

Historic Miramar Technology and Innovation Village Traffic Study (Short-Term and Long-Term Evaluation)

Miramar, FL



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Prepared for
City of Miramar
December 8, 2020

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Executive Summary

McMahon has completed a short-term and long-term traffic evaluation for the Historic Miramar Innovation and Technology Village study area, in the City of Miramar, Florida. The study area is generally bounded by SW 29 Street to the north, County Line Road to the south, Florida's Turnpike to the west, and SW 68 Avenue to the east. In the short-term, we understand that there are concerns with cut-through traffic and vehicles speeding within the neighborhood located south of Miramar Parkway. In the long-term, the City is contemplating the redevelopment of several parcels of land and the SW 33 Street Extension.

Short-Term Evaluation

- Generally, pavement markings such as the double yellow centerline, stop bars and crosswalks along the study roadways appeared to be in fair to poor condition
- Traffic volumes did not appear high within the study area during the field observations
- No vehicular, pedestrian or bicyclist conflict was observed
- Collected speeds indicate that vehicles are exceeding the posted speed limit along SW 68 Avenue. The 85th percentile speeds ranged between 36 and 37 MPH
- Crash data revealed that 35 crashes occurred within the study area between 2017 and 2019. The most frequent crash types were rear end, angle, and sideswipe. Most crashes were property damage only, occurred during daylight conditions, and during dry pavement conditions. Crashes were scattered throughout the study area and did not appear to be clustered at any one location.
- Roadway improvements generally included refurbishing or installing double yellow centerline markings, stop bars, STOP signs, crosswalks, speed humps, No-Thru Truck signs, and speed limit sign. A "pop-up" road closure was also proposed along SW 69 Avenue to discourage cut-through traffic. The cost for the short-term improvements is \$112,163.23.

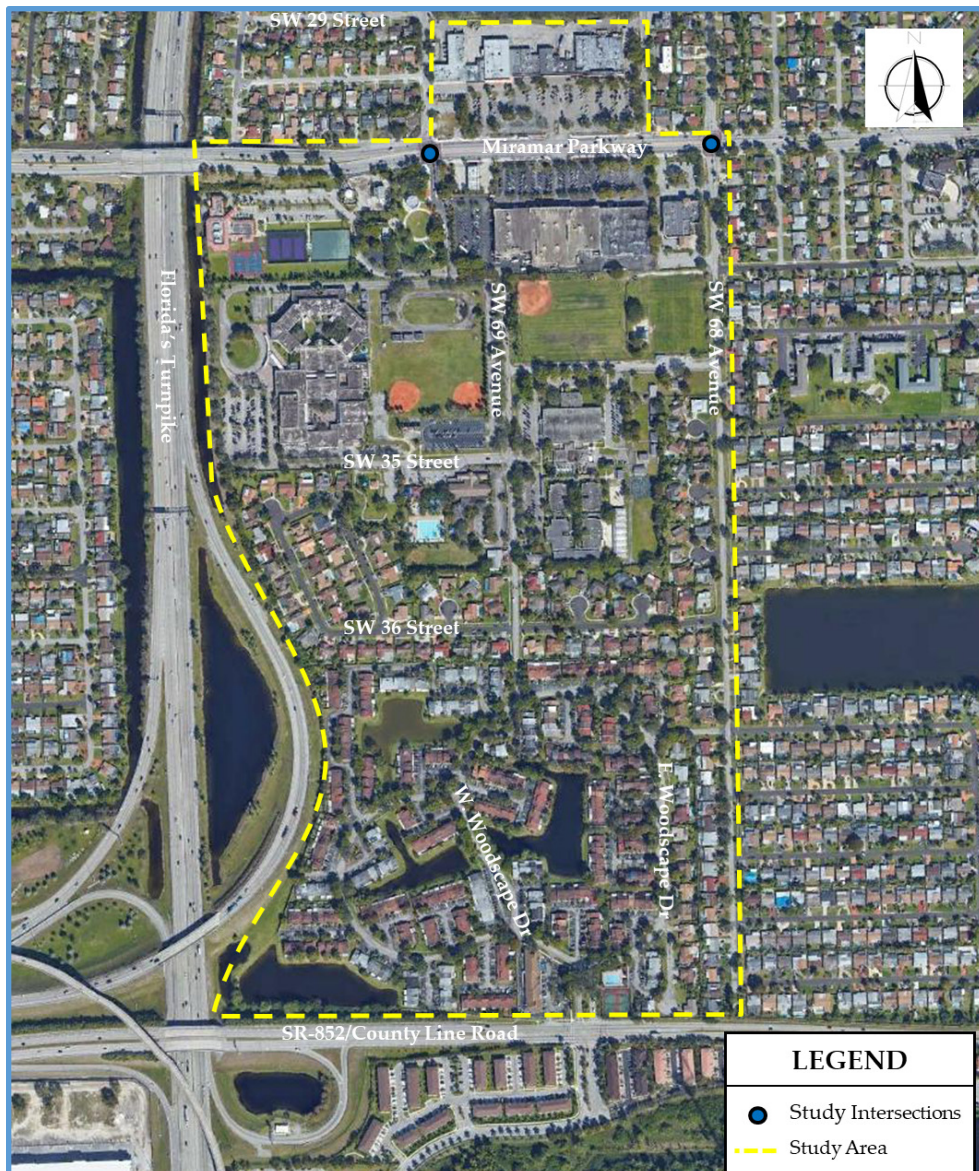
Long-Term Evaluation

- The analysis indicates that Phase 1 will generate zero (0) AM peak hour trips and 23 PM peak hour trips
- The analysis indicates that the Phase 2 redevelopment will result in an increase of 27 AM peak hour trips and 12 PM peak hour trips for the Wellman Field site and an increase of 107 AM peak hour trips and 101 PM peak hour trips for the Innovation Center site
- The analysis indicates that the Phase 3 redevelopment will result in an increase of 68 AM peak hour trips and 97 PM peak hour trips for the shopping center south of Miramar Parkway and an increase of 71 AM peak hour trips and 103 PM peak hour trips for the shopping center north of Miramar Parkway
- Results of the intersection and roadway capacity analyses indicate that the study intersections and roadways currently operate, and are expected to continue to operate, at an acceptable level of service.
- Roadway improvements included some of those already considered in the short-term evaluation, as well as the relocation of Wildcat Way, modifications to the access to Shirley Branca Park, the construction of SW 33 Street Extension, a roundabout, and on-street parking. A permanent solution has been considered for the road closure between SW 36 Street and W. Woodscape Drive. The cost for the long-term improvements is \$1,738,033.31.

Introduction

McMahon Associates, Inc. (McMahon) has completed a short-term and long-term traffic evaluation for the Historic Miramar Innovation and Technology Village study area, in the City of Miramar, Florida. The study area is generally bounded by SW 29 Street to the north, County Line Road to the south, Florida's Turnpike to the west, and SW 68 Avenue to the east. The Historic Miramar Innovation and Technology Village will include the redevelopment of several parcels on land within the study area, at a future time. In the short-term, we understand that there are concerns with cut-through traffic and vehicles speeding within the neighborhood located south of Miramar Parkway. In the long-term, the City is contemplating the redevelopment of several parcels of land and a SW 33 Street Extension. The study intersections included Miramar Parkway at SW 69 Avenue and SW 68 Avenue. The study roadways included SW 69 Avenue, SW 68 Avenue, Wildcat Way, SW 34 Street and SW 35 Street.

Figure 1 Study Area



Existing Transportation Settings and Conditions

Roadway Characteristics

A field review was conducted to obtain the following roadway characteristics:

SW 68 Avenue



- Two-lane, undivided roadway
- Posted speed limit is 30 miles per hour (MPH)
- Within a school zone, from SW 34 Court to just north of Miramar Parkway, with a posted speed of 15 MPH
- Provides access to a retail space located just south of Miramar Parkway, Wellman Field Park, and residential homes
- Sidewalk generally exists along both sides of the roadway
- Street lighting is provided on the west side of the roadway north of Dogwood Drive, and on the east side of the roadway south of Dogwood Drive
- There is no designated on-street parking
- There are no transit stops
- Along most of the roadway, the double yellow centerline markings are in fair to poor condition
- A crosswalk is provided at SW 33 Street for crossing SW 68 Avenue
- A pedestrian signal is provided between SW 34 Street and SW 34 Court
- Four-way stop control is provided at the intersection with SW 37 Street. The stop bars on the northbound and southbound approaches are in poor condition.

SW 69 Avenue

- Two-lane, undivided roadway
- There is no posted speed limit along this roadway. There is an area speed limit sign posted along Woodscape Drive for 25 MPH
- Within a school zone, from SW 36 Street to north of Miramar Parkway, with a posted speed of 15 MPH
- Provides access to a Publix shopping center located just south of Miramar Parkway, Henry D. Perry Education Center, Annabel C. Perry Elementary, Wellman Field Park, and residential homes.
- Sidewalk exists along the west side of the roadway north of Wildcat Way, and on both sides of the roadway south of Wildcat Way
- Street lighting is provided on both sides of the roadway
- There is no designated on-street parking
- Broward County Transit shuttle bus stop provided approximately 50 feet east of the driveway that provides access to the Youth Enrichment Center
- Along most of the roadway, the double yellow centerline markings are in fair to poor condition
- For the westbound approach at the Wildcat Way/SW 69 Avenue intersection, the stop bar and stop sign are in poor condition; for the eastbound approach, the stop bar is in poor condition
- The crosswalk located just south of the rear of the Publix shopping center is in poor condition
- Three-way stop control is provided at the intersection with SW 34 Street. The stop bars and crosswalk are in poor condition. The crosswalk does not properly align with the sidewalk at the northeast corner
- The stop bar and crosswalk located across the west leg at SW 35 Street are in poor condition
- Speed cushions are provided approximately 130 feet south of SW 35 Street and approximately 160 feet north of SW 36 Street

SW 34 Street



- Two-lane, undivided roadway
- No posted speed limit
- Within a school zone
- Provides access to Wellman Field park, Annabel C. Perry Elementary, and residential
- Sidewalk is provided along the north side of the roadway for the entire segment between SW 69 Avenue and SW 68 Avenue. Along the south side, sidewalk is provided from SW 68 Avenue west 375 feet
- One (1) street light is provided on the north side and one (1) street light is provided on the south side of the roadway
- There is no designated on-street parking; however, it appears the swale areas are used for parking
- There is a Miramar Community Bus Yellow Route stop along the north side of the roadway, approximately 300 feet west of SW 68 Avenue
- There is no double yellow centerline marking
- There is no stop bar for the eastbound approach at the intersection with SW 68 Avenue.
- A mid-block crosswalk is provided approximately 310 feet west of SW 68 Avenue

SW 35 Street



- Two-lane, undivided roadway which terminates within H.D. Perry Education Center
- No posted speed limit
- Within a school zone with a posted speed of 15 MPH
- Provides access to H.D. Perry Education Center, City of Miramar Aquatic Center, and the City of Miramar Civic Center Park
- Sidewalk is provided along both sides of the roadway from SW 69 Avenue to the Henry D. Perry Education Center entrance, at which point sidewalk continues on the north side only
- Street lighting is provided on the south side of the roadway
- There is no designated on-street parking
- There are no transit stops
- A temporary stop sign with no stop bar is placed for westbound traffic at the entrance to the Henry D. Perry Education Center

Youth Enrichment Center Entrance/Wildcat Way

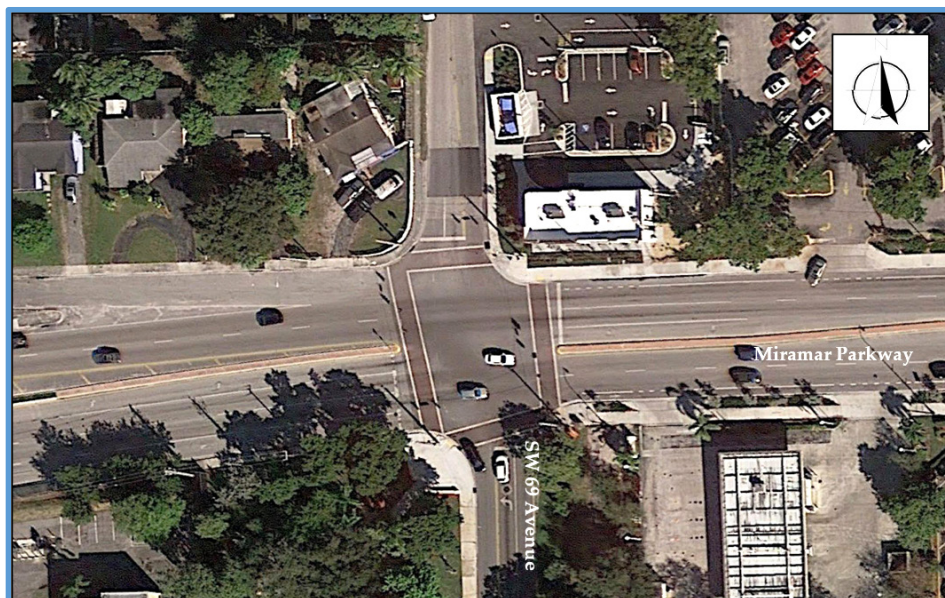


- Two-lane, undivided roadway
- No posted speed limit
- Provides access to the Youth Enrichment Center
- No sidewalk is provided along the roadway
- One (1) street light is provided on the north side of the roadway
- There is no designated on-street parking
- There are no transit stops

Miramar Parkway at SW 69 Way/SW 69 Avenue



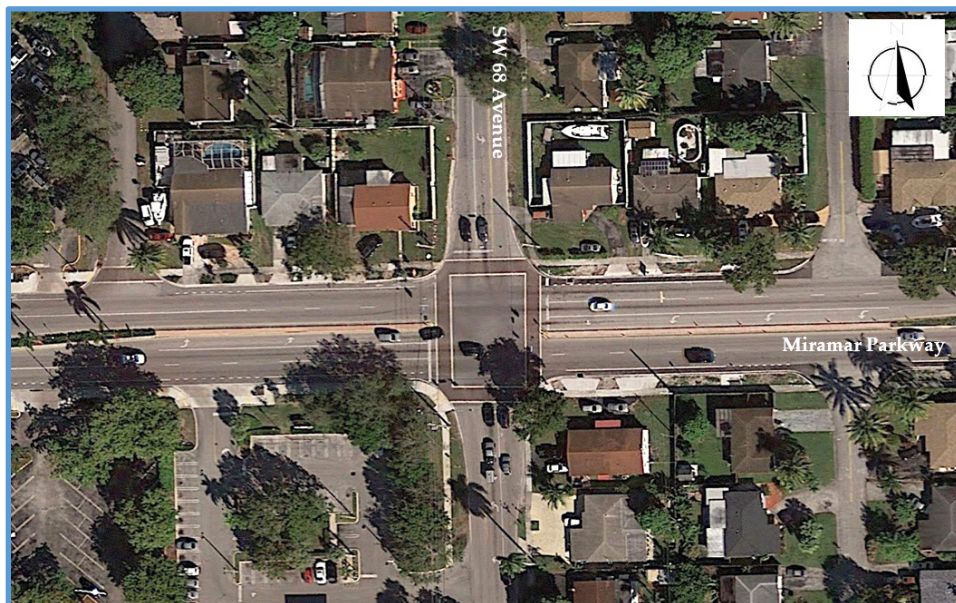
- Four-leg intersection
- Signalized with span-wire equipment
- Stamped, textured asphalt crosswalks exist across all four legs
- Pedestrian signal heads and push buttons exist for all four legs; the pedestrian signal head on the northeast corner for crossing the north leg is countdown
- Pedestrian truncated domes are provided on the northeast, southwest, and southeast corners
- Video detection exists for all approaches
- Exclusive left turn lanes exist on all approaches



Miramar Parkway at SW 68 Avenue



- Four-leg intersection
- Signalized with span-wire equipment
- Stamped, textured asphalt crosswalks exist across all four legs
- Countdown pedestrian signal heads and push buttons exist for crossing all four legs
- Pedestrian truncated domes exist on all corners of the intersection
- Video detection exists for all approaches
- Exclusive left turn lanes exist on all approaches



Field Observations

Field observations were performed throughout the study area on Tuesday, September 29, 2020, Tuesday, October 7, 2020, and Wednesday, October 14, 2020 during the morning and/or afternoon peak periods. The observations were performed during Covid-19 conditions, and schools were not allowing in-person instruction. The following field observations were noted:

Study Intersections

- All travel movements at the study intersections were observed to clear during each signal cycle
- The vehicular queues observed in the exclusive left turn lanes were not observed to extend beyond the available storage lengths
- Less than 10 pedestrians/bicyclists were observed at each study intersection
- Pedestrians typically used the pedestrian equipment and crossed using the marked crosswalks during the pedestrian walk or clearance intervals
- No vehicular, pedestrian, or bicycle conflicts were observed

Study Roadways

- Vehicular traffic volumes along SW 69 Avenue and SW 68 Avenue appeared steady throughout the observation periods; however, volumes did not seem high
- No truck traffic was observed travelling through the study area. Only passenger cars were observed
- Vehicles would generally stop at the stop sign locations when other vehicles were nearby; however, if no other vehicles were nearby, they were observed to roll through the stop signs locations
- Pedestrians were generally observed using the sidewalks and crosswalks, when available
- No vehicular, pedestrian, or bicycle conflicts were observed

Condition photographs taken during the field observations are attached in **Appendix A**.



Speed Study

Automatic Traffic Recorder machines were used to collect 24-hour vehicle speed data at two (2) locations within the study area. Bi-directional speed counts were collected along SW 69 Avenue and along SW 68 Avenue just north of SW 35 Street. The speed data is attached in **Appendix B. Table 1** summarizes the posted speed limit, sample size, 85th percentile speed, average speed, and 10 MPH pace speed for each direction. The 85th percentile speeds were determined to range between 25 and 36 MPH for the northbound direction and between 27 and 37 MPH for the southbound direction.

Table 1 Spot Speed Summary

Location		Direction	Posted Speed Limit (MPH)	Sample Size	85 th Percentile Speed (MPH)	Average Speed (MPH)	10 MPH Pace Speed (MPH)
No.	Street						
1	SW 69 Avenue, north of SW 35 Street	Northbound	-	1,397	25	22	15-24
		Southbound	-	1,869	27	23	16-25
2	SW 68 Avenue, south of SW 35 Street	Northbound	30	3,416	36	30	25-34
		Southbound	30	3,080	37	31	25-34

Figure 2 graphically depicts the location of the speed data collection device, as well as the 85th percentile speed, the average speed and the 10 MPH pace speed.

Figure 2 Speed Summary



Crash Review

Crash data was obtained from Signal Four Analytics for the time period from January 2017 through December 2019 for the study area. A summary of the crashes is provided in **Table 2**. Thirty-five (35) crashes occurred within this time period, with 14 crashes in 2017, 10 crashes in 2018, and 11 crashes in 2019. The most frequent crash types were rear end with nine (9) total crashes, angle with eight (8) total crashes, and sideswipe with seven (7) total crashes. Twenty-nine (29) crashes (83 percent) were property damage only, and six (6) crashes (17 percent) were injury crashes. There were no fatal crashes. Most crashes occurred during daylight, dusk or dawn conditions (71 percent) and during dry pavement conditions (77 percent). Crashes were scattered throughout the study area and did not appear to be clustered at any one location. The collisions diagrams graphically depicting the crashes are included in **Appendix C**.

Table 2 Crash Summary

Table 2 Crash Summary

HISTORIC MIRAMAR		NUMBER OF CRASHES			3 YEAR TOTAL CRASHES
		YEAR			
		2017	2018	2019	
CRASH TYPE	Rear End	2	2	5	9
	Angle	2	5	1	8
	Right Turn	0	0	0	0
	Left Turn	0	0	0	0
	Sideswipe	3	1	3	7
	Backed Into	1	1	1	3
	Coll. w/ Pedestrian	0	0	0	0
	Coll. w/ Bicycle	0	0	0	0
	Coll. w/ Fixed Object	5	0	0	5
	Coll. w/ Parked Motor Vehicle	1	1	1	3
	Other	0	0	0	0
	Total Crashes	14	10	11	35
SEVERITY	PDO Crashes	9	9	11	29
	Fatal Crashes	0	0	0	0
	Injury Crashes	5	1	0	6
LIGHTING CONDITIONS	Daylight	9	6	7	22
	Dusk	1	0	1	2
	Dawn	1	0	0	1
	Dark	3	4	3	10
	Unknown	0	0	0	0
SURFACE CONDITIONS	Dry	12	8	7	27
	Wet	2	2	4	8
	Others	0	0	0	0

Short-Term Roadway Improvements and Cost Estimates

Roadway improvements were considered that could be implementable in the short term to address concerns of cut-through traffic and speeding. Cost estimates were prepared for the proposed roadway improvements. The concept plans of short-term roadway improvements and cost estimates are attached in **Appendix D**.

Standards

The Standards used for the concept plans and cost estimates include the following:

- Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition
- City of Miramar Engineering Standards (City of Miramar Office of Operational Services Engineering Services Department Standards (for speed humps) & City of Miramar Engineering Standards for Public Works & Utilities Systems Manual)
- Florida Department of Transportation (FDOT) Standard Plans FY 2020-21
- FDOT Standard Specification for Road and Bridge Construction January 2021
- FDOT Basis of Estimates Manual - Historical Cost information

Roadway Improvements

The proposed roadway improvements include:

- Refurbishing or installing the double yellow centerline markings along SW 69 Avenue, SW 68 Avenue, SW 34 Street, SW 37 Street, W. Woodscape Drive, and E. Woodscape Drive
- Installing “30 MPH Speed Limit” (R2-1) sign on SW 69 Avenue just south of Miramar Parkway
- Creating an all-way stop control at the SW 69 Avenue/Wildcat Way intersection. This includes installing or replacing STOP (R-1) signs with appropriate plaques and stop lines (bars)
- Installing a standard crosswalk and STOP (R-1) signs/stop bars at the 90-degree bend along SW 69 Avenue just south of the Publix shopping center.
- Installing a standard crosswalk and constructing ADA curb ramp (north side) along the east leg of the SW 69 Avenue/SW 34 Street intersection. Other improvements include refurbishing stop bars for all approaches
- Installing a standard crosswalk and refurbishing the stop bar across the west leg of the of the SW 69 Avenue/SW 35 Street intersection
- Replacing the existing speed cushions along SW 69 Avenue, between SW 35 Street and SW 36 Street, with speed humps
- Proposing a “Pop-up” road closure between SW 36 Street and W. Woodscape Drive by installing landscaping and flexible delineators south of SW 36 Street and by installing flexible delineators along W. Woodscape Drive at SW 69 Street blocking access to SW 69 Avenue
- Refurbishing the stop bar for the north leg of the W. Woodscape Drive/Woodscape Circle intersection
- Refurbishing the stop bars along W. Woodscape Drive and E. Woodscape Drive at the SW 68 Lane intersection
- Constructing three (3) speed humps along SW 68 Avenue at the following locations: 1) between SW 33 Street and SW 34 Street, 2) between SW 34 Street and SW 34 Court, and 3) between SW 35 Court and SW 36 Street.

- Installing a special emphasis crosswalk along SW 68 Avenue between SW 34 Street and SW 34 Court at the existing mid-block crosswalk.
- Refurbishing the northbound and southbound approach stop bars at the SW 68 Avenue/SW 37 Street intersection
- Installing a raised crosswalk with special emphasis crosswalk pavement markings along SW 34 Street at the existing mid-block crossing
- Installing No-Thru Truck signs along SW 69 Avenue, SW 68 Avenue, SW 37 Street, and SW 68 Lane. The City is in the process of adopting an Ordinance for the designation and enforcement of No-Thru Truck zones

Cost Estimate

The cost estimate for the previously mentioned roadway improvements is \$112,162.23. This includes a breakdown of cost per pay item, and also accounts for design, post design, Construction, Engineering & Inspection (CEI), Maintenance of Traffic (MOT), permit, surveying and contingency costs.

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Existing and Future Traffic Volume Development

Traffic volumes were developed for existing conditions and future traffic conditions, which consider the redevelopment of several parcels within the study area. The volume information is summarized in Table E-1 and Table E-2, for the AM and PM peak hours, respectively. The volume worksheets, as well as excerpts of all relevant documents, are included in **Appendix E**.

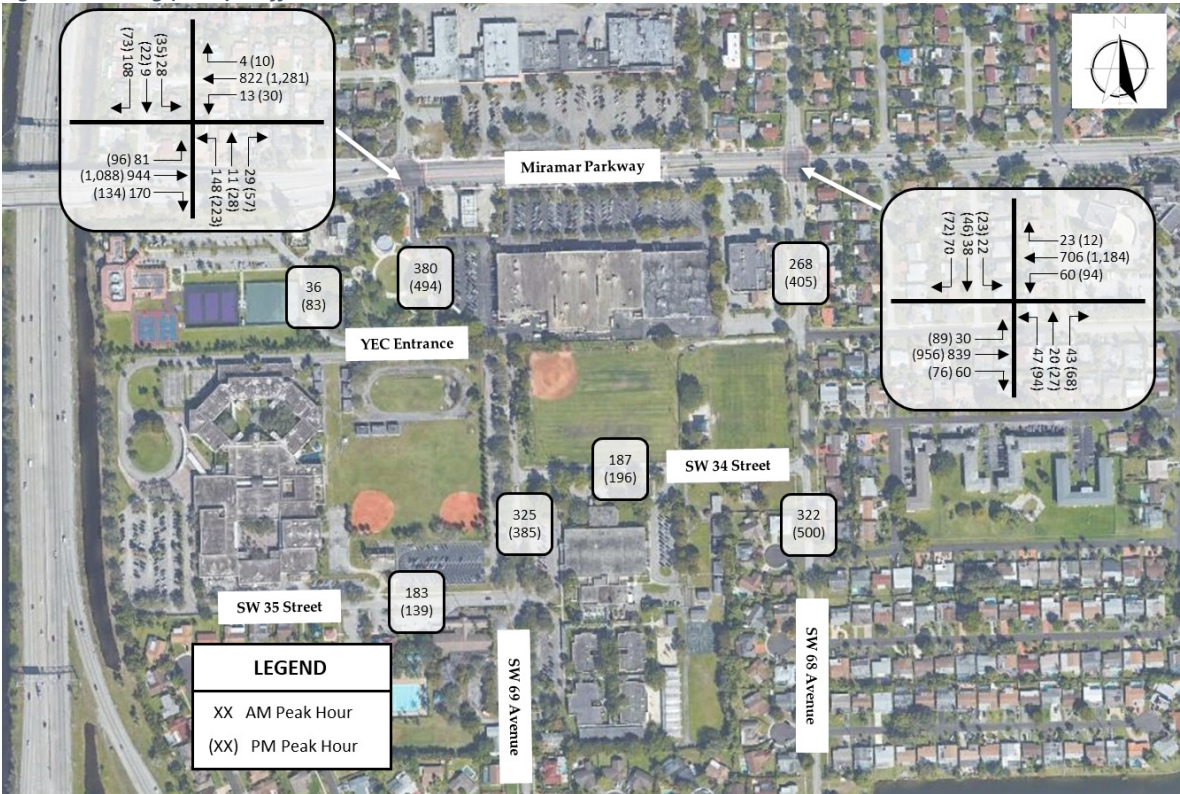
Data Collection

Year 2016 turning movement counts were obtained for the Miramar Parkway/SW 69 Avenue intersection from Broward County. Year 2019 volumes were obtained from Streetlight for the Miramar Parkway/SW 68 Avenue intersection, as well as for the roadway segments of Youth Enrichment Center Entrance, SW 34 Street, SW 35 Street, SW 69 Avenue, and SW 68 Avenue. The Streetlight data was obtained from the months of January, February and March, and during typical weekday conditions (Tuesday, Wednesday and Thursday).

Peak Season Factors

Peak Season Conversion Factors (PSCFs) were applied to existing counts to estimate peak season data. A PSCF of 1.01 was applied to the Miramar Parkway/SW 69 Avenue intersection based on the 2016 FDOT Peak Season Factor Category Report. A PSCF of 1.04 was applied to the Miramar Parkway/SW 68 Avenue intersection and to the study roadways. This was based on determining an average PSCF for the months of January through March (which was determined to be 1.01) and then factoring to the highest PSCF of 1.05 during the same time period. **Figure 3** graphically depicts the existing (2020) peak-hour, peak-season traffic volumes.

Figure 3 Existing (2020) Traffic Volumes



Background Growth Rate

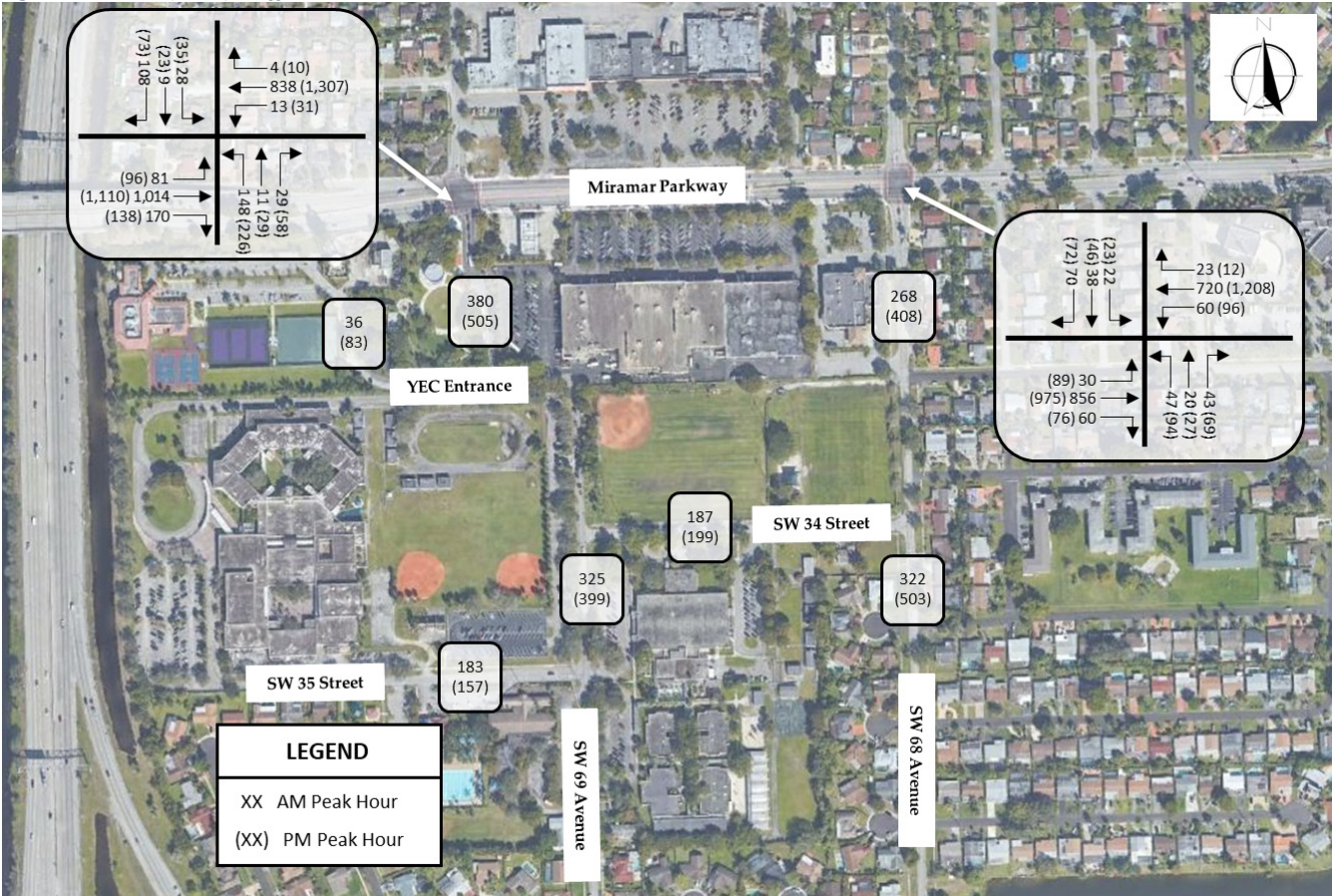
A background growth rate of two (2) percent was applied to eastbound and westbound through traffic along Miramar Parkway. This growth was based on five-year, historical volumes for FDOT Station #86-7260.

Phase 1 (2021) Redevelopment Plan

Phase 1 (2021) will include the redevelopment of the existing track and field located on the northwest corner of SW 69 Avenue and SW 35 Street. The existing track and field are part of the Henry D. Perry Education Center and are not utilized by the general public. The proposed development will include a six (6)-acre public park. Trips were estimated based on the trip generation rates and equations published in the Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition. Results of the analysis indicate that Phase 1 will generate zero (0) AM peak hour trips and 23 PM peak hour trips. The distribution of traffic from the study area to the adjacent roadway network was based on existing travel patterns from FDOT station #86-7260 and #87-0158. Based on a review of these volumes, as well as turning movement counts in the area, approximately 55 percent of the traffic from the study area south of Miramar Parkway currently uses Miramar Parkway and 45 percent of the traffic currently uses County Line Road to access the surrounding roadway network. A similar distribution was generally assumed for future traffic conditions.

Figure 4 graphically depicts the Phase 1 (2021) peak-hour, peak-season traffic volumes.

Figure 4 Phase 1 (2021) Traffic Volumes



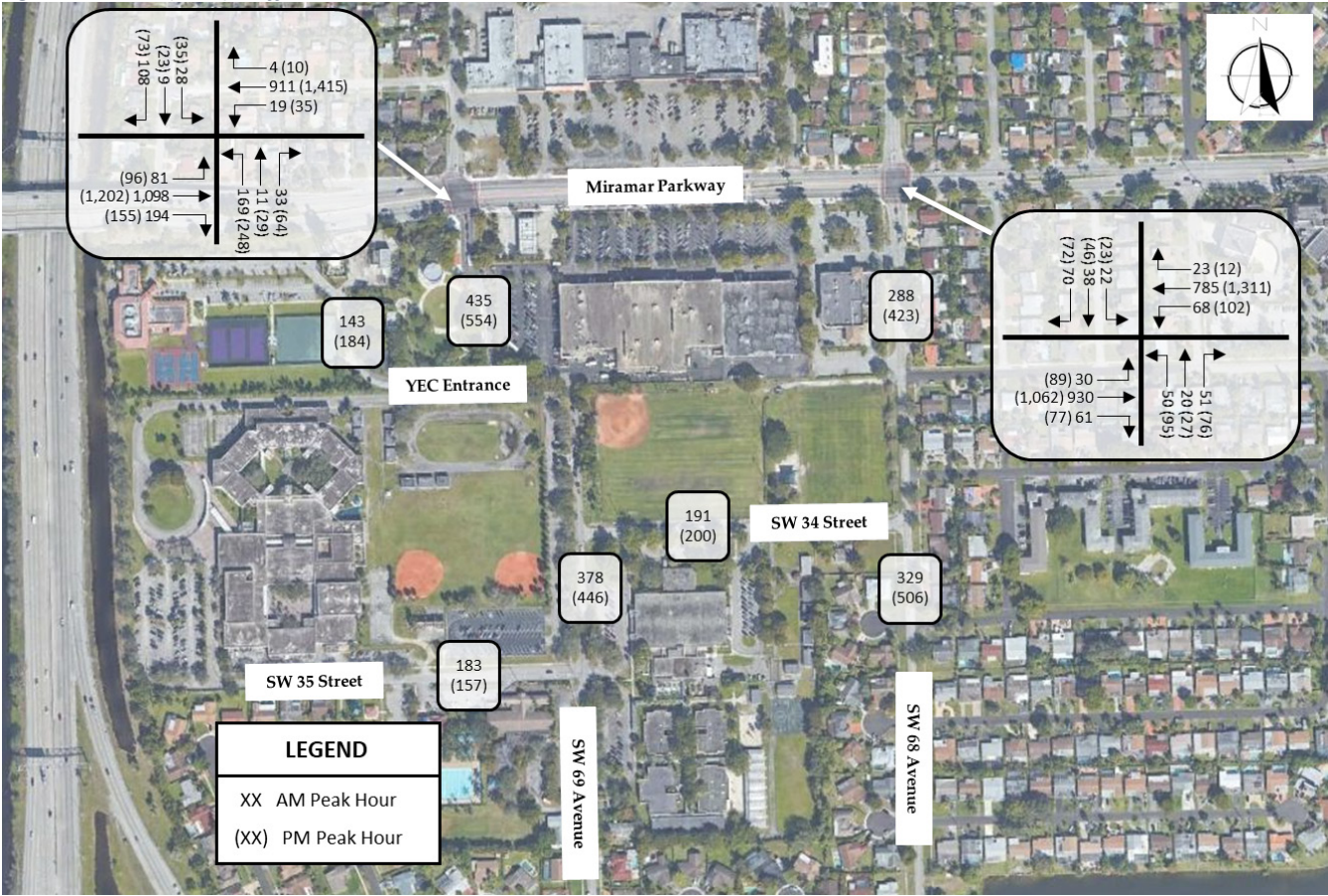
Phase 2 (2025) Redevelopment Plan

Phase 2 (2025) will include the redevelopment of two parcels. One parcel is the Wellman Field site located on the north side of SW 34 Street between SW 69 Avenue and SW 68 Avenue. The site is currently an approximate 6.5-acre park. The proposed development will include 56 townhomes, a passive park, and the extension of SW 33 Street from SW 68 Avenue to SW 69 Avenue. The analysis indicates that the redevelopment will result in an increase of 27 AM peak hour trips and 12 PM peak hour trips.

