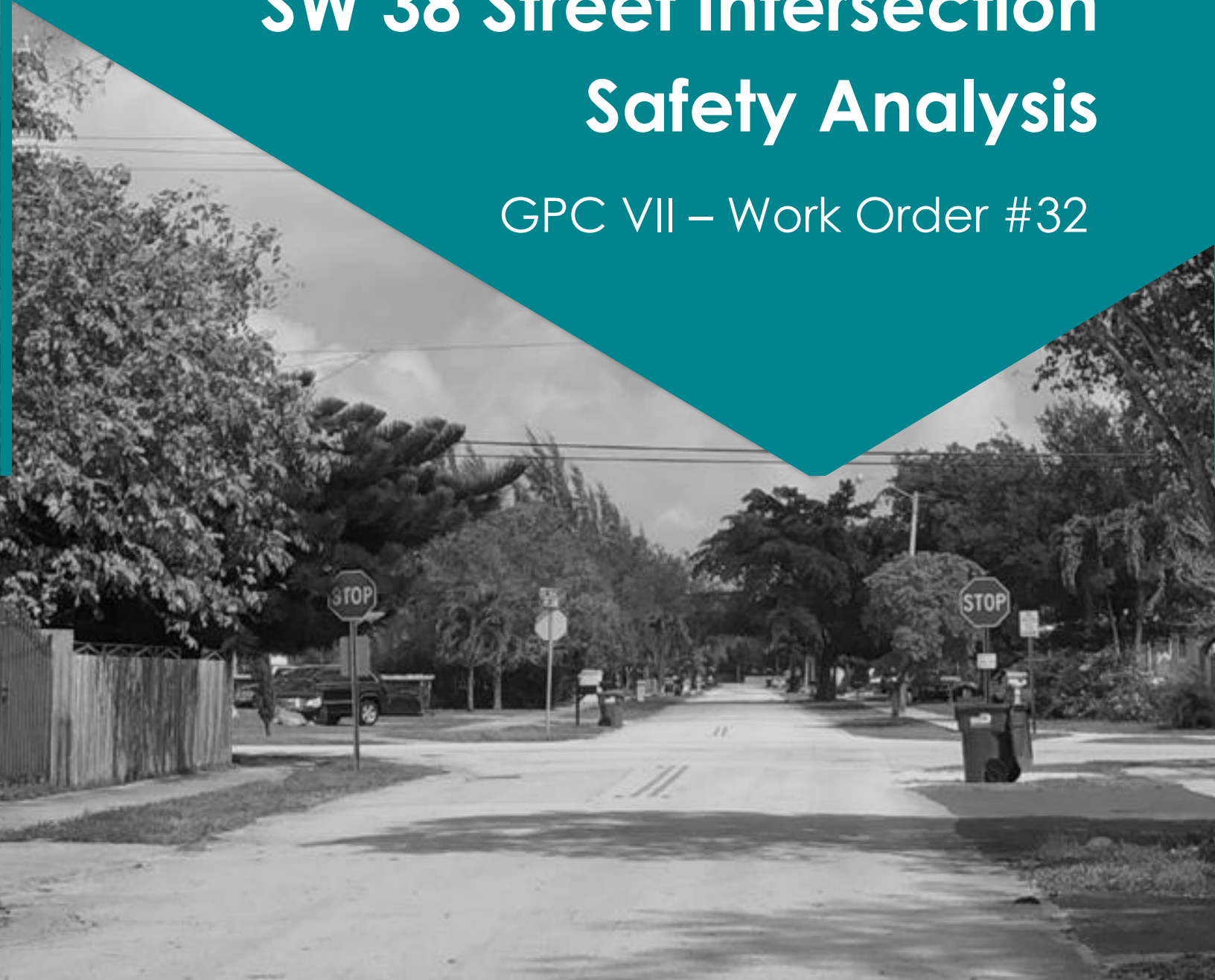


SW 84 Avenue and SW 38 Street Intersection Safety Analysis

GPC VII – Work Order #32



SW 84 Avenue and SW 38 Street Intersection Safety Analysis GPC VIII – Work Order #32

August 5, 2021

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PROJECT OVERVIEW

On March 18, 2021, the Miami-Dade Transportation Planning Organization (TPO) Governing Board adopted resolution #12-2021 ratifying the issuance of notice to proceed for the scope of services and budget to conduct a safety analysis for Miami-Dade County safety improvements projects. The TPO is advancing three intersections identified in the TPO's adopted Fiscal Year 2026 List of Program Priorities (LOPP) and prioritized by the Miami-Dade Department of Transportation and Public Works (DTPW) for Safety Program funding. These locations are considered off-system since they are not located on the State Highway System (SHS).

This report addresses one of the selected projects submitted to the Florida Department of Transportation (FDOT) District Six Safety Program for off-system facilities funding.

An Intersection Safety Analysis was conducted at SW 84 Avenue and SW 38 Street, located in unincorporated Miami-Dade County. The intersection was identified as a roadway safety improvement project under the TPO Fiscal Year 2026 LOPP approved June 18, 2020 and included in the newly approved 2027 LOPP on June 17, 2021. Miami-Dade DTPW prioritized improvements for this intersection due to an existing pattern of angle and left turn crashes.

The study's Purpose & Need is to reduce crashes, most importantly fatalities and serious injuries, by evaluating the intersection and providing justification to apply for Highway Safety Improvement Program (HSIP) funding. The HSIP is a data driven program. As such, proposed projects need to meet eligibility requirements through crash and operational analysis and must demonstrate a benefit-cost ratio (B/C) greater than 1 and a positive net present value (NPV). The study analysis, results, and proposed improvements will be presented to the Florida Department of Transportation (FDOT) District Six for evaluation of eligibility and prioritization based on the analysis results.

SW 84 Avenue and SW 38 Street is a two-way stop-controlled intersection (TWSC) with the east/west approaches operating as stop-controlled. SW 84 Avenue and SW 38 Street are two-lane roads with each approach consisting of a single shared left/through/right lane.

This report documents the findings of field observations, data collection, crash data analysis, and detailed traffic operations analysis conducted at the study intersection to evaluate the existing safety and operational issues. This report provides a concept for consideration and opinion of probable cost for the implementation of the suggested improvements. In addition, a benefit-cost comparison is provided to determine the project eligibility for HSIP funding (B/C > 1 and + NPV). The findings have been reviewed by Miami-Dade DTPW and FDOT. FDOT's Electronic Review Comments (ERC) and the response to comments are provided in **Appendix K**.

EXISTING CONDITIONS

A field review was conducted at the study intersection to document existing roadway and safety conditions, as well as traffic operations. Within the study limits, SW 84 Avenue is a north-south, two-lane undivided urban local roadway, with 11-foot lanes and a posted speed limit of 30 miles per hour (mph) within the vicinity of study intersection. SW 38 Street is an east-west, two-lane undivided urban local roadway, with 10-foot lanes and a posted speed limit of 30 mph. The intersection of SW 84 Avenue and SW 38 Street is located approximately 650 feet north of the signalized intersection of SW 40 Street and SW 84 Avenue.

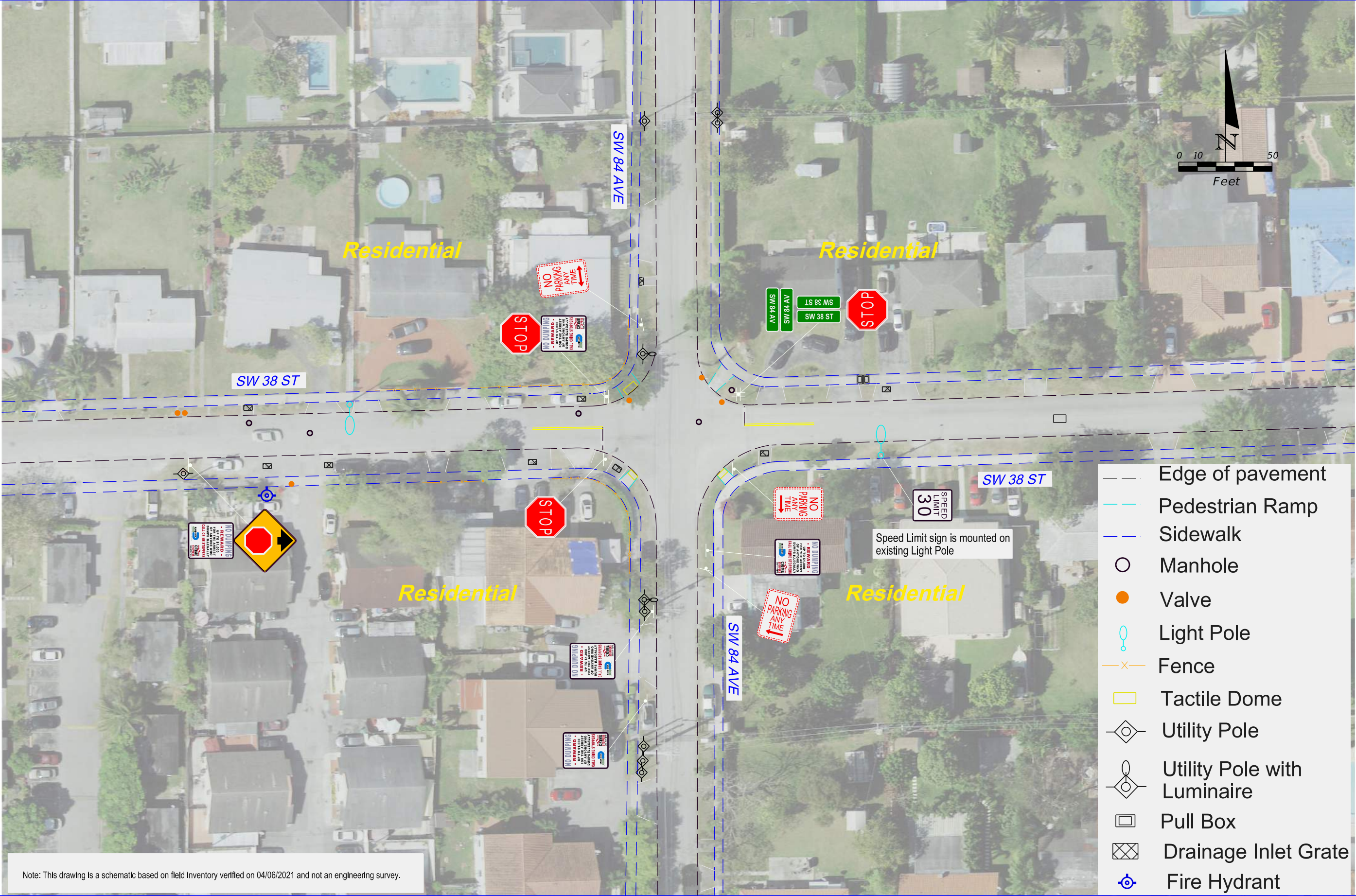
Intersection Geometry

The approach lane configuration for each of the four (4) intersection legs consists of a single shared left/through/right lane. Sidewalk is present on both sides of the roadways of all four intersection legs. Pedestrian ramps are provided on all four intersection corners. There are no marked crosswalks at the intersection.

There are no Miami-Dade Transit (MDT) routes traveling through the intersection. There were no pedestrians or bicyclists observed at the intersection during the field review. Refer to the turning movement count data under Traffic Data Collection for pedestrian and bicyclist volumes reported during the peak hours. Roadway lighting is present along both SW 84 Avenue and SW 38 Street. The land use surrounding the intersection is single family residential, and the surrounding area near the intersection is built out. Banyan Elementary School is located west of SW 84 Avenue, approximately 2,000 feet north of the study intersection.

The roadway context classification in the vicinity of the intersection is Urban General (C4).

Figure 1 shows the condition diagram detailing existing field conditions. The diagram shows the intersection and the conditions within the surrounding area including the intersection alignment, residential buildings from aerial, sidewalks, trees, utility poles, lighting poles, water hydrants, stop signs, and lane configuration.



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Miami-Dade
Transportation Planning Organization

EXISTING CONDITION DIAGRAM
SW 84 AVE & SW 38 ST

FIGURE
NO.

1

Field Observations

A field review was conducted on Thursday, March 18, 2021 during the midday period to observe site characteristics, document findings and identify potential intersection improvements to reduce angle and left turn crashes and potentially improve safety overall. The field observation report is provided in **Appendix A**. The following field observations were made:

- Fences and parked vehicles located along the north and south sides of the intersection's west leg obstruct the eastbound vehicles' sight distance when looking northbound or southbound. **Figure 2** illustrates the sight distance obstruction.

Figure 2: Sight distance obstruction on eastbound approach looking southbound



TRAFFIC DATA COLLECTION

Mechanical Traffic Counts

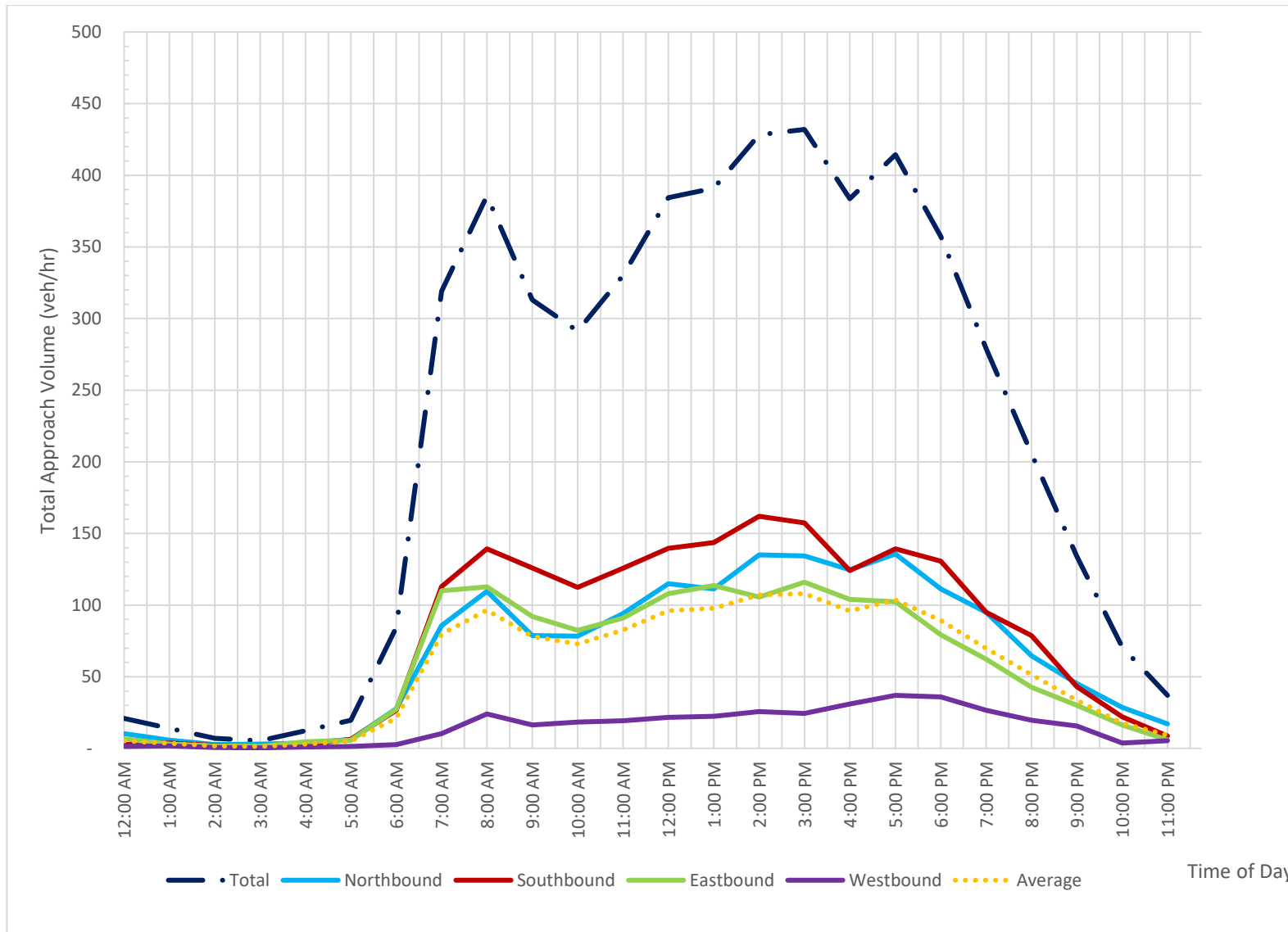
Mechanical traffic counts or bi-directional tube counts were collected on all four approaches of the intersection over a 72-hour period (from Tuesday, March 16, 2021 to Thursday, March 18, 2021). **Figure 3** shows the average variation of hourly traffic volume versus the time of day for a typical weekday (Tuesday, Wednesday, and Thursday).

The eastbound and southbound volumes were observed to have lower variability throughout the day when compared to the northbound and westbound traffic volumes. The 72-hour data yielded the following observations:

- The intersection peak hours are 7:45 AM to 8:45 AM and 1:45 to 2:45 PM.
- The southbound approach is the peak traffic direction at the study intersection, and it experiences a peak from 7:30 AM to 9:30 AM and from 2:00 PM to 4:00 PM.

Detailed results of the 72-hour counts are included in **Appendix B**.

Figure 3: 72-hour Average Vehicle Counts



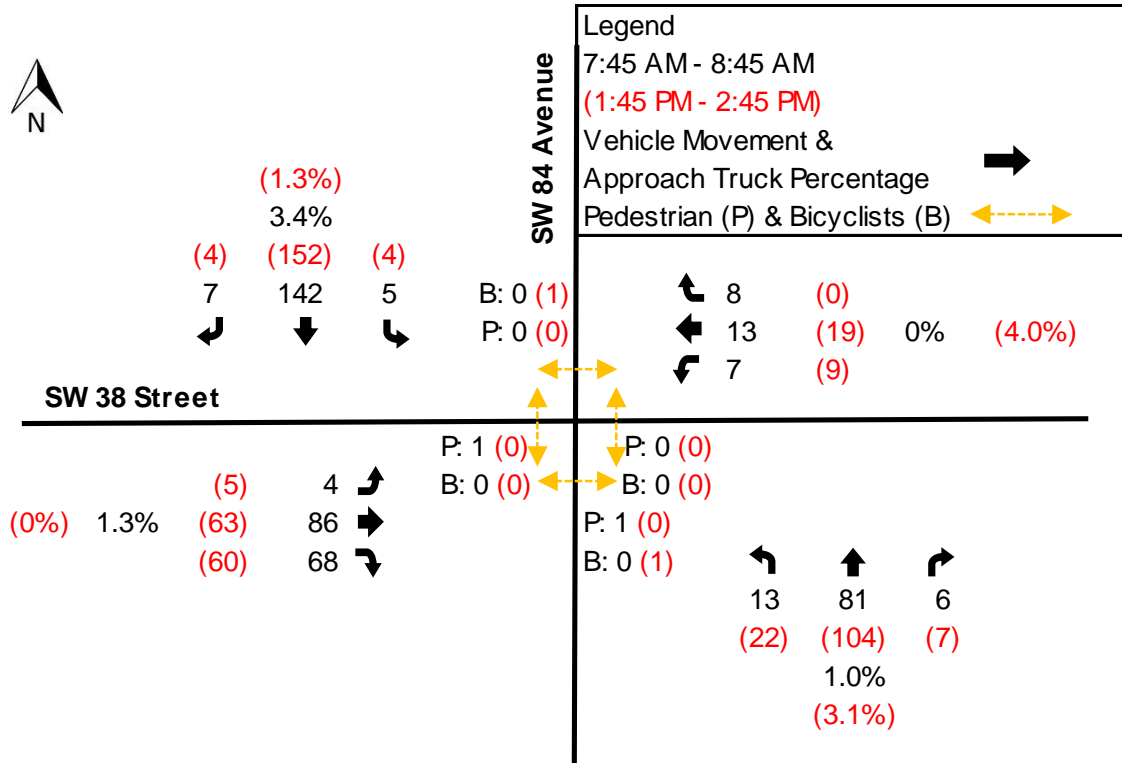
Manual Turning Movement Counts

Video recordings of the intersection turning movements were collected simultaneously during the 72-hour counts. A review of the 72-hour counts helped identify the peak periods to collect four-hour turning movement counts (TMCs). Detailed results of the TMCs are included in **Appendix C**.

Once the peak periods were identified from the 72-hour counts, the video recordings were used to collect and summarize the TMCs at the study intersection. The TMCs were collected on March 17, 2021 from 7:30 AM to 9:30 AM and from 1:45 PM to 3:45 PM. Pedestrian and bicyclist counts were included in the TMCs during the same four hours.

Figure 4 shows the volumes and approach truck percentages for the AM peak hour (7:45 AM to 8:45 AM), PM peak hour (1:45 PM to 2:45 PM) and reported pedestrian / bicyclist crossings.

Figure 4: Turning Movement Counts by Peak Hour



CRASH ANALYSIS

The most current five years of crash data were analyzed for the SW 84 Avenue and SW 38 Street intersection. The data was obtained from the FDOT's State Safety Office Geographic interface software (SSOGis) and Signal Four Analytics (S4). SSOgis provided verified crash data for 2016-2018 and data from S4 was used to supplement the SSOgis for 2016-2020. The supplement of S4 data was included in the analysis to verify if crash trends and crash patterns continued in the most recent years.

Note that while S4 data is not verified in its raw format, the data for this study was manually verified through a detailed review of the police reports.

The following findings were observed during the five-year analysis:

- A total of 31 crashes were reported within the influence area of the study intersection: eight crashes in 2016, four crashes in 2017, thirteen crashes in 2018, five crashes in 2019, and one crash in 2020.
- The crash peak period (3:00-6:00 PM) does not coincide with the vehicular peak hour identified through traffic data collection (1:45-2:45 PM).
- Angle (30 crashes / 97 percent) was the highest frequency crash type within the study area.
 - Sixteen of the 30 angle crashes involved eastbound vehicles colliding with southbound vehicles. The eastbound approach is stop-controlled.
 - Six of the 30 angle crashes involved eastbound vehicles colliding with northbound vehicles. The eastbound approach is stop-controlled.
 - Five of the 30 angle crashes involved westbound vehicles colliding with southbound vehicles. The westbound approach is stop-controlled.
 - Three of the 30 angle crashes involved westbound vehicles colliding with northbound vehicles. The westbound approach is stop-controlled.
 - Five or more angle crashes occurred within three separate 12-month periods. Eight angle crashes occurred during 2016, thirteen angle crashes occurred during 2018, and five angle crashes occurred during 2019.
- Ten injury crashes were reported (32 percent). All ten injury crashes were angle crashes.
- One sideswipe crash was reported. The crash was property damage only.
- There were no reported pedestrian or bicycle crashes within the study area.
- Three crashes (10 percent) occurred under nighttime conditions (dusk, dawn or dark).
- Four crashes (13 percent) occurred under wet pavement conditions.

All years of crash data was reviewed to identify trends and potential indicators of a need to change the control type at the study intersection. A SSOgis collision diagram for the crashes during the study period (2016 – 2018) is provided in **Figure 5**. **Figure 6** presents the collision diagram for crash data obtained from S4. A summary of the crash data is provided in **Appendix D**.



Collision Diagram at SW 84 Avenue and SW 38 Street
(Source: FDOT SSOGIS 2016 – 2018)

Figure
5



Collision Diagram at SW 84 Avenue and SW 38 Street
 (Source: S4 2016-2020)

Figure
6

A safety performance evaluation was conducted for the existing intersection configuration of two-way stop-controlled (TWSC) using FDOT's Safety Performance for Intersection Control Evaluation (SPICE) tool. The number of design year 2045 predicted, observed, and expected crashes per year are displayed in **Table 1**.

The number of observed crashes per year represents the average number of crashes per year based on the collected 2016-2018 historical crash data. Calibrated Safety Performance Functions (SPFs) were used to determine the number of predicted crashes per year based on the existing intersection control type. SPFs are developed to analyze locations with similar characteristics including intersection control type and can be applied to state, county, and local roadways. The number of expected crashes per year is developed using empirical Bayes method which applies a weighting factor to the predicted number of crashes based on the observed historical crash data.

The observed crashes per year represents the number of crashes that occurred. The predicted crashes per year represents the number of crashes that are generally predicted to occur based on the intersection control type. The expected crashes per year represents the number of crashes that would be expected based on the intersection control type and historical crash data.

Per the results obtained, the number of crashes observed is considerably higher when compared to the predicted number of crashes for the existing intersection control type (TWSC).

Table 1: Existing Control Type (TWSC) Year 2045 Predicted, Observed, and Expected Crashes Per Year

Crash Severity	Predicted Crashes/Year	Observed Crashes/Year	Expected Crashes/Year	Potential for Safety Improvements
Property Damage Only	1.39	4.80	3.09	1.70
Fatal and Injury	0.80	2.00	1.07	0.27
Total	2.19	6.20	4.16	1.97

The existing intersection configuration experienced higher than predicted and expected crashes per year for property damage only (PDO) and fatal and injury (F&I) crashes during the study period. The potential for safety improvement for the existing configuration is determined as the difference between the number of expected crashes and number of predicted crashes. For this study period, the potential for safety improvement is 1.70 PDO and 0.27 F&I crashes per year.

SIGNAL WARRANT ANALYSIS

A signal warrant analysis was performed at the study intersection to evaluate the need for traffic signal. The traffic signal warrant analysis was conducted in conformance with the requirements of the Federal Highway Administration (FHWA) Manual on Uniform Control Devices (MUTCD) and the FDOT Manual on Uniform Traffic Studies (MUTS). Guidance from the MUTCD indicates that a traffic signal is warranted if one or more warrants is met. The following warrants are applicable at the study intersection:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 7 – Crash Experience

Warrant 1, Condition A and Condition B are **not met** at the study intersection based on the highest eight hours of traffic volumes.

Warrant 2 is **not met** based on the highest four hours of traffic volumes.

Warrant 7 is not met based on criteria 1 – adequate trial of remedial measures and criteria 3 – volume warrants. **Although Warrant 7 is not met, the intersection does meet criteria 2 – correctable crashes, with five or more angle crashes in a 12-month period.** Eight angle crashes occurred during January through December 2016, thirteen angle crashes occurred during 2018, and five angle crashes occurred during 2019. This suggests that an intersection improvement is needed to correct the existing safety issue.

