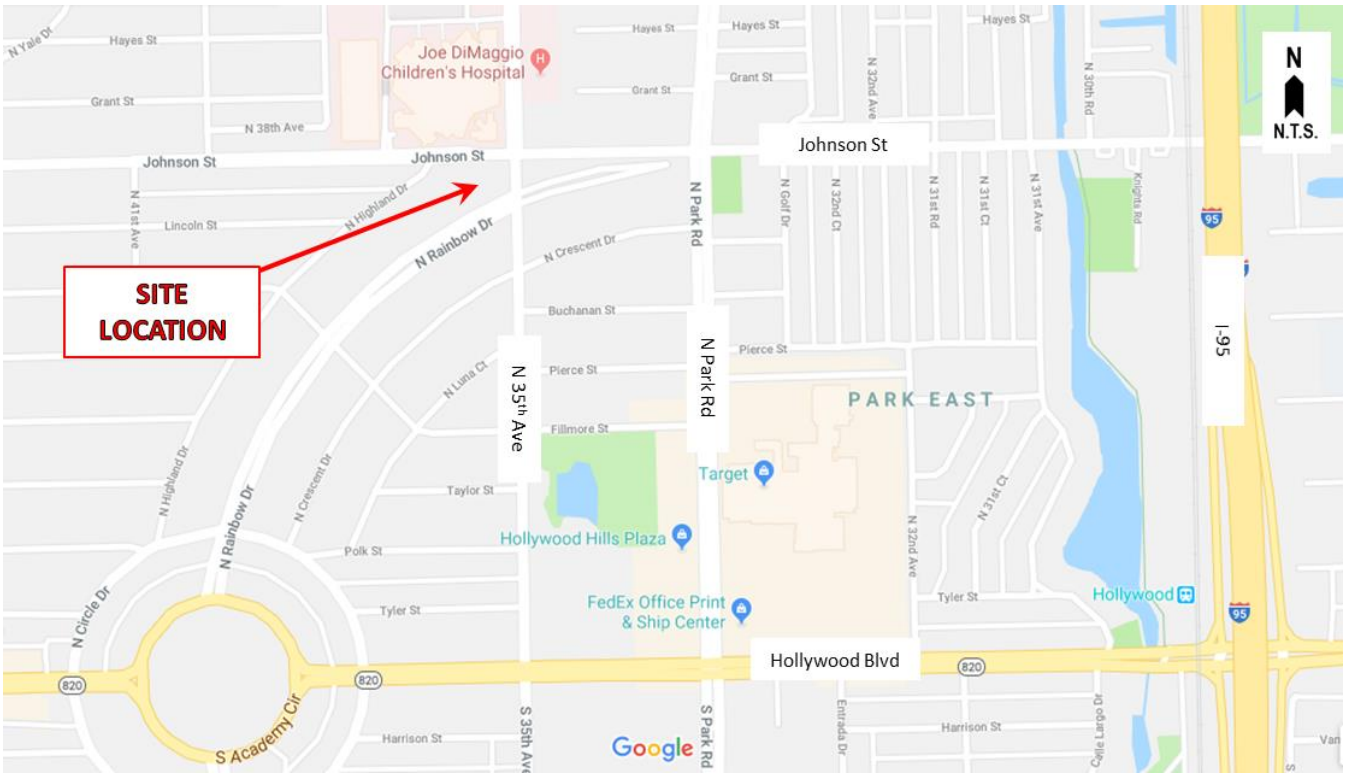
FROM: Steven Schindler, PE, PTOE
MARLIN Engineering Inc.
1700 NW 66th Avenue, Suite 106
Plantation, FL 33313

SUBJECT: Southeast corner of Johnson Street and N 35th Avenue
Hollywood, FL
18,776 square foot medical office building
Traffic Impact Analysis Methodology

DATE: June 18, 2018

Marlin Engineering, Inc. (MEI) has been retained by Zingale Construction, Inc. to perform a traffic impact analysis (TIA) for a proposed development consisting of a 18,776 square foot, two-story medical office building that is proposed to be located adjacent to the southwest corner of the intersection of Johnson Street and N 35th Avenue in Hollywood, Florida (across the street from Memorial Regional Hospital, which is located adjacent to the northwest corner of the intersection).

A location map is shown on the next page. A site plan is attached to the end of this memorandum.



TRIP GENERATION

All trip generation data which follows was determined based on trip generation equations and rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition.* This is the latest edition. For the AM Peak and PM Peak trips, the Peak Hour of Adjacent Street Traffic, One Hour Between 7AM-9AM, and 4PM-6PM criteria, respectively, was utilized. The day of week utilized was Weekday. Land Use Code 630, Clinic, was used. All trip generation data that was obtained was based on the average rate and not the regression curve. The trip generation for this development is shown in **Table 1** below. ITE *Trip Generation Manual* printouts, with a description of Land Use Code 630, is attached at the end of this memorandum.

Table 1. Proposed Development Trip Generation

Land Use	Intensity	Units	Daily			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total	In	Out	Total
Clinic	18.8	1000 SQ FT GFA	359	359	718	54	15	69	18	44	62

Clinic Land Use Code 630

Daily: 50% In, 50% Out
AM Peak: 78% In, 22% Out
PM Peak: 29% In, 71% Out

The development would be expected to generate 718 net new daily trips, with 69 net new trips during the AM peak hour (54 In, 15 Out), and 62 net new trips during the PM peak hour (18 In, 44 Out). The site is currently a vacant lot. Access to the medical office building is proposed by a right-in/right-out driveway located on the west side of N 35th Avenue between Johnson Street and N Rainbow Drive.

METHODOLOGY

Based on the proposed site location, the reviewing agency would be the City of Hollywood.

A. Study Area: Roadway segments to be analyzed in the study area include:

- Johnson Street from N 46th Avenue to N Park Road
- N 35th Avenue from Fillmore Street to Garfield Street
- N Rainbow Drive from N Highlands Court to N 35th Avenue

B. Data Collection: 4-Hour Turning Movement Counts will be collected from 7AM to 9AM and 3PM to 5PM during a typical weekday on a Tuesday, Wednesday, or Thursday at the following locations:

- Johnson Street at Memorial Regional Hospital Driveway
- Johnson Street at N Highland Drive
- Johnson Street at N 35th Avenue
- Johnson Street at N Park Road
- N 35th Avenue at N Rainbow Drive
- N Highland Drive at Buchanan Street/N Highlands Court
- N Rainbow Drive at N Highlands Court

C. Additional Data Collection: Existing traffic signal timings will be obtained from Broward County, weekly adjustment factors will be obtained from the FDOT Florida Traffic Online website, and peak hour factors will be determined by the data collected for this study by intersection approach.

D. Existing Conditions Analysis: Synchro software will be used to analyze the current operational conditions of the study area during both the AM and PM peak periods. The delay and level of service for each movement, approach and study intersection will be determined according to Highway Capacity Manual 2010 (HCM 2010) methodology, along with the 95th percentile queue length for each movement.

E. Trip Generation Analyses: The number of trips anticipated to be generated by the proposed development will be calculated using rates contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual, Tenth Edition, for both the AM and PM peak periods, along with a tabulation of total daily trips.

F. Trip Distribution and Assignment: The trip distribution and assignment will be based on the existing turning movement volumes at the various intersections and/or other approved methods, then assigned to the roadway network in the study area.

G. Background Traffic: Background traffic will be calculated to account for growth in traffic independently of the traffic generated by the proposed project site. Background traffic for this study will be developed by applying a calculated yearly growth rate developed from historical count data to the existing counts collected as part of this project. In addition, traffic that is anticipated to be added to the study roadways from committed developments approved by the City of Hollywood will be included.

H. Future Traffic Analysis: Future traffic projections for the study area will be developed using the calculated growth rate. Future conditions with project and future condition without project will be analyzed. The opening of the medical office building is anticipated to be in 2020; thus, 2020 will be used as the buildout year for future traffic analysis.

I. Queue Analysis and Dedicated Right-Turn Lane Analysis: A queue analysis will be performed at each of the ingress/egress driveways for the proposed site. The results of the analysis will be documented in the report study. In addition, it will be analyzed whether a dedicated right-turn lane on eastbound Johnson Street approach to the N 35th Avenue intersection is necessary.

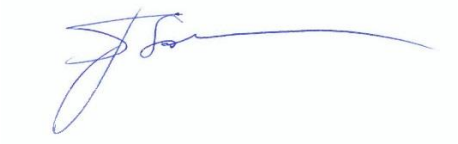
J. Recommended improvements: Based on the results of the future traffic analysis, mitigation measures will be recommended for impacted roadways and intersections which are anticipated to operate above the adopted level of service (LOS) threshold through the build-out year. Improvements will be identified for elements of the roadway network that show significant increases in levels of congestion from the No-build alternative. The extent of the improvements will aim at maintaining levels of operation with project implementation.

K. Queue Analysis: A queue analysis will be performed at the ingress/egress driveway for the proposed site. The results of the analysis will be documented in the report study.

M. Meetings: Pre-application conference with the City of Hollywood Planning Department.
Presentation meeting with City of Hollywood City Council.

Sincerely,

MARLIN ENGINEERING, INC.



Steven Schindler, PE, PTOE
Traffic Engineering Department Manager

APPENDIX C
TURNING MOVEMENT COUNTS

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 Hollywood Memorial Regional Driveway
Site Code: 2018030.000 Hollywood Memorial Regional Driveway
Start Date: 06/12/2018

Turning Movement Data

Start Time	Hospital Driveway Southbound					Johnson St Westbound					Johnson St Eastbound					
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Int. Total
6:00 AM	2	3	0	0	5	16	58	0	0	74	30	21	0	0	51	130
6:15 AM	7	4	0	0	11	26	122	0	0	148	48	17	0	0	65	224
6:30 AM	12	4	0	1	16	32	138	0	1	170	62	33	0	0	95	281
6:45 AM	5	5	0	0	10	22	79	0	1	101	67	28	0	0	95	206
Hourly Total	26	16	0	1	42	96	397	0	2	493	207	99	0	0	306	841
7:00 AM	14	5	0	3	19	22	72	0	3	94	87	20	0	0	107	220
7:15 AM	11	6	0	2	17	12	83	0	2	95	88	15	0	0	103	215
7:30 AM	8	5	0	1	13	17	127	0	0	144	96	19	0	0	115	272
7:45 AM	7	8	0	1	15	30	137	0	2	167	111	18	0	0	129	311
Hourly Total	40	24	0	7	64	81	419	0	7	500	382	72	0	0	454	1018
8:00 AM	6	4	0	1	10	21	117	0	4	138	113	29	0	3	142	290
8:15 AM	10	1	0	1	11	13	140	0	2	153	145	23	0	0	168	332
8:30 AM	4	4	0	0	8	19	103	0	0	122	133	21	0	0	154	284
8:45 AM	9	5	0	1	14	16	110	1	0	127	104	22	0	0	126	267
Hourly Total	29	14	0	3	43	69	470	1	6	540	495	95	0	3	590	1173
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	21	15	0	1	36	9	104	0	0	113	112	16	0	0	128	277
3:15 PM	16	10	0	0	26	8	117	0	1	125	126	18	0	0	144	295
3:30 PM	24	16	0	2	40	18	124	0	1	142	113	18	0	0	131	313
3:45 PM	25	13	0	0	38	17	120	0	3	137	107	11	0	0	118	293
Hourly Total	86	54	0	3	140	52	465	0	5	517	458	63	0	0	521	1178
4:00 PM	16	11	0	2	27	18	138	0	2	156	100	8	0	0	108	291
4:15 PM	28	4	0	1	32	13	99	0	1	112	110	13	0	1	123	267
4:30 PM	21	8	0	3	29	22	135	0	2	157	131	14	0	1	145	331
4:45 PM	22	5	1	3	28	15	118	0	8	133	132	7	0	0	139	300
Hourly Total	87	28	1	9	116	68	490	0	13	558	473	42	0	2	515	1189
5:00 PM	24	11	0	3	35	19	130	0	1	149	116	9	0	1	125	309
5:15 PM	14	15	0	1	29	16	144	1	1	161	108	11	0	0	119	309
5:30 PM	32	9	0	1	41	12	144	0	3	156	108	11	0	0	119	316
5:45 PM	16	9	1	0	26	12	131	0	1	143	114	10	0	0	124	293
Hourly Total	86	44	1	5	131	59	549	1	6	609	446	41	0	1	487	1227
Grand Total	354	180	2	28	536	425	2790	2	39	3217	2461	412	0	6	2873	6626
Approach %	66.0	33.6	0.4	-	-	13.2	86.7	0.1	-	-	85.7	14.3	0.0	-	-	-
Total %	5.3	2.7	0.0	-	8.1	6.4	42.1	0.0	-	48.6	37.1	6.2	0.0	-	43.4	-
Lights	351	176	2	-	529	409	2756	2	-	3167	2414	400	0	-	2814	6510
% Lights	99.2	97.8	100.0	-	98.7	96.2	98.8	100.0	-	98.4	98.1	97.1	-	-	97.9	98.2
Buses	0	0	0	-	0	2	17	0	-	19	23	8	0	-	31	50
% Buses	0.0	0.0	0.0	-	0.0	0.5	0.6	0.0	-	0.6	0.9	1.9	-	-	1.1	0.8

Trucks	3	4	0	-	7	14	17	0	-	31	24	4	0	-	28	66
% Trucks	0.8	2.2	0.0	-	1.3	3.3	0.6	0.0	-	1.0	1.0	1.0	-	-	1.0	1.0
Pedestrians	-	-	-	28	-	-	-	-	39	-	-	-	-	6	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

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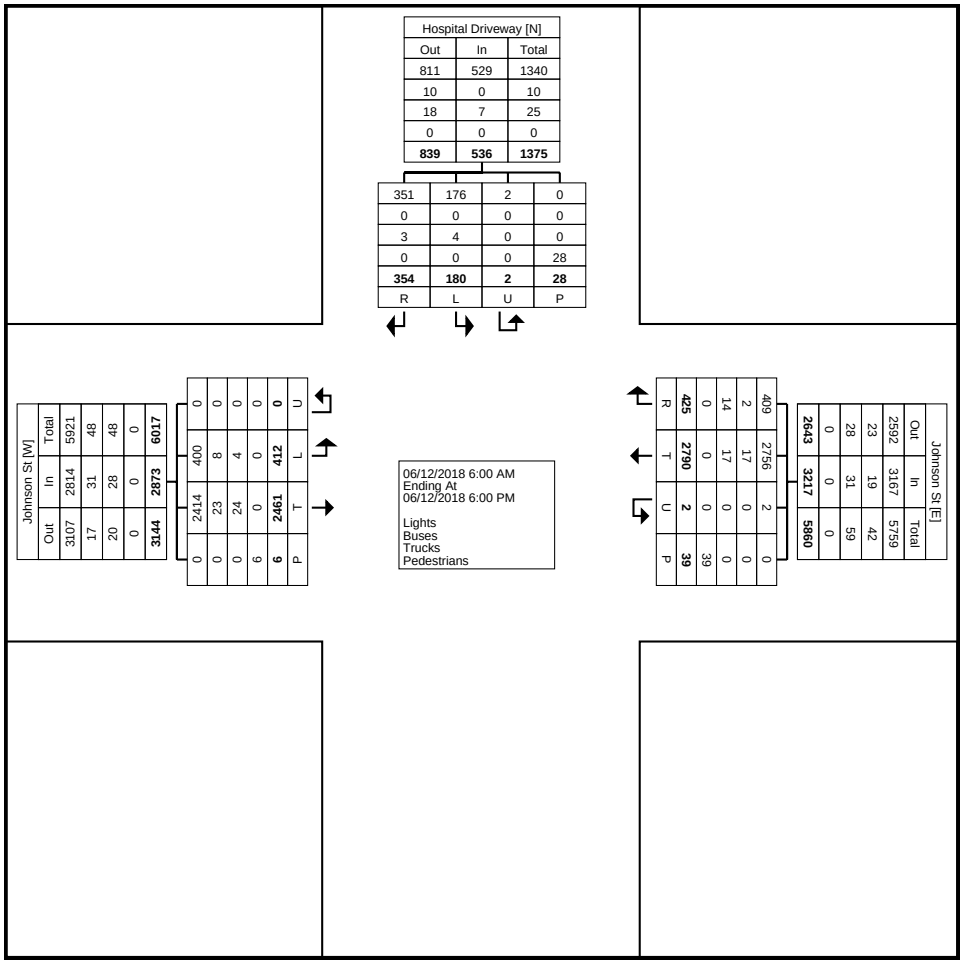
Site Code: 2018030.000 Hollywood Memorial Regional Driveway
Start Date: 06/12/2018



Turning Movement Data Plot

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Count Name: 2018030.000 Hollywood Memorial Regional Driveway
Site Code: 2018030.000 Hollywood Memorial Regional Driveway
Start Date: 06/12/2018

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Hospital Driveway Southbound					Johnson St Westbound					Johnson St Eastbound					
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:45 AM	7	8	0	1	15	30	137	0	2	167	111	18	0	0	129	311
8:00 AM	6	4	0	1	10	21	117	0	4	138	113	29	0	3	142	290
8:15 AM	10	1	0	1	11	13	140	0	2	153	145	23	0	0	168	332
8:30 AM	4	4	0	0	8	19	103	0	0	122	133	21	0	0	154	284
Total	27	17	0	3	44	83	497	0	8	580	502	91	0	3	593	1217
Approach %	61.4	38.6	0.0	-	-	14.3	85.7	0.0	-	-	84.7	15.3	0.0	-	-	-
Total %	2.2	1.4	0.0	-	3.6	6.8	40.8	0.0	-	47.7	41.2	7.5	0.0	-	48.7	-
PHF	0.675	0.531	0.000	-	0.733	0.692	0.888	0.000	-	0.868	0.866	0.784	0.000	-	0.882	0.916
Lights	26	17	0	-	43	80	491	0	-	571	495	89	0	-	584	1198
% Lights	96.3	100.0	-	-	97.7	96.4	98.8	-	-	98.4	98.6	97.8	-	-	98.5	98.4
Buses	0	0	0	-	0	0	2	0	-	2	5	1	0	-	6	8
% Buses	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.3	1.0	1.1	-	-	1.0	0.7
Trucks	1	0	0	-	1	3	4	0	-	7	2	1	0	-	3	11
% Trucks	3.7	0.0	-	-	2.3	3.6	0.8	-	-	1.2	0.4	1.1	-	-	0.5	0.9
Pedestrians	-	-	-	3	-	-	-	-	8	-	-	-	-	3	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

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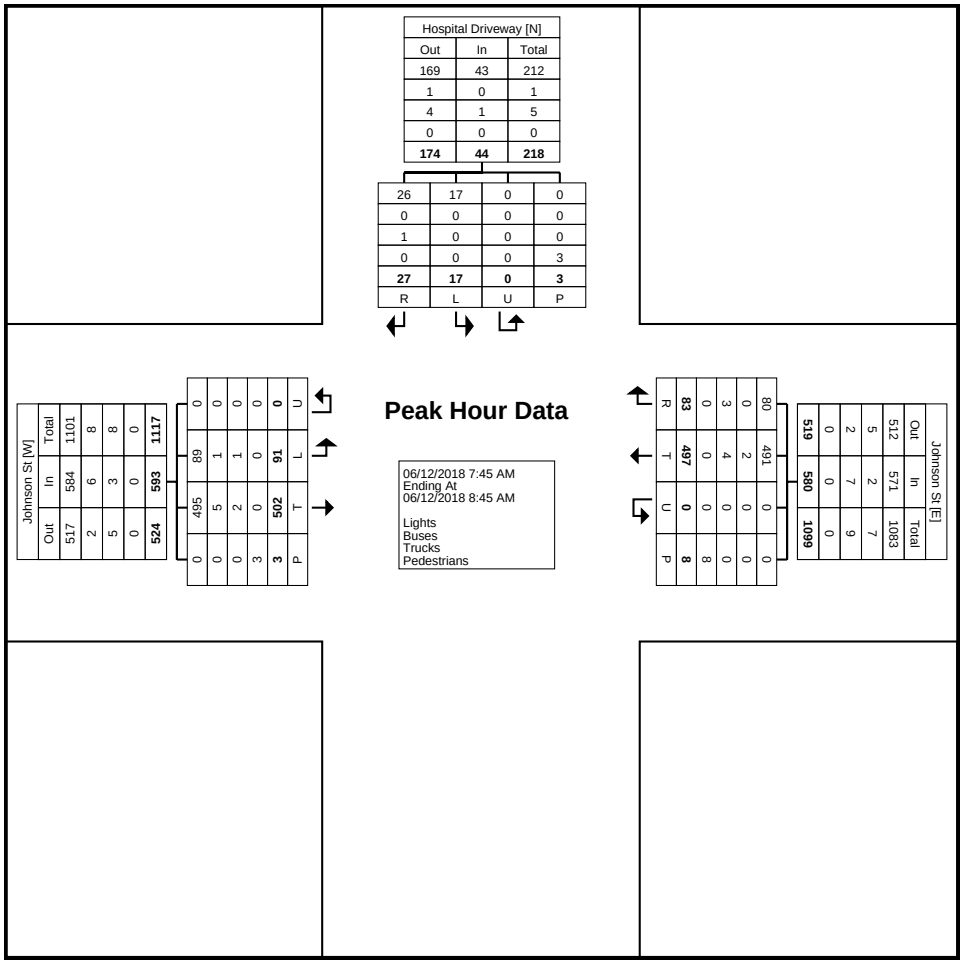

Turning Movement Peak Hour Data Plot (7:45 AM)

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Count Name: 2018030.000 Hollywood Memorial Regional Driveway
Site Code: 2018030.000 Hollywood Memorial Regional Driveway
Start Date: 06/12/2018

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Hospital Driveway Southbound					Johnson St Westbound					Johnson St Eastbound					
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:30 PM	21	8	0	3	29	22	135	0	2	157	131	14	0	1	145	331
4:45 PM	22	5	1	3	28	15	118	0	8	133	132	7	0	0	139	300
5:00 PM	24	11	0	3	35	19	130	0	1	149	116	9	0	1	125	309
5:15 PM	14	15	0	1	29	16	144	1	1	161	108	11	0	0	119	309
Total	81	39	1	10	121	72	527	1	12	600	487	41	0	2	528	1249
Approach %	66.9	32.2	0.8	-	-	12.0	87.8	0.2	-	-	92.2	7.8	0.0	-	-	-
Total %	6.5	3.1	0.1	-	9.7	5.8	42.2	0.1	-	48.0	39.0	3.3	0.0	-	42.3	-
PHF	0.844	0.650	0.250	-	0.864	0.818	0.915	0.250	-	0.932	0.922	0.732	0.000	-	0.910	0.943
Lights	81	38	1	-	120	71	522	1	-	594	478	38	0	-	516	1230
% Lights	100.0	97.4	100.0	-	99.2	98.6	99.1	100.0	-	99.0	98.2	92.7	-	-	97.7	98.5
Buses	0	0	0	-	0	0	2	0	-	2	3	2	0	-	5	7
% Buses	0.0	0.0	0.0	-	0.0	0.0	0.4	0.0	-	0.3	0.6	4.9	-	-	0.9	0.6
Trucks	0	1	0	-	1	1	3	0	-	4	6	1	0	-	7	12
% Trucks	0.0	2.6	0.0	-	0.8	1.4	0.6	0.0	-	0.7	1.2	2.4	-	-	1.3	1.0
Pedestrians	-	-	-	10	-	-	-	-	12	-	-	-	-	2	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

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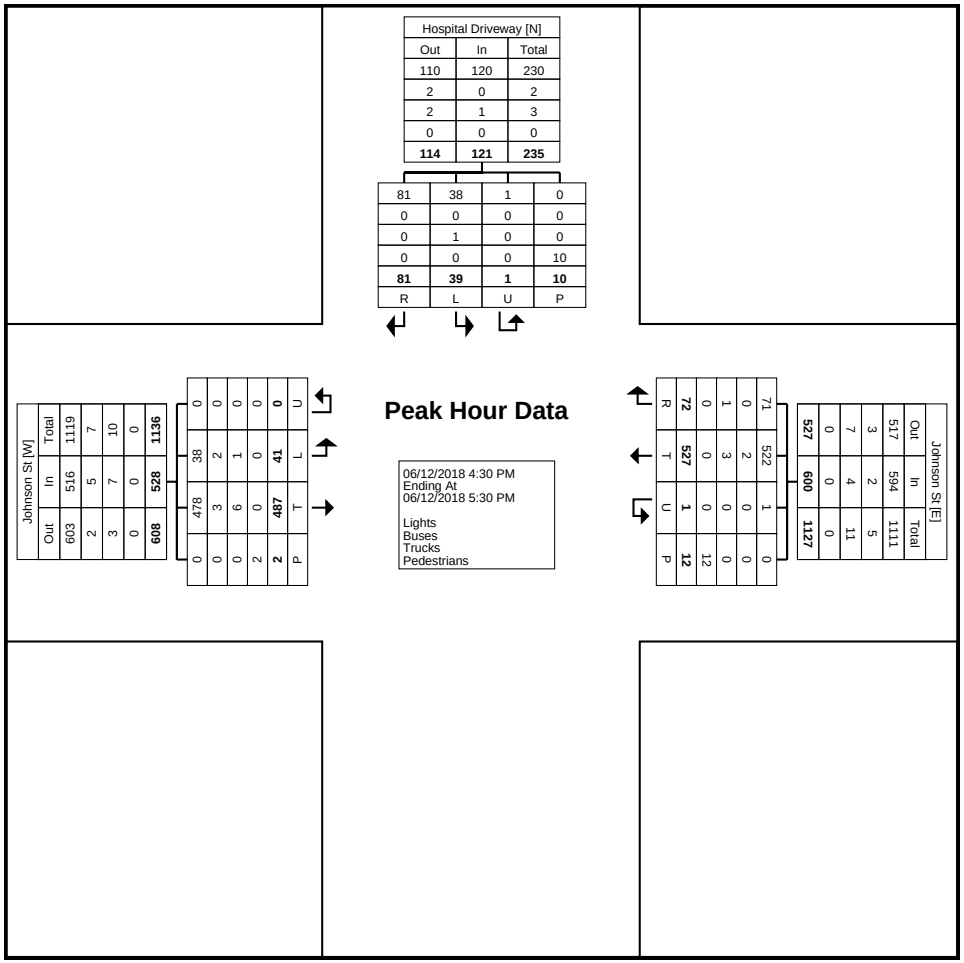

Turning Movement Peak Hour Data Plot (4:30 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 Johnson St at N Highland Drive
Site Code: 2018030.000 Johnson St at N Highland Drive
Start Date: 06/12/2018

Turning Movement Data

Start Time	Southbound Approach Southbound						Johnson St Westbound						N Highland Drive Northbound						Johnson St at N Highland Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	2	0	0	0	0	2	0	68	0	0	1	68	0	0	0	0	0	0	0	34	0	0	0	34	104
6:15 AM	4	0	0	0	1	4	0	128	0	0	0	128	3	0	0	0	0	3	0	56	1	0	0	57	192
6:30 AM	2	0	0	0	5	2	0	177	0	0	0	177	4	0	0	0	0	4	0	61	0	0	0	61	244
6:45 AM	3	0	0	0	7	3	0	103	0	0	0	103	4	0	0	0	0	4	0	76	0	0	0	76	186
Hourly Total	11	0	0	0	13	11	0	476	0	0	1	476	11	0	0	0	0	11	0	227	1	0	0	228	726
7:00 AM	3	0	1	0	0	4	0	94	0	0	0	94	12	0	0	0	1	12	0	87	0	0	0	87	197
7:15 AM	0	0	0	0	1	0	1	98	0	0	2	99	15	0	0	0	2	15	0	95	0	0	0	95	209
7:30 AM	1	0	0	0	3	1	0	127	0	0	0	127	10	0	0	0	0	10	0	102	0	0	0	102	240
7:45 AM	5	0	0	0	0	5	0	161	0	0	2	161	7	0	0	0	1	7	0	112	0	0	0	112	285
Hourly Total	9	0	1	0	4	10	1	480	0	0	4	481	44	0	0	0	4	44	0	396	0	0	0	396	931
8:00 AM	3	0	0	0	3	3	0	137	0	0	0	137	6	0	0	0	1	6	0	118	0	0	0	118	264
8:15 AM	1	0	0	0	0	1	0	151	0	0	0	151	6	0	1	0	0	7	0	146	0	0	0	146	305
8:30 AM	0	0	1	0	2	1	0	129	0	0	0	129	7	0	0	0	0	7	0	135	0	0	0	135	272
8:45 AM	2	0	1	0	3	3	1	126	0	0	0	127	5	0	0	0	0	5	0	109	0	0	1	109	244
Hourly Total	6	0	2	0	8	8	1	543	0	0	0	544	24	0	1	0	1	25	0	508	0	0	1	508	1085
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	4	0	0	0	0	4	0	115	0	0	0	115	7	0	0	0	0	7	0	118	0	0	0	118	244
3:15 PM	11	0	0	0	2	11	0	117	0	0	0	117	4	0	0	0	1	4	0	133	0	0	1	133	265
3:30 PM	3	0	0	0	5	3	0	134	0	0	0	134	4	0	0	0	1	4	0	141	0	0	2	141	282
3:45 PM	7	0	1	0	6	8	0	132	0	0	1	132	7	0	0	0	0	7	0	118	0	0	0	118	265
Hourly Total	25	0	1	0	13	26	0	498	0	0	1	498	22	0	0	0	2	22	0	510	0	0	3	510	1056
4:00 PM	5	0	0	0	4	5	0	144	0	0	1	144	8	0	0	0	2	8	1	104	0	0	1	105	262
4:15 PM	1	0	0	0	3	1	0	122	0	0	0	122	4	0	0	0	0	4	0	117	0	0	0	117	244
4:30 PM	4	0	0	0	7	4	0	146	0	0	0	146	14	0	0	0	0	14	0	136	0	0	0	136	300
4:45 PM	7	0	0	0	3	7	1	133	0	0	0	134	9	0	0	0	0	9	0	145	0	0	4	145	295
Hourly Total	17	0	0	0	17	17	1	545	0	0	1	546	35	0	0	0	2	35	1	502	0	0	5	503	1101
5:00 PM	9	0	0	0	4	9	0	137	0	0	0	137	11	0	0	0	0	11	0	123	0	0	1	123	280
5:15 PM	3	0	0	0	1	3	0	161	0	1	1	162	9	0	0	0	1	9	0	124	0	0	3	124	298
5:30 PM	6	0	1	0	0	7	0	149	0	0	0	149	2	0	0	0	2	2	0	126	0	0	1	126	284
5:45 PM	7	0	0	0	0	7	0	143	0	0	0	143	7	0	0	0	1	7	0	117	0	0	0	117	274
Hourly Total	25	0	1	0	5	26	0	590	0	1	1	591	29	0	0	0	4	29	0	490	0	0	5	490	1136
Grand Total	93	0	5	0	60	98	3	3132	0	1	8	3136	165	0	1	0	13	166	1	2633	1	0	14	2635	6035
Approach %	94.9	0.0	5.1	0.0	-	-	0.1	99.9	0.0	0.0	-	-	99.4	0.0	0.6	0.0	-	-	0.0	99.9	0.0	0.0	-	-	-
Total %	1.5	0.0	0.1	0.0	-	1.6	0.0	51.9	0.0	0.0	-	52.0	2.7	0.0	0.0	0.0	-	2.8	0.0	43.6	0.0	0.0	-	43.7	-
Lights	91	0	3	0	-	94	3	3077	0	1	-	3081	160	0	1	0	-	161	1	2587	1	0	-	2589	5925
% Lights	97.8	-	60.0	-	-	95.9	100.0	98.2	-	100.0	-	98.2	97.0	-	100.0	-	-	97.0	100.0	98.3	100.0	-	-	98.3	98.2
Buses	0	0	0	0	-	0	0	22	0	0	-	22	2	0	0	0	-	2	0	24	0	0	-	24	48

% Buses	0.0	-	0.0	-	-	0.0	0.0	0.7	-	0.0	-	0.7	1.2	-	0.0	-	-	1.2	0.0	0.9	0.0	-	-	0.9	0.8
Trucks	2	0	2	0	-	4	0	33	0	0	-	33	3	0	0	0	-	3	0	22	0	0	-	22	62
% Trucks	2.2	-	40.0	-	-	4.1	0.0	1.1	-	0.0	-	1.1	1.8	-	0.0	-	-	1.8	0.0	0.8	0.0	-	-	0.8	1.0
Pedestrians	-	-	-	-	60	-	-	-	-	-	8	-	-	-	-	-	13	-	-	-	-	-	14	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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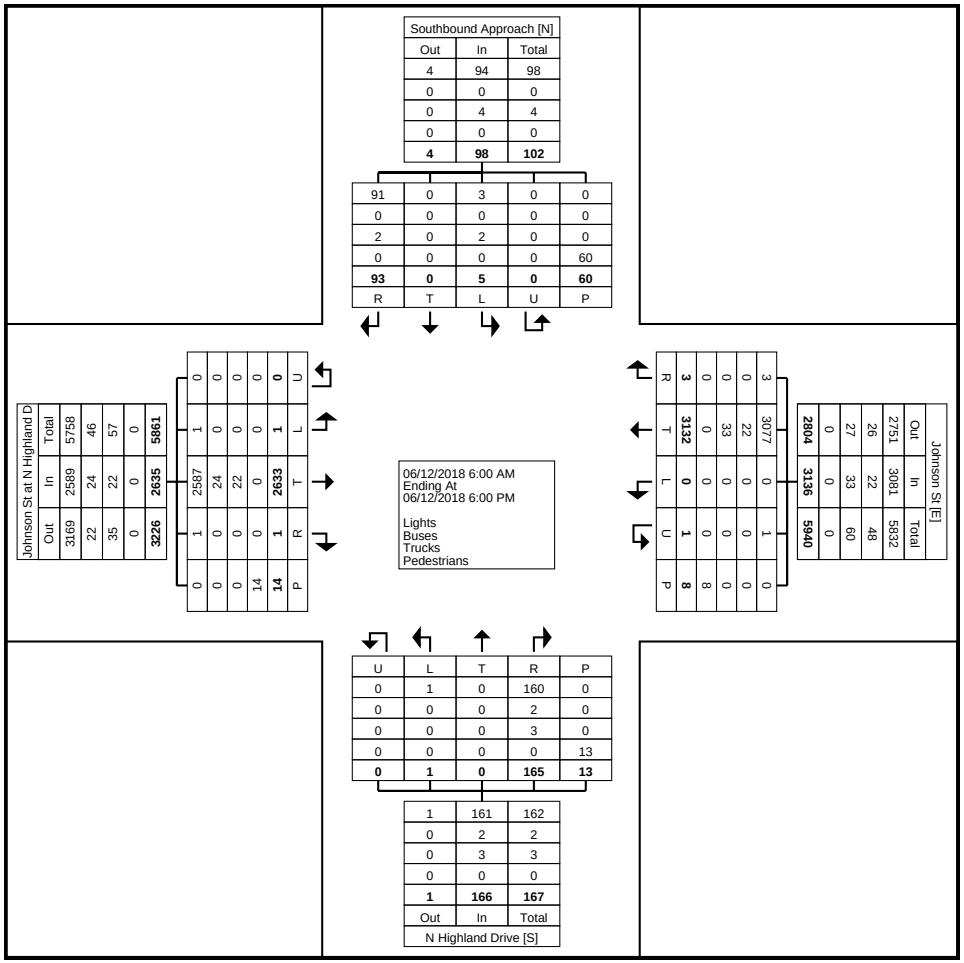

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Turning Movement Peak Hour Data (7:45 AM)