The other parcel is the location of the six (6) existing tennis courts next to the Youth Enrichment Center. The tennis courts will be relocated to the public park. The proposed redevelopment (Innovation Center) will include 120 multi-family dwelling units, 40,000 square feet of general office space, and a transit hub. For the transit hub analysis, it was assumed that there would be four (4) eastbound and four (4) westbound buses that travel along Miramar Parkway with 30-minute headways that use the site. Buses were assumed to enter and exit the site during the hour. Internal capture percentages were based on the ITE, Trip Generation Manual, 9th Edition, as the information available from the 10th Edition yielded internal capture rates that appeared high. The analysis indicates that the redevelopment will result in an increase of 107 AM peak hour trips and 101 PM peak hour trips.

Figure 5 graphically depicts the Phase 2 (2025) peak-hour, peak-season traffic volumes.

Figure 5 Phase 2 (2025) Traffic Volumes



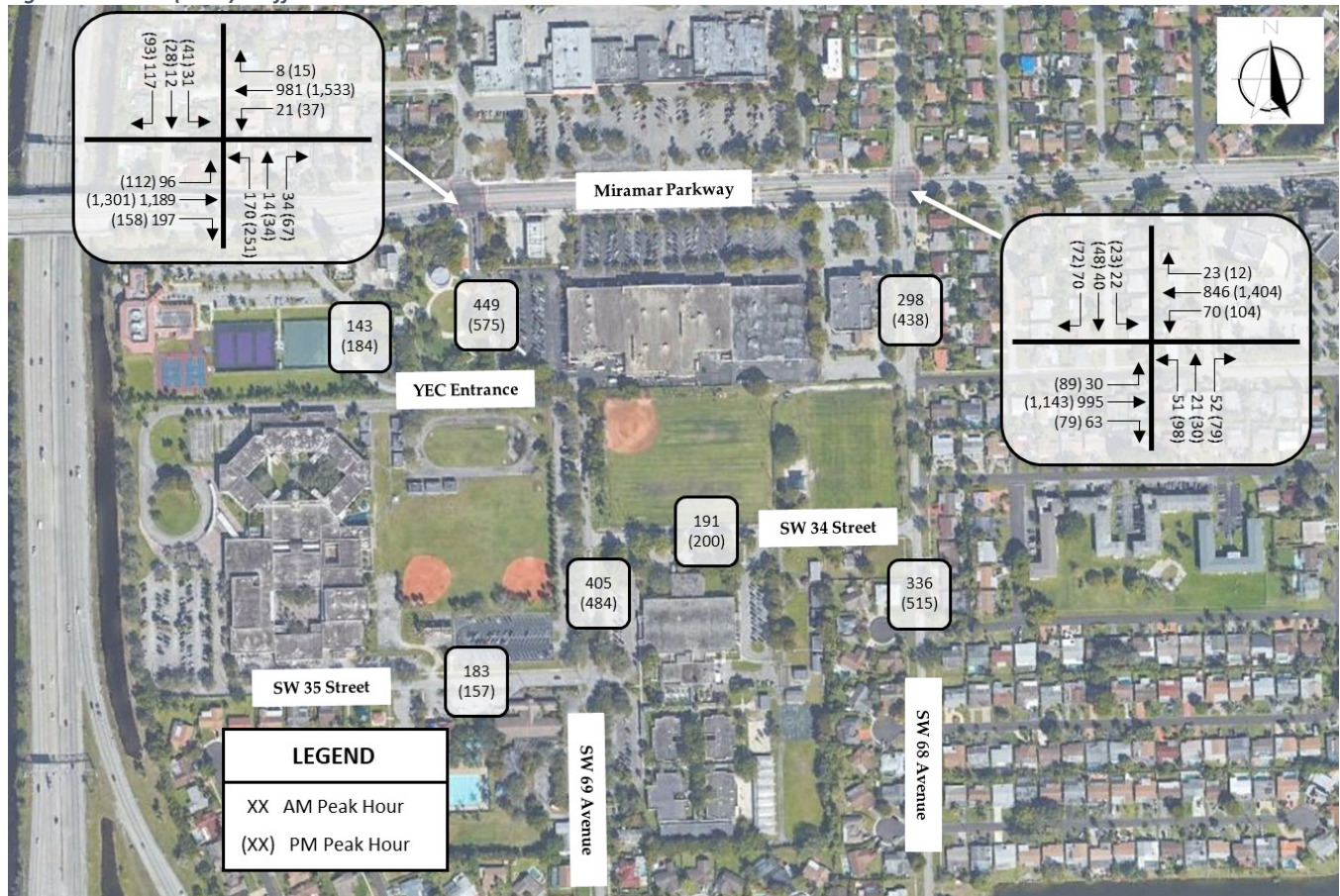
Phase 3 (2028) Redevelopment Plan

Phase 3 (2028) will include the redevelopment of two parcels. One parcel is the shopping center located along the south side of Miramar Parkway between SW 69 Avenue and SW 68 Avenue, excluding the Shell gas station. The site currently includes 128,870 square feet of shopping center. The proposed development will include 135 multi-family dwelling units, 153,870 square feet of shopping center, and 25,000 square feet of office space. Internal capture percentages were based on the ITE, Trip Generation Manual, 9th Edition. The analysis indicates that the redevelopment will result in an increase of 68 AM peak hour trips and 97 PM peak hour trips.

The other parcel is the shopping center located along the north side of Miramar Parkway between SW 69 Way and SW 68 Terrace, excluding the Taco Bell. The site currently includes 85,171 square feet of shopping center. The proposed development will include 135 multi-family dwelling units, 110,171 square feet of shopping center, and 25,000 square feet of office space. Internal capture percentages were based on the ITE, Trip Generation Manual, 9th Edition. The analysis indicates that the redevelopment will result in an increase of 71 AM peak hour trips and 103 PM peak hour trips.

Figure 6 graphically depicts the Phase 3 (2028) peak-hour, peak-season traffic volumes.

Figure 6 Phase 3 (2028) Traffic Volumes



Intersection and Roadway Capacity Analysis

Intersection capacity analysis was performed for the study intersections and roadway capacity analysis was performed for the study roadways.

Roadway Capacity Analysis

Roadway capacity analysis was performed for the study roadways. The Level of Service “D” thresholds were based on Table 7 of the 2020 FDOT Quality/Level of Service Handbook, which account for roadway jurisdiction, speed, geometry, and the presence of turn lanes. The AM and PM roadway capacity analyses are summarized in Table F-1 and Table F-2, respectively, included in **Appendix F**.

Intersection Capacity Analysis

Intersection capacity analysis was performed for the study intersections using the Synchro 10 software, HCM 6th Edition methodology. The existing signal timings were obtained from Broward County and are included in **Appendix G**. At the Miramar Parkway/SW 69 Avenue intersection, the peak hour factors were based on the collected data. The truck factors for eastbound and westbound through traffic along Miramar Parkway were calculated to be three (3) percent based on 50 percent of the daily truck factor for FDOT station #86-7260. The default Synchro truck factor of two (2) percent was used for all other travel movements. At the Miramar Parkway/SW 68 Avenue intersection, the default Synchro peak hour factor of 0.92 was used. The truck factors for eastbound and westbound through traffic along Miramar Parkway were calculated to be three (3) percent based on 50 percent of the daily truck factor for FDOT station #86-7260. The default Synchro truck factor of two (2) percent was used for all other travel movements. The Synchro analysis worksheets are included in Appendix G.

Capacity Analysis Results

Roadway Capacity Analysis - Results of the roadway capacity analysis indicates that all roadways currently operate, and are expected to continue to operate, at an acceptable level of service with the proposed redevelopments in Phase 1, Phase 2 and Phase 3.

Intersection Capacity Analysis – Results of the intersection capacity analysis indicate that the study intersections currently operate, and are expected to continue to operate, at an overall acceptable level of service with the proposed redevelopments in Phase 1, Phase 2 and Phase 3. The approaches along Miramar Parkway currently operate, and are expected to continue to operate, at an acceptable level of service. The minor street approaches along SW 69 Avenue and SW 68 Avenue experience higher delays, as expected, since signal timings prioritization is given to Miramar Parkway.

Figure 7 and **Figure 8** graphically depict the Existing (2020) AM and PM peak hour capacity analysis results, respectively. **Figure 9** and **Figure 10** graphically depict the Phase 1 (2021) AM and PM peak hour capacity analysis results, respectively. **Figure 11** and **Figure 12** graphically depict the Phase 2 (2025) AM and PM peak hour capacity analysis results, respectively. **Figure 13** and **Figure 14** graphically depict the Phase 3 (2028) AM and PM peak hour capacity analysis results, respectively.

Figure 7 Existing (2020) Capacity Analysis Results – AM Peak Hour

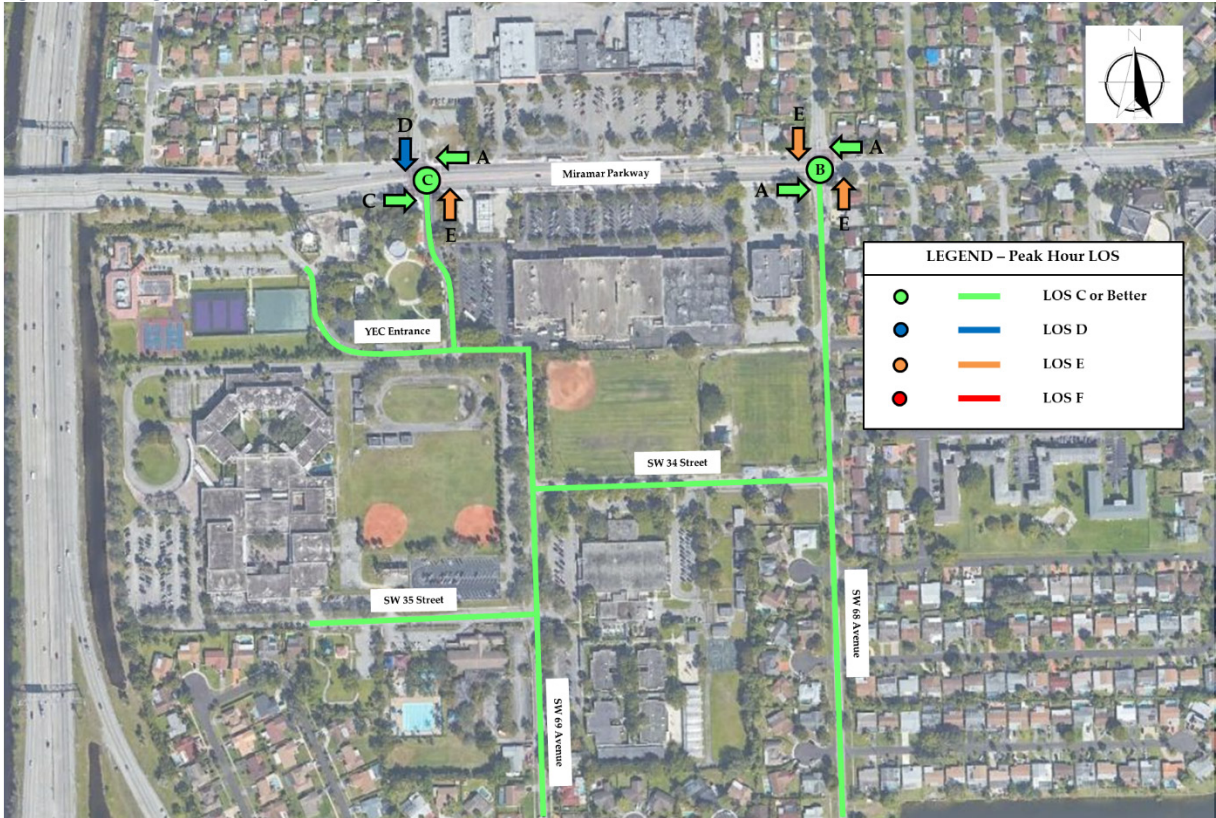


Figure 8 Existing (2020) Capacity Analysis Results – PM Peak Hour

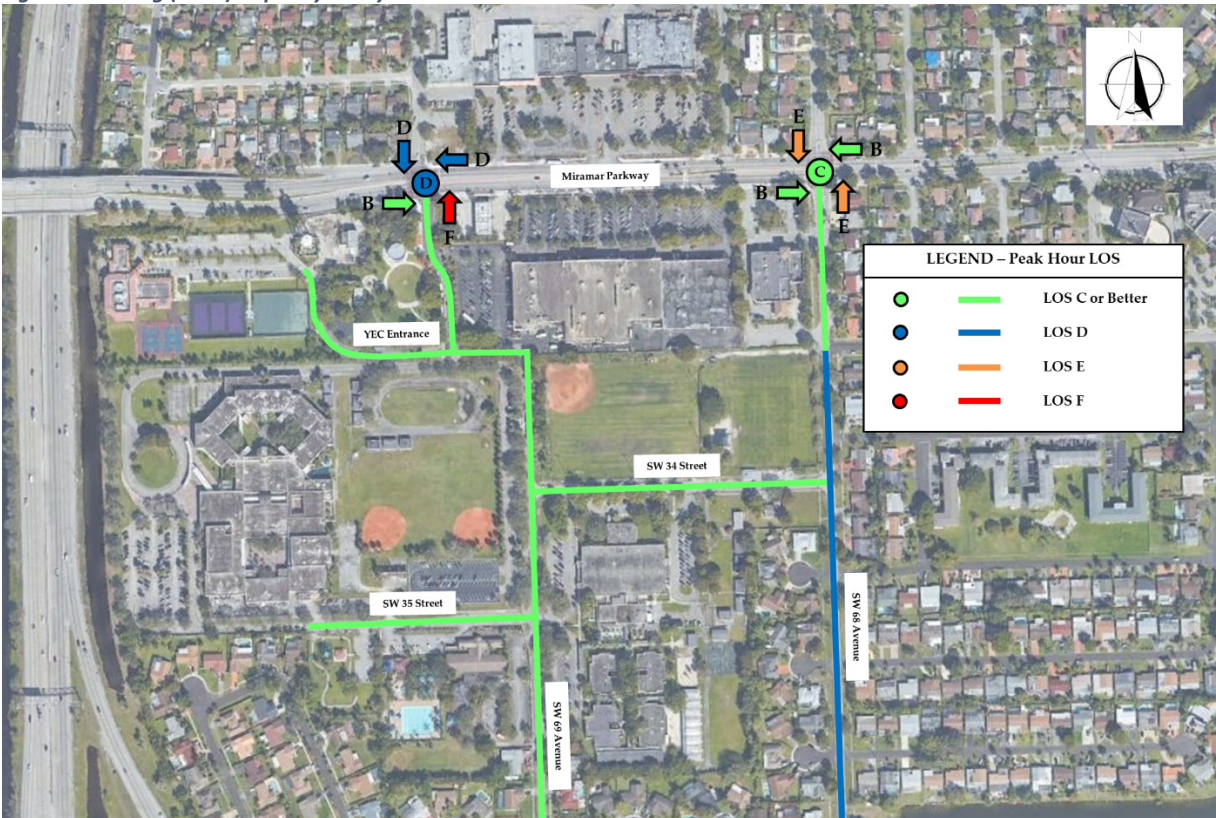


Figure 9 Phase 1 (2021) Capacity Analysis Results – AM Peak Hour

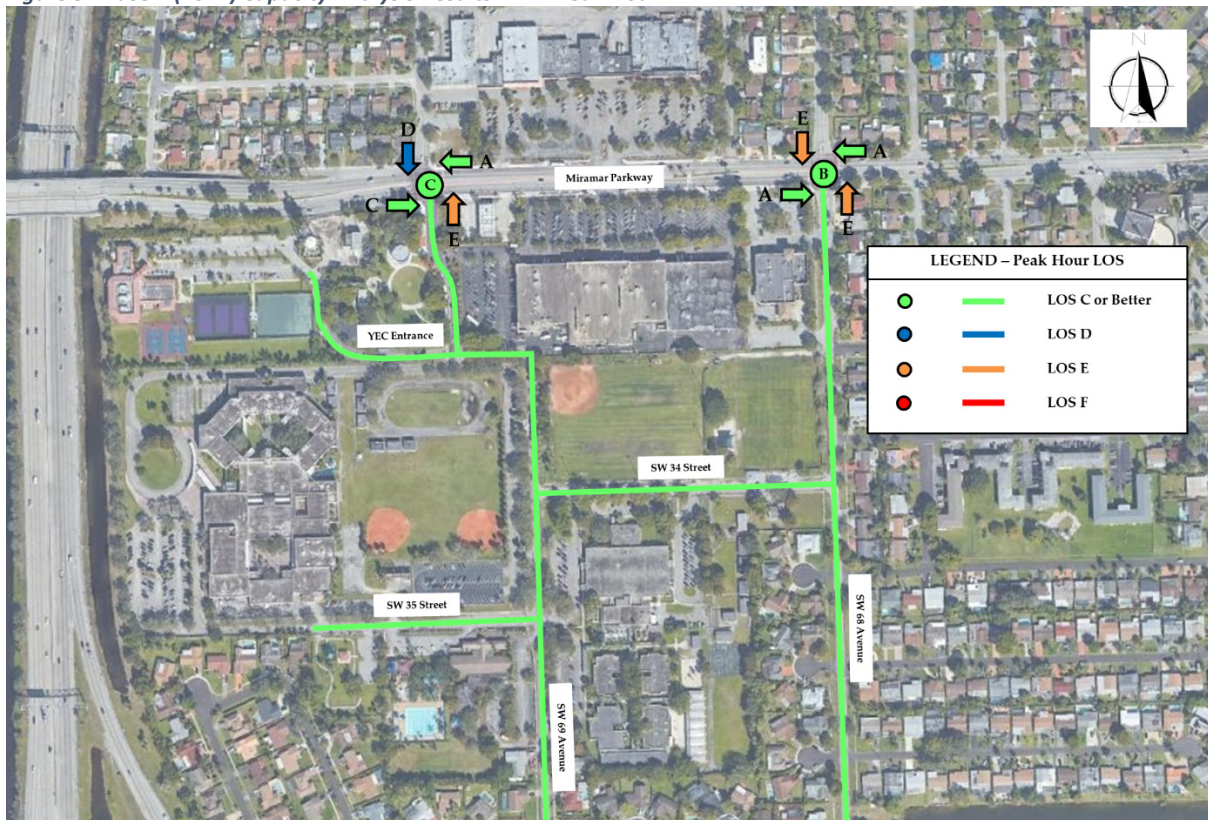


Figure 10 Phase 1 (2021) Capacity Analysis Results – PM Peak Hour

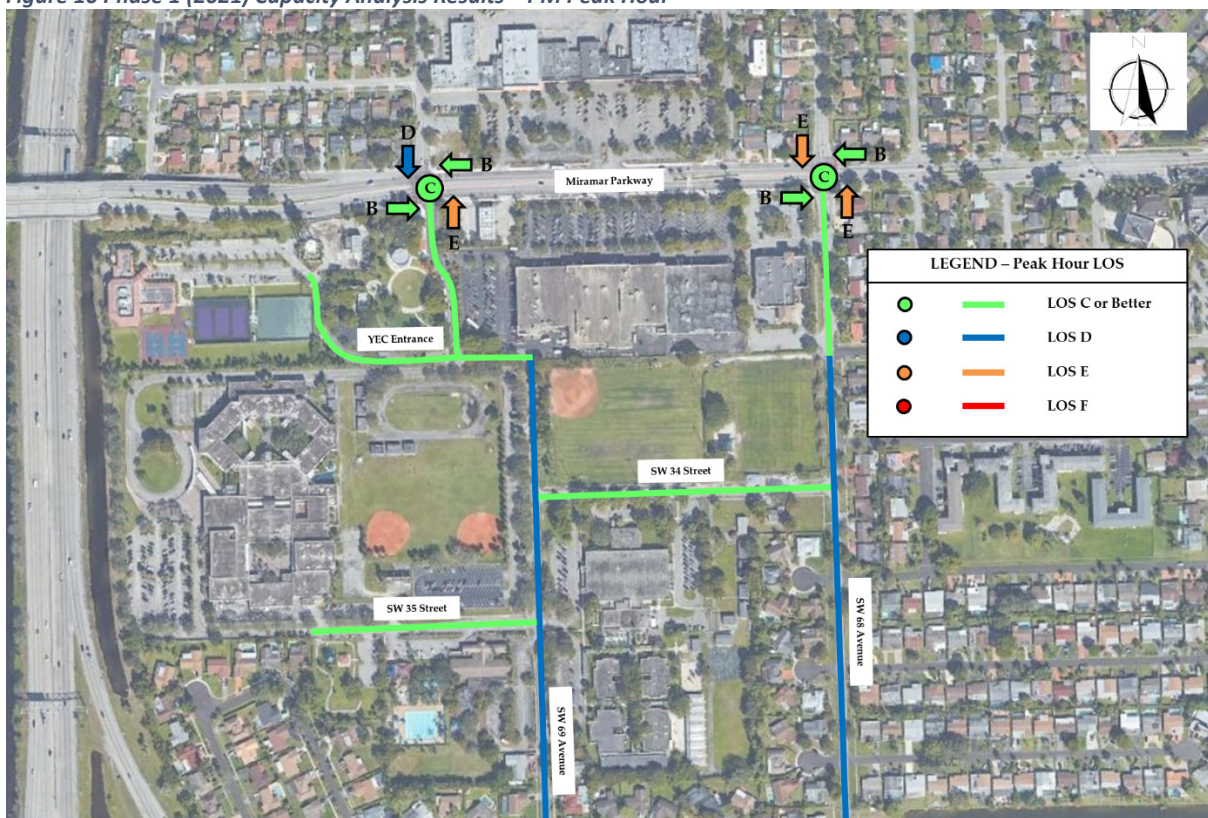


Figure 11 Phase 2 (2025) Capacity Analysis Results – AM Peak Hour

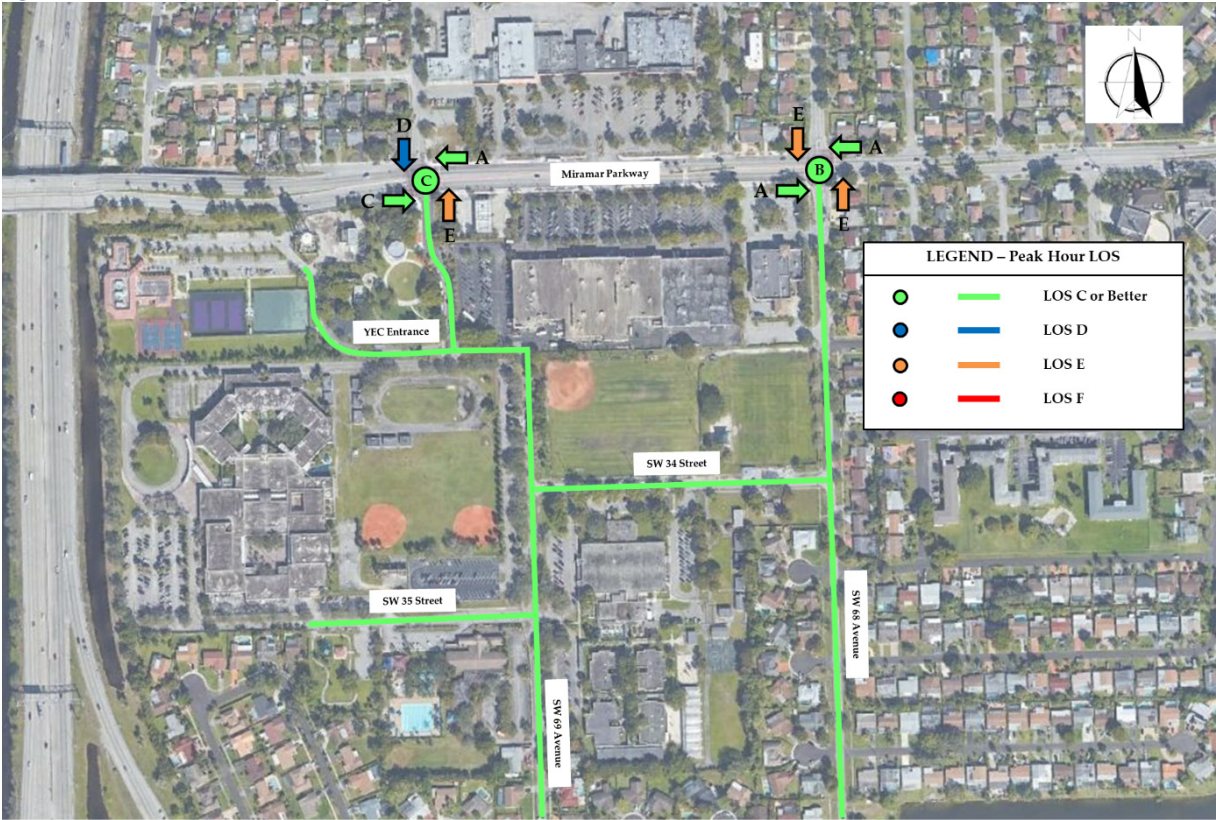


Figure 12 Phase 2 (2025) Capacity Analysis Results – PM Peak Hour

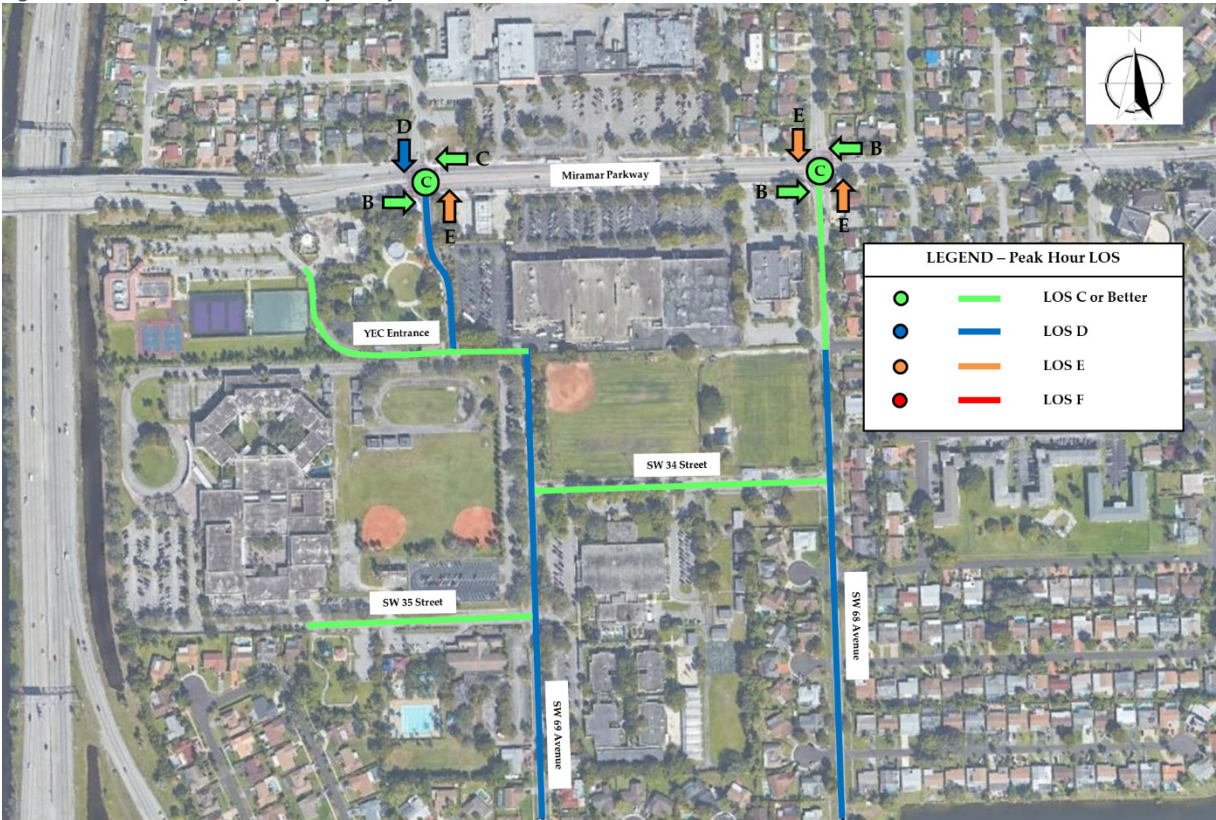


Figure 13 Phase 3 (2028) Capacity Analysis Results – AM Peak Hour

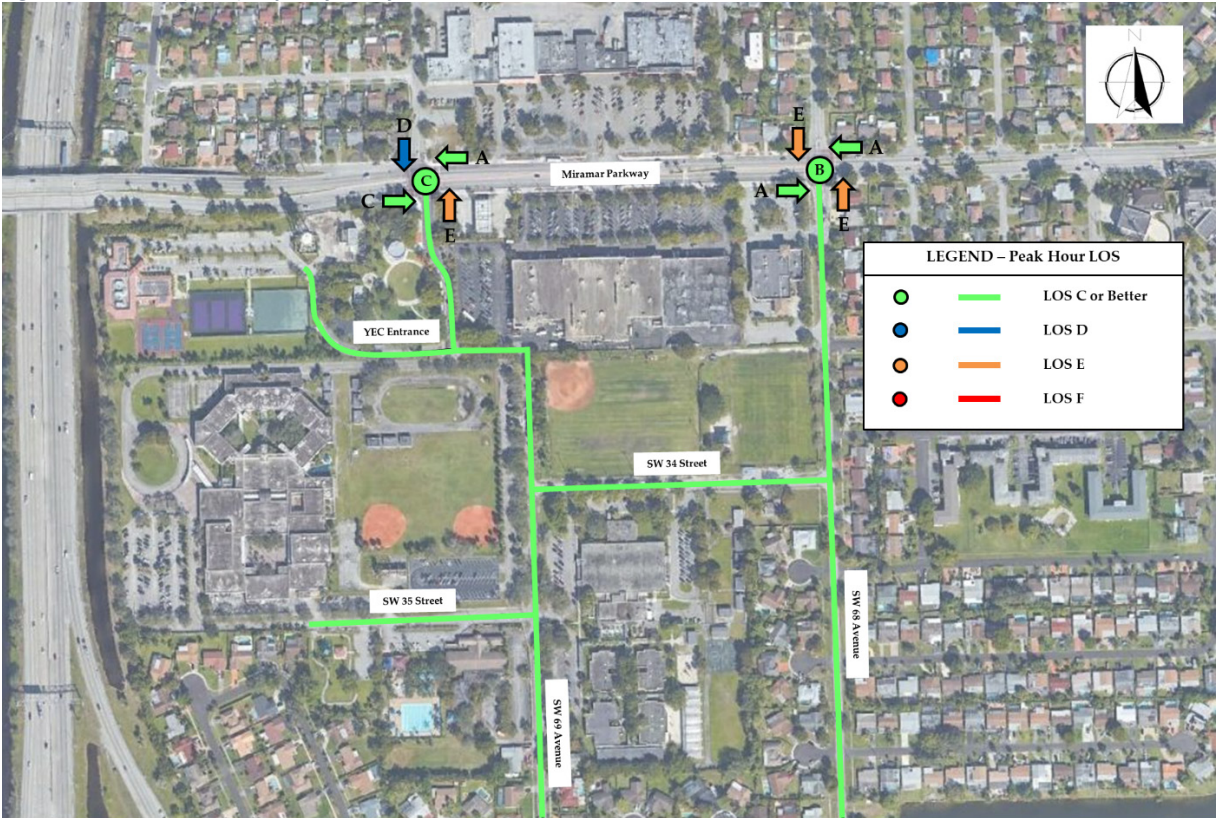
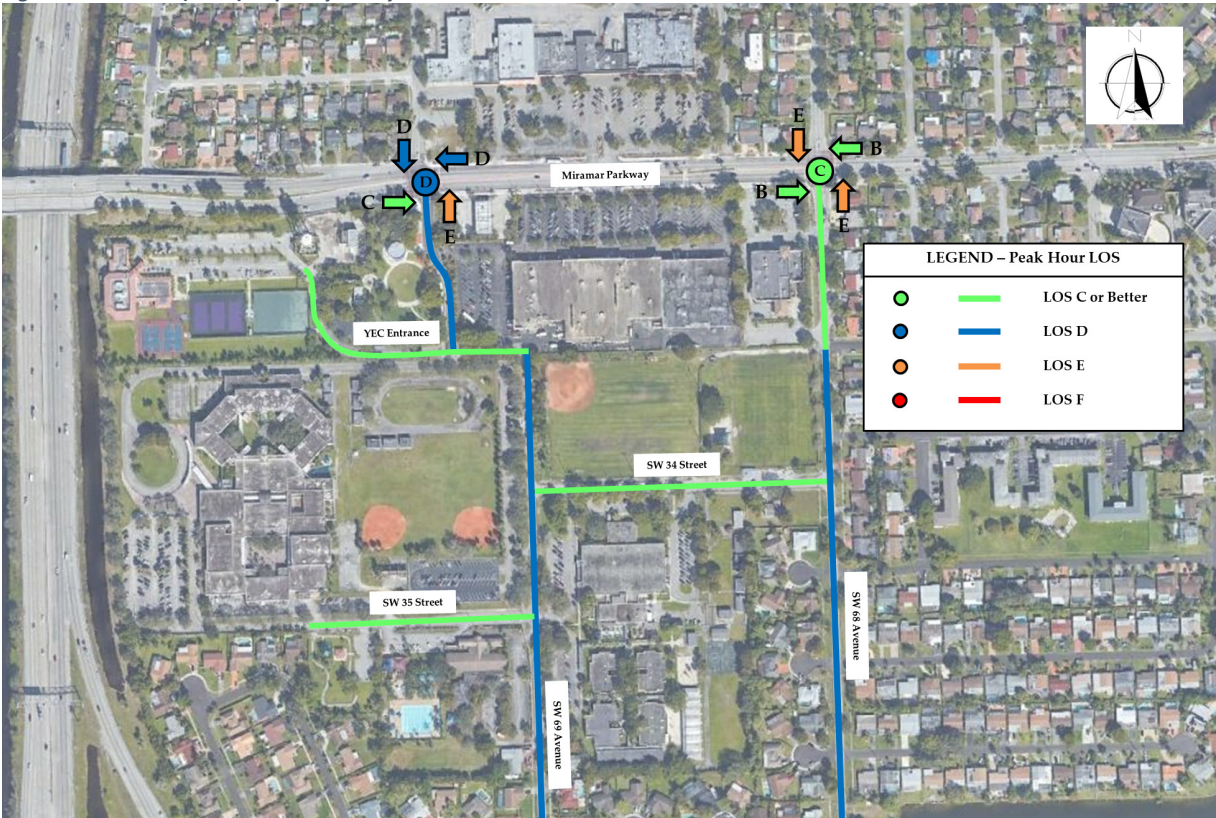


Figure 14 Phase 3 (2028) Capacity Analysis Results – PM Peak Hour



Long-Term Roadway Improvements and Cost Estimates

Long-term roadway improvements were recommended considering the proposed future land uses and the SW 33 Street Extension. Some of the roadway improvements considered under the short-term evaluation will continue to be recommended in the long-term. Cost estimates were prepared for the proposed roadway improvements. The concept plans of the long-term roadway improvements and cost estimates are attached in **Appendix H**.