Based on the signal warrant analysis, a signal is not warranted at the intersection of SW 84 Avenue and SW 38 Street. The signal warrant forms are provided in **Appendix E**.

INTERSECTION CONTROL EVALUATION

Intersection Control Evaluation (ICE) is an evaluation process or methodology used to consider multiple context-sensitive intersection control strategies when planning a new or modified intersection. The goal of ICE is to provide a quantitative decision-making process to identify and select a control strategy that fits the location's context, provides safe travel facilities for all road users, and offers the best overall value. An ICE analysis was performed at the intersection of SW 84 Avenue and SW 38 Street.

ICE Stage 1

ICE Stage 1 involves two analysis components: 1) A planning level volume-to-capacity (V/C) ratio assessment using the Capacity Analysis at Junctions (CAP-X) tool; and 2) a planning level safety assessment using Safety Performance for Intersection Control Evaluation (SPICE). These assessments are high level in nature, due to the potentially numerous intersection control types that need to be reviewed during the ICE Stage 1 evaluation. Although the intersection does not meet signal warrants, the traffic signal was considered as part of the ICE Stage 1 analysis for comparison. The following intersection control types were evaluated in ICE Stage 1 at the study intersections including the No-Build condition:

- Two-Way Stop Control (TWSC) – No-Build
- All-Way Stop Control (AWSC)
- Signalized Control
- 1x1 Roundabout (one-lane major road and one-lane minor road)
- 50' Inscribed Circle Diameter (ICD) Mini-Roundabout
- 75' ICD Mini-Roundabout

Each control type was compared operationally using a planning level V/C ratio and for safety based on existing 2021 volumes. The V/C ratio is a comparison of the expected traffic volume to intersection capacity. The safety ranking is based upon a predicted number of total and fatal/injury crashes based upon the design year (2045) traffic volumes. A safety ranking of 1 denotes a lower predicted number of fatal/injury crashes while a higher ranking denotes a higher predicted number of fatal/injury crashes when compared to the other alternatives. Note that the roundabout alternatives are ranked ahead of the AWSC alternative due to having a lower number of predicted fatal and injury crashes. **Table 2** provides a comparison of the Stage 1 V/C ratio, safety ranking, and predicted crashes for the alternatives evaluated. ICE Stage 1 CAP-X and SPICE outputs are included in **Appendix F**.

Table 2: Stage 1 ICE Results

Control Strategy	V/C		Safety Ranking	Design Year Predicted Crashes/Year	
	AM	PM		Total	Fatal & Injury
Traffic Signal	0.09	0.09	3	2.17	0.68
TWSC (No-Build)	0.24	0.20	4	2.19	0.80
AWSC	0.36	0.37	2	0.91	0.27
1x1 Roundabout	0.13	0.12	1	1.11	0.18
50' ICD Mini-Roundabout	0.19	0.17	1	1.11	0.18
75' ICD Mini-Roundabout	0.19	0.16	1	1.11	0.18

Following the completion of the ICE Stage 1 analysis, the alternatives were compared. The traffic signal alternative has the best V/C ratio, but a higher number of predicted crashes when compared to the AWSC and roundabout alternatives. Additionally, the intersection does not meet traffic signal warrants.

The No-Build TWSC condition is predicted to have more than four times the number of fatal and injury crashes compared to the roundabout alternatives. The No-Build does not meet the Purpose & Need for the intersection evaluation.

The AWSC has a lower number of predicted crashes, but a higher V/C ratio when compared to the No-Build.

The roundabout alternatives have lower V/C ratios and the lowest numbers of predicted crashes when compared to the No-Build condition.

Due to the safety emphasis of the project, the roundabout alternative was selected as the preferred alternative following the completion of ICE Stage 1. ICE Stage 2 is not needed.

The mini-roundabout was selected for concept development due to a balance of right-of-way (ROW) constraints and design vehicle access. The concept is discussed in greater detail in the Concept Development section in this report.

OPERATIONAL ANALYSIS

A detailed Level of Service (LOS) analysis was conducted to compare the existing two-way stop control intersection with a mini-roundabout. The alternatives were evaluated using future 2045 weekday AM and PM peak hour traffic volume conditions. The land use surrounding the intersection consists of single family residential. Low traffic volume growth is anticipated due to the surrounding land use being fully built-out. A growth rate of 1.0 percent was selected as a conservative estimate to develop future volumes. The 2045 volumes were developed by applying a linear 1.0 percent growth rate to all movements. The No-Build scenario (TWSC) was evaluated in Synchro Version 10 using Highway Capacity Manual (HCM) 6th Edition methodologies.

The mini-roundabout alternative was evaluated in SIDRA Intersection 8.0 using HCM 2010 methodologies. The purpose of using HCM 2010 for the mini-roundabout analysis was to develop a more conservative capacity analysis. HCM 2010 capacity model is based upon older US data collected in 2006 which found that drivers frequently tended to come to a full stop even in the absence of conflicting traffic which generated lower capacities compared to international models. More recent data collected feeding into the latest HCM 6th Edition model found that roundabout capacities in the US have increased over time and the HCM 6th Edition now estimates higher capacity. There is not a widely accepted capacity model for mini-roundabouts currently available in the US. While not specifically intended for mini-roundabouts, use of the HCM 2010 model will generate a lower capacity estimate (more conservative) than the HCM 6th Edition. Due to mini-roundabouts having lower capacity than full size roundabouts, HCM 2010 was used to provide a more conservative estimate of the mini-roundabout capacity.

Table 3 provides the results comparison of the operational analysis. The northbound and southbound approaches operate at LOS A in both peak hours and the eastbound and westbound approaches operate at LOS B in both peak hours under the No-Build scenario. The mini-roundabout operates at LOS A in both peak hours for all intersection approaches. The operational analysis report outputs are provided in **Appendix G**.

Table 3: Year 2045 AM and PM Peak Hour Intersection Operational Analysis

Scenario			Eastbound	Westbound	Northbound	Southbound
AM Peak Hour	TWSC (No-Build) *	Delay	13.9	12.4	7.7	7.5
		LOS	B	B	A	A
		V/C	0.36	0.08	0.01	0.01
	Mini-Roundabout	Delay	6.7	4.1	5.2	5.3
		LOS	A	A	A	A
		V/C	0.26	0.04	0.15	0.21
PM Peak Hour	TWSC (No-Build) *	Delay	13.1	14.0	7.7	7.5
		LOS	B	B	A	A
		V/C	0.28	0.09	0.02	0.00
	Mini-Roundabout	Delay	5.9	4.4	5.4	5.4
		LOS	A	A	A	A
		V/C	0.20	0.04	0.18	0.21

*For the TWSC scenario, delay, LOS, and V/C ratio are reported for the left-turn movement only.

PROPOSED IMPROVEMENTS

The No-Build TWSC, AWSC, and roundabout scenarios were evaluated through ICE Stage 1. The mini-roundabout was identified as the preferred alternative based on safety performance. Due to ROW constraints and the intersection context, a mini-roundabout was determined to be the best alternative. The following section describes the development of a planning level concept and opinion of probable cost for a mini-roundabout at SW 84 Avenue and SW 38 Street.

Concept Development

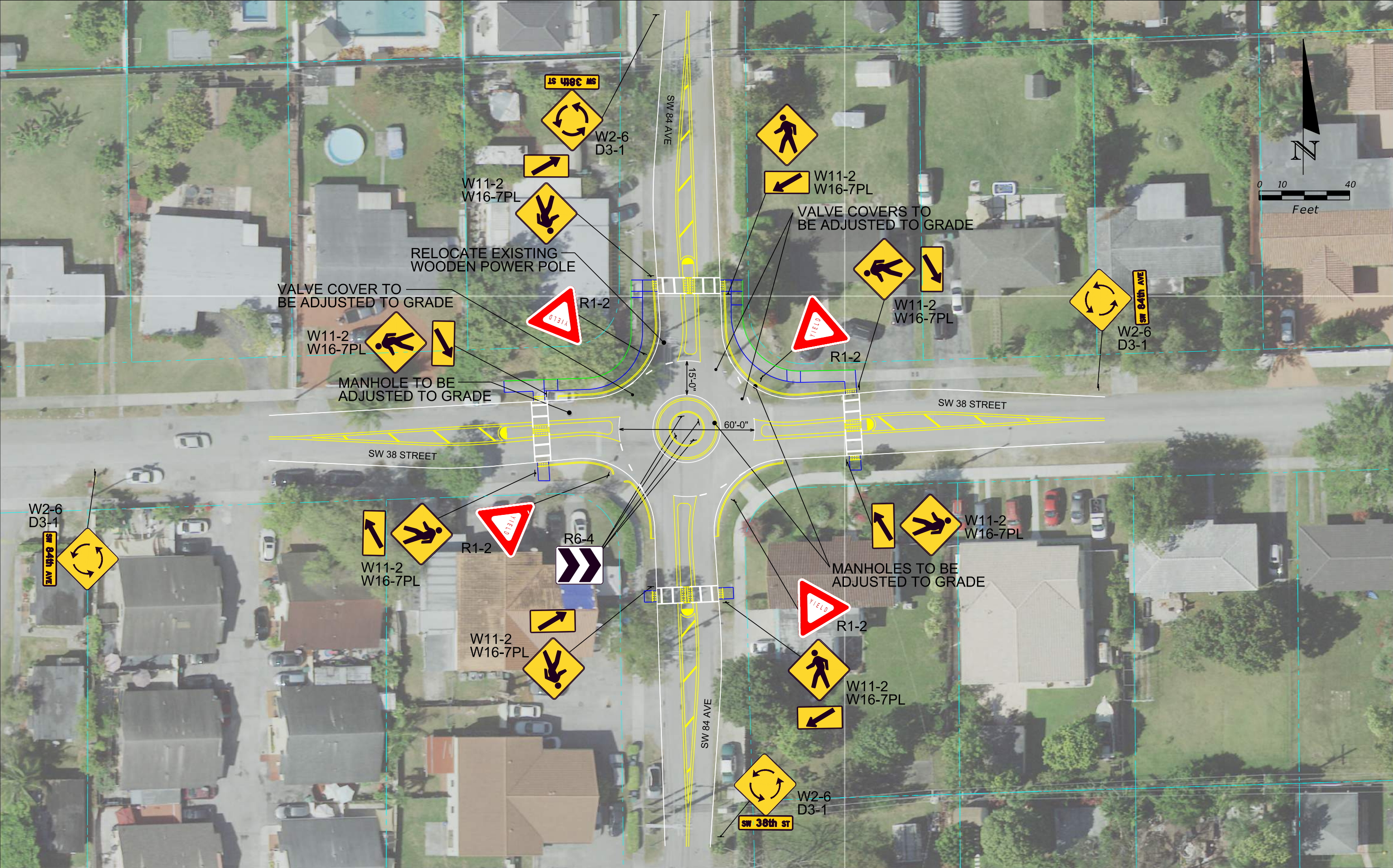
A planning level concept was developed for the mini-roundabout alternative to understand impacts and to be able to develop opinion of probable cost for use in a benefit-cost analysis. The concept is provided in **Figure 7**. The concept incorporates the following elements:

- 60' inscribed circle diameter. **Figure 8** provides a diagram showing how the inscribed circle diameter is measured.
- 15' circulatory roadway width. **Figure 8** provides a diagram showing how the circulatory roadway is measured.
- Raised splitter islands on all four approaches with pedestrian refuges.
- The design vehicle used was a 34' Fire Pumper Tanker.
- Light poles will be added to each corner of the intersection.
- Entry speeds were designed for 25 mph to provide low speeds for bicyclists to travel through the roundabout with vehicular traffic.

The proposed concept has the following impacts to the existing conditions:

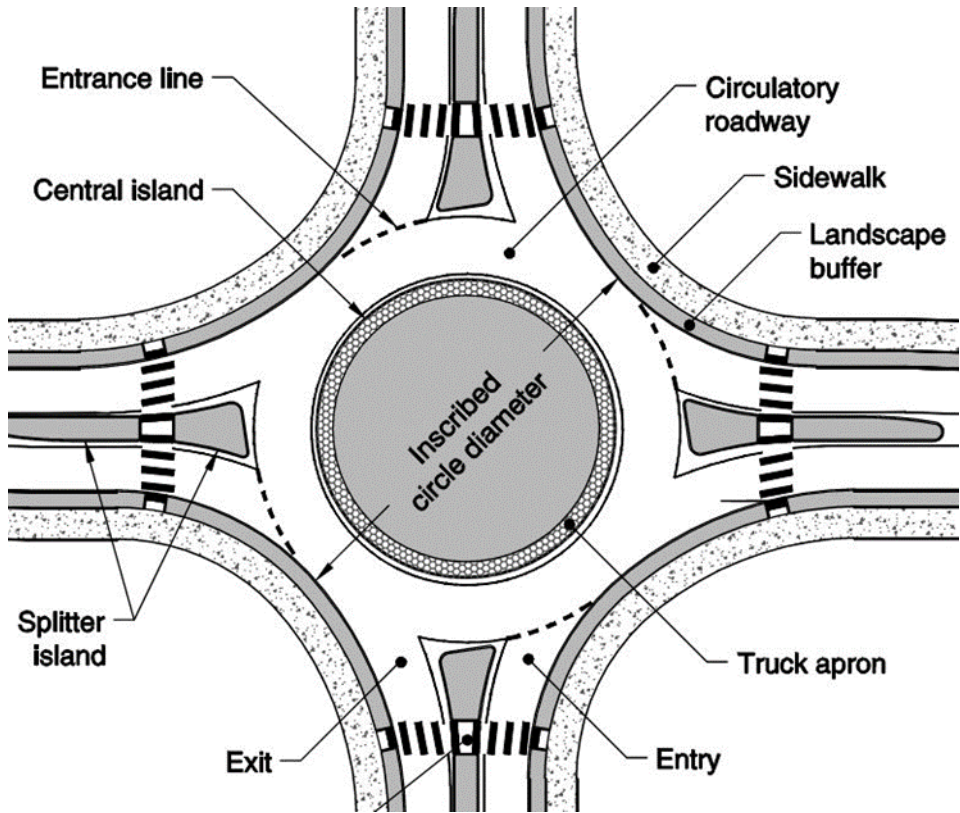
- Utility relocation
 - Wood utility pole (1)
 - Valve assembly (3)
 - Manhole (3)
 - Curb inlet (1)
 - Junction box (1)
- Drainage
 - Sediment barrier

The concept stays within the existing ROW and provides new sidewalk connections on all four legs. Fastest path and design vehicle checks are provided in **Appendix H**.



REVISIONS				<div>TPMiami-Dade Transportation Planning Organization</div>	MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION	SW 84 AVENUE & SW 38 STREET ROUNDBABOUT CONCEPT	FIGURE NO. 7
DATE	DESCRIPTION	DATE	DESCRIPTION				

Figure 8: Roundabout Diagram



Source: NCHRP Report 672, Page 6-9

Opinion of Probable Cost

An opinion of probable cost was developed based on the planning level concept. A 30% contingency cost was included. A detailed cost estimate is provided in **Appendix I**.

Table 4 provides a summary of the opinion of probable cost based on the mini-roundabout concept.

Table 4: Opinion of Probable Cost

Cost Item	Cost
Total Estimated Construction Costs	\$264,757
Total Estimated Capital Support Costs	\$127,100
Total Estimated Right-of-Way Costs	\$0
Total Project Cost	\$391,857

Benefit/Cost

The FDOT ICE Tool was used to conduct a benefit/cost analysis. The ICE Tool is used to compare the operational and safety analyses, along with the opinion of probable cost to develop a benefit/cost ratio (B/C) and net present value (NPV) of the alternative. The ICE Tool results are provided in **Appendix J**. A life cycle of 20 years was used for the proposed recommendations.

Table 5 provides the ICE Tool delay, safety, and overall B/C analysis results as well as the estimated NPV of the alternative. The overall benefit/cost is 10.40.

Table 5: ICE Tool Benefit/Cost Analysis Results

Alternative	Overall B/C	Delay B/C	Safety B/C	Net Present Value
Mini-Roundabout	10.40	1.84	8.56	\$4,231,835

STAKEHOLDER COORDINATION

The study team conducted coordination meetings with Miami Dade County Public Works (DTPW) Traffic Operations and Traffic Engineering Divisions to discuss the selection of the study intersection and proposed mini-roundabout alternative. The following meetings were held with County staff to discuss the selection of the study intersection and evaluation and concept development:

- March 8, 2021 – a meeting was held to kick-off the project and discuss the study intersection selection process.
- April 1, 2021 – a meeting was held to discuss the selection of study intersections. The County identified 13 intersections for safety analysis. The 13 locations were reviewed and the top three were identified based on historical crash data and potential safety benefit. SW 84 Avenue and SW 38 Street was selected as one of the three study intersections. Discussion included a review of the County proposed recommendations. The County's proposed recommendations were implemented into the concept development presented in this report.
- April 12, 2021 – a meeting was held to discuss data collection and the design vehicle to be used for the concept development.
 - A 34' Fire Pumper Tanker was selected as the design vehicle.
- April 20, 2021 – a meeting was held to review and receive input on design aspects of the concept development.
- April 23, 2021 – a meeting was held to provide further details on the concept development and discuss anticipated impacts of the mini-roundabout.

DTPW staff is in support of the proposed alternative.

SUMMARY

An Intersection Safety Analysis was conducted at SW 84 Avenue and SW 38 Street, located in Miami-Dade County. The intersection was identified as a roadway safety improvement project under the TPO Fiscal Year 2026 List of Program Priorities approved June 18, 2020 and included in the newly approved 2027 LOPP on June 17, 2021. Improvements for this intersection were prioritized for evaluation due to an existing pattern of angle crashes. The Purpose & Need of the study is to reduce crashes, most importantly fatalities and serious injuries, by evaluating the intersection and providing justification to apply for Highway Safety Improvement Program (HSIP) funding.

An ICE Stage 1 analysis was conducted to determine the best control type for the intersection. A mini-roundabout was identified as the preferred alternative. There are no right-of-way impacts anticipated with the proposed mini-roundabout design.

A benefit/cost analysis shows an overall benefit of 10.40 with a delay benefit of 1.84 and a safety benefit of 8.56 when compared to the No-Build condition. The net present value of the alternative is \$4,231,835. The safety benefit/cost ratio is greater than 1.0 and the net present value is positive, which meets the requirements for HSIP funding.

APPENDIX A. FIELD OBSERVATION REPORT

FIELD OBSERVATION REPORT

Location	SW 84 Avenue & SW 38 Street	Date	March 18, 2021
Observer	KAI	Time	Midday

PART I - PHYSICAL CHECKLIST

	NO	YES	COMMENTS
1. Are there sight distance obstructions to:			
a. Traffic control devices?	<u>X</u>	<u> </u>	
b. Intersections and driveways?	<u>X</u>	<u> </u>	
c. Turning or on-coming vehicles?	<u> </u>	<u>X</u>	Fences along the north and south sides of the west leg obstruct EB drivers' view of NB and SB vehicles.
2. Does parking affect:			
a. Sight distance?	<u> </u>	<u>X</u>	Vehicles parked on the west side of the south leg obstruct EB drivers' view of NB vehicles.
b. Through or turning vehicle paths?	<u>X</u>	<u> </u>	
3. Is horizontal alignment inadequate?	<u>X</u>	<u> </u>	
4. Is vertical alignment inadequate?	<u>X</u>	<u> </u>	
5. Is pavement width or the number of lanes inadequate?	<u>X</u>	<u> </u>	
6. Are intersection or driveway radii too short?	<u>X</u>	<u> </u>	
7. Are there problems with driveways such as:			
a. Inadequate design?	<u>X</u>	<u> </u>	
b. Location near major intersection?	<u>X</u>	<u> </u>	
c. Too many driveways?	<u>X</u>	<u> </u>	
8. Is channelization inadequate for:			
a. Reducing conflict points?	<u>X</u>	<u> </u>	
b. Separating traffic flows or defining movements?	<u>X</u>	<u> </u>	
9. Should pedestrian crosswalks be:			
a. Added?	<u> </u>	<u>X</u>	Crosswalks missing on all four legs – to be added in traffic circle concept.
b. Relocated or repainted?	<u>X</u>	<u> </u>	

FIELD OBSERVATION REPORT

	NO	YES	COMMENTS
10. Are there problems with traffic signs such as:			
a. Inadequate or improper message?	X		
b. Too many signs?	X		
c. Placement or size?	X		
11. Are there problems with traffic signals such as:			
a. Timing?			N/A
b. Number of signal heads?			N/A
c. Placement or size?			N/A
12. Are there problems with pavement markings such as:			
a. Vehicle paths not clearly marked?	X		
b. Location of the markings?	X		
13. Do posted speed limits appear to be too high or too low for conditions?	X		
14. Does the pavement condition (potholes, irregular surface, etc. appear to contribute to safety problems?		X	Broken pavement on NE corner.
15. Is roadway lighting inadequate?	X		
16. Are there tire skid marks on pavement?	X		
17. Is there evidence of vehicle accident debris such as scar marks on trees, utility poles, embankments or other objects?	X		
18. Is there an abundance of vehicle accident debris such as small pieces of crushed glass, plastic, etc. along the shoulder or in the median area?		X	Vehicle debris in NE corner.

FIELD OBSERVATION REPORT

PART II - OPERATIONAL CHECKLIST

		NO	YES	COMMENTS
1.	Do obstructions block the driver's view of opposing or conflicting vehicles?	<u> </u>	<u>X</u>	Fences along the north and south sides of the west leg obstruct EB drivers' view of NB and SB vehicles.
2.	Do drivers have trouble finding the correct path through the location?	<u>X</u>	<u> </u>	
3.	Is there any indication of driver confusion about routes, street names or other guidance information?	<u>X</u>	<u> </u>	
4.	Do steep grades create large speed differences?	<u>X</u>	<u> </u>	
5.	Are pavement surface conditions creating erratic driver movements?	<u>X</u>	<u> </u>	
6.	Does the presence of existing driveways contribute to erratic driver movements?	<u>X</u>	<u> </u>	
7.	Is excessive vehicle delay creating unsafe risk taking by motorists?	<u>X</u>	<u> </u>	
8.	Are there large speed differences between vehicles:			
a.	Traveling through the location?	<u>X</u>	<u> </u>	
b.	Turning at driveways or intersections?	<u>X</u>	<u> </u>	
9.	Do drivers respond incorrectly to:			
a.	Signals?	<u> </u>	<u> </u>	N/A
b.	Signs or other traffic control devices?	<u>X</u>	<u> </u>	

FIELD OBSERVATION REPORT

	NO	YES	COMMENTS
10. Are problems being caused by the volume of:			
a. Through traffic?	X		
b. Turning traffic?	X		
11. Do pedestrian movements create conflicts?	X		
12. Do bicycle movements create conflicts?	X		
13. Is there considerable weaving or lane changing by drivers at the location?	X		
14. Are there violations of parking at the location?	X		
15. Are there violations of other traffic control devices or regulations such as:			
a. Running red light?	X		High number of recorded angle crashes.
b. Failing to stop or yield the right-of-way?		X	
c. Speed limits?	X		
d. Right-turn-on-red?	X		
e. Other?	X		
16. Are there traffic flow problems or traffic conflict patterns associated with turning vehicles?		X	High number of recorded angle crashes.
17. Are there any other unusual traffic flow problems or traffic conflict patterns?	X		
18. Does inadequate lighting cause drivers to slow down or create erratic maneuvers?	X		
19. Do transit operations create conflicts / excessive delays.	X		

NOTES:

APPENDIX B. BI-DIRECTIONAL 72-HOUR COUNTS

County: 87
 Station: 3801
 Description: SW 84TH AVE N OF SW 38TH ST
 Start Date: 03/16/2021
 Start Time: 0000

Time	Direction: N					Direction: S					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	Total
0000	2	1	1	1	5	0	1	1	1	3	8	
0100	1	0	0	0	1	0	0	1	0	1	2	
0200	0	1	0	1	2	2	0	0	1	3	5	
0300	0	0	0	0	0	1	0	0	0	1	1	
0400	0	0	2	0	2	1	1	1	0	3	5	
0500	0	1	1	1	3	1	2	0	1	4	7	
0600	3	3	1	7	14	6	4	9	14	33	47	
0700	15	16	19	17	67	19	18	35	41	113	180	
0800	30	28	27	13	98	38	33	38	27	136	234	
0900	20	20	10	17	67	25	24	30	26	105	172	
1000	9	15	16	23	63	26	30	28	24	108	171	
1100	24	13	20	21	78	39	19	29	34	121	199	
1200	28	29	35	26	118	35	28	29	44	136	254	
1300	20	25	26	16	87	30	38	38	43	149	236	
1400	26	26	29	35	116	30	40	43	38	151	267	
1500	21	39	27	29	116	48	43	39	41	171	287	
1600	29	16	34	22	101	31	36	34	30	131	232	
1700	30	33	28	20	111	30	37	43	32	142	253	
1800	20	24	21	27	92	31	39	42	28	140	232	
1900	26	18	14	21	79	28	28	31	16	103	182	
2000	16	14	11	6	47	25	24	18	14	81	128	
2100	16	6	6	12	40	10	8	10	7	35	75	
2200	12	3	4	4	23	8	8	0	5	21	44	
2300	7	0	2	6	15	3	1	1	1	6	21	
24-Hour Totals:					1345						1897	3242

Peak Volume Information						
Direction: N			Direction: S		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	745	102	745	150	745	252
P.M.	1430	124	1430	172	1430	296
Daily	1430	124	1430	172	1430	296

County: 87
 Station: 3801
 Description: SW 84TH AVE N OF SW 38TH ST
 Start Date: 03/17/2021
 Start Time: 0000