Start Time	Southbound Approach Southbound						Johnson St Westbound						N Highland Drive Northbound						Johnson St at N Highland Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:45 AM	5	0	0	0	0	5	0	161	0	0	2	161	7	0	0	0	1	7	0	112	0	0	0	112	285
8:00 AM	3	0	0	0	3	3	0	137	0	0	0	137	6	0	0	0	1	6	0	118	0	0	0	118	264
8:15 AM	1	0	0	0	0	1	0	151	0	0	0	151	6	0	1	0	0	7	0	146	0	0	0	146	305
8:30 AM	0	0	1	0	2	1	0	129	0	0	0	129	7	0	0	0	0	7	0	135	0	0	0	135	272
Total	9	0	1	0	5	10	0	578	0	0	2	578	26	0	1	0	2	27	0	511	0	0	0	511	1126
Approach %	90.0	0.0	10.0	0.0	-	-	0.0	100.0	0.0	0.0	-	-	96.3	0.0	3.7	0.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.8	0.0	0.1	0.0	-	0.9	0.0	51.3	0.0	0.0	-	51.3	2.3	0.0	0.1	0.0	-	2.4	0.0	45.4	0.0	0.0	-	45.4	-
PHF	0.450	0.000	0.250	0.000	-	0.500	0.000	0.898	0.000	0.000	-	0.898	0.929	0.000	0.250	0.000	-	0.964	0.000	0.875	0.000	0.000	-	0.875	0.923
Lights	9	0	1	0	-	10	0	569	0	0	-	569	26	0	1	0	-	27	0	504	0	0	-	504	1110
% Lights	100.0	-	100.0	-	-	100.0	-	98.4	-	-	-	98.4	100.0	-	100.0	-	-	100.0	-	98.6	-	-	-	98.6	98.6
Buses	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	4	0	0	-	4	6
% Buses	0.0	-	0.0	-	-	0.0	-	0.3	-	-	-	0.3	0.0	-	0.0	-	-	0.0	-	0.8	-	-	-	0.8	0.5
Trucks	0	0	0	0	-	0	0	7	0	0	-	7	0	0	0	0	-	0	0	3	0	0	-	3	10
% Trucks	0.0	-	0.0	-	-	0.0	-	1.2	-	-	-	1.2	0.0	-	0.0	-	-	0.0	-	0.6	-	-	-	0.6	0.9
Pedestrians	-	-	-	-	5	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Marlin Engineering Inc.
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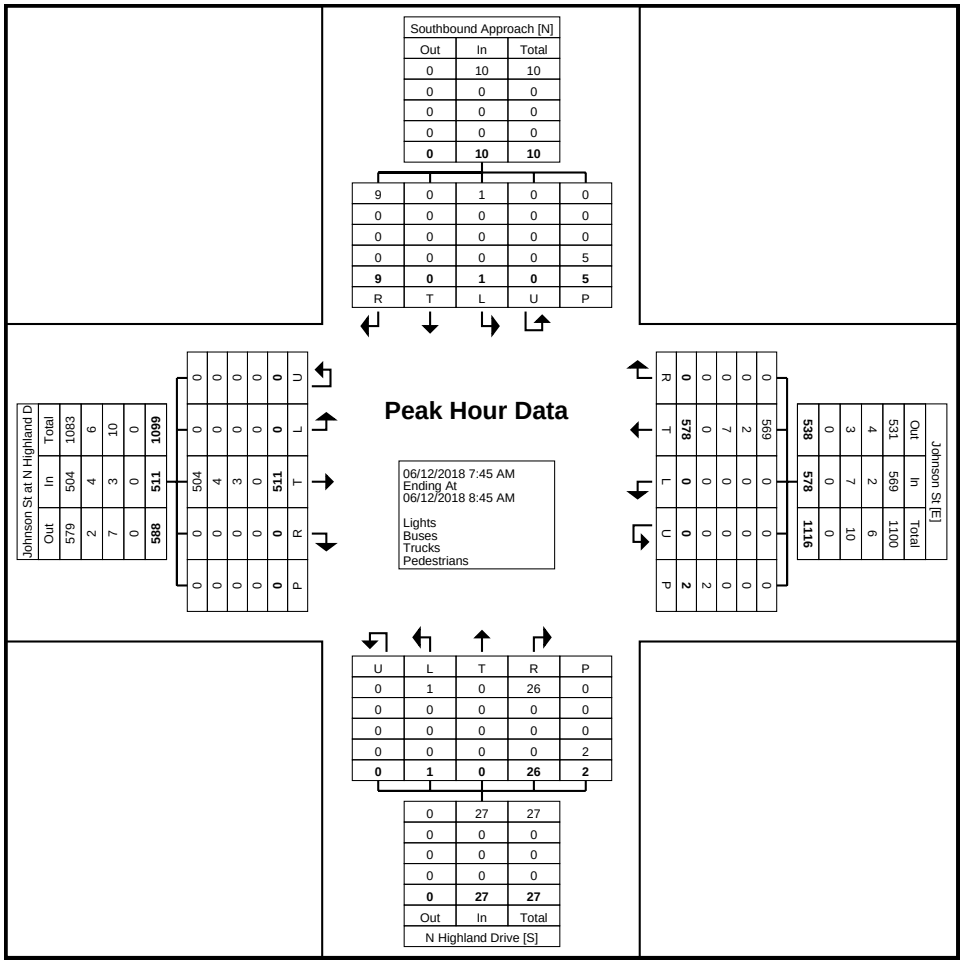
Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 Johnson St at N Highland Drive
Site Code: 2018030.000 Johnson St at N Highland Drive
Start Date: 06/12/2018



Turning Movement Peak Hour Data Plot (7:45 AM)

Marlin Engineering Inc.
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Count Name: 2018030.000 Johnson St at N Highland Drive
Site Code: 2018030.000 Johnson St at N Highland Drive
Start Date: 06/12/2018

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Southbound Approach Southbound						Johnson St Westbound						N Highland Drive Northbound						Johnson St at N Highland Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:30 PM	4	0	0	0	7	4	0	146	0	0	0	146	14	0	0	0	0	14	0	136	0	0	0	136	300
4:45 PM	7	0	0	0	3	7	1	133	0	0	0	134	9	0	0	0	0	9	0	145	0	0	4	145	295
5:00 PM	9	0	0	0	4	9	0	137	0	0	0	137	11	0	0	0	0	11	0	123	0	0	1	123	280
5:15 PM	3	0	0	0	1	3	0	161	0	1	1	162	9	0	0	0	1	9	0	124	0	0	3	124	298
Total	23	0	0	0	15	23	1	577	0	1	1	579	43	0	0	0	1	43	0	528	0	0	8	528	1173
Approach %	100.0	0.0	0.0	0.0	-	-	0.2	99.7	0.0	0.2	-	-	100.0	0.0	0.0	0.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	2.0	0.0	0.0	0.0	-	2.0	0.1	49.2	0.0	0.1	-	49.4	3.7	0.0	0.0	0.0	-	3.7	0.0	45.0	0.0	0.0	-	45.0	-
PHF	0.639	0.000	0.000	0.000	-	0.639	0.250	0.896	0.000	0.250	-	0.894	0.768	0.000	0.000	0.000	-	0.768	0.000	0.910	0.000	0.000	-	0.910	0.978
Lights	21	0	0	0	-	21	1	571	0	1	-	573	41	0	0	0	-	41	0	519	0	0	-	519	1154
% Lights	91.3	-	-	-	-	91.3	100.0	99.0	-	100.0	-	99.0	95.3	-	-	-	-	95.3	-	98.3	-	-	-	98.3	98.4
Buses	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	4	0	0	-	4	6
% Buses	0.0	-	-	-	-	0.0	0.0	0.3	-	0.0	-	0.3	0.0	-	-	-	-	0.0	-	0.8	-	-	-	0.8	0.5
Trucks	2	0	0	0	-	2	0	4	0	0	-	4	2	0	0	0	-	2	0	5	0	0	-	5	13
% Trucks	8.7	-	-	-	-	8.7	0.0	0.7	-	0.0	-	0.7	4.7	-	-	-	-	4.7	-	0.9	-	-	-	0.9	1.1
Pedestrians	-	-	-	-	15	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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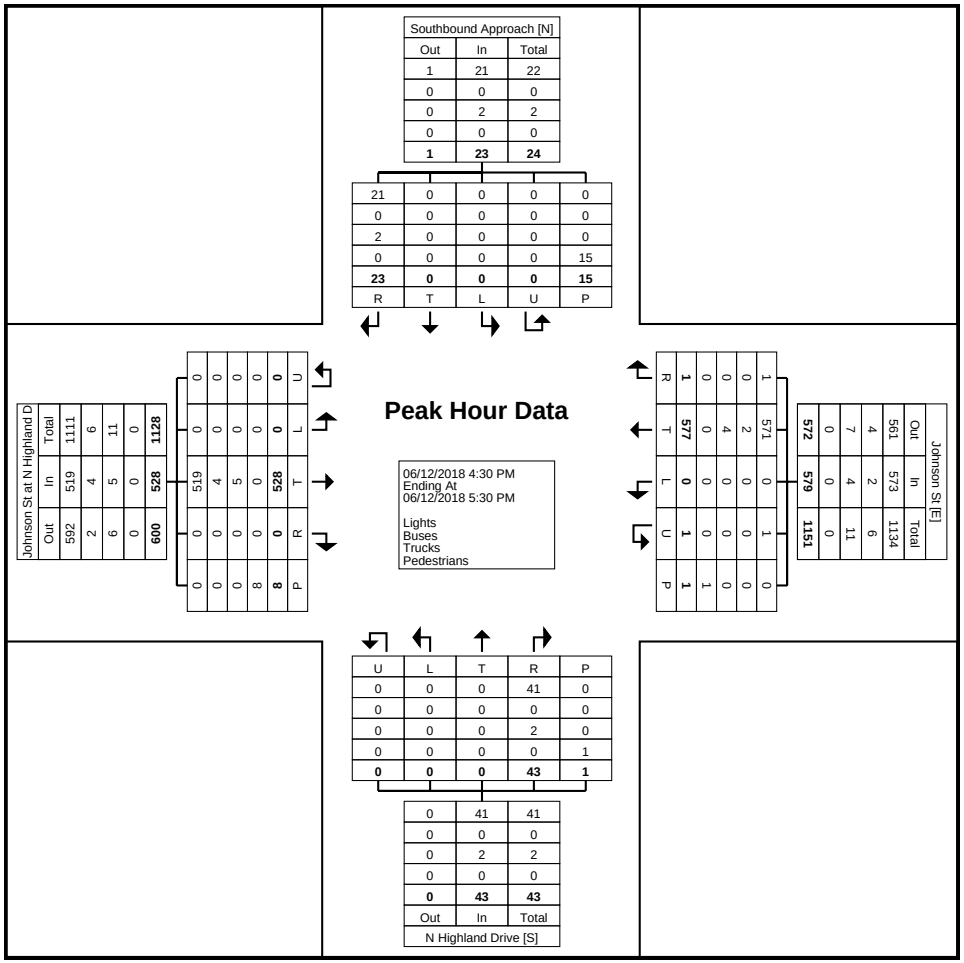
Site Code: 2018030.000 Johnson St at N Highland Drive
Start Date: 06/12/2018



Turning Movement Peak Hour Data Plot (4:30 PM)

Marlin Engineering Inc.
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Count Name: 2018030.000 Johnson St at N 35th Avenue
Site Code: 2018030.000 Johnson St at N 35th Avenue
Start Date: 06/12/2018

Turning Movement Data

Start Time	N 35th Avenue Southbound						Johnson St Westbound						N 35th Avenue Northbound						Johnson St Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	5	8	8	0	2	21	10	42	5	0	1	57	3	18	25	0	1	46	4	23	4	0	1	31	155
6:15 AM	14	11	7	0	0	32	15	79	5	0	1	99	2	22	55	0	1	79	8	41	8	0	1	57	267
6:30 AM	21	10	10	0	0	41	16	79	8	0	0	103	9	19	66	0	0	94	5	45	8	0	2	58	296
6:45 AM	7	7	5	0	0	19	11	56	9	0	1	76	16	32	32	0	0	80	13	55	10	0	1	78	253
Hourly Total	47	36	30	0	2	113	52	256	27	0	3	335	30	91	178	0	2	299	30	164	30	0	5	224	971
7:00 AM	9	10	17	0	0	36	11	59	5	0	0	75	10	28	25	0	0	63	15	77	4	0	2	96	270
7:15 AM	8	16	16	0	0	40	20	70	12	0	0	102	21	26	21	0	1	68	15	85	6	0	0	106	316
7:30 AM	14	23	14	0	0	51	32	78	10	0	0	120	18	41	47	0	0	106	13	86	7	0	0	106	383
7:45 AM	14	15	14	1	0	44	34	99	21	0	0	154	15	48	50	0	0	113	12	96	13	0	0	121	432
Hourly Total	45	64	61	1	0	171	97	306	48	0	0	451	64	143	143	0	1	350	55	344	30	0	2	429	1401
8:00 AM	16	10	16	0	1	42	28	72	14	0	0	114	17	45	47	0	0	109	15	94	8	0	2	117	382
8:15 AM	11	17	11	0	1	39	33	86	22	0	0	141	24	58	50	0	0	132	23	103	20	0	2	146	458
8:30 AM	14	14	21	0	1	49	37	77	10	0	0	124	19	49	35	0	0	103	13	113	18	0	0	144	420
8:45 AM	14	15	10	0	0	39	41	91	12	0	1	144	16	43	24	0	0	83	15	75	16	0	0	106	372
Hourly Total	55	56	58	0	3	169	139	326	58	0	1	523	76	195	156	0	0	427	66	385	62	0	4	513	1632
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	27	43	31	0	4	101	24	69	15	0	2	108	18	34	16	0	0	68	21	83	16	0	0	120	397
3:15 PM	21	44	33	0	1	98	27	83	17	0	0	127	24	25	12	1	2	62	26	85	18	0	2	129	416
3:30 PM	27	38	28	0	0	93	23	89	14	0	1	126	12	21	26	0	1	59	21	96	16	0	2	133	411
3:45 PM	26	33	32	0	0	91	26	90	18	0	2	134	25	24	21	0	0	70	14	92	14	0	0	120	415
Hourly Total	101	158	124	0	5	383	100	331	64	0	5	495	79	104	75	1	3	259	82	356	64	0	4	502	1639
4:00 PM	27	31	26	0	2	84	25	96	10	0	0	131	18	21	28	0	1	67	19	79	11	0	1	109	391
4:15 PM	19	31	35	0	0	85	24	79	23	0	0	126	23	19	15	0	0	57	24	81	13	0	1	118	386
4:30 PM	27	41	35	0	0	103	31	97	13	0	0	141	23	22	27	0	0	72	29	102	13	0	0	144	460
4:45 PM	25	57	33	0	1	115	21	82	19	0	0	122	25	24	18	0	0	67	26	109	11	0	0	146	450
Hourly Total	98	160	129	0	3	387	101	354	65	0	0	520	89	86	88	0	1	263	98	371	48	0	2	517	1687
5:00 PM	20	66	33	0	0	119	16	102	30	0	0	148	28	34	27	0	1	89	26	89	13	0	1	128	484
5:15 PM	19	36	26	0	1	81	20	127	30	0	0	177	21	18	17	0	1	56	29	100	7	0	1	136	450
5:30 PM	19	24	28	0	2	71	26	105	19	0	0	150	27	21	23	0	0	71	23	94	12	0	0	129	421
5:45 PM	19	24	14	0	0	57	21	103	20	0	1	144	35	35	21	0	2	91	23	87	10	0	0	120	412
Hourly Total	77	150	101	0	3	328	83	437	99	0	1	619	111	108	88	0	4	307	101	370	42	0	2	513	1767
Grand Total	423	624	503	1	16	1551	572	2010	361	0	10	2943	449	727	728	1	11	1905	432	1990	276	0	19	2698	9097
Approach %	27.3	40.2	32.4	0.1	-	-	19.4	68.3	12.3	0.0	-	-	23.6	38.2	38.2	0.1	-	-	16.0	73.8	10.2	0.0	-	-	-
Total %	4.6	6.9	5.5	0.0	-	17.0	6.3	22.1	4.0	0.0	-	32.4	4.9	8.0	8.0	0.0	-	20.9	4.7	21.9	3.0	0.0	-	29.7	-
Lights	413	618	491	1	-	1523	566	1970	358	0	-	2894	447	719	722	1	-	1889	424	1948	270	0	-	2642	8948
% Lights	97.6	99.0	97.6	100.0	-	98.2	99.0	98.0	99.2	-	-	98.3	99.6	98.9	99.2	100.0	-	99.2	98.1	97.9	97.8	-	-	97.9	98.4
Buses	8	1	2	0	-	11	2	16	0	0	-	18	0	0	0	0	-	0	1	18	6	0	-	25	54

% Buses	1.9	0.2	0.4	0.0	-	0.7	0.3	0.8	0.0	-	-	0.6	0.0	0.0	0.0	0.0	-	0.0	0.2	0.9	2.2	-	-	0.9	0.6
Trucks	2	5	10	0	-	17	4	24	3	0	-	31	2	8	6	0	-	16	7	24	0	0	-	31	95
% Trucks	0.5	0.8	2.0	0.0	-	1.1	0.7	1.2	0.8	-	-	1.1	0.4	1.1	0.8	0.0	-	0.8	1.6	1.2	0.0	-	-	1.1	1.0
Pedestrians	-	-	-	-	16	-	-	-	-	-	10	-	-	-	-	-	11	-	-	-	-	-	19	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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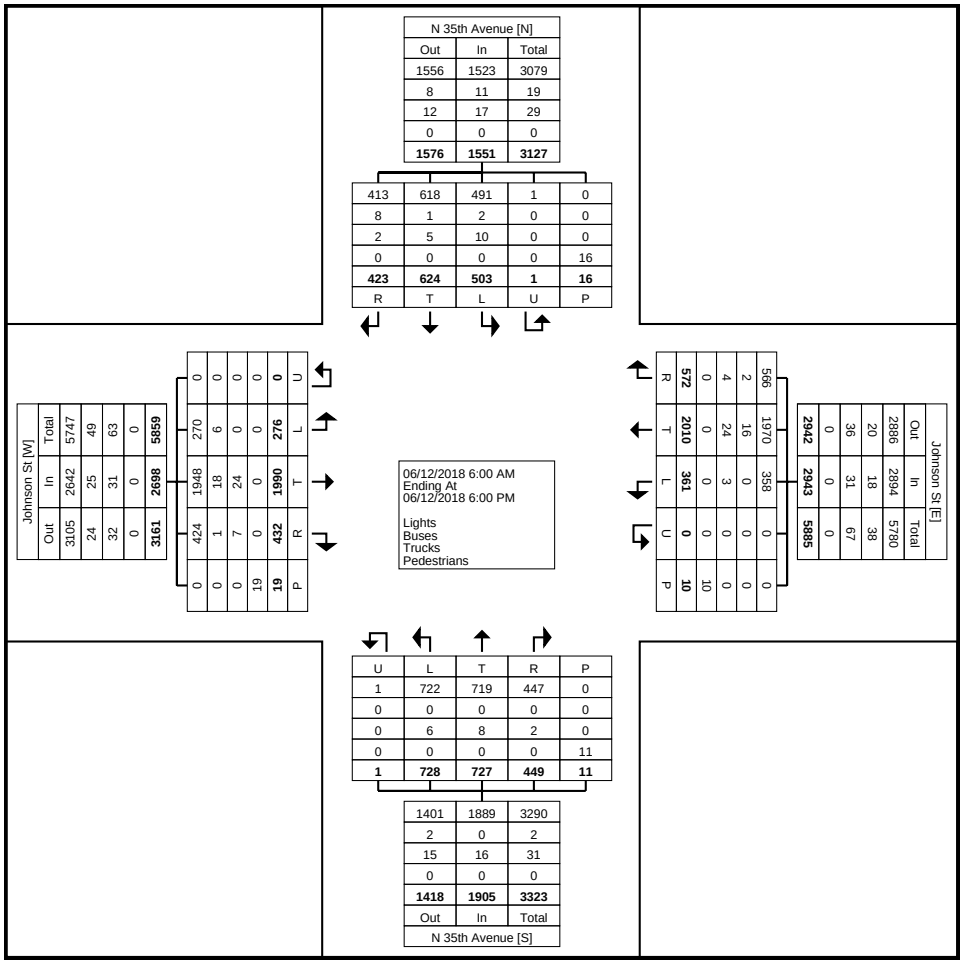
Site Code: 2018030.000 Johnson St at N 35th Avenue
Start Date: 06/12/2018



Turning Movement Data Plot

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Count Name: 2018030.000 Johnson St at N 35th Avenue
Site Code: 2018030.000 Johnson St at N 35th Avenue
Start Date: 06/12/2018

Turning Movement Peak Hour Data (7:45 AM)

Start Time	N 35th Avenue Southbound						Johnson St Westbound						N 35th Avenue Northbound						Johnson St Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:45 AM	14	15	14	1	0	44	34	99	21	0	0	154	15	48	50	0	0	113	12	96	13	0	0	121	432
8:00 AM	16	10	16	0	1	42	28	72	14	0	0	114	17	45	47	0	0	109	15	94	8	0	2	117	382
8:15 AM	11	17	11	0	1	39	33	86	22	0	0	141	24	58	50	0	0	132	23	103	20	0	2	146	458
8:30 AM	14	14	21	0	1	49	37	77	10	0	0	124	19	49	35	0	0	103	13	113	18	0	0	144	420
Total	55	56	62	1	3	174	132	334	67	0	0	533	75	200	182	0	0	457	63	406	59	0	4	528	1692
Approach %	31.6	32.2	35.6	0.6	-	-	24.8	62.7	12.6	0.0	-	-	16.4	43.8	39.8	0.0	-	-	11.9	76.9	11.2	0.0	-	-	-
Total %	3.3	3.3	3.7	0.1	-	10.3	7.8	19.7	4.0	0.0	-	31.5	4.4	11.8	10.8	0.0	-	27.0	3.7	24.0	3.5	0.0	-	31.2	-
PHF	0.859	0.824	0.738	0.250	-	0.888	0.892	0.843	0.761	0.000	-	0.865	0.781	0.862	0.910	0.000	-	0.866	0.685	0.898	0.738	0.000	-	0.904	0.924
Lights	53	56	60	1	-	170	130	326	66	0	-	522	75	197	181	0	-	453	63	399	58	0	-	520	1665
% Lights	96.4	100.0	96.8	100.0	-	97.7	98.5	97.6	98.5	-	-	97.9	100.0	98.5	99.5	-	-	99.1	100.0	98.3	98.3	-	-	98.5	98.4
Buses	1	0	1	0	-	2	1	2	0	0	-	3	0	0	0	0	-	0	0	3	1	0	-	4	9
% Buses	1.8	0.0	1.6	0.0	-	1.1	0.8	0.6	0.0	-	-	0.6	0.0	0.0	0.0	-	-	0.0	0.0	0.7	1.7	-	-	0.8	0.5
Trucks	1	0	1	0	-	2	1	6	1	0	-	8	0	3	1	0	-	4	0	4	0	0	-	4	18
% Trucks	1.8	0.0	1.6	0.0	-	1.1	0.8	1.8	1.5	-	-	1.5	0.0	1.5	0.5	-	-	0.9	0.0	1.0	0.0	-	-	0.8	1.1
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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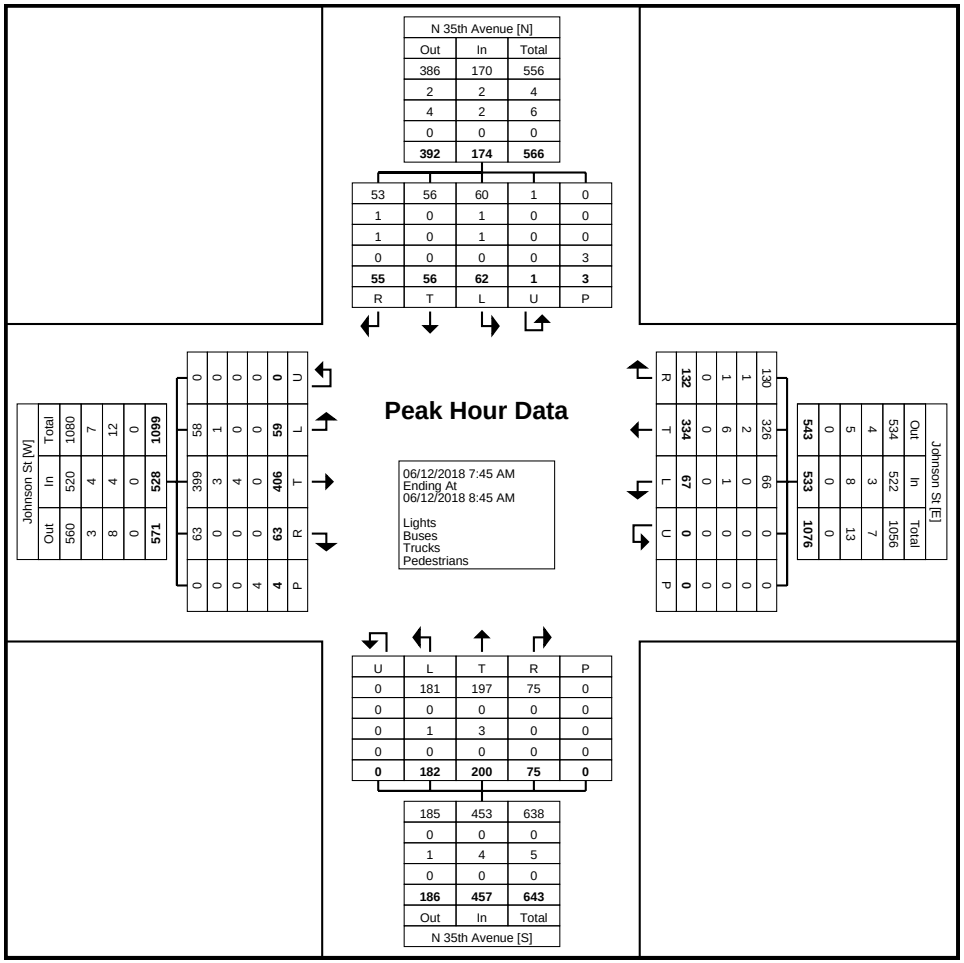

Turning Movement Peak Hour Data Plot (7:45 AM)

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Site Code: 2018030.000 Johnson St at N 35th Avenue
Start Date: 06/12/2018

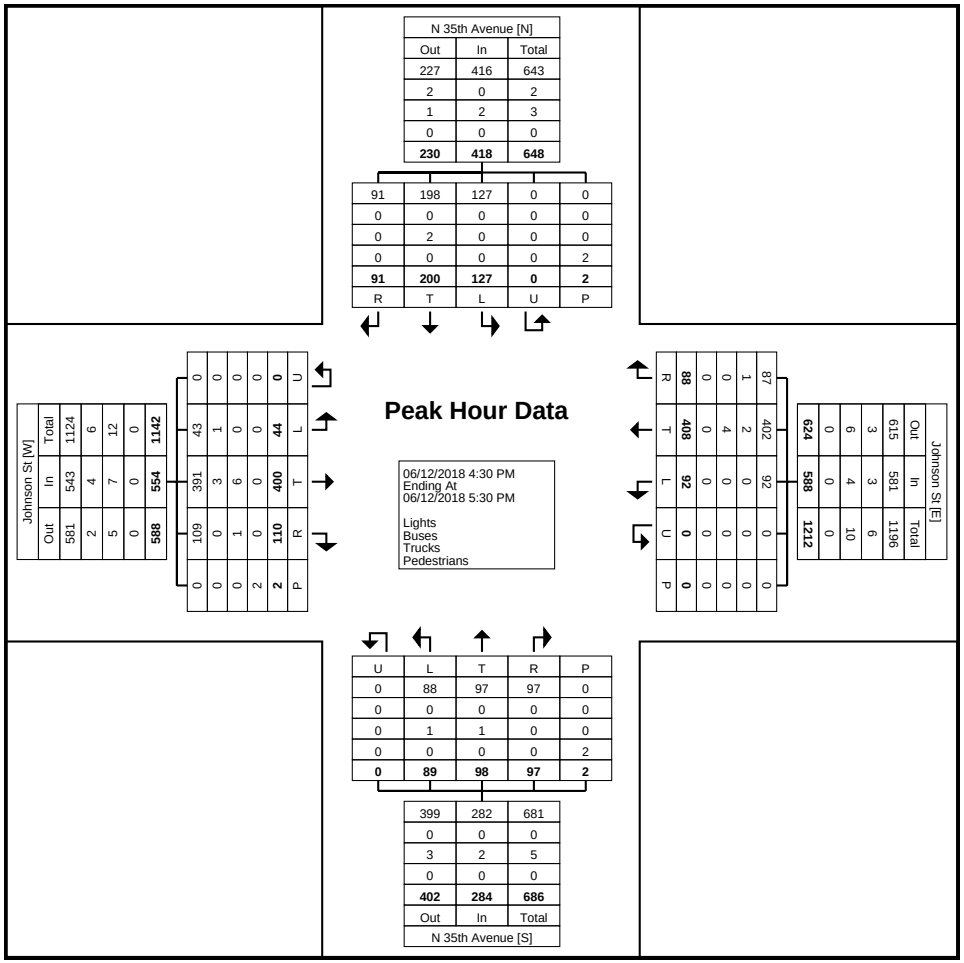
Turning Movement Peak Hour Data (4:30 PM)

Start Time	N 35th Avenue Southbound						Johnson St Westbound						N 35th Avenue Northbound						Johnson St Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:30 PM	27	41	35	0	0	103	31	97	13	0	0	141	23	22	27	0	0	72	29	102	13	0	0	144	460
4:45 PM	25	57	33	0	1	115	21	82	19	0	0	122	25	24	18	0	0	67	26	109	11	0	0	146	450
5:00 PM	20	66	33	0	0	119	16	102	30	0	0	148	28	34	27	0	1	89	26	89	13	0	1	128	484
5:15 PM	19	36	26	0	1	81	20	127	30	0	0	177	21	18	17	0	1	56	29	100	7	0	1	136	450
Total	91	200	127	0	2	418	88	408	92	0	0	588	97	98	89	0	2	284	110	400	44	0	2	554	1844
Approach %	21.8	47.8	30.4	0.0	-	-	15.0	69.4	15.6	0.0	-	-	34.2	34.5	31.3	0.0	-	-	19.9	72.2	7.9	0.0	-	-	-
Total %	4.9	10.8	6.9	0.0	-	22.7	4.8	22.1	5.0	0.0	-	31.9	5.3	5.3	4.8	0.0	-	15.4	6.0	21.7	2.4	0.0	-	30.0	-
PHF	0.843	0.758	0.907	0.000	-	0.878	0.710	0.803	0.767	0.000	-	0.831	0.866	0.721	0.824	0.000	-	0.798	0.948	0.917	0.846	0.000	-	0.949	0.952
Lights	91	198	127	0	-	416	87	402	92	0	-	581	97	97	88	0	-	282	109	391	43	0	-	543	1822
% Lights	100.0	99.0	100.0	-	-	99.5	98.9	98.5	100.0	-	-	98.8	100.0	99.0	98.9	-	-	99.3	99.1	97.8	97.7	-	-	98.0	98.8
Buses	0	0	0	0	-	0	1	2	0	0	-	3	0	0	0	0	-	0	0	3	1	0	-	4	7
% Buses	0.0	0.0	0.0	-	-	0.0	1.1	0.5	0.0	-	-	0.5	0.0	0.0	0.0	-	-	0.0	0.0	0.8	2.3	-	-	0.7	0.4
Trucks	0	2	0	0	-	2	0	4	0	0	-	4	0	1	1	0	-	2	1	6	0	0	-	7	15
% Trucks	0.0	1.0	0.0	-	-	0.5	0.0	1.0	0.0	-	-	0.7	0.0	1.0	1.1	-	-	0.7	0.9	1.5	0.0	-	-	1.3	0.8
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 Johnson St at N 35th Avenue
Site Code: 2018030.000 Johnson St at N 35th Avenue
Start Date: 06/12/2018



Turning Movement Peak Hour Data Plot (4:30 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 Johnson St at N Park Road
Site Code: 2018030.000 Johnson St at N Park Road
Start Date: 06/12/2018

Turning Movement Data

Start Time	N Park Road Southbound						Johnson St Westbound						N Park Road Northbound						Johnson St Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	20	14	2	0	0	36	5	25	3	0	1	33	10	22	21	0	0	53	12	16	6	0	0	34	156
6:15 AM	22	20	4	0	1	46	7	22	8	0	0	37	11	23	42	0	0	76	18	26	9	0	0	53	212
6:30 AM	34	33	8	0	0	75	11	34	20	0	0	65	9	61	35	0	0	105	13	35	15	0	0	63	308
6:45 AM	30	72	11	0	0	113	24	35	25	0	0	84	17	146	19	0	0	182	15	42	22	0	0	79	458
Hourly Total	106	139	25	0	1	270	47	116	56	0	1	219	47	252	117	0	0	416	58	119	52	0	0	229	1134
7:00 AM	24	60	18	0	0	102	23	30	26	0	0	79	34	199	23	0	0	256	28	58	15	0	0	101	538
7:15 AM	27	64	12	0	1	103	38	44	32	0	0	114	28	212	29	0	0	269	37	54	29	0	0	120	606
7:30 AM	40	72	23	1	0	136	37	59	39	0	0	135	32	183	32	0	0	247	20	63	29	0	0	112	630
7:45 AM	48	78	17	0	1	143	32	70	40	0	0	142	31	195	41	0	0	267	22	78	21	0	0	121	673
Hourly Total	139	274	70	1	2	484	130	203	137	0	0	470	125	789	125	0	0	1039	107	253	94	0	0	454	2447
8:00 AM	32	79	25	0	0	136	30	66	40	0	0	136	32	171	43	0	0	246	28	78	26	0	0	132	650
8:15 AM	30	105	20	0	0	155	41	75	41	0	0	157	41	176	41	0	0	258	26	84	26	0	0	136	706
8:30 AM	18	122	36	1	1	177	37	64	43	0	0	144	40	135	33	0	0	208	26	91	24	0	0	141	670
8:45 AM	41	90	26	0	0	157	37	82	33	0	0	152	38	112	29	0	0	179	23	63	18	0	0	104	592
Hourly Total	121	396	107	1	1	625	145	287	157	0	0	589	151	594	146	0	0	891	103	316	94	0	0	513	2618
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	20	106	23	0	2	149	29	63	33	0	0	125	48	106	29	0	0	183	33	72	33	0	0	138	595
3:15 PM	25	101	25	0	1	151	32	78	35	0	0	145	50	132	36	1	0	219	35	78	25	0	0	138	653
3:30 PM	27	111	24	0	0	162	19	67	35	0	0	121	41	104	35	0	0	180	44	67	24	0	0	135	598
3:45 PM	15	76	27	0	0	118	31	83	39	0	0	153	36	107	22	0	0	165	40	82	26	0	0	148	584
Hourly Total	87	394	99	0	3	580	111	291	142	0	0	544	175	449	122	1	0	747	152	299	108	0	0	559	2430
4:00 PM	18	98	27	0	0	143	24	65	50	0	1	139	50	88	40	0	0	178	30	57	27	0	0	114	574
4:15 PM	28	88	27	0	0	143	24	69	27	0	0	120	44	112	25	0	0	181	25	83	34	0	0	142	586
4:30 PM	26	110	21	0	0	157	31	74	43	0	0	148	51	120	34	0	2	205	49	73	34	0	0	156	666
4:45 PM	25	88	37	0	0	150	33	70	49	0	0	152	47	149	30	0	0	226	32	91	32	0	0	155	683
Hourly Total	97	384	112	0	0	593	112	278	169	0	1	559	192	469	129	0	2	790	136	304	127	0	0	567	2509
5:00 PM	23	135	33	1	0	192	38	95	48	0	0	181	68	147	34	0	0	249	43	84	30	0	0	157	779
5:15 PM	26	142	27	0	0	195	45	92	38	0	0	175	57	105	39	0	0	201	34	101	21	0	0	156	727
5:30 PM	22	105	27	0	0	154	30	92	48	0	0	170	54	187	43	0	0	284	31	78	28	0	1	137	745
5:45 PM	25	95	21	0	1	141	41	87	51	0	0	179	65	110	31	0	1	206	27	85	20	0	0	132	658
Hourly Total	96	477	108	1	1	682	154	366	185	0	0	705	244	549	147	0	1	940	135	348	99	0	1	582	2909
Grand Total	646	2064	521	3	8	3234	699	1541	846	0	2	3086	934	3102	786	1	3	4823	691	1639	574	0	1	2904	14047
Approach %	20.0	63.8	16.1	0.1	-	-	22.7	49.9	27.4	0.0	-	-	19.4	64.3	16.3	0.0	-	-	23.8	56.4	19.8	0.0	-	-	-
Total %	4.6	14.7	3.7	0.0	-	23.0	5.0	11.0	6.0	0.0	-	22.0	6.6	22.1	5.6	0.0	-	34.3	4.9	11.7	4.1	0.0	-	20.7	-
Lights	640	2043	515	3	-	3201	691	1513	836	0	-	3040	909	3049	774	1	-	4733	677	1605	570	0	-	2852	13826
% Lights	99.1	99.0	98.8	100.0	-	99.0	98.9	98.2	98.8	-	-	98.5	97.3	98.3	98.5	100.0	-	98.1	98.0	97.9	99.3	-	-	98.2	98.4
Buses	1	3	3	0	-	7	0	15	1	0	-	16	4	7	2	0	-	13	2	17	2	0	-	21	57