Roadway Improvements

The proposed roadway improvements, in addition to those identified in the short term, include:

- Modify the access to the parking area for Shirley Branca Park to right-in only
- Relocating Wildcat Way further west and connect it to the Youth Enrichment Center as a three-leg intersection and creating an exclusive left turn lane into the school to help with the storage of buses waiting to enter Henry D. Perry Education Center at arrival and dismissal times
- Creating a four-leg intersection at SW 33rd Street and SW 69 Avenue
- Constructing SW 33 Street from SW 68 Avenue to SW 69 Avenue
- Constructing a roundabout at the SW 69 Avenue/SW 34 Street intersection
- Widening portions of SW 34 Street to allow on-street parking
- Widening portions of SW 69 Avenue to allow on-street parking
- A permanent solution has been considered for the road closure between SW 36 Street and W. Woodscape Drive by installing landscaping, curb & gutter, and green pavers

Cost Estimate

The cost estimate for the long-term roadway improvements is \$1,738,033.31, in addition to items being considered in the short term. The cost estimate includes a breakdown of cost per pay item, and also accounts for design, post design, Construction, Engineering & Inspection (CEI), Maintenance of Traffic (MOT), permit, surveying and contingency costs. The estimate does not include utility relocations, landscaping (other than the landscaping at the road closure), irrigation (at the roundabout), relocation/removal of the sports field lighting, R.O.W. acquisition, and drainage along proposed SW 33 Street and at the roundabout.

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Conclusions and Recommendations

McMahon has completed short-term and long-term traffic evaluations for the Historic Miramar Innovation and Technology Village study area, in the City of Miramar, Florida. For the short-term, we understand residents of the area have voiced concerns regarding cut-through traffic and speeding. The long-term analysis considered the redevelopment of several parcels within the study area and the SW 33 Street extension.

Short-Term Evaluation - Results of the short-term analysis indicate the following findings:

- Generally, pavement markings such as the double yellow centerline, stop bars and crosswalks along the study roadways appeared to be in fair to poor condition
- Traffic volumes did not appear high within the study area during the field observations
- No vehicular, pedestrian or bicyclist conflict was observed
- Collected speeds indicate that vehicles are exceeding the posted speed limit along SW 68 Avenue. The 85th percentile speeds ranged between 36 and 37 MPH
- Crash data revealed that 35 crashes occurred within the study area between 2017 and 2019. The most frequent crash types were rear end, angle, and sideswipe. Most crashes were property damage only, occurred during daylight conditions, and during dry pavement conditions. Crashes were scattered throughout the study area and did not appear to be clustered at any one location.

Based on the short-term analysis, roadway improvements generally included items such as refurbishing or installing double yellow centerline markings, stop bars, STOP signs, crosswalks, speed humps, No-Thru Truck signs, and speed limit sign. A “pop-up” road closure was also proposed along SW 69 Avenue to discourage cut-through traffic. The cost for the short-term improvements is \$112,163.23.

Long-Term Evaluation - Results of the long-term analysis indicate the following findings:

- The analysis indicates that Phase 1 will generate zero (0) AM peak hour trips and 23 PM peak hour trips
- The analysis indicates that the Phase 2 redevelopment will result in an increase of 27 AM peak hour trips and 12 PM peak hour trips for the Wellman Field site and an increase of 107 AM peak hour trips and 101 PM peak hour trips for the Innovation Center site
- The analysis indicates that the Phase 3 redevelopment will result in an increase of 68 AM peak hour trips and 97 PM peak hour trips for the shopping center south of Miramar Parkway and an increase of 71 AM peak hour trips and 103 PM peak hour trips for the shopping center north of Miramar Parkway
- Results of the intersection and roadway capacity analyses indicate that the study intersections and roadways currently operate, and are expected to continue to operate, at an acceptable level of service.

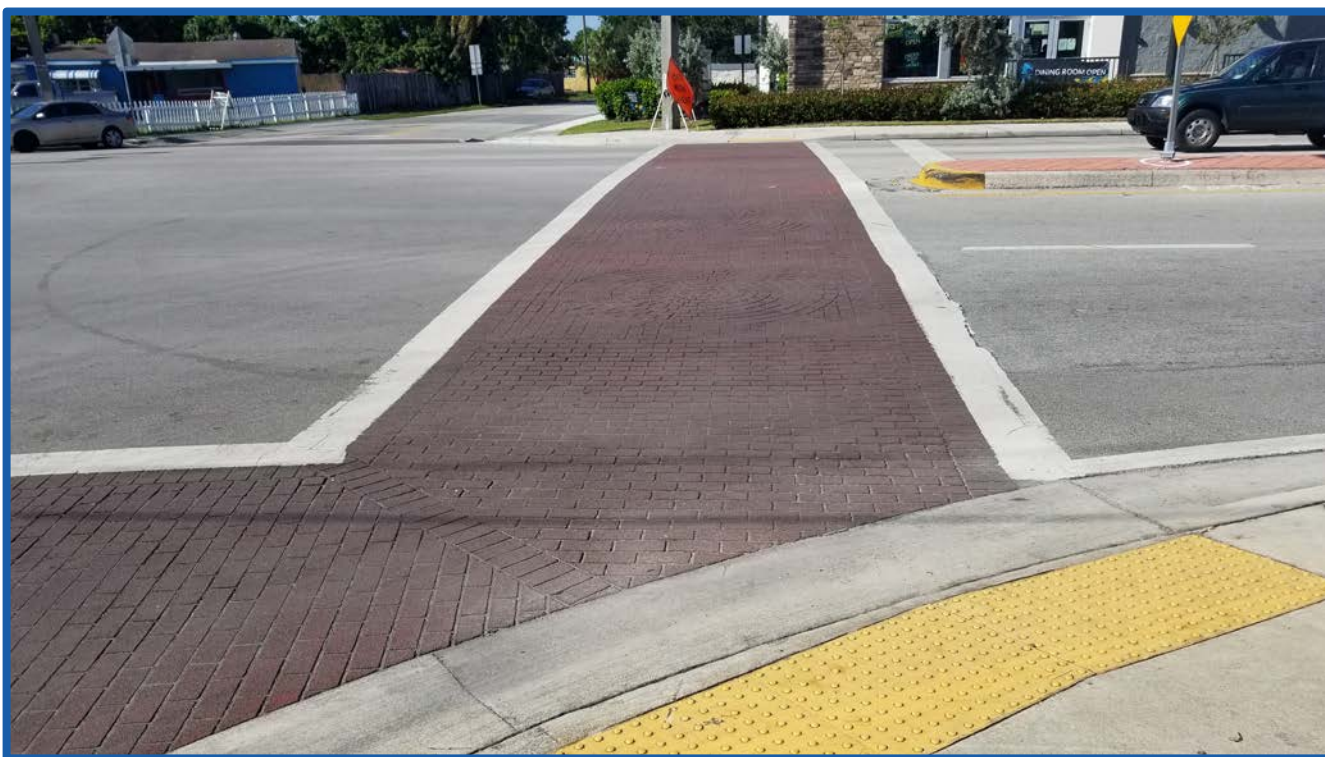
Based on the long-term analysis, roadway improvements included some of those already considered in the short-term evaluation, as well as the relocation of Wildcat Way, modifications to the access to Shirley Branca Park, the construction of SW 33 Street Extension, a roundabout, and on-street parking. A permanent solution has been considered for the road closure between SW 36 Street and W. Woodscape Drive. The cost for the long-term improvements is \$1,738,033.31.

Appendix A

Condition Photographs



No speed limit sign along SW 69 Avenue south of Miramar Parkway
(Looking south)



Stamped, textured asphalt crosswalks at the SW 69 Avenue/Miramar Parkway Intersection
(Looking north)



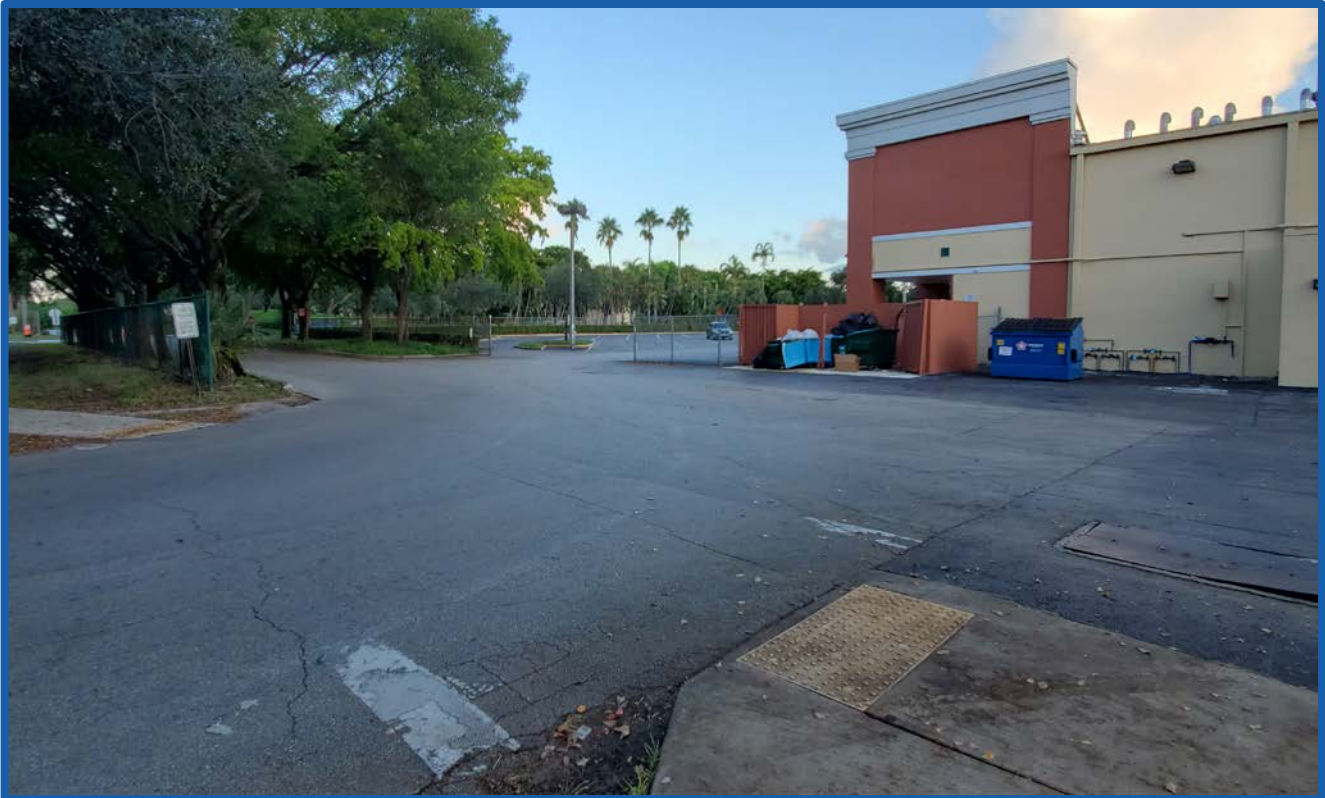
Youth Enrichment Center Entrance
(Looking east)



Faded STOP bar for traffic exiting the Youth Enrichment Center
(Looking south)



**Temporary westbound STOP sign at the Wildcat Way/SW 69 Avenue intersection
(Looking west)**



**No roadway delineation between SW 69 Avenue and the Publix shopping center
(Looking northwest)**

Appendix A (Continued)

Condition Photographs

Historic Miramar Innovation and Technology Village Traffic Study

Miramar, Florida



**Faded crosswalk along SW 69 Avenue, just south of the Publix shopping center
(Looking west)**



**Faded crosswalk and STOP bar at the intersection of SW 34 Street and SW 69 Avenue
(Looking south)**

Appendix A (Continued)

Condition Photographs

Historic Miramar Innovation and Technology Village Traffic Study

Miramar, Florida



**Mid-block crosswalk, community bus stop, and swale areas along SW 34 Avenue
(Looking west)**



**Access to Annabel C. Perry Elementary from SW 34 Avenue
(Looking south)**

Appendix A (Continued)

Condition Photographs

Historic Miramar Innovation and Technology Village Traffic Study

Miramar, Florida



Speed cushions along SW 69 Avenue south of SW 35 Street
(Looking south)



School Speed Limits times posted along SW 35 Street, west of SW 69 Avenue
(Looking east)



25 MPH area speed limit sign along SW 69 Avenue, just north of Woodscape Drive
(Looking south)



25 MPH area speed limit sign along Woodscape Drive, just east of SW 68 Lane
(Looking northeast)

Appendix A (Continued)

Condition Photographs

Historic Miramar Innovation and Technology Village Traffic Study

Miramar, Florida



**Faded double yellow centerline along E. Woodscape Drive west of SW 68 Lane
(Looking west)**



**30 MPH speed limit sign along SW 68 Avenue, just south of Miramar Parkway
(Looking south)**

Appendix A (Continued)

Condition Photographs

Historic Miramar Innovation and Technology Village Traffic Study

Miramar, Florida

Appendix B

Speed Data

24 Hour Speed Study

File Name: SW68thAvenue

Date Printed: 10/16/2020

Start Date: 10/15/2020

End Date: 10/16/2020

Direction: Southbound, Lane 1

10/15/2020	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH													
12:00 AM	0	2	6	17	13	10	3	2	0	0	0	0	53
1:00	0	2	4	8	11	4	5	0	0	0	0	0	34
2:00	0	1	1	2	9	4	2	1	0	0	0	0	20
3:00	0	1	1	6	4	2	1	0	0	0	0	0	15
4:00	1	0	0	4	4	4	3	2	0	0	0	0	18
5:00	1	2	3	4	11	14	3	3	0	0	0	0	41
6:00	0	4	14	25	19	19	3	4	0	0	0	0	88
7:00	1	14	49	35	18	8	2	0	0	0	0	0	127
8:00	2	6	20	37	37	23	5	2	0	0	0	0	132
9:00	0	4	11	34	55	22	8	5	0	0	0	0	139
10:00	0	0	17	57	51	32	9	2	1	0	0	0	169
11:00	0	4	25	40	58	30	11	0	0	0	1	0	169
12:00 PM	0	5	16	50	57	34	16	3	0	0	0	0	181
1:00	6	5	20	68	53	37	3	1	0	0	0	0	193
2:00	7	26	53	67	30	22	6	1	1	0	0	0	213
3:00	0	5	24	71	71	31	5	1	0	1	0	0	209
4:00	2	5	24	70	61	47	13	0	0	1	0	0	223
5:00	0	4	27	60	69	41	11	0	1	0	0	0	213
6:00	1	2	23	50	76	45	10	2	2	0	0	0	211
7:00	0	4	25	46	57	32	6	1	1	0	0	1	173
8:00	0	0	13	59	40	31	5	2	0	0	0	0	150
9:00	0	1	9	28	32	20	5	4	1	1	0	0	101
10:00	0	0	10	20	51	21	14	3	0	1	0	0	120
11:00	1	0	10	26	26	20	5	0	0	0	0	0	88
Total	22	97	405	884	913	553	154	39	7	4	1	1	3080
Stats	Percentile												
	Speed												
	Mean Speed (Average)												
	10 MPH Pace Speed												
	Number in Pace												
	Percent in Pace												
	Number > 30 MPH												
	Percent > 30 MPH												

24 Hour Speed Study

File Name: SW68thAvenue

Date Printed: 10/16/2020

Start Date: 10/15/2020

End Date: 10/16/2020

Direction: Northbound, Lane 2

10/15/2020	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH													
12:00 AM	0	5	15	15	18	8	6	0	0	0	0	0	67
1:00	0	0	9	9	9	8	4	0	0	0	0	0	39
2:00	0	0	0	6	2	4	2	1	1	0	0	0	16
3:00	0	0	0	1	5	1	0	0	0	0	0	0	7
4:00	0	0	0	1	2	4	2	0	0	0	0	0	9
5:00	1	1	6	4	7	10	3	0	0	0	0	0	32
6:00	1	8	9	14	16	6	0	1	0	0	0	0	55
7:00	5	56	54	27	19	5	1	0	0	0	0	0	167
8:00	1	7	29	44	43	24	7	3	0	0	0	0	158
9:00	0	6	31	51	60	34	11	0	0	0	0	0	193
10:00	0	3	25	48	38	40	11	3	0	0	0	0	168
11:00	1	7	30	51	59	28	6	2	0	1	0	0	185
12:00 PM	0	16	44	68	70	43	9	5	0	1	0	0	256
1:00	2	13	59	68	61	32	7	1	2	0	0	0	245
2:00	5	34	72	83	55	22	2	0	1	0	0	0	274
3:00	2	15	45	74	81	37	10	1	2	0	0	0	267
4:00	0	2	34	59	81	37	10	5	1	0	0	0	229
5:00	0	27	33	54	78	39	8	4	1	0	0	0	244
6:00	0	3	29	42	56	36	3	2	0	0	0	0	171
7:00	0	9	38	78	52	16	3	1	0	0	0	0	197
8:00	0	4	19	34	27	25	5	0	1	0	0	0	115
9:00	0	7	11	28	22	16	3	1	0	0	0	0	88
10:00	0	4	16	29	37	29	7	4	0	0	0	0	126
11:00	0	4	10	24	34	23	8	5	0	0	0	0	108
Total	18	231	618	912	932	527	128	39	9	2	0	0	3416
Stats	Percentile												
	Speed												
	Mean Speed (Average)												
	10 MPH Pace Speed												
	Number in Pace												
	Percent in Pace												
	Number > 30 MPH												
	Percent > 30 MPH												

24 Hour Speed Study

File Name: SW68thAvenue

Date Printed: 10/16/2020

Start Date: 10/15/2020

End Date: 10/16/2020

Direction: Combined

10/15/2020	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH													
12:00 AM	0	7	21	32	31	18	9	2	0	0	0	0	120
1:00	0	2	13	17	20	12	9	0	0	0	0	0	73
2:00	0	1	1	8	11	8	4	2	1	0	0	0	36
3:00	0	1	1	7	9	3	1	0	0	0	0	0	22
4:00	1	0	0	5	6	8	5	2	0	0	0	0	27
5:00	2	3	9	8	18	24	6	3	0	0	0	0	73
6:00	1	12	23	39	35	25	3	5	0	0	0	0	143
7:00	6	70	103	62	37	13	3	0	0	0	0	0	294
8:00	3	13	49	81	80	47	12	5	0	0	0	0	290
9:00	0	10	42	85	115	56	19	5	0	0	0	0	332
10:00	0	3	42	105	89	72	20	5	1	0	0	0	337
11:00	1	11	55	91	117	58	17	2	0	1	1	0	354
12:00 PM	0	21	60	118	127	77	25	8	0	1	0	0	437
1:00	8	18	79	136	114	69	10	2	2	0	0	0	438
2:00	12	60	125	150	85	44	8	1	2	0	0	0	487
3:00	2	20	69	145	152	68	15	2	2	1	0	0	476
4:00	2	7	58	129	142	84	23	5	1	1	0	0	452
5:00	0	31	60	114	147	80	19	4	2	0	0	0	457
6:00	1	5	52	92	132	81	13	4	2	0	0	0	382
7:00	0	13	63	124	109	48	9	2	1	0	0	1	370
8:00	0	4	32	93	67	56	10	2	1	0	0	0	265
9:00	0	8	20	56	54	36	8	5	1	1	0	0	189
10:00	0	4	26	49	88	50	21	7	0	1	0	0	246
11:00	1	4	20	50	60	43	13	5	0	0	0	0	196
Total	40	328	1023	1796	1845	1080	282	78	16	6	1	1	6496
Stats	Percentile												
	Speed												
	Mean Speed (Average)												
	10 MPH Pace Speed												
	Number in Pace												
	Percent in Pace												
	Number > 30 MPH												
	Percent > 30 MPH												

24 Hour Speed Study

File Name: SW69thAvenue

Date Printed: 10/19/2020

Start Date: 10/15/2020

End Date: 10/16/2020

Direction: Southbound, Lane 1

10/15/2020	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH													
12:00 AM	0	6	8	10	3	0	0	0	0	0	0	0	27
1:00	0	9	6	6	1	0	1	0	0	0	0	0	23
2:00	0	1	7	2	1	1	0	0	0	0	0	0	12
3:00	0	2	5	1	1	0	0	0	0	0	0	0	9
4:00	0	1	3	0	0	0	0	0	0	0	0	0	4
5:00	0	4	7	3	1	0	0	0	0	0	0	0	15
6:00	6	18	17	11	2	0	0	0	0	0	0	0	54
7:00	85	47	10	2	0	0	0	0	0	0	0	0	144
8:00	11	50	53	7	2	0	0	0	0	0	0	0	123
9:00	10	30	22	14	0	0	0	0	0	0	0	0	76
10:00	9	7	22	5	1	0	0	0	0	0	0	0	44
11:00	9	21	20	8	2	0	0	0	0	0	0	0	60
12:00 PM	2	19	32	13	2	0	0	0	0	0	0	0	68
1:00	11	27	29	3	1	1	0	0	0	0	0	0	72
2:00	35	16	20	6	0	0	0	0	0	0	0	0	77
3:00	13	19	31	14	4	0	0	0	1	0	0	0	82
4:00	4	34	70	44	1	1	0	0	0	0	0	0	154
5:00	1	32	82	39	7	0	0	0	0	0	0	0	161
6:00	6	29	72	61	2	0	0	0	0	0	0	0	170
7:00	5	30	57	25	5	1	0	0	0	0	0	0	123
8:00	1	18	44	32	3	1	0	0	0	0	0	0	99
9:00	0	20	35	15	1	0	0	0	0	0	0	0	71
10:00	0	17	66	41	8	0	1	0	0	0	0	0	133
11:00	1	5	27	26	8	1	0	0	0	0	0	0	68
Total	209	462	745	388	56	6	2	0	0	1	0	0	1869
Stats	Percentile												
	Speed												
	Mean Speed (Average)												
	10 MPH Pace Speed												
	Number in Pace												
	Percent in Pace												
	Number > 30 MPH												
	Percent > 30 MPH												

24 Hour Speed Study

File Name: SW69thAvenue

Date Printed: 10/19/2020

Start Date: 10/15/2020

End Date: 10/16/2020

Direction: Northbound, Lane 2

10/15/2020	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH													
12:00 AM	0	12	37	5	1	0	0	0	0	0	0	0	55
1:00	0	12	12	4	2	0	0	0	0	0	0	0	30
2:00	0	3	8	6	1	0	0	0	0	0	0	0	18
3:00	0	0	7	1	1	0	0	0	0	0	0	0	9
4:00	0	0	1	3	1	0	0	0	0	0	0	0	5
5:00	0	0	8	3	0	0	0	0	0	0	0	0	11
6:00	4	8	18	5	0	0	0	0	0	0	0	0	35
7:00	63	38	12	1	0	0	0	0	0	0	0	0	114
8:00	8	23	28	9	0	0	0	0	0	0	0	0	68
9:00	4	9	10	3	1	0	0	0	0	0	0	0	27
10:00	1	9	10	3	1	0	0	0	0	0	0	0	24
11:00	2	8	12	4	0	0	0	0	0	0	0	0	26
12:00 PM	2	11	10	5	0	0	0	0	0	0	0	0	28
1:00	4	10	9	3	0	0	0	0	0	0	0	0	26
2:00	20	21	15	1	0	0	0	0	0	0	0	0	57
3:00	3	21	21	7	0	0	0	0	0	0	0	0	52
4:00	3	50	78	24	2	0	0	0	0	0	0	0	157
5:00	4	43	60	23	2	0	0	0	0	0	0	0	132
6:00	2	23	68	20	2	1	0	0	0	0	0	0	116
7:00	4	24	46	12	2	0	0	0	0	0	0	0	88
8:00	5	12	42	15	2	0	0	0	0	0	0	0	76
9:00	3	9	19	17	0	0	0	0	0	0	0	0	48
10:00	1	25	48	20	2	0	0	0	0	0	0	0	96
11:00	3	16	49	27	4	0	0	0	0	0	0	0	99
Total	136	387	628	221	24	1	0	0	0	0	0	0	1397
Stats	Percentile												
	Speed												
	Mean Speed (Average)												
	10 MPH Pace Speed												
	Number in Pace												
	Percent in Pace												
	Number > 30 MPH												
	Percent > 30 MPH												

24 Hour Speed Study

File Name: SW69thAvenue

Date Printed: 10/19/2020

Start Date: 10/15/2020

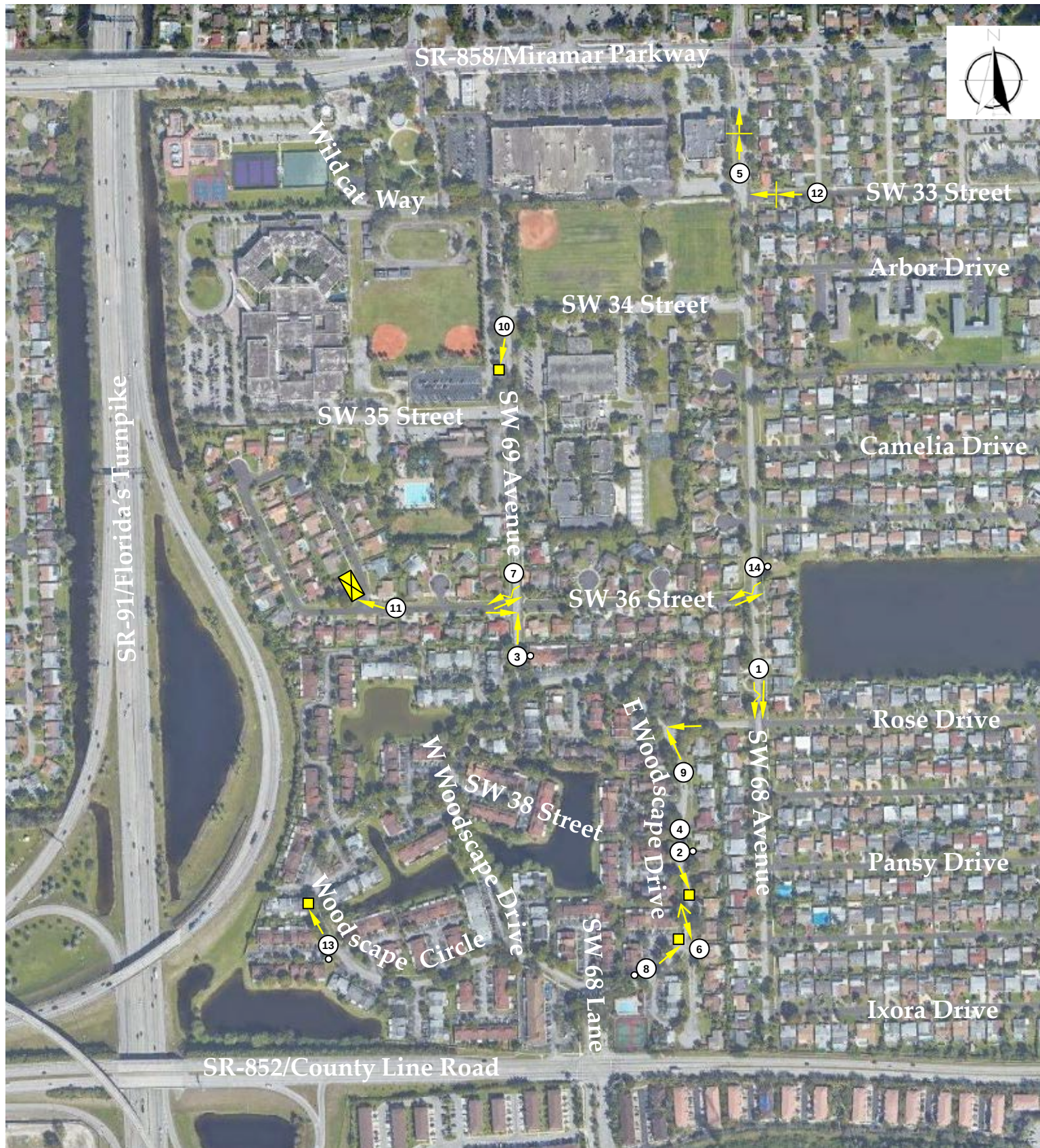
End Date: 10/16/2020

Direction: Combined

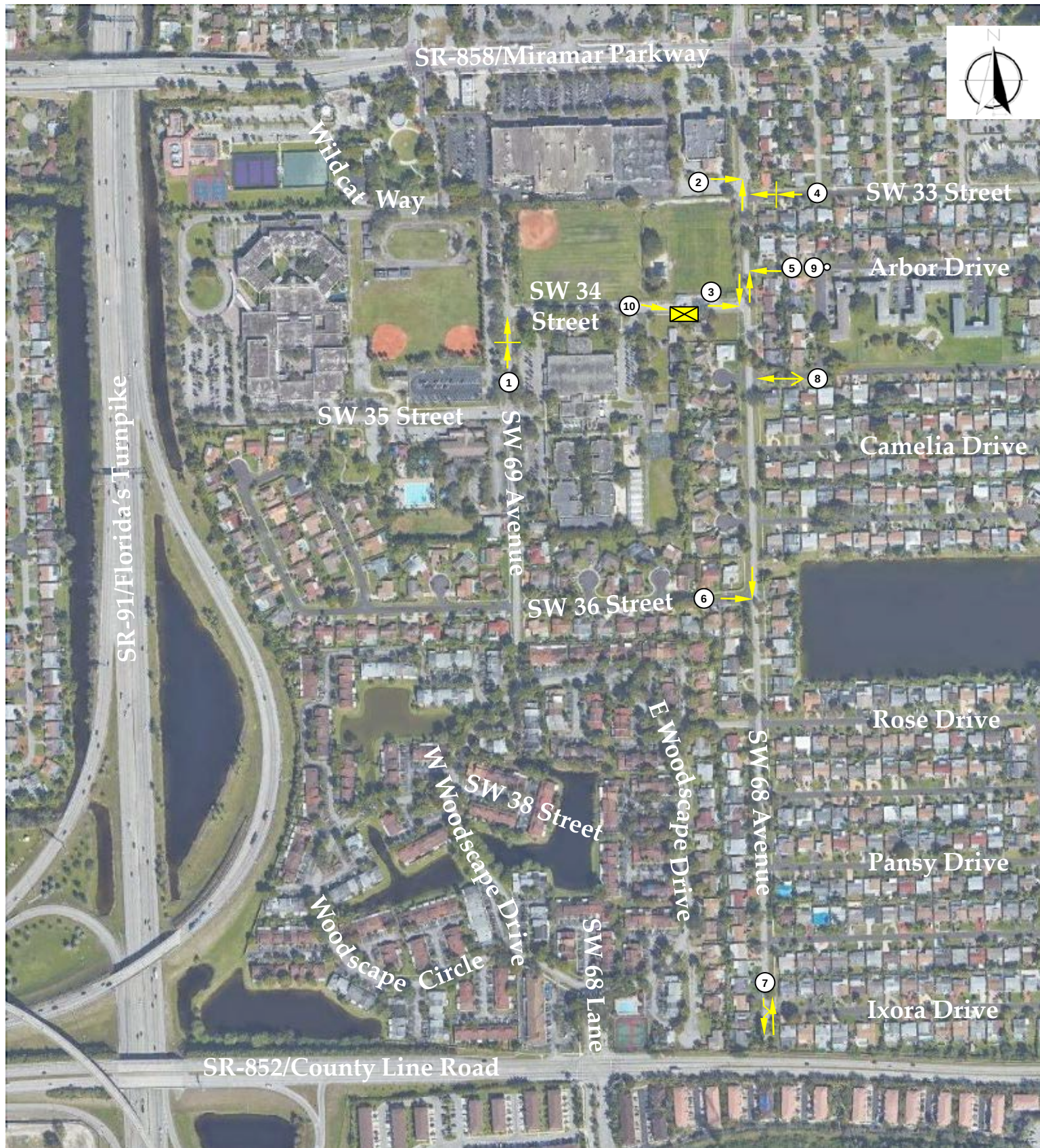
10/15/2020	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH MPH													
12:00 AM	0	18	45	15	4	0	0	0	0	0	0	0	82
1:00	0	21	18	10	3	0	1	0	0	0	0	0	53
2:00	0	4	15	8	2	1	0	0	0	0	0	0	30
3:00	0	2	12	2	2	0	0	0	0	0	0	0	18
4:00	0	1	4	3	1	0	0	0	0	0	0	0	9
5:00	0	4	15	6	1	0	0	0	0	0	0	0	26
6:00	10	26	35	16	2	0	0	0	0	0	0	0	89
7:00	148	85	22	3	0	0	0	0	0	0	0	0	258
8:00	19	73	81	16	2	0	0	0	0	0	0	0	191
9:00	14	39	32	17	1	0	0	0	0	0	0	0	103
10:00	10	16	32	8	2	0	0	0	0	0	0	0	68
11:00	11	29	32	12	2	0	0	0	0	0	0	0	86
12:00 PM	4	30	42	18	2	0	0	0	0	0	0	0	96
1:00	15	37	38	6	1	1	0	0	0	0	0	0	98
2:00	55	37	35	7	0	0	0	0	0	0	0	0	134
3:00	16	40	52	21	4	0	0	0	1	0	0	0	134
4:00	7	84	148	68	3	1	0	0	0	0	0	0	311
5:00	5	75	142	62	9	0	0	0	0	0	0	0	293
6:00	8	52	140	81	4	1	0	0	0	0	0	0	286
7:00	9	54	103	37	7	1	0	0	0	0	0	0	211
8:00	6	30	86	47	5	1	0	0	0	0	0	0	175
9:00	3	29	54	32	1	0	0	0	0	0	0	0	119
10:00	1	42	114	61	10	0	1	0	0	0	0	0	229
11:00	4	21	76	53	12	1	0	0	0	0	0	0	167
Total	345	849	1373	609	80	7	2	0	0	1	0	0	3266
Stats	Percentile												
	Speed												
	Mean Speed (Average)												
	10 MPH Pace Speed												
	Number in Pace												
	Percent in Pace												
	Number > 30 MPH												
	Percent > 30 MPH												

Appendix C

Collision Diagrams



LEGEND		
Year: 2017	BACKING VEHICLE	LEFT TURN
Number of Crashes: 14	SIDESWIPE	RIGHT TURN
Number of Fatalities: 0	PEDESTRIAN/BIKE	PARKED VEHICLE
	REAR-END	FIXED OBJECT
	HEAD-ON	PERSONAL INJURY
	ANGLE	FATALITY



LEGEND		
Year: 2018		BACKING VEHICLE
Number of Crashes: 10		SIDESWIPE
Number of Fatalities: 0		PEDESTRIAN/BIKE
		REAR-END
		HEAD-ON
		ANGLE
		LEFT TURN
		RIGHT TURN
		PARKED VEHICLE
		FIXED OBJECT
		PERSONAL INJURY
		FATALITY

Appendix D

Short-Term Roadway Improvements and Cost Estimate



MATCH SHEET 2

NO.	REVISION	BY	DATE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			



CITY OF MIRAMAR
2200 CIVIC CENTER PLACE
2ND FLOOR
MIRAMAR, FL 33025



2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908

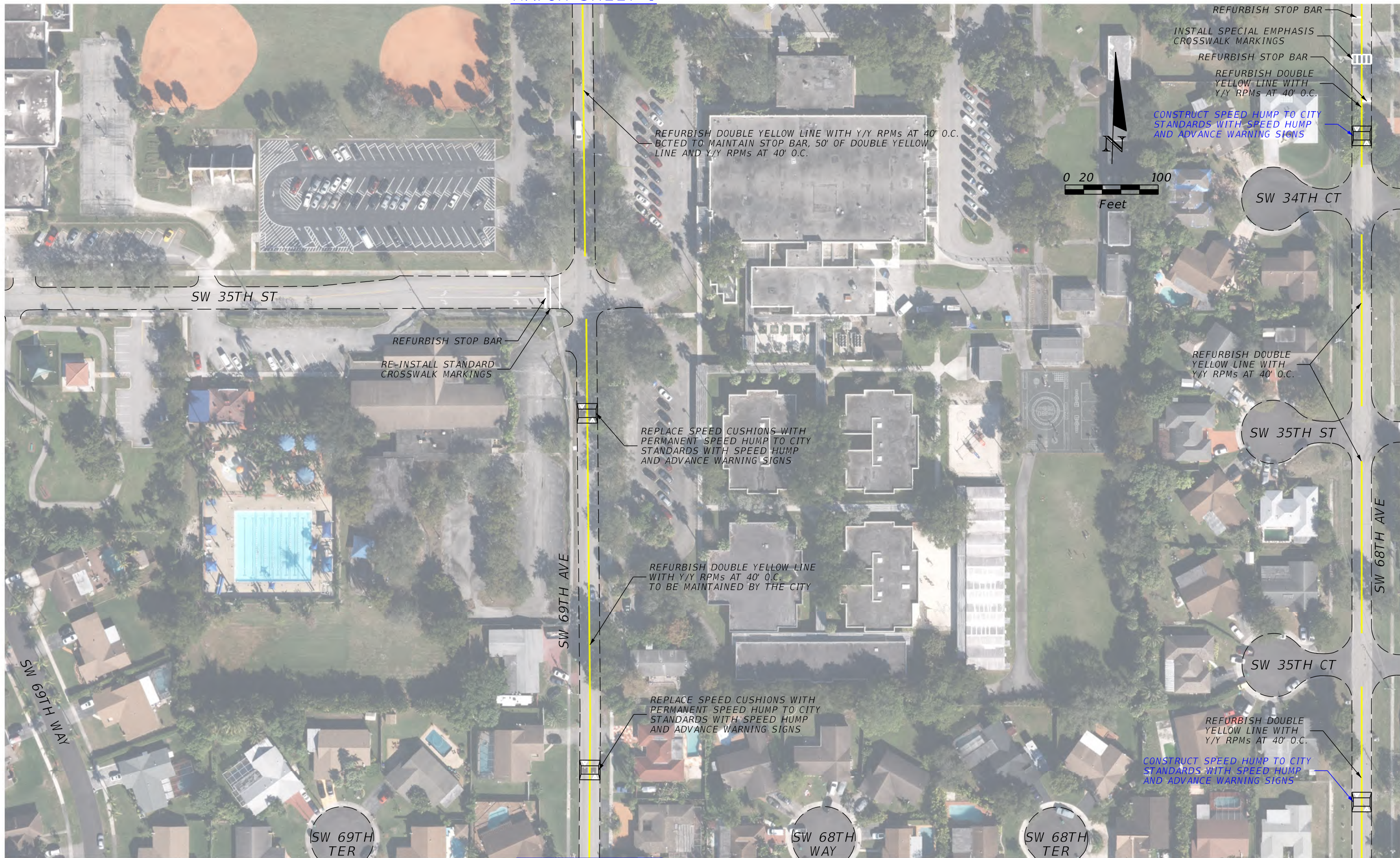
FLORIDA LICENSE No. SIGNATURE DATE

DATE : 12/8/2020
PROJ. # : 18541L_02
DRAWN BY: HAR
APPD. BY : N/A
PLOT BY : HAR
FILE NAME : N/A
REF. # : 18541L_02
F.B. & PG. : N/A

HISTORIC MIRAMAR SHORT-TERM IMPROVEMENTS EXHIBIT

SHEET

1



NO.	REVISION	BY	DATE
1			
2			
3			
4			
5			
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CITY OF MIRAMAR
2200 CIVIC CENTER PLACE
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FILE NAME : N/A
REF. # : 18541L_02
F.B. & PG. : N/A

HISTORIC MIRAMAR SHORT-TERM IMPROVEMENTS EXHIBIT

SHEET

2

MATCH SHEET 2



MATCH SHEET 4

MATCH SHEET 4

NO.	REVISION	BY	DATE
1			
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10			



CITY OF MIRAMAR
2200 CIVIC CENTER PLACE
2ND FLOOR
MIRAMAR, FL 33025



2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908

FLORIDA LICENSE No.