	Direction: N					Direction: S					Combined	
Time	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	
0000	1	1	1	1	4	0	0	2	0	2	6	
0100	1	1	1	0	3	0	0	0	1	1	4	
0200	0	1	1	0	2	0	0	1	1	2	4	
0300	0	0	4	0	4	1	0	0	0	1	5	
0400	0	0	1	0	1	0	2	0	0	2	3	
0500	0	0	4	4	8	3	4	1	1	9	17	
0600	6	7	5	7	25	5	6	7	15	33	58	
0700	12	19	26	24	81	20	16	37	44	117	198	
0800	28	28	24	19	99	28	38	50	33	149	248	
0900	15	22	17	16	70	35	45	47	47	174	244	
1000	17	16	17	25	75	32	28	26	34	120	195	
1100	26	15	34	27	102	32	27	33	28	120	222	
1200	25	24	25	28	102	36	36	33	44	149	251	
1300	20	22	24	28	94	38	32	30	33	133	227	
1400	28	18	33	39	118	48	47	36	37	168	286	
1500	32	31	22	30	115	25	43	30	37	135	250	
1600	20	33	22	28	103	22	29	23	28	102	205	
1700	26	28	26	26	106	42	26	32	27	127	233	
1800	20	27	14	25	86	30	27	31	30	118	204	
1900	30	20	16	18	84	30	19	19	25	93	177	
2000	11	19	21	6	57	26	16	25	19	86	143	
2100	13	10	10	12	45	9	18	9	7	43	88	
2200	7	2	5	4	18	4	7	6	3	20	38	
2300	4	1	6	2	13	5	2	2	2	11	24	
24-Hour Totals:					1415						1915	3330

Peak Volume Information						
Direction: N			Direction: S		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	730	106	830	163	745	264
P.M.	1430	135	1400	168	1400	286
Daily	1430	135	900	174	1400	286

County: 87
 Station: 3801
 Description: SW 84TH AVE N OF SW 38TH ST
 Start Date: 03/18/2021
 Start Time: 0000

Time	Direction: N					Direction: S					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	Total
0000	4	2	2	2	10	0	2	0	1	3	13	13
0100	0	4	0	0	4	0	5	3	1	9	13	13
0200	1	1	0	0	2	1	0	0	0	1	3	3
0300	2	0	1	0	3	0	0	0	0	0	3	3
0400	3	0	1	0	4	0	1	3	0	4	8	8
0500	0	1	0	1	2	0	2	2	2	6	8	8
0600	2	3	7	14	26	2	4	4	4	14	40	40
0700	10	21	20	34	85	16	23	32	38	109	194	194
0800	20	32	26	13	91	41	34	32	26	133	224	224
0900	17	16	22	17	72	21	26	26	26	99	171	171
1000	16	19	18	16	69	20	39	29	21	109	178	178
1100	26	11	27	20	84	39	35	26	36	136	220	220
1200	29	20	26	23	98	39	34	30	31	134	232	232
1300	27	27	18	21	93	32	41	40	36	149	242	242
1400	33	22	27	34	116	41	37	50	39	167	283	283
1500	36	23	18	26	103	49	39	38	40	166	269	269
1600	30	32	18	29	109	37	36	31	35	139	248	248
1700	21	34	29	27	111	28	39	39	43	149	260	260
1800	21	23	26	19	89	28	31	42	33	134	223	223
1900	25	21	20	19	85	27	24	21	17	89	174	174
2000	12	18	15	8	53	20	17	16	16	69	122	122
2100	8	8	8	8	32	13	15	10	13	51	83	83
2200	8	9	7	5	29	10	6	4	5	25	54	54
2300	1	3	2	5	11	2	4	0	3	9	20	20
24-Hour Totals:					1381						1904	3285

Peak Volume Information						
Direction: N			Direction: S		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	745	112	730	145	745	257
P.M.	1430	120	1430	177	1430	297
Daily	1430	120	1430	177	1430	297

County: 87
 Station: 3803
 Description: SW 38TH ST E OF SW 84TH AVE
 Start Date: 03/16/2021
 Start Time: 0000

Time	Direction: E					Direction: W					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	Total
0000	0	0	0	0	0	0	0	1	0	1	1	1
0100	0	2	0	0	2	2	1	0	0	3	3	5
0200	0	0	0	0	0	0	0	0	0	0	0	0
0300	0	0	0	0	0	1	0	0	0	1	1	1
0400	1	0	1	0	2	0	0	0	0	0	0	2
0500	0	0	2	2	4	0	0	1	0	1	1	5
0600	1	5	5	9	20	2	1	0	1	4	4	24
0700	15	8	20	21	64	1	3	2	4	10	10	74
0800	23	18	21	14	76	8	5	5	6	24	24	100
0900	20	7	10	15	52	3	1	4	6	14	14	66
1000	14	12	15	6	47	5	4	4	5	18	18	65
1100	9	13	16	12	50	6	2	5	8	21	21	71
1200	15	18	9	15	57	2	5	9	5	21	21	78
1300	14	14	21	17	66	3	10	6	6	25	25	91
1400	10	17	10	21	58	6	7	4	8	25	25	83
1500	16	16	11	22	65	4	6	8	3	21	21	86
1600	13	24	20	14	71	8	7	4	11	30	30	101
1700	14	24	13	12	63	8	10	11	7	36	36	99
1800	9	14	5	14	42	6	7	9	7	29	29	71
1900	11	10	7	11	39	6	12	8	5	31	31	70
2000	5	12	7	6	30	3	4	5	4	16	16	46
2100	6	4	4	6	20	3	7	4	4	18	18	38
2200	7	3	1	1	12	4	2	1	0	7	7	19
2300	1	2	1	1	5	1	3	1	1	6	6	11
24-Hour Totals:					845						362	1207

Peak Volume Information						
Direction: E			Direction: W		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	745	83	800	24	745	105
P.M.	1545	79	1645	40	1630	105
Daily	745	83	1645	40	745	105

County: 87
 Station: 3803
 Description: SW 38TH ST E OF SW 84TH AVE
 Start Date: 03/17/2021
 Start Time: 0000

Time	Direction: E					Direction: W					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	
0000	1	0	1	1	3	0	1	0	0	1	4	
0100	0	0	0	0	0	1	0	0	0	1	1	
0200	0	0	1	0	1	0	0	0	0	0	1	
0300	1	0	0	1	2	0	0	0	0	0	2	
0400	1	0	1	0	2	1	0	0	0	1	3	
0500	0	0	3	2	5	1	1	1	0	3	8	
0600	2	4	6	9	21	1	0	1	0	2	23	
0700	11	19	21	36	87	2	3	4	3	12	99	
0800	21	19	22	21	83	6	11	8	4	29	112	
0900	19	12	14	8	53	8	1	4	4	17	70	
1000	15	9	11	9	44	5	5	3	7	20	64	
1100	13	12	12	17	54	3	0	5	4	12	66	
1200	17	12	21	16	66	7	5	3	9	24	90	
1300	21	16	13	32	82	6	6	5	6	23	105	
1400	13	15	16	9	53	5	7	12	6	30	83	
1500	8	22	11	11	52	6	6	5	7	24	76	
1600	17	15	18	10	60	12	8	3	13	36	96	
1700	20	11	8	16	55	8	8	10	2	28	83	
1800	20	19	10	20	69	8	15	12	9	44	113	
1900	13	5	10	9	37	7	6	4	6	23	60	
2000	7	2	11	13	33	3	5	8	6	22	55	
2100	2	5	7	4	18	4	4	4	2	14	32	
2200	3	2	0	2	7	2	0	0	0	2	9	
2300	2	1	1	3	7	0	2	1	2	5	12	
24-Hour Totals:					894						373	1267

Peak Volume Information						
Direction: E			Direction: W		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	745	98	815	31	745	126
P.M.	1300	82	1800	44	1800	113
Daily	745	98	1800	44	745	126

County: 87
 Station: 3803
 Description: SW 38TH ST E OF SW 84TH AVE
 Start Date: 03/18/2021
 Start Time: 0000

Time	Direction: E					Direction: W					Combined
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total
0000	0	2	0	0	2	0	1	1	0	2	4
0100	2	1	0	1	4	1	0	0	0	1	5
0200	0	0	0	1	1	1	0	1	0	2	3
0300	0	0	0	0	0	0	0	0	0	0	0
0400	2	0	3	0	5	2	0	0	0	2	7
0500	0	1	3	4	8	0	0	0	0	0	8
0600	5	4	10	6	25	1	0	1	0	2	27
0700	10	15	13	30	68	0	2	4	3	9	77
0800	17	35	13	14	79	4	5	6	4	19	98
0900	14	6	12	11	43	6	4	3	5	18	61
1000	14	13	11	13	51	3	1	7	6	17	68
1100	13	8	8	12	41	6	5	7	7	25	66
1200	18	19	10	15	62	8	3	5	4	20	82
1300	12	14	11	24	61	3	8	6	2	19	80
1400	17	21	16	14	68	3	6	6	7	22	90
1500	10	16	29	12	67	6	7	9	6	28	95
1600	9	14	15	18	56	7	6	11	3	27	83
1700	18	18	18	13	67	12	14	5	16	47	114
1800	14	15	15	12	56	8	10	7	10	35	91
1900	12	4	9	12	37	6	11	7	2	26	63
2000	9	4	6	9	28	10	6	1	4	21	49
2100	9	7	2	7	25	6	3	3	3	15	40
2200	2	2	3	1	8	2	0	0	0	2	10
2300	0	2	2	0	4	2	0	2	1	5	9
24-Hour Totals:					866						1230

Peak Volume Information						
Direction: E			Direction: W		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	730	95		815	745	113
P.M.	1345	78		1700	1700	114
Daily	730	95		1700	1700	114

County: 87
 Station: 3805
 Description: SW 84TH AVE S OF SW 38TH ST
 Start Date: 03/16/2021
 Start Time: 0000

Time	Direction: N					Direction: S					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	Total
0000	5	1	2	1	9	0	3	3	3	9	18	
0100	1	1	2	1	5	1	0	1	0	2	7	
0200	0	1	1	1	3	2	0	1	1	4	7	
0300	0	0	0	0	0	1	0	0	0	1	1	
0400	1	0	2	1	4	2	1	2	0	5	9	
0500	0	2	2	1	5	1	2	0	2	5	10	
0600	3	3	6	10	22	8	5	12	19	44	66	
0700	16	17	20	20	73	23	24	46	51	144	217	
0800	35	30	29	18	112	45	44	48	43	180	292	
0900	23	23	14	22	82	36	34	48	37	155	237	
1000	13	15	21	26	75	31	40	37	34	142	217	
1100	19	17	22	26	84	42	34	42	46	164	248	
1200	28	37	36	24	125	59	37	41	63	200	325	
1300	26	29	27	18	100	45	62	51	53	211	311	
1400	27	26	37	39	129	44	50	54	49	197	326	
1500	31	43	31	29	134	68	59	58	52	237	371	
1600	34	22	42	32	130	38	46	40	38	162	292	
1700	38	35	32	28	133	45	49	50	49	193	326	
1800	28	29	20	32	109	39	42	55	37	173	282	
1900	32	19	18	22	91	34	37	37	20	128	219	
2000	15	16	15	10	56	30	23	19	19	91	147	
2100	19	6	4	13	42	15	8	11	11	45	87	
2200	13	7	5	5	30	13	9	1	6	29	59	
2300	7	1	2	5	15	4	2	1	2	9	24	
24-Hour Totals:					1568						2530	4098

Peak Volume Information						
Direction: N			Direction: S		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	745	114	745	188	745	302
P.M.	1430	150	1500	237	1430	380
Daily	1430	150	1500	237	1430	380

County: 87
 Station: 3805
 Description: SW 84TH AVE S OF SW 38TH ST
 Start Date: 03/17/2021
 Start Time: 0000

Time	Direction: N					Direction: S					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	Total
0000	1	2	1	4	8	0	2	1	0	3	11	11
0100	1	2	1	0	4	0	1	0	1	2	6	6
0200	0	1	0	0	1	0	1	0	1	2	3	3
0300	0	1	4	1	6	1	0	0	1	2	8	8
0400	0	0	1	0	1	2	2	1	1	6	7	7
0500	0	2	5	3	10	3	4	1	3	11	21	21
0600	7	5	9	7	28	6	7	9	18	40	68	68
0700	14	21	28	27	90	22	24	57	68	171	261	261
0800	29	28	24	24	105	40	52	64	41	197	302	302
0900	18	21	19	18	76	55	52	56	55	218	294	294
1000	23	16	21	25	85	40	31	37	45	153	238	238
1100	25	15	37	27	104	39	40	43	46	168	272	272
1200	29	29	29	28	115	49	53	40	49	191	306	306
1300	27	23	30	42	122	55	46	39	50	190	312	312
1400	33	22	39	48	142	61	59	53	46	219	361	361
1500	38	36	26	31	131	40	53	45	49	187	318	318
1600	20	37	27	28	112	34	33	36	41	144	256	256
1700	32	38	37	34	141	59	33	43	47	182	323	323
1800	25	34	16	32	107	35	27	42	36	140	247	247
1900	37	20	20	23	100	35	24	23	26	108	208	208
2000	13	20	28	9	70	29	21	33	17	100	170	170
2100	16	11	13	14	54	11	22	14	9	56	110	110
2200	8	2	4	7	21	5	8	6	5	24	45	45
2300	8	1	9	2	20	5	2	2	3	12	32	32
24-Hour Totals:					1653						2526	4179

Peak Volume Information						
Direction: N			Direction: S		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	730	112	745	224	745	332
P.M.	1430	161	1345	223	1400	361
Daily	1430	161	745	224	1400	361

County: 87
 Station: 3805
 Description: SW 84TH AVE S OF SW 38TH ST
 Start Date: 03/18/2021
 Start Time: 0000

Time	Direction: N					Direction: S					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	
0000	3	4	4	3	14	3	3	0	1	7	21	
0100	2	3	2	1	8	1	5	3	1	10	18	
0200	2	1	0	1	4	2	0	0	0	2	6	
0300	2	0	1	0	3	0	0	1	2	3	6	
0400	3	1	2	0	6	0	1	4	0	5	11	
0500	0	1	3	0	4	0	2	2	3	7	11	
0600	2	5	7	19	33	4	7	6	6	23	56	
0700	8	25	24	37	94	19	28	54	51	152	246	
0800	20	45	29	18	112	50	45	38	36	169	281	
0900	21	18	22	17	78	32	37	39	41	149	227	
1000	14	23	21	17	75	30	50	40	37	157	232	
1100	28	12	27	27	94	49	46	33	47	175	269	
1200	26	23	31	25	105	50	43	40	43	176	281	
1300	35	25	24	28	112	43	48	54	46	191	303	
1400	41	28	31	34	134	52	56	58	50	216	350	
1500	49	31	24	34	138	59	52	60	52	223	361	
1600	31	40	22	39	132	50	47	42	45	184	316	
1700	27	35	38	33	133	40	45	49	49	183	316	
1800	33	29	35	21	118	41	39	47	40	167	285	
1900	29	26	22	17	94	34	38	28	19	119	213	
2000	14	19	21	14	68	26	20	19	19	84	152	
2100	9	10	10	11	40	14	18	14	13	59	99	
2200	9	12	8	6	35	8	7	8	5	28	63	
2300	2	4	6	4	16	3	3	2	3	11	27	
24-Hour Totals:					1650						2500	4150

Peak Volume Information						
Direction: N		Direction: S		Combined Directions		
Hour	Volume	Hour	Volume	Hour	Volume	
A.M.	745	131	730	200	730	326
P.M.	1430	145	1415	223	1415	365
Daily	1430	145	1415	223	1415	365

County: 87
 Station: 3807
 Description: SW 38TH ST W OF SW 84TH AVE
 Start Date: 03/16/2021
 Start Time: 0000

Time	Direction: E					Direction: W					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	Total
0000	0	2	2	2	6	2	1	2	0	5	11	11
0100	2	1	0	0	3	1	2	1	0	4	7	7
0200	1	0	0	0	1	1	0	0	0	1	2	2
0300	0	0	0	0	0	1	0	0	0	1	1	1
0400	1	0	2	0	3	0	0	0	1	1	4	4
0500	0	0	2	3	5	0	0	2	2	4	9	9
0600	3	6	5	12	26	2	3	4	3	12	38	38
0700	17	17	32	25	91	1	5	5	8	19	110	110
0800	30	26	29	27	112	13	6	6	6	31	143	143
0900	32	17	24	23	96	5	5	4	10	24	120	120
1000	17	22	25	13	77	6	5	11	7	29	106	106
1100	17	27	27	22	93	5	6	7	10	28	121	121
1200	34	25	16	32	107	1	11	8	4	24	131	131
1300	26	33	32	28	119	7	8	6	10	31	150	150
1400	21	26	22	36	105	6	10	8	15	39	144	144
1500	40	32	28	31	131	10	11	10	4	35	166	166
1600	21	36	24	20	101	9	13	12	15	49	150	150
1700	29	28	21	25	103	13	11	16	12	52	155	155
1800	19	18	16	23	76	16	12	7	13	48	124	124
1900	22	18	17	14	71	13	12	11	6	42	113	113
2000	14	10	10	9	43	5	4	13	4	26	69	69
2100	10	5	9	8	32	5	5	4	5	19	51	51
2200	9	4	1	2	16	3	5	1	1	10	26	26
2300	1	2	3	2	8	0	2	1	0	3	11	11
24-Hour Totals:					1425						537	1962

Peak Volume Information						
Direction: E		Direction: W		Combined Directions		
Hour	Volume	Hour	Volume	Hour	Volume	
A.M.	815	114	745	33	730	145
P.M.	1445	136	1730	56	1445	182
Daily	1445	136	1730	56	1445	182

County: 87
 Station: 3807
 Description: SW 38TH ST W OF SW 84TH AVE
 Start Date: 03/17/2021
 Start Time: 0000

Time	Direction: E					Direction: W					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	Total
0000	1	2	1	1	5	0	1	1	3	5	10	
0100	0	1	0	0	1	1	1	1	0	3	4	
0200	1	1	2	0	4	0	0	1	0	1	5	
0300	1	0	0	1	2	0	0	0	0	0	2	
0400	3	0	3	0	6	1	0	0	0	1	7	
0500	0	0	2	3	5	1	3	2	1	7	12	
0600	4	5	7	9	25	2	1	5	0	8	33	
0700	11	27	37	56	131	3	4	3	7	17	148	
0800	32	30	34	29	125	7	9	9	7	32	157	
0900	33	20	19	20	92	9	3	4	5	21	113	
1000	23	11	21	21	76	11	7	4	9	31	107	
1100	25	25	19	36	105	7	4	3	7	21	126	
1200	32	32	28	24	116	13	12	8	9	42	158	
1300	32	26	18	41	117	12	4	8	13	37	154	
1400	30	29	24	20	103	11	9	12	16	48	151	
1500	24	34	23	24	105	11	9	9	11	40	145	
1600	34	24	31	26	115	17	13	10	13	53	168	
1700	33	15	19	34	101	10	13	17	8	48	149	
1800	20	21	22	21	84	15	19	15	10	59	143	
1900	18	10	14	10	52	13	8	7	7	35	87	
2000	15	8	12	10	45	7	6	8	5	26	71	
2100	2	8	10	6	26	3	2	4	5	14	40	
2200	7	5	1	4	17	4	2	0	2	8	25	
2300	1	1	1	3	6	3	2	2	2	9	15	
24-Hour Totals:					1464						566	2030

Peak Volume Information						
Direction: E			Direction: W		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	730	155	815	34	745	184
P.M.	1345	124	1730	59	1345	169
Daily	730	155	1730	59	745	184

County: 87
 Station: 3807
 Description: SW 38TH ST W OF SW 84TH AVE
 Start Date: 03/18/2021
 Start Time: 0000

Time	Direction: E					Direction: W					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	
0000	3	3	2	1	9	0	2	3	2	7	16	
0100	1	2	2	0	5	2	0	1	1	4	9	
0200	0	0	0	0	0	1	0	1	0	2	2	
0300	0	0	1	1	2	0	0	0	0	0	2	
0400	2	0	3	0	5	2	1	0	0	3	8	
0500	0	1	2	4	7	0	0	3	0	3	10	
0600	8	6	11	6	31	3	1	3	2	9	40	
0700	13	21	34	40	108	0	5	8	8	21	129	
0800	28	37	16	20	101	10	6	8	6	30	131	
0900	19	16	24	29	88	6	9	7	6	28	116	
1000	23	27	13	31	94	4	6	5	10	25	119	
1100	20	14	24	17	75	7	3	11	7	28	103	
1200	28	25	19	29	101	10	5	6	8	29	130	
1300	19	22	25	39	105	9	8	13	10	40	145	
1400	24	37	21	27	109	8	9	8	8	33	142	
1500	19	26	44	23	112	16	13	7	14	50	162	
1600	19	25	28	24	96	6	11	18	12	47	143	
1700	27	26	27	23	103	19	17	14	22	72	175	
1800	26	21	14	17	78	19	14	8	9	50	128	
1900	16	17	14	17	64	7	16	6	5	34	98	
2000	15	7	8	10	40	9	6	4	5	24	64	
2100	11	11	5	5	32	11	4	3	4	22	54	
2200	3	4	8	1	16	5	5	2	0	12	28	
2300	0	1	2	1	4	1	1	3	0	5	9	
24-Hour Totals:					1385						578	1963

Peak Volume Information						
Direction: E			Direction: W		Combined Directions	
Hour	Volume		Hour	Volume	Hour	Volume
A.M.	730	139	730	32	730	171
P.M.	1330	125	1700	72	1700	175
Daily	730	139	1700	72	1700	175

APPENDIX C. TURNING MOVEMENT COUNTS (AM AND PM)

CTS Engineering, Inc

8095 NW 12 Street, Ste 301

Doral, FL 33126

CLIENT: MDC TPO
 JOB NO.: TWO 3
 PROJECT: SW 84th Avenue and SW 38th Street
 COUNTY: Miami-Dade

File Name : 3- SW 84th Ave & SW 38th St
 Site Code : 00000000
 Start Date : 3/17/2021
 Page No : 1

Groups Printed- Autos - Heavy Vehicles

	SW 38th Street Eastbound					SW 38th Street Westbound					SW 84th Ave Northbound					SW 84th Ave Southbound					
Start Time	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	Int. Total
07:30 AM	0	2	19	19	40	0	2	0	2	4	0	3	22	2	27	0	0	37	0	37	108
07:45 AM	0	1	32	25	58	0	1	1	1	3	0	3	22	3	28	0	2	42	1	45	134
Total	0	3	51	44	98	0	3	1	3	7	0	6	44	5	55	0	2	79	1	82	242
08:00 AM	0	1	18	12	31	0	1	2	3	6	0	6	19	0	25	0	1	27	0	28	90
08:15 AM	0	2	15	16	33	0	2	6	2	10	0	1	20	3	24	0	1	28	2	31	98
08:30 AM	0	0	21	15	36	0	3	4	2	9	0	3	20	0	23	0	1	45	4	50	118
08:45 AM	0	0	18	8	26	0	3	2	0	5	0	5	18	1	24	0	3	29	0	32	87
Total	0	3	72	51	126	0	9	14	7	30	0	15	77	4	96	0	6	129	6	141	393
09:00 AM	0	1	15	17	33	0	4	2	1	7	0	4	13	2	19	0	0	35	3	38	97
09:15 AM	0	4	11	9	24	0	0	1	0	1	0	1	21	0	22	0	1	42	1	44	91
*** BREAK ***																					
Total	0	5	26	26	57	0	4	3	1	8	0	5	34	2	41	0	1	77	4	82	188
*** BREAK ***																					
01:45 PM	0	0	25	20	45	0	2	3	0	5	0	10	28	5	43	0	1	31	2	34	127
Total	0	0	25	20	45	0	2	3	0	5	0	10	28	5	43	0	1	31	2	34	127
02:00 PM	0	3	11	13	27	0	1	4	0	5	0	5	23	0	28	0	0	45	1	46	106
02:15 PM	0	2	14	15	31	0	1	6	0	7	0	2	19	1	22	0	1	44	1	46	106
02:30 PM	0	0	13	12	25	0	5	6	0	11	0	5	34	1	40	0	2	32	0	34	110
02:45 PM	0	0	8	9	17	0	0	5	0	5	0	9	37	0	46	0	1	33	1	35	103
Total	0	5	46	49	100	0	7	21	0	28	0	21	113	2	136	0	4	154	3	161	425
03:00 PM	0	1	10	16	27	0	1	4	0	5	0	6	32	1	39	0	0	25	0	25	96
03:15 PM	0	1	15	14	30	0	0	5	1	6	0	5	28	1	34	0	2	41	0	43	113
03:30 PM	0	0	10	13	23	0	1	2	2	5	0	4	19	1	24	1	0	28	1	30	82
*** BREAK ***																					
Total	0	2	35	43	80	0	2	11	3	16	0	15	79	3	97	1	2	94	1	98	291
*** BREAK ***																					
Grand Total	0	18	255	233	506	0	27	53	14	94	0	72	375	21	468	1	16	564	17	598	1666
Apprch %	0	3.6	50.4	46		0	28.7	56.4	14.9		0	15.4	80.1	4.5		0.2	2.7	94.3	2.8		
Total %	0	1.1	15.3	14	30.4	0	1.6	3.2	0.8	5.6	0	4.3	22.5	1.3	28.1	0.1	1	33.9	1	35.9	
Autos	0	18	254	229	501	0	26	53	14	93	0	70	367	21	458	1	16	547	17	581	1633
% Autos	0	100	99.6	98.3	99	0	96.3	100	100	98.9	0	97.2	97.9	100	97.9	100	100	97	100	97.2	98
Heavy Vehicles	0	0	1	4	5	0	1	0	0	1	0	2	8	0	10	0	0	17	0	17	33
% Heavy Vehicles	0	0	0.4	1.7	1	0	3.7	0	0	1.1	0	2.8	2.1	0	2.1	0	0	3	0	2.8	2