% Buses	0.2	0.1	0.6	0.0	-	0.2	0.0	1.0	0.1	-	-	0.5	0.4	0.2	0.3	0.0	-	0.3	0.3	1.0	0.3	-	-	0.7	0.4
Trucks	5	18	3	0	-	26	8	13	9	0	-	30	21	46	10	0	-	77	12	17	2	0	-	31	164
% Trucks	0.8	0.9	0.6	0.0	-	0.8	1.1	0.8	1.1	-	-	1.0	2.2	1.5	1.3	0.0	-	1.6	1.7	1.0	0.3	-	-	1.1	1.2
Pedestrians	-	-	-	-	8	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
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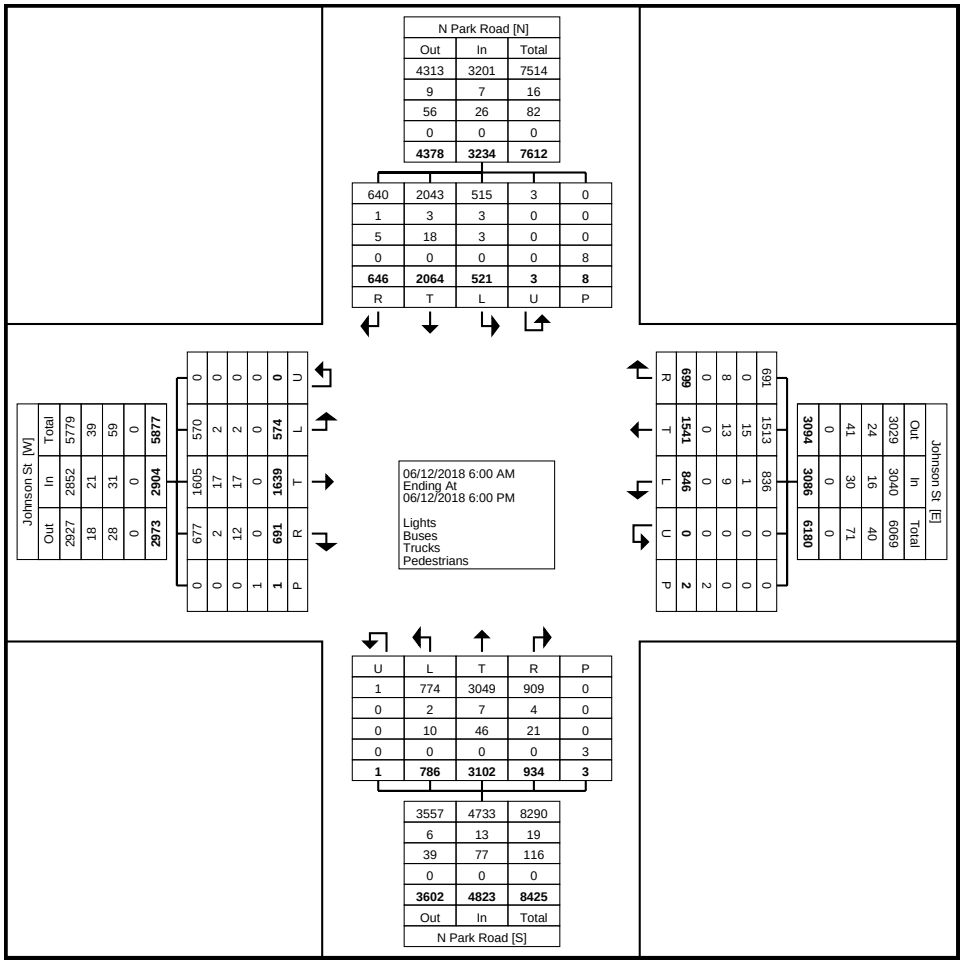
Count Name: 2018030.000 Johnson St at N Park Road
Site Code: 2018030.000 Johnson St at N Park Road
Start Date: 06/12/2018



Turning Movement Data Plot

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 Johnson St at N Park Road
Site Code: 2018030.000 Johnson St at N Park Road
Start Date: 06/12/2018

Turning Movement Peak Hour Data (7:45 AM)

Start Time	N Park Road Southbound						Johnson St Westbound						N Park Road Northbound						Johnson St Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:45 AM	48	78	17	0	1	143	32	70	40	0	0	142	31	195	41	0	0	267	22	78	21	0	0	121	673
8:00 AM	32	79	25	0	0	136	30	66	40	0	0	136	32	171	43	0	0	246	28	78	26	0	0	132	650
8:15 AM	30	105	20	0	0	155	41	75	41	0	0	157	41	176	41	0	0	258	26	84	26	0	0	136	706
8:30 AM	18	122	36	1	1	177	37	64	43	0	0	144	40	135	33	0	0	208	26	91	24	0	0	141	670
Total	128	384	98	1	2	611	140	275	164	0	0	579	144	677	158	0	0	979	102	331	97	0	0	530	2699
Approach %	20.9	62.8	16.0	0.2	-	-	24.2	47.5	28.3	0.0	-	-	14.7	69.2	16.1	0.0	-	-	19.2	62.5	18.3	0.0	-	-	-
Total %	4.7	14.2	3.6	0.0	-	22.6	5.2	10.2	6.1	0.0	-	21.5	5.3	25.1	5.9	0.0	-	36.3	3.8	12.3	3.6	0.0	-	19.6	-
PHF	0.667	0.787	0.681	0.250	-	0.863	0.854	0.917	0.953	0.000	-	0.922	0.878	0.868	0.919	0.000	-	0.917	0.911	0.909	0.933	0.000	-	0.940	0.956
Lights	126	379	96	1	-	602	138	269	160	0	-	567	137	661	154	0	-	952	99	326	97	0	-	522	2643
% Lights	98.4	98.7	98.0	100.0	-	98.5	98.6	97.8	97.6	-	-	97.9	95.1	97.6	97.5	-	-	97.2	97.1	98.5	100.0	-	-	98.5	97.9
Buses	0	1	1	0	-	2	0	2	1	0	-	3	0	1	1	0	-	2	0	4	0	0	-	4	11
% Buses	0.0	0.3	1.0	0.0	-	0.3	0.0	0.7	0.6	-	-	0.5	0.0	0.1	0.6	-	-	0.2	0.0	1.2	0.0	-	-	0.8	0.4
Trucks	2	4	1	0	-	7	2	4	3	0	-	9	7	15	3	0	-	25	3	1	0	0	-	4	45
% Trucks	1.6	1.0	1.0	0.0	-	1.1	1.4	1.5	1.8	-	-	1.6	4.9	2.2	1.9	-	-	2.6	2.9	0.3	0.0	-	-	0.8	1.7
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Marlin Engineering Inc.
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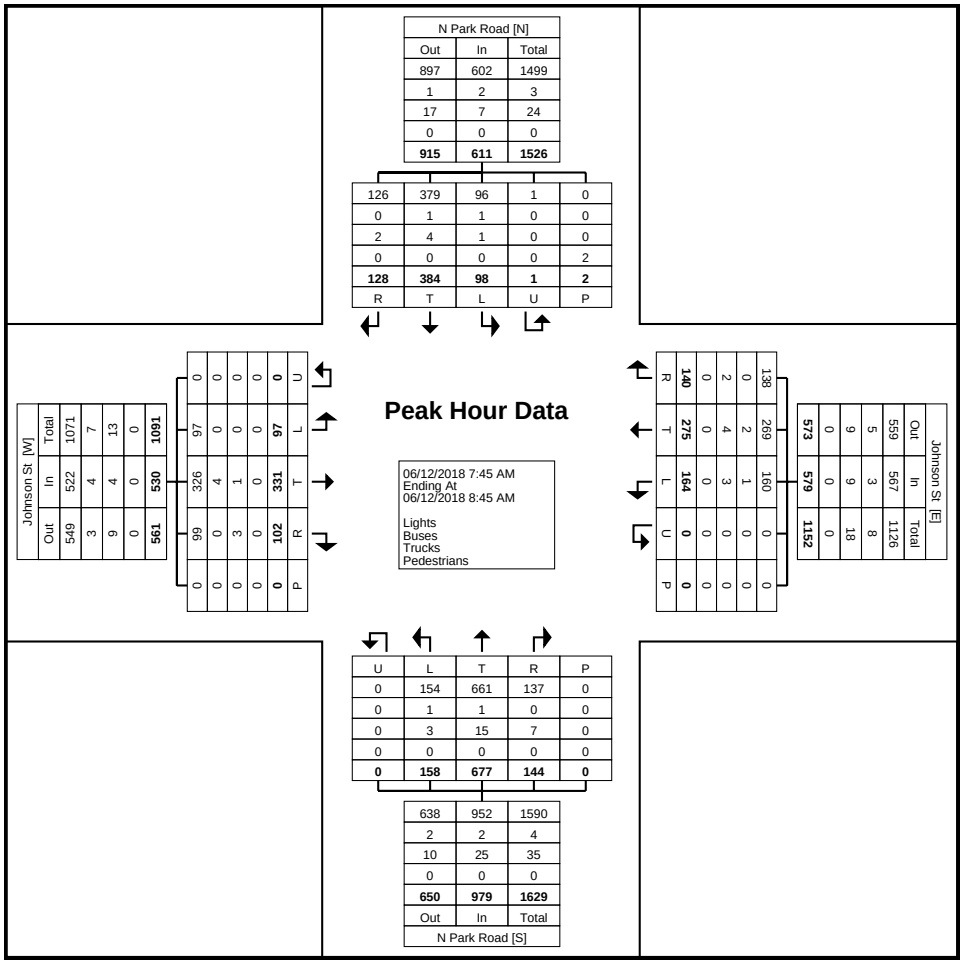
Count Name: 2018030.000 Johnson St at N Park Road
Site Code: 2018030.000 Johnson St at N Park Road
Start Date: 06/12/2018



Turning Movement Peak Hour Data Plot (7:45 AM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 Johnson St at N Park Road
Site Code: 2018030.000 Johnson St at N Park Road
Start Date: 06/12/2018

Turning Movement Peak Hour Data (4:45 PM)

Start Time	N Park Road Southbound						Johnson St Westbound						N Park Road Northbound						Johnson St Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:45 PM	25	88	37	0	0	150	33	70	49	0	0	152	47	149	30	0	0	226	32	91	32	0	0	155	683
5:00 PM	23	135	33	1	0	192	38	95	48	0	0	181	68	147	34	0	0	249	43	84	30	0	0	157	779
5:15 PM	26	142	27	0	0	195	45	92	38	0	0	175	57	105	39	0	0	201	34	101	21	0	0	156	727
5:30 PM	22	105	27	0	0	154	30	92	48	0	0	170	54	187	43	0	0	284	31	78	28	0	1	137	745
Total	96	470	124	1	0	691	146	349	183	0	0	678	226	588	146	0	0	960	140	354	111	0	1	605	2934
Approach %	13.9	68.0	17.9	0.1	-	-	21.5	51.5	27.0	0.0	-	-	23.5	61.3	15.2	0.0	-	-	23.1	58.5	18.3	0.0	-	-	-
Total %	3.3	16.0	4.2	0.0	-	23.6	5.0	11.9	6.2	0.0	-	23.1	7.7	20.0	5.0	0.0	-	32.7	4.8	12.1	3.8	0.0	-	20.6	-
PHF	0.923	0.827	0.838	0.250	-	0.886	0.811	0.918	0.934	0.000	-	0.936	0.831	0.786	0.849	0.000	-	0.845	0.814	0.876	0.867	0.000	-	0.963	0.942
Lights	96	469	124	1	-	690	146	345	183	0	-	674	226	587	145	0	-	958	140	346	110	0	-	596	2918
% Lights	100.0	99.8	100.0	100.0	-	99.9	100.0	98.9	100.0	-	-	99.4	100.0	99.8	99.3	-	-	99.8	100.0	97.7	99.1	-	-	98.5	99.5
Buses	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	5	0	0	-	5	7
% Buses	0.0	0.0	0.0	0.0	-	0.0	0.0	0.6	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	1.4	0.0	-	-	0.8	0.2
Trucks	0	1	0	0	-	1	0	2	0	0	-	2	0	1	1	0	-	2	0	3	1	0	-	4	9
% Trucks	0.0	0.2	0.0	0.0	-	0.1	0.0	0.6	0.0	-	-	0.3	0.0	0.2	0.7	-	-	0.2	0.0	0.8	0.9	-	-	0.7	0.3
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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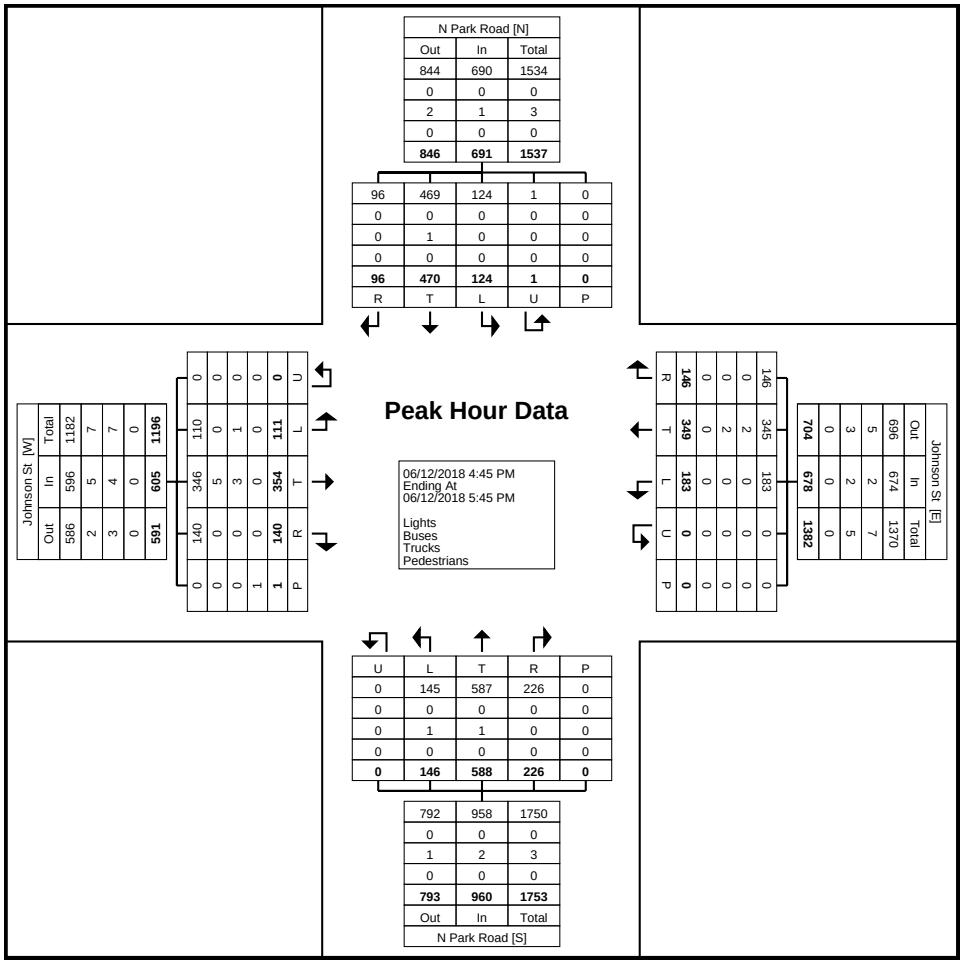
Count Name: 2018030.000 Johnson St at N Park Road
Site Code: 2018030.000 Johnson St at N Park Road
Start Date: 06/12/2018



Turning Movement Peak Hour Data Plot (4:45 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 N 35th Avenue at N Rainbow Drive
Site Code: 2018030.000 N 35th Avenue at N Rainbow Drive
Start Date: 06/12/2018

Turning Movement Data

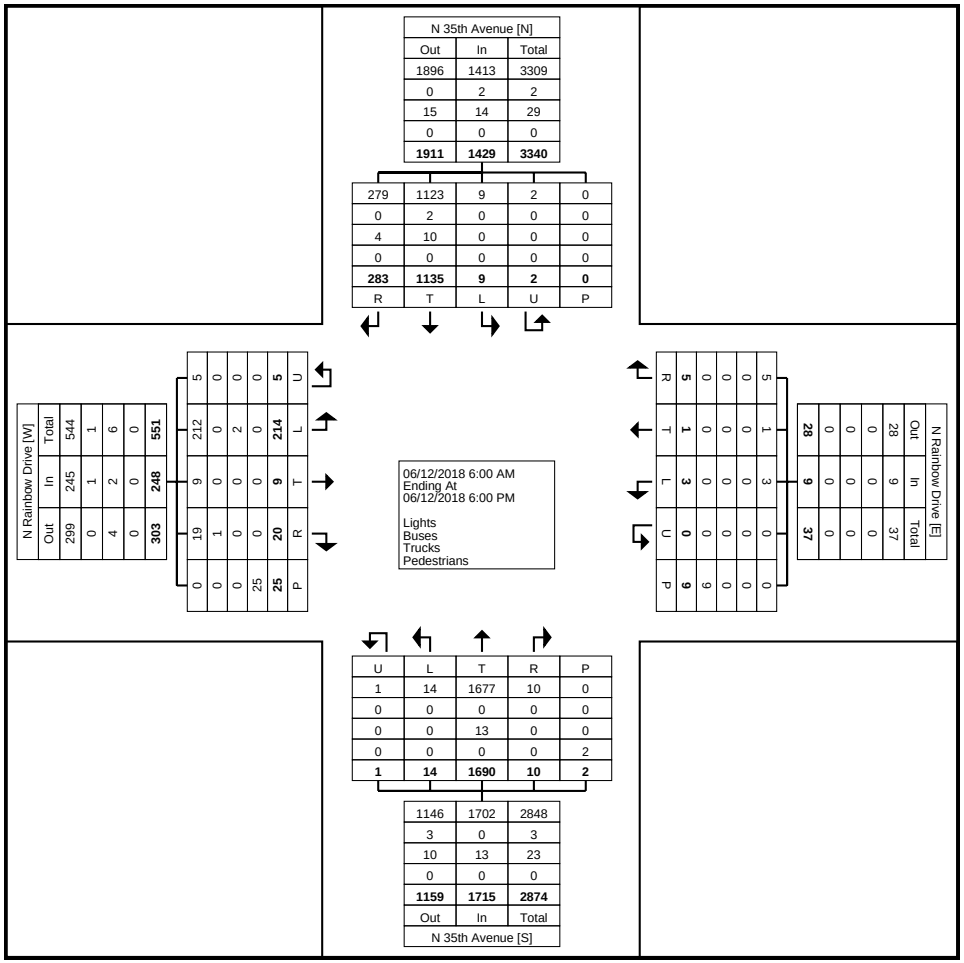
Start Time	N 35th Avenue Southbound						N Rainbow Drive Westbound						N 35th Avenue Northbound						N Rainbow Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	3	12	0	0	0	15	0	0	0	0	0	0	0	47	1	0	0	48	0	0	1	0	0	1	64
6:15 AM	6	20	0	0	0	26	1	0	0	0	1	1	1	72	0	0	0	73	0	1	0	0	1	1	101
6:30 AM	6	17	0	0	0	23	0	0	0	0	0	0	0	104	0	0	2	104	1	0	1	0	3	2	129
6:45 AM	6	23	0	0	0	29	0	0	0	0	2	0	0	72	0	0	0	72	2	1	4	0	1	7	108
Hourly Total	21	72	0	0	0	93	1	0	0	0	3	1	1	295	1	0	2	297	3	2	6	0	5	11	402
7:00 AM	4	26	0	0	0	30	0	0	0	0	0	0	0	67	0	0	0	67	1	1	4	0	4	6	103
7:15 AM	8	35	0	0	0	43	0	0	0	0	0	0	0	61	0	0	0	61	1	0	7	0	0	8	112
7:30 AM	10	34	0	0	0	44	1	0	0	0	2	1	1	84	1	0	0	86	0	0	11	0	0	11	142
7:45 AM	17	31	0	0	0	48	0	0	0	0	0	0	0	112	2	0	0	114	1	0	11	0	0	12	174
Hourly Total	39	126	0	0	0	165	1	0	0	0	2	1	1	324	3	0	0	328	3	1	33	0	4	37	531
8:00 AM	6	35	1	0	0	42	0	0	1	0	0	1	0	98	1	0	0	99	1	1	11	1	2	14	156
8:15 AM	14	50	1	0	0	65	0	0	0	0	0	0	2	112	0	0	0	114	0	0	16	0	3	16	195
8:30 AM	7	35	0	0	0	42	0	0	0	0	0	0	1	86	0	0	0	87	0	0	12	1	0	13	142
8:45 AM	7	34	0	0	0	41	0	1	1	0	0	2	1	82	1	0	0	84	1	0	7	0	1	8	135
Hourly Total	34	154	2	0	0	190	0	1	2	0	0	3	4	378	2	0	0	384	2	1	46	2	6	51	628
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	14	62	0	1	0	77	1	0	0	0	0	1	1	60	0	1	0	62	1	1	6	1	0	9	149
3:15 PM	19	67	2	1	0	89	0	0	0	0	0	0	1	48	0	0	0	49	0	0	16	1	3	17	155
3:30 PM	14	62	0	0	0	76	0	0	0	0	0	0	0	50	0	0	0	50	0	1	10	1	2	12	138
3:45 PM	14	55	1	0	0	70	0	0	1	0	0	1	0	56	0	0	0	56	2	0	16	0	0	18	145
Hourly Total	61	246	3	2	0	312	1	0	1	0	0	2	2	214	0	1	0	217	3	2	48	3	5	56	587
4:00 PM	11	44	1	0	0	56	0	0	0	0	1	0	0	61	1	0	0	62	0	1	5	0	1	6	124
4:15 PM	16	63	1	0	0	80	0	0	0	0	0	0	0	51	0	0	0	51	3	0	7	0	1	10	141
4:30 PM	13	65	0	0	0	78	0	0	0	0	0	0	1	64	0	0	0	65	0	0	9	0	1	9	152
4:45 PM	19	83	2	0	0	104	1	0	0	0	1	1	0	54	3	0	0	57	2	1	10	0	0	13	175
Hourly Total	59	255	4	0	0	318	1	0	0	0	2	1	1	230	4	0	0	235	5	2	31	0	3	38	592
5:00 PM	21	89	0	0	0	110	0	0	0	0	1	0	1	69	1	0	0	71	1	0	19	0	0	20	201
5:15 PM	24	86	0	0	0	110	1	0	0	0	0	1	0	50	1	0	0	51	1	1	7	0	2	9	171
5:30 PM	15	49	0	0	0	64	0	0	0	0	0	0	0	56	1	0	0	57	2	0	12	0	0	14	135
5:45 PM	9	58	0	0	0	67	0	0	0	0	1	0	0	74	1	0	0	75	0	0	12	0	0	12	154
Hourly Total	69	282	0	0	0	351	1	0	0	0	2	1	1	249	4	0	0	254	4	1	50	0	2	55	661
Grand Total	283	1135	9	2	0	1429	5	1	3	0	9	9	10	1690	14	1	2	1715	20	9	214	5	25	248	3401
Approach %	19.8	79.4	0.6	0.1	-	-	55.6	11.1	33.3	0.0	-	-	0.6	98.5	0.8	0.1	-	-	8.1	3.6	86.3	2.0	-	-	-
Total %	8.3	33.4	0.3	0.1	-	42.0	0.1	0.0	0.1	0.0	-	0.3	0.3	49.7	0.4	0.0	-	50.4	0.6	0.3	6.3	0.1	-	7.3	-
Lights	279	1123	9	2	-	1413	5	1	3	0	-	9	10	1677	14	1	-	1702	19	9	212	5	-	245	3369
% Lights	98.6	98.9	100.0	100.0	-	98.9	100.0	100.0	100.0	-	-	100.0	100.0	99.2	100.0	100.0	-	99.2	95.0	100.0	99.1	100.0	-	98.8	99.1
Buses	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	3

% Buses	0.0	0.2	0.0	0.0	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	5.0	0.0	0.0	0.0	-	0.4	0.1
Trucks	4	10	0	0	-	14	0	0	0	0	-	0	0	13	0	0	-	13	0	0	2	0	-	2	29
% Trucks	1.4	0.9	0.0	0.0	-	1.0	0.0	0.0	0.0	-	-	0.0	0.0	0.8	0.0	0.0	-	0.8	0.0	0.0	0.9	0.0	-	0.8	0.9
Pedestrians	-	-	-	-	0	-	-	-	-	-	9	-	-	-	-	-	2	-	-	-	-	-	25	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 N 35th Avenue at N Rainbow Drive
Site Code: 2018030.000 N 35th Avenue at N Rainbow Drive
Start Date: 06/12/2018



Turning Movement Data Plot

Marlin Engineering Inc.
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Count Name: 2018030.000 N 35th Avenue at N Rainbow Drive
Site Code: 2018030.000 N 35th Avenue at N Rainbow Drive
Start Date: 06/12/2018

Turning Movement Peak Hour Data (7:30 AM)

Start Time	N 35th Avenue Southbound						N Rainbow Drive Westbound						N 35th Avenue Northbound						N Rainbow Drive Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	10	34	0	0	0	44	1	0	0	0	2	1	1	84	1	0	0	86	0	0	11	0	0	11	142
7:45 AM	17	31	0	0	0	48	0	0	0	0	0	0	0	112	2	0	0	114	1	0	11	0	0	12	174
8:00 AM	6	35	1	0	0	42	0	0	1	0	0	1	0	98	1	0	0	99	1	1	11	1	2	14	156
8:15 AM	14	50	1	0	0	65	0	0	0	0	0	0	2	112	0	0	0	114	0	0	16	0	3	16	195
Total	47	150	2	0	0	199	1	0	1	0	2	2	3	406	4	0	0	413	2	1	49	1	5	53	667
Approach %	23.6	75.4	1.0	0.0	-	-	50.0	0.0	50.0	0.0	-	-	0.7	98.3	1.0	0.0	-	-	3.8	1.9	92.5	1.9	-	-	-
Total %	7.0	22.5	0.3	0.0	-	29.8	0.1	0.0	0.1	0.0	-	0.3	0.4	60.9	0.6	0.0	-	61.9	0.3	0.1	7.3	0.1	-	7.9	-
PHF	0.691	0.750	0.500	0.000	-	0.765	0.250	0.000	0.250	0.000	-	0.500	0.375	0.906	0.500	0.000	-	0.906	0.500	0.250	0.766	0.250	-	0.828	0.855
Lights	47	150	2	0	-	199	1	0	1	0	-	2	3	404	4	0	-	411	2	1	49	1	-	53	665
% Lights	100.0	100.0	100.0	-	-	100.0	100.0	-	100.0	-	-	100.0	100.0	99.5	100.0	-	-	99.5	100.0	100.0	100.0	100.0	-	100.0	99.7
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	2
% Trucks	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.5	0.0	-	-	0.5	0.0	0.0	0.0	0.0	-	0.0	0.3
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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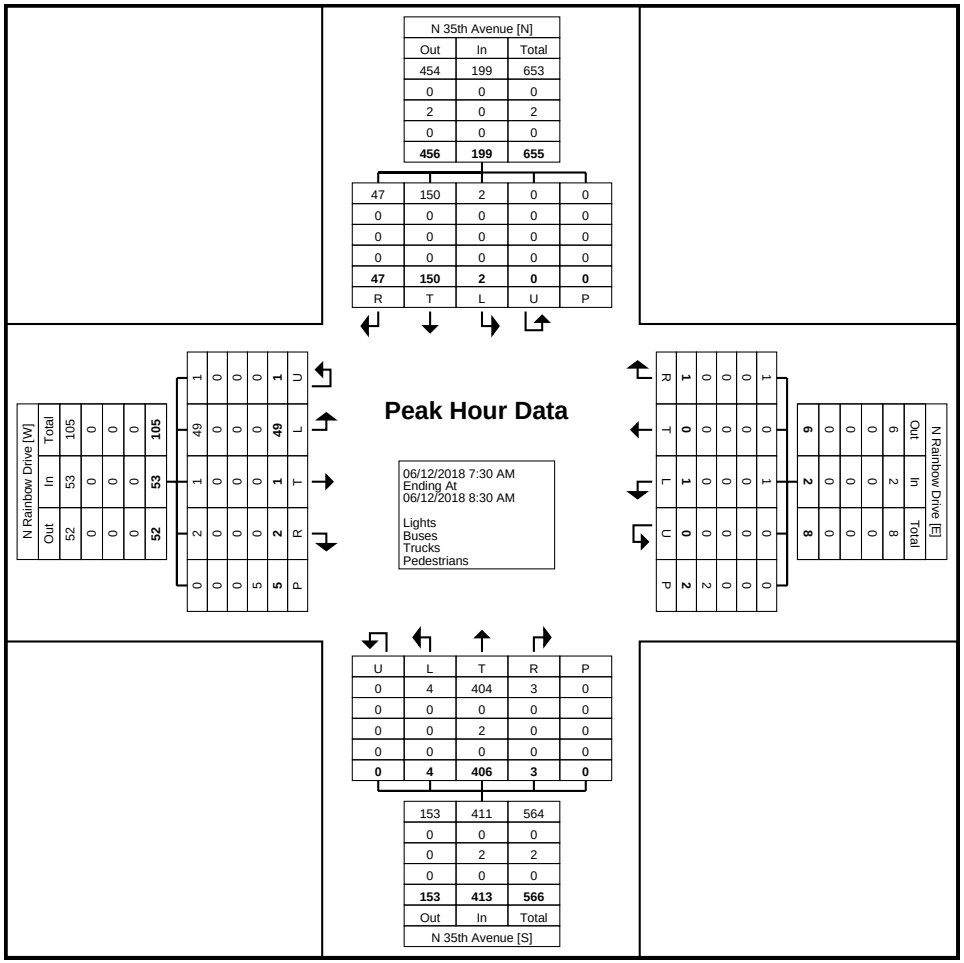

Turning Movement Peak Hour Data Plot (7:30 AM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 N 35th Avenue at N Rainbow Drive
Site Code: 2018030.000 N 35th Avenue at N Rainbow Drive
Start Date: 06/12/2018

Turning Movement Peak Hour Data (4:30 PM)

Start Time	N 35th Avenue Southbound						N Rainbow Drive Westbound						N 35th Avenue Northbound						N Rainbow Drive Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:30 PM	13	65	0	0	0	78	0	0	0	0	0	0	1	64	0	0	0	65	0	0	9	0	1	9	152
4:45 PM	19	83	2	0	0	104	1	0	0	0	1	1	0	54	3	0	0	57	2	1	10	0	0	13	175
5:00 PM	21	89	0	0	0	110	0	0	0	0	1	0	1	69	1	0	0	71	1	0	19	0	0	20	201
5:15 PM	24	86	0	0	0	110	1	0	0	0	0	1	0	50	1	0	0	51	1	1	7	0	2	9	171
Total	77	323	2	0	0	402	2	0	0	0	2	2	2	237	5	0	0	244	4	2	45	0	3	51	699
Approach %	19.2	80.3	0.5	0.0	-	-	100.0	0.0	0.0	0.0	-	-	0.8	97.1	2.0	0.0	-	-	7.8	3.9	88.2	0.0	-	-	-
Total %	11.0	46.2	0.3	0.0	-	57.5	0.3	0.0	0.0	0.0	-	0.3	0.3	33.9	0.7	0.0	-	34.9	0.6	0.3	6.4	0.0	-	7.3	-
PHF	0.802	0.907	0.250	0.000	-	0.914	0.500	0.000	0.000	0.000	-	0.500	0.500	0.859	0.417	0.000	-	0.859	0.500	0.500	0.592	0.000	-	0.638	0.869
Lights	76	320	2	0	-	398	2	0	0	0	-	2	2	235	5	0	-	242	3	2	45	0	-	50	692
% Lights	98.7	99.1	100.0	-	-	99.0	100.0	-	-	-	-	100.0	100.0	99.2	100.0	-	-	99.2	75.0	100.0	100.0	-	-	98.0	99.0
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	1
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	-	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	25.0	0.0	0.0	-	-	2.0	0.1
Trucks	1	3	0	0	-	4	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	6
% Trucks	1.3	0.9	0.0	-	-	1.0	0.0	-	-	-	-	0.0	0.0	0.8	0.0	-	-	0.8	0.0	0.0	0.0	-	-	0.0	0.9
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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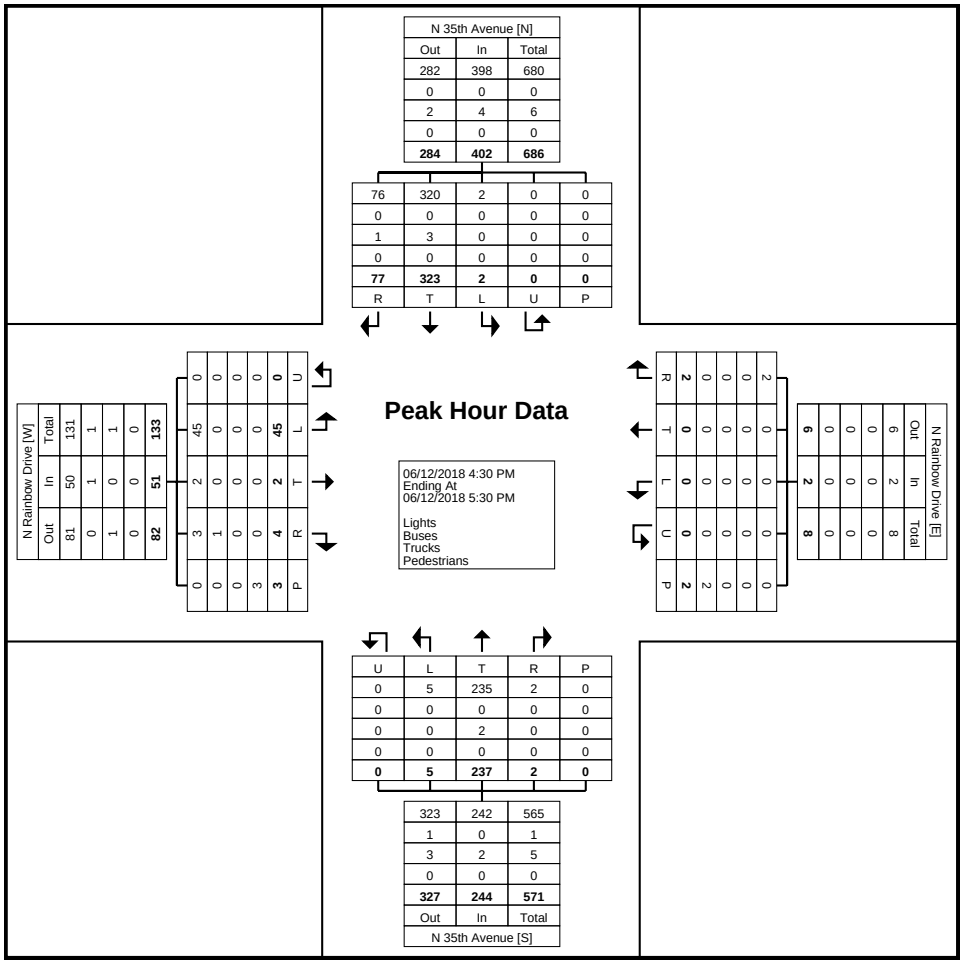

Turning Movement Peak Hour Data Plot (4:30 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 N Rainbow Dr at N Highland Ct
Site Code: 2018030.000 N Rainbow Dr at N Highland Ct
Start Date: 06/12/2018