SIGNATURE DATE

DATE : 12/8/2020
PROJ. # : 18541L_02
DRAWN BY: HAR
APPD. BY : N/A
PLOT BY : HAR
FILE NAME : N/A
REF. # : 18541L_02
F.B. & PG. : N/A

HISTORIC MIRAMAR SHORT-TERM IMPROVEMENTS EXHIBIT

SHEET

3



NO.	REVISION	BY	DATE
1			
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3			
4			
5			
6			
7			
8			
9			
10			



CITY OF MIRAMAR
2200 CIVIC CENTER PLACE
2ND FLOOR
MIRAMAR, FL 33025



2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908

FLORIDA LICENSE No.

SIGNATURE DATE

DATE : 12/8/2020
PROJ. # : 18541L_02
DRAWN BY: HAR
APPD. BY : N/A
PLOT BY : HAR
FILE NAME: N/A
REF. # : 18541L_02
F.B. & PG. : N/A

HISTORIC MIRAMAR
SHORT-TERM
IMPROVEMENTS EXHIBIT

SHEET

4

ENGINEERS COST ESTIMATE Project Title: Historic Miramar Short-Term Improvements Date: October 19, 2020					
Pay Item Number	Pay Item Description	Quantity	Unit	Engineer's Unit Cost	Total Engineer's Cost
Roadway					
0101-1	MOBILIZATION	1	LS	-	\$4,500.00
0110-1-1	CLEARING & GRUBBING	0.01	AC	\$10,662.57	\$106.63
0110-4-10	REMOVAL OF EXISTING CONCRETE PAVEMENT	3	SY	\$17.78	\$53.34
0520-2-4	CONCRETE CURB, TYPE D	21	LF	\$14.34	\$301.14
0522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	6	SY	\$45.52	\$273.12
0527-2	DETECTABLE WARNINGS	12	SF	\$35.24	\$422.88
0570-1-2	PERFORMANCE TURF, SOD	8	SY	\$2.57	\$20.56
*	ASPHALT SPEED HUMP	47.0	TN	\$400.00	\$18,800.00
-	LANDSCAPING	2.0	EA	\$200.00	\$400.00
Signing & Pavement Markings					
0700-1-11	SINGLE POST SIGN, F&I GM. <12 SF	6	AS	\$345.71	\$2,074.26
0700-1-50	SINGLE POST SIGN, RELOCATE	2	AS	\$313.09	\$626.18
0700-1-60	SINGLE POST SIGN, REMOVE	3	AS	\$37.75	\$113.25
0700-3-101	SIGN PANEL, F&I, GROUND MOUNT, UP TO 12 SF	2	EA	\$267.82	\$535.64
0705-11-4	DELINEATOR, FLEXIBLE HIGH PERFORMANCE 48"	11	EA	\$95.00	\$1,045.00
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	354	EA	\$6.94	\$2,456.76
0710-11-102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 8"	0.022	GM	\$1,530.07	\$33.66
0710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	287	LF	\$0.57	\$163.59
0710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	500	LF	\$3.28	\$1,640.00
0710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	2.667	GM	\$752.75	\$2,007.58
0711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	287	LF	\$1.75	\$502.25
0711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	500	LF	\$3.66	\$1,830.00
0711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	12	EA	\$52.65	\$631.80
0711-16-102	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 8"	0.022	GM	\$6,043.65	\$132.96
0711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	2.667	GM	\$3,986.47	\$10,631.92
SUBTOTAL ITEMIZED CONSTRUCTION COST					\$49,302.52
1	Design (20%)		LS	20%	\$ 9,860.50
2	Post Design (10%)		LS	10%	\$ 4,930.25
3	CEI (15%)		LS	15%	\$ 7,395.38
4	MOT (20%)		LS	20%	\$ 9,860.50
5	Permit (5%)		LS	5%	\$ 2,465.13
6	Surveying (5%)		LS	5%	\$ 2,465.13
TOTAL ITEMIZED CONSTRUCTION COST					\$86,279.41
7	Contingency (30%)		LS	30%	\$ 25,883.82
				TOTAL COST	\$112,163.23

Note: Cost from FDOT Area 12 Current 12 Month Moving Market Area Averages from 2019/09/01 to 2020/08/31

* Each Asphalt Speed Hump is 7.83 TN. Six Speed Humps proposed.

Appendix E

Traffic volumes

TABLE E-1
AM TRAFFIC VOLUME CALCULATIONS
HISTORIC MIRAMAR INNOVATION AND TECHNOLOGY VILLAGE TRAFFIC STUDY

INTERSECTION	SCENARIO	TRAFFIC VOLUMES											
		EBLT	EBTH	EBRT	WBLT	WBTH	WBRT	NBLT	NBTH	NBRT	SBLT	SBTH	SBRT
Miramar Parkway at SW 69 th Avenue	Collected Count (10/25/2016)	80	909	168	13	751	4	147	11	29	28	9	107
	Peak-Season Conversion Factor (PSCF) ⁽¹⁾	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	Peak-Season Traffic	81	918	170	13	759	4	148	11	29	28	9	108
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	2020 Existing Peak-Season Traffic	81	994	170	13	822	4	148	11	29	28	9	108
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	Existing plus CGR Increase	81	1,014	170	13	838	4	148	11	29	28	9	108
	Phase 1 Trips - Park/Total ⁽³⁾	0	0	0	0	0	0	0	0	0	0	0	0
	2021 Future Peak-Season Traffic	81	1,014	170	13	838	4	148	11	29	28	9	108
	Phase 2 Trips - Wellman Field ⁽³⁾	0	1	1	0	3	0	6	0	0	0	0	0
	Phase 2 Trips - Innovation Center ⁽³⁾	0	0	23	6	0	0	15	0	4	0	0	0
	2025 Future Peak-Season Traffic	81	1,098	194	19	911	4	169	11	33	28	9	108
	Phase 3 Trips - Shopping Center S. of Miramar Pkwy ⁽³⁾	0	11	3	2	6	0	1	1	1	0	2	0
	Phase 3 Trips - Shopping Center N. of Miramar Pkwy ⁽³⁾	15	13	0	0	8	4	0	2	0	3	1	9
	2028 Future Peak-Season Traffic	96	1,189	197	21	981	8	170	14	34	31	12	117
Miramar Parkway at SW 68 th Avenue	Collected Count (Streetlight 2019, January-March)	29	791	58	58	665	22	45	19	41	21	37	67
	Peak-Season Conversion Factor (PSCF) ⁽⁴⁾	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	Existing Peak-Season Traffic	30	823	60	60	692	23	47	20	43	22	38	70
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	2020 Existing Peak-Season Traffic	30	839	60	60	706	23	47	20	43	22	38	70
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	Existing plus CGR Increase	30	856	60	60	720	23	47	20	43	22	38	70
	Phase 1 Trips - Park/Total ⁽³⁾	0	0	0	0	0	0	0	0	0	0	0	0
	2021 Future Peak-Season Traffic	30	856	60	60	720	23	47	20	43	22	38	70
	Phase 2 Trips - Wellman Field ⁽³⁾	0	0	1	1	0	0	3	0	4	0	0	0
	Phase 2 Trips - Innovation Center ⁽³⁾	0	4	0	7	6	0	0	0	4	0	0	0
	2025 Future Peak-Season Traffic	30	930	61	68	785	23	50	20	51	22	38	70
	Phase 3 Trips - Shopping Center S. of Miramar Pkwy ⁽³⁾	0	3	2	2	4	0	1	1	1	0	2	0
	Phase 3 Trips - Shopping Center N. of Miramar Pkwy ⁽³⁾	0	5	0	0	9	0	0	0	0	0	0	0
	2028 Future Peak-Season Traffic	30	995	63	70	846	23	51	21	52	22	40	70

(1) The Peak Season Conversion Factor was based on the 2016 FDOT Peak Season Factor Category Report.

(2) A compound growth rate (CGR) of 2.0 percent was used based on a review of five (5) years of historical traffic volumes obtained from the 2019 FDOT Historical AADT Report for Station #86-7260.

(3) Phase 1, 2, and 3 trips based on trip generation for the expected land uses in each phase.

(4) The Peak Season Conversion Factor was based on the 2019 FDOT Peak Season Factor Category Report; an average PSCF of 1.01 over the months of January-March was factored up to the largest PSCF of 1.05 within the three-month time frame, resulting in a PSCF of 1.04.



TABLE E-2
PM TRAFFIC VOLUME CALCULATIONS
HISTORIC MIRAMAR INNOVATION AND TECHNOLOGY VILLAGE TRAFFIC STUDY

INTERSECTION	SCENARIO	TRAFFIC VOLUMES											
		EBLT	EBTH	EBRT	WBLT	WBTH	WBRT	NBLT	NBTH	NBRT	SBLT	SBTH	SBRT
Miramar Parkway at SW 69 th Avenue	Collected Count (10/25/2016)	95	995	133	30	1,171	10	221	28	56	35	22	72
	Peak-Season Conversion Factor (PSCF) ⁽¹⁾	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	Peak-Season Traffic	96	1,005	134	30	1,183	10	223	28	57	35	22	73
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	2020 Existing Peak-Season Traffic	96	1,088	134	30	1,281	10	223	28	57	35	22	73
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	Existing plus CGR Increase	96	1,110	134	30	1,307	10	223	28	57	35	22	73
	Phase 1 Trips - Park/Total ⁽³⁾	0	0	4	1	0	0	3	1	1	0	1	0
	2021 Future Peak-Season Traffic	96	1,110	138	31	1,307	10	226	29	58	35	23	73
	Phase 2 Trips - Wellman Field ⁽³⁾	0	1	3	0	1	0	1	0	0	0	0	0
	Phase 2 Trips - Innovation Center ⁽³⁾	0	0	14	4	0	0	21	0	6	0	0	0
	2025 Future Peak-Season Traffic	96	1,202	155	35	1,415	10	248	29	64	35	23	73
	Phase 3 Trips - Shopping Center S. of Miramar Pkwy ⁽³⁾	0	11	3	2	14	0	3	3	3	0	2	0
	Phase 3 Trips - Shopping Center N. of Miramar Pkwy ⁽³⁾	16	14	0	0	17	5	0	2	0	6	3	20
	2028 Future Peak-Season Traffic	112	1,301	158	37	1,533	15	251	34	67	41	28	93
Miramar Parkway at SW 68 th Avenue	Collected Count (Streetlight 2019, January-March)	86	901	73	90	1,116	12	90	26	65	22	44	69
	Peak-Season Conversion Factor (PSCF) ⁽⁴⁾	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	Existing Peak-Season Traffic	89	937	76	94	1,161	12	94	27	68	23	46	72
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	2020 Existing Peak-Season Traffic	89	956	76	94	1,184	12	94	27	68	23	46	72
	Compound Growth Rate (CGR) ⁽²⁾	-	2.00%	-	-	2.00%	-	-	-	-	-	-	-
	Existing plus CGR Increase	89	975	76	94	1,208	12	94	27	68	23	46	72
	Phase 1 Trips - Park/Total ⁽³⁾	0	0	0	2	0	0	0	0	1	0	0	0
	2021 Future Peak-Season Traffic	89	975	76	96	1,208	12	94	27	69	23	46	72
	Phase 2 Trips - Wellman Field ⁽³⁾	0	0	1	2	0	0	1	0	0	0	0	0
	Phase 2 Trips - Innovation Center ⁽³⁾	0	6	0	4	4	0	0	0	7	0	0	0
	2025 Future Peak-Season Traffic	89	1,062	77	102	1,311	12	95	27	76	23	46	72
	Phase 3 Trips - Shopping Center S. of Miramar Pkwy ⁽³⁾	0	5	2	2	4	0	3	3	3	0	2	0
	Phase 3 Trips - Shopping Center N. of Miramar Pkwy ⁽³⁾	0	11	0	0	9	0	0	0	0	0	0	0
	2028 Future Peak-Season Traffic	89	1,143	79	104	1,404	12	98	30	79	23	48	72

(1) The Peak Season Conversion Factor was based on the 2016 FDOT Peak Season Factor Category Report.

(2) A compound growth rate (CGR) of 2.0 percent was used based on a review of five (5) years of historical traffic volumes obtained from the 2019 FDOT Historical AADT Report for Station #86-7260.

(3) Phase 1, 2, and 3 trips based on trip generation for the expected land uses in each phase.

(4) The Peak Season Conversion Factor was based on the 2019 FDOT Peak Season Factor Category Report; an average PSCF of 1.01 over the months of January-March was factored up to the largest PSCF of 1.05 within the three-month time frame, resulting in a PSCF of 1.04.



Broward County Traffic Engineering Division
2300 W. Commercial Blvd.
Fort Lauderdale, FL 33309

FILE:3043
CITY:MIRAMAR
LOCATION:MIRAMAR PARKWAY AND SW 69 WAY

File Name : 3043_10252016
Site Code : 00000000
Start Date : 10/25/2016
Page No : 1

Groups Printed- Unshifted

Start Time	SW 69 WAY Northbound					SW 69 WAY Southbound					MIRAMAR PKWY Eastbound					MIRAMAR PKWY Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	23	0	5	0	28	3	5	27	0	35	12	194	25	0	231	4	152	1	0	157	451
07:15 AM	38	1	11	0	50	1	2	43	0	46	19	197	41	0	257	3	223	1	0	227	580
07:30 AM	30	2	9	0	41	10	3	20	0	33	32	247	46	0	325	2	179	0	0	181	580
07:45 AM	55	6	3	0	64	9	3	26	0	38	18	227	44	0	289	2	187	1	0	190	581
Total	146	9	28	0	183	23	13	116	0	152	81	865	156	0	1102	11	741	3	0	755	2192
08:00 AM	24	2	6	0	32	8	1	18	0	27	11	238	37	0	286	6	162	2	0	170	515
08:15 AM	25	0	3	0	28	4	0	13	0	17	14	236	25	0	275	5	159	2	0	166	486
08:30 AM	14	2	4	0	20	9	1	16	0	26	12	190	27	0	229	15	126	3	0	144	419
08:45 AM	23	0	7	0	30	9	2	9	0	20	13	183	29	0	225	7	193	0	0	200	475
Total	86	4	20	0	110	30	4	56	0	90	50	847	118	0	1015	33	640	7	0	680	1895
*** BREAK ***																					
11:00 AM	26	0	15	0	41	5	0	18	0	23	15	208	23	0	246	14	106	3	0	123	433
11:15 AM	30	2	10	0	42	8	4	15	0	27	29	190	23	0	242	10	135	3	0	148	459
11:30 AM	33	5	23	0	61	14	6	16	0	36	14	147	27	0	188	12	113	6	0	131	416
11:45 AM	26	0	17	0	43	11	3	23	0	37	17	145	42	0	204	11	139	10	0	160	444
Total	115	7	65	0	187	38	13	72	0	123	75	690	115	0	880	47	493	22	0	562	1752
12:00 PM	20	3	21	0	44	7	3	19	0	29	28	159	25	0	212	4	145	6	0	155	440
12:15 PM	26	2	13	0	41	5	2	15	0	22	24	158	24	0	206	10	134	4	0	148	417
12:30 PM	29	0	19	0	48	11	1	22	0	34	16	122	22	0	160	8	141	7	0	156	398
12:45 PM	32	1	22	0	55	6	4	14	0	24	21	142	29	0	192	9	123	5	0	137	408
Total	107	6	75	0	188	29	10	70	0	109	89	581	100	0	770	31	543	22	0	596	1663
01:00 PM	21	0	18	0	39	8	2	11	0	21	13	127	26	0	166	7	118	8	0	133	359
*** BREAK ***																					
Total	21	0	18	0	39	8	2	11	0	21	13	127	26	0	166	7	118	8	0	133	359
*** BREAK ***																					
04:00 PM	14	3	5	0	22	7	3	14	0	24	20	148	18	0	186	3	125	2	0	130	362
04:15 PM	21	1	3	0	25	15	7	8	0	30	7	187	17	0	211	6	204	9	0	219	485
04:30 PM	24	3	8	0	35	4	3	10	0	17	27	221	32	0	280	9	210	3	0	222	554
04:45 PM	73	6	19	0	98	10	2	17	0	29	30	234	34	0	298	7	261	2	0	270	695
Total	132	13	35	0	180	36	15	49	0	100	84	790	101	0	975	25	800	16	0	841	2096
05:00 PM	53	7	17	0	77	9	10	17	0	36	19	256	35	0	310	11	286	1	0	298	721
05:15 PM	44	4	9	0	57	6	4	13	0	23	26	257	34	0	317	6	330	2	0	338	735
05:30 PM	51	11	11	0	73	10	6	25	0	41	20	248	30	0	298	6	294	5	0	305	717
05:45 PM	32	5	6	0	43	9	1	12	0	22	28	219	22	0	269	11	245	4	0	260	594
Total	180	27	43	0	250	34	21	67	0	122	93	980	121	0	1194	34	1155	12	0	1201	2767
Grand Total	787	66	284	0	1137	198	78	441	0	717	485	4880	737	0	6102	188	4490	90	0	4768	12724
Apprch %	69.2	5.8	25	0		27.6	10.9	61.5	0		7.9	80	12.1	0		3.9	94.2	1.9	0		
Total %	6.2	0.5	2.2	0	8.9	1.6	0.6	3.5	0	5.6	3.8	38.4	5.8	0	48	1.5	35.3	0.7	0	37.5	

TURNING MOVEMENT COUNTS

<u>Day Part</u>	<u>W leg - Miramar Parkway</u>			<u>E leg - Miramar Parkway</u>			<u>S leg - SW 68th Avenue</u>			<u>N leg - SW 68th Avenue</u>			<u>Total</u>
	<u>EB Left</u>	<u>EB Thru</u>	<u>EB Right</u>	<u>WB Left</u>	<u>WB Thru</u>	<u>WB Right</u>	<u>NB Left</u>	<u>NB Thru</u>	<u>NB Right</u>	<u>SB Left</u>	<u>SB Thru</u>	<u>SB Right</u>	
00: All Day (12am-12am)	732	11,241	724	1,031	11,763	303	1,040	360	809	544	628	908	30,083
01: 12am (12am-1am)	8	100	9	10	134	6	5	4	6	6	4	7	299
02: 1am (1am-2am)	7	80	7	9	94	3	1	3	5	1	3	6	219
03: 2am (2am-3am)	4	48	4	3	65	3	2	-	2	2	4	3	140
04: 3am (3am-4am)	7	36	2	2	49	1	1	1	3	-	1	5	108
05: 4am (4am-5am)	2	52	3	3	49	-	4	-	4	2	5	1	125
06: 5am (5am-6am)	11	130	1	3	127	1	11	-	4	8	4	17	317
07: 6am (6am-7am)	33	498	11	33	407	5	64	7	26	55	30	49	1,218
08: 7am (7am-8am)	64	715	21	69	573	38	55	39	67	50	58	63	1,812
09: 8am (8am-9am)	29	791	58	58	665	22	45	19	41	21	37	67	1,853
10: 9am (9am-10am)	16	651	27	56	628	9	54	11	40	22	19	45	1,578
11: 10am (10am-11am)	29	551	26	44	514	11	71	13	36	18	21	32	1,366
12: 11am (11am-12noon)	25	585	30	55	550	12	48	20	36	24	30	42	1,457
13: 12pm (12noon-1pm)	32	529	42	53	617	16	48	23	36	27	29	52	1,504
14: 1pm (1pm-2pm)	39	590	41	46	652	18	51	37	34	32	33	35	1,608
15: 2pm (2pm-3pm)	35	629	37	69	663	15	78	16	55	67	39	67	1,770
16: 3pm (3pm-4pm)	42	750	64	79	758	23	85	14	46	28	54	101	2,044
17: 4pm (4pm-5pm)	67	752	50	67	948	21	93	16	68	60	58	72	2,272
18: 5pm (5pm-6pm)	86	901	73	90	1,116	12	90	26	65	22	44	69	2,594
19: 6pm (6pm-7pm)	46	866	66	75	963	19	78	50	80	47	49	57	2,396
20: 7pm (7pm-8pm)	47	616	42	60	680	11	58	22	51	15	39	38	1,679
21: 8pm (8pm-9pm)	42	499	44	56	568	19	46	14	43	16	26	34	1,407
22: 9pm (9pm-10pm)	32	389	32	33	404	9	26	14	31	8	23	25	1,026
23: 10pm (10pm-11pm)	19	297	22	36	333	10	21	7	21	8	15	14	803
24: 11pm (11pm-12am)	10	188	10	20	204	17	6	2	9	5	5	6	482

STREETLIGHT LINK VOLUMES (JANUARY 2019-MARCH 2019)

Street Name	Day Type	Day Part	Eastbound Volume	Westbound Volume	Total
SW 34 St	1: Weekday (Tu-Th)	00: All Day (12am-12am)	789	849	1638
	1: Weekday (Tu-Th)	01: 12am (12am-1am)	3	6	9
	1: Weekday (Tu-Th)	02: 1am (1am-2am)	2		2
	1: Weekday (Tu-Th)	03: 2am (2am-3am)	2	2	4
	1: Weekday (Tu-Th)	04: 3am (3am-4am)			0
	1: Weekday (Tu-Th)	05: 4am (4am-5am)	2		2
	1: Weekday (Tu-Th)	06: 5am (5am-6am)	2	2	4
	1: Weekday (Tu-Th)	07: 6am (6am-7am)	14	71	85
	1: Weekday (Tu-Th)	08: 7am (7am-8am)	53	127	180
	1: Weekday (Tu-Th)	09: 8am (8am-9am)	44	86	130
	1: Weekday (Tu-Th)	10: 9am (9am-10am)	34	68	102
	1: Weekday (Tu-Th)	11: 10am (10am-11am)	19	34	53
	1: Weekday (Tu-Th)	12: 11am (11am-12noon)	26	29	55
	1: Weekday (Tu-Th)	13: 12pm (12noon-1pm)	36	39	75
	1: Weekday (Tu-Th)	14: 1pm (1pm-2pm)	38	38	76
	1: Weekday (Tu-Th)	15: 2pm (2pm-3pm)	115	57	172
	1: Weekday (Tu-Th)	16: 3pm (3pm-4pm)	49	57	106
	1: Weekday (Tu-Th)	17: 4pm (4pm-5pm)	110	79	189
	1: Weekday (Tu-Th)	18: 5pm (5pm-6pm)	53	58	111
	1: Weekday (Tu-Th)	19: 6pm (6pm-7pm)	62	35	97
	1: Weekday (Tu-Th)	20: 7pm (7pm-8pm)	22	21	43
	1: Weekday (Tu-Th)	21: 8pm (8pm-9pm)	51	16	67
	1: Weekday (Tu-Th)	22: 9pm (9pm-10pm)	38	9	47
	1: Weekday (Tu-Th)	23: 10pm (10pm-11pm)	8	10	18
	1: Weekday (Tu-Th)	24: 11pm (11pm-12am)	7	3	10

STREETLIGHT LINK VOLUMES (JANUARY 2019-MARCH 2019)

Street Name	Day Type	Day Part	Eastbound Volume	Westbound Volume	Total
SW 35 St	1: Weekday (Tu-Th)	00: All Day (12am-12am)	424	842	1266
	1: Weekday (Tu-Th)	01: 12am (12am-1am)		6	6
	1: Weekday (Tu-Th)	02: 1am (1am-2am)		3	3
	1: Weekday (Tu-Th)	03: 2am (2am-3am)	1	3	4
	1: Weekday (Tu-Th)	04: 3am (3am-4am)		2	2
	1: Weekday (Tu-Th)	05: 4am (4am-5am)		3	3
	1: Weekday (Tu-Th)	06: 5am (5am-6am)		1	1
	1: Weekday (Tu-Th)	07: 6am (6am-7am)	2	12	14
	1: Weekday (Tu-Th)	08: 7am (7am-8am)	7	35	42
	1: Weekday (Tu-Th)	09: 8am (8am-9am)	8	128	136
	1: Weekday (Tu-Th)	10: 9am (9am-10am)	17	159	176
	1: Weekday (Tu-Th)	11: 10am (10am-11am)	17	56	73
	1: Weekday (Tu-Th)	12: 11am (11am-12noon)	29	34	63
	1: Weekday (Tu-Th)	13: 12pm (12noon-1pm)	28	27	55
	1: Weekday (Tu-Th)	14: 1pm (1pm-2pm)	53	28	81
	1: Weekday (Tu-Th)	15: 2pm (2pm-3pm)	31	43	74
	1: Weekday (Tu-Th)	16: 3pm (3pm-4pm)	27	48	75
	1: Weekday (Tu-Th)	17: 4pm (4pm-5pm)	39	80	119
	1: Weekday (Tu-Th)	18: 5pm (5pm-6pm)	33	101	134
	1: Weekday (Tu-Th)	19: 6pm (6pm-7pm)	20	38	58
	1: Weekday (Tu-Th)	20: 7pm (7pm-8pm)	15	8	23
	1: Weekday (Tu-Th)	21: 8pm (8pm-9pm)	57	14	71
	1: Weekday (Tu-Th)	22: 9pm (9pm-10pm)	40	6	46
	1: Weekday (Tu-Th)	23: 10pm (10pm-11pm)		4	4
	1: Weekday (Tu-Th)	24: 11pm (11pm-12am)		4	4

STREETLIGHT LINK VOLUMES (JANUARY 2019-MARCH 2019)

Street Name	Day Type	Day Part	Northbound Volume	Southbound Volume	Total
SW 68 Ave	1: Weekday (Tu-Th)	00: All Day (12am-12am)	1751	2932	4683
	1: Weekday (Tu-Th)	01: 12am (12am-1am)	15	32	47
	1: Weekday (Tu-Th)	02: 1am (1am-2am)	18	16	34
	1: Weekday (Tu-Th)	03: 2am (2am-3am)	5	19	24
	1: Weekday (Tu-Th)	04: 3am (3am-4am)	6	10	16
	1: Weekday (Tu-Th)	05: 4am (4am-5am)	12	13	25
	1: Weekday (Tu-Th)	06: 5am (5am-6am)	22	19	41
	1: Weekday (Tu-Th)	07: 6am (6am-7am)	79	59	138
	1: Weekday (Tu-Th)	08: 7am (7am-8am)	127	158	285
	1: Weekday (Tu-Th)	09: 8am (8am-9am)	94	215	309
	1: Weekday (Tu-Th)	10: 9am (9am-10am)	106	98	204
	1: Weekday (Tu-Th)	11: 10am (10am-11am)	72	114	186
	1: Weekday (Tu-Th)	12: 11am (11am-12noon)	70	125	195
	1: Weekday (Tu-Th)	13: 12pm (12noon-1pm)	70	151	221
	1: Weekday (Tu-Th)	14: 1pm (1pm-2pm)	65	143	208
	1: Weekday (Tu-Th)	15: 2pm (2pm-3pm)	93	200	293
	1: Weekday (Tu-Th)	16: 3pm (3pm-4pm)	89	189	278
	1: Weekday (Tu-Th)	17: 4pm (4pm-5pm)	128	209	337
	1: Weekday (Tu-Th)	18: 5pm (5pm-6pm)	161	252	413
	1: Weekday (Tu-Th)	19: 6pm (6pm-7pm)	192	288	480
	1: Weekday (Tu-Th)	20: 7pm (7pm-8pm)	105	207	312
	1: Weekday (Tu-Th)	21: 8pm (8pm-9pm)	82	167	249
	1: Weekday (Tu-Th)	22: 9pm (9pm-10pm)	65	118	183
	1: Weekday (Tu-Th)	23: 10pm (10pm-11pm)	44	80	124
	1: Weekday (Tu-Th)	24: 11pm (11pm-12am)	32	51	83

STREETLIGHT LINK VOLUMES (JANUARY 2019-MARCH 2019)

Street Name	Day Type	Day Part	Northbound Volume	Southbound Volume	Total
SW 69 Ave	1: Weekday (Tu-Th)	00: All Day (12am-12am)	1646	2548	4194
	1: Weekday (Tu-Th)	01: 12am (12am-1am)	14	22	36
	1: Weekday (Tu-Th)	02: 1am (1am-2am)	12	15	27
	1: Weekday (Tu-Th)	03: 2am (2am-3am)	10	5	15
	1: Weekday (Tu-Th)	04: 3am (3am-4am)	3	10	13
	1: Weekday (Tu-Th)	05: 4am (4am-5am)	7	11	18
	1: Weekday (Tu-Th)	06: 5am (5am-6am)	24	24	48
	1: Weekday (Tu-Th)	07: 6am (6am-7am)	41	81	122
	1: Weekday (Tu-Th)	08: 7am (7am-8am)	121	191	312
	1: Weekday (Tu-Th)	09: 8am (8am-9am)	99	181	280
	1: Weekday (Tu-Th)	10: 9am (9am-10am)	75	185	260
	1: Weekday (Tu-Th)	11: 10am (10am-11am)	65	115	180
	1: Weekday (Tu-Th)	12: 11am (11am-12noon)	71	100	171
	1: Weekday (Tu-Th)	13: 12pm (12noon-1pm)	74	116	190
	1: Weekday (Tu-Th)	14: 1pm (1pm-2pm)	119	124	243
	1: Weekday (Tu-Th)	15: 2pm (2pm-3pm)	109	129	238
	1: Weekday (Tu-Th)	16: 3pm (3pm-4pm)	112	159	271
	1: Weekday (Tu-Th)	17: 4pm (4pm-5pm)	134	214	348
	1: Weekday (Tu-Th)	18: 5pm (5pm-6pm)	123	247	370
	1: Weekday (Tu-Th)	19: 6pm (6pm-7pm)	114	205	319
	1: Weekday (Tu-Th)	20: 7pm (7pm-8pm)	96	140	236
	1: Weekday (Tu-Th)	21: 8pm (8pm-9pm)	99	115	214
	1: Weekday (Tu-Th)	22: 9pm (9pm-10pm)	62	85	147
	1: Weekday (Tu-Th)	23: 10pm (10pm-11pm)	31	47	78
	1: Weekday (Tu-Th)	24: 11pm (11pm-12am)	31	27	58

STREETLIGHT LINK VOLUMES (JANUARY 2019-MARCH 2019)

Street Name	Day Type	Day Part	Eastbound Volume	Westbound Volume	Total
Youth Enrichment Center Entr.	1: Weekday (Tu-Th)	00: All Day (12am-12am)	162	316	478
	1: Weekday (Tu-Th)	01: 12am (12am-1am)			0
	1: Weekday (Tu-Th)	02: 1am (1am-2am)	1	1	2
	1: Weekday (Tu-Th)	03: 2am (2am-3am)	2	1	3
	1: Weekday (Tu-Th)	04: 3am (3am-4am)		1	1
	1: Weekday (Tu-Th)	05: 4am (4am-5am)			0
	1: Weekday (Tu-Th)	06: 5am (5am-6am)		1	1
	1: Weekday (Tu-Th)	07: 6am (6am-7am)	1		1
	1: Weekday (Tu-Th)	08: 7am (7am-8am)	2	5	7
	1: Weekday (Tu-Th)	09: 8am (8am-9am)	4	22	26
	1: Weekday (Tu-Th)	10: 9am (9am-10am)	6	29	35
	1: Weekday (Tu-Th)	11: 10am (10am-11am)	10	18	28
	1: Weekday (Tu-Th)	12: 11am (11am-12noon)	7	13	20
	1: Weekday (Tu-Th)	13: 12pm (12noon-1pm)	13	27	40
	1: Weekday (Tu-Th)	14: 1pm (1pm-2pm)	15	15	30
	1: Weekday (Tu-Th)	15: 2pm (2pm-3pm)	11	12	23
	1: Weekday (Tu-Th)	16: 3pm (3pm-4pm)	5	8	13
	1: Weekday (Tu-Th)	17: 4pm (4pm-5pm)	15	26	41
	1: Weekday (Tu-Th)	18: 5pm (5pm-6pm)	4	29	33
	1: Weekday (Tu-Th)	19: 6pm (6pm-7pm)	12	68	80
	1: Weekday (Tu-Th)	20: 7pm (7pm-8pm)	26	16	42
	1: Weekday (Tu-Th)	21: 8pm (8pm-9pm)	18	13	31
	1: Weekday (Tu-Th)	22: 9pm (9pm-10pm)	8	6	14
	1: Weekday (Tu-Th)	23: 10pm (10pm-11pm)	3	3	6
	1: Weekday (Tu-Th)	24: 11pm (11pm-12am)		2	2