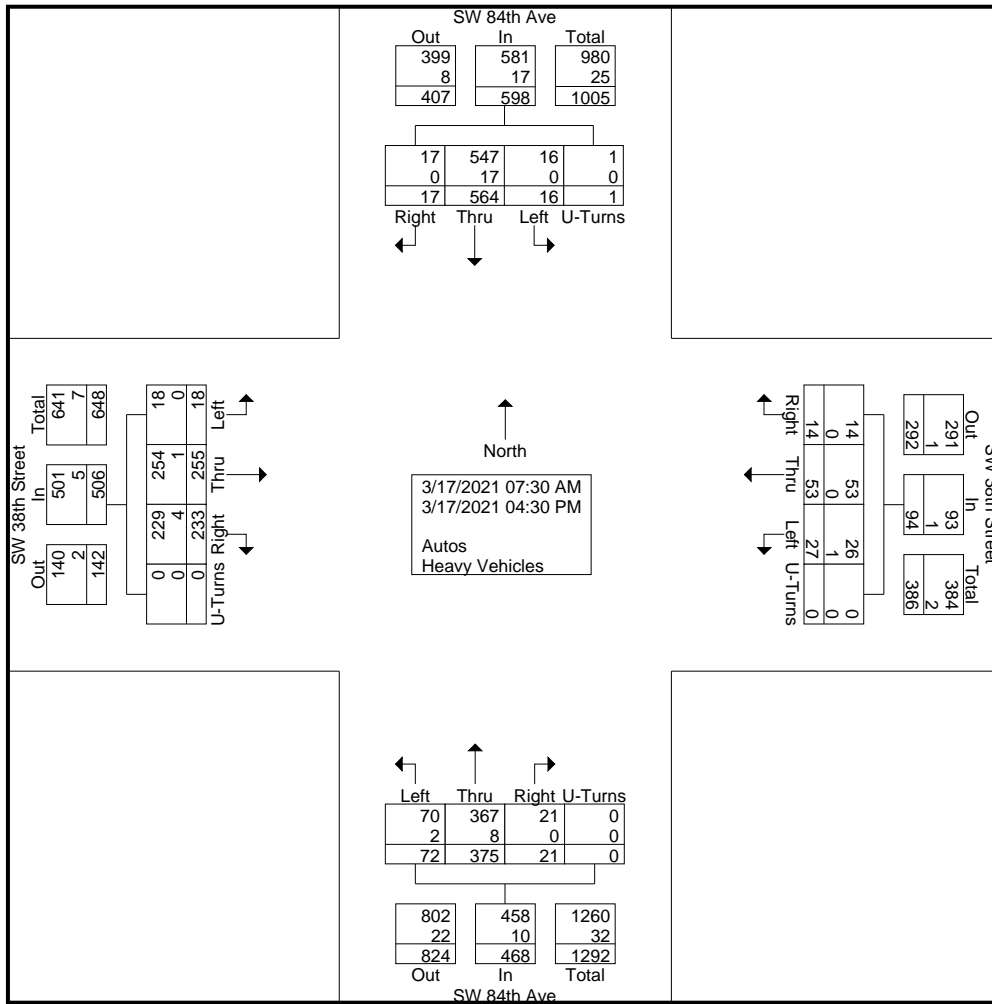
CTS Engineering, Inc

8095 NW 12 Street, Ste 301

Doral, FL 33126

CLIENT: MDC TPO
 JOB NO.: TWO 3
 PROJECT: SW 84th Avenue and SW 38th Street
 COUNTY: Miami-Dade

File Name : 3- SW 84th Ave & SW 38th St
 Site Code : 00000000
 Start Date : 3/17/2021
 Page No : 2



CTS Engineering, Inc

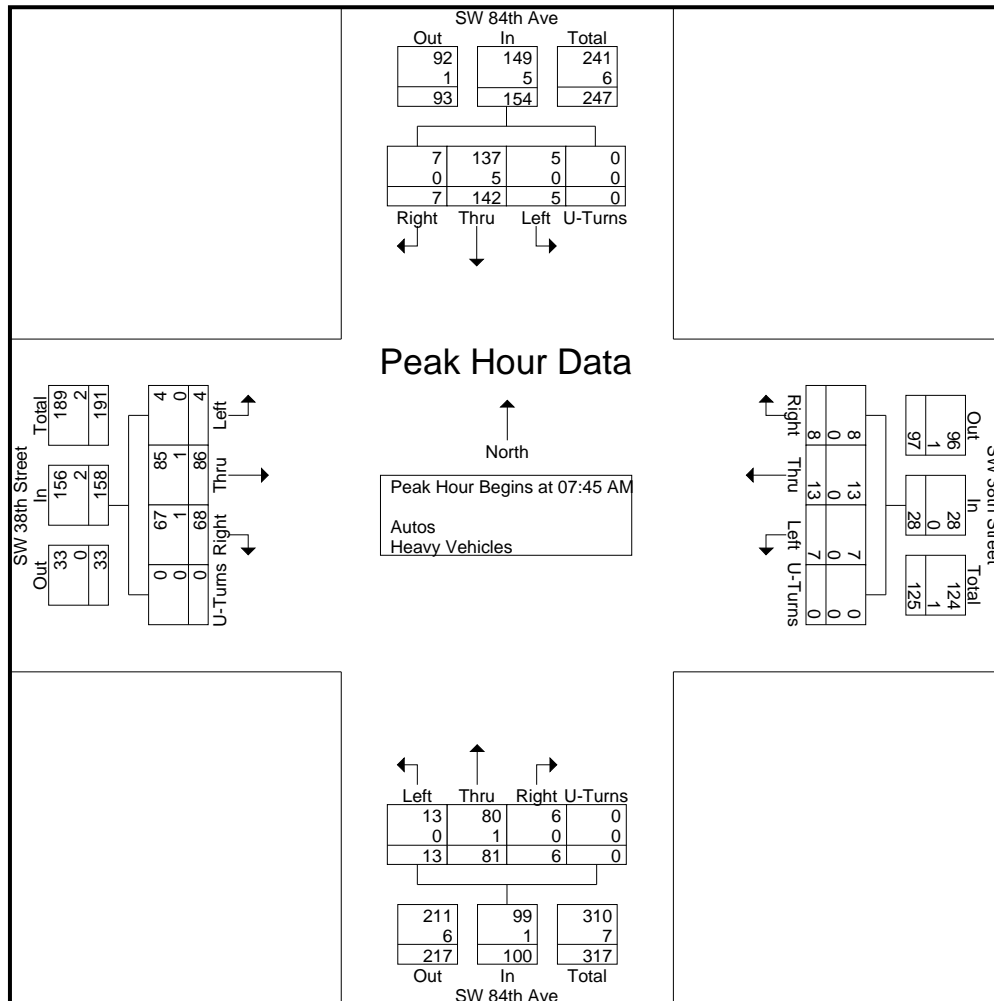
8095 NW 12 Street, Ste 301

Doral, FL 33126

CLIENT: MDC TPO
 JOB NO.: TWO 3
 PROJECT: SW 84th Avenue and SW 38th Street
 COUNTY: Miami-Dade

File Name : 3- SW 84th Ave & SW 38th St
 Site Code : 00000000
 Start Date : 3/17/2021
 Page No : 3

	SW 38th Street Eastbound					SW 38th Street Westbound					SW 84th Ave Northbound					SW 84th Ave Southbound					
Start Time	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	1	32	25	58	0	1	1	1	3	0	3	22	3	28	0	2	42	1	45	134
08:00 AM	0	1	18	12	31	0	1	2	3	6	0	6	19	0	25	0	1	27	0	28	90
08:15 AM	0	2	15	16	33	0	2	6	2	10	0	1	20	3	24	0	1	28	2	31	98
08:30 AM	0	0	21	15	36	0	3	4	2	9	0	3	20	0	23	0	1	45	4	50	118
Total Volume	0	4	86	68	158	0	7	13	8	28	0	13	81	6	100	0	5	142	7	154	440
% App. Total	0	2.5	54.4	43		0	25	46.4	28.6		0	13	81	6		0	3.2	92.2	4.5		
PHF	.000	.500	.672	.680	.681	.000	.583	.542	.667	.700	.000	.542	.920	.500	.893	.000	.625	.789	.438	.770	.821
Autos	0	4	85	67	156	0	7	13	8	28	0	13	80	6	99	0	5	137	7	149	432
% Autos	0	100	98.8	98.5	98.7	0	100	100	100	100	0	100	98.8	100	99.0	0	100	96.5	100	96.8	98.2
Heavy Vehicles	0	0	1	1	2	0	0	0	0	0	0	0	1	0	1	0	0	5	0	5	8
% Heavy Vehicles	0	0	1.2	1.5	1.3	0	0	0	0	0	0	0	1.2	0	1.0	0	0	3.5	0	3.2	1.8



CTS Engineering, Inc

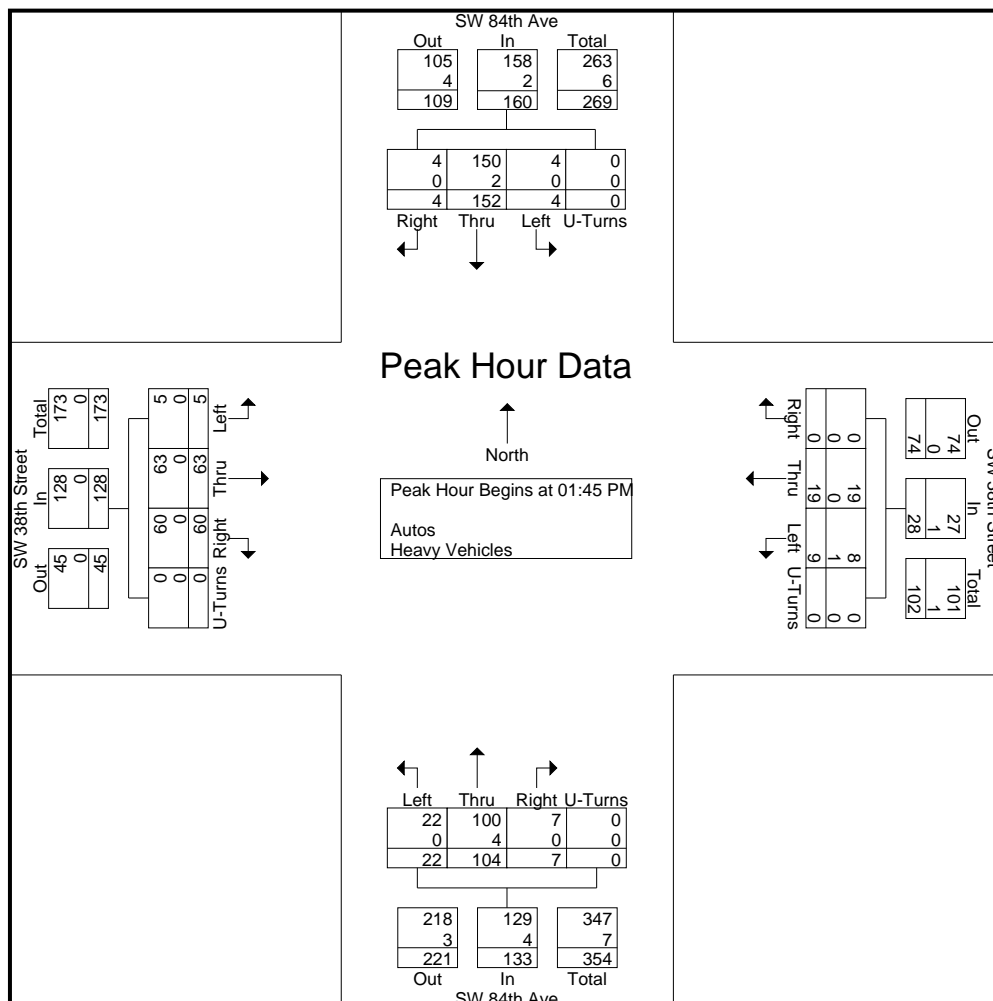
8095 NW 12 Street, Ste 301

Doral, FL 33126

CLIENT: MDC TPO
 JOB NO.: TWO 3
 PROJECT: SW 84th Avenue and SW 38th Street
 COUNTY: Miami-Dade

File Name : 3- SW 84th Ave & SW 38th St
 Site Code : 00000000
 Start Date : 3/17/2021
 Page No : 4

	SW 38th Street Eastbound					SW 38th Street Westbound					SW 84th Ave Northbound					SW 84th Ave Southbound					
Start Time	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 01:45 PM to 03:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:45 PM																					
01:45 PM	0	0	25	20	45	0	2	3	0	5	0	10	28	5	43	0	1	31	2	34	127
02:00 PM	0	3	11	13	27	0	1	4	0	5	0	5	23	0	28	0	0	45	1	46	106
02:15 PM	0	2	14	15	31	0	1	6	0	7	0	2	19	1	22	0	1	44	1	46	106
02:30 PM	0	0	13	12	25	0	5	6	0	11	0	5	34	1	40	0	2	32	0	34	110
Total Volume	0	5	63	60	128	0	9	19	0	28	0	22	104	7	133	0	4	152	4	160	449
% App. Total	0	3.9	49.2	46.9		0	32.1	67.9	0		0	16.5	78.2	5.3		0	2.5	95	2.5		
PHF	.000	.417	.630	.750	.711	.000	.450	.792	.000	.636	.000	.550	.765	.350	.773	.000	.500	.844	.500	.870	.884
Autos	0	5	63	60	128	0	8	19	0	27	0	22	100	7	129	0	4	150	4	158	442
% Autos	0	100	100	100	100	0	88.9	100	0	96.4	0	100	96.2	100	97.0	0	100	98.7	100	98.8	98.4
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	4	0	4	0	0	2	0	2	7
% Heavy Vehicles	0	0	0	0	0	0	11.1	0	0	3.6	0	0	3.8	0	3.0	0	0	1.3	0	1.3	1.6



CTS Engineering, Inc

8095 NW 12 Street, Ste 301

Doral, FL 33126

CLIENT: MDC TPO
 JOB NO.: TWO 3
 PROJECT: SW 84th Avenue and SW 38th Street
 COUNTY: Miami-Dade

File Name : 3- SW 84th Ave & SW 38th St
 Site Code : 00000000
 Start Date : 3/17/2021
 Page No : 1

Groups Printed- Heavy Vehicles

	SW 38th Street Eastbound					SW 38th Street Westbound					SW 84th Ave Northbound					SW 84th Ave Southbound					
Start Time	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	U-Turns	Left	Thru	Right	App. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	4
Total	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	3	0	3	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
08:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	3
Total	0	0	0	2	2	0	0	0	0	0	0	0	1	0	1	0	0	4	0	4	7
09:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	4
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	0	3	4
*** BREAK ***																					
Total	0	0	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0	6	0	6	8
*** BREAK ***																					
01:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	3
Total	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	0	0	3	0	3	9
03:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
*** BREAK ***																					
Grand Total	0	0	1	4	5	0	1	0	0	1	0	2	8	0	10	0	0	17	0	17	33
Apprch %	0	0	20	80		0	100	0	0		0	20	80	0		0	0	100	0		
Total %	0	0	3	12.1	15.2	0	3	0	0	3	0	6.1	24.2	0	30.3	0	0	51.5	0	51.5	

CTS Engineering, Inc

8095 NW 12 Street, Ste 301

Doral, FL 33126

CLIENT: MDC TPO
 JOB NO.: TWO 3
 PROJECT: SW 84th Avenue and SW 38th Street
 COUNTY: Miami-Dade

File Name : 3- SW 84th Ave & SW 38th St
 Site Code : 00000000
 Start Date : 3/17/2021
 Page No : 1

Groups Printed- Peds & Bikes

	SW 38th Street Eastbound					SW 38th Street Westbound					SW 84th Ave Northbound					SW 84th Ave Southbound					
Start Time	Peds			Bikes	App. Total	Peds			Bikes	App. Total	Peds			Bikes	App. Total	Peds			Bikes	App. Total	Int. Total
*** BREAK ***																					
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
08:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
09:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
02:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Grand Total	2	0	0	2	4	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	6
Apprch %	50	0	0	50		0	0	0	100		0	0	0	0		100	0	0	0		
Total %	33.3	0	0	33.3	66.7	0	0	0	16.7	16.7	0	0	0	0	0	16.7	0	0	0	16.7	

APPENDIX D. CRASH SUMMARY

Crash Summary

Crash Number	Collision Diagram Number	Date	Time	Crash Type	Fatal	Injuries	Property Damage	Day / Night	Wet / Dry	Data Source
859796050	1	01/20/2016	1743	Angle	0	0	1	Day	Dry	SSOGis
865213550	2	08/08/2016	1440	Angle	0	0	1	Day	Wet	SSOGis
865086670	3	03/16/2016	1500	Angle	0	0	1	Day	Dry	SSOGis
867158720	4	12/22/2016	1030	Angle	0	1	0	Day	Dry	SSOGis
865250770	5	06/29/2016	0805	Angle	0	0	1	Day	Dry	SSOGis
863271350	6	02/13/2016	0920	Angle	0	1	0	Day	Dry	SSOGis
865229640	7	06/18/2016	1500	Angle	0	0	1	Day	Dry	SSOGis
865198970	8	05/25/2016	1351	Angle	0	0	1	Day	Dry	SSOGis
869060300	9	05/11/2017	0038	Angle	0	1	0	Day	Dry	SSOGis
873292170	10	11/02/2017	1750	Sideswipe	0	0	1	Day	Dry	SSOGis
873143460	11	07/16/2017	1416	Angle	0	0	1	Day	Dry	SSOGis
873162060	12	09/27/2017	1740	Angle	0	0	1	Day	Dry	SSOGis
876286020	13	03/05/2018	1458	Angle	0	1	0	Day	Dry	SSOGis
876234570	14	01/21/2018	1515	Angle	0	0	1	Day	Dry	SSOGis
876349220	15	04/30/2018	1606	Angle	0	0	1	Day	Dry	SSOGis
876183270	16	04/23/2018	1330	Angle	0	1	0	Day	Wet	SSOGis
876282230	17	02/28/2018	1123	Angle	0	2	0	Day	Dry	SSOGis
87632231	18	4/10/2018	5:40 PM	Angle	0	1	0	Day	Dry	S4
87641797	19	6/25/2018	12:34 PM	Angle	0	0	1	Day	Dry	S4
87644539	20	7/12/2018	1:58 PM	Angle	0	0	1	Day	Dry	S4
87651775	21	9/6/2018	8:39 AM	Angle	0	2	0	Day	Wet	S4
87654779	22	9/28/2018	11:03 AM	Angle	0	1	0	Day	Dry	S4
87656164	23	10/6/2018	12:52 PM	Angle	0	4	0	Day	Dry	S4
87656372	24	10/23/2018	9:08 AM	Angle	0	0	1	Day	Dry	S4
87663757	25	12/12/2018	8:13 AM	Angle	0	0	1	Day	Dry	S4
88863507	26	2/8/2019	5:30 PM	Angle	0	0	1	Night	Dry	S4
88894646	27	9/29/2019	9:39 PM	Angle	0	0	1	Night	Dry	S4
88896563	28	10/7/2019	11:41 AM	Angle	0	0	1	Day	Wet	S4
88897278	29	10/8/2019	3:31 PM	Angle	0	0	1	Day	Dry	S4
88905318	30	12/5/2019	7:58 PM	Angle	0	0	1	Night	Dry	S4
89540355	31	10/4/2020	12:53 PM	Angle	0	0	1	Day	Dry	S4

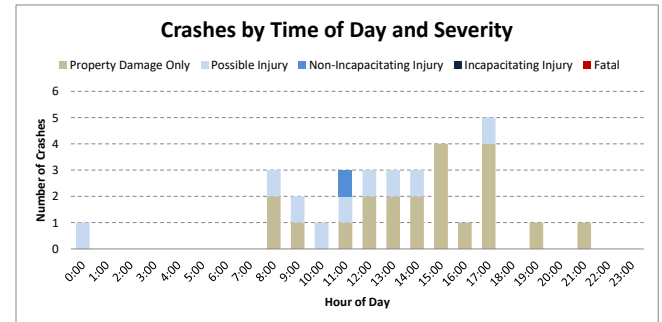
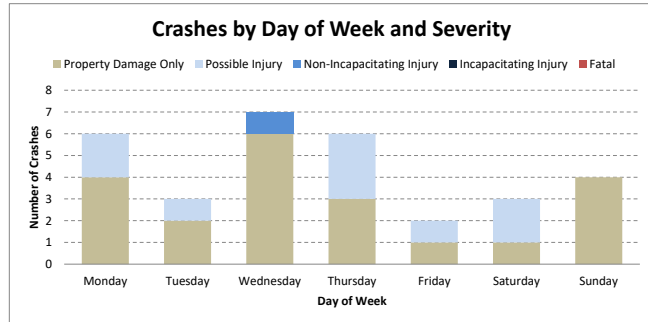
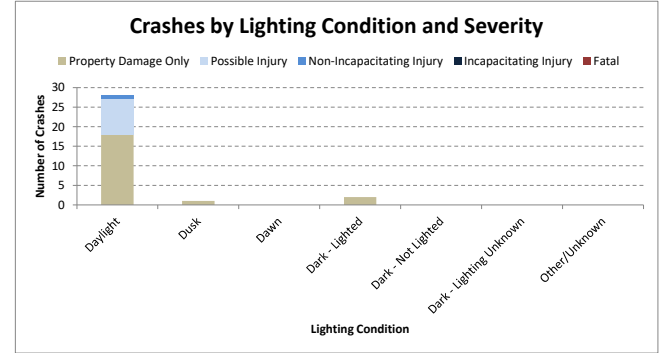
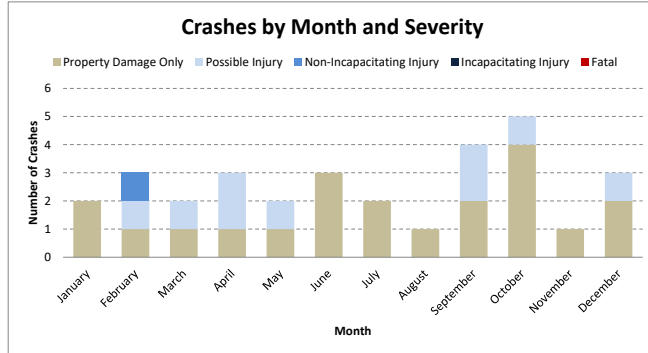
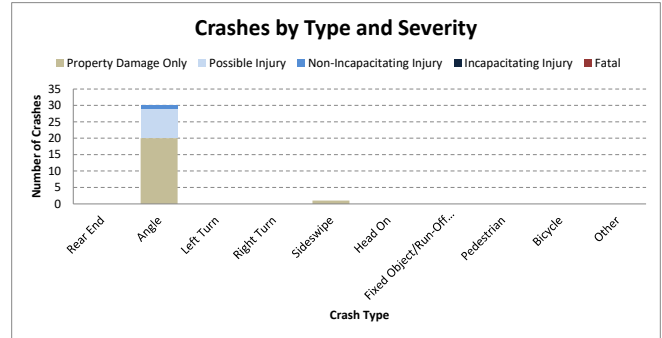
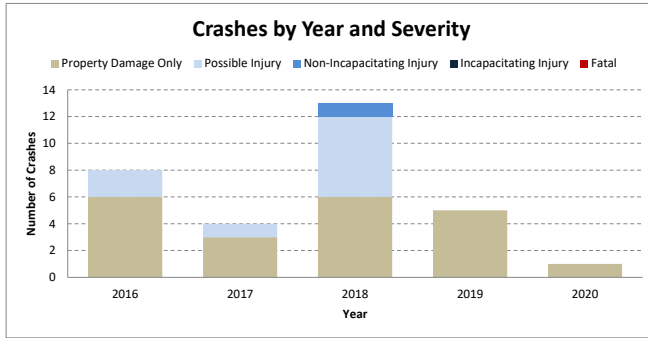
CRASH ANALYSIS - SW 84 AVENUE & SW 38 STREET

		Analysis Year					Severity					Total	Average	Percent
		2016	2017	2018	2019	2020	Property Damage Only	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal			
Type of Crash	Rear End	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Angle	8	3	13	5	1	20	9	1	0	0	30	6.0	96.8%
	Left Turn	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Right Turn	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Sideswipe	0	1	0	0	0	1	0	0	0	0	1	0.2	3.2%
	Head On	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Fixed Object/Run-Off Road	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Bicycle	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Other	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Total Crashes		8	4	13	5	1	21	9	1	0	0	31	6.2	100.0%
Crash Severity	Property Damage Only	6	3	6	5	1						21	4.2	67.7%
	Possible Injury	2	1	6	0	0						9	1.8	29.0%
	Non-Incapacitating Injury	0	0	1	0	0						1	0.2	3.2%
	Incapacitating Injury	0	0	0	0	0						0	0.0	0.0%
	Fatal	0	0	0	0	0						0	0.0	0.0%
Light Conditions	Daylight	8	4	13	2	1	18	9	1	0	0	28	5.6	90.3%
	Dusk	0	0	0	1	0	1	0	0	0	0	1	0.2	3.2%
	Dawn	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Dark - Lighted	0	0	0	2	0	2	0	0	0	0	2	0.4	6.5%
	Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Dark - Lighting Unknown	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Other/Unknown	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Road Surface Condition	Dry	7	4	11	4	1	19	7	1	0	0	27	5.4	87.1%
	Wet	1	0	2	1	0	2	2	0	0	0	4	0.8	12.9%
	Other	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Month	January	1	0	1	0	0	2	0	0	0	0	2	0.4	6.5%
	February	1	0	1	1	0	1	1	1	0	0	3	0.6	9.7%
	March	1	0	1	0	0	1	1	0	0	0	2	0.4	6.5%
	April	0	0	3	0	0	1	2	0	0	0	3	0.6	9.7%
	May	1	1	0	0	0	1	1	0	0	0	2	0.4	6.5%
	June	2	0	1	0	0	3	0	0	0	0	3	0.6	9.7%
	July	0	1	1	0	0	2	0	0	0	0	2	0.4	6.5%
	August	1	0	0	0	0	1	0	0	0	0	1	0.2	3.2%
	September	0	1	2	1	0	2	2	0	0	0	4	0.8	12.9%
	October	0	0	2	2	1	4	1	0	0	0	5	1.0	16.1%
	November	0	1	0	0	0	1	0	0	0	0	1	0.2	3.2%
	December	1	0	1	1	0	2	1	0	0	0	3	0.6	9.7%
Day of Week	Monday	1	0	4	1	0	4	2	0	0	0	6	1.2	19.4%
	Tuesday	0	0	2	1	0	2	1	0	0	0	3	0.6	9.7%
	Wednesday	4	1	2	0	0	6	0	1	0	0	7	1.4	22.6%
	Thursday	1	2	2	1	0	3	3	0	0	0	6	1.2	19.4%
	Friday	0	0	1	1	0	1	1	0	0	0	2	0.4	6.5%
	Saturday	2	0	1	0	0	1	2	0	0	0	3	0.6	9.7%
	Sunday	0	1	1	1	1	4	0	0	0	0	4	0.8	12.9%