Turning Movement Data

Start Time	N Highland Ct Southbound						N Rainbow Dr Westbound						N Highland Ct Northbound						N Rainbow Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	0	2	0	0	0	2	1	4	0	0	0	5	0	3	0	0	0	3	0	1	0	0	0	1	11
6:15 AM	0	2	0	0	0	2	1	5	0	1	0	7	0	1	0	0	0	1	0	0	0	0	0	0	10
6:30 AM	1	4	0	0	0	5	0	4	0	0	1	4	0	1	0	0	1	1	0	1	0	0	0	1	11
6:45 AM	0	4	0	0	0	4	0	7	0	0	0	7	0	2	0	0	0	2	0	4	1	0	0	5	18
Hourly Total	1	12	0	0	0	13	2	20	0	1	1	23	0	7	0	0	1	7	0	6	1	0	0	7	50
7:00 AM	0	6	1	0	1	7	1	6	0	0	1	7	0	5	1	0	0	6	0	5	2	0	1	7	27
7:15 AM	1	6	0	0	0	7	1	5	0	2	0	8	0	0	1	0	0	1	0	5	0	0	1	5	21
7:30 AM	1	8	2	0	0	11	1	11	0	0	0	12	0	3	1	0	0	4	0	9	2	0	0	11	38
7:45 AM	1	10	1	0	0	12	2	16	0	1	0	19	0	0	1	0	0	1	0	11	1	0	0	12	44
Hourly Total	3	30	4	0	1	37	5	38	0	3	1	46	0	8	4	0	0	12	0	30	5	0	2	35	130
8:00 AM	1	11	1	0	0	13	3	4	3	0	0	10	0	7	1	0	0	8	2	15	0	0	0	17	48
8:15 AM	2	13	0	0	0	15	1	11	0	0	0	12	0	6	2	0	1	8	0	16	1	0	2	17	52
8:30 AM	3	10	0	0	1	13	1	6	1	1	1	9	1	11	1	0	0	13	0	11	2	0	2	13	48
8:45 AM	2	9	1	0	1	12	2	9	0	0	0	11	1	3	3	0	0	7	2	9	2	0	0	13	43
Hourly Total	8	43	2	0	2	53	7	30	4	1	1	42	2	27	7	0	1	36	4	51	5	0	4	60	191
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	4	1	0	0	5	2	10	0	1	0	13	0	3	3	0	0	6	3	8	1	0	0	12	36
3:15 PM	1	5	1	0	1	7	3	14	0	1	0	18	1	12	0	0	1	13	1	14	1	0	0	16	54
3:30 PM	1	3	1	0	1	5	2	15	0	0	0	17	0	7	2	0	1	9	0	9	1	0	0	10	41
3:45 PM	0	3	0	0	0	3	3	11	0	1	0	15	0	9	4	0	0	13	2	17	2	1	1	22	53
Hourly Total	2	15	3	0	2	20	10	50	0	3	0	63	1	31	9	0	2	41	6	48	5	1	1	60	184
4:00 PM	1	10	0	0	0	11	4	8	0	0	0	12	0	11	2	0	0	13	1	6	2	1	0	10	46
4:15 PM	3	2	2	1	0	8	4	7	0	0	0	11	1	5	1	0	0	7	0	6	0	0	0	6	32
4:30 PM	1	3	1	0	0	5	1	14	0	0	0	15	0	15	1	0	0	16	1	9	1	0	0	11	47
4:45 PM	2	6	1	0	0	9	4	17	1	1	0	23	3	11	2	0	0	16	2	9	1	0	0	12	60
Hourly Total	7	21	4	1	0	33	13	46	1	1	0	61	4	42	6	0	0	52	4	30	4	1	0	39	185
5:00 PM	0	8	1	0	0	9	3	17	0	0	0	20	0	9	1	0	0	10	1	19	2	0	1	22	61
5:15 PM	4	5	0	0	0	9	2	23	1	1	0	27	3	13	2	0	0	18	2	6	4	0	0	12	66
5:30 PM	3	9	1	0	0	13	3	15	0	0	0	18	1	12	1	0	0	14	1	11	2	1	0	15	60
5:45 PM	1	5	1	0	0	7	2	6	0	1	0	9	0	11	0	0	0	11	0	11	0	0	0	11	38
Hourly Total	8	27	3	0	0	38	10	61	1	2	0	74	4	45	4	0	0	53	4	47	8	1	1	60	225
Grand Total	29	148	16	1	5	194	47	245	6	11	3	309	11	160	30	0	4	201	18	212	28	3	8	261	965
Approach %	14.9	76.3	8.2	0.5	-	-	15.2	79.3	1.9	3.6	-	-	5.5	79.6	14.9	0.0	-	-	6.9	81.2	10.7	1.1	-	-	-
Total %	3.0	15.3	1.7	0.1	-	20.1	4.9	25.4	0.6	1.1	-	32.0	1.1	16.6	3.1	0.0	-	20.8	1.9	22.0	2.9	0.3	-	27.0	-
Lights	27	146	15	1	-	189	46	240	6	11	-	303	10	159	29	0	-	198	18	210	26	3	-	257	947
% Lights	93.1	98.6	93.8	100.0	-	97.4	97.9	98.0	100.0	100.0	-	98.1	90.9	99.4	96.7	-	-	98.5	100.0	99.1	92.9	100.0	-	98.5	98.1
Buses	0	0	0	0	-	0	0	1	0	0	-	1	1	0	0	0	-	1	0	0	1	0	-	1	3

% Buses	0.0	0.0	0.0	0.0	-	0.0	0.0	0.4	0.0	0.0	-	0.3	9.1	0.0	0.0	-	-	0.5	0.0	0.0	3.6	0.0	-	0.4	0.3
Trucks	2	2	1	0	-	5	1	4	0	0	-	5	0	1	1	0	-	2	0	2	1	0	-	3	15
% Trucks	6.9	1.4	6.3	0.0	-	2.6	2.1	1.6	0.0	0.0	-	1.6	0.0	0.6	3.3	-	-	1.0	0.0	0.9	3.6	0.0	-	1.1	1.6
Pedestrians	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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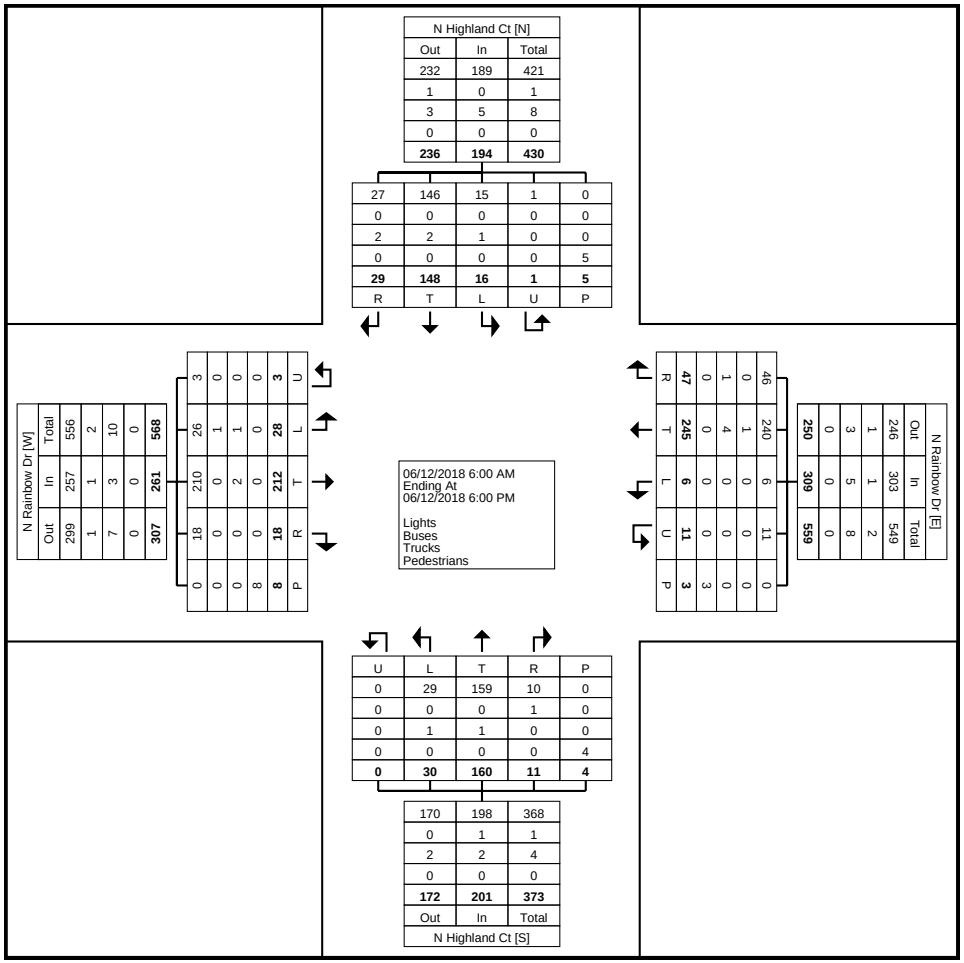
Site Code: 2018030.000 N Rainbow Dr at N Highland Ct
Start Date: 06/12/2018



Turning Movement Data Plot

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Count Name: 2018030.000 N Rainbow Dr at N Highland Ct
Site Code: 2018030.000 N Rainbow Dr at N Highland Ct
Start Date: 06/12/2018

Turning Movement Peak Hour Data (7:45 AM)

Start Time	N Highland Ct Southbound						N Rainbow Dr Westbound						N Highland Ct Northbound						N Rainbow Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:45 AM	1	10	1	0	0	12	2	16	0	1	0	19	0	0	1	0	0	1	0	11	1	0	0	12	44
8:00 AM	1	11	1	0	0	13	3	4	3	0	0	10	0	7	1	0	0	8	2	15	0	0	0	17	48
8:15 AM	2	13	0	0	0	15	1	11	0	0	0	12	0	6	2	0	1	8	0	16	1	0	2	17	52
8:30 AM	3	10	0	0	1	13	1	6	1	1	1	9	1	11	1	0	0	13	0	11	2	0	2	13	48
Total	7	44	2	0	1	53	7	37	4	2	1	50	1	24	5	0	1	30	2	53	4	0	4	59	192
Approach %	13.2	83.0	3.8	0.0	-	-	14.0	74.0	8.0	4.0	-	-	3.3	80.0	16.7	0.0	-	-	3.4	89.8	6.8	0.0	-	-	-
Total %	3.6	22.9	1.0	0.0	-	27.6	3.6	19.3	2.1	1.0	-	26.0	0.5	12.5	2.6	0.0	-	15.6	1.0	27.6	2.1	0.0	-	30.7	-
PHF	0.583	0.846	0.500	0.000	-	0.883	0.583	0.578	0.333	0.500	-	0.658	0.250	0.545	0.625	0.000	-	0.577	0.250	0.828	0.500	0.000	-	0.868	0.923
Lights	6	44	2	0	-	52	6	36	4	2	-	48	1	24	5	0	-	30	2	53	4	0	-	59	189
% Lights	85.7	100.0	100.0	-	-	98.1	85.7	97.3	100.0	100.0	-	96.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	98.4
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	1	0	0	0	-	1	1	1	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	3
% Trucks	14.3	0.0	0.0	-	-	1.9	14.3	2.7	0.0	0.0	-	4.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	1.6
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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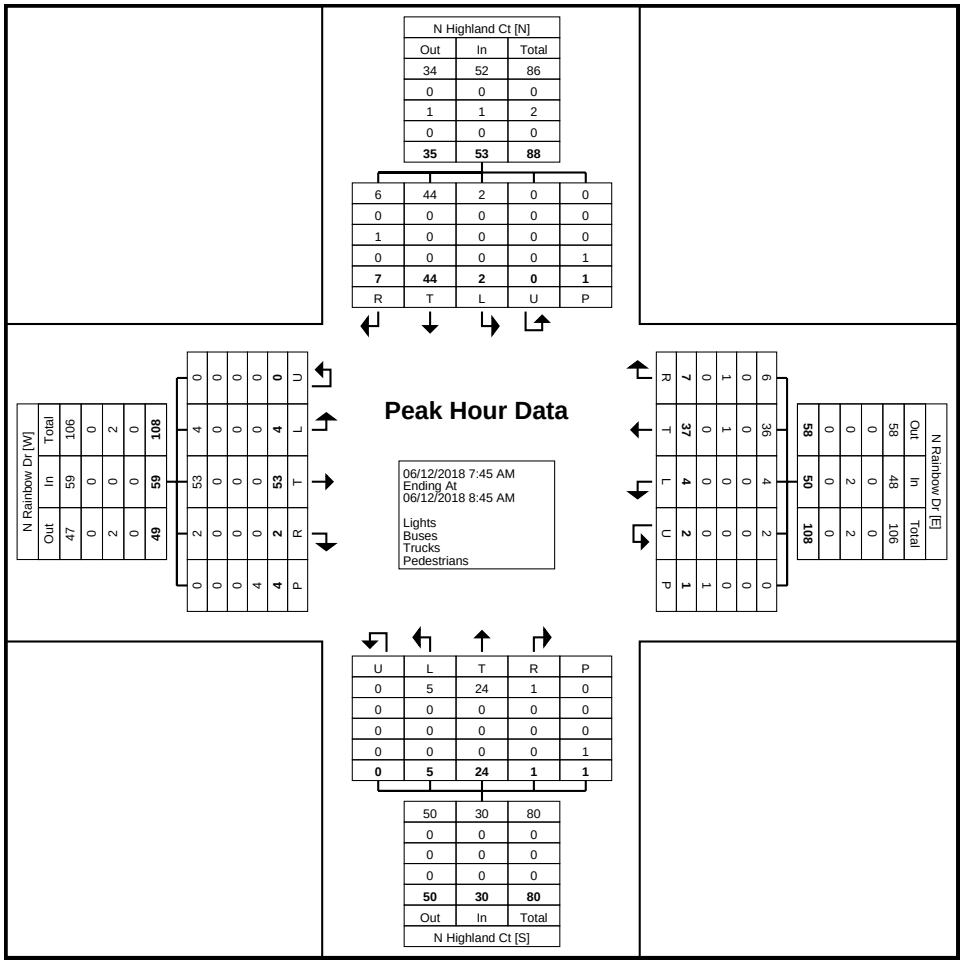

Turning Movement Peak Hour Data Plot (7:45 AM)

Marlin Engineering Inc.
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Count Name: 2018030.000 N Rainbow Dr at N Highland Ct
Site Code: 2018030.000 N Rainbow Dr at N Highland Ct
Start Date: 06/12/2018

Turning Movement Peak Hour Data (4:45 PM)

Start Time	N Highland Ct Southbound						N Rainbow Dr Westbound						N Highland Ct Northbound						N Rainbow Dr Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:45 PM	2	6	1	0	0	9	4	17	1	1	0	23	3	11	2	0	0	16	2	9	1	0	0	12	60
5:00 PM	0	8	1	0	0	9	3	17	0	0	0	20	0	9	1	0	0	10	1	19	2	0	1	22	61
5:15 PM	4	5	0	0	0	9	2	23	1	1	0	27	3	13	2	0	0	18	2	6	4	0	0	12	66
5:30 PM	3	9	1	0	0	13	3	15	0	0	0	18	1	12	1	0	0	14	1	11	2	1	0	15	60
Total	9	28	3	0	0	40	12	72	2	2	0	88	7	45	6	0	0	58	6	45	9	1	1	61	247
Approach %	22.5	70.0	7.5	0.0	-	-	13.6	81.8	2.3	2.3	-	-	12.1	77.6	10.3	0.0	-	-	9.8	73.8	14.8	1.6	-	-	-
Total %	3.6	11.3	1.2	0.0	-	16.2	4.9	29.1	0.8	0.8	-	35.6	2.8	18.2	2.4	0.0	-	23.5	2.4	18.2	3.6	0.4	-	24.7	-
PHF	0.563	0.778	0.750	0.000	-	0.769	0.750	0.783	0.500	0.500	-	0.815	0.583	0.865	0.750	0.000	-	0.806	0.750	0.592	0.563	0.250	-	0.693	0.936
Lights	8	27	3	0	-	38	12	70	2	2	-	86	6	44	6	0	-	56	6	45	9	1	-	61	241
% Lights	88.9	96.4	100.0	-	-	95.0	100.0	97.2	100.0	100.0	-	97.7	85.7	97.8	100.0	-	-	96.6	100.0	100.0	100.0	100.0	-	100.0	97.6
Buses	0	0	0	0	-	0	0	1	0	0	-	1	1	0	0	0	-	1	0	0	0	0	-	0	2
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	1.4	0.0	0.0	-	1.1	14.3	0.0	0.0	-	-	1.7	0.0	0.0	0.0	0.0	-	0.0	0.8
Trucks	1	1	0	0	-	2	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	4
% Trucks	11.1	3.6	0.0	-	-	5.0	0.0	1.4	0.0	0.0	-	1.1	0.0	2.2	0.0	-	-	1.7	0.0	0.0	0.0	0.0	-	0.0	1.6
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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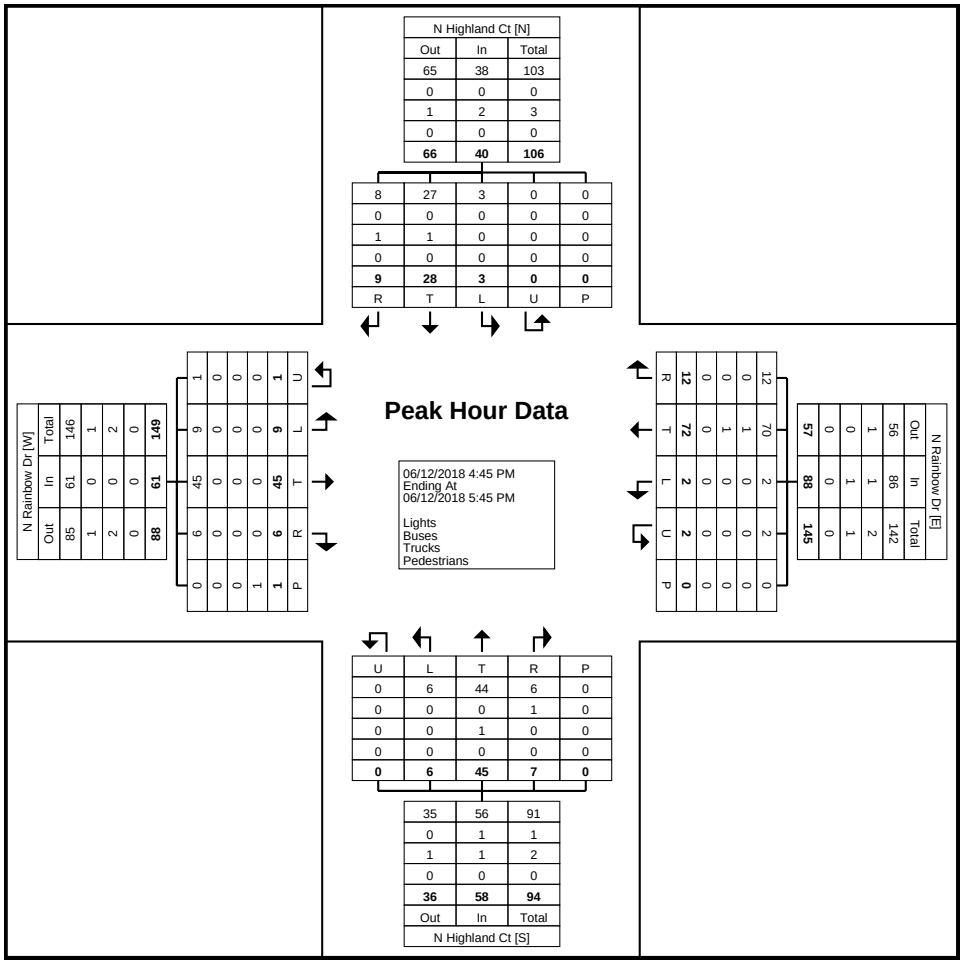

Turning Movement Peak Hour Data Plot (4:45 PM)

Marlin Engineering Inc.
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Count Name: 2018030.000 N Highland Drive at Buchanan St
Site Code: 2018030.000 N Highland Drive at Buchanan St
Start Date: 06/12/2018

Turning Movement Data

Start Time	Buchanan St Southbound						N Highland Drive Westbound						N Highland Ct Northbound						N Highland Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	0	0	0	0	0	0	0	1	1	0	0	2	3	0	2	0	0	5	1	0	1	0	0	2	9
6:15 AM	0	2	1	0	1	3	0	0	1	0	1	1	0	0	0	0	1	0	0	2	0	0	1	2	6
6:30 AM	0	3	1	0	1	4	0	1	0	0	1	1	0	1	1	0	1	2	1	1	0	0	1	2	9
6:45 AM	0	1	0	0	0	1	0	0	1	0	0	1	0	1	1	0	0	2	2	4	0	0	0	6	10
Hourly Total	0	6	2	0	2	8	0	2	3	0	2	5	3	2	4	0	2	9	4	7	1	0	2	12	34
7:00 AM	0	3	2	0	0	5	0	0	0	0	0	0	3	2	3	0	0	8	3	5	0	0	1	8	21
7:15 AM	0	3	2	0	0	5	0	1	2	0	0	3	1	0	1	0	0	2	0	8	0	0	1	8	18
7:30 AM	0	10	2	0	0	12	0	0	0	0	0	0	3	1	2	0	0	6	3	5	0	0	0	8	26
7:45 AM	0	11	1	0	1	12	2	2	1	0	0	5	2	3	0	0	0	5	2	2	1	0	1	5	27
Hourly Total	0	27	7	0	1	34	2	3	3	0	0	8	9	6	6	0	0	21	8	20	1	0	3	29	92
8:00 AM	0	5	1	0	0	6	0	0	3	0	0	3	2	7	0	0	0	9	2	3	3	0	2	8	26
8:15 AM	1	10	0	0	0	11	1	1	0	0	0	2	5	4	1	0	0	10	5	5	0	0	2	10	33
8:30 AM	0	12	0	0	0	12	0	1	0	0	0	1	0	12	1	0	0	13	2	5	1	0	1	8	34
8:45 AM	0	8	0	0	2	8	1	0	2	0	0	3	2	3	1	0	0	6	2	4	0	0	1	6	23
Hourly Total	1	35	1	0	2	37	2	2	5	0	0	9	9	26	3	0	0	38	11	17	4	0	6	32	116
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	4	1	0	0	5	0	0	0	0	0	0	2	5	0	0	0	7	1	5	0	0	0	6	18
3:15 PM	0	2	0	0	0	2	0	0	2	0	0	2	4	7	3	0	0	14	2	2	1	0	0	5	23
3:30 PM	1	4	0	0	0	5	0	1	1	0	0	2	2	3	5	0	0	10	1	3	0	0	0	4	21
3:45 PM	0	1	1	0	0	2	0	0	0	0	0	0	2	8	4	0	0	14	1	3	1	0	0	5	21
Hourly Total	1	11	2	0	0	14	0	1	3	0	0	4	10	23	12	0	0	45	5	13	2	0	0	20	83
4:00 PM	0	7	0	0	0	7	0	0	3	0	0	3	6	10	3	0	0	19	3	5	0	0	0	8	37
4:15 PM	0	4	2	0	0	6	1	0	2	0	0	3	2	3	4	0	1	9	1	3	1	0	0	5	23
4:30 PM	0	3	2	0	2	5	0	2	0	0	1	2	3	12	3	0	1	18	1	12	1	0	1	14	39
4:45 PM	0	6	0	0	3	6	0	0	3	0	3	3	4	7	4	0	0	15	2	5	2	0	1	9	33
Hourly Total	0	20	4	0	5	24	1	2	8	0	4	11	15	32	14	0	2	61	7	25	4	0	2	36	132
5:00 PM	1	6	1	0	0	8	0	0	4	0	0	4	6	7	1	0	0	14	1	8	0	0	0	9	35
5:15 PM	0	7	0	0	0	7	0	1	1	0	0	2	4	13	4	0	0	21	0	6	0	0	0	6	36
5:30 PM	0	9	2	0	0	11	0	1	1	0	0	2	4	10	3	0	0	17	1	4	0	0	0	5	35
5:45 PM	2	4	0	0	0	6	0	1	0	0	0	1	2	8	2	0	0	12	2	4	0	0	0	6	25
Hourly Total	3	26	3	0	0	32	0	3	6	0	0	9	16	38	10	0	0	64	4	22	0	0	0	26	131
Grand Total	5	125	19	0	10	149	5	13	28	0	6	46	62	127	49	0	4	238	39	104	12	0	13	155	588
Approach %	3.4	83.9	12.8	0.0	-	-	10.9	28.3	60.9	0.0	-	-	26.1	53.4	20.6	0.0	-	-	25.2	67.1	7.7	0.0	-	-	-
Total %	0.9	21.3	3.2	0.0	-	25.3	0.9	2.2	4.8	0.0	-	7.8	10.5	21.6	8.3	0.0	-	40.5	6.6	17.7	2.0	0.0	-	26.4	-
Lights	5	122	19	0	-	146	5	13	27	0	-	45	61	126	47	0	-	234	38	100	12	0	-	150	575
% Lights	100.0	97.6	100.0	-	-	98.0	100.0	100.0	96.4	-	-	97.8	98.4	99.2	95.9	-	-	98.3	97.4	96.2	100.0	-	-	96.8	97.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	2	0	0	-	2	3

% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	2.0	-	-	0.4	0.0	1.9	0.0	-	-	1.3	0.5
Trucks	0	3	0	0	-	3	0	0	1	0	-	1	1	1	1	0	-	3	1	2	0	0	-	3	10
% Trucks	0.0	2.4	0.0	-	-	2.0	0.0	0.0	3.6	-	-	2.2	1.6	0.8	2.0	-	-	1.3	2.6	1.9	0.0	-	-	1.9	1.7
Pedestrians	-	-	-	-	10	-	-	-	-	-	6	-	-	-	-	-	4	-	-	-	-	-	13	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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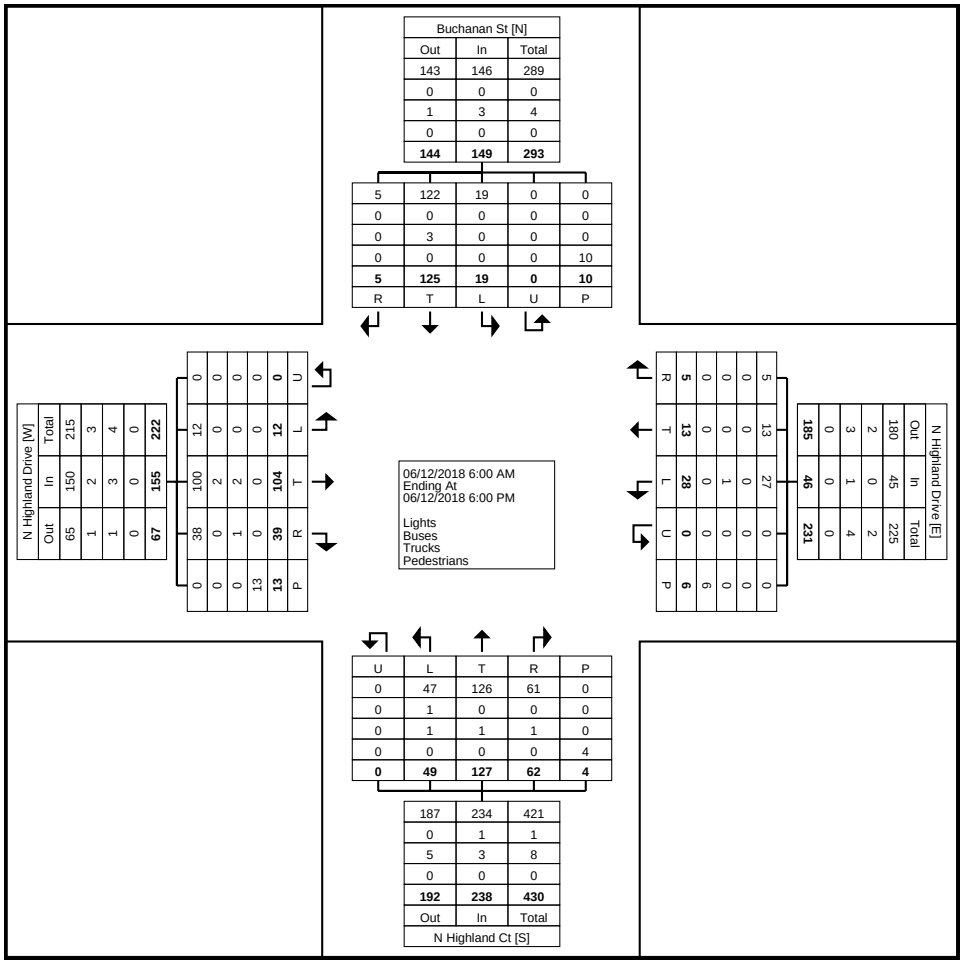
Count Name: 2018030.000 N Highland Drive at Buchanan St
Site Code: 2018030.000 N Highland Drive at Buchanan St
Start Date: 06/12/2018



Turning Movement Data Plot

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Count Name: 2018030.000 N Highland Drive at Buchanan St
Site Code: 2018030.000 N Highland Drive at Buchanan St
Start Date: 06/12/2018

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Buchanan St Southbound						N Highland Drive Westbound						N Highland Ct Northbound						N Highland Drive Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:45 AM	0	11	1	0	1	12	2	2	1	0	0	5	2	3	0	0	0	5	2	2	1	0	1	5	27
8:00 AM	0	5	1	0	0	6	0	0	3	0	0	3	2	7	0	0	0	9	2	3	3	0	2	8	26
8:15 AM	1	10	0	0	0	11	1	1	0	0	0	2	5	4	1	0	0	10	5	5	0	0	2	10	33
8:30 AM	0	12	0	0	0	12	0	1	0	0	0	1	0	12	1	0	0	13	2	5	1	0	1	8	34
Total	1	38	2	0	1	41	3	4	4	0	0	11	9	26	2	0	0	37	11	15	5	0	6	31	120
Approach %	2.4	92.7	4.9	0.0	-	-	27.3	36.4	36.4	0.0	-	-	24.3	70.3	5.4	0.0	-	-	35.5	48.4	16.1	0.0	-	-	-
Total %	0.8	31.7	1.7	0.0	-	34.2	2.5	3.3	3.3	0.0	-	9.2	7.5	21.7	1.7	0.0	-	30.8	9.2	12.5	4.2	0.0	-	25.8	-
PHF	0.250	0.792	0.500	0.000	-	0.854	0.375	0.500	0.333	0.000	-	0.550	0.450	0.542	0.500	0.000	-	0.712	0.550	0.750	0.417	0.000	-	0.775	0.882
Lights	1	37	2	0	-	40	3	4	4	0	-	11	9	25	2	0	-	36	11	15	5	0	-	31	118
% Lights	100.0	97.4	100.0	-	-	97.6	100.0	100.0	100.0	-	-	100.0	100.0	96.2	100.0	-	-	97.3	100.0	100.0	100.0	-	-	100.0	98.3
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	2
% Trucks	0.0	2.6	0.0	-	-	2.4	0.0	0.0	0.0	-	-	0.0	0.0	3.8	0.0	-	-	2.7	0.0	0.0	0.0	-	-	0.0	1.7
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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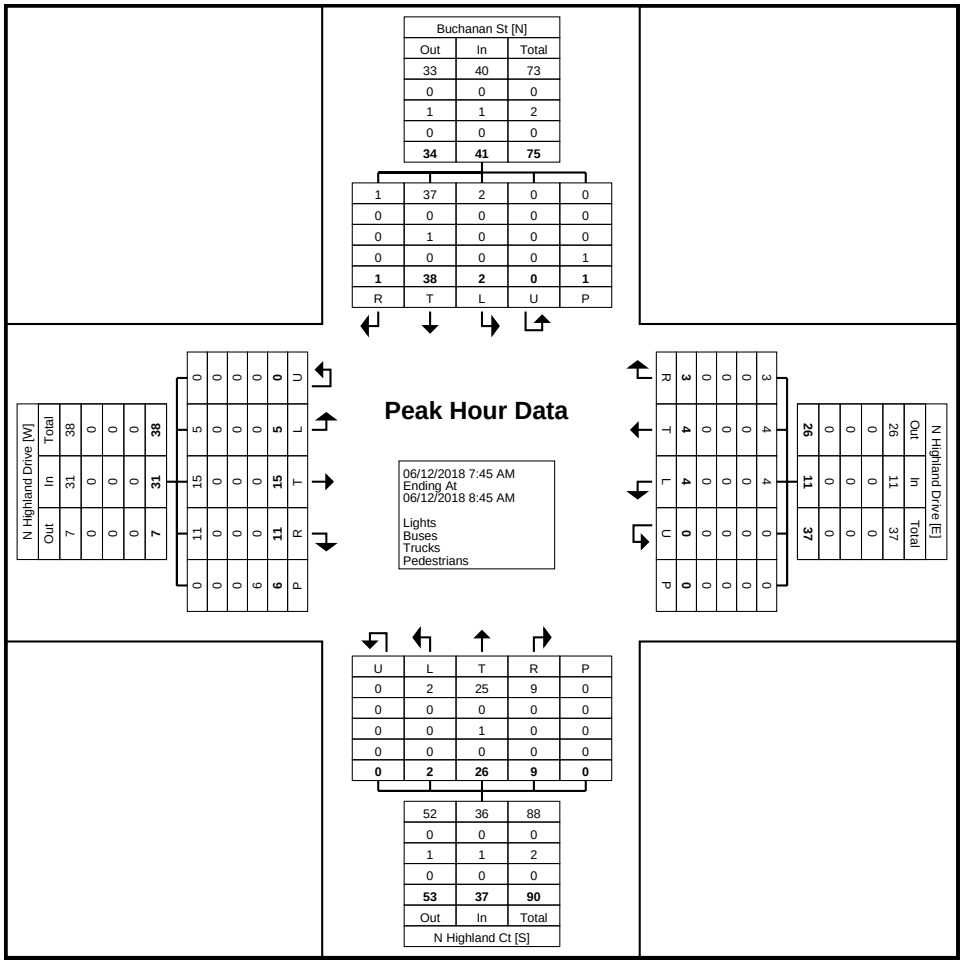

Turning Movement Peak Hour Data Plot (7:45 AM)

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P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: 2018030.000 N Highland Drive at Buchanan St
Site Code: 2018030.000 N Highland Drive at Buchanan St
Start Date: 06/12/2018