2016 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 8630 WEST-W OF US441

WEEK	DATES	SF	MOCF: 0.98 PSCF
1	01/01/2016 - 01/02/2016	0.99	1.01
2	01/03/2016 - 01/09/2016	1.01	1.03
3	01/10/2016 - 01/16/2016	1.02	1.04
4	01/17/2016 - 01/23/2016	1.01	1.03
5	01/24/2016 - 01/30/2016	1.00	1.02
6	01/31/2016 - 02/06/2016	0.99	1.01
* 7	02/07/2016 - 02/13/2016	0.98	1.00
* 8	02/14/2016 - 02/20/2016	0.97	0.99
* 9	02/21/2016 - 02/27/2016	0.98	1.00
*10	02/28/2016 - 03/05/2016	0.98	1.00
*11	03/06/2016 - 03/12/2016	0.98	1.00
*12	03/13/2016 - 03/19/2016	0.99	1.01
*13	03/20/2016 - 03/26/2016	0.98	1.00
*14	03/27/2016 - 04/02/2016	0.98	1.00
*15	04/03/2016 - 04/09/2016	0.98	1.00
*16	04/10/2016 - 04/16/2016	0.98	1.00
*17	04/17/2016 - 04/23/2016	0.98	1.00
*18	04/24/2016 - 04/30/2016	0.99	1.01
*19	05/01/2016 - 05/07/2016	0.99	1.01
20	05/08/2016 - 05/14/2016	1.00	1.02
21	05/15/2016 - 05/21/2016	1.00	1.02
22	05/22/2016 - 05/28/2016	1.01	1.03
23	05/29/2016 - 06/04/2016	1.01	1.03
24	06/05/2016 - 06/11/2016	1.02	1.04
25	06/12/2016 - 06/18/2016	1.03	1.05
26	06/19/2016 - 06/25/2016	1.03	1.05
27	06/26/2016 - 07/02/2016	1.04	1.06
28	07/03/2016 - 07/09/2016	1.05	1.07
29	07/10/2016 - 07/16/2016	1.05	1.07
30	07/17/2016 - 07/23/2016	1.04	1.06
31	07/24/2016 - 07/30/2016	1.04	1.06
32	07/31/2016 - 08/06/2016	1.03	1.05
33	08/07/2016 - 08/13/2016	1.02	1.04
34	08/14/2016 - 08/20/2016	1.01	1.03
35	08/21/2016 - 08/27/2016	1.01	1.03
36	08/28/2016 - 09/03/2016	1.01	1.03
37	09/04/2016 - 09/10/2016	1.01	1.03
38	09/11/2016 - 09/17/2016	1.01	1.03
39	09/18/2016 - 09/24/2016	1.00	1.02
40	09/25/2016 - 10/01/2016	1.00	1.02
41	10/02/2016 - 10/08/2016	0.99	1.01
42	10/09/2016 - 10/15/2016	0.99	1.01
43	10/16/2016 - 10/22/2016	0.99	1.01
44	10/23/2016 - 10/29/2016	0.99	1.01
45	10/30/2016 - 11/05/2016	0.99	1.01
46	11/06/2016 - 11/12/2016	1.00	1.02
47	11/13/2016 - 11/19/2016	1.00	1.02
48	11/20/2016 - 11/26/2016	1.00	1.02
49	11/27/2016 - 12/03/2016	1.00	1.02
50	12/04/2016 - 12/10/2016	0.99	1.01
51	12/11/2016 - 12/17/2016	0.99	1.01
52	12/18/2016 - 12/24/2016	1.01	1.03
53	12/25/2016 - 12/31/2016	1.02	1.04

* PEAK SEASON

21-FEB-2017 10:54:34

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2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 8630 WEST-W OF US441

WEEK	DATES	SF	MOCF: 0.97 PSCF
1	01/01/2019 - 01/05/2019	1.01	1.04
2	01/06/2019 - 01/12/2019	1.01	1.04
3	01/13/2019 - 01/19/2019	1.02	1.05
4	01/20/2019 - 01/26/2019	1.00	1.03
5	01/27/2019 - 02/02/2019	0.99	1.02
* 6	02/03/2019 - 02/09/2019	0.98	1.01
* 7	02/10/2019 - 02/16/2019	0.97	1.00
* 8	02/17/2019 - 02/23/2019	0.97	1.00
* 9	02/24/2019 - 03/02/2019	0.97	1.00
*10	03/03/2019 - 03/09/2019	0.97	1.00
*11	03/10/2019 - 03/16/2019	0.97	1.00
*12	03/17/2019 - 03/23/2019	0.97	1.00
*13	03/24/2019 - 03/30/2019	0.97	1.00
*14	03/31/2019 - 04/06/2019	0.97	1.00
*15	04/07/2019 - 04/13/2019	0.97	1.00
*16	04/14/2019 - 04/20/2019	0.97	1.00
*17	04/21/2019 - 04/27/2019	0.97	1.00
*18	04/28/2019 - 05/04/2019	0.98	1.01
19	05/05/2019 - 05/11/2019	0.99	1.02
20	05/12/2019 - 05/18/2019	1.00	1.03
21	05/19/2019 - 05/25/2019	1.01	1.04
22	05/26/2019 - 06/01/2019	1.02	1.05
23	06/02/2019 - 06/08/2019	1.02	1.05
24	06/09/2019 - 06/15/2019	1.03	1.06
25	06/16/2019 - 06/22/2019	1.04	1.07
26	06/23/2019 - 06/29/2019	1.04	1.07
27	06/30/2019 - 07/06/2019	1.05	1.08
28	07/07/2019 - 07/13/2019	1.05	1.08
29	07/14/2019 - 07/20/2019	1.06	1.09
30	07/21/2019 - 07/27/2019	1.05	1.08
31	07/28/2019 - 08/03/2019	1.04	1.07
32	08/04/2019 - 08/10/2019	1.02	1.05
33	08/11/2019 - 08/17/2019	1.01	1.04
34	08/18/2019 - 08/24/2019	1.01	1.04
35	08/25/2019 - 08/31/2019	1.02	1.05
36	09/01/2019 - 09/07/2019	1.02	1.05
37	09/08/2019 - 09/14/2019	1.03	1.06
38	09/15/2019 - 09/21/2019	1.03	1.06
39	09/22/2019 - 09/28/2019	1.02	1.05
40	09/29/2019 - 10/05/2019	1.01	1.04
41	10/06/2019 - 10/12/2019	1.00	1.03
42	10/13/2019 - 10/19/2019	0.98	1.01
43	10/20/2019 - 10/26/2019	0.99	1.02
44	10/27/2019 - 11/02/2019	0.99	1.02
45	11/03/2019 - 11/09/2019	0.99	1.02
46	11/10/2019 - 11/16/2019	0.99	1.02
47	11/17/2019 - 11/23/2019	1.00	1.03
48	11/24/2019 - 11/30/2019	1.00	1.03
49	12/01/2019 - 12/07/2019	1.00	1.03
50	12/08/2019 - 12/14/2019	1.00	1.03
51	12/15/2019 - 12/21/2019	1.01	1.04
52	12/22/2019 - 12/28/2019	1.01	1.04
53	12/29/2019 - 12/31/2019	1.02	1.05

* PEAK SEASON

14-FEB-2020 15:39:26

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 7260 - MIRAMAR PKWY, W OF FLORIDA TURNPIKE

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2019	36000	R	E 18000		W 18000	9.00	56.00	5.50
2018	36000	T	E 18000		W 18000	9.00	56.30	6.00
2017	35000	S	E 17500		W 17500	9.00	57.10	6.20
2016	34000	F	E 17000		W 17000	9.00	56.10	2.90
2015	33000	C	E 16500		W 16500	9.00	56.20	3.40
2014	33000	X				9.00	56.80	7.40
2013	32500	X		0		9.00	56.20	7.60
2012	32000	T		0		9.00	57.00	5.90
2011	31500	S		0		9.00	59.10	6.30
2010	30500	F	E 15500		W 15000	9.60	57.92	9.30
2009	29500	C	E 15000		W 14500	9.71	58.42	5.30
2008	34000	F	E 17000		W 17000	9.67	56.67	6.50
2007	34000	C	E 17000		W 17000	10.19	60.63	4.80
2006	33500	C	E 17000		W 16500	9.61	59.08	2.90
2005	31500	C	E 16500		W 15000	10.00	58.10	0.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

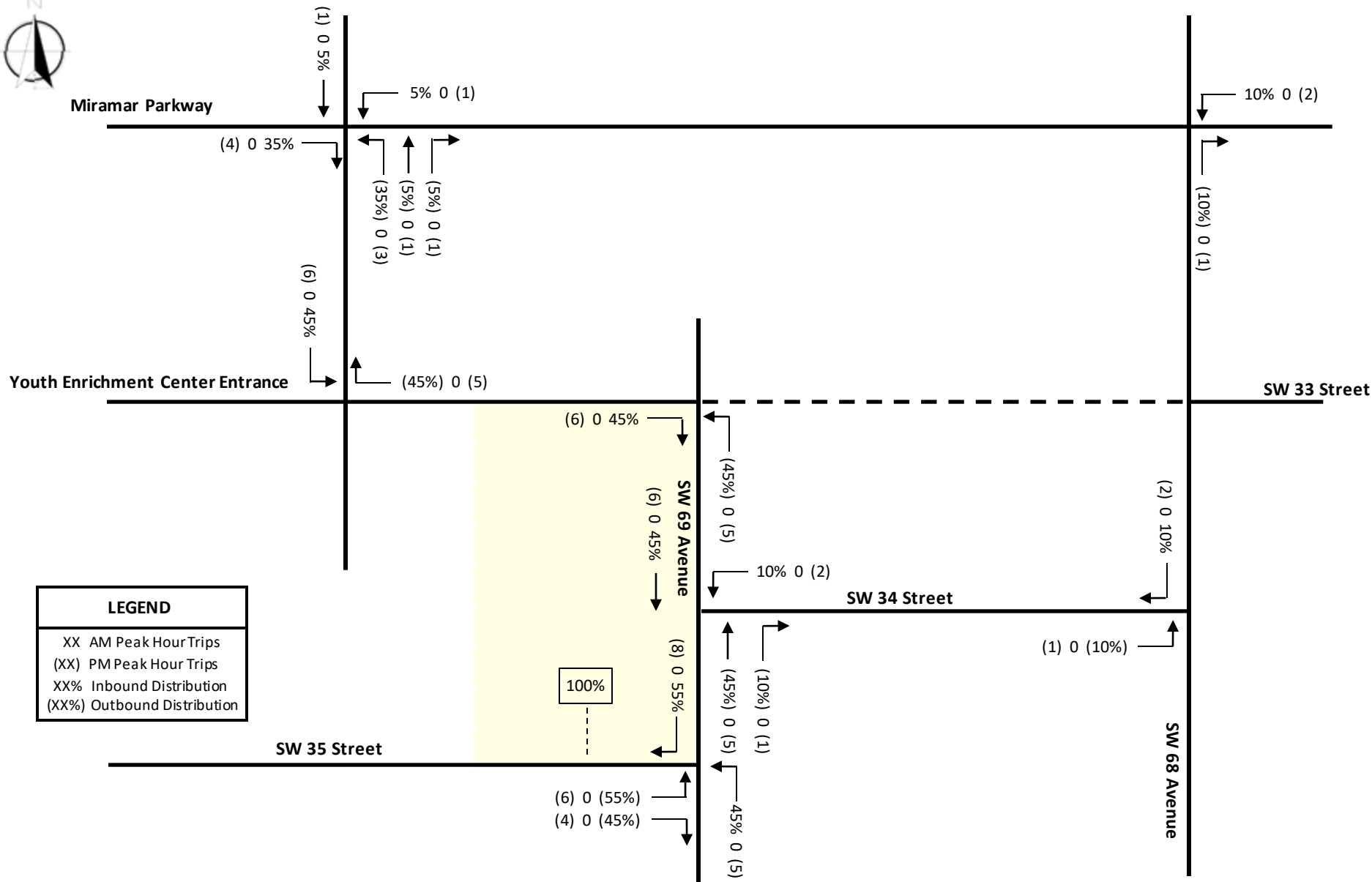
FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2019 HISTORICAL AADT REPORT

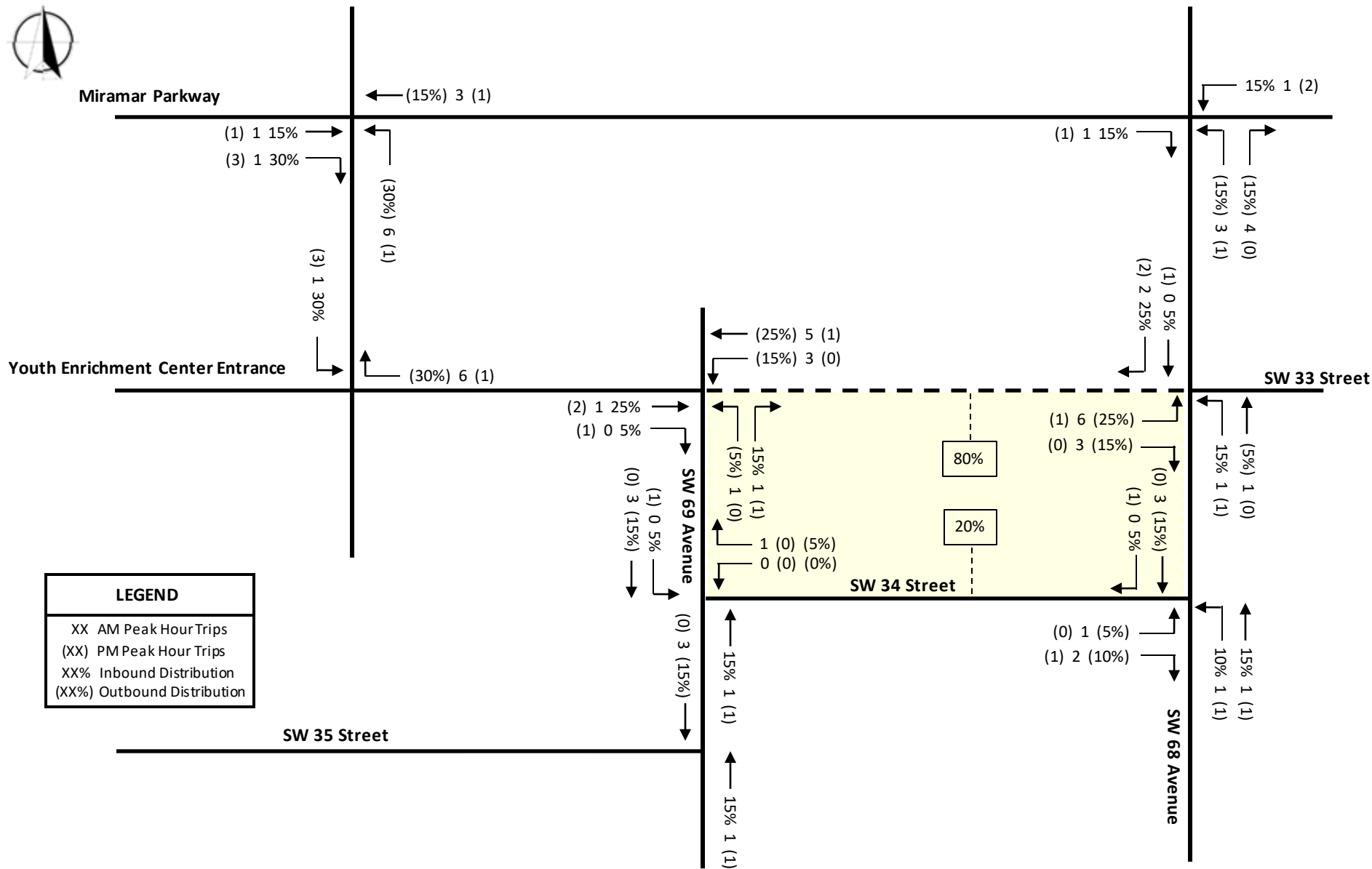
COUNTY: 87 - MIAMI-DADE

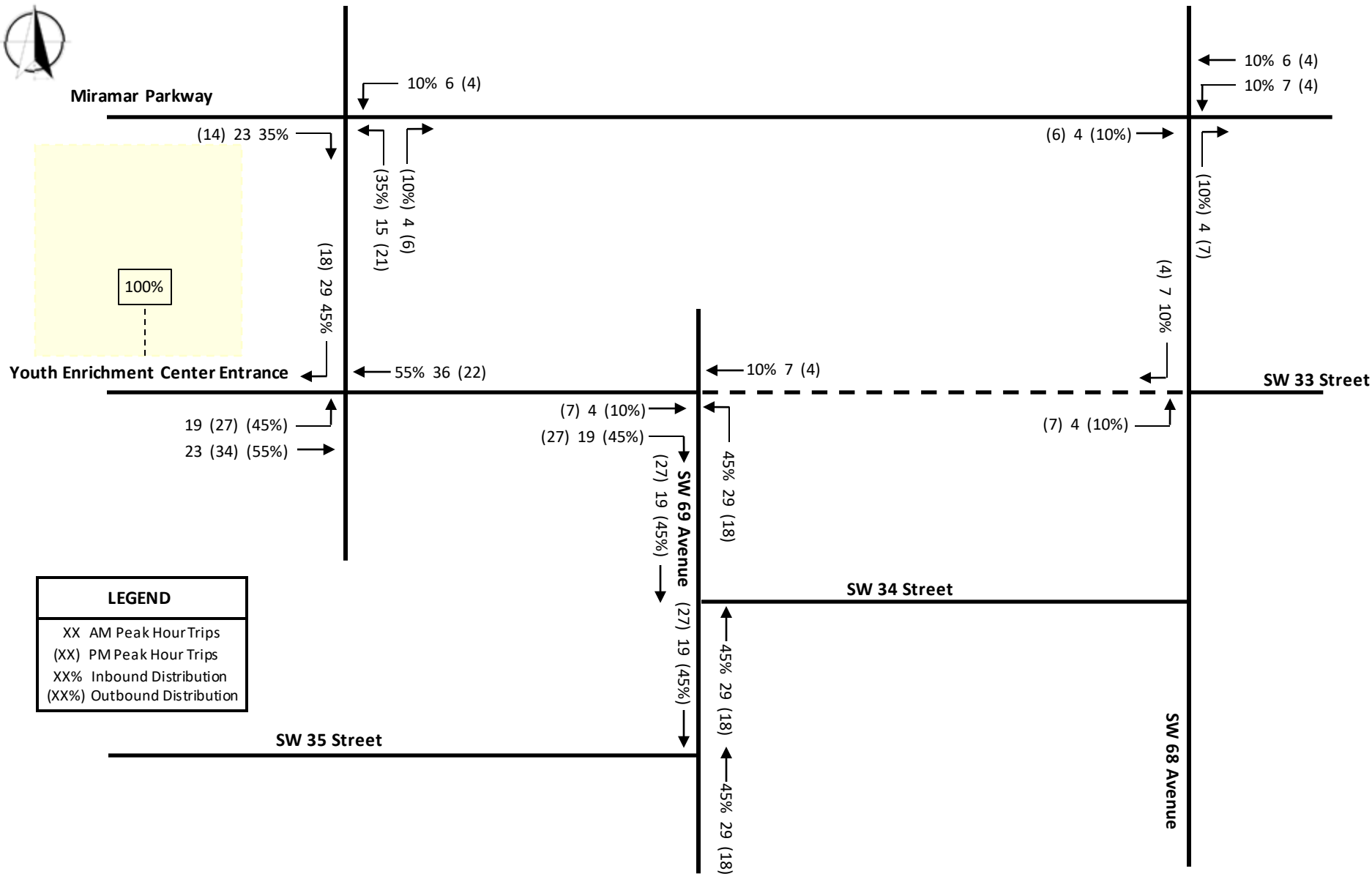
SITE: 0158 - SR 852/COUNTY LINE RD, 400' W SR 7/NW 2 AV

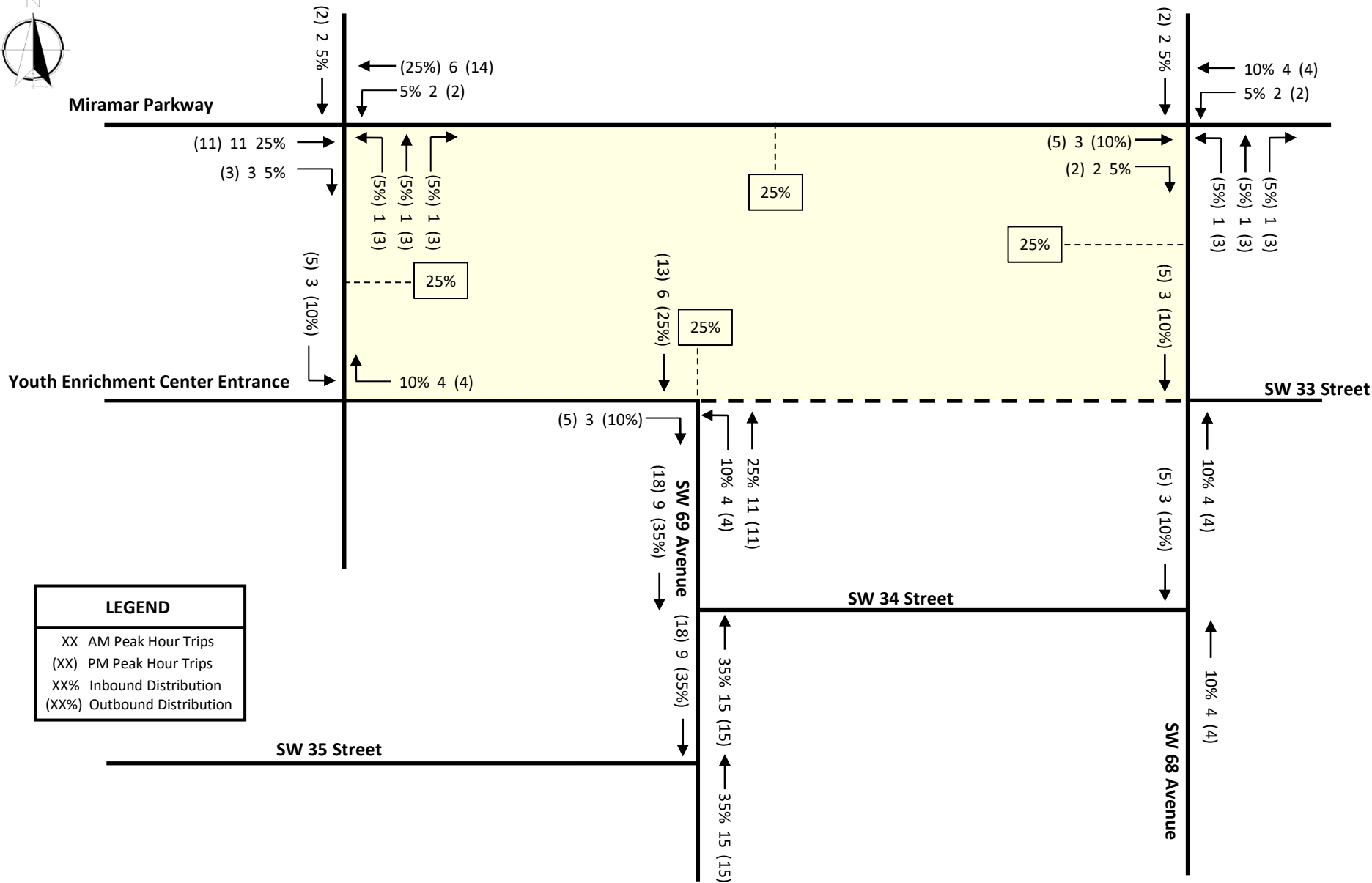
YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2019	32500	C	E 16500		W 16000	9.00	54.60	3.10
2018	32500	C	E 16000		W 16500	9.00	54.30	3.80
2017	31500	C	E 15500		W 16000	9.00	55.00	3.60
2016	30500	C	E 15000		W 15500	9.00	54.50	1.70
2015	30500	C	E 15000		W 15500	9.00	54.70	2.30
2014	25500	C	E 13000		W 12500	9.00	54.50	3.50
2013	26000	C	E 12500		W 13500	9.00	52.40	3.20
2012	27000	C	E 13500		W 13500	9.00	55.70	3.10
2011	28000	C	E 14000		W 14000	9.00	55.10	2.10
2010	29000	C	E 14500		W 14500	8.98	54.08	2.10
2009	25500	C	E 13000		W 12500	8.99	53.24	3.20
2008	25500	C	E 13500		W 12000	9.09	55.75	3.30
2007	30500	C	E 15000		W 15500	8.01	54.34	2.70
2006	30000	C	E 14500		W 15500	7.97	54.22	2.60
2005	29000	C	E 14500		W 14500	8.80	53.80	3.70
2004	34500	C	E 14000		W 20500	9.00	53.30	3.70

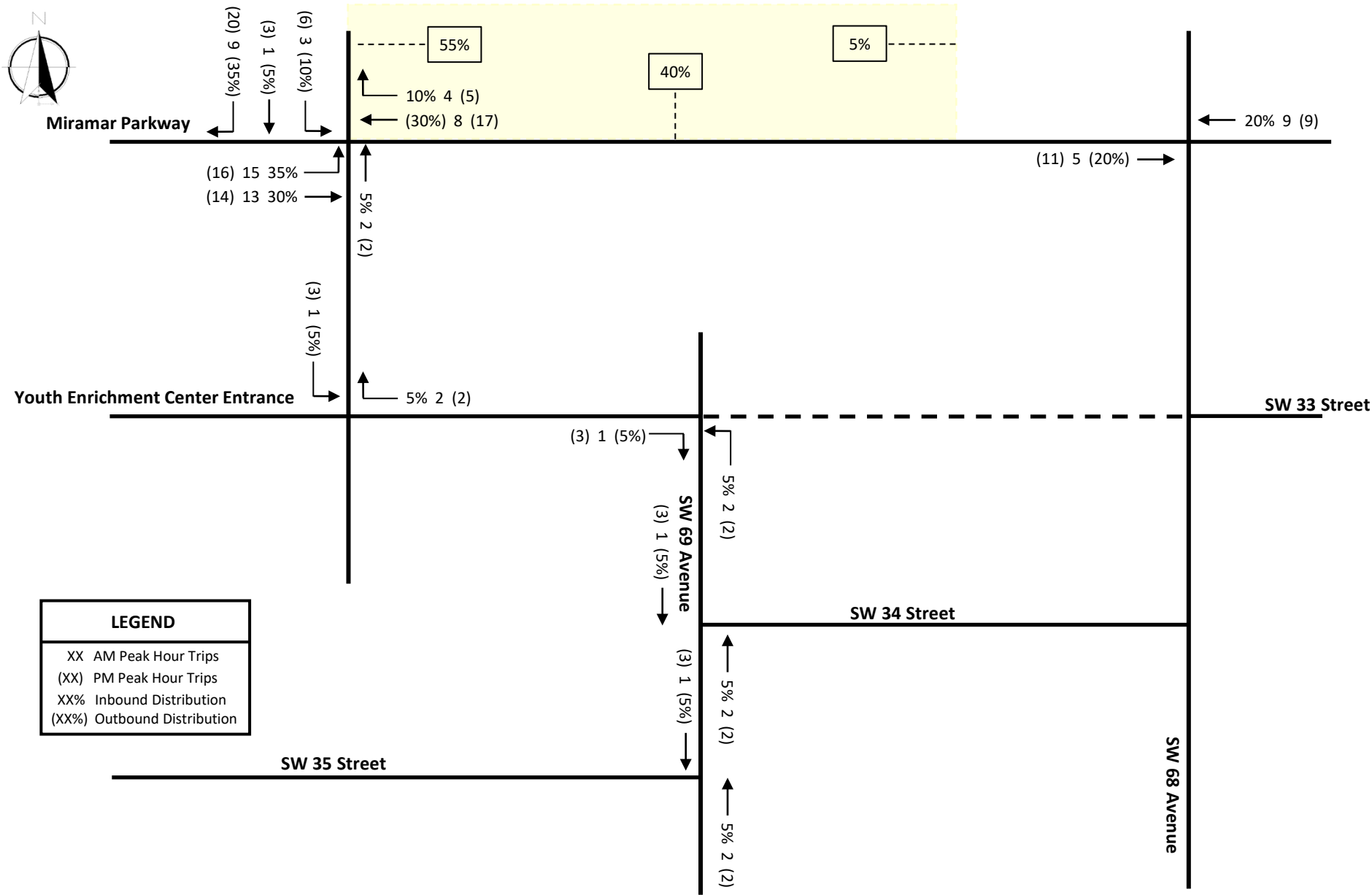
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES











TRIP GENERATION ANALYSIS - AM PEAK HOUR - PHASE 1
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Park

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE															
Vacant	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0%	0	0	0
SUBTOTAL						0	0	0	0	0	0		0	0	0
PROPOSED USE															
Public Park	411	6 AC	T= 0.02 (X)	59%	41%	0	0	0	0	0	0	0%	0	0	0
SUBTOTAL						0	0	0	0	0	0		0	0	0
TOTAL						0	0	0	0	0	0		0	0	0

(1) ITE Trip Generation Manual, 10th Edition.



TRIP GENERATION ANALYSIS - AM PEAK HOUR - PHASE 2
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Wellman Field

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE															
Public Park	411	6.5 AC	T= 0.02 (X)	59%	41%	0	0	0	0	0	0	0%	0	0	0
SUBTOTAL						0	0	0	0	0	0		0	0	0
PROPOSED USE															
Multifamily Housing (Low-Rise)	220	56 DU	Ln(T)= 0.95 Ln(X) - 0.51	23%	77%	6	21	27	0	0	0	0%	6	21	27
SUBTOTAL						6	21	27	0	0	0		6	21	27
TOTAL						6	21	27	0	0	0		6	21	27

(1) ITE Trip Generation Manual, 10th Edition.



TRIP GENERATION ANALYSIS - AM PEAK HOUR - PHASE 2
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Innovation Center

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			INTERNAL TRIPS ⁽²⁾				EXTERNAL TRIPS			MULTI-MODAL REDUCTION ⁽⁶⁾				NEW TRIPS			
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL	
EXISTING USE																							
Tennis Courts ⁽³⁾⁽⁴⁾	490	6 Courts	T= 4.21 (X)	50%	50%	13	12	25	0	0	0	0.0%	13	12	25	0	0	0	0%	13	12	25	
SUBTOTAL						13	12	25	0	0	0	0.0%	13	12	25	0	0	0		13	12	25	
PROPOSED USES																							
Multifamily Housing (Mid-Rise)	221	120 DU	Ln(T)= 0.98 Ln(X) - 0.98	26%	74%	11	30	41	0	0	0	0.0%	11	30	41	1	1	2	5%	10	29	39	
General Office	710	40,000 SF	T= 0.94 (X) + 26.49	86%	14%	55	9	64	0	0	0	0.0%	55	9	64	3	0	3	5%	52	9	61	
Transit Stop ⁽⁵⁾	N/A	8 Bus/Hr	T= 4.00 (X)	50%	50%	16	16	32	0	0	0	0.0%	16	16	32	0	0	0	0%	16	16	32	
SUBTOTAL						82	55	137	0	0	0	0.0%	82	55	137	4	1	5		78	54	132	
TOTAL						69	43	112	0	0	0		69	43	112	4	1	5		65	42	107	

(1) ITE Trip Generation Manual, 10th Edition.

(2) Internal Capture rates based on ITE Trip Generation Manual, 9th Edition

(3) PM rate used as there is no AM rate provided

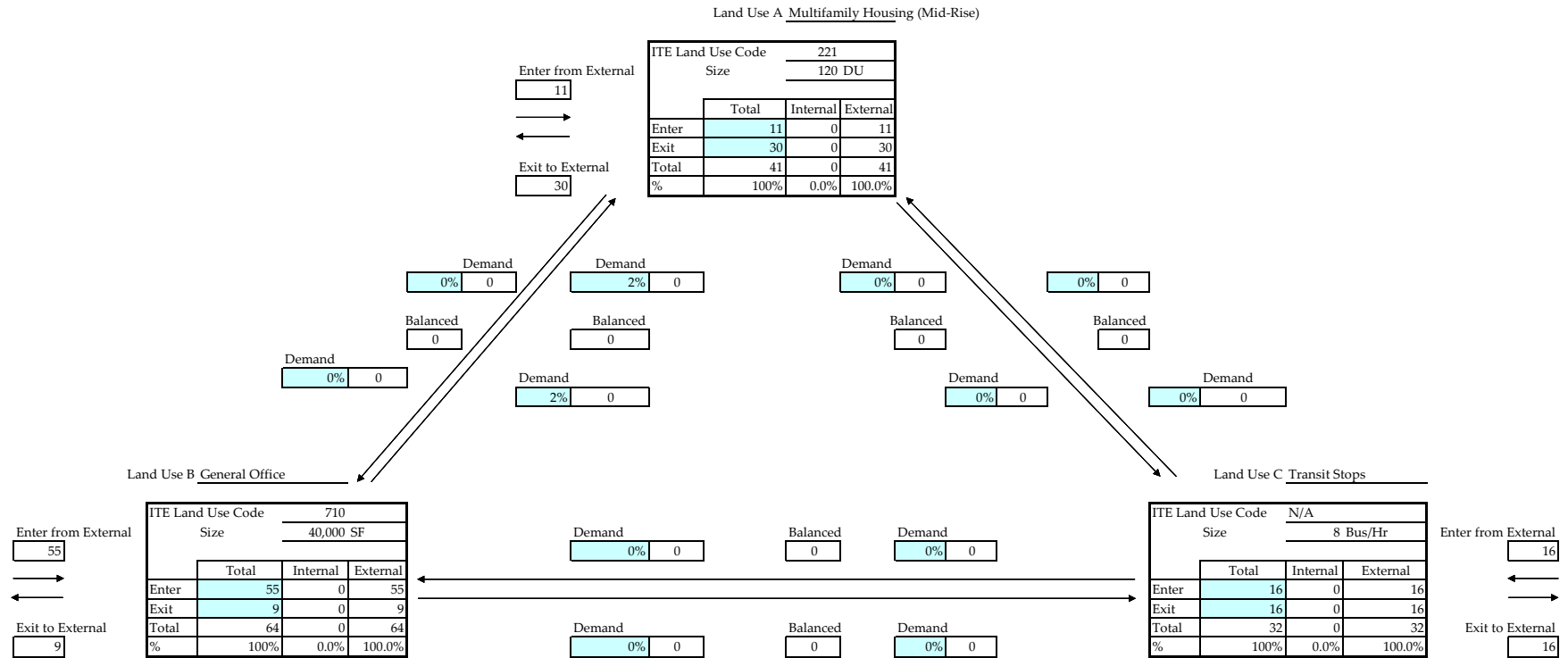
(4) IN/OUT split based on LU 491 (Racquet/Tennis Club)

(5) Intensity and rate based on assuming four eastbound buses and four westbound buses, with 30 minute headways. Each bus both enters and exits within the period

(6) Five (5) percent multi-modal reduction assumed



AM TRIP INTERNAL CAPTURE - PHASE 2
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY



Net External Trips for Multi-Use Development						
	Land Use A		Land Use B		Land Use C	Total
Enter	11		55		16	82
Exit	30		9		16	55
Total	41		64		32	137
Single-Use Trip Gen Estimate	41		64		32	137
						Internal Capture 0.0%

Source: McMahon Associates, Inc. based on Templates from the ITE Trip Generation Manual, 9th Edition.

TRIP GENERATION ANALYSIS - AM PEAK HOUR - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Shopping Center South of Miramar Parkway

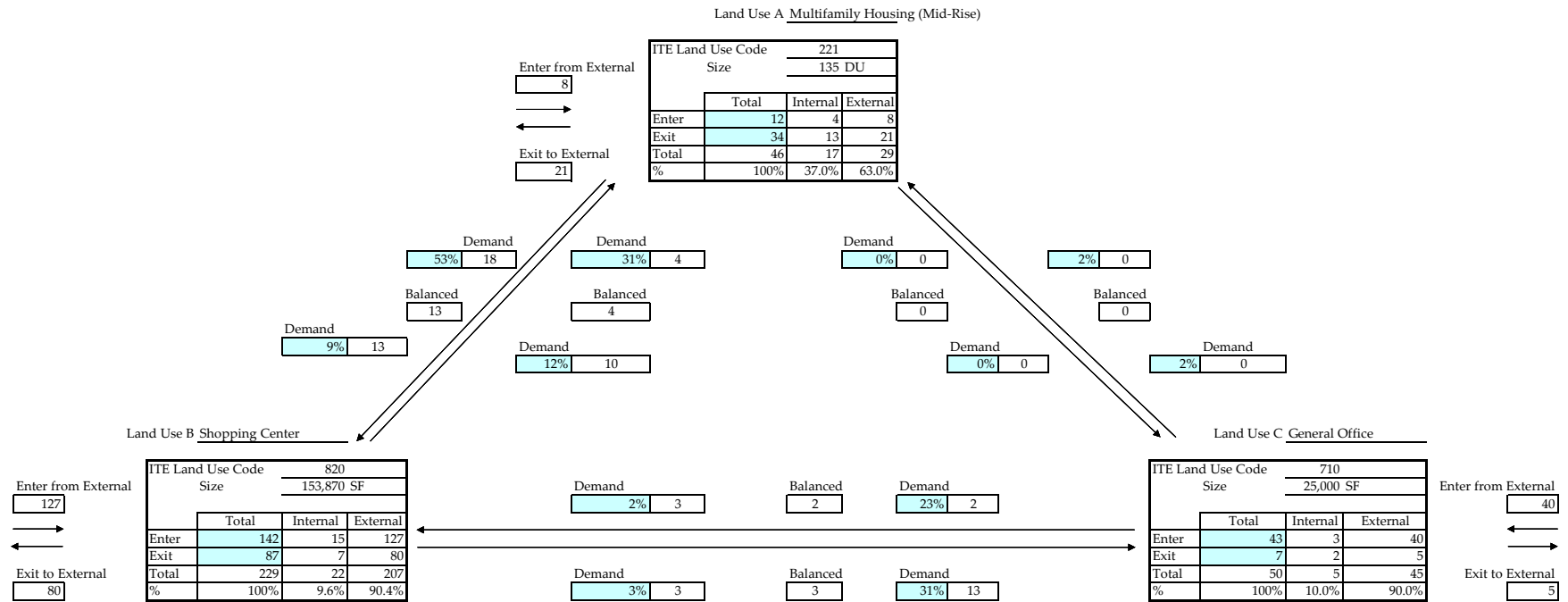
LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			INTERNAL TRIPS ⁽²⁾				EXTERNAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE																						
Shopping Center	820	128,870 SF	T= 0.50 (X) + 151.78	62%	38%	134	82	216	0	0	0	0.0%	134	82	216	45	28	73	34%	89	54	143
SUBTOTAL						134	82	216	0	0	0	0.0%	134	82	216	45	28	73		89	54	143
PROPOSED USES																						
Multifamily Housing (Mid-Rise)	221	135 DU	Ln(T)= 0.98 Ln(X) - 0.98	26%	74%	12	34	46	4	13	17	37.0%	8	21	29	0	0	0	0%	8	21	29
Shopping Center	820	153,870 SF	T= 0.50 (X) + 151.78	62%	38%	142	87	229	15	7	22	9.6%	127	80	207	43	27	70	34%	84	53	137
General Office	710	25,000 SF	T= 0.94 (X) + 26.49	86%	14%	43	7	50	3	2	5	10.0%	40	5	45	0	0	0	0%	40	5	45
SUBTOTAL						197	128	325	22	22	44	13.5%	175	106	281	43	27	70		132	79	211
TOTAL						63	46	109	22	22	44		41	24	65	-2	-1	-3		43	25	68

(1) ITE Trip Generation Manual, 10th Edition.