CRASH ANALYSIS - SW 84 AVENUE & SW 38 STREET

		Analysis Year					Severity					Total	Average	Percent
		2016	2017	2018	2019	2020	Property Damage Only	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal			
Hour of Day	0:00	0	1	0	0	0	0	1	0	0	0	1	0.2	3.2%
	1:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	2:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	3:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	4:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	5:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	6:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	7:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	8:00	1	0	2	0	0	2	1	0	0	0	3	0.6	9.7%
	9:00	1	0	1	0	0	1	1	0	0	0	2	0.4	6.5%
	10:00	1	0	0	0	0	0	1	0	0	0	1	0.2	3.2%
	11:00	0	0	2	1	0	1	1	1	0	0	3	0.6	9.7%
	12:00	0	0	2	0	1	2	1	0	0	0	3	0.6	9.7%
	13:00	1	0	2	0	0	2	1	0	0	0	3	0.6	9.7%
	14:00	1	1	1	0	0	2	1	0	0	0	3	0.6	9.7%
	15:00	2	0	1	1	0	4	0	0	0	0	4	0.8	12.9%
	16:00	0	0	1	0	0	1	0	0	0	0	1	0.2	3.2%
	17:00	1	2	1	1	0	4	1	0	0	0	5	1.0	16.1%
	18:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	19:00	0	0	0	1	0	1	0	0	0	0	1	0.2	3.2%
	20:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	21:00	0	0	0	1	0	1	0	0	0	0	1	0.2	3.2%
	22:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	23:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Time Period	12AM-6AM	0	1	0	0	0	0	1	0	0	0	1	0.2	3.2%
	6AM-12PM	3	0	5	1	0	4	4	1	0	0	9	1.8	29.0%
	12PM-6PM	5	3	8	2	1	15	4	0	0	0	19	3.8	61.3%
	6PM-12AM	0	0	0	2	0	2	0	0	0	0	2	0.4	6.5%
Alcohol & Drugs	None	8	4	13	5	1	21	9	1	0	0	31	6.2	100.0%
	Alcohol Involved	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Drugs Involved	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Alcohol and Drugs	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Undetermined	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Age of Driver 1 (Typically Driver at Fault)	19 and Under	0	0	0	0	0						0	0.0	0.0%
	20-24	0	0	0	0	0						0	0.0	0.0%
	25-29	0	0	0	0	0						0	0.0	0.0%
	30-34	0	0	0	0	0						0	0.0	0.0%
	35-39	0	0	0	0	0						0	0.0	0.0%
	40-44	0	0	0	0	0						0	0.0	0.0%
	45-49	0	0	0	0	0						0	0.0	0.0%
	50-54	0	0	0	0	0						0	0.0	0.0%
	55-59	0	0	0	0	0						0	0.0	0.0%
	60-64	0	0	0	0	0						0	0.0	0.0%
	65-69	0	0	0	0	0						0	0.0	0.0%
	70-74	0	0	0	0	0						0	0.0	0.0%
	75-79	0	0	0	0	0						0	0.0	0.0%
	80-84	0	0	0	0	0						0	0.0	0.0%
	85 and Over	0	0	0	0	0						0	0.0	0.0%
	Unknown	0	0	0	0	0						0	0.0	0.0%

CRASH ANALYSIS - SW 84 AVENUE & SW 38 STREET



APPENDIX E. SIGNAL WARRANT ANALYSIS

TRAFFIC SIGNAL WARRANT SUMMARY

Introduction

- The Signal Warrant Analysis Spreadsheets are a tool for assisting traffic engineers when evaluating the need for a traffic signal installation
- The filled spreadsheets can be used as part of the supporting documents for the signal warrant evaluation

Note: This templates are a useful resource, but it remains necessary to apply engineering judgment and to consider specific environmental, traffic, geometric, and operational conditions

Instructions

Fill in "Orange" areas only

*Automated cells based on in
Input Data in "orange" cells*

General Information

Fill in below the general information including:

District, County (drop-down menu)

City, Engineer, Date

Major and Minor Street with corresponding number of lanes and speed limits

Enter Eight Hour Volumes

Any 8 hours of an average day. Major-street and minor-street volumes shall be for the same 8 hours; however, the 8 hours satisfied in Condition A shall **not** be required to be the same 8 hours satisfied in Condition B **for 80% columns only**. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Enter Four Hour Volumes

Any 4 hours of an average day. Vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only, not required to be on the same approach during each of the 4 hours)

Enter Pedestrian Volumes (4-~~1~~ Pedestrians per hour crossing the major street (total of all crossings)

Enter Peak Hour Volumes

Vehicular: Any four consecutive 15-minute periods of an average day

Pedestrian: Any four consecutive 15-minute periods of an average day representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings)

Input DataForm 750-020-01
TRAFFIC ENGINEERING
October 2020City: **Miami**
County: **87 – Miami Dade**
District: **Six**Engineer:
Date: **March 31, 2021**Major Street: **SW 84 Ave**
Minor Street: **SW 38 St**Major Street # Lanes: **2**
Minor Street # Lanes: **2**Major Approach Speed: **30**
Minor Approach Speed: **30**

Eight Hour Volumes (Condition A)			For Warrant 7
Hours	Major Street (total of both approaches)	Minor Street (one direction only)	Ped Crossings on Major Street
7:00 AM	207	131	
8:00 AM	254	125	
9:00 AM	250	92	
11:45 AM	247	128	
12:45 PM	252	100	
1:45 PM	300	124	
3:00 PM	266	105	
4:00 PM	214	115	

Eight Hour Volumes (Condition B)		
Hours	Major Street (total of both approaches)	Minor Street (one direction only)
7:00 AM	207	131
8:00 AM	254	125
9:00 AM	250	92
11:45 AM	247	128
12:45 PM	252	100
1:45 PM	300	124
3:00 PM	266	105
4:00 PM	214	115

Highest Four Hour Vehicular Volumes		
Hours	Major Street (total of both approaches)	Minor Street (one direction only)
8:00 AM	254	125
11:45 AM	247	128
1:45 PM	300	124
3:00 PM	266	105

Highest Four Hour Pedestrian Volumes		
Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street

Vehicular Peak Hour Volumes			
Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume
1:45 PM	300	124	454

Pedestrian Peak Hour Volumes		
Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street

State of Florida Department of Transportation
TRAFFIC SIGNAL WARRANT SUMMARY

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

City: **Miami**
County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: **SW 84 Ave** Lanes: **2** Major Approach Speed: **30**
Minor Street: **SW 38 St** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☒ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☒ No
- "70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☐ MAY ☐ 70% ☒ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied for eight hours. ☐ Yes ☒ No

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems). ☐ Yes ☒ No

Warrant 1 is satisfied if Condition A or Condition B is "70%" satisfied for eight hours. ☐ Yes ☒ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Applicable: ☒ Yes ☐ No
100% Satisfied: ☐ Yes ☒ No
80% Satisfied: ☐ Yes ☒ No
70% Satisfied: ☐ Yes ☒ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b	70% ^c
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

^a Basic Minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	7:00 AM	8:00 AM	9:00 AM	11:45 AM	12:45 PM	1:45 PM	3:00 PM	4:00 PM
Major	207	254	250	247	252	300	266	214
Minor	131	125	92	128	100	124	105	115

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:

☒ Yes ☐ No

100% Satisfied:

☐ Yes ☒ No

80% Satisfied:

☐ Yes ☒ No

70% Satisfied:

☐ Yes ☒ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b	70% ^c
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

^a Basic Minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	7:00 AM	8:00 AM	9:00 AM	11:45 AM	12:45 PM	1:45 PM	3:00 PM	4:00 PM
Major	207	254	250	247	252	300	266	214
Minor	131	125	92	128	100	124	105	115

Existing Volumes

State of Florida Department of Transportation
TRAFFIC SIGNAL WARRANT SUMMARY

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

City: **Miami**
County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: **SW 84 Ave** Lanes: **2** Major Approach Speed: **30**
Minor Street: **SW 38 St** Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph? ☐ Yes ☒ No
 2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☒ No
- "70%" volume level **may** be used if Question 1 or 2 above is answered "Yes" ☐ MAY ☐ 70% ☒ 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

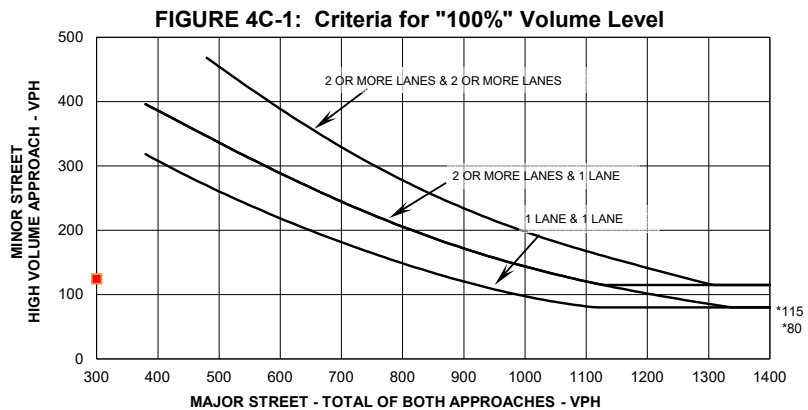
If all four points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☒ Yes ☐ No
Satisfied: ☐ Yes ☒ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

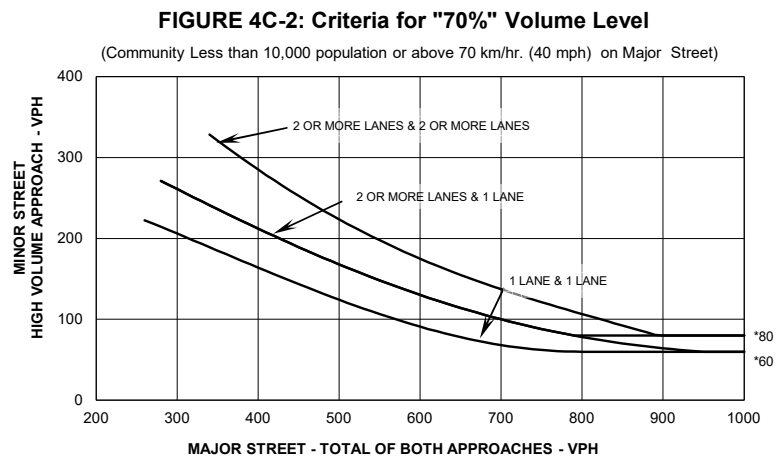
Four Highest Hours	Volumes	
	Major Street	Minor Street
8:00 AM	254	125
11:45 AM	247	128
1:45 PM	300	124
3:00 PM	266	105



* Note: 115 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 80 mph applies as the lower threshold volume threshold for a minor street approach with one lane.

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street



* Note: 80 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 60 ph. applies as the lower threshold volume threshold for a minor street approach with one lane.

State of Florida Department of Transportation
TRAFFIC SIGNAL WARRANT SUMMARY

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

City: **Miami**
County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: **SW 84 Ave**
Minor Street: **SW 38 St**

Lanes: **2** Major Approach Speed: **30**
Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph?
2. Is the intersection in a built-up area of an isolated community with a population < 10,000?

☐ Yes ☒ No
☐ Yes ☒ No
☐ MAY ☐ 70% ☒ 100%

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes"

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☐ Yes ☒ No
Satisfied: ☐ Yes ☐ No

Unusual condition justifying use of warrant:

Industrial Complex

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
1:45 PM	300	124

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.

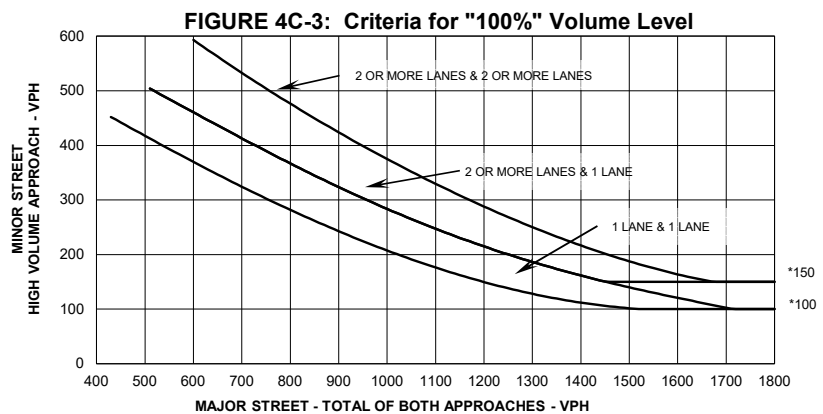
Criteria

1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

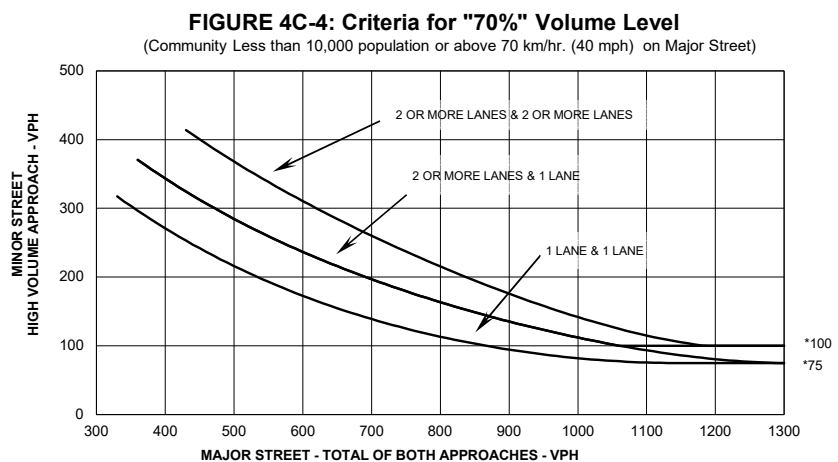
2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Plot volume combination on the applicable figure below.



* Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.



* Note: 100 ph. applies as the lower threshold volume for a minor street approach with two or more lanes and 75 phi applies as the lower threshold volume threshold for a minor street approach with one lane.

State of Florida Department of Transportation
TRAFFIC SIGNAL WARRANT SUMMARY

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October 2020

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County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: **SW 84 Ave**
Minor Street: **SW 38 St**

Lanes: **2**
Lanes: **2**

Major Approach Speed: **30**
Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 35 mph?
2. Is the intersection in a built-up area of an isolated community with a population < 10,000?

☐ Yes ☒ No

☐ Yes ☒ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes"

☐ MAY

☐ 70% ☒ 100%

Option

*Pedestrian volume crossing the major street **may** be reduced as much as 50% if the 15th-percentile crossing speed of pedestrians is less than 3.5 ft/sec. A walking speed study was conducted which reported a pedestrian speed less than 3.5 ft/sec for the 15th percentile.*

☐ Yes ☐ No

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☒ No

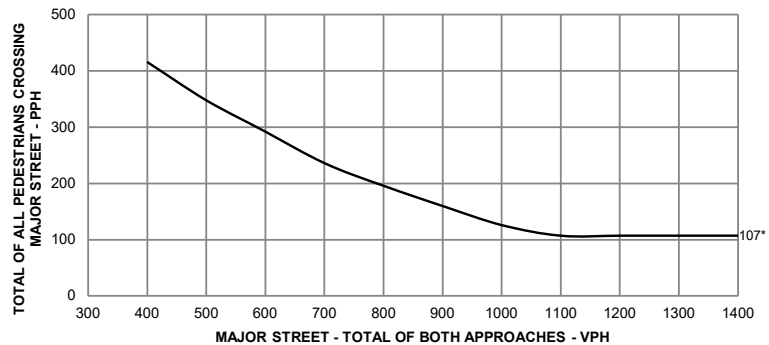
Satisfied: ☐ Yes ☒ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level

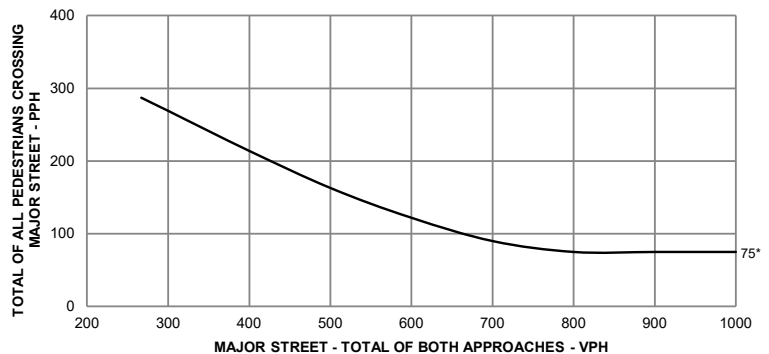


* Note: 107 pph applies as the lower threshold volume for 100% volume level

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Figure 4C-6 Criteria for "70%" Volume Level



* Note: 75 pph applies as the lower threshold volume for 70% volume level

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☐ No

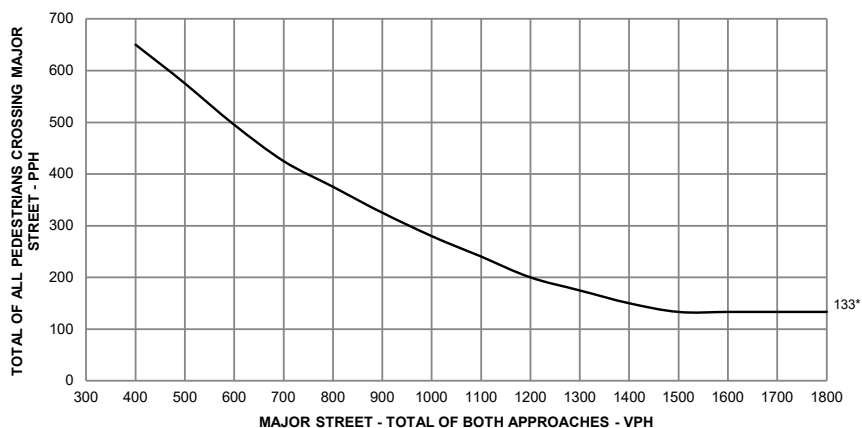
Satisfied: ☐ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour

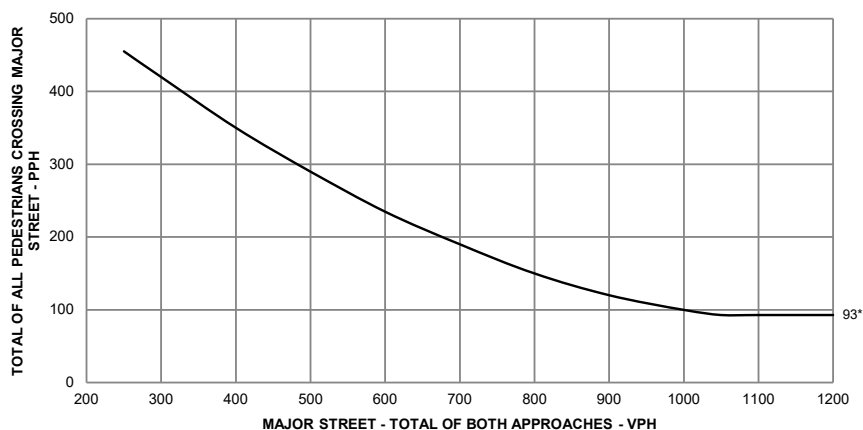


* Note: 133 pph applies as the lower threshold volume

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour



* Note: 93 pph applies as the lower threshold volume

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

City: **Miami**
County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: SW 84 Ave	Lanes: 2	Major Approach Speed: 30
Minor Street: SW 38 St	Lanes: 2	Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☒ No
Satisfied: ☐ Yes ☐ No

Criteria				Fulfilled?	
				Yes	No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.	Minutes:	Gaps:			
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Form 750-020-01
TRAFFIC ENGINEERING
October 2020

City: **Miami**
County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: SW 84 Ave	Lanes: 2	Major Approach Speed: 30
Minor Street: SW 38 St	Lanes: 2	Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☒ No
Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled?	
	Yes	No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

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TRAFFIC ENGINEERING
October 2020

City: **Miami**
County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: **SW 84 Ave**
Minor Street: **SW 38 St**

Lanes: **2** Major Approach Speed: **30**
Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 7 - CRASH EXPERIENCE

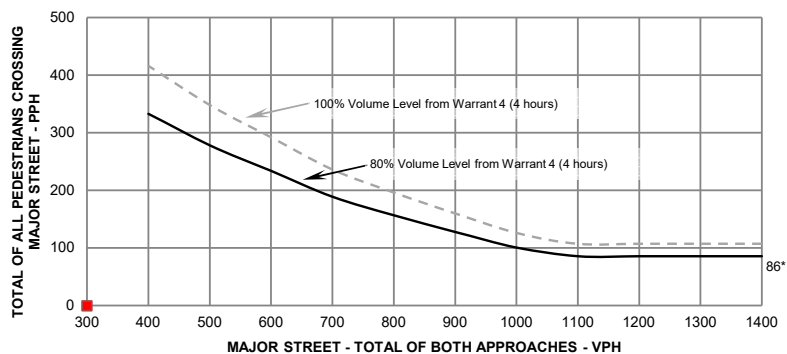
Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if **all three** of the criteria are fulfilled.

Applicable: ☒ Yes ☐ No

Satisfied: ☐ Yes ☒ No

Criteria					Fulfilled?	
					Yes	No
1.	Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:				x
2.	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:	Angle	Number of crashes per 12 months:	13	x
3.	One of the following volume warrants is met:				Met?	No
	Warrant 1, Condition A (80% satisfied), or				No	
	Warrant 1, Condition B (80% satisfied), or				No	
		Hour	Major Street Volume	Ped Crossings Volume		
		7:00 AM	207			
		8:00 AM	254			
		9:00 AM	250			
		11:45 AM	247			
		12:45 PM	252			
		1:45 PM	300			
		3:00 PM	266			
		4:00 PM	214			
	Warrant 4, Pedestrian Volume satisfied at 80% of volume requirements for any 8 hours of an average day.					

Figure 4C-5. Criteria for "100%" Volume Level



* Note: 86 pph applies as the lower threshold volume for the 80% volume threshold.

TRAFFIC SIGNAL WARRANT SUMMARY

City: **Miami**
 County: **87 – Miami Dade**
 District: **Six**

Engineer: _____
 Date: **March 31, 2021**

Major Street: **SW 84 Ave**
 Minor Street: **SW 38 St**

Lanes: **2** Major Approach Speed: **30**
 Lanes: **2** Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☒ No

Satisfied: ☐ Yes ☐ No

Criteria						Met?		Fulfilled?	
						Yes	No	Yes	No
1.	Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.		Entering Volume:					
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		Warrant:	1	2	3			
			Satisfied?:						
2.	Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)								
							← Hour		
							← Volume		

Characteristics of Major Routes						Met?		Fulfilled?	
						Yes	No	Yes	No
1.	Part of the street or highway system that serves as the principal roadway network for through traffic flow.				Major Street:				
					Minor Street:				
2.	Rural or suburban highway outside of, entering, or traversing a city.				Major Street:				
					Minor Street:				
3.	Appears as a major route on an official plan.				Major Street:				
					Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

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October 2020

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County: **87 – Miami Dade**
District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: **SW 84 Ave**
Minor Street: **SW 38 St**

Lanes: **2**
Lanes: **2**

Major Approach Speed: **30**
Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Approach Lane Criteria

1. How many approach lanes are there at the track crossing?

☒ 1 ☐ 2 or more

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10.