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Buchanan St Southbound						N Highland Drive Westbound						N Highland Ct Northbound						N Highland Drive Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:30 PM	0	3	2	0	2	5	0	2	0	0	1	2	3	12	3	0	1	18	1	12	1	0	1	14	39
4:45 PM	0	6	0	0	3	6	0	0	3	0	3	3	4	7	4	0	0	15	2	5	2	0	1	9	33
5:00 PM	1	6	1	0	0	8	0	0	4	0	0	4	6	7	1	0	0	14	1	8	0	0	0	9	35
5:15 PM	0	7	0	0	0	7	0	1	1	0	0	2	4	13	4	0	0	21	0	6	0	0	0	6	36
Total	1	22	3	0	5	26	0	3	8	0	4	11	17	39	12	0	1	68	4	31	3	0	2	38	143
Approach %	3.8	84.6	11.5	0.0	-	-	0.0	27.3	72.7	0.0	-	-	25.0	57.4	17.6	0.0	-	-	10.5	81.6	7.9	0.0	-	-	-
Total %	0.7	15.4	2.1	0.0	-	18.2	0.0	2.1	5.6	0.0	-	7.7	11.9	27.3	8.4	0.0	-	47.6	2.8	21.7	2.1	0.0	-	26.6	-
PHF	0.250	0.786	0.375	0.000	-	0.813	0.000	0.375	0.500	0.000	-	0.688	0.708	0.750	0.750	0.000	-	0.810	0.500	0.646	0.375	0.000	-	0.679	0.917
Lights	1	22	3	0	-	26	0	3	7	0	-	10	17	39	11	0	-	67	4	29	3	0	-	36	139
% Lights	100.0	100.0	100.0	-	-	100.0	-	100.0	87.5	-	-	90.9	100.0	100.0	91.7	-	-	98.5	100.0	93.5	100.0	-	-	94.7	97.2
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	0	2	0	0	-	2	4
% Trucks	0.0	0.0	0.0	-	-	0.0	-	0.0	12.5	-	-	9.1	0.0	0.0	8.3	-	-	1.5	0.0	6.5	0.0	-	-	5.3	2.8
Pedestrians	-	-	-	-	5	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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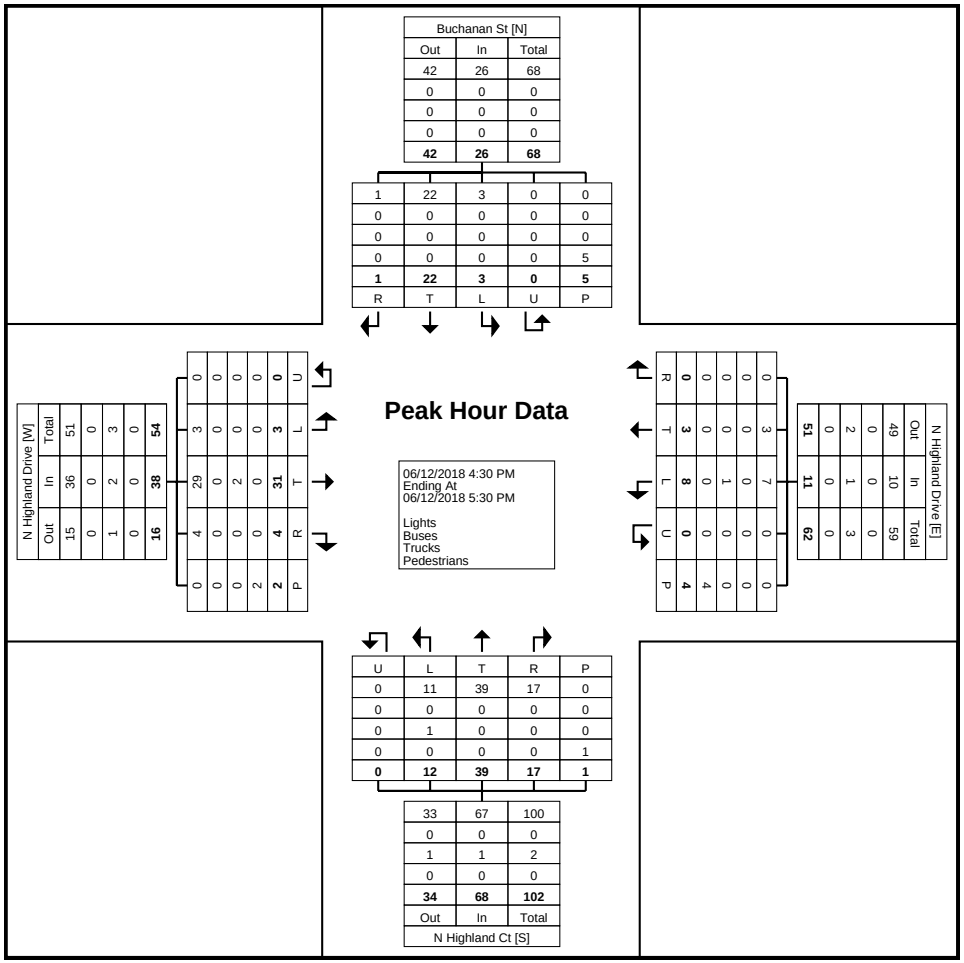


Turning Movement Peak Hour Data Plot (4:30 PM)

APPENDIX D
PEAK SEASON CONVERSION FACTOR

2017 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8601 CEN.-W OF US1 TO SR7

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2017 - 01/07/2017	0.96	0.99
2	01/08/2017 - 01/14/2017	0.98	1.01
3	01/15/2017 - 01/21/2017	0.99	1.02
4	01/22/2017 - 01/28/2017	0.99	1.02
* 5	01/29/2017 - 02/04/2017	0.98	1.01
* 6	02/05/2017 - 02/11/2017	0.98	1.01
* 7	02/12/2017 - 02/18/2017	0.97	1.00
* 8	02/19/2017 - 02/25/2017	0.97	1.00
* 9	02/26/2017 - 03/04/2017	0.96	0.99
*10	03/05/2017 - 03/11/2017	0.96	0.99
*11	03/12/2017 - 03/18/2017	0.96	0.99
*12	03/19/2017 - 03/25/2017	0.96	0.99
*13	03/26/2017 - 04/01/2017	0.97	1.00
*14	04/02/2017 - 04/08/2017	0.97	1.00
*15	04/09/2017 - 04/15/2017	0.98	1.01
*16	04/16/2017 - 04/22/2017	0.98	1.01
*17	04/23/2017 - 04/29/2017	0.99	1.02
18	04/30/2017 - 05/06/2017	0.99	1.02
19	05/07/2017 - 05/13/2017	0.99	1.02
20	05/14/2017 - 05/20/2017	1.00	1.03
21	05/21/2017 - 05/27/2017	1.00	1.03
22	05/28/2017 - 06/03/2017	1.00	1.03
23	06/04/2017 - 06/10/2017	1.01	1.04
24	06/11/2017 - 06/17/2017	1.01	1.04
25	06/18/2017 - 06/24/2017	1.01	1.04
26	06/25/2017 - 07/01/2017	1.01	1.04
27	07/02/2017 - 07/08/2017	1.01	1.04
28	07/09/2017 - 07/15/2017	1.02	1.05
29	07/16/2017 - 07/22/2017	1.01	1.04
30	07/23/2017 - 07/29/2017	1.01	1.04
31	07/30/2017 - 08/05/2017	1.01	1.04
32	08/06/2017 - 08/12/2017	1.01	1.04
33	08/13/2017 - 08/19/2017	1.01	1.04
34	08/20/2017 - 08/26/2017	1.05	1.08
35	08/27/2017 - 09/02/2017	1.08	1.11
36	09/03/2017 - 09/09/2017	1.12	1.15
37	09/10/2017 - 09/16/2017	1.16	1.20
38	09/17/2017 - 09/23/2017	1.13	1.16
39	09/24/2017 - 09/30/2017	1.10	1.13
40	10/01/2017 - 10/07/2017	1.08	1.11
41	10/08/2017 - 10/14/2017	1.05	1.08
42	10/15/2017 - 10/21/2017	1.03	1.06
43	10/22/2017 - 10/28/2017	1.02	1.05
44	10/29/2017 - 11/04/2017	1.01	1.04
45	11/05/2017 - 11/11/2017	1.00	1.03
46	11/12/2017 - 11/18/2017	0.99	1.02
47	11/19/2017 - 11/25/2017	0.98	1.01
48	11/26/2017 - 12/02/2017	0.98	1.01
49	12/03/2017 - 12/09/2017	0.97	1.00
50	12/10/2017 - 12/16/2017	0.96	0.99
51	12/17/2017 - 12/23/2017	0.97	1.00
52	12/24/2017 - 12/30/2017	0.98	1.01
53	12/31/2017 - 12/31/2017	0.99	1.02

* PEAK SEASON

APPENDIX E

SYNCHRO PRINTOUTS- EXISTING AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	422	66	70	347	137	189	208	78	66	58	57
Future Volume (veh/h)	61	422	66	70	347	137	189	208	78	66	58	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1912	1917	1950	1912	1912	1912	1931	1912	1950	1912	1950	1875
Adj Flow Rate, veh/h	66	459	72	76	377	149	205	226	85	72	63	62
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	1	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	1	2	0	2	0	4
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	306	510	80	218	608	517	560	1134	518	462	561	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.32	0.32	0.04	0.32	0.32	0.07	0.31	0.31	0.04	0.29	0.29
Ln Grp Delay, s/veh	16.8	0.0	38.0	19.2	22.3	18.6	17.5	18.4	18.5	16.9	19.2	19.5
Ln Grp LOS	B		D	B	C	B	B	B	B	B	B	B
Approach Vol, veh/h		597			602			516			197	
Approach Delay, s/veh		35.6			21.0			18.1			18.4	
Approach LOS		D			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	8.0	27.4	8.6	27.6	9.8	25.6	8.4	27.8
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0	5.0	5.0	5.5	5.0
Max Green (Gmax), s	4.6	20.8	4.1	25.0	4.8	20.6	4.1	25.0
Max Allow Headway (MAH), s	3.8	4.9	3.8	5.3	3.8	4.6	3.8	4.9
Max Q Clear (g_c+I1), s	4.0	5.3	4.0	21.4	6.8	4.1	3.7	14.0
Green Ext Time (g_e), s	0.0	1.5	0.0	1.2	0.0	0.4	0.0	2.1
Prob of Phs Call (p_c)	0.76	1.00	0.78	1.00	0.98	1.00	0.73	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.19

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1839		1821	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3632		1618		1950		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1657		254		1594		1625

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	72	0	76	0	205	0	66	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1839	0	1821	0
Q Serve Time (g_s), s	2.0	0.0	2.0	0.0	4.8	0.0	1.7	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	2.0	0.0	4.8	0.0	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1064	0	869	0	1273	0	873	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	20.6	0.0	22.6	0.0	20.6	0.0	22.6	0.0
Perm LT Serve Time (g_u), s	19.1	0.0	3.2	0.0	18.9	0.0	10.8	0.0
Perm LT Q Serve Time (g_ps), s	0.1	0.0	1.9	0.0	1.9	0.0	1.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	462	0	218	0	560	0	306	0
V/C Ratio (X)	0.16	0.00	0.35	0.00	0.37	0.00	0.22	0.00
Avail Cap (c_a), veh/h	501	0	243	0	560	0	336	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.7	0.0	18.2	0.0	17.1	0.0	16.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.0	0.4	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.9	0.0	19.2	0.0	17.5	0.0	16.8	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.0	0.0	2.8	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.0	0.0	2.9	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.13	0.00	0.73	0.00	0.17	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	1	0	1
Grp Vol (v), veh/h	0	226	0	0	0	63	0	377
Grp Sat Flow (s), veh/h/ln	0	1816	0	0	0	1950	0	1912
Q Serve Time (g_s), s	0.0	3.3	0.0	0.0	0.0	1.7	0.0	12.0
Cycle Q Clear Time (g_c), s	0.0	3.3	0.0	0.0	0.0	1.7	0.0	12.0
Lane Grp Cap (c), veh/h	0	1134	0	0	0	561	0	608
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.11	0.00	0.62
Avail Cap (c_a), veh/h	0	1134	0	0	0	561	0	668
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.1	0.0	0.0	0.0	18.8	0.0	20.7
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.4	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.4	0.0	0.0	0.0	19.2	0.0	22.3
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	0.0	0.0	0.9	0.0	6.3

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	0.0	0.0	1.0	0.0	6.5
%ile Storage Ratio (RQ%)	0.00	0.28	0.00	0.00	0.00	0.05	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	85	0	531	0	62	0	149
Grp Sat Flow (s), veh/h/ln	0	1657	0	1872	0	1594	0	1625
Q Serve Time (g_s), s	0.0	2.7	0.0	19.4	0.0	2.1	0.0	4.9
Cycle Q Clear Time (g_c), s	0.0	2.7	0.0	19.4	0.0	2.1	0.0	4.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.14	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	518	0	590	0	459	0	517
V/C Ratio (X)	0.00	0.16	0.00	0.90	0.00	0.14	0.00	0.29
Avail Cap (c_a), veh/h	0	518	0	654	0	459	0	567
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.8	0.0	23.4	0.0	18.9	0.0	18.3
Incr Delay (d2), s/veh	0.0	0.7	0.0	14.6	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.5	0.0	38.0	0.0	19.5	0.0	18.6
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	10.0	0.0	0.9	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	2.4	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	12.4	0.0	1.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	1.06	0.00	0.05	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	344	106	171	286	146	164	704	150	103	399	133
Future Volume (veh/h)	101	344	106	171	286	146	164	704	150	103	399	133
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1950	1912	1893	1912	1912	1931	1893	1912	1857	1912	1931	1912
Adj Flow Rate, veh/h	110	374	115	186	311	159	178	765	163	112	434	145
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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
Percent Heavy Veh, %	0	2	3	2	2	1	3	2	5	2	1	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	362	460	387	349	532	456	410	1010	439	284	899	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.24	0.24	0.10	0.28	0.28	0.10	0.28	0.28	0.07	0.25	0.25
Ln Grp Delay, s/veh	17.2	28.7	20.3	18.1	20.9	18.9	16.4	23.2	19.1	18.0	21.1	20.5
Ln Grp LOS	B	C	C	B	C	B	B	C	B	B	C	C
Approach Vol, veh/h		599			656			1106			691	
Approach Delay, s/veh		25.0			19.6			21.5			20.5	
Approach LOS		C			B			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.2	22.8	11.5	20.4	11.3	20.7	9.1	22.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green (Gmax), s	5.0	22.0	7.0	21.0	7.0	20.0	6.0	22.0
Max Allow Headway (MAH), s	3.8	5.0	3.8	5.0	3.8	4.9	3.8	4.8
Max Q Clear (g_c+l1), s	4.9	14.3	6.8	13.8	6.6	8.5	4.8	11.0
Green Ext Time (g_e), s	0.0	3.5	0.0	1.6	0.0	2.6	0.0	1.8
Prob of Phs Call (p_c)	0.86	1.00	0.96	1.00	0.96	1.00	0.86	1.00
Prob of Max Out (p_x)	1.00	0.68	1.00	0.53	1.00	0.17	1.00	0.15

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1803		1857	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3632		1912		3668		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1579		1609		1625		1641

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	112	0	186	0	178	0	110	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1803	0	1857	0
Q Serve Time (g_s), s	2.9	0.0	4.8	0.0	4.6	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	2.9	0.0	4.8	0.0	4.6	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	600	0	904	0	823	0	938	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.7	0.0	15.4	0.0	15.7	0.0	15.4	0.0
Perm LT Serve Time (g_u), s	5.5	0.0	3.6	0.0	9.2	0.0	8.8	0.0
Perm LT Q Serve Time (g_ps), s	2.3	0.0	3.1	0.0	1.8	0.0	0.9	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	284	0	349	0	410	0	362	0
V/C Ratio (X)	0.39	0.00	0.53	0.00	0.43	0.00	0.30	0.00
Avail Cap (c_a), veh/h	307	0	363	0	429	0	416	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.2	0.0	16.7	0.0	15.7	0.0	16.8	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.4	0.0	0.7	0.0	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.0	0.0	18.1	0.0	16.4	0.0	17.2	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	2.4	0.0	2.3	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	2.5	0.0	2.4	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.36	0.00	0.40	0.00	0.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	765	0	374	0	434	0	311
Grp Sat Flow (s), veh/h/ln	0	1816	0	1912	0	1834	0	1912
Q Serve Time (g_s), s	0.0	12.3	0.0	11.8	0.0	6.5	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	12.3	0.0	11.8	0.0	6.5	0.0	9.0
Lane Grp Cap (c), veh/h	0	1010	0	460	0	899	0	532
V/C Ratio (X)	0.00	0.76	0.00	0.81	0.00	0.48	0.00	0.58
Avail Cap (c_a), veh/h	0	1251	0	628	0	1148	0	658
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.1	0.0	22.9	0.0	20.6	0.0	19.9
Incr Delay (d2), s/veh	0.0	2.1	0.0	5.8	0.0	0.4	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.2	0.0	28.7	0.0	21.1	0.0	20.9
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	6.2	0.0	3.3	0.0	4.7

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.7	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.5	0.0	7.0	0.0	3.3	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.20	0.00	0.21	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	163	0	115	0	145	0	159
Grp Sat Flow (s), veh/h/ln	0	1579	0	1609	0	1625	0	1641
Q Serve Time (g_s), s	0.0	5.3	0.0	3.7	0.0	4.7	0.0	4.9
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	3.7	0.0	4.7	0.0	4.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	439	0	387	0	398	0	456
V/C Ratio (X)	0.00	0.37	0.00	0.30	0.00	0.36	0.00	0.35
Avail Cap (c_a), veh/h	0	544	0	529	0	509	0	565
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.6	0.0	19.8	0.0	20.0	0.0	18.4
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.4	0.0	0.6	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.1	0.0	20.3	0.0	20.5	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	1.6	0.0	2.1	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	1.7	0.0	2.2	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	0.25	0.00	0.37	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBR	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Vol, veh/h	2	40	27	9	5	16	11	4	4	3
Future Vol, veh/h	2	40	27	9	5	16	11	4	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0	-	-	0	-
Grade, %	0	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	3	4	0	0	0	0	0	0	0
Mvmt Flow	2	43	29	10	5	17	12	4	4	3

Major/Minor	Minor2		Minor1		Major1			Major2		
Conflicting Flow All	67	6	69	23	7	0	0	29	0	0
Stage 1	14	-	33	-	-	-	-	-	-	-
Stage 2	53	-	36	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.2	7.1	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	-	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	3.5	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	931	1083	928	1060	1627	-	-	1597	-	-
Stage 1	1011	-	988	-	-	-	-	-	-	-
Stage 2	965	-	985	-	-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	894	1083	886	1060	1627	-	-	1597	-	-
Mov Cap-2 Maneuver	894	-	886	-	-	-	-	-	-	-
Stage 1	1008	-	985	-	-	-	-	-	-	-
Stage 2	921	-	933	-	-	-	-	-	-	-

Approach	EB	NW	NE	SW
HCM Control Delay, s	8.8	9.3	1.1	2.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	EBLn1	SWL	SWT	SWR
Capacity (veh/h)	1627	-	-	882	949	1597	-	-
HCM Lane V/C Ratio	0.003	-	-	0.047	0.003	0.003	-	-
HCM Control Delay (s)	7.2	0	-	9.3	8.8	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	2	46	6	5	25	1	4	55	2	4	38	7
Future Vol, veh/h	2	46	6	5	25	1	4	55	2	4	38	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	14	0	0	0	0	0	0	0	3	14
Mvmt Flow	2	50	7	5	27	1	4	60	2	4	41	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	105	123	25	123	126	31	49	0	0	62	0	0
Stage 1	53	53	-	69	69	-	-	-	-	-	-	-
Stage 2	52	70	-	54	57	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.18	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.44	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	869	771	1008	845	768	1043	1571	-	-	1554	-	-
Stage 1	959	855	-	939	841	-	-	-	-	-	-	-
Stage 2	960	841	-	958	851	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	840	766	1008	794	763	1043	1571	-	-	1554	-	-
Mov Cap-2 Maneuver	840	766	-	794	763	-	-	-	-	-	-	-
Stage 1	956	852	-	936	838	-	-	-	-	-	-	-
Stage 2	925	838	-	893	848	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	9.9	9.9	0.5	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1571	-	-	775	790	1554	-	-
HCM Lane V/C Ratio	0.003	-	-	0.043	0.074	0.003	-	-
HCM Control Delay (s)	7.3	0	-	9.9	9.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	1	2	1	0	0	3	423	3	2	146	46
Future Vol, veh/h	52	1	2	1	0	0	3	423	3	2	146	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	0	0
Mvmt Flow	57	1	2	1	0	0	3	460	3	2	159	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	631	632	159	658	681	462	209	0	0	463	0	0
Stage 1	163	163	-	468	468	-	-	-	-	-	-	-
Stage 2	468	469	-	190	213	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	396	400	892	380	375	604	1374	-	-	1109	-	-
Stage 1	844	767	-	579	565	-	-	-	-	-	-	-
Stage 2	579	564	-	816	730	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	394	398	892	377	373	604	1374	-	-	1109	-	-
Mov Cap-2 Maneuver	394	398	-	377	373	-	-	-	-	-	-	-
Stage 1	841	765	-	577	563	-	-	-	-	-	-	-
Stage 2	577	562	-	811	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	14.6	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1374	-	-	394	715	377	-	1109	-	-
HCM Lane V/C Ratio	0.002	-	-	0.145	0.004	0.003	-	0.002	-	-
HCM Control Delay (s)	7.6	0	-	15.7	10.1	14.6	0	8.3	0	-
HCM Lane LOS	A	A	-	C	B	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	531	0	0	601	0	26
Future Vol, veh/h	531	0	0	601	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	577	0	0	653	0	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	577
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-	0	520
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	520
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	WBT
Capacity (veh/h)	520	-	-
HCM Lane V/C Ratio	0.054	-	-
HCM Control Delay (s)	12.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	522	517	86	18	28
Future Vol, veh/h	95	522	517	86	18	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	150	35	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	4	0	4
Mvmt Flow	103	567	562	93	20	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	655	0	-	0	1335	562
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	773	-
Critical Hdwy	4.11	-	-	-	6.4	6.24
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.336
Pot Cap-1 Maneuver	937	-	-	-	171	523
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	459	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	937	-	-	-	152	523
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	459	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	20.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	937	-	-	-	152	523
HCM Lane V/C Ratio	0.11	-	-	-	0.129	0.058
HCM Control Delay (s)	9.3	-	-	-	32.2	12.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4	0.2

APPENDIX F

SYNCHRO PRINTOUTS- EXISTING PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	416	114	96	424	92	93	102	101	132	208	95
Future Volume (veh/h)	46	416	114	96	424	92	93	102	101	132	208	95
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1912	1916	1950	1950	1912	1931	1931	1931	1950	1931	1950	1950
Adj Flow Rate, veh/h	50	452	124	104	461	100	101	111	110	143	226	103
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	1	1
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
Percent Heavy Veh, %	2	2	2	0	2	1	1	1	0	1	0	0
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	283	481	132	223	673	578	401	957	432	518	548	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.33	0.33	0.05	0.35	0.35	0.06	0.26	0.26	0.08	0.28	0.28
Ln Grp Delay, s/veh	17.1	0.0	46.8	20.3	23.6	16.8	18.9	21.3	23.3	18.0	24.1	21.7
Ln Grp LOS	B		D	C	C	B	B	C	C	B	C	C
Approach Vol, veh/h		626			665			322			472	
Approach Delay, s/veh		44.5			22.0			21.2			21.8	
Approach LOS		D			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	10.8	24.5	9.6	29.8	9.3	26.0	8.1	31.3
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0	5.0	5.0	5.5	5.0
Max Green (Gmax), s	5.9	19.5	4.1	25.0	4.6	20.8	4.0	25.1
Max Allow Headway (MAH), s	3.8	4.6	3.8	5.3	3.8	4.9	3.8	5.0
Max Q Clear (g_c+I1), s	6.2	5.9	4.7	24.7	5.0	9.0	3.3	17.4
Green Ext Time (g_e), s	0.0	0.8	0.0	0.1	0.0	1.2	0.0	2.0
Prob of Phs Call (p_c)	0.95	1.00	0.88	1.00	0.88	1.00	0.65	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.53

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1839		1857		1839		1821	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3668		1448		1950		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1657		397		1657		1641

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	143	0	104	0	101	0	50	0
Grp Sat Flow (s), veh/h/ln	1839	0	1857	0	1839	0	1821	0
Q Serve Time (g_s), s	4.2	0.0	2.7	0.0	3.0	0.0	1.3	0.0
Cycle Q Clear Time (g_c), s	4.2	0.0	2.7	0.0	3.0	0.0	1.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1167	0	850	0	1057	0	845	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.5	0.0	24.8	0.0	19.5	0.0	24.8	0.0
Perm LT Serve Time (g_u), s	17.8	0.0	2.1	0.0	14.0	0.0	10.9	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	2.1	0.0	0.6	0.0	0.9	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	518	0	223	0	401	0	283	0
V/C Ratio (X)	0.28	0.00	0.47	0.00	0.25	0.00	0.18	0.00
Avail Cap (c_a), veh/h	519	0	223	0	407	0	317	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.7	0.0	18.8	0.0	18.6	0.0	16.8	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.5	0.0	0.3	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.0	0.0	20.3	0.0	18.9	0.0	17.1	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	1.4	0.0	1.5	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	1.5	0.0	1.5	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	0.19	0.00	0.38	0.00	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	1	0	1
Grp Vol (v), veh/h	0	111	0	0	0	226	0	461
Grp Sat Flow (s), veh/h/ln	0	1834	0	0	0	1950	0	1912
Q Serve Time (g_s), s	0.0	1.7	0.0	0.0	0.0	7.0	0.0	15.4
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	0.0	0.0	7.0	0.0	15.4
Lane Grp Cap (c), veh/h	0	957	0	0	0	548	0	673
V/C Ratio (X)	0.00	0.12	0.00	0.00	0.00	0.41	0.00	0.68
Avail Cap (c_a), veh/h	0	957	0	0	0	548	0	673
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.1	0.0	0.0	0.0	21.9	0.0	20.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	2.3	0.0	2.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.3	0.0	0.0	0.0	24.1	0.0	23.6
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	3.8	0.0	8.1

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	0.0	0.0	4.1	0.0	8.6
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.00	0.00	0.21	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	110	0	576	0	103	0	100
Grp Sat Flow (s), veh/h/ln	0	1657	0	1846	0	1657	0	1641
Q Serve Time (g_s), s	0.0	3.9	0.0	22.7	0.0	3.6	0.0	3.1
Cycle Q Clear Time (g_c), s	0.0	3.9	0.0	22.7	0.0	3.6	0.0	3.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.22	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	432	0	612	0	466	0	578
V/C Ratio (X)	0.00	0.25	0.00	0.94	0.00	0.22	0.00	0.17
Avail Cap (c_a), veh/h	0	432	0	617	0	466	0	578
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.9	0.0	24.3	0.0	20.6	0.0	16.7
Incr Delay (d2), s/veh	0.0	1.4	0.0	22.6	0.0	1.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.3	0.0	46.8	0.0	21.7	0.0	16.8
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	11.5	0.0	1.6	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	3.8	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	15.4	0.0	1.8	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.39	0.00	1.31	0.00	0.09	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	363	164	185	344	153	142	542	233	124	494	104
Future Volume (veh/h)	122	363	164	185	344	153	142	542	233	124	494	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1931	1912	1950	1950	1931	1950	1931	1950	1950	1950	1950	1950
Adj Flow Rate, veh/h	133	395	178	201	374	166	154	589	253	135	537	113
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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
Percent Heavy Veh, %	1	2	0	0	1	0	1	0	0	0	0	0
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	358	492	427	369	555	477	345	867	388	321	856	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.26	0.26	0.11	0.29	0.29	0.08	0.23	0.23	0.08	0.23	0.23
Ln Grp Delay, s/veh	16.1	26.3	19.7	17.0	21.1	17.8	17.5	22.5	23.2	17.5	22.1	20.0
Ln Grp LOS	B	C	B	B	C	B	B	C	C	B	C	B
Approach Vol, veh/h		706			741			996			785	
Approach Delay, s/veh		22.7			19.2			21.9			21.0	
Approach LOS		C			B			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.8	19.4	11.6	20.9	10.0	19.3	9.7	22.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green (Gmax), s	5.0	21.0	7.0	22.0	5.0	21.0	6.0	23.0
Max Allow Headway (MAH), s	3.8	4.9	3.8	4.9	3.8	5.0	3.8	4.9
Max Q Clear (g_c+I1), s	5.3	10.9	6.8	13.9	5.9	10.0	5.2	12.6
Green Ext Time (g_e), s	0.0	3.5	0.0	1.9	0.0	3.0	0.0	2.1
Prob of Phs Call (p_c)	0.90	1.00	0.97	1.00	0.93	1.00	0.90	1.00
Prob of Max Out (p_x)	1.00	0.39	1.00	0.44	1.00	0.26	1.00	0.22

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1857		1857		1839		1839	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3705		1912		3705		1931

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1657		1657		1657		1657

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	135	0	201	0	154	0	133	0
Grp Sat Flow (s), veh/h/ln	1857	0	1857	0	1839	0	1839	0
Q Serve Time (g_s), s	3.3	0.0	4.8	0.0	3.9	0.0	3.2	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	4.8	0.0	3.9	0.0	3.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	664	0	853	0	786	0	871	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	14.3	0.0	15.9	0.0	14.3	0.0	15.9	0.0
Perm LT Serve Time (g_u), s	5.5	0.0	3.9	0.0	6.2	0.0	7.2	0.0
Perm LT Q Serve Time (g_ps), s	2.2	0.0	3.7	0.0	2.0	0.0	1.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	321	0	369	0	345	0	358	0
V/C Ratio (X)	0.42	0.00	0.55	0.00	0.45	0.00	0.37	0.00
Avail Cap (c_a), veh/h	327	0	382	0	345	0	397	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.7	0.0	15.5	0.0	16.6	0.0	15.5	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.5	0.0	0.9	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.5	0.0	17.0	0.0	17.5	0.0	16.1	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	2.4	0.0	1.9	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.2	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	2.6	0.0	2.0	0.0	1.7	0.0
%ile Storage Ratio (RQ%)	0.29	0.00	0.36	0.00	0.34	0.00	0.19	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	589	0	395	0	537	0	374
Grp Sat Flow (s), veh/h/ln	0	1853	0	1912	0	1853	0	1931
Q Serve Time (g_s), s	0.0	8.9	0.0	11.9	0.0	8.0	0.0	10.6
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	11.9	0.0	8.0	0.0	10.6
Lane Grp Cap (c), veh/h	0	867	0	492	0	856	0	555
V/C Ratio (X)	0.00	0.68	0.00	0.80	0.00	0.63	0.00	0.67
Avail Cap (c_a), veh/h	0	1261	0	682	0	1261	0	720
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.5	0.0	21.4	0.0	21.3	0.0	19.4
Incr Delay (d2), s/veh	0.0	0.9	0.0	4.8	0.0	0.8	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.5	0.0	26.3	0.0	22.1	0.0	21.1
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	6.3	0.0	4.1	0.0	5.6

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.7	0.0	0.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	6.9	0.0	4.2	0.0	5.9
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.19	0.00	0.27	0.00	0.47
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	253	0	178	0	113	0	166
Grp Sat Flow (s), veh/h/ln	0	1657	0	1657	0	1657	0	1657
Q Serve Time (g_s), s	0.0	8.5	0.0	5.5	0.0	3.5	0.0	4.9
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	5.5	0.0	3.5	0.0	4.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	388	0	427	0	383	0	477
V/C Ratio (X)	0.00	0.65	0.00	0.42	0.00	0.29	0.00	0.35
Avail Cap (c_a), veh/h	0	564	0	591	0	564	0	618
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.4	0.0	19.1	0.0	19.6	0.0	17.4
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.7	0.0	0.4	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.2	0.0	19.7	0.0	20.0	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	2.5	0.0	1.6	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	2.6	0.0	1.6	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.68	0.00	0.37	0.00	0.27	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Vol, veh/h	3	23	41	18	3	32	4	8	3	0
Future Vol, veh/h	3	23	41	18	3	32	4	8	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0	-	-	0	-
Grade, %	0	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	7	0	13	0	0
Mvmt Flow	3	25	45	20	3	35	4	9	3	0

Major/Minor	Minor2		Minor1		Major1			Major2		
Conflicting Flow All	97	3	77	37	3	0	0	39	0	0
Stage 1	21	-	43	-	-	-	-	-	-	-
Stage 2	76	-	34	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.2	7.18	6.2	4.1	-	-	4.23	-	-
Critical Hdwy Stg 1	6.1	-	6.18	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	6.18	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	3.572	3.3	2.2	-	-	2.317	-	-
Pot Cap-1 Maneuver	890	1087	898	1041	1632	-	-	1503	-	-
Stage 1	1003	-	956	-	-	-	-	-	-	-
Stage 2	938	-	967	-	-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	832	1087	871	1041	1632	-	-	1503	-	-
Mov Cap-2 Maneuver	832	-	871	-	-	-	-	-	-	-
Stage 1	1001	-	954	-	-	-	-	-	-	-
Stage 2	871	-	933	-	-	-	-	-	-	-

Approach	EB	NW	NE	SW
HCM Control Delay, s	9.1	9.5	0.6	5.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	EBLn1	SWL	SWT	SWR
Capacity (veh/h)	1632	-	-	878	884	1503	-	-
HCM Lane V/C Ratio	0.002	-	-	0.088	0.005	0.006	-	-
HCM Control Delay (s)	7.2	0	-	9.5	9.1	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	23	7	6	50	6	8	45	6	2	74	10
Future Vol, veh/h	3	23	7	6	50	6	8	45	6	2	74	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	4	11	0	2	14	0	0	0	0	3	0
Mvmt Flow	3	25	8	7	54	7	9	49	7	2	80	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	160	164	46	128	166	28	91	0	0	56	0	0
Stage 1	90	90	-	71	71	-	-	-	-	-	-	-
Stage 2	70	74	-	57	95	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.58	7.12	7.5	6.54	7.18	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.58	-	6.5	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.58	-	6.5	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.04	3.41	3.5	4.02	3.44	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	796	723	985	838	726	1003	1517	-	-	1562	-	-
Stage 1	913	815	-	936	835	-	-	-	-	-	-	-
Stage 2	938	828	-	954	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	741	718	985	805	721	1003	1517	-	-	1562	-	-
Mov Cap-2 Maneuver	741	718	-	805	721	-	-	-	-	-	-	-
Stage 1	908	814	-	930	830	-	-	-	-	-	-	-
Stage 2	866	823	-	917	814	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	9.9	10.3	1	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1517	-	-	749	764	1562	-	-
HCM Lane V/C Ratio	0.006	-	-	0.09	0.047	0.001	-	-
HCM Control Delay (s)	7.4	0	-	10.3	9.9	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	2	4	0	0	2	5	247	2	2	336	80
Future Vol, veh/h	47	2	4	0	0	2	5	247	2	2	336	80
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	1
Mvmt Flow	51	2	4	0	0	2	5	268	2	2	365	87

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	649	649	365	695	735	269	452	0	0	270	0	0
Stage 1	369	369	-	279	279	-	-	-	-	-	-	-
Stage 2	280	280	-	416	456	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	386	391	685	359	349	775	1119	-	-	1305	-	-
Stage 1	655	624	-	732	683	-	-	-	-	-	-	-
Stage 2	731	683	-	618	572	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	383	388	685	353	347	775	1119	-	-	1305	-	-
Mov Cap-2 Maneuver	383	388	-	353	347	-	-	-	-	-	-	-
Stage 1	652	623	-	728	680	-	-	-	-	-	-	-
Stage 2	725	680	-	611	571	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	9.7	0.2	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1119	-	-	383	594	-	775	1305	-	-
HCM Lane V/C Ratio	0.005	-	-	0.136	0.009	-	0.003	0.002	-	-
HCM Control Delay (s)	8.2	0	-	15.9	11.1	0	9.7	7.8	0	-
HCM Lane LOS	A	A	-	C	B	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	549	0	0	600	0	45
Future Vol, veh/h	549	0	0	600	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	1	0	5
Mvmt Flow	597	0	0	652	0	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	597
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.345
Pot Cap-1 Maneuver	-	0	0	-	0	497
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	497
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0	13
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	WBT
Capacity (veh/h)	497	-	-
HCM Lane V/C Ratio	0.098	-	-
HCM Control Delay (s)	13	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	506	548	75	41	84
Future Vol, veh/h	43	506	548	75	41	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	150	35	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	2	1	1	3	0
Mvmt Flow	47	550	596	82	45	91

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	678	0	-	0	1240	596
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	644	-
Critical Hdwy	4.18	-	-	-	6.43	6.2
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.272	-	-	-	3.527	3.3
Pot Cap-1 Maneuver	886	-	-	-	193	507
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	521	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	886	-	-	-	183	507
Mov Cap-2 Maneuver	-	-	-	-	183	-
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	521	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	886	-	-	-	183	507
HCM Lane V/C Ratio	0.053	-	-	-	0.244	0.18
HCM Control Delay (s)	9.3	-	-	-	30.9	13.7
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9	0.7

APPENDIX G
SYNCRHO PRINTOUTS- 2020 AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	466	88	82	451	233	246	295	165	99	114	73
Future Volume (veh/h)	117	466	88	82	451	233	246	295	165	99	114	73
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1912	1918	1950	1912	1912	1912	1931	1912	1950	1912	1950	1875
Adj Flow Rate, veh/h	127	507	96	89	490	253	267	321	179	108	124	79
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	1	2	0	2	0	4
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	287	556	105	220	654	556	468	517	448	313	517	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.06	0.27	0.27	0.06	0.27	0.27
Ln Grp Delay, s/veh	18.2	0.0	38.6	20.0	26.2	20.3	23.8	30.1	25.6	20.2	23.3	22.8
Ln Grp LOS	B		D	B	C	C	C	C	C	C	C	C
Approach Vol, veh/h		730			832			767			311	
Approach Delay, s/veh		35.0			23.7			26.9			22.1	
Approach LOS		D			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.6	25.8	9.2	32.3	10.0	25.4	10.2	31.3
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0	5.0	5.0	5.5	5.0
Max Green (Gmax), s	4.6	20.8	4.1	30.0	5.0	20.4	4.7	29.4
Max Allow Headway (MAH), s	3.8	4.8	3.8	5.3	3.8	4.8	3.8	4.8
Max Q Clear (g_c+I1), s	5.3	13.3	4.4	25.7	7.0	5.8	5.4	19.4
Green Ext Time (g_e), s	0.0	1.5	0.0	1.6	0.0	0.7	0.0	2.9
Prob of Phs Call (p_c)	0.90	1.00	0.85	1.00	1.00	1.00	0.93	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.37