(2) Internal Capture rates based on ITE Trip Generation Manual, 9th Edition



AM TRIP INTERNAL CAPTURE - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY



Net External Trips for Multi-Use Development						
	Land Use A		Land Use B		Land Use C	Total
Enter	8		127		40	175
Exit	21		80		5	106
Total	29		207		45	281
Single-Use Trip Gen Estimate	46		229		50	325
						Internal Capture 13.5%

Source: McMahon Associates, Inc. based on Templates from the ITE Trip Generation Manual, 9th Edition.

TRIP GENERATION ANALYSIS - AM PEAK HOUR - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Shopping Center North of Miramar Parkway

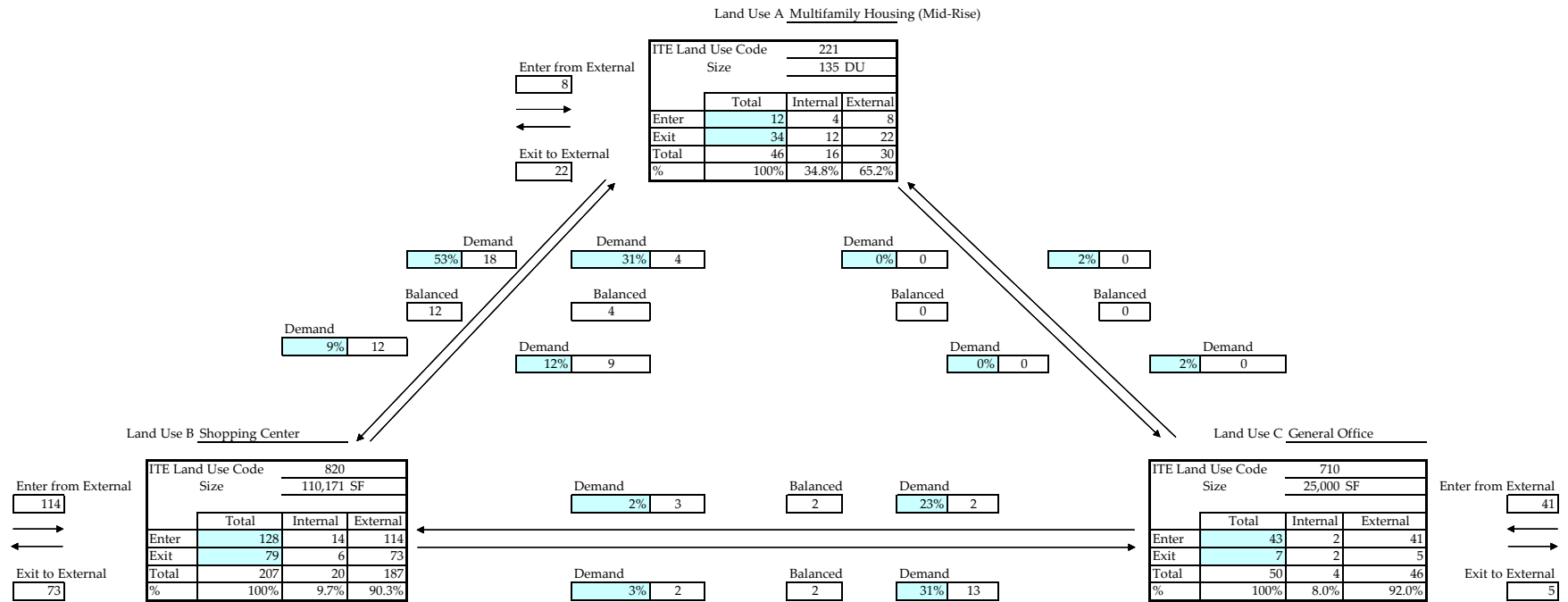
LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			INTERNAL TRIPS ⁽²⁾				EXTERNAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE																						
Shopping Center	820	85,171 SF	T= 0.50 (X) + 151.78	62%	38%	120	74	194	0	0	0	0.0%	120	74	194	41	25	66	34%	79	49	128
SUBTOTAL						120	74	194	0	0	0	0.0%	120	74	194	41	25	66		79	49	128
PROPOSED USES																						
Multifamily Housing (Mid-Rise)	221	135 DU	Ln(T)= 0.98 Ln(X) - 0.98	26%	74%	12	34	46	4	12	16	34.8%	8	22	30	0	0	0	0%	8	22	30
Shopping Center	820	110,171 SF	T= 0.50 (X) + 151.78	62%	38%	128	79	207	14	6	20	9.7%	114	73	187	40	24	64	34%	74	49	123
General Office	710	25,000 SF	T= 0.94 (X) + 26.49	86%	14%	43	7	50	2	2	4	8.0%	41	5	46	0	0	0	0%	41	5	46
SUBTOTAL						183	120	303	20	20	40	13.2%	163	100	263	40	24	64		123	76	199
TOTAL						63	46	109	20	20	40		43	26	69	-1	-1	-2		44	27	71

(1) ITE Trip Generation Manual, 10th Edition.

(2) Internal Capture rates based on ITE Trip Generation Manual, 9th Edition



AM TRIP INTERNAL CAPTURE - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY



Net External Trips for Multi-Use Development						
	Land Use A		Land Use B		Land Use C	Total
Enter	8		114		41	163
Exit	22		73		5	100
Total	30		187		46	263
Single-Use Trip Gen Estimate	46		207		50	303
						Internal Capture 13.2%

Source: McMahon Associates, Inc. based on Templates from the ITE Trip Generation Manual, 9th Edition.

TRIP GENERATION ANALYSIS - PM PEAK HOUR - PHASE 1
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Park

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE															
Vacant	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0%	0	0	0
SUBTOTAL						0	0	0	0	0	0		0	0	0
PROPOSED USE															
Public Park	411	6 AC	T= 0.06 (X) + 22.60	55%	45%	13	10	23	0	0	0	0%	13	10	23
SUBTOTAL						13	10	23	0	0	0		13	10	23
TOTAL						13	10	23	0	0	0		13	10	23

(1) ITE Trip Generation Manual, 10th Edition.



TRIP GENERATION ANALYSIS - PM PEAK HOUR - PHASE 2
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Wellman Field

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE															
Public Park	411	6.5 AC	$T = 0.06 (X) + 22.60$	55%	45%	13	10	23	0	0	0	0%	13	10	23
SUBTOTAL						13	10	23	0	0	0		13	10	23
PROPOSED USE															
Multifamily Housing (Low-Rise)	220	56 DU	$\ln(T) = 0.89 \ln(X) - 0.02$	63%	37%	22	13	35	0	0	0	0%	22	13	35
SUBTOTAL						22	13	35	0	0	0		22	13	35
TOTAL						9	3	12	0	0	0		9	3	12

(1) ITE Trip Generation Manual, 10th Edition.



TRIP GENERATION ANALYSIS - PM PEAK HOUR - PHASE 2
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Innovation Center

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			INTERNAL TRIPS ⁽²⁾				EXTERNAL TRIPS			MULTI-MODAL REDUCTION ⁽⁵⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE																						
Tennis Courts ⁽³⁾	490	6 Courts	T= 4.21 (X)	50%	50%	13	12	25	0	0	0	0.0%	13	12	25	0	0	0	0%	13	12	25
SUBTOTAL						13	12	25	0	0	0	0.0%	13	12	25	0	0	0		13	12	25
PROPOSED USES																						
Multifamily Housing (Mid-Rise)	221	120 DU	Ln(T)= 0.96 Ln(X) - 0.63	61%	39%	32	21	53	1	0	1	1.9%	31	21	52	2	1	3	5%	29	20	49
General Office	710	40,000 SF	Ln(T)= 0.95 Ln(X) + 0.36	16%	84%	8	40	48	0	1	1	2.1%	8	39	47	0	2	2	5%	8	37	45
Transit Stop ⁽⁴⁾	N/A	8 Bus/Hr	T= 4.00 (X)	50%	50%	16	16	32	0	0	0	0.0%	16	16	32	0	0	0	0%	16	16	32
SUBTOTAL						56	77	133	1	1	2	1.5%	55	76	131	2	3	5		53	73	126
TOTAL						43	65	108	1	1	2		42	64	106	2	3	5		40	61	101

(1) ITE Trip Generation Manual, 10th Edition.

(2) Internal Capture rates based on ITE Trip Generation Manual, 9th Edition

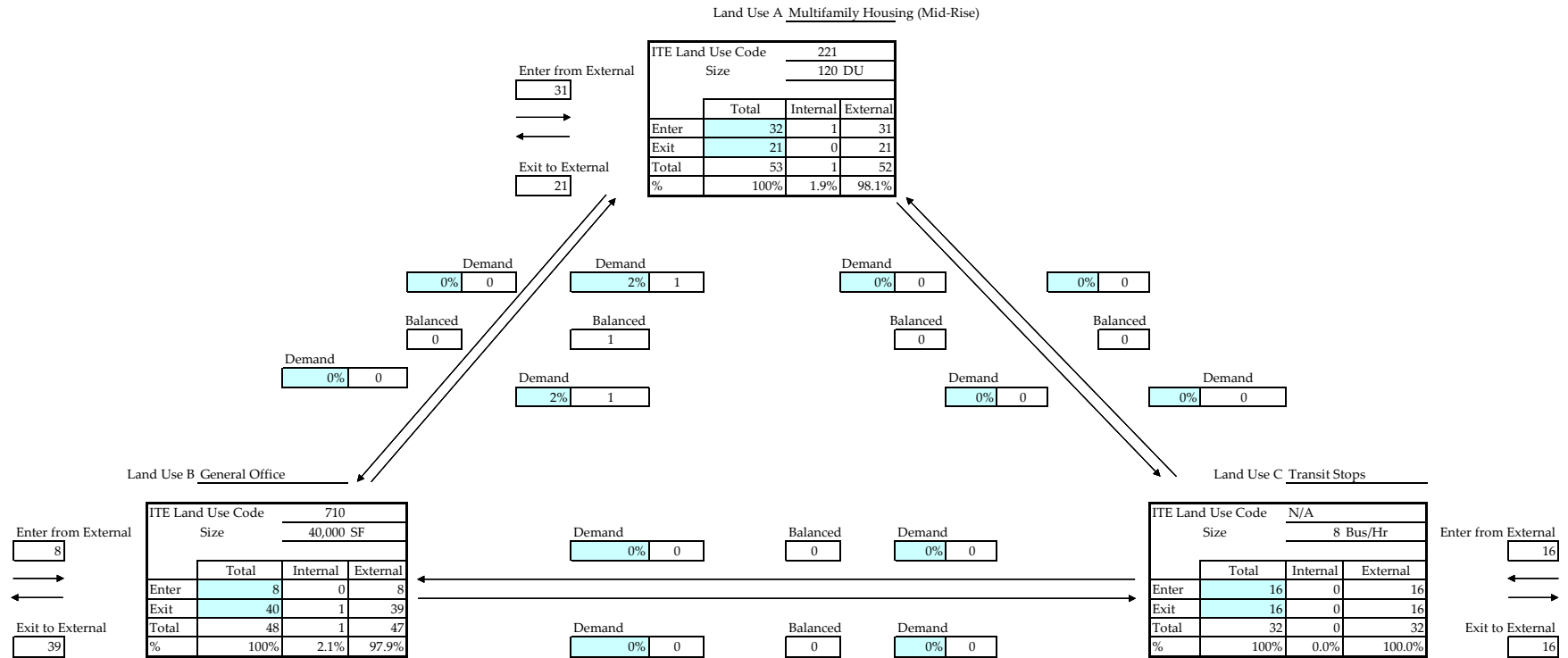
(3) IN/OUT split based on LU 491 (Racquet/Tennis Club)

(4) Intensity and rate based on assuming four eastbound buses and four westbound buses, with 30 minute headways. Each bus both enters and exits within the period

(5) Five (5) percent multi-modal reduction assumed



PM TRIP INTERNAL CAPTURE - PHASE 2
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY



Source: McMahon Associates, Inc. based on Templates from the ITE Trip Generation Manual, 9th Edition.

TRIP GENERATION ANALYSIS - PM PEAK HOUR - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Shopping Center South of Miramar Parkway

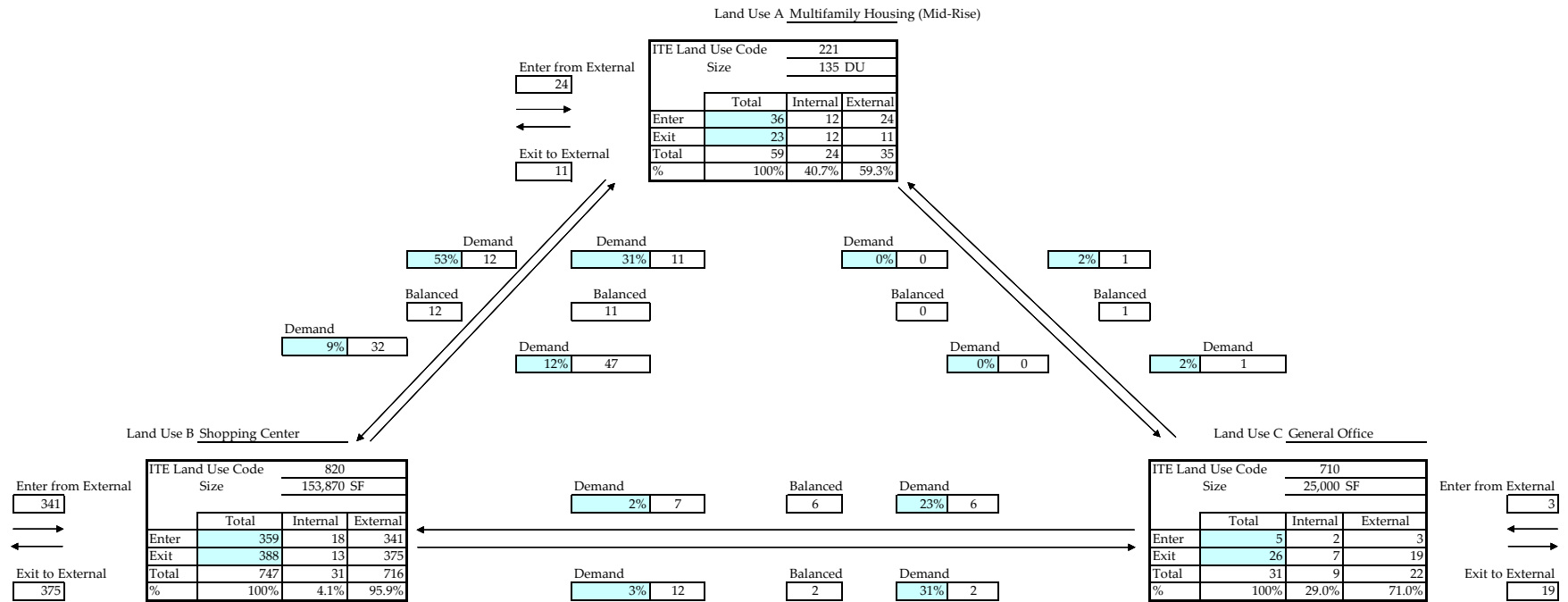
LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			INTERNAL TRIPS ⁽²⁾				EXTERNAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE																						
Shopping Center	820	128,870 SF	Ln(T)= 0.74 Ln(X) + 2.89	48%	52%	315	341	656	0	0	0	0.0%	315	341	656	107	116	223	34%	208	225	433
SUBTOTAL						315	341	656	0	0	0	0.0%	315	341	656	107	116	223		208	225	433
PROPOSED USES																						
Multifamily Housing (Mid-Rise)	221	135 DU	Ln(T)= 0.96 Ln(X) - 0.63	61%	39%	36	23	59	12	12	24	40.7%	24	11	35	0	0	0	0%	24	11	35
Shopping Center	820	153,870 SF	Ln(T)= 0.74 Ln(X) + 2.89	48%	52%	359	388	747	18	13	31	4.1%	341	375	716	117	126	243	34%	224	249	473
General Office	710	25,000 SF	Ln(T)= 0.95 Ln(X) + 0.36	16%	84%	5	26	31	2	7	9	29.0%	3	19	22	0	0	0	0%	3	19	22
SUBTOTAL						400	437	837	32	32	64	7.6%	368	405	773	117	126	243		251	279	530
TOTAL						85	96	181	32	32	64		53	64	117	10	10	20		43	54	97

(1) ITE Trip Generation Manual, 10th Edition.

(2) Internal Capture rates based on ITE Trip Generation Manual, 9th Edition



PM TRIP INTERNAL CAPTURE - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY



Net External Trips for Multi-Use Development						
	Land Use A		Land Use B		Land Use C	Total
Enter	24		341		3	368
Exit	11		375		19	405
Total	35		716		22	773
Single-Use Trip Gen Estimate	59		747		31	837
						7.6%

Source: McMahon Associates, Inc. based on Templates from the ITE Trip Generation Manual, 9th Edition.

TRIP GENERATION ANALYSIS - PM PEAK HOUR - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY

Shopping Center North of Miramar Parkway

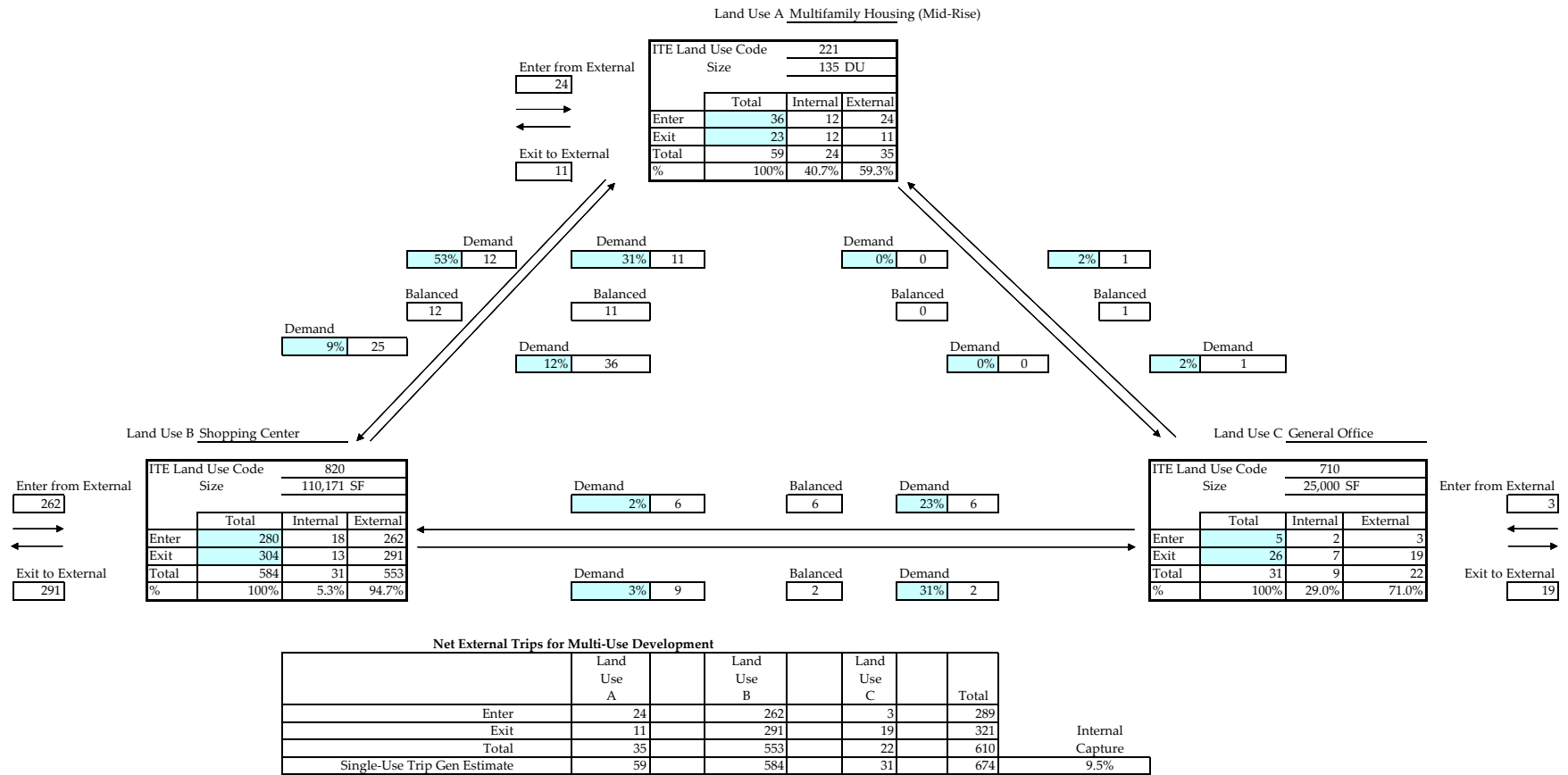
LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE ⁽¹⁾	IN	OUT	TOTAL TRIPS			INTERNAL TRIPS ⁽²⁾				EXTERNAL TRIPS			PASS-BY ⁽¹⁾				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
EXISTING USE																						
Shopping Center	820	85,171 SF	Ln(T)= 0.74 Ln(X) + 2.89	48%	52%	232	251	483	0	0	0	0.0%	232	251	483	79	85	164	34%	153	166	319
SUBTOTAL						232	251	483	0	0	0	0.0%	232	251	483	79	85	164		153	166	319
PROPOSED USES																						
Multifamily Housing (Mid-Rise)	221	135 DU	Ln(T)= 0.96 Ln(X) - 0.63	61%	39%	36	23	59	12	12	24	40.7%	24	11	35	0	0	0	0%	24	11	35
Shopping Center	820	110,171 SF	Ln(T)= 0.74 Ln(X) + 2.89	48%	52%	280	304	584	18	13	31	5.3%	262	291	553	90	98	188	34%	172	193	365
General Office	710	25,000 SF	Ln(T)= 0.95 Ln(X) + 0.36	16%	84%	5	26	31	2	7	9	29.0%	3	19	22	0	0	0	0%	3	19	22
SUBTOTAL						321	353	674	32	32	64	9.5%	289	321	610	90	98	188		199	223	422
TOTAL						89	102	191	32	32	64		57	70	127	11	13	24		46	57	103

(1) ITE Trip Generation Manual, 10th Edition.

(2) Internal Capture rates based on ITE Trip Generation Manual, 9th Edition



PM TRIP INTERNAL CAPTURE - PHASE 3
HISTORIC MIRAMAR TECHNOLOGY AND INNOVATION VILLAGE TRAFFIC STUDY



Source: McMahon Associates, Inc. based on Templates from the ITE Trip Generation Manual, 9th Edition.

Land Use: 411

Public Park

Description

Public parks are owned and operated by a municipal, county, state, or federal agency. The parks surveyed vary widely as to location, type, and number of facilities, including boating or swimming facilities, beaches, hiking trails, ball fields, soccer fields, campsites, and picnic facilities. Seasonal use of the individual sites differs widely as a result of the varying facilities and local conditions, such as weather. For example, some of the sites are used primarily for boating or swimming; others are used for softball games. Soccer complex (Land Use 488) is a related use.

Additional Data

The percentage of the park area that is used most intensively varies considerably within the studies contained in this land use; therefore, caution should be used when using acres as an independent variable.

Time-of-day distribution data for this land use are presented in Appendix A. For the three sites with data, the overall highest vehicle volumes during both a Saturday and Sunday were counted between 10:30 and 11:30 a.m.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, New Jersey, New York, North Carolina, and Oregon.

Source Numbers

186, 392, 407, 709, 729, 852, 905

Public Park (411)

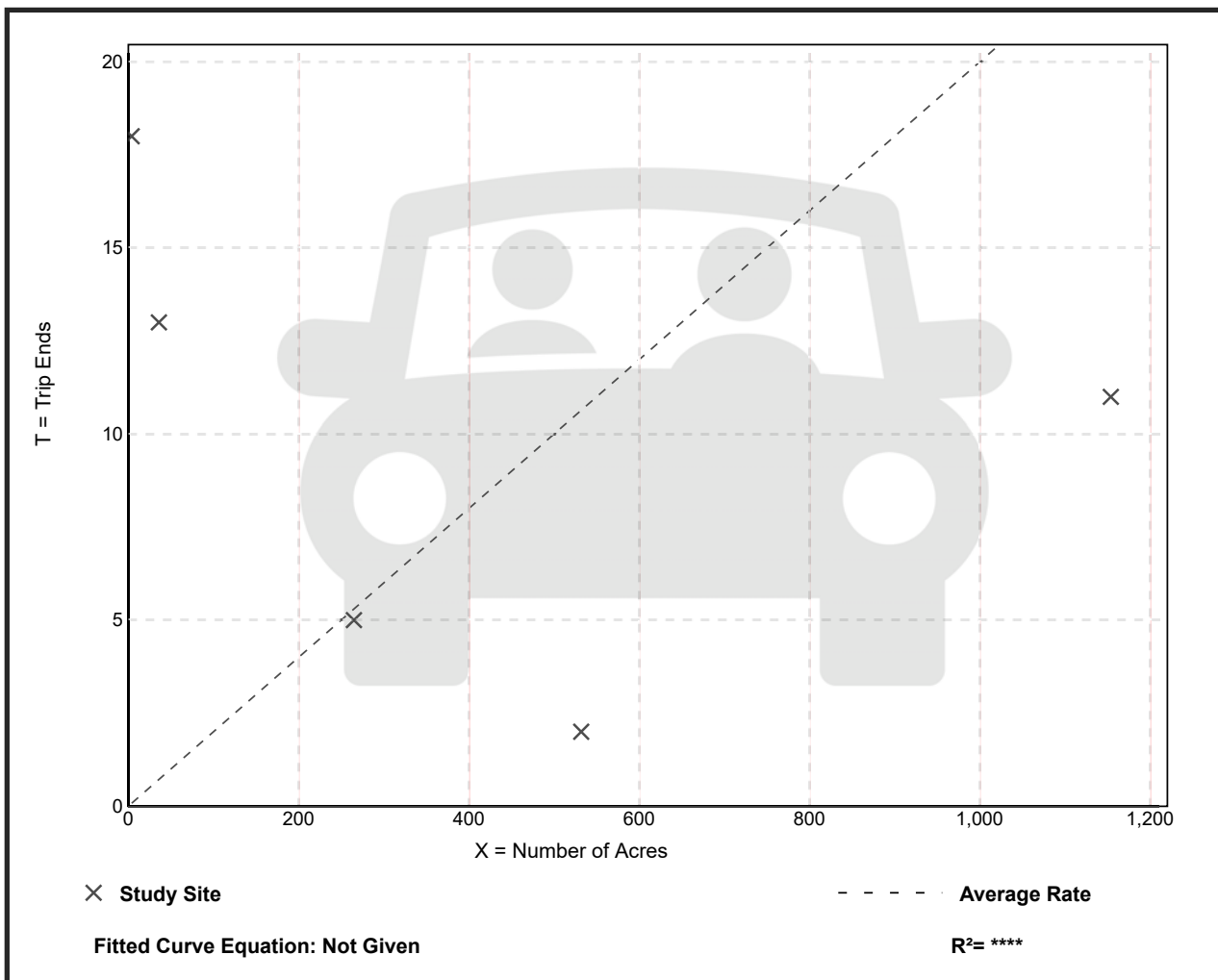
Vehicle Trip Ends vs: Acres
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. Num. of Acres: 398
 Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.02	0.00 - 4.50	0.23

Data Plot and Equation

Caution – Small Sample Size



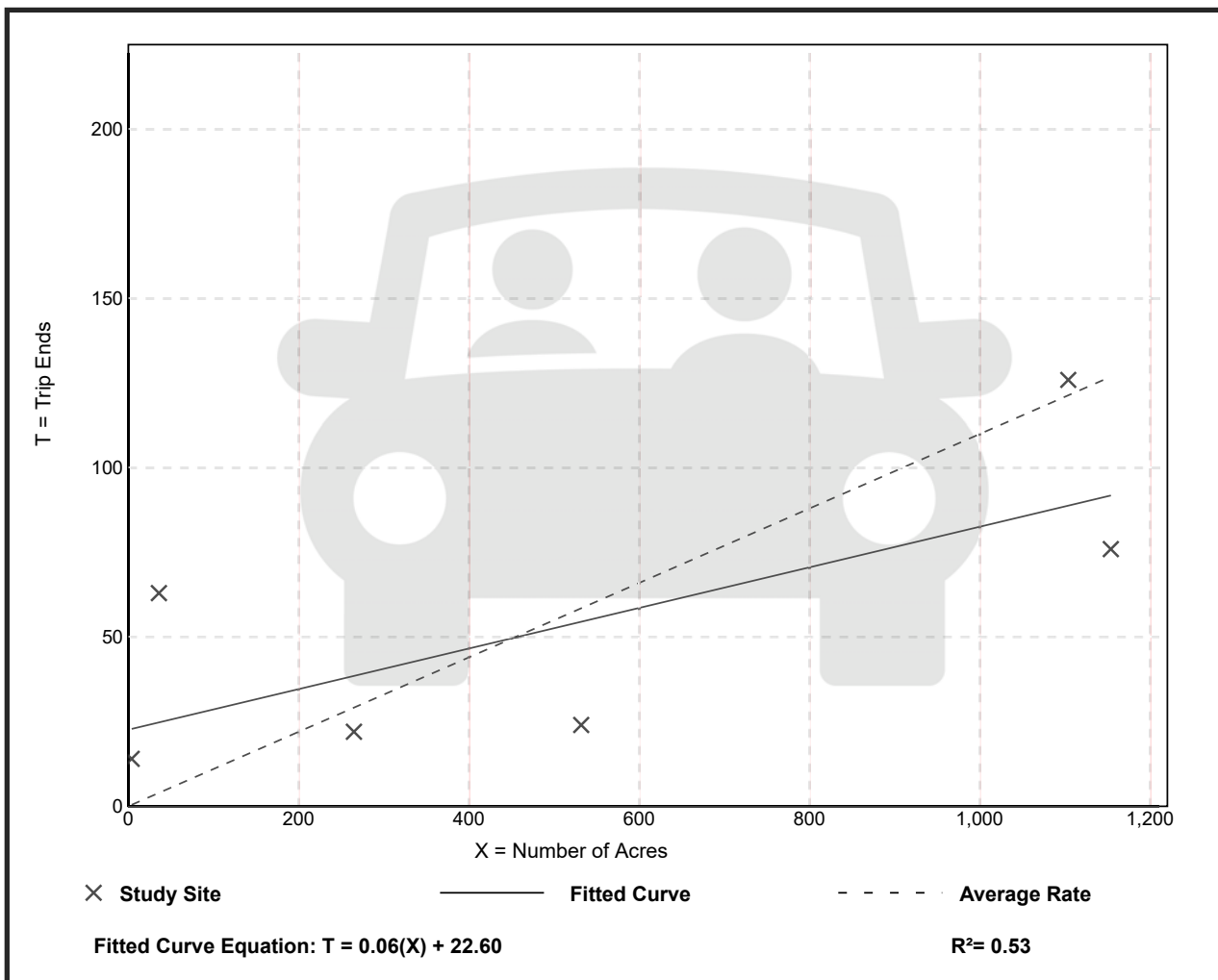
Public Park (411)

Vehicle Trip Ends vs: Acres
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 6
 Avg. Num. of Acres: 516
 Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.11	0.05 - 3.50	0.24

Data Plot and Equation



Land Use: 220

Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors). Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), and off-campus student apartment (Land Use 225) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the low-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

This land use included data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there was a wide variation in trips generated within this category. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:45 and 5:45 p.m., respectively. For the one site with Saturday data, the overall highest vehicle volume was counted between 9:45 and 10:45 a.m. For the one site with Sunday data, the overall highest vehicle volume was counted between 11:45 a.m. and 12:45 p.m.

For the one dense multi-use urban site with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 6:15 and 7:15 p.m., respectively.

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

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

- 1.13 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.21 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, District of Columbia, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Minnesota, New Jersey, New York, Ontario, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, and Washington.

It is expected that the number of bedrooms and number of residents are likely correlated to the number of trips generated by a residential site. Many of the studies included in this land use did not indicate the total number of bedrooms. To assist in the future analysis of this land use, it is important that this information be collected and included in trip generation data submissions.