☒ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☒ No
Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled?	
	Yes	No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs

Occurrences of Rail traffic per day
% of High Occupancy Buses on Approach Lane at Track Crossing
Enter D (feet)
% of Tractor-Trailer Trucks on Approach Lane at Track Crossing

Adjustment Factors from Tables

	1.00
	0.50

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

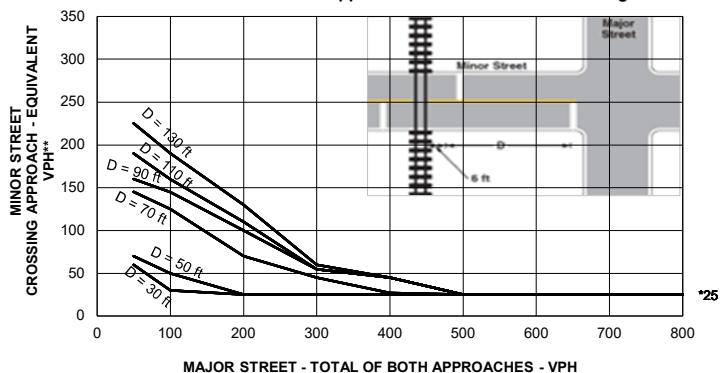
Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

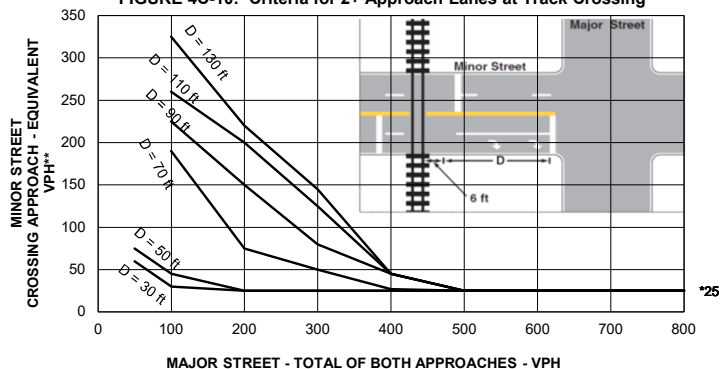
FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



* Note: 25 vph applies as the lower threshold volume

*Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



* Note: 25 vph applies as the lower threshold volume

*Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate

State of Florida Department of Transportation

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October 2020

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District: **Six**

Engineer: _____
Date: **March 31, 2021**

Major Street: **SW 84 Ave**
Minor Street: **SW 38 St**

Lanes: **2**
Lanes: **2**

Major Approach Speed: **30**
Minor Approach Speed: **30**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

CONCLUSIONS

Remarks: _____

WARRANTS SATISFIED:

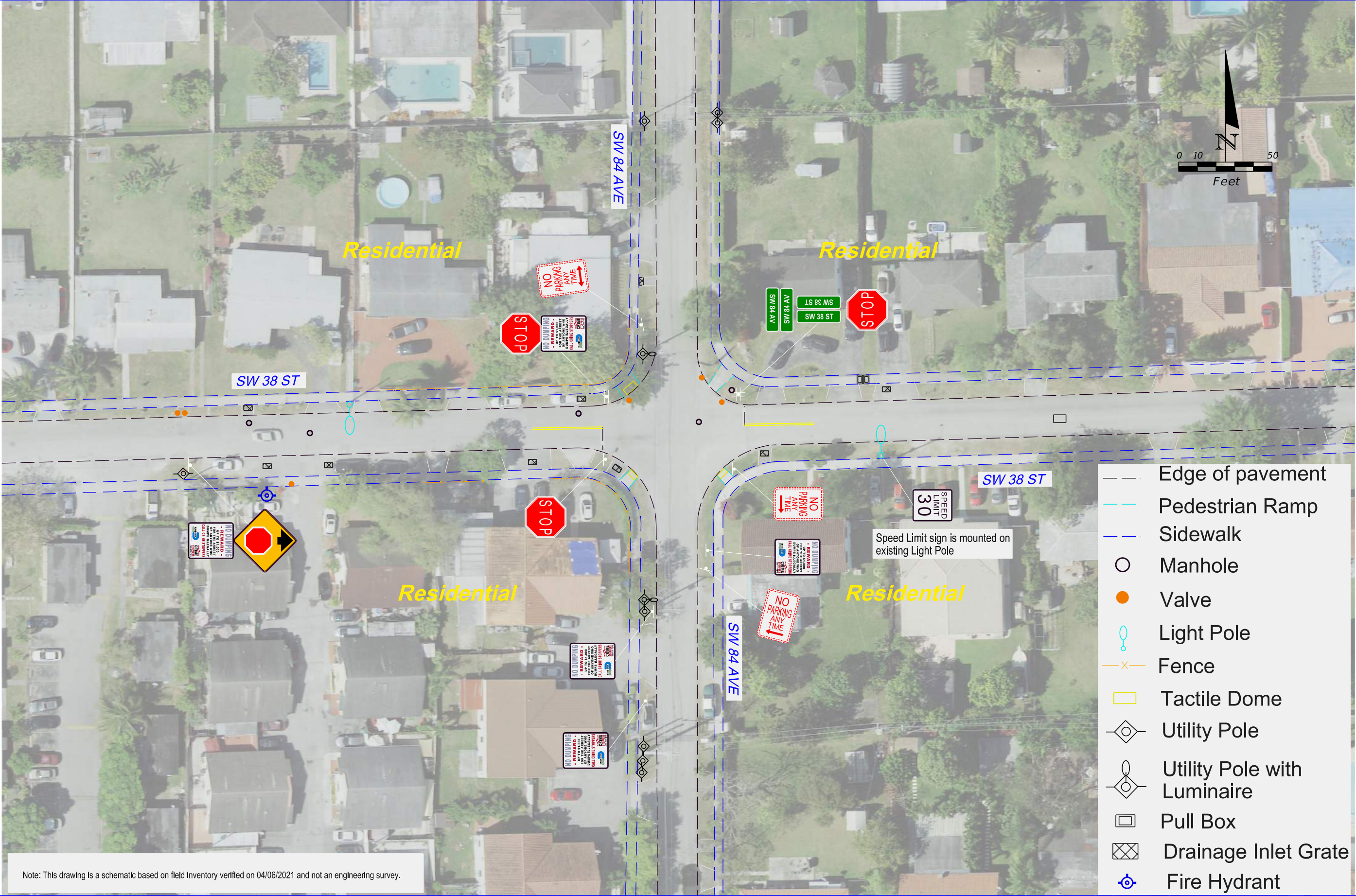
Warrant 1	<input type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input checked="" type="checkbox"/> Not Met
Warrant 2	<input type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input checked="" type="checkbox"/> Not Met
Warrant 3	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input type="checkbox"/> Not Met
Warrant 4	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input type="checkbox"/> Not Met
Warrant 5	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input type="checkbox"/> Not Met
Warrant 6	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input type="checkbox"/> Not Met
Warrant 7	<input type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input checked="" type="checkbox"/> Not Met
Warrant 8	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input type="checkbox"/> Not Met
Warrant 9	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Met	<input type="checkbox"/> Not Met

APPENDIX F. ICE STAGE 1

Existing Conditions

Intersection: SW 84 Avenue @ SW 38 Street

Location: Miami-Dade County – D6



Note: This drawing is a schematic based on field inventory verified on 04/06/2021 and not an engineering survey.



Prepared for:
Miami-Dade Transportation Planning Organization
and
Kittelson & Associates, Inc.

CTS ENGINEERING, INC.
8095 NW 12th STREET,
SUITE 301
DORAL, FL 33126

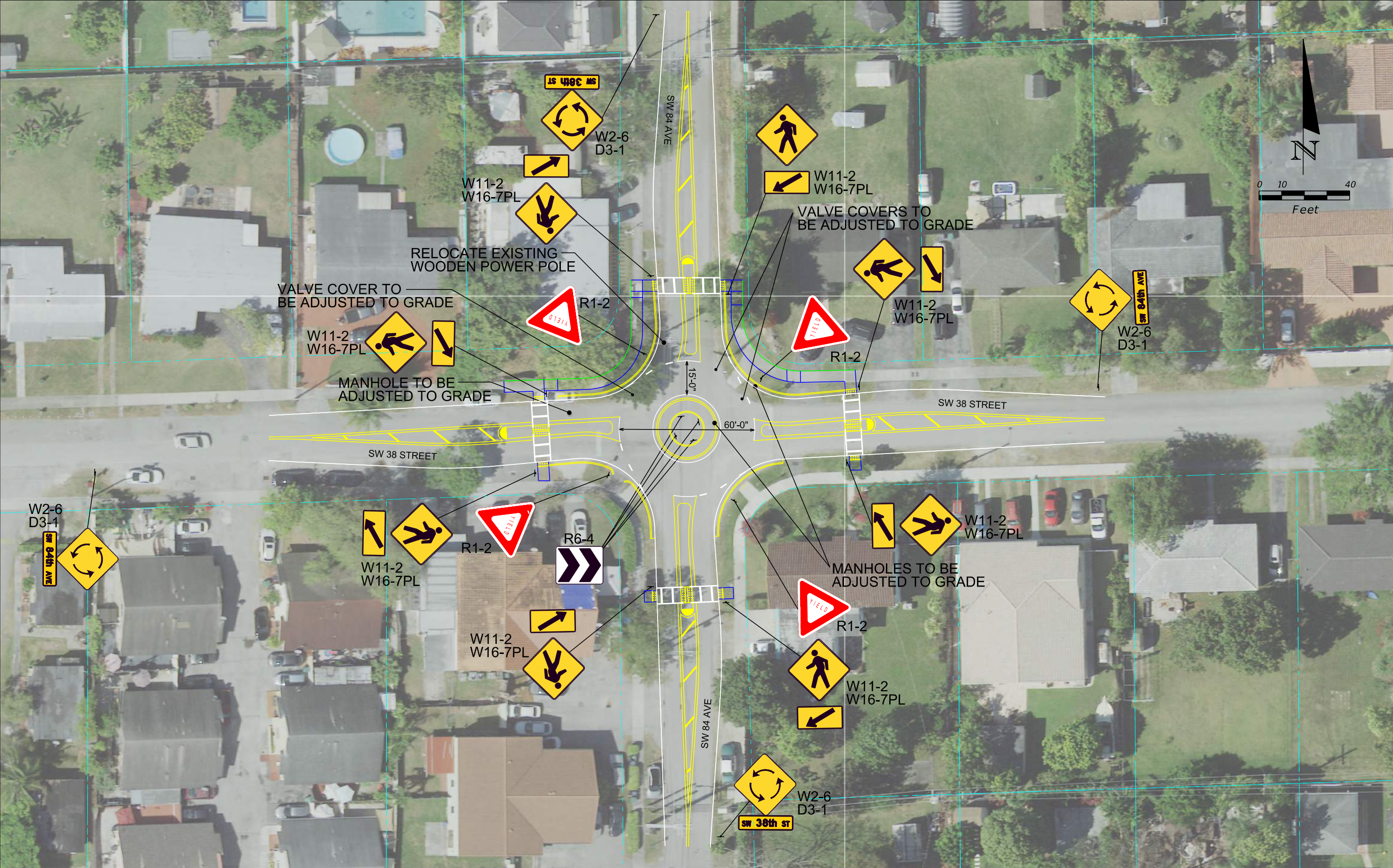
Miami-Dade
Transportation Planning Organization

EXISTING CONDITION DIAGRAM
SW 84 AVE & SW 38 ST

FIGURE
NO.

1

Proposed Concept Design



REVISIONS				<div>TPMiami-Dade Transportation Planning Organization</div>	MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION	SW 84 AVENUE & SW 38 STREET ROUNDBOUT CONCEPT	FIGURE NO. 7
DATE	DESCRIPTION	DATE	DESCRIPTION				

Crash Summary

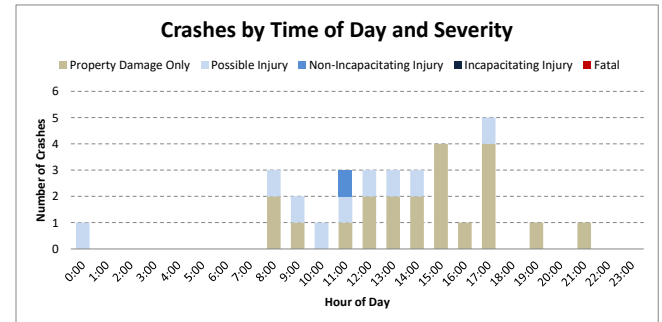
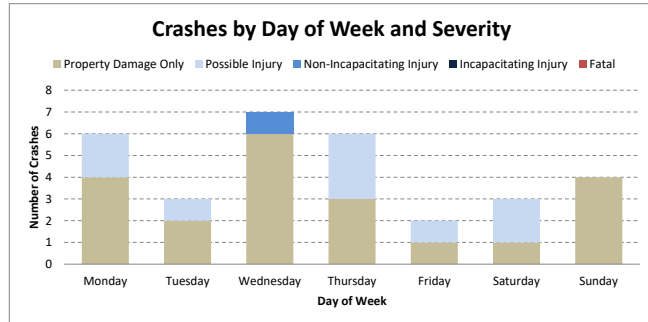
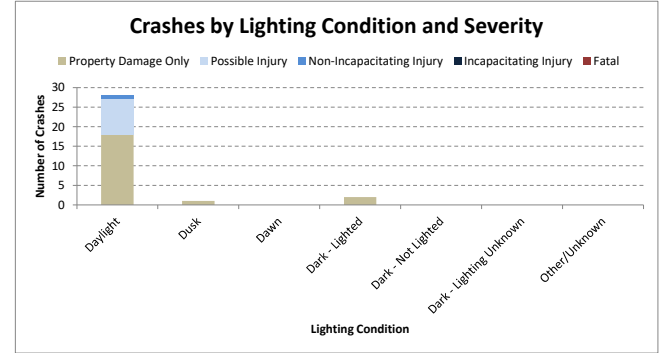
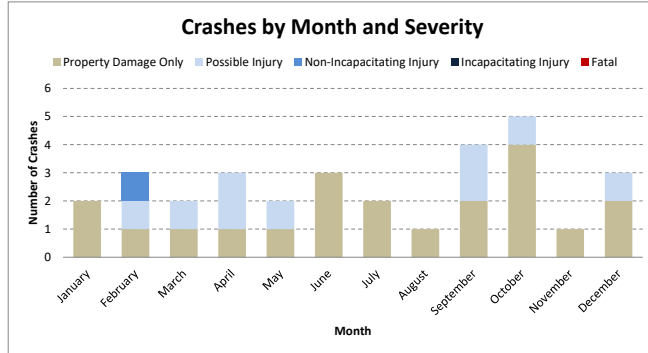
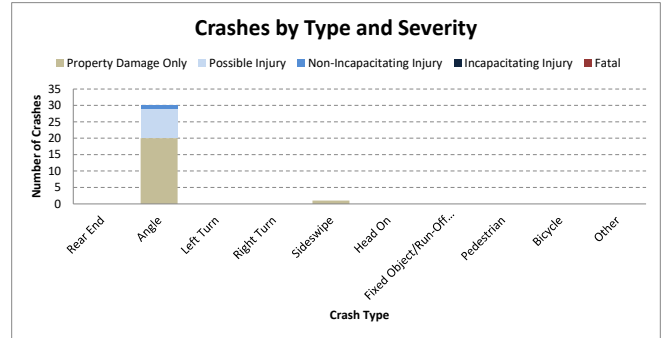
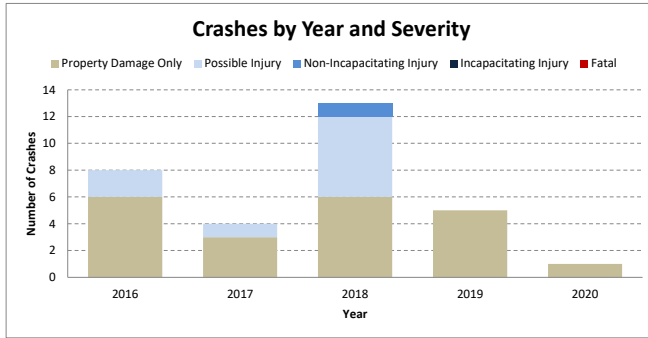
CRASH ANALYSIS - SW 84 AVENUE & SW 38 STREET

		Analysis Year					Severity					Total	Average	Percent
		2016	2017	2018	2019	2020	Property Damage Only	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal			
Type of Crash	Rear End	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Angle	8	3	13	5	1	20	9	1	0	0	30	6.0	96.8%
	Left Turn	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Right Turn	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Sideswipe	0	1	0	0	0	1	0	0	0	0	1	0.2	3.2%
	Head On	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Fixed Object/Run-Off Road	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Bicycle	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Other	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Total Crashes		8	4	13	5	1	21	9	1	0	0	31	6.2	100.0%
Crash Severity	Property Damage Only	6	3	6	5	1						21	4.2	67.7%
	Possible Injury	2	1	6	0	0						9	1.8	29.0%
	Non-Incapacitating Injury	0	0	1	0	0						1	0.2	3.2%
	Incapacitating Injury	0	0	0	0	0						0	0.0	0.0%
	Fatal	0	0	0	0	0						0	0.0	0.0%
Light Conditions	Daylight	8	4	13	2	1	18	9	1	0	0	28	5.6	90.3%
	Dusk	0	0	0	1	0	1	0	0	0	0	1	0.2	3.2%
	Dawn	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Dark - Lighted	0	0	0	2	0	2	0	0	0	0	2	0.4	6.5%
	Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Dark - Lighting Unknown	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Other/Unknown	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Road Surface Condition	Dry	7	4	11	4	1	19	7	1	0	0	27	5.4	87.1%
	Wet	1	0	2	1	0	2	2	0	0	0	4	0.8	12.9%
	Other	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Month	January	1	0	1	0	0	2	0	0	0	0	2	0.4	6.5%
	February	1	0	1	1	0	1	1	1	0	0	3	0.6	9.7%
	March	1	0	1	0	0	1	1	0	0	0	2	0.4	6.5%
	April	0	0	3	0	0	1	2	0	0	0	3	0.6	9.7%
	May	1	1	0	0	0	1	1	0	0	0	2	0.4	6.5%
	June	2	0	1	0	0	3	0	0	0	0	3	0.6	9.7%
	July	0	1	1	0	0	2	0	0	0	0	2	0.4	6.5%
	August	1	0	0	0	0	1	0	0	0	0	1	0.2	3.2%
	September	0	1	2	1	0	2	2	0	0	0	4	0.8	12.9%
	October	0	0	2	2	1	4	1	0	0	0	5	1.0	16.1%
	November	0	1	0	0	0	1	0	0	0	0	1	0.2	3.2%
	December	1	0	1	1	0	2	1	0	0	0	3	0.6	9.7%
Day of Week	Monday	1	0	4	1	0	4	2	0	0	0	6	1.2	19.4%
	Tuesday	0	0	2	1	0	2	1	0	0	0	3	0.6	9.7%
	Wednesday	4	1	2	0	0	6	0	1	0	0	7	1.4	22.6%
	Thursday	1	2	2	1	0	3	3	0	0	0	6	1.2	19.4%
	Friday	0	0	1	1	0	1	1	0	0	0	2	0.4	6.5%
	Saturday	2	0	1	0	0	1	2	0	0	0	3	0.6	9.7%
	Sunday	0	1	1	1	1	4	0	0	0	0	4	0.8	12.9%

CRASH ANALYSIS - SW 84 AVENUE & SW 38 STREET

		Analysis Year					Severity					Total	Average	Percent
		2016	2017	2018	2019	2020	Property Damage Only	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal			
Hour of Day	0:00	0	1	0	0	0	0	1	0	0	0	1	0.2	3.2%
	1:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	2:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	3:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	4:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	5:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	6:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	7:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	8:00	1	0	2	0	0	2	1	0	0	0	3	0.6	9.7%
	9:00	1	0	1	0	0	1	1	0	0	0	2	0.4	6.5%
	10:00	1	0	0	0	0	0	1	0	0	0	1	0.2	3.2%
	11:00	0	0	2	1	0	1	1	1	0	0	3	0.6	9.7%
	12:00	0	0	2	0	1	2	1	0	0	0	3	0.6	9.7%
	13:00	1	0	2	0	0	2	1	0	0	0	3	0.6	9.7%
	14:00	1	1	1	0	0	2	1	0	0	0	3	0.6	9.7%
	15:00	2	0	1	1	0	4	0	0	0	0	4	0.8	12.9%
	16:00	0	0	1	0	0	1	0	0	0	0	1	0.2	3.2%
	17:00	1	2	1	1	0	4	1	0	0	0	5	1.0	16.1%
	18:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	19:00	0	0	0	1	0	1	0	0	0	0	1	0.2	3.2%
	20:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	21:00	0	0	0	1	0	1	0	0	0	0	1	0.2	3.2%
	22:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	23:00	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Time Period	12AM-6AM	0	1	0	0	0	0	1	0	0	0	1	0.2	3.2%
	6AM-12PM	3	0	5	1	0	4	4	1	0	0	9	1.8	29.0%
	12PM-6PM	5	3	8	2	1	15	4	0	0	0	19	3.8	61.3%
	6PM-12AM	0	0	0	2	0	2	0	0	0	0	2	0.4	6.5%
Alcohol & Drugs	None	8	4	13	5	1	21	9	1	0	0	31	6.2	100.0%
	Alcohol Involved	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Drugs Involved	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Alcohol and Drugs	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
	Undetermined	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0%
Age of Driver 1 (Typically Driver at Fault)	19 and Under	0	0	0	0	0						0	0.0	0.0%
	20-24	0	0	0	0	0						0	0.0	0.0%
	25-29	0	0	0	0	0						0	0.0	0.0%
	30-34	0	0	0	0	0						0	0.0	0.0%
	35-39	0	0	0	0	0						0	0.0	0.0%
	40-44	0	0	0	0	0						0	0.0	0.0%
	45-49	0	0	0	0	0						0	0.0	0.0%
	50-54	0	0	0	0	0						0	0.0	0.0%
	55-59	0	0	0	0	0						0	0.0	0.0%
	60-64	0	0	0	0	0						0	0.0	0.0%
	65-69	0	0	0	0	0						0	0.0	0.0%
	70-74	0	0	0	0	0						0	0.0	0.0%
	75-79	0	0	0	0	0						0	0.0	0.0%
	80-84	0	0	0	0	0						0	0.0	0.0%
	85 and Over	0	0	0	0	0						0	0.0	0.0%
	Unknown	0	0	0	0	0						0	0.0	0.0%

CRASH ANALYSIS - SW 84 AVENUE & SW 38 STREET







CAP-X – 2021 AM Peak

Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	MD TPO Intersection Safety Analysis
Project Number:	22756.32
Location:	SW 84 Ave & SW 38 St
Date:	2021 AM
Number of Intersection Legs:	4
Major Street Direction	North-South

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	4	83	66	1.30%	0.00%
Westbound	0	7	13	8	0.00%	0.00%
Southbound	0	5	138	7	1.20%	0.00%
Northbound	0	13	79	6	3.24%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00		2.00
FDOT Context Zone		C4-General Urban Residential				
Critical Lane Volume Threshold		2-phase signal		Suggested = 1800		1800
		3-phase signal		Suggested = 1750		1750
		4-phase signal		Suggested = 1700		1700

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2





TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal	0.09	1	2.4	Poor	Poor	Fair
1 X 1	0.13	2	3.3	Fair	Fair	Fair
50 ICD	0.19	3	3.3	Fair	Fair	Fair
75 ICD	0.19	4	3.3	Fair	Fair	Fair
Two-Way Stop Control N-S	0.24	5	1.9	Poor	Poor	Fair
All-Way Stop Control	0.36	6	3.3	Fair	Fair	Fair
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CAP-X – 2021 PM Peak

Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

Project Name:	MD TPO Intersection Safety Analysis
Project Number:	22756.32
Location:	SW 84 Ave & SW 38 St
Date:	2021 PM
Number of Intersection Legs:	4
Major Street Direction	North-South

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	5	61	58	0.00%	0.00%
Westbound	0	9	18	0	4.02%	0.00%
Southbound	0	4	147	4	1.24%	0.00%
Northbound	0	21	101	7	3.13%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00		2.00
FDOT Context Zone		C4-General Urban Residential				
Critical Lane Volume Threshold		2-phase signal		Suggested = 1800		1800
		3-phase signal		Suggested = 1750		1750
		4-phase signal		Suggested = 1700		1700

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

TYPE OF INTERSECTION	Overall v/c Ratio	V/C Ranking	Multimodal Score	Pedestrian Accommodations	Bicycle Accommodations	Transit Accommodations
Traffic Signal	0.09	1	2.4	Poor	Poor	Fair
1 X 1	0.12	2	3.3	Fair	Fair	Fair
75 ICD	0.16	3	3.3	Fair	Fair	Fair
50 ICD	0.17	4	3.3	Fair	Fair	Fair
Two-Way Stop Control N-S	0.20	5	1.9	Poor	Poor	Fair
All-Way Stop Control	0.37	6	3.3	Fair	Fair	Fair
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SPICE – Stage 1

Federal Highway Administration (FHWA)							
Safety Performance for Intersection Control Evaluation Tool							
Results							
Summary of crash prediction results for each alternative							
Project Information							
Project Name:	MD TPO Intersection Safety Analysis			Intersection Type		At-Grade Intersections	
Intersection:	SW 84 Ave & SW 38 St			Opening Year		2025	
Agency:	Miami Dade TPO			Design Year		2045	
Project Reference:	22756.32			Facility Type		On Urban and Suburban Arterial	
City:	Miami			Number of Legs		4-leg	
State:	Florida			1-Way/2-Way		2-way Intersecting 2-way	
Date:	4/11/2021			# of Major Street Lanes (both directions)		5 or fewer	
Analyst:	RMM			Major Street Approach Speed		Less than 55 mph	
Crash Prediction Summary							
Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Rank	AADT Within Prediction Range?	Source of Prediction
Traffic Signal	Total	1.74	2.17	40.95	3	Yes	Calibrated SPF
	Fatal & Injury	0.55	0.68	12.88			
Minor Road Stop	Total	1.85	2.19	42.46	4	Yes	Calibrated SPF
	Fatal & Injury	0.66	0.80	15.34			
All Way Stop	Total	0.76	0.91	17.54	2	N/A	N/A
	Fatal & Injury	0.22	0.27	5.09			
1-lane Roundabout	Total	0.98	1.11	21.99	1	Yes	Uncalibrated SPF
	Fatal & Injury	0.15	0.18	3.54			

ICE FORM – Stage 1

Florida Department of Transportation

Intersection Control Evaluation (ICE) Form

Stage 1: Screening

Intersection Control Evaluation Form 750-010-003

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval.

Project Name	Miami-Dade TPO Intersection Safety Analysis		FDOT Project #		
Submitted By	Benazir Portal	Agency/Company	Kittelsohn & Associates, Inc.	Date	4/15/2021
Email	bportal@kittelsohn.com	FDOT District	District 6	County	Miami-Dade
Project Locality (City/Town/Village)	Miami, FL		Project Type	Safety Improvement Project	
Project Funding Source	Federal	FDOT Context Classification	C4 - Urban General		
Project Purpose (What is the catalyst for this project and why is it being undertaken?)	The Purpose & Need (P&N) for the project is to improve safety due to a pattern of angle and left turn crashes at the intersection of SW 84 Avenue & SW 38 Street. All injury crashes at the subject intersections were angle crashes, a total of 10 over the five year study period. The study is to evaluate the intersection and provide justification to apply for HSIP Funds. An Intersection Control Evaluation (ICE) was conducted to determine the appropriate control type for the intersection.				
Project Setting Description (Describe the area surrounding the intersection)	The existing intersection control type is two-way stop control with the north/south approaches operating free flow. SW 84 Avenue, located in Miami-Dade County, is a north-south roadway that functions as a local connector between SW 40 Street and SW 24 Street. SW 38 Street is a local roadway that connects SW 87 Avenue to SW 82 Avenue. The intersection is surrounded by residential properties.				
Multimodal Context (Describe the pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development patterns)	There was little pedestrian or bicycle activity observed in this area. There are sidewalks present on all four legs of the intersection. There are no marked crosswalks at the intersection. There are no transit routes that travel through the intersection. Under the proposed mini-roundabout condition bicyclists will travel through the intersection on the roadway with vehicular traffic.				