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1839		1821	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1912		1568		1950		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1657		297		1594		1625

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	108	0	89	0	267	0	127	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1839	0	1821	0
Q Serve Time (g_s), s	3.3	0.0	2.4	0.0	5.0	0.0	3.4	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	2.4	0.0	5.0	0.0	3.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	894	0	813	0	1186	0	714	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	20.4	0.0	26.3	0.0	20.4	0.0	26.3	0.0
Perm LT Serve Time (g_u), s	9.5	0.0	3.6	0.0	16.6	0.0	8.9	0.0
Perm LT Q Serve Time (g_ps), s	1.5	0.0	2.8	0.0	7.5	0.0	3.8	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	313	0	220	0	468	0	287	0
V/C Ratio (X)	0.35	0.00	0.40	0.00	0.57	0.00	0.44	0.00
Avail Cap (c_a), veh/h	313	0	228	0	468	0	287	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	19.5	0.0	18.8	0.0	22.1	0.0	17.1	0.0
Incr Delay (d2), s/veh	0.7	0.0	1.2	0.0	1.6	0.0	1.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.2	0.0	20.0	0.0	23.8	0.0	18.2	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	1.2	0.0	4.1	0.0	1.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	1.3	0.0	4.3	0.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.13	0.00	0.62	0.00	0.33	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	321	0	0	0	124	0	490
Grp Sat Flow (s), veh/h/ln	0	1912	0	0	0	1950	0	1912
Q Serve Time (g_s), s	0.0	11.3	0.0	0.0	0.0	3.8	0.0	17.4
Cycle Q Clear Time (g_c), s	0.0	11.3	0.0	0.0	0.0	3.8	0.0	17.4
Lane Grp Cap (c), veh/h	0	517	0	0	0	517	0	654
V/C Ratio (X)	0.00	0.62	0.00	0.00	0.00	0.24	0.00	0.75
Avail Cap (c_a), veh/h	0	517	0	0	0	517	0	731
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.6	0.0	0.0	0.0	22.2	0.0	22.4
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	0.0	1.1	0.0	3.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.1	0.0	0.0	0.0	23.3	0.0	26.2
1st-Term Q (Q1), veh/ln	0.0	6.0	0.0	0.0	0.0	2.1	0.0	9.1

2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.0	0.0	0.2	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	0.0	0.0	2.2	0.0	9.8
%ile Storage Ratio (RQ%)	0.00	3.66	0.00	0.00	0.00	0.12	0.00	0.27
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	179	0	603	0	79	0	253
Grp Sat Flow (s), veh/h/ln	0	1657	0	1865	0	1594	0	1625
Q Serve Time (g_s), s	0.0	6.8	0.0	23.7	0.0	2.9	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	6.8	0.0	23.7	0.0	2.9	0.0	9.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	448	0	662	0	423	0	556
V/C Ratio (X)	0.00	0.40	0.00	0.91	0.00	0.19	0.00	0.45
Avail Cap (c_a), veh/h	0	448	0	727	0	423	0	621
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	23.7	0.0	21.9	0.0	19.7
Incr Delay (d2), s/veh	0.0	2.6	0.0	14.9	0.0	1.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.6	0.0	38.6	0.0	22.8	0.0	20.3
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	12.1	0.0	1.3	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	2.7	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	14.8	0.0	1.4	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.57	0.00	1.33	0.00	0.08	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	408	121	173	444	147	216	711	152	104	403	137
Future Volume (veh/h)	103	408	121	173	444	147	216	711	152	104	403	137
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1950	1912	1893	1912	1912	1931	1893	1912	1857	1912	1931	1912
Adj Flow Rate, veh/h	112	443	132	188	483	160	235	773	165	113	438	149
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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
Percent Heavy Veh, %	0	2	3	2	2	1	3	2	5	2	1	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	280	523	440	327	590	506	398	1005	437	271	891	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.27	0.27	0.10	0.31	0.31	0.10	0.28	0.28	0.07	0.24	0.24
Ln Grp Delay, s/veh	18.9	32.5	20.5	20.0	28.8	18.9	20.2	25.6	21.0	20.0	23.2	22.7
Ln Grp LOS	B	C	C	B	C	B	C	C	C	B	C	C
Approach Vol, veh/h		687			831			1173			700	
Approach Delay, s/veh		28.0			24.9			23.9			22.6	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.6	24.4	11.9	24.2	12.0	22.0	9.4	26.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green (Gmax), s	5.0	24.0	7.0	24.0	7.0	22.0	5.0	26.0
Max Allow Headway (MAH), s	3.8	5.0	3.8	5.0	3.8	4.9	3.8	5.0
Max Q Clear (g_c+I1), s	5.2	15.7	7.1	17.4	8.9	9.2	5.0	18.4
Green Ext Time (g_e), s	0.0	3.7	0.0	1.8	0.0	2.8	0.0	2.2
Prob of Phs Call (p_c)	0.89	1.00	0.97	1.00	0.99	1.00	0.89	1.00
Prob of Max Out (p_x)	1.00	0.62	1.00	0.67	1.00	0.13	1.00	0.56

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1803		1857	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3632		1912		3668		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1579		1609		1625		1641

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	113	0	188	0	235	0	112	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1803	0	1857	0
Q Serve Time (g_s), s	3.2	0.0	5.1	0.0	6.9	0.0	3.0	0.0
Cycle Q Clear Time (g_c), s	3.2	0.0	5.1	0.0	6.9	0.0	3.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	595	0	835	0	817	0	799	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	19.2	0.0	17.0	0.0	19.2	0.0
Perm LT Serve Time (g_u), s	5.7	0.0	3.8	0.0	9.8	0.0	5.2	0.0
Perm LT Q Serve Time (g_ps), s	2.7	0.0	3.8	0.0	2.9	0.0	2.3	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	271	0	327	0	398	0	280	0
V/C Ratio (X)	0.42	0.00	0.57	0.00	0.59	0.00	0.40	0.00
Avail Cap (c_a), veh/h	281	0	330	0	398	0	295	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	19.0	0.0	17.6	0.0	17.9	0.0	18.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	2.4	0.0	2.3	0.0	0.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.0	0.0	20.0	0.0	20.2	0.0	18.9	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	2.5	0.0	3.3	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.2	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	2.7	0.0	3.6	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.28	0.00	0.40	0.00	0.61	0.00	0.17	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	773	0	443	0	438	0	483
Grp Sat Flow (s), veh/h/ln	0	1816	0	1912	0	1834	0	1912
Q Serve Time (g_s), s	0.0	13.7	0.0	15.4	0.0	7.2	0.0	16.4
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	15.4	0.0	7.2	0.0	16.4
Lane Grp Cap (c), veh/h	0	1005	0	523	0	891	0	590
V/C Ratio (X)	0.00	0.77	0.00	0.85	0.00	0.49	0.00	0.82
Avail Cap (c_a), veh/h	0	1244	0	655	0	1152	0	709
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.3	0.0	24.1	0.0	22.8	0.0	22.4
Incr Delay (d2), s/veh	0.0	2.4	0.0	8.4	0.0	0.4	0.0	6.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.6	0.0	32.5	0.0	23.2	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	6.9	0.0	8.1	0.0	3.6	0.0	8.6

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.2	0.0	0.1	0.0	1.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.2	0.0	9.3	0.0	3.7	0.0	9.6
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.26	0.00	0.24	0.00	0.77
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	165	0	132	0	149	0	160
Grp Sat Flow (s), veh/h/ln	0	1579	0	1609	0	1625	0	1641
Q Serve Time (g_s), s	0.0	5.9	0.0	4.5	0.0	5.4	0.0	5.2
Cycle Q Clear Time (g_c), s	0.0	5.9	0.0	4.5	0.0	5.4	0.0	5.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	437	0	440	0	395	0	506
V/C Ratio (X)	0.00	0.38	0.00	0.30	0.00	0.38	0.00	0.32
Avail Cap (c_a), veh/h	0	541	0	551	0	510	0	609
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.5	0.0	20.1	0.0	22.1	0.0	18.6
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.4	0.0	0.6	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	0.0	20.5	0.0	22.7	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	2.0	0.0	2.4	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	2.1	0.0	2.5	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.45	0.00	0.30	0.00	0.42	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBR	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Vol, veh/h	2	40	27	9	5	16	11	4	4	3
Future Vol, veh/h	2	40	27	9	5	16	11	4	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0	-	-	0	-
Grade, %	0	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	3	4	0	0	0	0	0	0	0
Mvmt Flow	2	43	29	10	5	17	12	4	4	3

Major/Minor	Minor2		Minor1		Major1			Major2		
Conflicting Flow All	67	6	69	23	7	0	0	29	0	0
Stage 1	14	-	33	-	-	-	-	-	-	-
Stage 2	53	-	36	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.2	7.1	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	-	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	3.5	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	931	1083	928	1060	1627	-	-	1597	-	-
Stage 1	1011	-	988	-	-	-	-	-	-	-
Stage 2	965	-	985	-	-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	894	1083	886	1060	1627	-	-	1597	-	-
Mov Cap-2 Maneuver	894	-	886	-	-	-	-	-	-	-
Stage 1	1008	-	985	-	-	-	-	-	-	-
Stage 2	921	-	933	-	-	-	-	-	-	-

Approach	EB	NW	NE	SW
HCM Control Delay, s	8.8	9.3	1.1	2.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	EBLn1	SWL	SWT	SWR
Capacity (veh/h)	1627	-	-	882	949	1597	-	-
HCM Lane V/C Ratio	0.003	-	-	0.047	0.003	0.003	-	-
HCM Control Delay (s)	7.2	0	-	9.3	8.8	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	2	46	6	5	25	1	4	84	2	4	51	7
Future Vol, veh/h	2	46	6	5	25	1	4	84	2	4	51	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	14	0	0	0	0	0	0	0	3	14
Mvmt Flow	2	50	7	5	27	1	4	91	2	4	55	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	134	168	32	161	171	47	63	0	0	93	0	0
Stage 1	67	67	-	100	100	-	-	-	-	-	-	-
Stage 2	67	101	-	61	71	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.18	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.44	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	830	728	997	795	726	1019	1553	-	-	1514	-	-
Stage 1	941	843	-	901	816	-	-	-	-	-	-	-
Stage 2	941	815	-	949	840	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	802	724	997	745	722	1019	1553	-	-	1514	-	-
Mov Cap-2 Maneuver	802	724	-	745	722	-	-	-	-	-	-	-
Stage 1	938	840	-	898	814	-	-	-	-	-	-	-
Stage 2	906	813	-	884	837	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	10.2	10.1	0.3	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1553	-	-	733	750	1514	-	-
HCM Lane V/C Ratio	0.003	-	-	0.046	0.078	0.003	-	-
HCM Control Delay (s)	7.3	0	-	10.1	10.2	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	1	2	1	0	0	3	535	3	10	201	59
Future Vol, veh/h	80	1	2	1	0	0	3	535	3	10	201	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	0	0	2	0	2	0	2	2	2
Mvmt Flow	87	1	2	1	0	0	3	582	3	11	218	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	830	831	218	864	894	584	282	0	0	585	0	0
Stage 1	240	240	-	590	590	-	-	-	-	-	-	-
Stage 2	590	591	-	274	304	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.2	7.1	6.5	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.3	3.5	4	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	289	307	827	277	283	512	1292	-	-	990	-	-
Stage 1	763	711	-	497	498	-	-	-	-	-	-	-
Stage 2	494	498	-	736	667	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	286	303	827	273	279	512	1292	-	-	990	-	-
Mov Cap-2 Maneuver	286	303	-	273	279	-	-	-	-	-	-	-
Stage 1	761	703	-	496	497	-	-	-	-	-	-	-
Stage 2	493	497	-	725	660	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	18.2	0	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1292	-	-	286	614	273	-	990	-	-
HCM Lane V/C Ratio	0.003	-	-	0.306	0.004	0.004	-	0.011	-	-
HCM Control Delay (s)	7.8	0	-	23	10.9	18.2	0	8.7	-	-
HCM Lane LOS	A	A	-	C	B	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	635	0	0	759	0	26
Future Vol, veh/h	635	0	0	759	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	690	0	0	825	0	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	690
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-	0	449
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	449
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	WBT
Capacity (veh/h)	449	-	-
HCM Lane V/C Ratio	0.063	-	-
HCM Control Delay (s)	13.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	96	614	671	88	21	28
Future Vol, veh/h	96	614	671	88	21	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	150	35	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	4	0	4
Mvmt Flow	104	667	729	96	23	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	825	0	-	0	1604	729
Stage 1	-	-	-	-	729	-
Stage 2	-	-	-	-	875	-
Critical Hdwy	4.11	-	-	-	6.4	6.24
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.336
Pot Cap-1 Maneuver	810	-	-	-	117	420
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	411	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	810	-	-	-	102	420
Mov Cap-2 Maneuver	-	-	-	-	102	-
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	411	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	29.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	810	-	-	-	102	420
HCM Lane V/C Ratio	0.129	-	-	-	0.224	0.072
HCM Control Delay (s)	10.1	-	-	-	50.2	14.2
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	0	706	251	54
Future Vol, veh/h	0	15	0	706	251	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	0	767	273	59

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	166	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	722	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	722	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	722	-	-
HCM Lane V/C Ratio	-	0.023	-	-
HCM Control Delay (s)	-	10.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	466	88	82	451	233	246	295	165	99	114	73
Future Volume (veh/h)	117	466	88	82	451	233	246	295	165	99	114	73
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1912	1912	1950	1912	1912	1912	1931	1912	1950	1912	1950	1875
Adj Flow Rate, veh/h	127	507	96	89	490	253	267	321	179	108	124	79
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	2	2	0	2	2	2	1	2	0	2	0	4
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	251	595	516	239	573	487	524	583	505	353	557	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.31	0.31	0.05	0.30	0.30	0.08	0.30	0.30	0.06	0.29	0.29
Ln Grp Delay, s/veh	20.8	32.7	19.1	20.0	33.7	22.7	19.6	25.6	22.3	18.2	21.4	21.0
Ln Grp LOS	C	C	B	C	C	C	B	C	C	B	C	C
Approach Vol, veh/h		730			832			767			311	
Approach Delay, s/veh		28.9			28.9			22.7			20.2	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.6	27.9	9.3	28.4	11.0	26.5	10.2	27.5
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0	5.0	5.0	5.5	5.0
Max Green (Gmax), s	4.6	22.9	4.0	28.0	6.0	21.5	4.7	27.3
Max Allow Headway (MAH), s	3.8	4.8	3.8	5.1	3.8	4.8	3.8	4.8
Max Q Clear (g_c+l1), s	5.1	12.6	4.5	20.7	8.0	5.6	5.6	20.2
Green Ext Time (g_e), s	0.0	1.9	0.0	2.1	0.0	0.8	0.0	2.4
Prob of Phs Call (p_c)	0.90	1.00	0.84	1.00	1.00	1.00	0.93	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.61	1.00	0.00	1.00	0.64

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1839		1821	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1912		1912		1950		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1657		1657		1594		1625

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	108	0	89	0	267	0	127	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1839	0	1821	0
Q Serve Time (g_s), s	3.1	0.0	2.5	0.0	6.0	0.0	3.6	0.0
Cycle Q Clear Time (g_c), s	3.1	0.0	2.5	0.0	6.0	0.0	3.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	894	0	813	0	1186	0	714	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	21.5	0.0	22.5	0.0	21.5	0.0	22.5	0.0
Perm LT Serve Time (g_u), s	12.4	0.0	4.7	0.0	17.9	0.0	4.4	0.0
Perm LT Q Serve Time (g_ps), s	1.3	0.0	2.2	0.0	4.7	0.0	3.9	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	353	0	239	0	524	0	251	0
V/C Ratio (X)	0.31	0.00	0.37	0.00	0.51	0.00	0.51	0.00
Avail Cap (c_a), veh/h	354	0	244	0	524	0	251	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.7	0.0	19.1	0.0	18.7	0.0	19.1	0.0
Incr Delay (d2), s/veh	0.5	0.0	1.0	0.0	0.8	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.2	0.0	20.0	0.0	19.6	0.0	20.8	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	1.2	0.0	1.5	0.0	1.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.3	0.0	1.6	0.0	1.9	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.13	0.00	0.24	0.00	0.36	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	321	0	507	0	124	0	490
Grp Sat Flow (s), veh/h/ln	0	1912	0	1912	0	1950	0	1912
Q Serve Time (g_s), s	0.0	10.6	0.0	18.7	0.0	3.6	0.0	18.2
Cycle Q Clear Time (g_c), s	0.0	10.6	0.0	18.7	0.0	3.6	0.0	18.2
Lane Grp Cap (c), veh/h	0	583	0	595	0	557	0	573
V/C Ratio (X)	0.00	0.55	0.00	0.85	0.00	0.22	0.00	0.86
Avail Cap (c_a), veh/h	0	583	0	711	0	557	0	694
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.9	0.0	24.3	0.0	20.5	0.0	24.8
Incr Delay (d2), s/veh	0.0	3.7	0.0	8.5	0.0	0.9	0.0	8.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.6	0.0	32.7	0.0	21.4	0.0	33.7
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	9.9	0.0	2.0	0.0	9.5

2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	1.4	0.0	0.1	0.0	1.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.1	0.0	11.3	0.0	2.1	0.0	10.9
%ile Storage Ratio (RQ%)	0.00	4.58	0.00	1.01	0.00	0.11	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	179	0	96	0	79	0	253
Grp Sat Flow (s), veh/h/ln	0	1657	0	1657	0	1594	0	1625
Q Serve Time (g_s), s	0.0	6.3	0.0	3.2	0.0	2.8	0.0	9.7
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	3.2	0.0	2.8	0.0	9.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	505	0	516	0	455	0	487
V/C Ratio (X)	0.00	0.35	0.00	0.19	0.00	0.17	0.00	0.52
Avail Cap (c_a), veh/h	0	505	0	617	0	455	0	590
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.4	0.0	18.9	0.0	20.2	0.0	21.9
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.2	0.0	0.8	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.3	0.0	19.1	0.0	21.0	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	1.5	0.0	1.2	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	1.5	0.0	1.3	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	0.53	0.00	0.21	0.00	0.07	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

APPENDIX H
SYNCHRO PRINTOUTS- 2020 PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	531	148	101	484	123	131	156	113	212	326	197
Future Volume (veh/h)	61	531	148	101	484	123	131	156	113	212	326	197
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1912	1920	1950	1912	1912	1912	1931	1912	1950	1912	1950	1875
Adj Flow Rate, veh/h	66	577	161	110	526	134	142	170	123	230	354	214
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	1	2	0	2	0	4
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	320	612	171	203	837	711	244	411	356	375	463	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.42	0.42	0.05	0.44	0.44	0.06	0.21	0.21	0.08	0.24	0.24
Ln Grp Delay, s/veh	15.6	0.0	43.3	23.4	20.8	15.4	30.9	33.0	32.1	30.0	42.8	35.7
Ln Grp LOS	B		D	C	C	B	C	C	C	C	D	D
Approach Vol, veh/h		804			770			435			798	
Approach Delay, s/veh		41.0			20.2			32.0			37.2	
Approach LOS		D			C			C			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	24.0	10.0	42.4	10.0	26.0	8.7	43.7
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0	5.0	5.0	5.5	5.0
Max Green (Gmax), s	7.0	19.0	4.5	39.0	5.0	21.0	5.1	38.4
Max Allow Headway (MAH), s	3.8	4.7	3.8	5.3	3.8	4.8	3.8	5.0
Max Q Clear (g_c+I1), s	9.0	8.8	5.0	35.9	7.0	16.9	3.8	20.9
Green Ext Time (g_e), s	0.0	0.9	0.0	1.5	0.0	1.1	0.0	3.7
Prob of Phs Call (p_c)	1.00	1.00	0.93	1.00	0.97	1.00	0.80	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.08

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1839		1821	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1912		1445		1950		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1657		403		1594		1625

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	230	0	110	0	142	0	66	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1839	0	1821	0
Q Serve Time (g_s), s	7.0	0.0	3.0	0.0	5.0	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	7.0	0.0	3.0	0.0	5.0	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1082	0	717	0	848	0	771	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.0	0.0	37.4	0.0	19.0	0.0	37.4	0.0
Perm LT Serve Time (g_u), s	12.2	0.0	3.5	0.0	6.1	0.0	19.8	0.0
Perm LT Q Serve Time (g_ps), s	5.6	0.0	3.5	0.0	3.5	0.0	1.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	375	0	203	0	244	0	320	0
V/C Ratio (X)	0.61	0.00	0.54	0.00	0.58	0.00	0.21	0.00
Avail Cap (c_a), veh/h	375	0	203	0	244	0	359	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	27.0	0.0	20.5	0.0	27.4	0.0	15.3	0.0
Incr Delay (d2), s/veh	2.9	0.0	2.9	0.0	3.5	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.0	0.0	23.4	0.0	30.9	0.0	15.6	0.0
1st-Term Q (Q1), veh/ln	4.3	0.0	1.5	0.0	2.6	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.2	0.0	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.6	0.0	1.6	0.0	2.9	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.52	0.00	0.17	0.00	0.41	0.00	0.17	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	170	0	0	0	354	0	526
Grp Sat Flow (s), veh/h/ln	0	1912	0	0	0	1950	0	1912
Q Serve Time (g_s), s	0.0	6.8	0.0	0.0	0.0	14.9	0.0	18.9
Cycle Q Clear Time (g_c), s	0.0	6.8	0.0	0.0	0.0	14.9	0.0	18.9
Lane Grp Cap (c), veh/h	0	411	0	0	0	463	0	837
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.76	0.00	0.63
Avail Cap (c_a), veh/h	0	411	0	0	0	463	0	837
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.9	0.0	0.0	0.0	31.4	0.0	19.3
Incr Delay (d2), s/veh	0.0	3.1	0.0	0.0	0.0	11.4	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.0	0.0	0.0	0.0	42.8	0.0	20.8
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.0	0.0	8.1	0.0	9.9

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	1.5	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	0.0	0.0	9.5	0.0	10.3
%ile Storage Ratio (RQ%)	0.00	2.13	0.00	0.00	0.00	0.50	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	123	0	738	0	214	0	134
Grp Sat Flow (s), veh/h/ln	0	1657	0	1849	0	1594	0	1625
Q Serve Time (g_s), s	0.0	5.6	0.0	33.9	0.0	10.5	0.0	4.5
Cycle Q Clear Time (g_c), s	0.0	5.6	0.0	33.9	0.0	10.5	0.0	4.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.22	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	356	0	782	0	379	0	711
V/C Ratio (X)	0.00	0.35	0.00	0.94	0.00	0.57	0.00	0.19
Avail Cap (c_a), veh/h	0	356	0	816	0	379	0	711
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.4	0.0	24.5	0.0	29.7	0.0	15.2
Incr Delay (d2), s/veh	0.0	2.6	0.0	18.8	0.0	6.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.1	0.0	43.3	0.0	35.7	0.0	15.4
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	17.2	0.0	4.6	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	4.1	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	21.3	0.0	5.2	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.40	0.00	1.92	0.00	0.28	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	511	222	187	416	155	162	547	235	125	499	106
Future Volume (veh/h)	125	511	222	187	416	155	162	547	235	125	499	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1950	1912	1893	1912	1912	1931	1893	1912	1857	1912	1931	1912
Adj Flow Rate, veh/h	136	555	241	203	452	168	176	595	255	136	542	115
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
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
Percent Heavy Veh, %	0	2	3	2	2	1	3	2	5	2	1	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	364	654	550	319	705	606	314	801	348	282	761	337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.34	0.34	0.10	0.37	0.37	0.09	0.22	0.22	0.08	0.21	0.21
Ln Grp Delay, s/veh	16.2	29.6	19.9	21.0	20.8	17.1	23.9	29.7	31.8	23.2	29.6	26.3
Ln Grp LOS	B	C	B	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		932			823			1026			793	
Approach Delay, s/veh		25.2			20.1			29.2			28.0	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	11.0	21.8	12.3	31.0	12.0	20.8	10.2	33.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green (Gmax), s	6.0	22.0	8.0	34.0	7.0	21.0	6.0	36.0
Max Allow Headway (MAH), s	3.8	4.9	3.8	4.9	3.8	5.0	3.8	4.9
Max Q Clear (g_c+I1), s	6.4	13.6	7.4	22.5	7.8	12.5	5.5	16.9
Green Ext Time (g_e), s	0.0	3.2	0.0	3.5	0.0	2.6	0.0	3.3
Prob of Phs Call (p_c)	0.94	1.00	0.99	1.00	0.98	1.00	0.94	1.00
Prob of Max Out (p_x)	1.00	0.54	1.00	0.32	1.00	0.45	1.00	0.04

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1803		1857	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3632		1912		3668		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1579		1609		1625		1641

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	136	0	203	0	176	0	136	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1803	0	1857	0
Q Serve Time (g_s), s	4.4	0.0	5.4	0.0	5.8	0.0	3.5	0.0
Cycle Q Clear Time (g_c), s	4.4	0.0	5.4	0.0	5.8	0.0	3.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	646	0	679	0	766	0	816	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.8	0.0	26.0	0.0	15.8	0.0	26.0	0.0
Perm LT Serve Time (g_u), s	5.2	0.0	5.5	0.0	5.3	0.0	13.2	0.0
Perm LT Q Serve Time (g_ps), s	2.8	0.0	5.5	0.0	3.1	0.0	2.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	282	0	319	0	314	0	364	0
V/C Ratio (X)	0.48	0.00	0.64	0.00	0.56	0.00	0.37	0.00
Avail Cap (c_a), veh/h	282	0	335	0	314	0	383	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.9	0.0	17.3	0.0	21.6	0.0	15.6	0.0
Incr Delay (d2), s/veh	1.3	0.0	3.7	0.0	2.2	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.2	0.0	21.0	0.0	23.9	0.0	16.2	0.0
1st-Term Q (Q1), veh/ln	2.2	0.0	2.7	0.0	2.8	0.0	1.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.3	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	3.0	0.0	3.0	0.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.39	0.00	0.43	0.00	0.52	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	595	0	555	0	542	0	452
Grp Sat Flow (s), veh/h/ln	0	1816	0	1912	0	1834	0	1912
Q Serve Time (g_s), s	0.0	11.6	0.0	20.5	0.0	10.5	0.0	14.9
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	20.5	0.0	10.5	0.0	14.9
Lane Grp Cap (c), veh/h	0	801	0	654	0	761	0	705
V/C Ratio (X)	0.00	0.74	0.00	0.85	0.00	0.71	0.00	0.64
Avail Cap (c_a), veh/h	0	1050	0	854	0	1012	0	904
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.7	0.0	23.2	0.0	28.1	0.0	19.9
Incr Delay (d2), s/veh	0.0	2.0	0.0	6.4	0.0	1.6	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.7	0.0	29.6	0.0	29.6	0.0	20.8
1st-Term Q (Q1), veh/ln	0.0	5.8	0.0	10.8	0.0	5.3	0.0	7.8

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.2	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.0	0.0	12.0	0.0	5.4	0.0	8.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.33	0.00	0.35	0.00	0.64
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	255	0	241	0	115	0	168
Grp Sat Flow (s), veh/h/ln	0	1579	0	1609	0	1625	0	1641
Q Serve Time (g_s), s	0.0	11.4	0.0	8.8	0.0	4.6	0.0	5.5
Cycle Q Clear Time (g_c), s	0.0	11.4	0.0	8.8	0.0	4.6	0.0	5.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	348	0	550	0	337	0	606
V/C Ratio (X)	0.00	0.73	0.00	0.44	0.00	0.34	0.00	0.28
Avail Cap (c_a), veh/h	0	456	0	719	0	448	0	776
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.6	0.0	19.4	0.0	25.7	0.0	16.9
Incr Delay (d2), s/veh	0.0	4.2	0.0	0.5	0.0	0.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.8	0.0	19.9	0.0	26.3	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	3.9	0.0	2.1	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.4	0.0	4.0	0.0	2.1	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.93	0.00	0.58	0.00	0.36	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Vol, veh/h	3	23	41	18	3	32	4	8	3	0
Future Vol, veh/h	3	23	41	18	3	32	4	8	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0	-	-	0	-
Grade, %	0	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	3	4	0	0	0	0	0	0	0
Mvmt Flow	3	25	45	20	3	35	4	9	3	0

Major/Minor	Minor2		Minor1		Major1			Major2		
Conflicting Flow All	97	3	77	37	3	0	0	39	0	0
Stage 1	21	-	43	-	-	-	-	-	-	-
Stage 2	76	-	34	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.2	7.1	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	-	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	3.5	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	890	1087	917	1041	1632	-	-	1584	-	-
Stage 1	1003	-	976	-	-	-	-	-	-	-
Stage 2	938	-	987	-	-	-	-	-	-	-
Platoon blocked, %						-	-		-	-
Mov Cap-1 Maneuver	832	1087	889	1041	1632	-	-	1584	-	-
Mov Cap-2 Maneuver	832	-	889	-	-	-	-	-	-	-
Stage 1	1001	-	974	-	-	-	-	-	-	-
Stage 2	871	-	952	-	-	-	-	-	-	-

Approach	EB	NW	NE	SW
HCM Control Delay, s	9.1	9.5	0.6	5.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	EBLn1	SWL	SWT	SWR
Capacity (veh/h)	1632	-	-	876	884	1584	-	-
HCM Lane V/C Ratio	0.002	-	-	0.088	0.005	0.005	-	-
HCM Control Delay (s)	7.2	0	-	9.5	9.1	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	23	7	6	51	6	8	56	6	2	99	10
Future Vol, veh/h	3	23	7	6	51	6	8	56	6	2	99	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	14	0	0	0	0	0	0	0	3	14
Mvmt Flow	3	25	8	7	55	7	9	61	7	2	108	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	194	204	60	154	206	34	119	0	0	68	0	0
Stage 1	118	118	-	83	83	-	-	-	-	-	-	-
Stage 2	76	86	-	71	123	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.18	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.44	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	753	696	955	804	694	1038	1482	-	-	1546	-	-
Stage 1	880	802	-	922	830	-	-	-	-	-	-	-
Stage 2	930	827	-	936	798	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	699	691	955	772	689	1038	1482	-	-	1546	-	-
Mov Cap-2 Maneuver	699	691	-	772	689	-	-	-	-	-	-	-
Stage 1	875	801	-	916	825	-	-	-	-	-	-	-
Stage 2	857	822	-	899	797	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	10.1	10.5	0.9	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1482	-	-	719	735	1546	-	-
HCM Lane V/C Ratio	0.006	-	-	0.095	0.049	0.001	-	-
HCM Control Delay (s)	7.4	0	-	10.5	10.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	2	4	0	0	2	5	313	2	29	473	105
Future Vol, veh/h	51	2	4	0	0	2	5	313	2	29	473	105
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	175	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	0	0	2	0	2	0	2	2	2
Mvmt Flow	55	2	4	0	0	2	5	340	2	32	514	114

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	930	930	514	989	1043	341	628	0	0	342	0	0
Stage 1	578	578	-	351	351	-	-	-	-	-	-	-
Stage 2	352	352	-	638	692	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.2	7.1	6.5	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.3	3.5	4	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	248	269	564	228	231	701	964	-	-	1217	-	-
Stage 1	501	504	-	670	636	-	-	-	-	-	-	-
Stage 2	665	635	-	468	448	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	241	260	564	219	224	701	964	-	-	1217	-	-
Mov Cap-2 Maneuver	241	260	-	219	224	-	-	-	-	-	-	-
Stage 1	498	491	-	666	632	-	-	-	-	-	-	-
Stage 2	659	631	-	450	436	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.5	10.2	0.1	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	964	-	-	241	457	-	701	1217	-	-
HCM Lane V/C Ratio	0.006	-	-	0.235	0.012	-	0.003	0.026	-	-
HCM Control Delay (s)	8.8	0	-	24.5	13	0	10.2	8	-	-
HCM Lane LOS	A	A	-	C	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0	-	0	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑			↑		↗
Traffic Vol, veh/h	714	0	0	744	0	45
Future Vol, veh/h	714	0	0	744	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	776	0	0	809	0	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	776
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-	0	401
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	401
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	EBT	WBT
Capacity (veh/h)	401	-	-
HCM Lane V/C Ratio	0.122	-	-
HCM Control Delay (s)	15.2	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.4	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	672	666	78	42	85
Future Vol, veh/h	43	672	666	78	42	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	150	35	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	4	0	4
Mvmt Flow	47	730	724	85	46	92

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	809	0	-	0	1548	724
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	824	-
Critical Hdwy	4.11	-	-	-	6.4	6.24
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.336
Pot Cap-1 Maneuver	821	-	-	-	127	422
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	434	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	821	-	-	-	120	422
Mov Cap-2 Maneuver	-	-	-	-	120	-
Stage 1	-	-	-	-	456	-
Stage 2	-	-	-	-	434	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	821	-	-	-	120	422
HCM Lane V/C Ratio	0.057	-	-	-	0.38	0.219
HCM Control Delay (s)	9.6	-	-	-	52.3	15.9
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.6	0.8

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	44	0	400	563	18
Future Vol, veh/h	0	44	0	400	563	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	48	0	435	612	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	316	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	580	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	580	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	580	-	-
HCM Lane V/C Ratio	-	0.082	-	-
HCM Control Delay (s)	-	11.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	531	148	101	484	123	131	156	113	212	326	197
Future Volume (veh/h)	61	531	148	101	484	123	131	156	113	212	326	197
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1912	1912	1950	1912	1912	1912	1931	1912	1950	1912	1950	1875
Adj Flow Rate, veh/h	66	577	161	110	526	134	142	170	123	230	354	214
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	2	2	0	2	2	2	1	2	0	2	0	4
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	244	657	569	227	688	585	326	502	435	466	559	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.34	0.34	0.05	0.36	0.36	0.07	0.26	0.26	0.10	0.29	0.29
Ln Grp Delay, s/veh	19.6	35.4	20.3	21.8	27.4	18.9	21.9	26.8	26.2	20.8	31.5	28.1
Ln Grp LOS	B	D	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		804			770			435			798	
Approach Delay, s/veh		31.1			25.1			25.1			27.5	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phs Duration (G+Y+Rc), s	13.0	27.0	10.0	33.8	11.0	29.0	8.6	35.1
Change Period (Y+Rc), s	5.0	5.0	5.5	5.0	5.0	5.0	5.5	5.0
Max Green (Gmax), s	8.0	22.0	4.5	35.0	6.0	24.0	4.0	35.5
Max Allow Headway (MAH), s	3.8	4.7	3.8	5.0	3.8	4.8	3.8	5.0
Max Q Clear (g_c+I1), s	9.8	8.0	5.2	25.8	6.7	15.3	4.0	22.4
Green Ext Time (g_e), s	0.0	1.1	0.0	3.0	0.0	2.0	0.0	3.2
Prob of Phs Call (p_c)	1.00	1.00	0.92	1.00	0.96	1.00	0.78	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.47	1.00	0.00	1.00	0.19

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1821		1821		1839		1821	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1912		1912		1950		1912

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1657		1657		1594		1625

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	230	0	110	0	142	0	66	0
Grp Sat Flow (s), veh/h/ln	1821	0	1821	0	1839	0	1821	0
Q Serve Time (g_s), s	7.8	0.0	3.2	0.0	4.7	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	7.8	0.0	3.2	0.0	4.7	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1082	0	717	0	848	0	771	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	22.0	0.0	28.8	0.0	22.0	0.0	28.8	0.0
Perm LT Serve Time (g_u), s	16.0	0.0	5.0	0.0	10.7	0.0	9.8	0.0
Perm LT Q Serve Time (g_ps), s	1.6	0.0	4.3	0.0	2.3	0.0	1.8	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	466	0	227	0	326	0	244	0
V/C Ratio (X)	0.49	0.00	0.49	0.00	0.44	0.00	0.27	0.00
Avail Cap (c_a), veh/h	466	0	227	0	326	0	263	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.0	0.0	20.2	0.0	21.0	0.0	19.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	1.6	0.0	0.9	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.8	0.0	21.8	0.0	21.9	0.0	19.6	0.0
1st-Term Q (Q1), veh/ln	3.8	0.0	1.6	0.0	2.3	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.9	0.0	1.7	0.0	2.4	0.0	1.0	0.0
%ile Storage Ratio (RQ%)	0.44	0.00	0.17	0.00	1.79	0.00	0.19	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	170	0	577	0	354	0	526
Grp Sat Flow (s), veh/h/ln	0	1912	0	1912	0	1950	0	1912
Q Serve Time (g_s), s	0.0	6.0	0.0	23.8	0.0	13.3	0.0	20.4
Cycle Q Clear Time (g_c), s	0.0	6.0	0.0	23.8	0.0	13.3	0.0	20.4
Lane Grp Cap (c), veh/h	0	502	0	657	0	559	0	688
V/C Ratio (X)	0.00	0.34	0.00	0.88	0.00	0.63	0.00	0.76
Avail Cap (c_a), veh/h	0	502	0	799	0	559	0	810
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.0	0.0	25.9	0.0	26.1	0.0	23.7
Incr Delay (d2), s/veh	0.0	1.8	0.0	9.5	0.0	5.4	0.0	3.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.8	0.0	35.4	0.0	31.5	0.0	27.4
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	12.5	0.0	7.1	0.0	10.7

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.7	0.0	0.8	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	14.2	0.0	7.9	0.0	11.4
%ile Storage Ratio (RQ%)	0.00	2.55	0.00	1.27	0.00	0.41	0.00	0.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	123	0	161	0	214	0	134
Grp Sat Flow (s), veh/h/ln	0	1657	0	1657	0	1594	0	1625
Q Serve Time (g_s), s	0.0	5.0	0.0	5.9	0.0	9.3	0.0	4.8
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	5.9	0.0	9.3	0.0	4.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	435	0	569	0	457	0	585
V/C Ratio (X)	0.00	0.28	0.00	0.28	0.00	0.47	0.00	0.23
Avail Cap (c_a), veh/h	0	435	0	692	0	457	0	689
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.6	0.0	20.0	0.0	24.6	0.0	18.7
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.3	0.0	3.4	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.2	0.0	20.3	0.0	28.1	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	2.7	0.0	4.1	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	2.7	0.0	4.5	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	1.80	0.00	0.39	0.00	0.24	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

APPENDIX I
EXISTING TRAFFIC SIGNAL TIMINGS

BROWARD COUNTY TRAFFIC ENGINEERING

ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	3150	**Initial Operation Date**	UNKNOWN
Controller Type	2070 LN	**System Number**	
Modification Number	8	**Modification Date**	06/10/2015
Drawing/Project No	661 - DG 3	**FPL Grid Number**	87472095100
Intersection	JOHNSON STREET and N PARK ROAD		
Municipality	HOLLYWOOD		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	4	10	4	6	4	10	4	6
Vehicle Ext.(GAP)	1.5	3.0	1.5	2.0	1.5	3.0	1.5	2.0
Maximum Green I	20	45	20	40	20	45	20	40
Maximum Green II								
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All Red Clearance		1.0		1.0		1.0		1.0
Phase Recall	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
Detector Delay			5				5	
Walk		7+A		7+A		7+A		7+A
Pedestrian Clearance		29		17		29		17
Permissive	5 SECT		5 SECT		5 SECT		5 SECT	
Flash Operation		YELLOW		RED		YELLOW		RED

Attachment

NOTES:

1. ANTI-BACKDOWN EAST/WEST: PHASES 2+6 ON--->OMIT PHASES 1+5.
2. FLASH OPERATION: 0000-0600, 7 DAYS.
3. AUDIBLE PEDESTRIAN SIGNALS: E/W BEEP, N/S TONE.
4. MOD. 8 DEPLOYS SIGNAL ONTO ATMS.NOW.