Source Numbers

168, 187, 188, 204, 211, 300, 305, 306, 319, 320, 321, 357, 390, 412, 418, 525, 530, 571, 579, 583, 864, 868, 869, 870, 896, 903, 918, 946, 947, 948, 951

Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 42

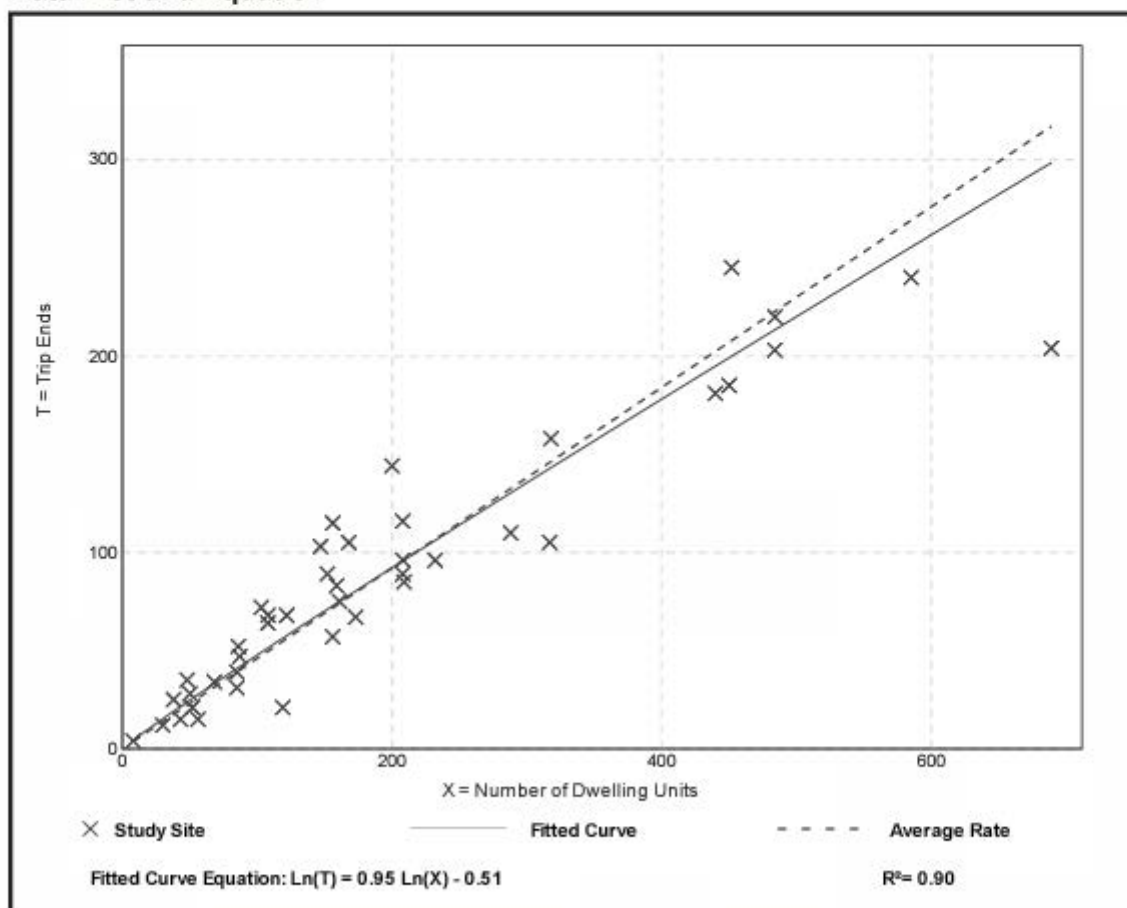
Avg. Num. of Dwelling Units: 199

Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 50

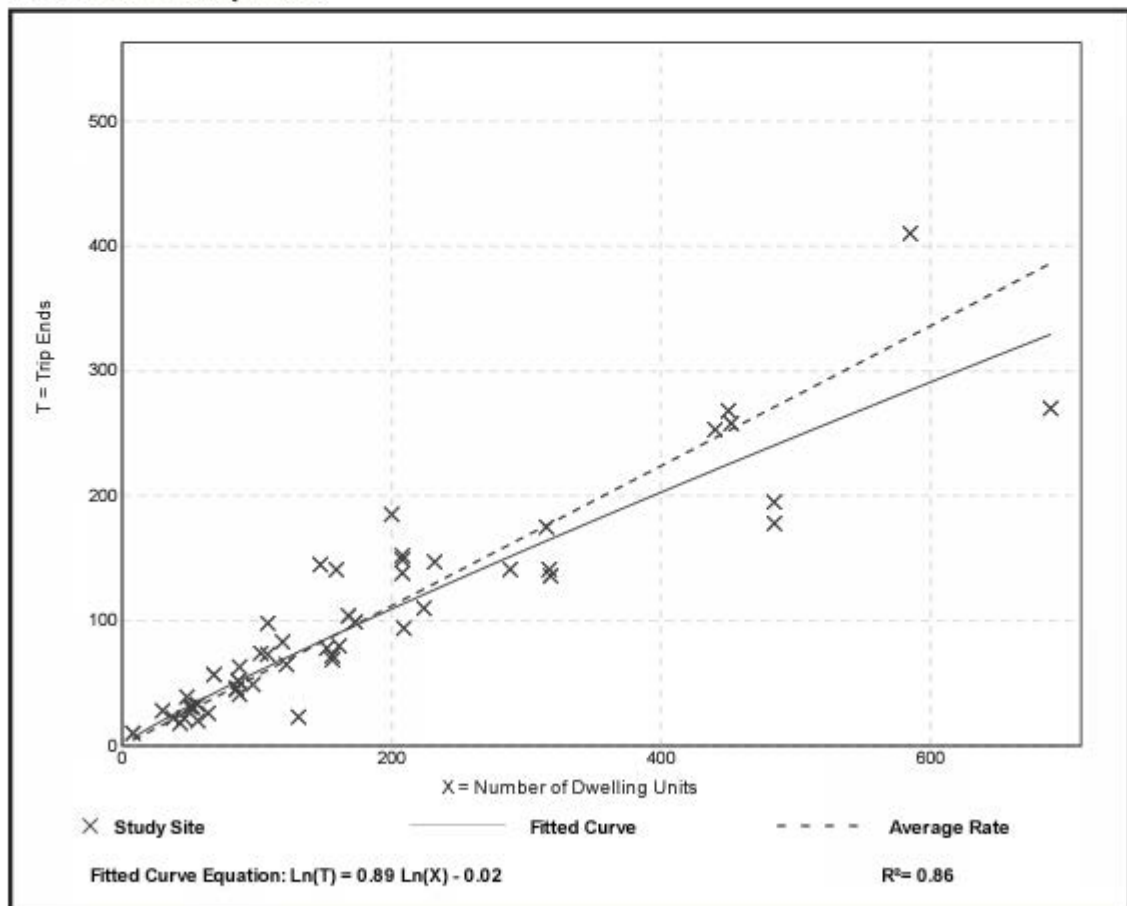
Avg. Num. of Dwelling Units: 187

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

Data Plot and Equation



Land Use: 490 Tennis Courts

Description

Tennis courts are indoor or outdoor facilities specifically designed for playing tennis. Tennis courts can either be public or private facilities and do not typically include any ancillary facilities other than limited spectator seating. Racquet/tennis club (Land Use 491) is a related use.

Additional Data

The sites were surveyed in the 1990s in California.

Source Numbers

440, 441

Tennis Courts (490)

Vehicle Trip Ends vs: Tennis Courts

**On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.**

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Tennis Courts: 10

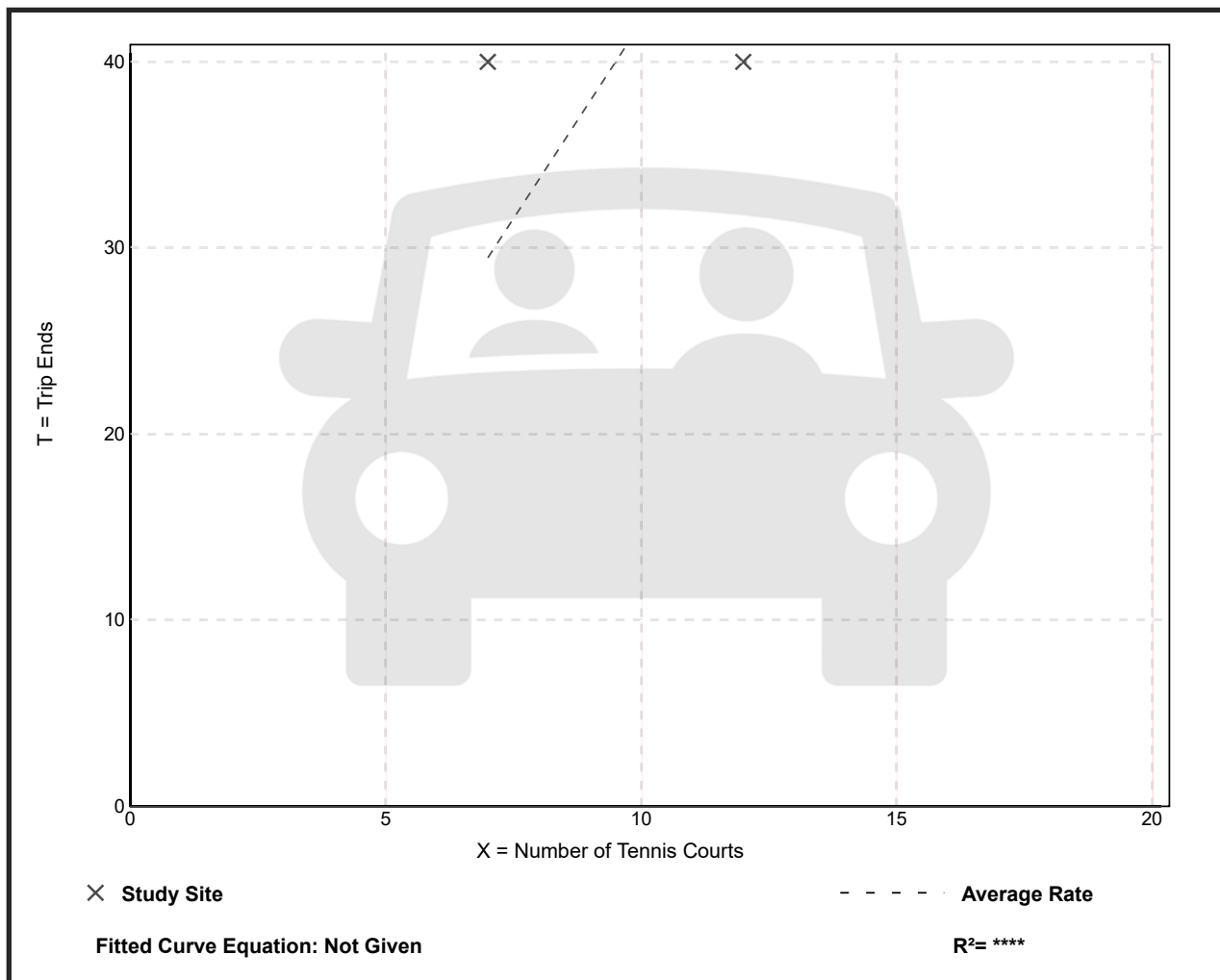
Directional Distribution: Not Available

Vehicle Trip Generation per Tennis Court

Average Rate	Range of Rates	Standard Deviation
4.21	3.33 - 5.71	*

Data Plot and Equation

Caution – Small Sample Size



Land Use: 221

Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

**On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.**

Setting/Location: General Urban/Suburban

Number of Studies: 53

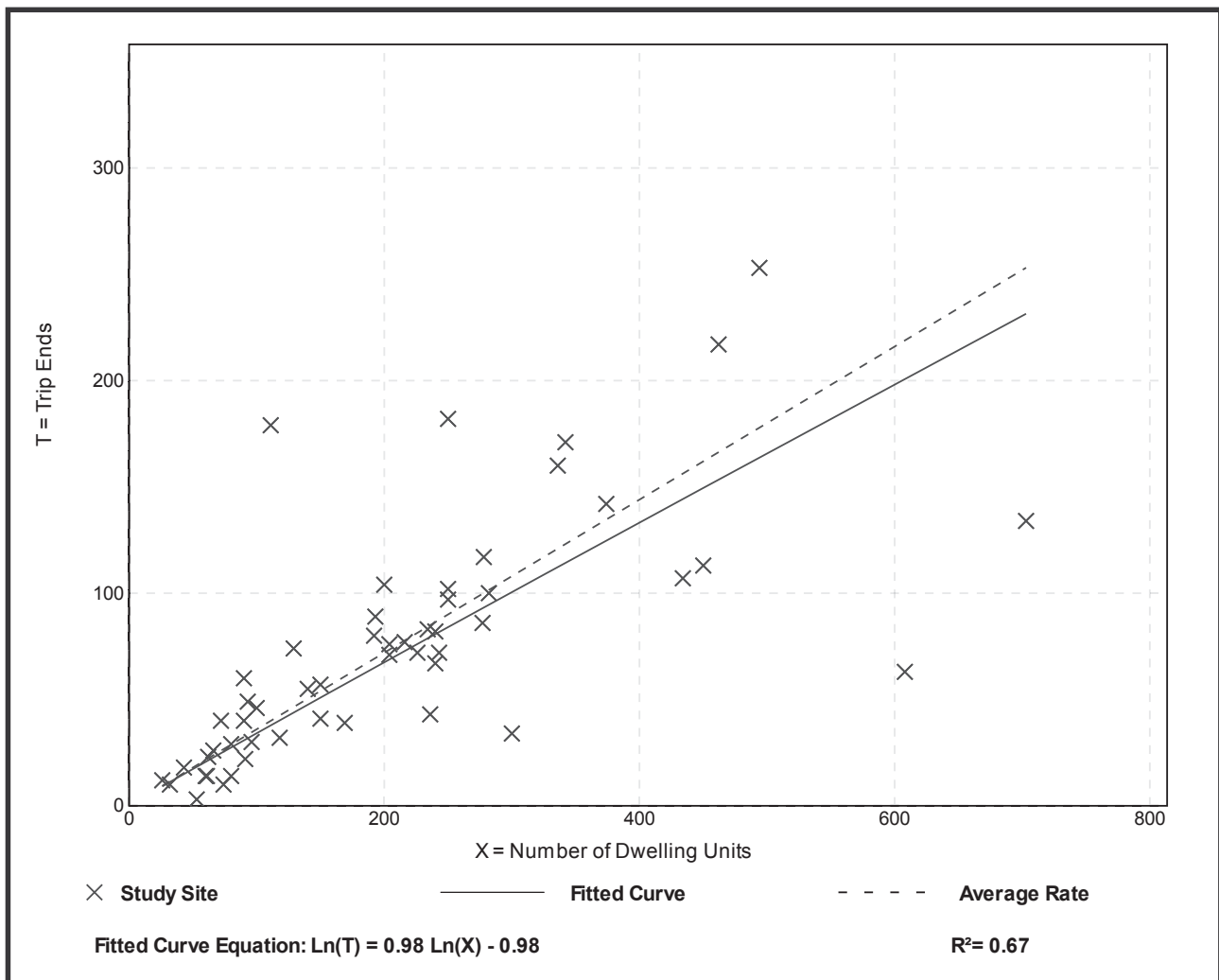
Avg. Num. of Dwelling Units: 207

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 60

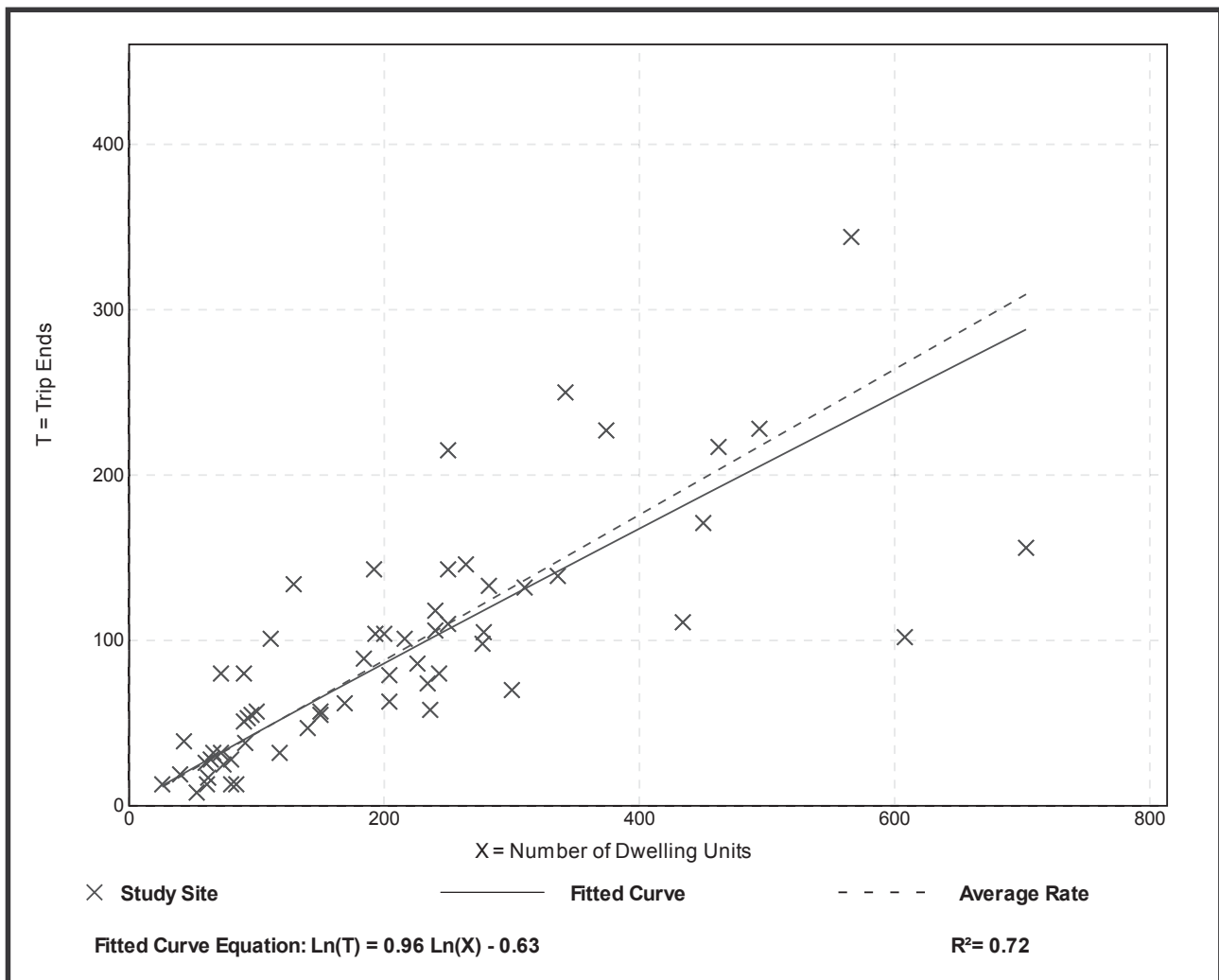
Avg. Num. of Dwelling Units: 208

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



Land Use: 710

General Office Building

Description

A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional services, insurance companies, investment brokers, and tenant services, such as a bank or savings and loan institution, a restaurant, or cafeteria and service retail facilities. A general office building with a gross floor area of 5,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.

If information is known about individual buildings, it is suggested that the general office building category be used rather than office parks when estimating trip generation for one or more office buildings in a single development. The office park category is more general and should be used when a breakdown of individual or different uses is not known. If the general office building category is used and if additional buildings, such as banks, restaurants, or retail stores are included in the development, the development should be treated as a multiuse project. On the other hand, if the office park category is used, internal trips are already reflected in the data and do not need to be considered.

When the buildings are interrelated (defined by shared parking facilities or the ability to easily walk between buildings) or house one tenant, it is suggested that the total area or employment of all the buildings be used for calculating the trip generation. When the individual buildings are isolated and not related to one another, it is suggested that trip generation be calculated for each building separately and then summed.

Additional Data

The average building occupancy varied considerably within the studies for which occupancy data were provided. The reported occupied gross floor area was 88 for general urban/suburban sites and 96 percent for the center city core and dense multi-use urban sites.

Time-of-day distribution data for this land use for a weekday, Saturday, and Sunday are presented in Appendix A. For the 16 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:30 and 8:30 a.m. and 4:30 and 5:30 p.m., respectively.

For the three general urban/suburban sites with person trip data, the overall highest volumes during the AM and PM on a weekday were counted between 8:45 and 9:45 a.m. and 12:45 and 1:45 p.m., respectively. For the three dense multi-use urban sites with person trip data, the overall highest volumes during the AM and PM on a weekday were counted between 8:30 and 9:30 a.m. and 4:45 and 5:45 p.m., respectively. For the four center city core sites with person trip data, the overall highest volumes during the AM and PM on a weekday were counted between 9:00 and 10:00 a.m. and 12:45 and 1:45 p.m., respectively.

The average numbers of person trips per vehicle trip at the eight center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 2.76 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 2.90 during Weekday, AM Peak Hour of Generator
- 2.91 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 3.02 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 18 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.47 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.47 during Weekday, AM Peak Hour of Generator
- 1.46 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.53 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 23 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.30 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.34 during Weekday, AM Peak Hour of Generator
- 1.32 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.41 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Colorado, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New York, Pennsylvania, Texas, Utah, Virginia, and Washington.

Source Numbers

161, 175, 183, 184, 185, 207, 212, 217, 247, 253, 257, 260, 262, 273, 279, 297, 298, 300, 301, 302, 303, 304, 321, 322, 323, 324, 327, 404, 407, 408, 418, 419, 423, 562, 734, 850, 859, 862, 867, 869, 883, 884, 890, 891, 904, 940, 944, 946, 964, 965, 972

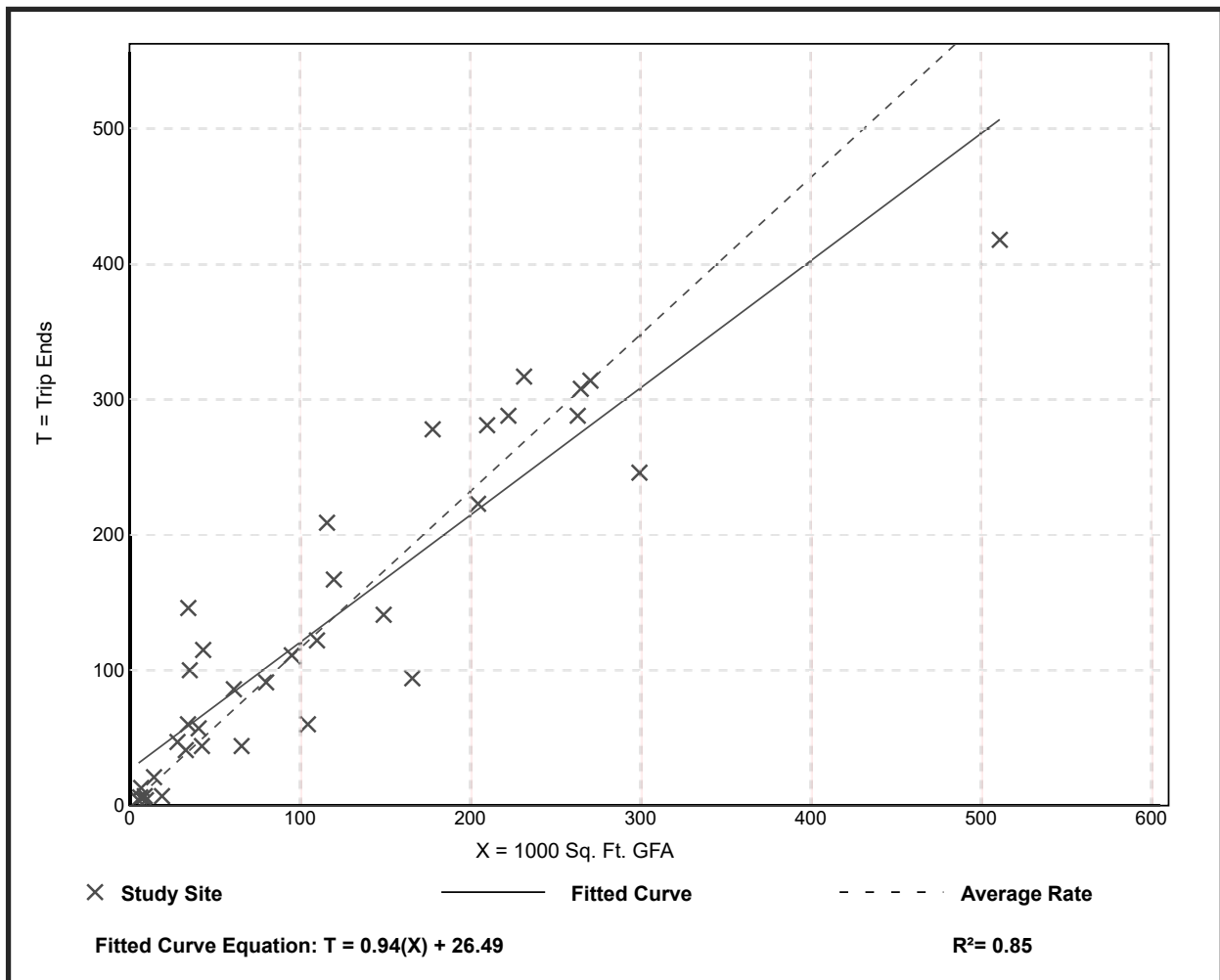
General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 35
 Avg. 1000 Sq. Ft. GFA: 117
 Directional Distribution: 86% entering, 14% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.16	0.37 - 4.23	0.47

Data Plot and Equation



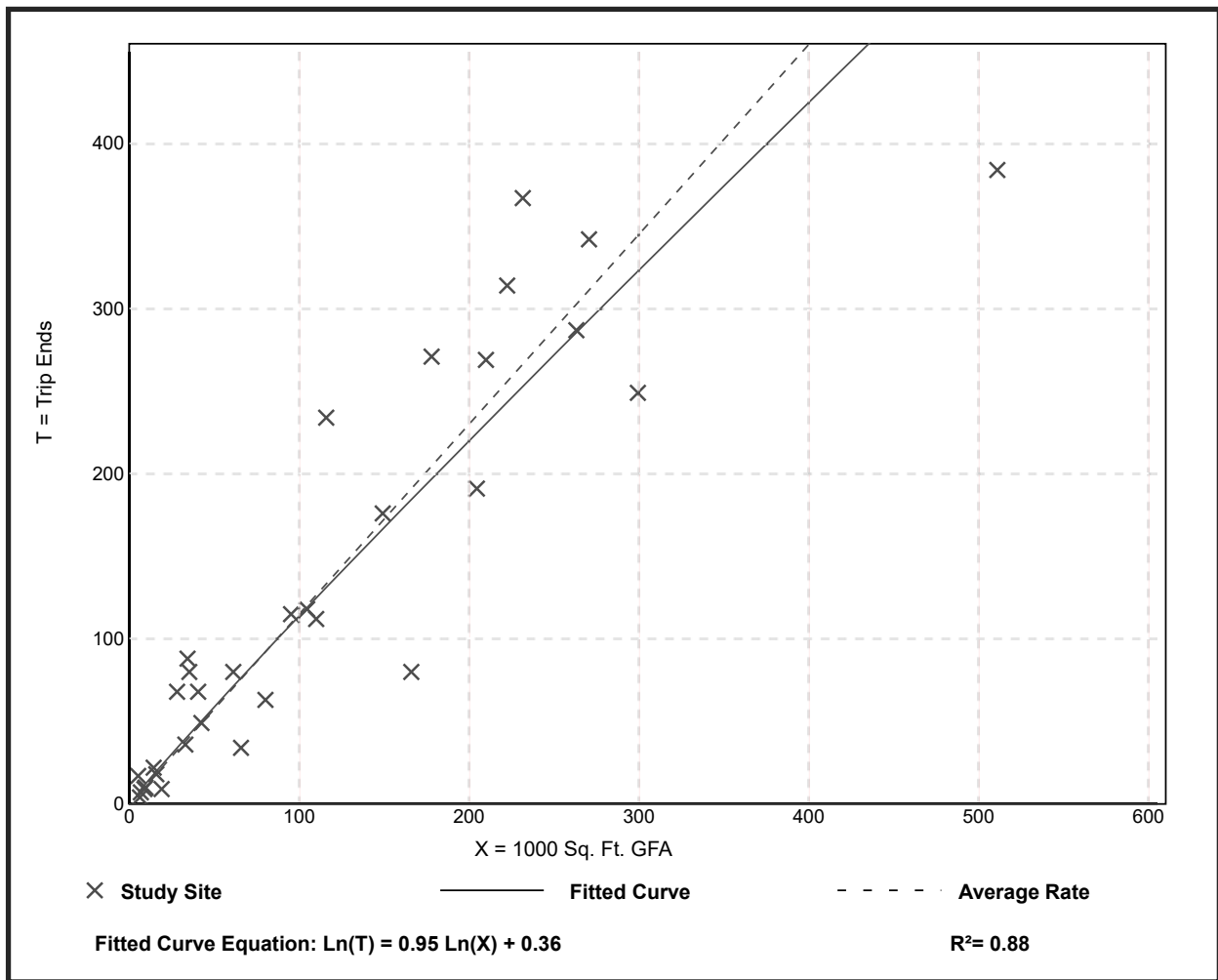
General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 32
 Avg. 1000 Sq. Ft. GFA: 114
 Directional Distribution: 16% entering, 84% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.15	0.47 - 3.23	0.42

Data Plot and Equation



Land Use: 820

Shopping Center

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands. Factory outlet center (Land Use 823) is a related use.

Additional Data

Shopping centers, including neighborhood centers, community centers, regional centers, and super regional centers, were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs, and recreational facilities (for example, ice skating rinks or indoor miniature golf courses).

Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied included peripheral buildings, it can be assumed that some of the data show their effect.

The vehicle trips generated at a shopping center are based upon the total GLA of the center. In cases of smaller centers without an enclosed mall or peripheral buildings, the GLA could be the same as the gross floor area of the building.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:45 a.m. and 12:45 p.m. and 12:15 and 1:15 p.m., respectively.

The average numbers of person trips per vehicle trip at the 27 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.31 during Weekday, AM Peak Hour of Generator
- 1.43 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.46 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

Source Numbers

105, 110, 154, 156, 159, 186, 190, 198, 199, 202, 204, 211, 213, 239, 251, 259, 260, 269, 294, 295, 299, 300, 301, 304, 305, 307, 308, 309, 310, 311, 314, 315, 316, 317, 319, 358, 365, 376, 385, 390, 400, 404, 414, 420, 423, 428, 437, 440, 442, 444, 446, 507, 562, 580, 598, 629, 658, 702, 715, 728, 868, 870, 871, 880, 899, 908, 912, 915, 926, 936, 944, 946, 960, 961, 962, 973, 974, 978

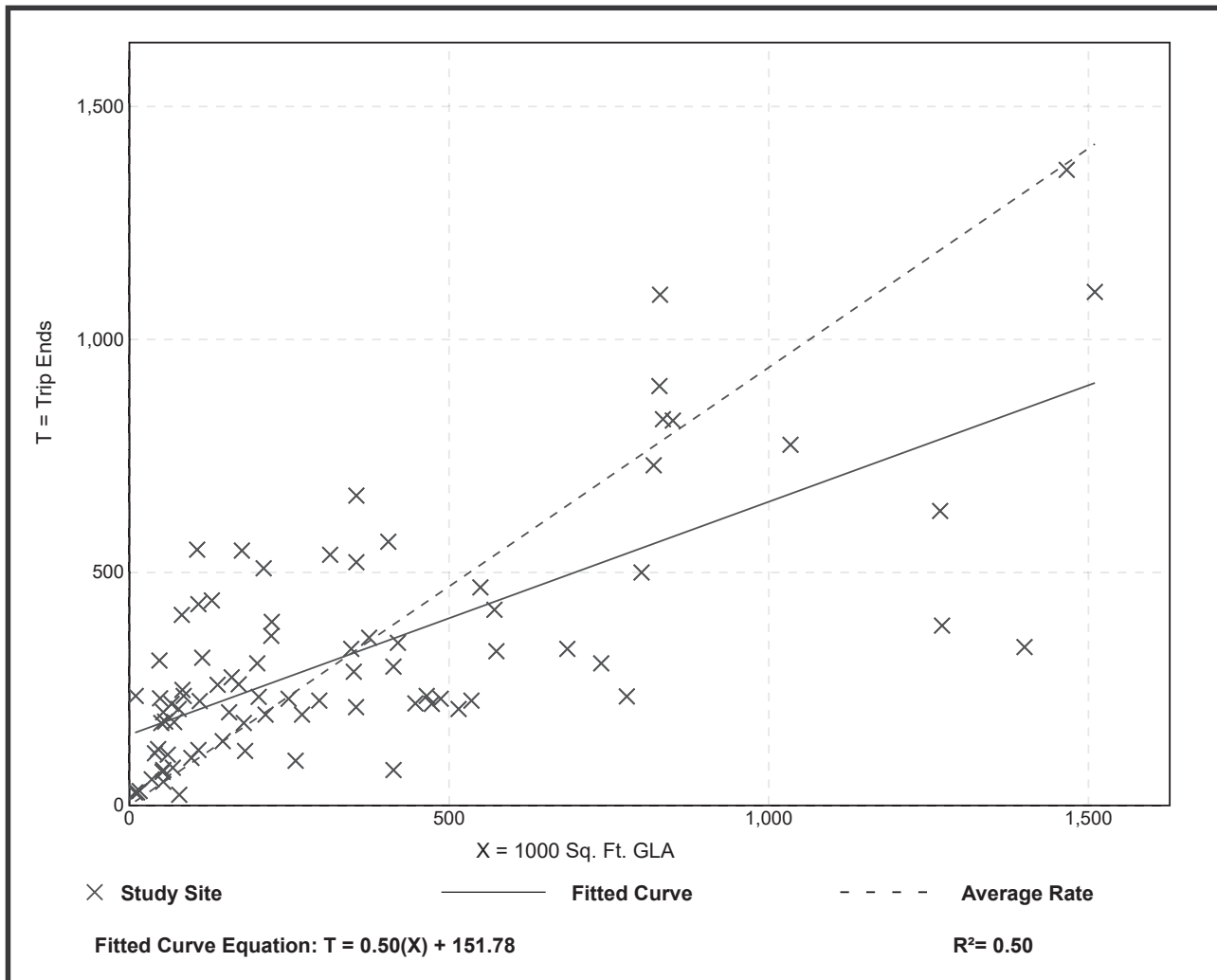
Shopping Center (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 84
 1000 Sq. Ft. GLA: 351
 Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

Data Plot and Equation



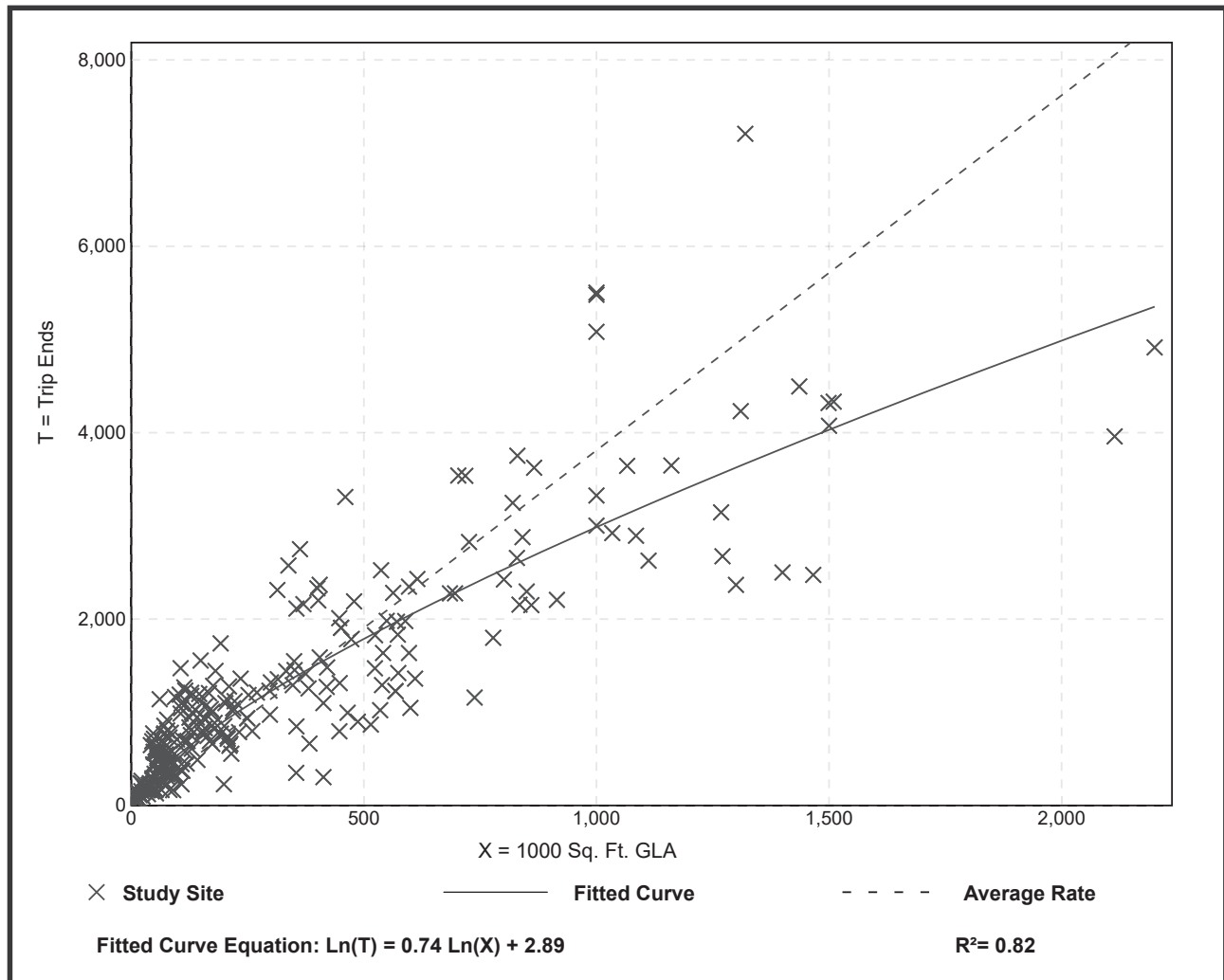
Shopping Center (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 261
 1000 Sq. Ft. GLA: 327
 Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



**Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM
Peak Period Land Use Code 820—Shopping Center**

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
921	Albany, NY	July & Aug. 1985	196	4:00–6:00 p.m.	23	42	35	77	—	60,950	Raymond Keyes Assoc.
108	Overland Park, KS	July 1988	111	4:30–5:30 p.m.	26	61	13	74	—	34,000	—
118	Overland Park, KS	Aug. 1988	123	4:30–5:30 p.m.	25	55	20	75	—	—	—
256	Greece, NY	June 1988	120	4:00–6:00 p.m.	38	62	—	62	—	23,410	Sear Brown
160	Greece, NY	June 1988	78	4:00–6:00 p.m.	29	71	—	71	—	57,306	Sear Brown
550	Greece, NY	June 1988	117	4:00–6:00 p.m.	48	52	—	52	—	40,763	Sear Brown
51	Boca Raton, FL	Dec. 1987	110	4:00–6:00 p.m.	33	34	33	67	—	42,225	Kimley-Horn and Assoc. Inc.
1,090	Ross Twp, PA	July 1988	411	2:00–8:00 p.m.	34	56	10	66	—	51,500	Wilbur Smith and Assoc.
97	Upper Dublin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	41	—	—	59	—	34,000	McMahon Associates
118	Tredyffrin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	24	—	—	76	—	10,000	Booz Allen & Hamilton
122	Lawnside, NJ	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	20,000	Pennoni Associates
126	Boca Raton, FL	Winter 1988/89	—	4:00–6:00 p.m.	43	—	—	57	—	40,000	McMahon Associates
150	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	39	—	—	61	—	26,000	Booz Allen & Hamilton
153	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	50	—	—	50	—	85,000	McMahon Associates
153	Arden, DE	Winter 1988/89	—	4:00–6:00 p.m.	30	—	—	70	—	26,000	Orth-Rodgers & Assoc. Inc.
154	Doylestown, PA	Winter 1988/89	—	4:00–6:00 p.m.	32	—	—	68	—	29,000	Orth-Rodgers & Assoc. Inc.
164	Middletown Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	25,000	Booz Allen & Hamilton
166	Haddon Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	20	—	—	80	—	6,000	Pennoni Associates
205	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	55	—	—	45	—	62,000	McMahon Associates

**Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period
Land Use Code 820—Shopping Center**

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
237	W. Windsor Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	48	—	—	52	—	46,000	Booz Allen & Hamilton
242	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	26,000	McMahon Associates
297	Whitehall, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	26,000	Orth-Rodgers & Assoc. Inc.
360	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	44	—	—	56	—	73,000	McMahon Associates
370	Pittsburgh, PA	Winter 1988/89	—	4:00–6:00 p.m.	19	—	—	81	—	33,000	Wilbur Smith
150	Portland, OR	—	519	4:00–6:00 p.m.	68	6	26	32	—	25,000	Kittelson and Associates
150	Portland, OR	—	655	4:00–6:00 p.m.	65	7	28	35	—	30,000	Kittelson and Associates
760	Calgary, Alberta	Oct.-Dec. 1987	15,436	4:00–6:00 p.m.	20	39	41	80	—	—	City of Calgary DOT
178	Bordentown, NJ	Apr. 1989	154	2:00–6:00 p.m.	35	—	—	65	—	37,980	Raymond Keyes Assoc.
144	Manalapan, NJ	July 1990	176	3:30–6:15 p.m.	32	44	24	68	—	69,347	Raymond Keyes Assoc.
549	Natick, MA	Feb. 1989	—	4:45–5:45 p.m.	33	26	41	67	—	48,782	Raymond Keyes Assoc.