Major Street Information								
Route #:		Route Name(s)	SW 84 Avenue		Milepost			
Existing Control Type	Two-way Stop-Control		Existing AADT	4,000	Design Year AADT	5,000		
Design Vehicle	34' Fire Pumper Tanker		Control Vehicle	34' Fire Pumper Tanker				
Primary Functional Classification			Urban Local		Design Speed (mph)	30		
Secondary Functional Classification (if app.)					Target Speed (mph) [if app.]			
Approach #1	Direction	Northbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along	Both sides of the approach	Left-Turn	0				
	Crosswalk on Approach?	No	Left-Through	0	Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	0	Left	13	Left	21
	Multi-Use Path?	No	Left-Through-Right	1	Through	79	Through	101
	Scheduled Bus Service?	No	Through-Right	0	Right	6	Right	7
	Bus Stop on Approach?	No	Right-Turn	0	Daily Truck %		2.2%	
Approach #2	Direction	Southbound	Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along:	Both sides of the approach	Left-Turn	0				
	Crosswalk on Approach?	No	Left-Through	0	Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No	Through	0	Left	5	Left	4
	Multi-Use Path?	No	Left-Through-Right	1	Through	138	Through	147
	Scheduled Bus Service?	No	Through-Right	0	Right	7	Right	4
	Bus Stop on Approach?	No	Right-Turn	0	Daily Truck %		2.3%	





Minor Street Information											
Route #:		Route Name(s)		SW 38 Street			Milepost (if app.)				
Existing Control Type		Two-way Stop-Control		Existing AADT		1,900		Design Year AADT		2,400	
Design Vehicle		34' Fire Pumper Tanker		Control Vehicle		34' Fire Pumper Tanker					
Primary Functional Classification				Urban Local		Design Speed (mph)		30			
Secondary Functional Classification (if app.)						Target Speed (mph) [if app.]					
Approach #1	Direction		Eastbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:		Both sides of the approach		Left-Turn		0				
	Crosswalk on Approach?		No		Left-Through		0		Weekday AM Peak		
	On-Street Bike Facilities?		No		Through		0		Left		5
	Multi-Use Path?		No		Left-Through-Right		1		Through		61
	Scheduled Bus Service?		No		Through-Right		0		Right		58
	Bus Stop on Approach?		No		Right-Turn		0		Daily Truck %		0.7%
Approach #2	Direction		Westbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:		Both sides of the approach		Left-Turn		0				
	Crosswalk on Approach?		No		Left-Through		0		Weekday AM Peak		
	On-Street Bike Facilities?		No		Through		0		Left		9
	Multi-Use Path?		No		Left-Through-Right		1		Through		18
	Scheduled Bus Service?		No		Through-Right		0		Right		0
	Bus Stop on Approach?		No		Right-Turn		0		Daily Truck %		2.0%
Approach #3	Direction				Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:				Left-Turn						
	Crosswalk on Approach?				Left-Through				Weekday AM Peak		
	On-Street Bike Facilities?				Through				Left		
	Multi-Use Path?				Left-Through-Right				Through		
	Scheduled Bus Service?				Through-Right				Right		
	Bus Stop on Approach?				Right-Turn				Daily Truck %		

Crash History (Existing Intersections Only)	
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:	
The most recent three years of verified SSOGIS crash data on record (2016-2018) was collected for the study intersection. In addition, the most recent five years of Signal Four Analytics (S4) crash data (2016-2020) was downloaded and included in the analysis to verify crash patterns remained consistent in the most recent years. Over the five year history, 31 total crashes occurred with zero being fatal and ten resulting in at least one injury. Angle crashes were the most common crash type with 30 crashes (97 percent). The ten injury crashes were angle crashes. Nineteen of the 31 crashes (61 percent) occurred from 12 PM-6 PM.	

Control Strategy Evaluation						
Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.						
Control Strategy	CAP-X Outputs			SPICE Ranking	Strategy to Be Advanced?	Justification
	V/C Ratio		Multimodal Score			
	Weekday AM Peak	Weekday PM Peak				
Two-Way Stop-Controlled	0.24	0.20	1.9	4	No	No-Build alternative is not viable due to existing angle and left turn crash patterns.
All-Way Stop-Controlled	0.36	0.37	3.3	2	No	Lower number of predicted crashes, but higher V/C when compared to the existing TWSC.
Signalized Control	0.09	0.09	2.4	3	No	Higher number of predicted crashes compared to the roundabout alternatives and the intersection does not meet signal warrants.
Roundabout	0.13 (1x1) 0.19 (75' ICD) 0.19 (50' ICD)	0.12 (1x1) 0.16 (75' ICD) 0.17 (50' ICD)	3.3	1	Yes	Improved V/C and lower number of predicted crashes when compared to the existing TWSC. The 75' ICD will be moved forward.
Median U-Turn	-	-	-	-	No	The intersection does not meet signal warrants.
RCUT (Signalized)	-	-	-	-	No	The intersection does not meet signal warrants.
RCUT (Unsignalized)	-	-	-	-	No	Significant ROW and environmental impacts in the area surrounding the intersection.
Jughandle				-	No	The intersection does not meet signal warrants.
Displaced Left-Turn	-	-	-	-	No	The intersection does not meet signal warrants.
Continuous Green Tee	-	-	-	-	No	The intersection is a four-leg intersection.
Quadrant Roadway	-	-	-		No	The intersection does not meet signal warrants.
Partial MUT	-	-	-	-	No	The intersection does not meet signal warrants.
Other 2 (Type)	-	-	-	-	No	N/A

Resolution					
To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer					
Project Determination		Identified Control Strategy Approved			
Comments					
DOT E Name		Signature		Date	
DDE Name		Signature		Date	

APPENDIX G. OPERATIONAL ANALYSIS REPORT OUTPUTS

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	83	66	7	13	8	13	79	6	5	138	7
Future Vol, veh/h	4	83	66	7	13	8	13	79	6	5	138	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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	1	2	0	0	0	0	4	0	0	1	0
Mvmt Flow	5	100	80	8	16	10	16	95	7	6	166	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	326	316	170	403	317	99	174	0	0	102	0	0
Stage 1	182	182	-	131	131	-	-	-	-	-	-	-
Stage 2	144	134	-	272	186	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.51	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.009	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	631	602	874	562	602	962	1415	-	-	1503	-	-
Stage 1	824	751	-	877	792	-	-	-	-	-	-	-
Stage 2	864	787	-	738	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	604	592	874	439	592	962	1415	-	-	1503	-	-
Mov Cap-2 Maneuver	604	592	-	439	592	-	-	-	-	-	-	-
Stage 1	814	748	-	866	782	-	-	-	-	-	-	-
Stage 2	828	778	-	579	747	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.1		11.3		1		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1415	-	-	688	606	1503	-
HCM Lane V/C Ratio	0.011	-	-	0.268	0.056	0.004	-
HCM Control Delay (s)	7.6	0	-	12.1	11.3	7.4	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	1.1	0.2	0	-





Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	5	61	58	9	18	0	21	101	7	4	147	4
Future Vol, veh/h	5	61	58	9	18	0	21	101	7	4	147	4
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	13	0	0	0	4	0	0	1	0
Mvmt Flow	6	69	66	10	20	0	24	115	8	5	167	5





Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	357	351	170	414	349	119	172	0	0	123	0	0
Stage 1	180	180	-	167	167	-	-	-	-	-	-	-
Stage 2	177	171	-	247	182	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.23	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.23	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.23	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.617	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	602	577	879	530	578	938	1417	-	-	1477	-	-
Stage 1	826	754	-	810	764	-	-	-	-	-	-	-
Stage 2	829	761	-	733	753	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	576	564	879	437	565	938	1417	-	-	1477	-	-
Mov Cap-2 Maneuver	576	564	-	437	565	-	-	-	-	-	-	-
Stage 1	811	751	-	795	750	-	-	-	-	-	-	-
Stage 2	792	747	-	613	750	-	-	-	-	-	-	-





Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		12.4		1.2		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	678	515	1477	-
HCM Lane V/C Ratio	0.017	-	-	0.208	0.06	0.003	-
HCM Control Delay (s)	7.6	0	-	11.7	12.4	7.4	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.2	0	-

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	86	69	7	14	8	14	82	6	5	144	7
Future Vol, veh/h	4	86	69	7	14	8	14	82	6	5	144	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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	1	2	0	0	0	0	4	0	0	1	0
Mvmt Flow	5	104	83	8	17	10	17	99	7	6	173	8
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	339	329	177	420	330	103	181	0	0	106	0	0
Stage 1	189	189	-	137	137	-	-	-	-	-	-	-
Stage 2	150	140	-	283	193	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.51	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.009	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	619	592	866	547	592	957	1407	-	-	1498	-	-
Stage 1	817	746	-	871	787	-	-	-	-	-	-	-
Stage 2	857	783	-	728	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	592	582	866	422	582	957	1407	-	-	1498	-	-
Mov Cap-2 Maneuver	592	582	-	422	582	-	-	-	-	-	-	-
Stage 1	806	743	-	860	777	-	-	-	-	-	-	-
Stage 2	819	773	-	564	742	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.4		11.5		1		0.2					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1407	-	-	679	592	1498	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.282	0.059	0.004	-	-				
HCM Control Delay (s)	7.6	0	-	12.4	11.5	7.4	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.2	0.2	0	-	-				

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	63	60	9	19	0	22	105	7	4	153	4
Future Vol, veh/h	5	63	60	9	19	0	22	105	7	4	153	4
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	13	0	0	0	4	0	0	1	0
Mvmt Flow	6	72	68	10	22	0	25	119	8	5	174	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	371	364	177	430	362	123	179	0	0	127	0	0
Stage 1	187	187	-	173	173	-	-	-	-	-	-	-
Stage 2	184	177	-	257	189	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.23	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.23	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.23	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.617	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	589	567	871	517	569	933	1409	-	-	1472	-	-
Stage 1	819	749	-	804	760	-	-	-	-	-	-	-
Stage 2	822	756	-	724	748	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	561	554	871	422	556	933	1409	-	-	1472	-	-
Mov Cap-2 Maneuver	561	554	-	422	556	-	-	-	-	-	-	-
Stage 1	803	746	-	789	746	-	-	-	-	-	-	-
Stage 2	783	742	-	601	745	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.9		12.6		1.2		0.2					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1409	-	-	668	505	1472	-	-				
HCM Lane V/C Ratio	0.018	-	-	0.218	0.063	0.003	-	-				
HCM Control Delay (s)	7.6	0	-	11.9	12.6	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.2	0	-	-				

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	103	82	9	16	10	16	98	7	6	171	9
Future Vol, veh/h	5	103	82	9	16	10	16	98	7	6	171	9
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	1	2	0	0	0	0	4	0	0	1	0
Mvmt Flow	6	124	99	11	19	12	19	118	8	7	206	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	402	390	212	497	391	122	217	0	0	126	0	0
Stage 1	226	226	-	160	160	-	-	-	-	-	-	-
Stage 2	176	164	-	337	231	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.51	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.009	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	562	547	828	487	548	935	1365	-	-	1473	-	-
Stage 1	781	719	-	847	769	-	-	-	-	-	-	-
Stage 2	831	764	-	681	717	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	532	536	828	347	537	935	1365	-	-	1473	-	-
Mov Cap-2 Maneuver	532	536	-	347	537	-	-	-	-	-	-	-
Stage 1	769	715	-	834	757	-	-	-	-	-	-	-
Stage 2	787	753	-	493	713	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.9		12.4		1		0.2					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1365	-	-	632	527	1473	-	-				
HCM Lane V/C Ratio	0.014	-	-	0.362	0.08	0.005	-	-				
HCM Control Delay (s)	7.7	0	-	13.9	12.4	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.6	0.3	0	-	-				

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	76	72	11	22	0	26	125	9	5	182	5
Future Vol, veh/h	6	76	72	11	22	0	26	125	9	5	182	5
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	13	0	0	0	4	0	0	1	0
Mvmt Flow	7	86	82	13	25	0	30	142	10	6	207	6
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	442	434	210	513	432	147	213	0	0	152	0	0
Stage 1	222	222	-	207	207	-	-	-	-	-	-	-
Stage 2	220	212	-	306	225	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.23	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.23	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.23	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.617	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	529	518	835	455	519	905	1369	-	-	1441	-	-
Stage 1	785	723	-	770	734	-	-	-	-	-	-	-
Stage 2	787	731	-	681	721	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	498	503	835	349	504	905	1369	-	-	1441	-	-
Mov Cap-2 Maneuver	498	503	-	349	504	-	-	-	-	-	-	-
Stage 1	766	719	-	752	716	-	-	-	-	-	-	-
Stage 2	741	713	-	538	717	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.1		14		1.2		0.2					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1369	-	-	618	439	1441	-	-				
HCM Lane V/C Ratio	0.022	-	-	0.283	0.085	0.004	-	-				
HCM Control Delay (s)	7.7	0	-	13.1	14	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.3	0	-	-				

MOVEMENT SUMMARY

 Site: 101 [SW 84 Ave & SW 38 St_Existing AM]

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SW 84 Ave												
3	L2	16	0.0	0.121	4.7	LOS A	0.4	11.2	0.24	0.13	0.24	33.1
8	T1	95	4.0	0.121	4.8	LOS A	0.4	11.2	0.24	0.13	0.24	33.2
18	R2	7	0.0	0.121	4.7	LOS A	0.4	11.2	0.24	0.13	0.24	32.8
Approach		118	3.2	0.121	4.8	LOS A	0.4	11.2	0.24	0.13	0.24	33.2
East: SW 38 St												
1	L2	8	0.0	0.034	3.9	LOS A	0.1	2.9	0.23	0.11	0.23	33.4
6	T1	16	0.0	0.034	3.9	LOS A	0.1	2.9	0.23	0.11	0.23	33.6
16	R2	10	0.0	0.034	3.9	LOS A	0.1	2.9	0.23	0.11	0.23	33.0
Approach		34	0.0	0.034	3.9	LOS A	0.1	2.9	0.23	0.11	0.23	33.4
North: SW 84 Ave												
7	L2	6	0.0	0.168	4.8	LOS A	0.7	16.8	0.14	0.05	0.14	33.3
4	T1	166	1.0	0.168	4.9	LOS A	0.7	16.8	0.14	0.05	0.14	33.5
14	R2	8	0.0	0.168	4.8	LOS A	0.7	16.8	0.14	0.05	0.14	32.9
Approach		181	0.9	0.168	4.9	LOS A	0.7	16.8	0.14	0.05	0.14	33.4
West: SW 38 St												
5	L2	5	0.0	0.199	5.8	LOS A	0.8	19.7	0.33	0.23	0.33	32.8
2	T1	100	1.0	0.199	5.8	LOS A	0.8	19.7	0.33	0.23	0.33	33.0
12	R2	80	2.0	0.199	5.9	LOS A	0.8	19.7	0.33	0.23	0.33	32.4
Approach		184	1.4	0.199	5.8	LOS A	0.8	19.7	0.33	0.23	0.33	32.7
All Vehicles		517	1.6	0.199	5.1	LOS A	0.8	19.7	0.24	0.14	0.24	33.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 Site: 101 [SW 84 Ave & SW 38 St_Existing PM]

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SW 84 Ave												
3	L2	24	0.0	0.145	4.8	LOS A	0.5	13.9	0.20	0.10	0.20	33.0
8	T1	115	4.0	0.145	4.9	LOS A	0.5	13.9	0.20	0.10	0.20	33.1
18	R2	8	0.0	0.145	4.8	LOS A	0.5	13.9	0.20	0.10	0.20	32.7
Approach		147	3.1	0.145	4.9	LOS A	0.5	13.9	0.20	0.10	0.20	33.1
East: SW 38 St												
1	L2	10	13.0	0.034	4.5	LOS A	0.1	2.9	0.26	0.14	0.26	32.7
6	T1	20	0.0	0.034	4.0	LOS A	0.1	2.9	0.26	0.14	0.26	33.4
16	R2	1	0.0	0.034	4.0	LOS A	0.1	2.9	0.26	0.14	0.26	32.8
Approach		32	4.2	0.034	4.2	LOS A	0.1	2.9	0.26	0.14	0.26	33.1
North: SW 84 Ave												
7	L2	5	0.0	0.166	4.9	LOS A	0.7	16.5	0.17	0.07	0.17	33.2
4	T1	167	1.0	0.166	4.9	LOS A	0.7	16.5	0.17	0.07	0.17	33.4
14	R2	5	0.0	0.166	4.9	LOS A	0.7	16.5	0.17	0.07	0.17	32.9
Approach		176	0.9	0.166	4.9	LOS A	0.7	16.5	0.17	0.07	0.17	33.4
West: SW 38 St												
5	L2	6	0.0	0.150	5.3	LOS A	0.6	14.3	0.32	0.21	0.32	33.0
2	T1	69	0.0	0.150	5.3	LOS A	0.6	14.3	0.32	0.21	0.32	33.3
12	R2	66	0.0	0.150	5.3	LOS A	0.6	14.3	0.32	0.21	0.32	32.7
Approach		141	0.0	0.150	5.3	LOS A	0.6	14.3	0.32	0.21	0.32	33.0
All Vehicles		495	1.5	0.166	5.0	LOS A	0.7	16.5	0.23	0.12	0.23	33.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: 101 [SW 84 Ave & SW 38 St_2025 AM]

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SW 84 Ave												
3	L2	17	0.0	0.126	4.7	LOS A	0.5	11.7	0.24	0.13	0.24	33.1
8	T1	99	4.0	0.126	4.9	LOS A	0.5	11.7	0.24	0.13	0.24	33.2
18	R2	7	0.0	0.126	4.7	LOS A	0.5	11.7	0.24	0.13	0.24	32.7
Approach		123	3.2	0.126	4.9	LOS A	0.5	11.7	0.24	0.13	0.24	33.1
East: SW 38 St												
1	L2	8	0.0	0.035	3.9	LOS A	0.1	3.0	0.23	0.12	0.23	33.4
6	T1	17	0.0	0.035	3.9	LOS A	0.1	3.0	0.23	0.12	0.23	33.6
16	R2	10	0.0	0.035	3.9	LOS A	0.1	3.0	0.23	0.12	0.23	33.0
Approach		35	0.0	0.035	3.9	LOS A	0.1	3.0	0.23	0.12	0.23	33.4
North: SW 84 Ave												
7	L2	6	0.0	0.175	4.9	LOS A	0.7	17.6	0.15	0.06	0.15	33.2
4	T1	173	1.0	0.175	4.9	LOS A	0.7	17.6	0.15	0.06	0.15	33.4
14	R2	8	0.0	0.175	4.9	LOS A	0.7	17.6	0.15	0.06	0.15	32.9
Approach		188	0.9	0.175	4.9	LOS A	0.7	17.6	0.15	0.06	0.15	33.4
West: SW 38 St												
5	L2	5	0.0	0.208	5.9	LOS A	0.8	20.8	0.34	0.24	0.34	32.7
2	T1	104	1.0	0.208	6.0	LOS A	0.8	20.8	0.34	0.24	0.34	32.9
12	R2	83	2.0	0.208	6.0	LOS A	0.8	20.8	0.34	0.24	0.34	32.3
Approach		192	1.4	0.208	6.0	LOS A	0.8	20.8	0.34	0.24	0.34	32.7
All Vehicles		537	1.6	0.208	5.2	LOS A	0.8	20.8	0.24	0.14	0.24	33.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: 101 [SW 84 Ave & SW 38 St_2025 PM]

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SW 84 Ave												
3	L2	25	0.0	0.151	4.8	LOS A	0.6	14.5	0.21	0.10	0.21	33.0
8	T1	119	4.0	0.151	5.0	LOS A	0.6	14.5	0.21	0.10	0.21	33.1
18	R2	8	0.0	0.151	4.8	LOS A	0.6	14.5	0.21	0.10	0.21	32.7
Approach		152	3.1	0.151	5.0	LOS A	0.6	14.5	0.21	0.10	0.21	33.0
East: SW 38 St												
1	L2	10	13.0	0.035	4.5	LOS A	0.1	3.0	0.26	0.14	0.26	32.7
6	T1	22	0.0	0.035	4.0	LOS A	0.1	3.0	0.26	0.14	0.26	33.4
16	R2	1	0.0	0.035	4.0	LOS A	0.1	3.0	0.26	0.14	0.26	32.8
Approach		33	4.0	0.035	4.2	LOS A	0.1	3.0	0.26	0.14	0.26	33.1
North: SW 84 Ave												
7	L2	5	0.0	0.173	5.0	LOS A	0.7	17.3	0.17	0.08	0.17	33.2
4	T1	174	1.0	0.173	5.0	LOS A	0.7	17.3	0.17	0.08	0.17	33.4
14	R2	5	0.0	0.173	5.0	LOS A	0.7	17.3	0.17	0.08	0.17	32.9
Approach		183	1.0	0.173	5.0	LOS A	0.7	17.3	0.17	0.08	0.17	33.4
West: SW 38 St												
5	L2	6	0.0	0.156	5.4	LOS A	0.6	14.9	0.33	0.22	0.33	33.0
2	T1	72	0.0	0.156	5.4	LOS A	0.6	14.9	0.33	0.22	0.33	33.2
12	R2	68	0.0	0.156	5.4	LOS A	0.6	14.9	0.33	0.22	0.33	32.7
Approach		145	0.0	0.156	5.4	LOS A	0.6	14.9	0.33	0.22	0.33	33.0
All Vehicles		514	1.5	0.173	5.0	LOS A	0.7	17.3	0.23	0.13	0.23	33.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: 101 [SW 84 Ave & SW 38 St_2045 AM]

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SW 84 Ave												
3	L2	19	0.0	0.153	5.1	LOS A	0.6	14.6	0.27	0.17	0.27	32.9
8	T1	118	4.0	0.153	5.3	LOS A	0.6	14.6	0.27	0.17	0.27	33.0
18	R2	8	0.0	0.153	5.1	LOS A	0.6	14.6	0.27	0.17	0.27	32.6
Approach		146	3.2	0.153	5.2	LOS A	0.6	14.6	0.27	0.17	0.27	33.0
East: SW 38 St												
1	L2	11	0.0	0.043	4.1	LOS A	0.2	3.8	0.26	0.14	0.26	33.3
6	T1	19	0.0	0.043	4.1	LOS A	0.2	3.8	0.26	0.14	0.26	33.5
16	R2	12	0.0	0.043	4.1	LOS A	0.2	3.8	0.26	0.14	0.26	32.9
Approach		42	0.0	0.043	4.1	LOS A	0.2	3.8	0.26	0.14	0.26	33.3
North: SW 84 Ave												
7	L2	7	0.0	0.210	5.3	LOS A	0.9	22.0	0.17	0.07	0.17	33.0
4	T1	206	1.0	0.210	5.3	LOS A	0.9	22.0	0.17	0.07	0.17	33.2
14	R2	11	0.0	0.210	5.3	LOS A	0.9	22.0	0.17	0.07	0.17	32.7
Approach		224	0.9	0.210	5.3	LOS A	0.9	22.0	0.17	0.07	0.17	33.2
West: SW 38 St												
5	L2	6	0.0	0.258	6.7	LOS A	1.1	26.7	0.39	0.30	0.39	32.4
2	T1	124	1.0	0.258	6.7	LOS A	1.1	26.7	0.39	0.30	0.39	32.5
12	R2	99	2.0	0.258	6.8	LOS A	1.1	26.7	0.39	0.30	0.39	32.0
Approach		229	1.4	0.258	6.7	LOS A	1.1	26.7	0.39	0.30	0.39	32.3
All Vehicles		641	1.6	0.258	5.7	LOS A	1.1	26.7	0.28	0.18	0.28	32.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 Site: 101 [SW 84 Ave & SW 38 St_2045 PM]

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SW 84 Ave												
3	L2	30	0.0	0.183	5.2	LOS A	0.7	18.2	0.24	0.13	0.24	32.8
8	T1	142	4.0	0.183	5.4	LOS A	0.7	18.2	0.24	0.13	0.24	32.9
18	R2	10	0.0	0.183	5.2	LOS A	0.7	18.2	0.24	0.13	0.24	32.5
Approach		182	3.1	0.183	5.4	LOS A	0.7	18.2	0.24	0.13	0.24	32.9
East: SW 38 St												
1	L2	13	13.0	0.043	4.7	LOS A	0.1	3.7	0.29	0.17	0.29	32.6
6	T1	25	0.0	0.043	4.2	LOS A	0.1	3.7	0.29	0.17	0.29	33.3
16	R2	1	0.0	0.043	4.2	LOS A	0.1	3.7	0.29	0.17	0.29	32.7
Approach		39	4.2	0.043	4.4	LOS A	0.1	3.7	0.29	0.17	0.29	33.0
North: SW 84 Ave												
7	L2	6	0.0	0.209	5.4	LOS A	0.9	21.7	0.20	0.09	0.20	33.0
4	T1	207	1.0	0.209	5.4	LOS A	0.9	21.7	0.20	0.09	0.20	33.2
14	R2	6	0.0	0.209	5.4	LOS A	0.9	21.7	0.20	0.09	0.20	32.7
Approach		218	0.9	0.209	5.4	LOS A	0.9	21.7	0.20	0.09	0.20	33.2
West: SW 38 St												
5	L2	7	0.0	0.195	5.9	LOS A	0.8	19.1	0.37	0.28	0.37	32.7
2	T1	86	0.0	0.195	5.9	LOS A	0.8	19.1	0.37	0.28	0.37	32.9
12	R2	82	0.0	0.195	5.9	LOS A	0.8	19.1	0.37	0.28	0.37	32.4
Approach		175	0.0	0.195	5.9	LOS A	0.8	19.1	0.37	0.28	0.37	32.7
All Vehicles		614	1.5	0.209	5.5	LOS A	0.9	21.7	0.26	0.16	0.26	32.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