Submitted By _____ **Approved By** _____

Station : 3150 - Johnson St & Park Rd (Standard File)

Phase	1 (EL)	2 (WT)	3 (SL)	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7		7		7		7								
Ped Clearance		29		17		29		17								
Min Green	4	10	4	6	4	10	4	6								
Gap Ext	1.5	3	1.5	2	1.5	3	1.5	2								
Max1	20	45	20	40	20	45	20	40								
Max2																
Yellow Clr	4	4	4	4	4	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	1	1	1	1	1	1	1	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call									ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash	ON	ON	ON	ON	ON	ON
Override Higher Preempt	ON	ON	ON	ON	ON	ON
Flash in Dwell	ON	ON	ON	ON	ON	ON
Link to Preempt						
Delay						
Min Duration						
Min Green						
Min Walk						
Ped Clear						
Track Green						
Min Dwell						
Max Presence						
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1						
Dwell Cyc Veh 2						
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1						
Exit 2						
Exit 3						
Exit 4						

Prepared By	Date Implemented

Reviewed By	Traffic Engineer

Broward County Timing Sheet 7/10/2018 3:07:40 PM

Station : 3150 - Johnson St & Park Rd (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
		25	255																							
6		100	254																							
Day Plan 2											**Easy**															
		25	255																							
6		100	254																							

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 3											**Easy**															
		25	255																							
6		100	254																							

Station : 3150 - Johnson St & Park Rd (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											**Easy**															

Scheduler

	Month												Day of Week							Day of Month										1										2										3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4	1													1	1	1	1	1		1																															2
5	1													1							1																															2
6					1									1																																1	1	1	1	1	1	1	2
7							1											1				1																														1
8							1							1	1	1	1	1					1																													1
9							1							1										1																												2
10									1					1						1	1	1	1	1	1	1																										2
11											1						1																										1	1	1	1	1	1	1				2
12											1							1																											1	1	1	1	1	1	1	2
13												1						1																												1						2
14												1		1	1	1	1	1																												1					2
15												1		1																																	1				2
16												1		1																																				1	2
17																																																			1

| | | |

BROWARD COUNTY TRAFFIC ENGINEERING

ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	3151	**Initial Operation Date**	UNKNOWN
Controller Type	2070	**System Number**	
Modification Number	7	**Modification Date**	06/10/2015
Drawing/Project No	06-5705 & 06-5705.19	**FPL Grid Number**	87372935304
Intersection	JOHNSON STREET and N 35 AVENUE		
Municipality	HOLLYWOOD		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	4	12	4	6	4	12	4	6
Vehicle Ext.(GAP)	1.5	3.0	1.5	2.0	1.5	3.0	1.5	2.0
Maximum Green I	15	40	15	35	15	40	15	35
Maximum Green II								
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All Red Clearance	1.5	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Phase Recall	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
Detector Delay			5				5	
Walk		7+A		7+A		7+A		7+A
Pedestrian Clearance		18		18		18		20
Permissive	YES		YES		YES		YES	
Flash Operation		YELLOW		RED		YELLOW		RED

Attachment

NOTES:

1. ANTI-BACKDOWN EAST/WEST: PHASES 2+6 ON--->OMIT PHASES 1+5.
2. DUAL ENTRY HARDWIRED NORTH/SOUTH.
3. AUDIBLE PEDESTRIAN SIGNALS: E/W BEEP, N/S TONE.
4. MOD. 7 DEPLOYS SIGNAL ONTO ATMS.NOW.

Submitted By _____ **Approved By** _____

Station : 3151 - Johnson St & N 35 Ave (Standard File)

Phase	1 (EL)	2 (WT)	3 (SL)	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7		7		7		7								
Ped Clearance		18		18		18		20								
Min Green	4	12	4	6	4	12	4	6								
Gap Ext	1.5	3	1.5	2	1.5	3	1.5	2								
Max1	15	40	15	35	15	40	15	35								
Max2																
Yellow Clr	4	4	4	4	4	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	1.5	1	1	1	1.5	1	1	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call									ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry																
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash						
Override Higher Preempt						
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green				1		1
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1				9		9
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1	4	2	3	2	4	1
Dwell Cyc Veh 2	8	6	8	5	7	6
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	1	3	4	2	4	2
Exit 2	5	7	8	6	8	6
Exit 3						
Exit 4						

Prepared By	Date Implemented

Reviewed By	Traffic Engineer

Station : 3151 - Johnson St & N 35 Ave (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
		100	254																							
Day Plan 2											**Easy**															
		100	254																							

Day Plan 3											Easy															
		100	254																							

Station : 3151 - Johnson St & N 35 Ave (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											**Easy**															

Scheduler

	Month												Day of Week							Day of Month										1										2										3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4	1													1	1	1	1	1		1																																2
5	1													1							1																																2
6					1									1																																1	1	1	1	1	1	1	2
7							1											1				1																														1
8							1							1	1	1	1	1					1																													1
9							1							1										1																												2
10									1					1						1	1	1	1	1	1	1																										2
11											1						1																											1	1	1	1	1	1	1			2
12											1							1																												1	1	1	1	1	1	1	2
13												1						1																													1						2
14												1		1	1	1	1	1																														1					2
15												1		1																																			1				2
16												1		1																																						1	2
17																																																				1

| | | |

APPENDIX J
ITE TRIP GENERATION

Clinic
(630)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

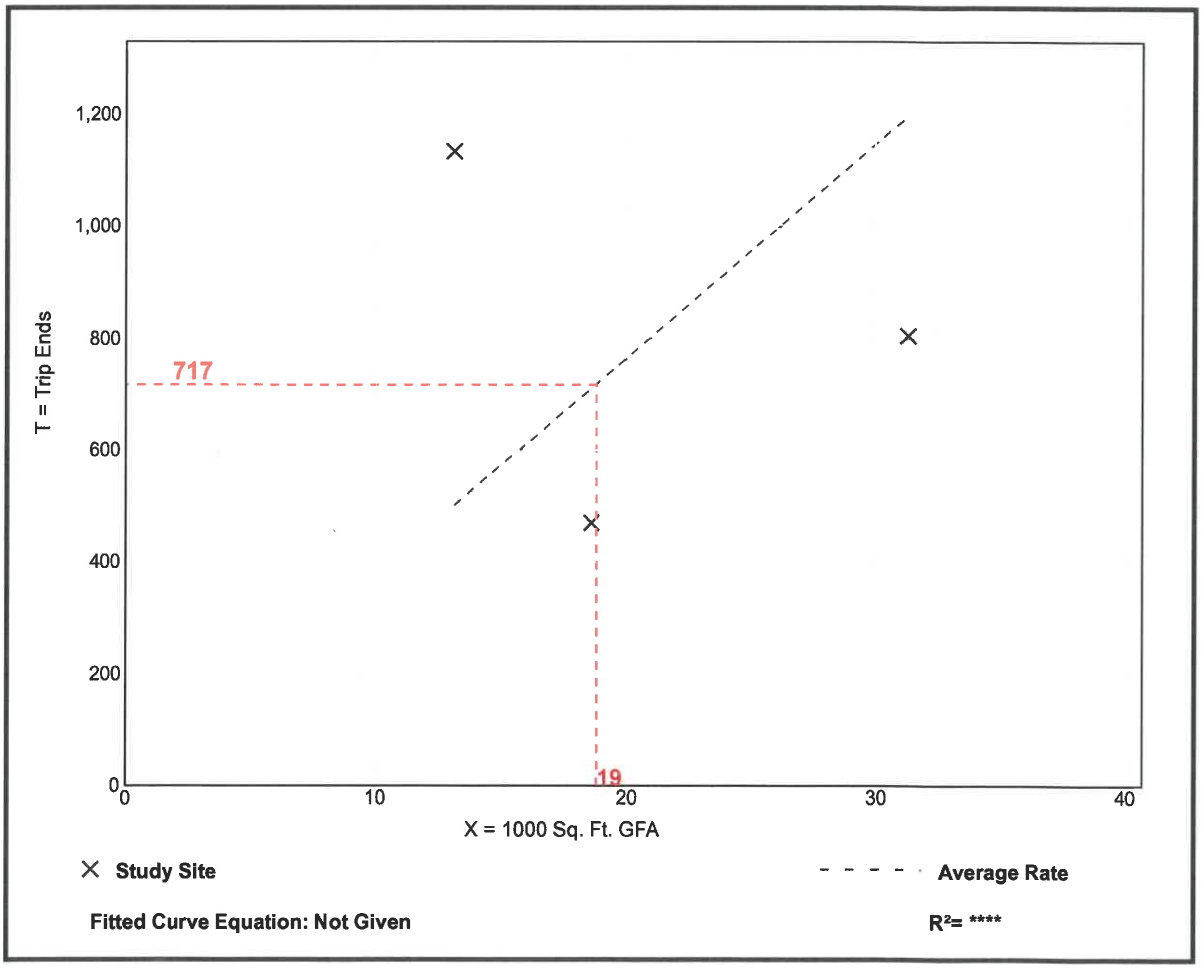
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
38.16	25.25 - 86.21	30.18

Data Plot and Equation

Caution – Small Sample Size



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Clinic
(630)

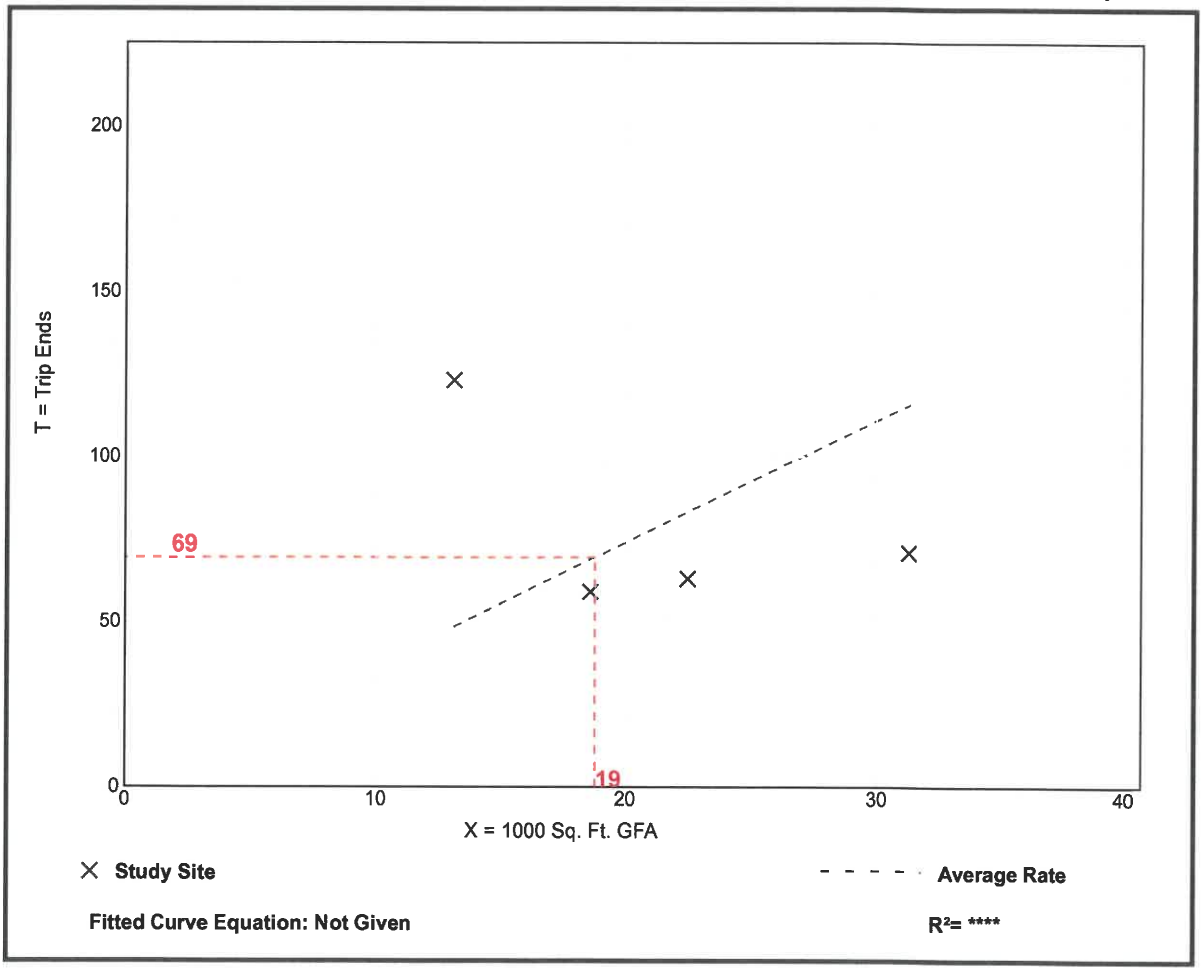
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 21
Directional Distribution: 78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.69	2.27 - 9.36	2.82

Data Plot and Equation

Caution – Small Sample Size



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Clinic
(630)

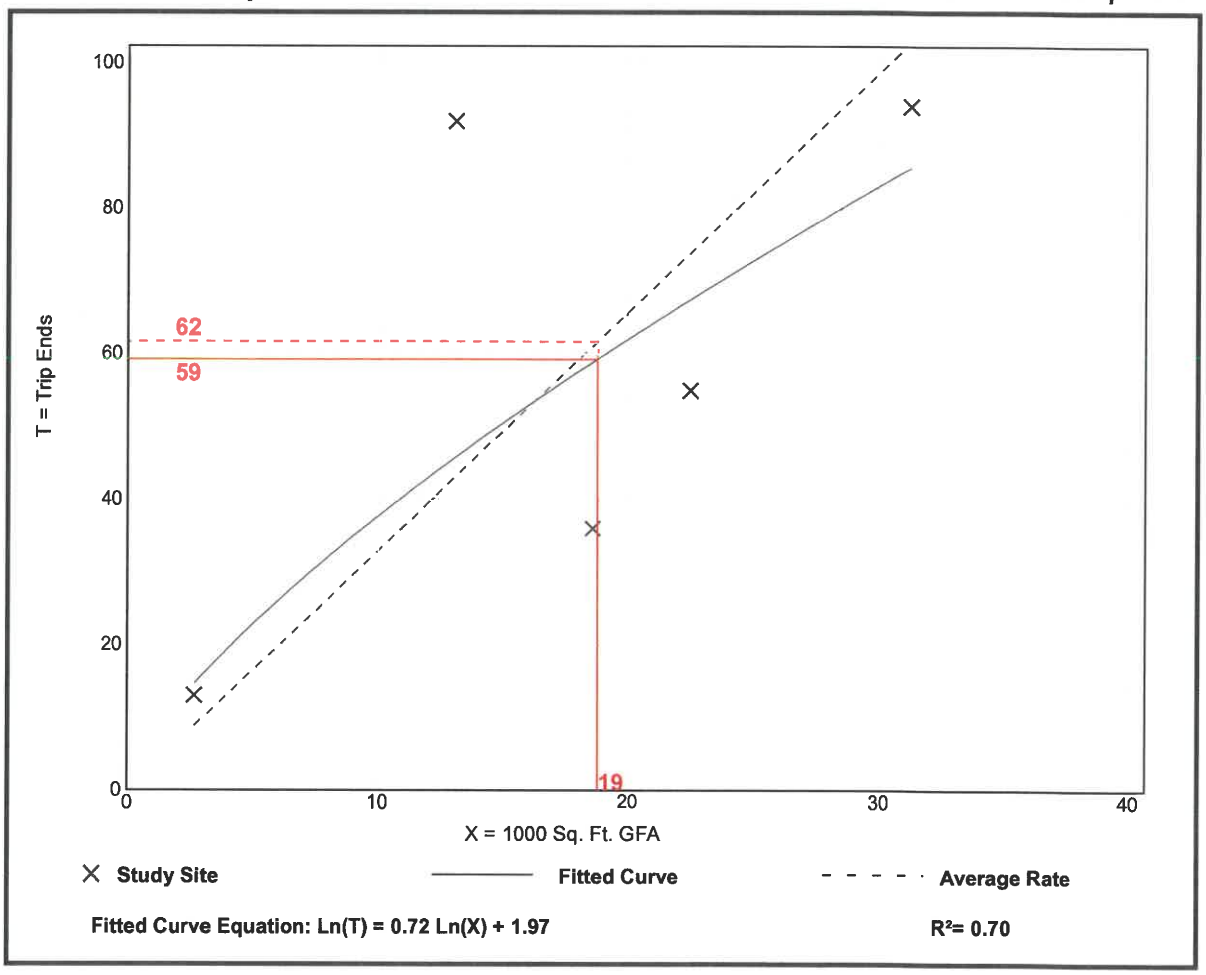
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 18
Directional Distribution: 29% entering, 71% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.28	1.93 - 7.00	1.84

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Ln(T) = 0.72 Ln(X) + 1.97

R^2= 0.70

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Land Use: 630
Clinic

Description

A clinic is any facility that provides limited diagnostic and outpatient care but is unable to provide prolonged in-house medical and surgical care. Clinics commonly have lab facilities, supporting pharmacies, and a wide range of services (compared to the medical office, which may only have specialized or individual physicians). Hospital (Land Use 610), free-standing emergency room (Land Use 650), and medical-dental office building (Land Use 720) are related uses.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the three general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 10:30 and 11:30 a.m. and 3:30 and 4:30 p.m., respectively.

The average numbers of person trips per vehicle trip at the five general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.40 during Weekday, AM Peak Hour of Generator
- 1.69 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.52 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, New Hampshire, Texas, and Vermont.

Source Numbers

440, 734, 878, 926, 972

APPENDIX J

JOE DiMAGGIO CHILDREN'S HOSPITAL EXPANSION TRAFFIC IMPACT ANALYSIS BY CALVIN, GIORDANO & ASSOCIATES

NOVEMBER 2017

MEMORIAL REGIONAL HOSPITAL MASTER PLAN TRAFFIC STUDY UPDATE

JOE DIMAGGIO CHILDREN'S HOSPITAL EXPANSION

CGA NO. 16-8785

Prepared for:

Memorial Healthcare System

Prepared by:

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS™

NOVEMBER 2017

Memorial Healthcare System

PROFESSIONAL ENGINEER CERTIFICATE

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Calvin, Giordano & Associates, Inc., a corporation authorized to operate as an engineering business, EB 00006500, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice hereby for:

PROJECT: Memorial Hospital Master Plan Traffic Study Update
Joe DiMaggio Children's Hospital Expansion

LOCATION: Hollywood, FL.

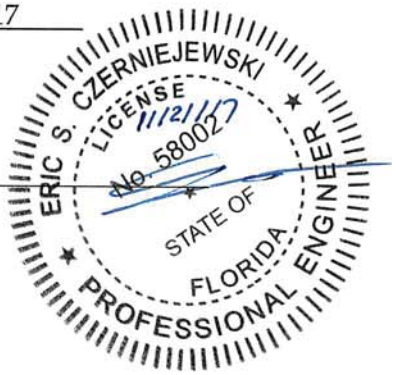
I acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

NAME: Eric S. Czerniejewski, P.E.

P.E. NO.: 58002

DATE: 11/21/17

SIGNATURE: _____



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EXECUTIVE SUMMARY

Calvin, Giordano & Associates, Inc. (CGA) was retained by Memorial Health Care System to complete a traffic study for the expansion of Joe DiMaggio Children's Hospital. The proposed expansion includes the original contemplated vertical expansion of the Joe DiMaggio Children's Hospital referenced in Phase 3 of the Memorial Regional Hospital Master Plan Phasing Plan. As referenced in the final interlocal agreement between the South Broward Hospital District and the City of Hollywood, this updated traffic study is being submitted for review as part of the site plan for the Children's Hospital Expansion. This traffic study will evaluate the existing conditions, the future conditions without the proposed project and the future traffic conditions at buildout of the proposed 156,000 SF Children's Hospital Expansion. The City of Hollywood approved the traffic study methodology memo as presented at the methodology meeting held on May 31, 2017 (as amended on 05/31/17). The report includes a comprehensive update of the transportation related improvements by phase (Revised 07/15/09) as referenced in the interlocal agreement. The Appendix of the updated traffic study provides confirmation of the improvements that have been completed to date. This includes any mitigation improvements that may have been modified as part of the 2009 Supplemental Traffic review prepared by the City/Hospital's traffic consultant.

The traffic generated by the additional beds from the proposed 156,000 SF vertical expansion of the Memorial Regional Joe DiMaggio Children's Hospital can be accommodated by the surrounding roadway network. The traffic operations at the subject intersections in the project study area all operate at acceptable level of service during the future conditions. This includes the committed trips for the previously approved but unbuilt development projects as well as the site generated trips for the 156,000 square foot hospital expansion. The results of the traffic analyses show that the additional 98 beds being requested as part of the Children's Hospital expansion result in an insignificant impact to the surrounding road network and the related main entrances to the hospital campus. The results of the analyses show that the site generated trips from the additional 98 beds increase delay (wait times at signalized intersections) between 0.2 and 8.1 seconds (between existing + committed scenario and future conditions), which is insignificant from a traffic engineering standpoint. There are no additional transportation related improvements recommended beyond the improvements proposed as part of the current Interlocal Agreement.

INTRODUCTION

Calvin, Giordano & Associates, Inc. (CGA) was retained by Memorial Health Care System to complete a traffic study for the expansion of Joe DiMaggio Children's Hospital. The proposed expansion includes the original contemplated vertical expansion of the Joe DiMaggio Children's Hospital referenced in Phase 3 of the Memorial Regional Hospital Master Plan Phasing Plan. As referenced in the final interlocal agreement between the South Broward Hospital District and the City of Hollywood, this updated traffic study is being submitted for review as part of the site plan for the 156,000 SF Children's Hospital Expansion. This traffic study will evaluate the existing conditions, the future conditions without the proposed project and the future traffic conditions at buildout of the proposed Children's Hospital Expansion. The City of Hollywood approved the traffic study methodology memo as presented at the methodology meeting held on May 31, 2017 (as amended on 05/31/17). The report includes a comprehensive update of the transportation related improvements by phase (Revised 07/15/09) as referenced in the interlocal agreement. The Appendix of the updated traffic study provides confirmation of the improvements that have been completed to date. This includes any mitigation improvements that may have been modified as part of the 2009 Supplemental Traffic review prepared by the City/Hospital's traffic consultant.

TRAFFIC DATA COLLECTION

Morning and Afternoon peak hour turning movement counts were collected on 06/01/17 at the following intersections:

- Hayes Street (Hospital Entrance) and 35th Avenue
- Johnson Street and Park Road
- Johnson Street and 46th Avenue
- Taft Street and 35th Avenue
- Taft Street and Park Road
- Hollywood Boulevard and 35th Avenue
- Garfield Street and 35th Avenue (Roundabout)
- Taft Street and 40th Avenue (Roundabout)
- Taft Street and 46th Avenue

Morning and Afternoon peak hour turning movement counts were collected between 09/26/17 and 09/28/17 at the following intersections:

- Johnson Street and Memorial Regional Hospital Parking Garage Driveway

Recent Morning and Afternoon peak hour turning movement counts collected on 12/08/2015 as part of the Memorial Regional Parking Garage traffic study, which will be used for the capacity analysis at the below intersections:

- Johnson Street and North 37th Avenue (Hospital Main Entrance)
- Johnson Street and 35th Avenue
- Johnson Street and 40th Avenue

Figure 1 depicts the location of each of these intersections within the study area. A copy of the manual turning movement counts for these intersections can be found in Appendix A.

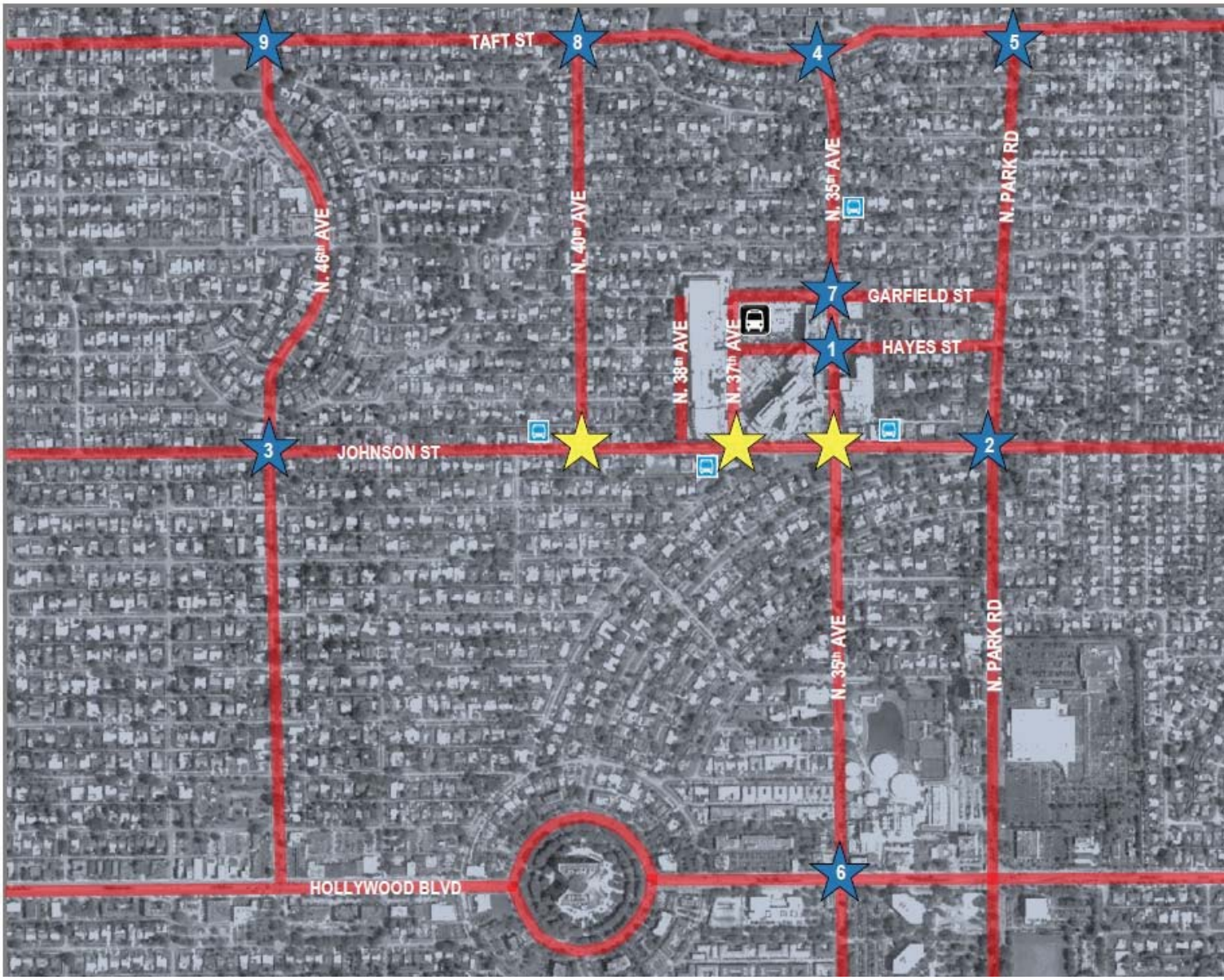


Figure 1 Traffic Data Collection

TRIP GENERATION

Trip generation will be based on information contained in the Institute of Transportation Engineer's (ITE), Trip Generation Manual, 9th Edition. Land Use Code 610 will be used for the future hospital expansion. The proposed hospital expansion as part of this site plan application includes increasing the total number of beds for the vertical expansion at Joe DiMaggio Children's hospital by 98. This proposed vertical building expansion of approximately 156,000 square feet will be completed in one construction phase. This project is listed as a Phase 3 project in the current Interlocal Agreement between the South Broward Hospital District and the City of Hollywood. The proposed site generated trips for this phase can be seen in Table 1.

Table 1 Trip Generation- Children's Hospital Expansion

Trip Generation Summary									
Land Use	ITE Code	Beds	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
Hospital- Childrens Hospital (Project*)	610	98	2,932	93	36	129	46	93	139
Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition)									
LUC 610: Weekday Trip Generation = 7.33(X) +2213.85 (Fitted Curve Equation)-ITE 9th Edition page 1205									
LUC 610: AM Peak Hour Trip Generation = 98 Beds x 1.32 (Avg. Rate)-ITE 9th Edition page 1206									
LUC 610: PM Peak Hour Trip Generation = 98 Beds x 1.42 (Avg. Rate)-ITE 9th Edition page 1207									

Please note that site generated trips for future development projects that have been approved but not built as referenced in Phases 1 or 2 of the Memorial Regional Hospital Master Plan Phasing Plan have been included in this traffic analysis. The committed trips from the approved but unbuilt development projects can be seen in Table 2. It should be noted that since the parking garage at Johnson Street has been completed and built out, the number of trips in and out of this driveway have been recently determined based on manual turning movement counts collected between 09/26/17 and 09/28/17. The site generated trips shown in table 2 are more conservative than the observed trips in and out of this driveway per the recently collected traffic data.

Table 2 Committed Trips- Approved but Unbuilt Development Projects

Trip Generation Summary									
Land Use	ITE Code	Unit	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
Hospital- Cancer Center (Project C)	610	60	793	36	21	57	21	35	56
Hospital- Surgical Suite Infill (Project F)	610	25	331	15	9	24	9	14	23
Hospital- Conference Center (Project H-1) *	N/A	---	---	10	5	15	10	5	15
Hospital- Central Energy Plant (Project C-1)	170	5	---	3	1	4	3	1	4
Parking Garage Additions (Projects H&K) **	N/A	---	---	407	149	556	122	472	594
Total Committed Trips				471	185	656	165	527	692
Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition)									
LUC 610: Weekday Trip Generation = KSF x 13.22 (Avg. Rate) ITE 9th Edition page 1196									
LUC 610: AM Peak Hour Trip Generation = KSF x 0.95 (Avg. Rate) ITE 9th Edition page 1197									
LUC 610: PM Peak Hour Trip Generation = KSF x 0.93 (Avg. Rate) ITE 9th Edition page 1198									
LUC 170: AM Peak Hour Trip Generation = Emps x 0.76 (Avg. Rate) ITE 9th Edition page 290									
LUC 170: PM Peak Hour Trip Generation = Emps x 0.76 (Avg. Rate) ITE 9th Edition page 290									
*Conference Center (Project H-1)- trips based on internal hospital use only. 15 AM and 15 PM peak hour trips assumed.									
**Parking Garage Addition- trips for two additional floors were based on adding 50% of existing volume for four existing floors.									
**Parking Garage Addition- trips based on 5 times the average trips per floor (existing garage). Ground floor trips based on trips observed at existing at-grade parking lot.									

Peak season correction factors have been applied to the traffic counts collected on 06/01/17 as well as the December 2015 counts. The peak season correction factors are 1.04 for the 06/01/17 traffic counts and 1.03 for the 12/08/15 traffic counts. A copy of the FDOT peak season correction factor report can be found in Appendix B.

Future traffic volumes were developed by applying a compound growth rate to the collected traffic data. The growth rate will be based on five years of FDOT historical data from the above referenced traffic count stations in the vicinity of the project. A compound growth rate of 0.5% will be used since the Average Historical Growth rate over the past five years was -0.5% as shown

Table 3 Historical Growth Rate & Trip Distribution

FDOT Count Station	Description	Daily Traffic	Percent of Total Area Traffic	Historical Growth Rate
93-7213	Johnson Street West of I-95 (East)	19,900	40%	2.4%
86-8023	Johnson Street East of 46th Ave (West)	11,500	23%	-1.8%
86-8215	Taft Street West of I-95 (North)	10,800	22%	-1.7%
86-9623	35th Avenue North of Hollywood Blvd (South)	7,100	14%	-1%
Total Area Traffic		49,300		-0.5

in Table 3. A buildout year of 2020 will be assumed so the existing traffic will have three years of 0.5% growth applied to the new traffic counts and five years of 0.5% growth applied to the 2015 traffic count locations. There are no anticipated approved but unbuilt development projects besides the previously approved master plan projects previously mentioned. This was confirmed by the City of Hollywood at the traffic study methodology meeting.

TRIP DISTRIBUTION AND ASSIGNMENT

Figure 2 also provided confirmation that the trip distribution and assignment originally contemplated in the initial master plan traffic study and the supplemental traffic review remains mostly the same. There is 33% of the traffic on the project study area road network is to and from the north along 35th Avenue. In addition, there is 20% of the traffic that is to and from the west on Johnson Street. There is also 47% of the traffic that is to and from the Southeast at the intersection of 35th Avenue and Johnson Street. Intersection volume worksheets have been provided in Appendix B which includes the trip distribution and assignment for the committed trips and the site generated trips for the Phase 3 Children's Hospital expansion.