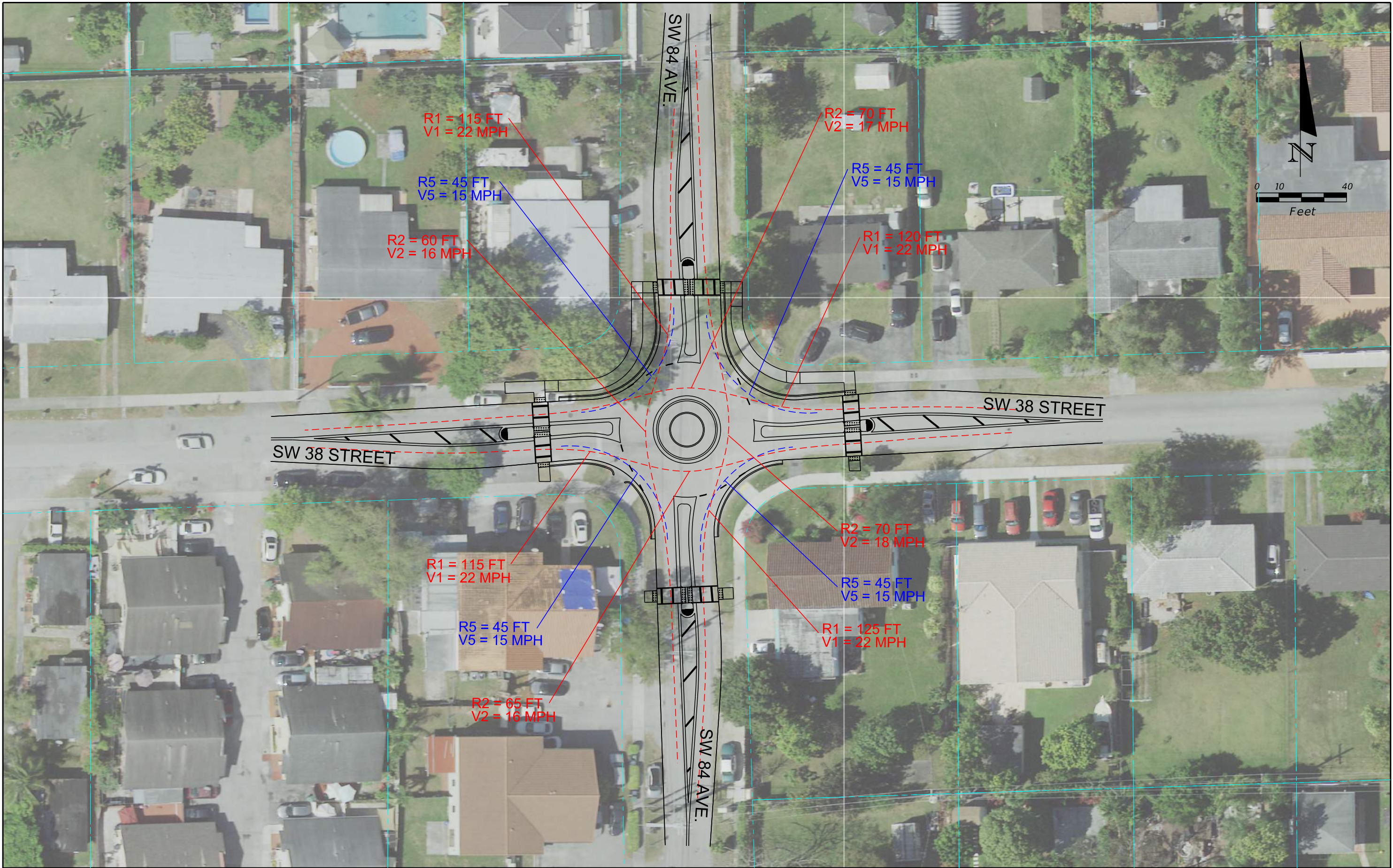
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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APPENDIX H. DESIGN CHECKS



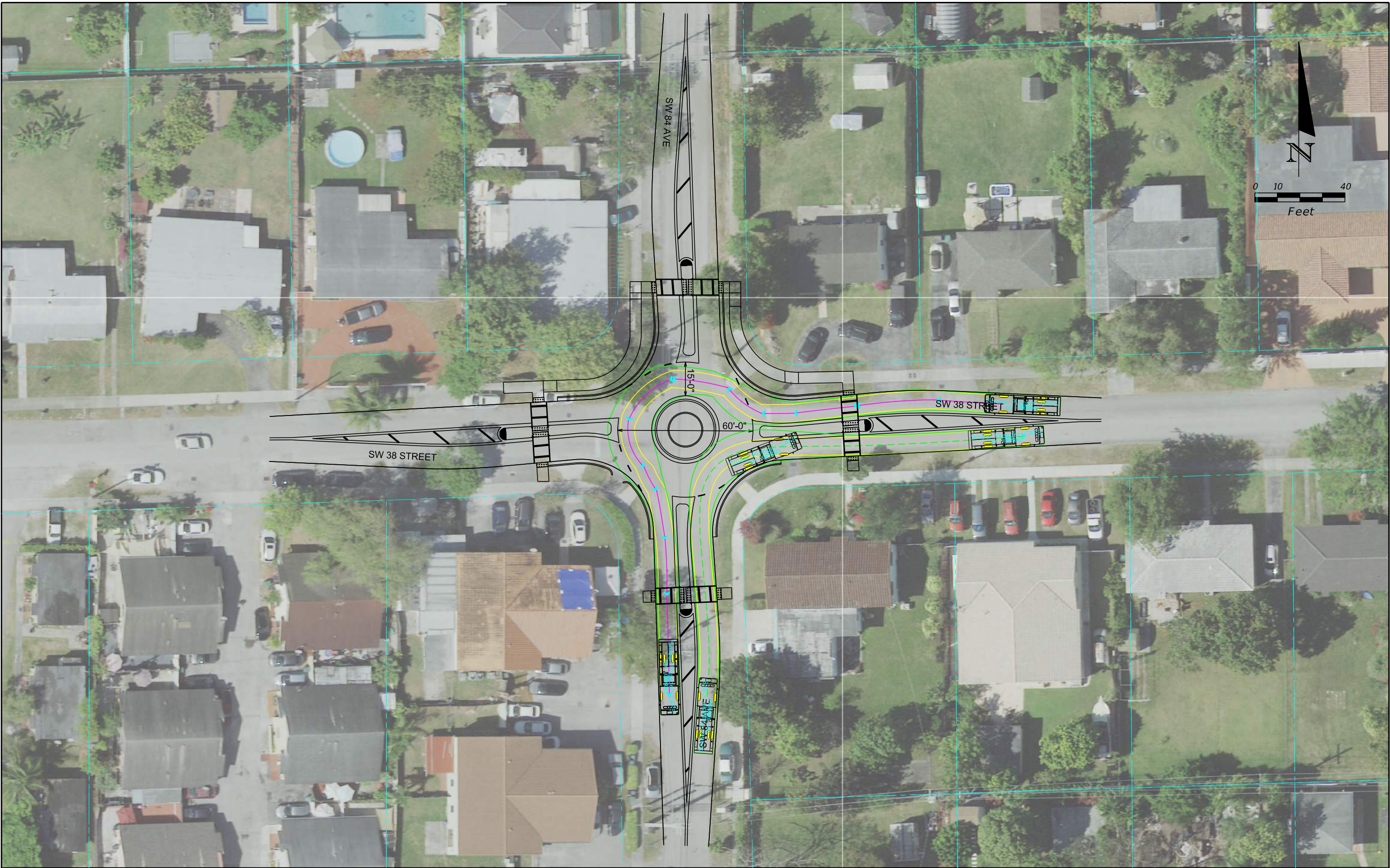
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



MIAMI-DADE
TRANSPORTATION PLANNING ORGANIZATION

**SW 84 AVENUE & SW 38 STREET
ROUNDAABOUT CONCEPT
FASTEST PATHS**

FIGURE
NO.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TP
Miami-Dade Transportation
Planning Organization

MIAMI-DADE
TRANSPORTATION PLANNING ORGANIZATION

*SW 84 AVENUE & SW 38 STREET
ROUNDBOUT CONCEPT
TURNING MOVEMENTS
(33'-6" FIRE TANKER)*

FIGURE
NO.

APPENDIX I. OPINION OF PROBABLE COST

SW 84 Avenue at SW 38 Street

Miami-Dade TPO

Conceptual Roundabout Design

**Engineer's Opinion of Probable Cost - Conceptual Improvements**

Prepared By: Brandon W. Kelley

Date: May 25, 2021

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0110 1 1	Clearing & Grubbing	AC	0.21	\$20,613.10	\$4,328.75
2	0120 6	Excavation	CY	224.00	\$15.21	\$3,407.04
3	0160 4	Type B Stabilization	SY	350.00	\$3.97	\$1,544.33
4	285709	Optional Base, Base Group 09	SY	286.00	\$23.68	\$6,772.48
5	0327 70 5	Milling Existing Asphalt Pavement, 2" Avg Depth	SY	1873.00	\$1.98	\$3,708.54
6	0334 1 52	Superpave Asphaltic Concrete, Traffic B, PG 76-22	TN	120.00	\$130.00	\$15,600.00
7	0337-7-80	Asph Conc FC, Traffic B, FC-9.5, PG 76-22	TN	120.00	\$219.69	\$26,362.80
8	350-30-13	Concrete Pavement for Roundabout Apron, 12" depth	SY	36.00	\$218.34	\$7,860.24
9	0520-2-4	Concrete Curb, Type D	LF	49.00	\$35.42	\$1,735.58
10	0520-2-8	Concrete Curb and Gutter, Type RA	LF	367.00	\$22.53	\$8,268.51
11	520-70	Concrete Traffic Separator, Special, Variable Width	SY	84.00	\$177.30	\$14,893.20
12	0522-1	Concrete Sidewalk and Driveways, 4"	SY	159.00	\$32.84	\$5,221.56
13	0527 2	Detectable Warnings	SF	80.00	\$28.22	\$2,257.60
14	0570-1-2	Performance Turf, SOD	SY	70.00	\$3.72	\$260.40
SUBTOTAL ROADWAY						\$ 102,221
SECTION 2: STRIPING						
15	0710-11290	Painted Pavement Markings, Standard, Yellow, Island Nose	SF	43.00	\$2.95	\$126.85
16	0711-16-102	Thermoplastic, Standard - Other Surfaces, White, Solid, 6"	GM	0.26	\$3,995.30	\$1,038.78
17	0711-16-201	Thermoplastic, Standard - Other Surfaces, Yellow, Solid, 6"	GM	0.36	\$3,993.45	\$1,437.64
18	0711-11123	Thermoplastic, STD, White, Solid, 12" For Crosswalk and Roundabout	LF	193.00	\$1.62	\$312.66
19	0711-11125	Thermoplastic, STD, White, Solid, 24" For Stop Line and Crosswalk	LF	113.00	\$3.51	\$396.63
20	0711-11224	Thermoplastic, STD, Yellow, Solid, 18" For Diagonals or Crosswalk	LF	109.00	\$2.42	\$263.78
21	0711 11144	Thermoplastic, Standard, White, 2-2 Dotted Extension Line, 12" for Roundabout	GM	0.02	\$4,150.00	\$83.00
SUBTOTAL STRIPING						\$ 3,659
SECTION 3: SIGNING						
22	0700 1 11	Single Post Sign, F&I Ground Mount, Up to 12 SF	EA	20.00	\$299.42	\$5,988.40
23	0700 1 60	Single Post Sign, Remove	EA	7.00	\$18.93	\$132.51
SUBTOTAL SIGNING						\$ 6,121
SECTION 4: UTILITIES						
24		Utility Relocation, Wooden Pole	EA	1.00	\$5,000.00	\$5,000.00
25	1080 24500	Utility Fixture, Valve Assembly, Adjust/Modify	EA	3.00	\$358.08	\$1,074.24
26	0425 5	Manhole, Adjust	EA	3.00	\$549.54	\$1,648.62
SUBTOTAL DRAINAGE						\$ 7,723
SECTION 5: ADDITIONAL MODIFICATIONS						
27		Sediment Barrier	LF	960.00	\$1.18	\$1,132.80
SUBTOTAL ADDITIONAL MODIFICATIONS						\$ 1,133
SECTION 6: LIGHTING						
28		Intersection Lighting, 4 Light Pole Complete, F&I Standard Pole, 30' Mounting Height Including Connections/Wiring	LS	1.00	\$30,000.00	\$30,000.00
SUBTOTAL ADDITIONAL MODIFICATIONS						\$ 30,000
SUBTOTAL SECTIONS 1 -6						\$ 150,857
SECTION 7: MAINTENANCE OF TRAFFIC						
29		Subtotal Sections 1-6	LS	15.00%	\$22,628.54	\$22,628.54
SECTION 8: MOBILIZATION						
30		Subtotal Sections 1-6	LS	20.00%	\$30,171.39	\$30,171.39
ESTIMATED CONSTRUCTION COSTS						\$ 203,657
30% CONTINGENCY						\$ 61,100
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 264,757
CAPITAL SUPPORT COSTS						
31		Project Engineering	LS	25%	\$ 264,757	\$66,190.00
32		Construction Support / Construction Management	LS	15%	\$ 264,757	\$39,720.00
33		Post Design	LS	8%	\$ 264,757	\$21,190.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 127,100
TOTAL PROJECT COST						\$ 391,857

APPENDIX J. BENEFIT/COST ANALYSIS

Outputs

This sheet compiles the data from summary tables in individual alternatives sheets. To populate the output sheet press the "Setup Worksheets" button in the

Agency:	MD TPO
Project Name:	MD TPO Intersection Safety Analysis
Project Reference:	22756.32
Intersection:	SW 84 Avenue and SW 38 Street
City:	Miami
State:	Florida
Performing Department or Organization:	KAI
Date:	4/22/2021
Analyst:	RMM
Analysis Type	At-Grade Intersection

Analysis Summary

Cost Categories	Net Present Value of Costs		
	Two-Way Stop Control	Roundabout	
Planning, Construction & Right of Way Costs	\$ -	\$ 391,857	
Post-Opening Costs	\$ 14,590	\$ 72,952	
Auto Passenger Delay	\$ 1,699,742	\$ 914,382	
Truck Delay	\$ 90,521	\$ 48,740	
Safety	\$ 4,695,298	\$ 840,387	
Total cost	\$6,500,152	\$2,268,317	Net Present Value of Benefits Relative to Base Case

Select Base Case for Benefit-Cost Comparison: (Choose from list)	Two-Way Stop Control		
Benefit Categories	Net Present Value of Benefits Relative to Base Case		
	Two-Way Stop Control	Roundabout	
Auto Passenger Delay		\$ 785,361	
Truck Delay		\$ 41,781	
Safety		\$ 3,854,911	
Net Present Value of Benefits		\$ 4,682,053	
Net Present Value of Costs		\$ 450,218	
Net Present Value of Improvement		\$ 4,231,835	
Benefit-Cost (B/C) Ratio		10.40	
Delay B/C		1.84	
Safety B/C		8.56	

APPENDIX K. FDOT ELECTRONIC REVIEW COMMENTS (ERC)

Submittal Report

Financial Project:	249796-8-32-01	Submittal Type:	SAFETY REPORT
Submittal Phase:	OTHER	Submittal Staff Type:	CONSULTANT
Received Date:	5/7/2021	Response Due Date:	5/25/2021
Grace Period:	0	District:	SIXTH
Status:	OPEN	Create Date:	5/7/2021
Create User Id:	RD652NP	Last Update:	5/24/2021
		Last Update User Id:	TO662PJ

Description:

249796-8: TWO 32_SW 84 Avenue and SW 38 Street Intersection Safety Analysis_20210506
 Group: PRELIMINARY ENGINEERING Phase Review Type: Safety Study
 Status: Submitted
 Phase Initiation Date: 5/7/2021
 Comments Due Date: 5/21/2021 Days Allowed for Review: 15
 Review Meeting: 5/24/2021 9:00 PM to 9:15 PM @ No review meeting required
 Field Meeting:
 Plans Format: Electronic
 Comments: Please have Benazir Portal as the PM for responses. bportal@kittelson.com
 Direct: 954.653.5634
 Please add Ryan Mansfield as a Designer to respond to comments.
 rmansfield@kittelson.com
 Direct: 407.373.1136

Threads:

Name	Assignment	Due Date	Status	Comments
Alejandro Almaguer	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Alejandro Casals	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Alejandro Gomez	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Alejandro Uribe	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Alina Fernandez	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Amanda De Cun	REVIEWER	5/24/2021	ACTIVE	4
No	Status	Current Holder	Reference	Categories
4	COMMENT AGREED WITH		General	ENVIRONMENTAL MANAGEMENT OFF.
Created By	Created On	Version	Delegate For	
Amanda De Cun	5/21/2021	1		

The class of action will be determined once the full scope of work and funding information is available.

BENAZIR PORTAL	5/24/2021	1
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Noted. No action needed in response to the comment at this study stage. Thank you.

No	Status	Current Holder	Reference	Categories
5	COMMENT AGREED WITH		General	ENVIRONMENTAL MANAGEMENT OFF.
	Created By	Created On	Version	Delegate For
	Amanda De Cun	5/21/2021	1	
	Please be aware that this project location is within the consultation area for the Florida bonneted bat, which is listed as an endangered species. A field review may be warranted to determine if roosting and/or foraging habitat exists within the project corridor for any tree and/or bridge impacts, and coordination with the U.S. Fish and Wildlife Service may be required.			
	BENAZIR PORTAL	5/24/2021	1	
	Noted. This comment will be addressed under the final design stage. Thank you.			

No	Status	Current Holder	Reference	Categories
6	COMMENT AGREED WITH		General	ENVIRONMENTAL MANAGEMENT OFF.
	Created By	Created On	Version	Delegate For
	Amanda De Cun	5/21/2021	1	
	Please be aware that this project is within the consultation area for the Everglade snail kite the Wood stork and may inhabit or migrate through the project area.			
	BENAZIR PORTAL	5/24/2021	1	
	Noted. This comment will be addressed under the final design stage. Thank you.			

No	Status	Current Holder	Reference	Categories
7	COMMENT AGREED WITH		Contact Information	ENVIRONMENTAL MANAGEMENT OFF.
	Created By	Created On	Version	Delegate For
	Amanda De Cun	5/21/2021	1	
	Should you have any questions or require clarification regarding these environmental comments, please contact Amanda De Cun at (305) 640-7460 or Amanda.DeCun@dot.state.fl.us.			
	BENAZIR PORTAL	5/24/2021	1	
	No action needed in response to the comment. Thank you.			

Name	Assignment	Due Date	Status	Comments
Amanda Montgomery	REVIEWER	5/24/2021	ACTIVE	2

No	Status	Current Holder	Reference	Categories
8	COMMENT AGREED WITH			ENVIRONMENTAL PERMITS
	Created By	Created On	Version	Delegate For
	Amanda Montgomery	5/21/2021	1	
	No local, state, or federal environmental permits are anticipated based on a review of the recommended scope of work.			
	BENAZIR PORTAL	5/24/2021	1	
	Noted. No action needed in response to the comment. Thank you.			

No	Status	Current Holder	Reference	Categories
9	COMMENT AGREED WITH			ENVIRONMENTAL PERMITS
	Created By	Created On	Version	Delegate For
	Amanda Montgomery	5/21/2021	1	
	Please contact me at Amanda.Montgomery@dot.state.fl.us with any questions pertaining to environmental permits for this project.			
	BENAZIR PORTAL	5/24/2021	1	
	No action needed in response to the comment. Thank you.			

Name	Assignment	Due Date	Status	Comments
Anthony Goldberg	REVIEWER	5/24/2021	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Antonette Adams	LEAD REVIEWER	5/24/2021	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Arturo Gomez	REVIEWER	5/24/2021	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Barbara J Culhane	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Barbara Russell	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
BENAZIR PORTAL	CONSULTANT PROJECT MANAGER	5/25/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Brian K Jimmerson	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Calvin Mason	LEAD REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Carlos Benitez	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Carlos Perez	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Carlos Perez	REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Christopher Tavella	REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Diana Peralta	REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Dima Poe	REVIEWER	5/24/2021	ACTIVE	3

No	Status	Current Holder	Reference	Categories
10	RESPONSE SUBMITTED	Dima Poe	Page 15	SAFETY,OTHER
Created By		Created On	Version	Delegate For
Dima Poe		5/21/2021	1	
Operational Analysis: Please consider conducting the analysis for the two scenarios (existing condition and roundabout) with the same software for consistency and comparability. Synchro should still allow for an HCM 2010 analysis/report if required.				
BENAZIR PORTAL		5/24/2021	1	
Understood. Please refer to Page 16 of the report for justification on the use of HCM 6th Edition versus SIDRA HCM 2010 results. No action needed in response to the comment. Thank you.				

No	Status	Current Holder	Reference	Categories
11	COMMENT AGREED WITH		Page 17-Concept	SAFETY,OTHER
Created By		Created On	Version	Delegate For
Dima Poe		5/21/2021	1	
Page 17 (Sheet 7) - Conceptual Design: Please revise page number. Please consider adding the existing roadway features as a layer on the proposed conceptual design, this would greatly help in the review of the concept and easy identification of required relocations.				
BENAZIR PORTAL		5/24/2021	1	
Page numbers have been updated. Utilities needing relocation or adjustment are noted on the concept drawing. No action needed in response to the comment. Thank you.				

No	Status	Current Holder	Reference	Categories
12	COMMENT AGREED WITH		Page 3	SAFETY,OTHER
	Created By	Created On	Version	Delegate For
	Dima Poe	5/21/2021	1	
	Page 2 & 3 (Sheet 1) - Existing Conditions: Please provide more context of surround land use. Note that the study intersection is within 700 feet of the signalized intersection of SW 40 Street/Bird Rd and SW 84 Avenue, and is within a really close proximity to commercial/retail land uses along Bird Rd, by Tropical Park and an Elementary School. Please also discuss pedestrian activity in the area. Did the midday field review include the school dismissal period? Please also consider conducting a field review during the weekend period.			
	BENAZIR PORTAL	5/24/2021	1	
	The report has been updated to acknowledge proximity to the signalized intersection at SR 976 / Bird Road and surrounding land uses (e.g., Banyan Elementary School). Peak period collected counts and midday field review revealed one or less non-motorist in peak hours pedestrian and bicycle activity. No further action needed in response to the comment. Thank you.			

Name	Assignment	Due Date	Status	Comments
Dionne Richardson	LEAD REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Elio Espino	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Elisa Azcona	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Felipe Gonzalez	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Felix Hernandez	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Guillermo Gomez	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Gustavo Firpi	REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Hailing Zhang	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Hector Hartmann	LEAD REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Howard Bechtold	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Javier Hurtado	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Javier Rodriguez	LEAD REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Jesus Perez	IN-HOUSE PROJECT MANAGER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Jinyan Lu	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
JOHN MCWILLIAMS	REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Judy Solaun-Gonzalez	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments

Ken Jeffries	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Kirenia Borbolla	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Krish Dial	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Leonard Salazar	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Luis Lopez	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Marvin Guillen	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Mauricio Gomez	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Max Imberman	REVIEWER	5/24/2021	ACTIVE	1
No	Status	Current Holder	Reference	Categories
2	COMMENT AGREED WITH		General Comment	CULTURAL RESOURCES
	Created By	Created On	Version	Delegate For
	Max Imberman	5/20/2021	1	
	My comment is contained within Rudy Westerman's comment.			
	BENAZIR PORTAL	5/24/2021	1	
	No action needed in response to the comment. Thank you.			
Name	Assignment	Due Date	Status	Comments
Michael Miller	REVIEWER	5/24/2021	ACTIVE	1
No	Status	Current Holder	Reference	Categories
13	COMMENT AGREED WITH			CONTAMINATION
	Created By	Created On	Version	Delegate For
	Michael Miller	5/24/2021	1	
	There are no documented contaminated sites within a 500-foot radius of the project corridor. There are sites that could potentially be contaminated, however, based on the scope/location contaminated impacts are not anticipated.			
	BENAZIR PORTAL	5/24/2021	1	
	Noted. No action needed in response to the comment. Thank you.			
Name	Assignment	Due Date	Status	Comments
Mikhail Dubrovsky	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Pablo Orozco	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Paola Baez	REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Patrick Marchant	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Phil Steinmiller	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments

Rafael Diaz	REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Rodrigo Ley	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Rudy Westerman	REVIEWER	5/24/2021	ACTIVE	1
No	Status	Current Holder	Reference	Categories
3	COMMENT AGREED WITH		General Comment	CULTURAL RESOURCES
	Created By	Created On	Version	Delegate For
	Rudy Westerman	5/21/2021	1	
	The preliminary cultural review identified no archaeological or historic properties within the area recommended for improvements. The Planning and Environmental Management Office (PLEMO) will need to revisit this project during design once the full scope of work and funding information is available. This information is needed to confirm an area of potential effect (APE) and to determine the appropriate scope of coordination with state and/or federal agencies. If you have any questions or require clarification for these comments, please contact Rudy J. Westerman at 727-423-1939 / rudy_westerman@janus-research.com.			
	BENAZIR PORTAL	5/24/2021	1	
	Noted. No action needed in response to the comment at this study stage. Thank you.			
Name	Assignment	Due Date	Status	Comments
Ryan Mansfield	LEAD DESIGNER	5/25/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Simon Gutierrez	REVIEWER	5/24/2021	ACTIVE	1
No	Status	Current Holder	Reference	Categories
1	COMMENT AGREED WITH			MAINTENANCE
	Created By	Created On	Version	Delegate For
	Simon Gutierrez	5/19/2021	1	
	No comments since the report was for a section outside FDOT ROW			
	BENAZIR PORTAL	5/24/2021	1	
	Noted. No action needed in response to the comment. Thank you.			
Name	Assignment	Due Date	Status	Comments
Simon Prilutsky	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Stefan Escanes	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Steven James	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Tiffany Gehrke	LEAD REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
X Negrin	LEAD REVIEWER	5/24/2021	ACTIVE	0*
Name	Assignment	Due Date	Status	Comments
Xiomara Nunez	LEAD REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Yimy Perez	REVIEWER	5/24/2021	ACTIVE	0
Name	Assignment	Due Date	Status	Comments
Zurelys Perez De Alejo	LEAD REVIEWER	5/24/2021	ACTIVE	0