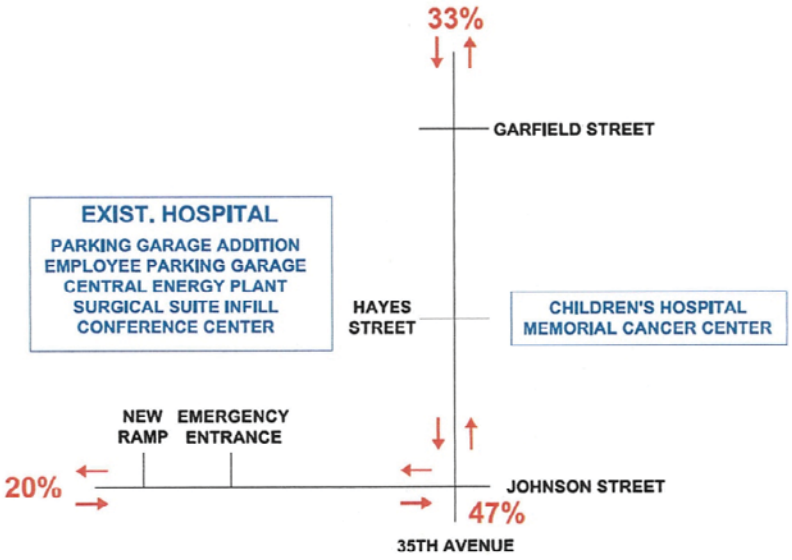


Figure 2 Trip Distribution & Assignment

EXISTING TRAFFIC CONDITIONS

Analysis of existing traffic conditions was performed for the AM and PM peak hour conditions at the identified intersections. Intersection levels of service were determined for the AM and PM peak period conditions using Synchro (version 9.1) based on the procedures of the Highway Capacity Manual (HCM) at all intersections within the study area. Level of Service (LOS) is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six (6) LOS are defined for each type of facility that has HCM analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions and the driver's perception of those conditions. Safety is not included in the measures that establish service levels.

A summary of the LOS for the existing conditions, the existing conditions plus the committed trips and the future conditions are shown in the below table 4. A copy of the Synchro Reports for each of the scenarios can be found in Appendix C.

Table 4 Intersection LOS Results

Intersection Level of Service- AM Peak (PM Peak)			
Intersection	Existing (2017)	Existing + Committed (2020)	Existing + Committed + Children's Hospital Expansion
Hayes Street (Hospital Entrance) and 35th Avenue	11.0 B (11.8 B)	13.1 B (15.7 B)	12.7 B (15.9 B)
Johnson Street and Park Road	28.0 C (18.0 B)	29.4 C (19.7 B)	29.7 C (20.5 C)
Johnson Street and 46th Avenue	12.2 B (12.5 B)	13.9 B (15.9 B)	14.3 B (16.0 B)
Taft Street and 35th Avenue	29.8 C (24.9 C)	41.3 D (25.9 C)	49.4 D (26.9 C)
Taft Street and Park Road	24.7 C (34.4 C)	24.6 C (34.8 C)	24.6 C (34.8 C)
Hollywood Boulevard and 35th Avenue	17.4 B (18.9 B)	19.8 B (22.5 C)	20.2 C (23.1 C)
Garfield Street and 35th Avenue (Roundabout)	6.0 A (5.9 A)	7.0 A (8.2 A)	7.2 A (8.5 A)
Taft Street and 40th Avenue (Roundabout)	10.0 B (9.7 A)	12.2 B (11.8 B)	12.7 B (12.2 B)
Taft Street and 46th Avenue	21.9 C (24.7 C)	24.1 C (30.1 C)	24.7 C (31.9 C)
Johnson Street and North 37th Avenue (Hospital Main Ent)	17.1 C (27.6 D)	44.9 E (196.2 F)	57.0 F (251.1 F)
Johnson Street and 35th Avenue	22.2 C (22.6 C)	25.9 C (28.6 C)	26.7 C (29.3 C)
Johnson Street and 40th Avenue	26.5 D (19.5 C)	40.7 E (25.1 D)	47.0 E (26.8 D)
LOS Delay provided in seconds for Signalized intersections. LOS Control Delay provided in seconds for Unsignalized intersections.			

The analysis of the new Memorial Hospital Parking Garage driveway has been provided as part of the Traffic Signal Warrant Study. A copy of the traffic study which includes the signal warrant analysis and the traffic analysis of the Johnson Street and Memorial Hospital Parking Garage intersection has been provided in Appendix D.

FUTURE TRAFFIC CONDITIONS

The results of the future traffic conditions scenario show that the intersection level of service for each of the analyzed intersections is operating at an acceptable level of service. As previously mentioned, the new proposed multi-story parking garage exiting on to Johnson Avenue west of the Johnson Street Hospital Entrance was just completed in mid-August. The new garage ingress and egress and the corresponding change in travel patterns with the Johnson Street Hospital Entrance was analyzed as part of Traf Tech's Memorial Regional Parking Garage traffic study. A traffic signal warrant study for this new driveway has been provided in Appendix D. The traffic counts for the traffic signal warrant analysis at this location were collected between 09/26/17 and 09/28/17.

Figure 4 New Memorial Hospital Parking Garage

Figure 3 Intersection of Johnson Street and New Parking Garage

INTERLOCAL AGREEMENT

The approved interlocal agreement included a Summary of Transportation Related Improvements by Phase. This list was last updated on 07/15/2009 as part of the Supplemental Traffic Review of the Memorial Hospital Master Plan Traffic Study. As part of this update to the Master Plan traffic study, an update is being provided on the identified transportation improvements identified in the interlocal agreement. A detailed update has been provided in table format and included in Appendix E. A status in narrative format is being provided as part of this section for each of the improvements. An aerial drone image taken in June of 2017 showing the completed improvements have been provided herein for reference. Figure 12 provides a location map of the proposed transportation related improvements.

North 35th Avenue and Hayes Hospital Entrance:

Create 4th Leg (East Leg) of signalized intersection. Modify existing signal and add corresponding pedestrian features.

Figure 5 Joe DiMaggio Children's Hospital Entrance at Hayes Street and 35th Avenue

: This improvement has not been completed and is anticipated to be completed as part of the proposed parking structure (Project C-1) and the new Cancer Center construction project east of 35th Avenue.

North 35th Avenue and Johnson Street:

Add exclusive NB right-turn lane (includes potential new signal, subject to satisfaction of signal warrants as determined by Broward County Traffic Engineering)

: This improvement has been completed (reference Figure 6)

Figure 6 Johnson Street and 35th Avenue Intersection

North 40th Avenue and Johnson Street:

Add exclusive EB and SB left turn lanes.

: This improvement has been completed. The aerial image also shows example of the circular driveways installed as part of the circular driveway program (Reference Figure 7).

Figure 7 Johnson Street near 40th Avenue

North 40th Avenue and Taft Street:

Construct single-lane roundabout. Close Yale Drive connection.

: This improvement has been completed (Reference Figure 8).

Figure 8 Taft Street and 40th Avenue Roundabout

Johnson Street- North 40th Avenue to West Hospital property limits (proposed garage accessways):

Widen EB approach to provide longer EB left-turn lane to serve hospital inbound garage access.

: This improvement has been completed as part of the parking garage project. The parking garage was recently completed August 2017. (Reference Figure 9).

Figure 9 Intersection of Johnson Street and New Parking Garage

Johnson Street- West hospital campus (either E. of 38th Ave at proposed garage access ways or at existing ER driveway).

Construct new traffic signal and systems communications (interconnect) (subject to satisfaction of signal warrants as determined by Broward County Traffic Engineering); close 38th Avenue connection & landscape.

: The new traffic signal improvement has not been completed (Reference Figure 9). The closure of 38th Avenue connection has been completed

and landscaping installed. The new traffic signal improvement project will need to be completed once the signal warrants have been satisfied per Broward County Traffic Engineering Division. The traffic signal warrant analysis has been completed and submitted to Broward County Traffic Engineering Division for review.

Johnson Street- West hospital property limits (proposed garage access ways) to 35th Ave.

Convert to outbound WB turn lanes (right-turn lanes and striped out areas) to functional WB shared thru/right lane.

Figure 10 Johnson Street at 37th Avenue entrance

: This improvement has been been completed. This project was completed as part of the recently completed parking garage project. The parking garage was just completed in mid-August 2017. (Reference Figure 10).

North 35th Avenue-Between Johnson and Garfield Street:

Streetscape Improvements

: This improvement has been completed. There were paver brick crosswalks and sidewalks installed as well as the pedestrian bridge crossing which were completed as part of the Joe DiMaggio Children's Hospital improvement project.

Johnson Street and Park Road:

Construct dual EB and WB turning lanes (pavement improvements only). New lanes to be striped out until signal modifications are warranted.

: This improvement has been completed (Reference Figure 11).

Figure 11 Johnson Street and Park Road intersection

Johnson Street- Between 46th Avenue and Park Road:

Fund for Circular Driveway Program- $90,000

: This improvement has been completed (Reference Figure 7).

The pedestrian and transit improvements have also been completed. There were new bus shelter improvements built at the four closest bus stops. A shuttle bus service was also provided for the employees.

Figure 12 Interlocal Agreement Transportation Related Improvements Status

AREA WIDE CITY OF HOLLYWOOD IMPROVEMENTS

The City of Hollywood has been coordinating with the FDOT and the Broward MPO regarding a couple of other future improvements in the area. The Broward MPO and FDOT have programmed funds to fund the design and construction of a Complete Streets Project along Johnson Street between just west of N 31st Court to SR-5/US-1. The project is part of a larger $100 million investment from the Broward MPO to provide bicycle, pedestrian and public transportation access throughout the Broward region. The goal of this initiative is to complete Broward's bicycle and pedestrian network and provide safe facilities for the residents and visitors who walk and cycle. Figure 13 depicts one segments typical section for Johnson Street. A copy of the public outreach flyer for the Complete Streets with more information can be found in Appendix E.

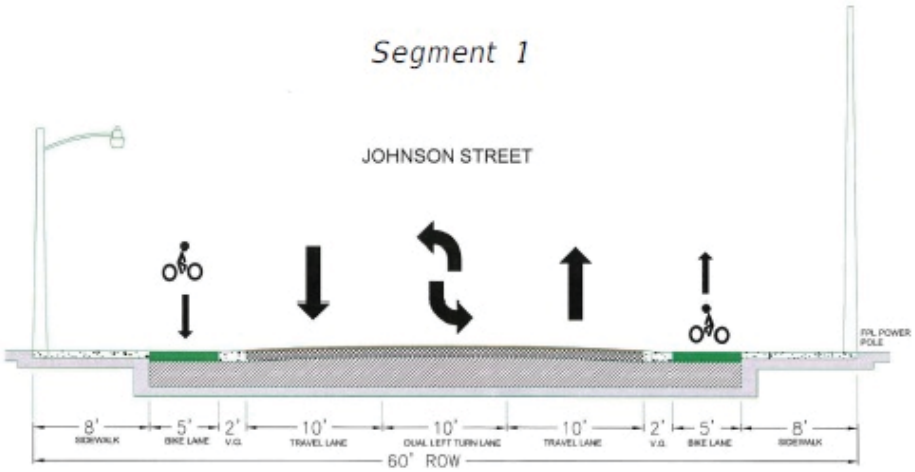


Figure 13 Johnson Street Complete Streets Typical Section 1

In addition, the City of Hollywood coordinated with the Broward MPO regarding another potential Complete Streets project along N. 35th Avenue between Rainbow Drive and Johnson Street. This corridor was identified in the Hollywood/Pines Corridor project as a potential Complete Streets project. This corridor is funded by FDOT as part of FM #431770-5 which is programmed and has a letting date of 03/27/19. The original improvements identified for this corridor includes minor pavement widening and narrowing travel lanes in order to provide marked bicycle lanes. Right-of-Way constraints will prevent the road widening to occur for the bicycle lanes. Sharrows are now recommended between the project limits of Rainbow Drive and Johnson Street.

Broward County recently completed intersection improvements at the Park Road and Taft Street intersection. These improvements included turn lane additions, intersection paving, pedestrian signal upgrades and mast arm conversion of the existing concrete strain poles. The original interlocal agreement had included the addition of a southbound right turn lane on N. Park Road at Taft Street. This improvement was included in this recent Broward County project. Please reference Figure 14 for aerial image of this recent intersection improvement.

Figure 14 Taft Street and Park Road intersection

RECOMMENDATIONS AND CONCLUSIONS

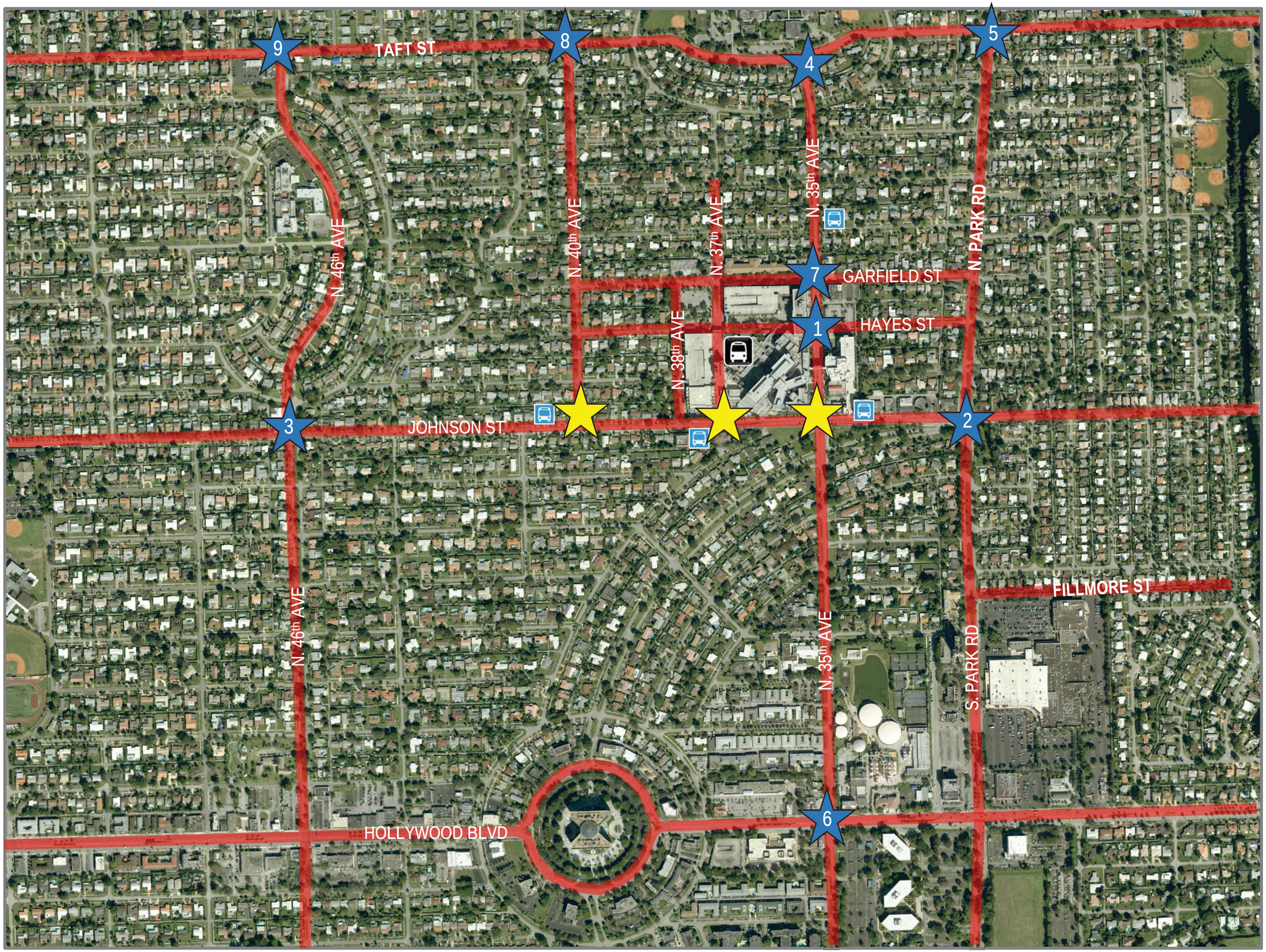
The traffic generated by the proposed 156k SF expansion of the Memorial Regional Joe DiMaggio Children's Hospital can be accommodated by the surrounding roadway network. The traffic operations at the subject intersections in the project study area all operate at acceptable level of service during the future conditions. This includes the committed trips for the previously approved but unbuilt development projects as well as the site generated trips for the new 98 beds as part of the 156k square foot hospital expansion. The results of the traffic analyses show that the additional 98 beds being requested as part of the Children's Hospital expansion result in an insignificant impact to the surrounding road network and the related main entrances to the hospital campus.

The results of the analyses show that the site generated trips from the additional 98 beds increase delay (wait times at signalized intersections) between 0.2 and 8.1 seconds (between existing + committed scenario and future conditions), which is insignificant from a traffic engineering standpoint. There are no additional transportation related improvements recommended beyond the improvements proposed as part of the current Interlocal Agreement.

It is recommended that further coordination continue with Broward County Traffic Engineering Division regarding the potential addition of a new traffic signal along Johnson Street at the new Memorial Regional Hospital Parking Garage driveway at Johnson Street. Broward County Traffic Engineering Division is currently reviewing the traffic signal warrant study for this new driveway connection at Johnson Street.

ATTACHMENT A

TRAFFIC DATA COLLECTION



Memorial Healthcare System

TRAFFIC DATA COLLECTION LOCATIONS

BUS SHELTER

SHUTTLE SERVICE FOR EMPLOYEES

TRAFFIC DATA COLLECTION LOCATION

TRAFFIC DATA USED FROM PREVIOUS 2015 TRAFFIC STUDY

N
W E
S

N.T.S.

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS

ATTACHMENT B

INTERSECTION VOLUME WORKSHEET

TURNING MOVEMENT COUNTS (AM PEAK)													
JOHNSON STREET & N. 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	45	420	46	53	391	164	102	192	66	89	116	33
	PSCF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	ADJUSTED EXISTING VOLUMES	45	424	46	54	395	166	103	194	67	90	117	33
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	47	435	48	55	405	170	106	199	68	92	120	34
	COMMITTED TRIPS	29	33	5	0	82	83	18	83	0	27	44	15
	EXISTING + COMMITTED	76	468	53	55	487	253	124	282	68	119	164	49
	SITE GENERATED TRIPS	0	7	5	0	19	12	13	0	0	5	0	0
	2020 TRAFFIC	76	475	58	55	506	265	137	282	68	124	164	49

TURNING MOVEMENT COUNTS (PM PEAK)													
JOHNSON STREET & N. 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	32	340	61	67	427	79	90	90	50	104	122	62
	PSCF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	ADJUSTED EXISTING VOLUMES	32	343	62	68	431	80	91	91	51	105	123	63
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	33	352	63	69	442	82	93	93	52	108	126	64
	COMMITTED TRIPS	15	95	16	0	47	24	16	44	0	67	112	28
	EXISTING + COMMITTED	48	447	79	69	489	106	109	137	52	175	238	92
	SITE GENERATED TRIPS	0	19	13	0	9	6	6	0	0	12	0	0
	2020 TRAFFIC	48	466	92	69	498	112	115	137	52	187	238	92

TURNING MOVEMENT COUNTS (AM PEAK)													
JOHNSON STREET & HOSPITAL ENTRANCE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	172	442	0	0	398	129	0	0	0	28	0	140
	PSCF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	ADJUSTED EXISTING VOLUMES	174	446	0	0	402	130	0	0	0	28	0	141
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	178	458	0	0	412	134	0	0	0	29	0	145
	COMMITTED TRIPS	85	29	0	0	15	101	0	0	0	38	0	32
	EXISTING + COMMITTED	263	487	0	0	427	235	0	0	0	67	0	177
	SITE GENERATED TRIPS	5	7	0	0	19	13	0	0	0	5	0	2
	2020 TRAFFIC	268	494	0	0	446	248	0	0	0	72	0	179

TURNING MOVEMENT COUNTS (PM PEAK)													
JOHNSON STREET & HOSPITAL ENTRANCE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	182	347	0	0	481	111	0	0	0	51	0	79
	PSCF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	ADJUSTED EXISTING VOLUMES	184	350	0	0	486	112	0	0	0	52	0	80
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	188	359	0	0	498	115	0	0	0	53	0	82
	COMMITTED TRIPS	30	15	0	0	28	35	0	0	0	112	0	95
	EXISTING + COMMITTED	218	374	0	0	526	150	0	0	0	165	0	177
	SITE GENERATED TRIPS	2	19	0	0	9	6	0	0	0	13	0	5
	2020 TRAFFIC	220	393	0	0	535	156	0	0	0	178	0	182

TURNING MOVEMENT COUNTS (AM PEAK)													
JOHNSON STREET & N. 40th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	41	587	0	0	471	19	0	0	0	63	1	60
	PSCF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	ADJUSTED EXISTING VOLUMES	41	593	0	0	476	19	0	0	0	64	1	61
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	42	608	0	0	488	20	0	0	0	65	1	62
	COMMITTED TRIPS	0	107	0	0	44	3	0	0	0	8	0	0
	EXISTING + COMMITTED	42	715	0	0	532	23	0	0	0	73	1	62
	SITE GENERATED TRIPS	0	19	0	0	7	2	0	0	0	5	0	0
	2020 TRAFFIC	42	734	0	0	539	25	0	0	0	78	1	62

TURNING MOVEMENT COUNTS (PM PEAK)													
JOHNSON STREET & N. 40th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	22	475	0	0	513	51	0	0	0	26	0	29
	PSCF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	ADJUSTED EXISTING VOLUMES	22	480	0	0	518	52	0	0	0	26	0	29
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	23	492	0	0	555	53	0	0	0	27	0	30
	COMMITTED TRIPS	0	31	0	0	120	7	0	0	0	4	0	0
	EXISTING + COMMITTED	23	523	0	0	675	60	0	0	0	31	0	30
	SITE GENERATED TRIPS	0	9	0	0	19	5	0	0	0	2	0	0
	2020 TRAFFIC	23	532	0	0	694	65	0	0	0	33	0	30

TURNING MOVEMENT COUNTS (AM PEAK)													
HAYES STREET (HOSPITAL ENTRANCE) & 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	109	0	186	0	0	0	222	159	0	0	132	141
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	113	0	193	0	0	0	231	165	0	0	137	147
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	115	0	196	0	0	0	234	168	0	0	139	149
	COMMITTED TRIPS	45	0	29	49	0	23	100	0	96	28	8	28
	EXISTING + COMMITTED	160	0	225	49	0	23	334	168	96	28	147	177
	SITE GENERATED TRIPS	5	0	5	0	0	0	12	0	0	0	0	12
	2020 TRAFFIC	165	0	230	49	0	23	346	168	96	28	147	189

TURNING MOVEMENT COUNTS (PM PEAK)													
HAYES STREET (HOSPITAL ENTRANCE) & 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	113	0	262	0	0	0	124	178	0	1	166	57
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	118	0	272	0	0	0	129	185	0	1	173	59
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	119	0	277	0	0	0	131	188	0	1	175	60
	COMMITTED TRIPS	142	0	112	95	0	47	35	0	48	23	0	10
	EXISTING + COMMITTED	261	0	389	95	0	47	166	188	48	24	175	70
	SITE GENERATED TRIPS	12	0	12	0	0	0	6	0	0	0	0	6
	2020 TRAFFIC	273	0	401	95	0	47	172	188	48	24	175	76

TURNING MOVEMENT COUNTS (AM PEAK)													
JOHNSON STREET & PARK ROAD													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	118	373	122	182	321	159	171	442	201	121	312	119
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	123	388	127	189	334	165	178	460	209	126	324	124
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	125	394	129	192	339	168	181	467	212	128	329	126
	COMMITTED TRIPS	0	47	14	0	119	0	47	0	0	0	0	0
	EXISTING + COMMITTED	125	441	143	192	458	168	228	467	212	128	329	126
	SITE GENERATED TRIPS	0	12	0	0	31	0	0	0	0	0	0	0
	2020 TRAFFIC	125	453	143	192	489	168	228	467	212	128	329	126

TURNING MOVEMENT COUNTS (PM PEAK)													
JOHNSON STREET & PARK ROAD													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	98	276	146	111	296	139	136	513	184	117	474	110
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	102	287	152	115	308	145	141	534	191	122	493	114
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	103	291	154	117	312	147	144	542	194	124	500	116
	COMMITTED TRIPS	0	108	54	0	52	0	18	0	0	0	0	0
	EXISTING + COMMITTED	103	399	208	117	364	147	162	542	194	124	500	116
	SITE GENERATED TRIPS	0	31	0	0	15	0	0	0	0	0	0	0
	2020 TRAFFIC	103	430	208	117	379	147	162	542	194	124	500	116

TURNING MOVEMENT COUNTS (AM PEAK)													
JOHNSON STREET & 46th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	94	317	22	108	330	100	42	402	93	147	336	99
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	98	330	23	112	343	104	44	418	97	153	349	103
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	99	335	23	114	348	106	44	424	98	155	355	105
	COMMITTED TRIPS	0	79	0	6	35	3	0	0	17	11	0	0
	EXISTING + COMMITTED	99	414	23	120	383	109	44	424	115	166	355	105
	SITE GENERATED TRIPS	0	19	0	7	0	0	0	0	0	0	0	0
	2020 TRAFFIC	99	433	23	127	383	109	44	424	115	166	355	105

TURNING MOVEMENT COUNTS (PM PEAK)													
JOHNSON STREET & 46th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	30	264	31	95	394	81	52	388	62	74	375	42
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	31	275	32	99	410	84	54	404	64	77	390	44
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	32	279	33	100	416	86	55	410	65	78	396	44
	COMMITTED TRIPS	0	32	0	17	92	7	0	0	5	4	0	0
	EXISTING + COMMITTED	32	311	33	117	508	93	55	410	70	82	396	44
	SITE GENERATED TRIPS	0	9	0	19	0	0	0	0	0	0	0	0
	2020 TRAFFIC	32	320	33	136	508	93	55	410	70	82	396	44

TURNING MOVEMENT COUNTS (AM PEAK)													
TAFT STREET & 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	0	325	140	87	289	0	130	0	120	0	0	0
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	0	338	146	90	301	0	135	0	125	0	0	0
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	0	343	148	92	305	0	137	0	127	0	0	0
	COMMITTED TRIPS	0	0	111	78	0	0	42	0	35	0	0	0
	EXISTING + COMMITTED	0	343	259	170	305	0	179	0	162	0	0	0
	SITE GENERATED TRIPS	0	0	10	11	0	0	4	0	4	0	0	0
	2020 TRAFFIC	0	343	269	181	305	0	183	0	166	0	0	0

TURNING MOVEMENT COUNTS (PM PEAK)													
TAFT STREET & 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	0	269	65	63	368	0	178	0	179	0	0	0
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	0	280	68	66	383	0	185	0	186	0	0	0
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	0	284	69	67	388	0	188	0	189	0	0	0
	COMMITTED TRIPS	0	0	33	39	0	0	101	0	87	0	0	0
	EXISTING + COMMITTED	0	284	102	106	388	0	289	0	276	0	0	0
	SITE GENERATED TRIPS	0	0	5	6	0	0	10	0	11	0	0	0
	2020 TRAFFIC	0	284	107	112	388	0	299	0	287	0	0	0

TURNING MOVEMENT COUNTS (AM PEAK)													
TAFT STREET & PARK ROAD													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	128	257	89	98	216	132	84	562	111	117	352	74
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	133	267	93	102	225	137	87	584	115	122	366	77
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	135	271	94	103	228	139	89	593	117	124	372	78
	COMMITTED TRIPS	22	12	0	0	27	0	0	0	0	0	0	47
	EXISTING + COMMITTED	157	283	94	103	255	139	89	593	117	124	372	125
	SITE GENERATED TRIPS	0	0	0	5	0	0	0	0	2	0	0	0
	2020 TRAFFIC	157	283	94	108	255	139	89	593	119	124	372	125

TURNING MOVEMENT COUNTS (PM PEAK)													
TAFT STREET & PARK ROAD													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	149	238	66	149	298	250	70	512	99	137	576	53
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	155	248	69	155	310	260	73	532	103	142	599	55
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	157	251	70	157	315	264	74	541	105	145	608	56
	COMMITTED TRIPS	49	36	0	0	7	0	0	0	0	0	0	31
	EXISTING + COMMITTED	206	287	70	157	322	264	74	541	105	145	608	87
	SITE GENERATED TRIPS	0	0	0	2	0	0	0	0	5	0	0	0
	2020 TRAFFIC	206	287	70	159	322	264	74	541	110	145	608	87

Memorial Healthcare System

TURNING MOVEMENT COUNTS (AM PEAK)													
HOLLYWOOD BLVD & 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	121	1170	61	114	1124	178	26	39	110	116	47	52
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	126	1217	63	119	1169	185	27	41	114	121	49	54
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	128	1235	64	120	1187	188	27	41	116	122	50	55
	COMMITTED TRIPS	36	0	0	0	0	41	0	15	0	20	11	6
	EXISTING + COMMITTED	164	1235	64	120	1187	229	27	56	116	142	61	61
	SITE GENERATED TRIPS	7	0	0	0	0	7	0	0	0	3	0	3
	2020 TRAFFIC	171	1235	64	120	1187	236	27	56	116	145	61	64

TURNING MOVEMENT COUNTS (PM PEAK)													
HOLLYWOOD BLVD & 35th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	121	1243	22	91	1448	127	65	44	126	108	58	99
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	126	1293	23	95	1506	132	68	46	131	112	60	103
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	128	1312	23	96	1529	134	69	46	133	114	61	105
	COMMITTED TRIPS	16	0	0	0	0	23	0	12	0	31	27	49
	EXISTING + COMMITTED	144	1312	23	96	1529	157	69	58	133	145	88	154
	SITE GENERATED TRIPS	3	0	0	0	0	3	0	0	0	7	0	7
	2020 TRAFFIC	147	1312	23	96	1529	160	69	58	133	152	88	161

TURNING MOVEMENT COUNTS (AM PEAK)													
GARFIELD STREET & 35th AVENUE (ROUNDABOUT)													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	82	0	31	3	0	2	31	208	1	4	229	7
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	85	0	32	3	0	2	32	216	1	4	238	7
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	87	0	33	3	0	2	33	220	1	4	242	7
	COMMITTED TRIPS	9	0	8	0	0	0	0	68	0	0	76	0
	EXISTING + COMMITTED	96	0	41	3	0	2	33	288	1	4	318	7
	SITE GENERATED TRIPS	4	2	0	0	5	0	0	5	0	0	12	9
	2020 TRAFFIC	100	2	41	3	5	2	33	293	1	4	330	16

TURNING MOVEMENT COUNTS (PM PEAK)													
GARFIELD STREET & 35th AVENUE (ROUNDABOUT)													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	59	0	65	10	1	10	31	253	4	4	131	10
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	61	0	68	10	1	10	32	263	4	4	136	10
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	62	0	69	11	1	11	33	267	4	4	138	11
	COMMITTED TRIPS	16	0	0	0	0	0	0	188	0	0	33	39
	EXISTING + COMMITTED	78	0	69	11	1	11	33	455	4	4	171	50
	SITE GENERATED TRIPS	9	5	0	0	2	0	0	12	0	0	5	5
	2020 TRAFFIC	87	5	69	11	3	11	33	467	4	4	176	55

TURNING MOVEMENT COUNTS (AM PEAK)													
TAFT STREET & 40th AVENUE (ROUNDABOUT)													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	17	414	11	66	335	42	11	49	58	53	47	37
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	18	431	11	69	348	44	11	51	60	55	49	38
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	18	437	12	70	354	44	12	52	61	56	50	39
	COMMITTED TRIPS	0	79	0	0	27	6	0	3	0	23	8	0
	EXISTING + COMMITTED	18	516	12	70	381	50	12	55	61	79	58	39
	SITE GENERATED TRIPS	5	10	0	0	4	0	2	0	0	0	0	0
	2020 TRAFFIC	23	526	12	70	385	50	14	55	61	79	58	39

TURNING MOVEMENT COUNTS (PM PEAK)													
TAFT STREET & 40th AVENUE (ROUNDABOUT)													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	8	316	13	21	484	24	15	41	22	27	63	39
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	8	329	14	22	503	25	16	43	23	28	66	41
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	8	334	14	22	511	25	16	43	23	29	67	41
	COMMITTED TRIPS	0	27	0	0	85	9	0	7	0	3	4	0
	EXISTING + COMMITTED	8	361	14	22	596	34	16	50	23	32	71	41
	SITE GENERATED TRIPS	2	5	0	0	10	0	5	0	0	0	0	0
	2020 TRAFFIC	10	366	14	22	606	34	21	50	23	32	71	41

TURNING MOVEMENT COUNTS (AM PEAK)													
TAFT STREET & 46th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	84	315	81	83	256	47	42	516	68	37	402	19
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	87	328	84	86	266	49	44	537	71	38	418	20
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	89	333	86	88	270	50	44	545	72	39	424	20
	COMMITTED TRIPS	0	68	0	0	24	4	0	3	0	13	11	0
	EXISTING + COMMITTED	89	401	86	88	294	54	44	548	72	52	435	20
	SITE GENERATED TRIPS	0	15	0	0	6	0	0	0	0	0	0	0
	2020 TRAFFIC	89	416	86	88	300	54	44	548	72	52	435	20

TURNING MOVEMENT COUNTS (PM PEAK)													
TAFT STREET & 46th AVENUE													
	TURNING MOVEMENT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	RAW COUNTS	35	261	67	61	401	68	63	441	53	35	512	52
	PSCF	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	ADJUSTED EXISTING VOLUMES	36	271	70	63	417	71	66	459	55	36	532	54
	ANNUAL GROWTH RATE	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	GROWTH ADJUSTED VOLUMES	37	276	71	64	423	72	67	466	56	37	541	55
	COMMITTED TRIPS	0	24	0	0	71	15	0	7	0	3	4	0
	EXISTING + COMMITTED	37	300	71	64	494	87	67	473	56	40	545	55
	SITE GENERATED TRIPS	0	7	0	0	15	0	0	0	0	0	0	0
	2020 TRAFFIC	37	307	71	64	509	87	67	473	56	40	545	55

TRIP DISTRIBUTION														
ROADWAY	SEGMENT	COUNT STATION	AADT 2005	AADT 2006	AADT 2007	AADT 2008	AADT 2009	AADT 2010	AADT 2011	AADT 2012	AADT 2013	AADT 2014	AADT 2015	% Growth
Hollywood Blvd	West of I-95	5046	53000	50000	55000	53500	52500	48500	52000	47000	48000	48000	46000	-1.50%
Johnson Street	West of I-95	8008	16000	17500	17500	16500	15500	15500	15500	15500	15500	15500	19900	2.70%
Johnson Street	East of N. 46th Avenue	8023	14000	13500	16000	12500	12000	11500	11500	11500	11500	11500	11500	3.60%
N. 46th Avenue	South of Johnson Street	8115	14900	11100	10300	9500	9300	9800	9800	9800	9800	9900	10000	4.70%
Taft Street	West of I-95	8215	13000	11000	11000	8600	9500	9500	9500	9500	9500	96000	10800	5.10%
N. Park Road	N. of Johnson Street	9622	15900	17100	15000	13800	13400	8600	8600	8600	8600	8700	8900	2.60%
N. 35th Avenue	North of Hollywood Blvd	9623	7800	8400	7500	7000	6800	6900	6900	6900	6900	7000	7100	7.30%
														3.50%

Trip Generation Summary									
Land Use	ITE Code	Beds	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
Hospital- Childrens Hospital (Project *)	610	98	1,268	93	36	129	46	93	139
Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition)									
LUC 610: Weekday Trip Generation = 98 Beds x 12.94 (Avg. Rate)-ITE 9th Edition page 1205									
LUC 610: AM Peak Hour Trip Generation = 98 Beds x 1.32 (Avg. Rate)-ITE 9th Edition page 1206									
LUC 610: PM Peak Hour Trip Generation = 98 Beds x 1.42 (Avg. Rate)-ITE 9th Edition page 1207									