Average Pass-By Trip Percentage: 34

“—” means no data were provided

Table 7.1 Unconstrained Internal Capture Rates for Trip Origins within a Multi-Use Development

		WEEKDAY		
		MIDDAY PEAK HOUR	p.m. PEAK HOUR OF ADJACENT STREET TRAFFIC	DAILY
from OFFICE	to Office	2%	1%	2%
	to Retail	20%	23%	22%
	to Residential	0%	2%	2%
from RETAIL	to Office	3%	3%	3%
	to Retail	29%	20%	30%
	to Residential	7%	12%	11%
from RESIDENTIAL	to Office	N/A	N/A	N/A
	to Retail	34%	53%	38%
	to Residential	N/A	N/A	N/A

Caution: The estimated typical internal capture rates presented in this table rely directly on data collected at a limited number of multi-use sites in Florida. While ITE recognizes the limitations of these data, they represent the only known credible data on multi-use internal capture rates and are provided as illustrative of typical rates. ***If local data on internal capture rates by paired land uses can be obtained, the local data may be given preference.***

N/A—Not Available; logic indicates there is some interaction between these two land uses; however, the limited data sample on which this table is based did not record any interaction.

Table 7.2 Unconstrained Internal Capture Rates for Trip Destinations Within a Multi-Use Development

		WEEKDAY		
		MIDDAY PEAK HOUR	p.m. PEAK HOUR OF ADJACENT STREET TRAFFIC	DAILY
to OFFICE	from Office	6%	6%	2%
	from Retail	38%	31%	15%
	from Residential	0%	0%	N/A
to RETAIL	from Office	4%	2%	4%
	from Retail	31%	20%	28%
	from Residential	5%	9%	9%
to RESIDENTIAL	from Office	0%	2%	3%
	from Retail	37%	31%	33%
	from Residential	N/A	N/A	N/A

Caution: The estimated typical internal capture rates presented in this table rely directly on data collected at a limited number of multi-use sites in Florida. While ITE recognizes the limitations of these data, they represent the only known credible data on multi-use internal capture rates and are provided as illustrative of typical rates. ***If local data on internal capture rates by paired land uses can be obtained, the local data may be given preference.***

N/A—Not Available; logic indicates there is some interaction between these two land uses; however, the limited data sample on which this table is based did not record any interaction.

Appendix F

Roadway Capacity Analysis Tables

TABLE F-1
AM PEAK HOUR ROADWAY CAPACITY ANALYSIS
HISTORIC MIRAMAR INNOVATION AND TECHNOLOGY VILLAGE TRAFFIC STUDY

ROADWAY	FROM	TO	FACILITY TYPE	DIR.	LOS "D" THRESHOLD ⁽¹⁾	2020 VOLUME ⁽²⁾⁽³⁾	LOS	PHASE 1 (2021)			PHASE 2 (2025)				PHASE 3 (2028)			
								PARK TRIPS	TOTAL VOLUME	LOS	WELLMAN FIELD TRIPS	INNOVATION CENTER TRIPS	TOTAL VOLUME	LOS	S. SHOPPING CENTER TRIPS	N. SHOPPING CENTER TRIPS	TOTAL VOLUME	LOS
North/South																		
SW 69 Avenue	Miramar Parkway	YEC/SW 33 Street	2L	NB	675	188	C	0	188	C	6	19	213	C	4	2	219	C
				SB	675	192	C	0	192	C	1	29	222	C	7	1	230	C
	YEC/SW 33 Street	SW 36 th Street	2L	NB	525	126	C	0	126	C	2	29	157	C	15	2	174	C
				SB	525	199	C	0	199	C	3	19	221	C	9	1	231	C
SW 68 Avenue	Miramar Parkway	SW 33 Street	2L	NB	675	110	C	0	110	C	7	4	121	C	4	0	125	C
				SB	675	158	C	0	158	C	2	7	167	C	6	0	173	C
	YEC/SW 33 Street	SW 36 Street	2L	NB	525	98	C	0	98	C	2	0	100	C	4	0	104	C
				SB	525	224	C	0	224	C	5	0	229	C	3	0	232	C
East/West																		
SW 34 Street	SW 69 Avenue	SW 68 Avenue	2L	EB	525	55	C	0	55	C	3	0	58	C	0	0	58	C
				WB	525	132	C	0	132	C	1	0	133	C	0	0	133	C
SW 35 Street	Education Center Entrance	SW 69 Avenue	2L	EB	675	18	C	0	18	C	0	0	18	C	0	0	18	C
				WB	675	165	C	0	165	C	0	0	165	C	0	0	165	C
Youth Enrichment Center Entrance	Youth Enrichment Center	SW 69 Avenue	2L	EB	525	6	C	0	6	C	0	42	48	C	0	0	48	C
				WB	525	30	C	0	30	C	0	65	95	C	0	0	95	C

(1) LOS Threshold based on 2020 FDOT Quality Level of Service Handbook Table 7

(2) 2020 Volumes are equivalent to the collected 2019 Streetlight volumes. No Growth rate is assumed for traffic outside Miramar Parkway. A PSCF was applied to the raw volumes.

(3) Volumes for SW 69 Avenue and SW 68 Avenue, from Miramar Parkway to SW 33 Street, are based on turning movement counts at the study intersections.



TABLE F-2
PM PEAK HOUR ROADWAY CAPACITY ANALYSIS
HISTORIC MIRAMAR INNOVATION AND TECHNOLOGY VILLAGE TRAFFIC STUDY

ROADWAY	FROM	TO	FACILITY TYPE	DIR.	LOS "D" THRESHOLD ⁽¹⁾	2020 VOLUME ⁽²⁾⁽³⁾	LOS	PHASE 1 (2021)			PHASE 2 (2025)				PHASE 3 (2028)			
								PARK TRIPS	TOTAL VOLUME	LOS	WELLMAN FIELD TRIPS	INNOVATION CENTER TRIPS	TOTAL VOLUME	LOS	S. SHOPPING CENTER TRIPS	N. SHOPPING CENTER TRIPS	TOTAL VOLUME	LOS
North/South																		
SW 69 Avenue	Miramar Parkway	YEC/SW 33 Street	2L	NB	675	308	C	5	313	C	1	27	341	D	9	2	352	D
				SB	675	186	C	6	192	C	3	18	213	C	7	3	223	C
	YEC/SW 33 Street	SW 36 th Street	2L	NB	525	128	C	6	134	C	1	18	153	C	15	2	170	C
				SB	525	257	C	8	265	D	1	27	293	D	18	3	314	D
SW 68 Avenue	Miramar Parkway	SW 33 Street	2L	NB	675	189	C	1	190	C	1	7	198	C	9	0	207	C
				SB	675	216	C	2	218	C	3	4	225	C	6	0	231	C
	YEC/SW 33 Street	SW 36 Street	2L	NB	525	200	C	1	201	C	2	0	203	C	4	0	207	C
				SB	525	300	D	2	302	D	1	0	303	D	5	0	308	D
East/West																		
SW 34 Street	SW 69 Avenue	SW 68 Avenue	2L	EB	525	114	C	1	115	C	1	0	116	C	0	0	116	C
				WB	525	82	C	2	84	C	0	0	84	C	0	0	84	C
SW 35 Street	Education Center Entrance	SW 69 Avenue	2L	EB	675	34	C	10	44	C	0	0	44	C	0	0	44	C
				WB	675	105	C	8	113	C	0	0	113	C	0	0	113	C
Youth Enrichment Center Entrance	Youth Enrichment Center	SW 69 Avenue	2L	EB	525	12	C	0	12	C	0	61	73	C	0	0	73	C
				WB	525	71	C	0	71	C	0	40	111	C	0	0	111	C

(1) LOS Threshold based on 2020 FDOT Quality Level of Service Handbook Table 7

(2) 2020 Volumes are equivalent to the collected 2019 Streetlight volumes. No Growth rate is assumed for traffic outside Miramar Parkway. A PSCF was applied to the raw volumes.

(3) Volumes for SW 69 Avenue and SW 68 Avenue, from Miramar Parkway to SW 33 Street, are based on turning movement counts at the study intersections.



Appendix G

Signal Timings and Capacity Analysis



BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	3043	Initial Operation Date	10/2/75
Controller Type	2070 LN	System Number	3043
Modification Number	10	Modification Date	12/20/2016
Drawing/Project No	GRP 4	FPL Grid Number	87069748707
Intersection	MIRAMAR PARKWAY and SW 69 WAY		
Municipality	MIRAMAR		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2		4		6		8
Direction	EBL	WB		NB		EB		SB
Initial Green(MIN)	4	12		6		12		6
Vehicle Ext.(GAP)	1.5	3.0		2.5		3.0		2.5
Maximum Green I	15	50		25		50		25
Maximum Green II								
Yellow Clearance	4.0	4.0		4.0		4.0		4.0
All Red Clearance	2.0	2.0		2.0		2.0		2.0
Phase Recall		MIN		OFF		MIN		OFF
Detector Delay								
Walk		7		7		7		7
Pedestrian Clearance		16		19		16		27
Permissive	5 SECT							
Flash Operation		YELLOW		RED		YELLOW		RED
Green Return								

Attachment

Channel/Drop / **IP Address**

NOTES:

1. DUAL ENTRY HARDWIRED NORTH/SOUTH.
2. MOD. 10 REFLECT INSTALLATION OF PROTECTED/PERMISSIVE EBL PHASE.

Submitted By _____ **Approved By** _____

450 : 3043 - Miramar Pkwy & SW 69 Way/Ave (Standard File)

Phase [1.1.1]

[illegible]

Phase Option [1.1.2]

[illegible]

Detector, Vehicle Parameters 1-16 [5.1]

[illegible]

Detector, Vehicle Parameters 17-32 [5.1]

[illegible]

Detector, Vehicle Parameters 33-48 [5.1]

[illegible]

Detector, Vehicle Parameters 49-64 [5.1]

[illegible]

Approved By: Carmen Li

Date: _____

450 : 3043 - Miramar Pkwy & SW 69 Way/Ave (Standard File)

TB Coor, Day Plan [4.4]

[illegible]

Day Plan Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour		1	6													
Minute			30													
Action	3	100	3													

Day Plan Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour		1	6	23												
Minute			30													
Action	3	100	3	100												

Coordination, Pattern 1-16 [2.1]/Coordination, Alt Tables+[2.6]

Pattern	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cycle Time		160	160	160												
Offset Time		105	66	32												
Split Number		2	3	4												
Seq Number	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ph Opt Alt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ph Time Alt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Coordination, Splits [2.7.1]

Split Table 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Split Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	15	84		61		99		61								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase						ON										

Split Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	15	84		61		99		61								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	15	102		43		117		43								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Split Table 6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Approved By: Carmen Li

Date: _____

Broward County

Preempt & Overlap Timing Sheet

11/12/2020

450 : 3043 - Miramar Pkwy & SW 69 Way/Ave (Standard File)

Preemption Times[3.1]/Phases[3.2]/Options[3.3]

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

Preemption Times+[3.4]/Overlaps+ [3.5]/Options+[3.6]

Preempt	1	2	3	4	5	6
Enable						
Type	EMERG	EMERG	EMERG	EMERG	EMERG	EMERG
Skip Track						
Volt Mon Flash						
Coord in Preempt						
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell						
Pattern						
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1						
Track Over 2						
Track Over 3						
Track Over 4						
Track Over 5						
Track Over 6						
Track Over 7						

Track Over 8					
Track Over 9					
Track Over 10					
Track Over 11					
Track Over 12					
DwellCyc Over 1					
DwellCyc Over 2					
DwellCyc Over 3					
DwellCyc Over 4					
DwellCyc Over 5					
DwellCyc Over 6					
DwellCyc Over 7					
DwellCyc Over 8					
DwellCyc Over 9					
DwellCyc Over 10					
DwellCyc Over 11					
DwellCyc Over 12					
Ped Clear					
Yellow					
Red					
Return Max					

Overlap	Included Phases								Modifier Phases								Type	Green	Yellow	Red
Overlap 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5

Date: _____

11/12/2020

Alternate Phase Program 2, Interval Times [1.1.6.1]

[illegible]

Alternate Phase Program 4, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
-------	------	-----------	-----------	---------	------	------	--------	-----------	-----------	------------

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
-------	------	--------------	--------------	---------	------	------	--------	--------------	--------------	---------------

TB Coor, Day Plan [4.4]

[illegible][illegible][illegible]

Approved By: Carmen Li

Date: _____

Broward County

Special System Timing Sheet

11/12/2020

450 : 3043 - Miramar Pkwy & SW 69 Way/Ave (Standard File)

Coordination, Splits [2.7.1]

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]



BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	3005	Initial Operation Date	4/2/65
Controller Type	2070 LN	System Number	3005
Modification Number	10	Modification Date	09/18/2014
Drawing/Project No		FPL Grid Number	87069958701
Intersection	MIRAMAR PARKWAY and SW 68 AVENUE		
Municipality	MIRAMAR		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	4	7	4	6	4	7	4	6
Vehicle Ext.(GAP)	1.5	0.0	1.5	2.0	1.5	0.0	1.5	2.0
Maximum Green I	12	45	12	25	12	45	12	25
Maximum Green II								
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Phase Recall	OFF	MAX	OFF	OFF	OFF	MAX	OFF	OFF
Detector Delay								
Walk		7		7		7		7
Pedestrian Clearance		18		25		18		25
Permissive	5 SECT		5 SECT		5 SECT		5 SECT	
Flash Operation		YELLOW		RED		YELLOW		RED
Green Return								

Attachment

Channel/Drop / IP Address

NOTES:

1. DUAL ENTRY HARDWIRED NORTH/SOUTH.
2. ANTI-BACKDOWN EAST/WEST: PHASES 2+6 ON ---> OMIT PHASES 1+5.
3. MOD. 10 UPDATES ALL RED CLEARANCES.

Submitted By _____ Approved By _____

440 : 3005 - Miramar Pkwy & SW 68 Ave (Standard File)

Phase [1.1.1]

[illegible]

Phase Option [1.1.2]

[illegible]

Detector, Vehicle Parameters 1-16 [5.1]

[illegible]

Detector, Vehicle Parameters 17-32 [5.1]

[illegible]

Detector, Vehicle Parameters 33-48 [5.1]

[illegible]

Detector, Vehicle Parameters 49-64 [5.1]

[illegible]

Approved By: Carmen Li

Date: _____

440 : 3005 - Miramar Pkwy & SW 68 Ave (Standard File)

TB Coor, Day Plan [4.4]

[illegible]

Day Plan Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour		1	6													
Minute			30													
Action	3	100	3													

Day Plan Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour		1	6	23												
Minute			30													
Action	3	100	3	100												

Coordination, Pattern 1-16 [2.1]/Coordination, Alt Tables+[2.6]

Pattern	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cycle Time		160	160	160												
Offset Time		84	35	66												
Split Number		2	3	4												
Seq Number	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ph Opt Alt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ph Time Alt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Coordination, Splits [2.7.1]

Split Table 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Split Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	20	66	22	52	20	66	22	52								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	22	64	23	51	22	64	23	51								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	25	68	25	42	25	68	25	42								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Split Table 6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Approved By: Carmen Li

Date: _____

Broward County

Preempt & Overlap Timing Sheet

11/12/2020

440 : 3005 - Miramar Pkwy & SW 68 Ave (Standard File)

Preemption Times[3.1]/Phases[3.2]/Options[3.3]

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

Preemption Times+[3.4]/Overlaps+[3.5]/Options+[3.6]

Preempt	1	2	3	4	5	6
Enable						
Type	EMERG	EMERG	EMERG	EMERG	EMERG	EMERG
Skip Track						
Volt Mon Flash						
Coord in Preempt						
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell						
Pattern						
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1						
Track Over 2						
Track Over 3						
Track Over 4						
Track Over 5						
Track Over 6						
Track Over 7						

Track Over 8					
Track Over 9					
Track Over 10					
Track Over 11					
Track Over 12					
DwellCyc Over 1					
DwellCyc Over 2					
DwellCyc Over 3					
DwellCyc Over 4					
DwellCyc Over 5					
DwellCyc Over 6					
DwellCyc Over 7					
DwellCyc Over 8					
DwellCyc Over 9					
DwellCyc Over 10					
DwellCyc Over 11					
DwellCyc Over 12					
Ped Clear					
Yellow					
Red					
Return Max					

Overlap	Included Phases								Modifier Phases								Type	Green	Yellow	Red
Overlap 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5
Overlap 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NORMAL	0	3.5	1.5

Date: _____

11/12/2020

Alternate Phase Program 2, Interval Times [1.1.6.1]

[illegible]

Alternate Phase Program 4, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
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Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
-------	------	--------------	--------------	---------	------	------	--------	--------------	--------------	---------------

TB Coor, Day Plan [4.4]

[illegible][illegible][illegible]

Approved By: Carmen Li

Date: _____

Broward County

Special System Timing Sheet

11/12/2020

440 : 3005 - Miramar Pkwy & SW 68 Ave (Standard File)

Coordination, Splits [2.7.1]

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Existing (2020)
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	994	170	13	822	4	148	11	29	28	9	108
Future Volume (vph)	81	994	170	13	822	4	148	11	29	28	9	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	15.0	99.0	99.0	84.0	84.0		61.0	61.0		61.0	61.0	
Total Split (%)	9.4%	61.9%	61.9%	52.5%	52.5%		38.1%	38.1%		38.1%	38.1%	
Maximum Green (s)	9.0	93.0	93.0	78.0	78.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max	C-Max	Max	Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 6:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Existing (2020)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	994	170	13	822	4	148	11	29	28	9	108
Future Volume (veh/h)	81	994	170	13	822	4	148	11	29	28	9	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	1117	191	15	967	5	203	15	40	36	12	138
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.73	0.73	0.73	0.78	0.78	0.78
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	403	2049	921	208	1827	9	265	115	306	354	33	376
Arrive On Green	0.04	0.58	0.58	1.00	1.00	1.00	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	3526	1585	421	3596	19	1237	451	1203	1349	128	1476
Grp Volume(v), veh/h	91	1117	191	15	474	498	203	0	55	36	0	150
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	421	1763	1852	1237	0	1654	1349	0	1605
Q Serve(g_s), s	3.8	31.1	9.2	1.5	0.0	0.0	25.8	0.0	4.1	3.4	0.0	12.3
Cycle Q Clear(g_c), s	3.8	31.1	9.2	20.8	0.0	0.0	38.1	0.0	4.1	7.5	0.0	12.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.73	1.00		0.92
Lane Grp Cap(c), veh/h	403	2049	921	208	895	941	265	0	421	354	0	409
V/C Ratio(X)	0.23	0.55	0.21	0.07	0.53	0.53	0.77	0.00	0.13	0.10	0.00	0.37
Avail Cap(c_a), veh/h	439	2049	921	208	895	941	375	0	569	474	0	552
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	20.5	16.0	2.5	0.0	0.0	64.7	0.0	46.0	48.8	0.0	49.0
Incr Delay (d2), s/veh	0.1	1.0	0.5	0.6	2.1	2.0	4.8	0.0	0.1	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	18.9	6.3	0.2	1.0	1.0	13.3	0.0	3.1	2.1	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	21.6	16.5	3.1	2.1	2.0	69.5	0.0	46.1	48.9	0.0	49.4
LnGrp LOS	B	C	B	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		1399			987			258			186	
Approach Delay, s/veh		20.6			2.1			64.5			49.3	
Approach LOS		C			A			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.7	87.3		46.8		99.0		46.8				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	78.0		55.0		93.0		55.0				
Max Q Clear Time (g_c+I1), s	5.8	22.8		40.1		33.1		14.3				
Green Ext Time (p_c), s	0.0	7.8		0.7		11.9		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				20.0								
HCM 6th LOS				C								

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Existing (2020)
Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	839	60	60	706	23	47	20	43	22	38	70
Future Volume (vph)	30	839	60	60	706	23	47	20	43	22	38	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1115			1500			1000			1000	
Travel Time (s)		21.7			29.2			22.7			22.7	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	20.0	66.0		20.0	66.0		22.0	52.0		22.0	52.0	
Total Split (%)	12.5%	41.3%		12.5%	41.3%		13.8%	32.5%		13.8%	32.5%	
Maximum Green (s)	14.0	60.0		14.0	60.0		16.0	46.0		16.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		18.0			18.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary

Area Type: Other

Cycle Length: 160

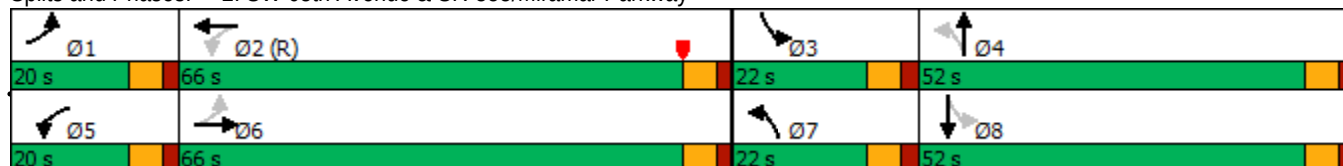
Actuated Cycle Length: 160

Offset: 84 (53%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Existing (2020)
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	839	60	60	706	23	47	20	43	22	38	70
Future Volume (veh/h)	30	839	60	60	706	23	47	20	43	22	38	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	912	65	65	767	25	51	22	47	24	41	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	511	2362	168	494	2481	81	126	54	116	159	49	91
Arrive On Green	0.04	1.00	1.00	0.02	0.71	0.71	0.03	0.10	0.10	0.02	0.08	0.08
Sat Flow, veh/h	1781	3338	238	1781	3484	114	1781	531	1135	1781	587	1088
Grp Volume(v), veh/h	33	482	495	65	388	404	51	0	69	24	0	117
Grp Sat Flow(s),veh/h/ln	1781	1763	1813	1781	1763	1835	1781	0	1666	1781	0	1675
Q Serve(g_s), s	0.8	0.0	0.0	1.6	13.0	13.0	4.2	0.0	6.2	2.0	0.0	11.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.6	13.0	13.0	4.2	0.0	6.2	2.0	0.0	11.0
Prop In Lane	1.00		0.13	1.00		0.06	1.00		0.68	1.00		0.65
Lane Grp Cap(c), veh/h	511	1248	1283	494	1255	1307	126	0	170	159	0	141
V/C Ratio(X)	0.06	0.39	0.39	0.13	0.31	0.31	0.40	0.00	0.40	0.15	0.00	0.83
Avail Cap(c_a), veh/h	633	1248	1283	608	1255	1307	243	0	479	308	0	481
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	6.0	8.5	8.5	64.4	0.0	67.3	65.6	0.0	72.2
Incr Delay (d2), s/veh	0.0	0.8	0.8	0.0	0.6	0.6	0.8	0.0	0.6	0.2	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.5	0.5	1.1	8.7	9.0	3.5	0.0	4.8	1.6	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	0.8	0.8	6.0	9.1	9.1	65.1	0.0	67.8	65.8	0.0	76.9
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1010			857			120			141	
Approach Delay, s/veh		1.0			8.9			66.7			75.0	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	119.9	8.6	22.4	9.8	119.2	11.5	19.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	60.0	16.0	46.0	14.0	60.0	16.0	46.0				
Max Q Clear Time (g_c+I1), s	2.8	15.0	4.0	8.2	3.6	2.0	6.2	13.0				
Green Ext Time (p_c), s	0.0	0.7	0.0	0.2	0.0	0.9	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			12.8									
HCM 6th LOS			B									

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2021)

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	1014	170	13	838	4	148	11	29	28	9	108
Future Volume (vph)	81	1014	170	13	838	4	148	11	29	28	9	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	15.0	99.0	99.0	84.0	84.0		61.0	61.0		61.0	61.0	
Total Split (%)	9.4%	61.9%	61.9%	52.5%	52.5%		38.1%	38.1%		38.1%	38.1%	
Maximum Green (s)	9.0	93.0	93.0	78.0	78.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max	C-Max	Max	Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 6:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2021)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	1014	170	13	838	4	148	11	29	28	9	108
Future Volume (veh/h)	81	1014	170	13	838	4	148	11	29	28	9	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	1139	191	15	986	5	203	15	40	36	12	138
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.73	0.73	0.73	0.78	0.78	0.78
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	397	2049	921	202	1827	9	265	115	306	354	33	376
Arrive On Green	0.04	0.58	0.58	1.00	1.00	1.00	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	3526	1585	412	3597	18	1237	451	1203	1349	128	1476
Grp Volume(v), veh/h	91	1139	191	15	483	508	203	0	55	36	0	150
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	412	1763	1852	1237	0	1654	1349	0	1605
Q Serve(g_s), s	3.8	32.0	9.2	1.6	0.0	0.0	25.8	0.0	4.1	3.4	0.0	12.3
Cycle Q Clear(g_c), s	3.8	32.0	9.2	21.8	0.0	0.0	38.1	0.0	4.1	7.5	0.0	12.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.73	1.00		0.92
Lane Grp Cap(c), veh/h	397	2049	921	202	895	941	265	0	421	354	0	409
V/C Ratio(X)	0.23	0.56	0.21	0.07	0.54	0.54	0.77	0.00	0.13	0.10	0.00	0.37
Avail Cap(c_a), veh/h	434	2049	921	202	895	941	375	0	569	474	0	552
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	20.7	16.0	2.7	0.0	0.0	64.7	0.0	46.0	48.8	0.0	49.0
Incr Delay (d2), s/veh	0.1	1.1	0.5	0.7	2.2	2.1	4.8	0.0	0.1	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	19.3	6.3	0.2	1.0	1.0	13.3	0.0	3.1	2.1	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	21.8	16.5	3.4	2.2	2.1	69.5	0.0	46.1	48.9	0.0	49.4
LnGrp LOS	B	C	B	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		1421			1006			258			186	
Approach Delay, s/veh		20.8			2.2			64.5			49.3	
Approach LOS		C			A			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.7	87.3		46.8		99.0		46.8				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	78.0		55.0		93.0		55.0				
Max Q Clear Time (g_c+I1), s	5.8	23.8		40.1		34.0		14.3				
Green Ext Time (p_c), s	0.0	8.1		0.7		12.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				20.0								
HCM 6th LOS				C								

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2021)

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	856	60	60	720	23	47	20	43	22	38	70
Future Volume (vph)	30	856	60	60	720	23	47	20	43	22	38	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1115			1500			1000			1000	
Travel Time (s)		21.7			29.2			22.7			22.7	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	20.0	66.0		20.0	66.0		22.0	52.0		22.0	52.0	
Total Split (%)	12.5%	41.3%		12.5%	41.3%		13.8%	32.5%		13.8%	32.5%	
Maximum Green (s)	14.0	60.0		14.0	60.0		16.0	46.0		16.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		18.0			18.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary

Area Type: Other

Cycle Length: 160

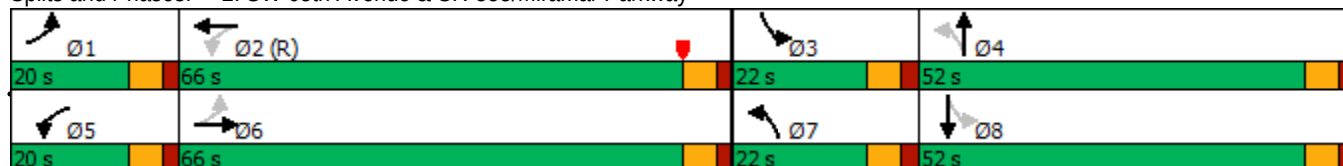
Actuated Cycle Length: 160

Offset: 84 (53%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2021)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	856	60	60	720	23	47	20	43	22	38	70
Future Volume (veh/h)	30	856	60	60	720	23	47	20	43	22	38	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	930	65	65	783	25	51	22	47	24	41	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	503	2366	165	488	2483	79	126	54	116	159	49	91
Arrive On Green	0.04	1.00	1.00	0.02	0.71	0.71	0.03	0.10	0.10	0.02	0.08	0.08
Sat Flow, veh/h	1781	3343	234	1781	3487	111	1781	531	1135	1781	587	1088
Grp Volume(v), veh/h	33	490	505	65	396	412	51	0	69	24	0	117
Grp Sat Flow(s),veh/h/ln	1781	1763	1813	1781	1763	1836	1781	0	1666	1781	0	1675
Q Serve(g_s), s	0.8	0.0	0.0	1.6	13.3	13.3	4.2	0.0	6.2	2.0	0.0	11.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.6	13.3	13.3	4.2	0.0	6.2	2.0	0.0	11.0
Prop In Lane	1.00		0.13	1.00		0.06	1.00		0.68	1.00		0.65
Lane Grp Cap(c), veh/h	503	1248	1283	488	1255	1307	126	0	170	159	0	141
V/C Ratio(X)	0.07	0.39	0.39	0.13	0.32	0.32	0.40	0.00	0.40	0.15	0.00	0.83
Avail Cap(c_a), veh/h	625	1248	1283	601	1255	1307	243	0	479	308	0	481
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.5	0.0	0.0	6.0	8.6	8.6	64.4	0.0	67.3	65.6	0.0	72.2
Incr Delay (d2), s/veh	0.0	0.8	0.8	0.0	0.7	0.6	0.8	0.0	0.6	0.2	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.5	0.5	1.1	8.9	9.2	3.5	0.0	4.8	1.6	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	0.8	0.8	6.0	9.2	9.2	65.1	0.0	67.8	65.8	0.0	76.9
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1028			873			120			141	
Approach Delay, s/veh		1.0			9.0			66.7			75.0	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	119.9	8.6	22.4	9.8	119.2	11.5	19.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	60.0	16.0	46.0	14.0	60.0	16.0	46.0				
Max Q Clear Time (g_c+I1), s	2.8	15.3	4.0	8.2	3.6	2.0	6.2	13.0				
Green Ext Time (p_c), s	0.0	0.7	0.0	0.2	0.0	1.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2025)

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	1098	194	19	911	4	169	11	33	28	9	108
Future Volume (vph)	81	1098	194	19	911	4	169	11	33	28	9	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	15.0	99.0	99.0	84.0	84.0		61.0	61.0		61.0	61.0	
Total Split (%)	9.4%	61.9%	61.9%	52.5%	52.5%		38.1%	38.1%		38.1%	38.1%	
Maximum Green (s)	9.0	93.0	93.0	78.0	78.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max	C-Max	Max	Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 6:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2025)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	1098	194	19	911	4	169	11	33	28	9	108
Future Volume (veh/h)	81	1098	194	19	911	4	169	11	33	28	9	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	1234	218	22	1072	5	232	15	45	36	12	138
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.73	0.73	0.73	0.78	0.78	0.78
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	375	2049	921	175	1828	9	294	114	341	379	35	407
Arrive On Green	0.04	0.58	0.58	1.00	1.00	1.00	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	3526	1585	366	3598	17	1237	412	1236	1343	128	1476
Grp Volume(v), veh/h	91	1234	218	22	525	552	232	0	60	36	0	150
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	366	1763	1853	1237	0	1648	1343	0	1605
Q Serve(g_s), s	3.8	36.1	10.7	3.3	0.0	0.0	29.5	0.0	4.4	3.3	0.0	11.9
Cycle Q Clear(g_c), s	3.8	36.1	10.7	27.6	0.0	0.0	41.4	0.0	4.4	7.7	0.0	11.9
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.75	1.00		0.92
Lane Grp Cap(c), veh/h	375	2049	921	175	895	941	294	0	455	379	0	443
V/C Ratio(X)	0.24	0.60	0.24	0.13	0.59	0.59	0.79	0.00	0.13	0.10	0.00	0.34
Avail Cap(c_a), veh/h	411	2049	921	175	895	941	378	0	566	470	0	552
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	21.6	16.3	4.1	0.0	0.0	62.8	0.0	43.5	46.4	0.0	46.3
Incr Delay (d2), s/veh	0.1	1.3	0.6	1.4	2.7	2.5	7.5	0.0	0.1	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	21.4	7.3	0.4	1.2	1.2	15.1	0.0	3.3	2.0	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	22.9	16.9	5.5	2.7	2.5	70.3	0.0	43.6	46.5	0.0	46.6
LnGrp LOS	B	C	B	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h	1543		1099			292			186			
Approach Delay, s/veh	21.7		2.7			64.8			46.6			
Approach LOS	C		A			E			D			
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	11.7	87.3	50.1			99.0	50.1					
Change Period (Y+Rc), s	6.0	6.0	6.0			6.0	6.0					
Max Green Setting (Gmax), s	9.0	78.0	55.0			93.0	55.0					
Max Q Clear Time (g_c+I1), s	5.8	29.6	43.4			38.1	13.9					
Green Ext Time (p_c), s	0.0	9.3	0.7			14.0	0.9					
Intersection Summary												
HCM 6th Ctrl Delay	20.5											
HCM 6th LOS	C											

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2025)

Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	930	61	68	785	23	50	20	51	22	38	70
Future Volume (vph)	30	930	61	68	785	23	50	20	51	22	38	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red	Yes			Yes			Yes			Yes		
Link Speed (mph)	35			35			30			30		
Link Distance (ft)	1115			1500			1000			1000		
Travel Time (s)	21.7			29.2			22.7			22.7		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	20.0	66.0		20.0	66.0		22.0	52.0		22.0	52.0	
Total Split (%)	12.5%	41.3%		12.5%	41.3%		13.8%	32.5%		13.8%	32.5%	
Maximum Green (s)	14.0	60.0		14.0	60.0		16.0	46.0		16.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)	7.0			7.0			7.0			7.0		
Flash Dont Walk (s)	18.0			18.0			25.0			25.0		
Pedestrian Calls (#/hr)	0			0			0			0		

Intersection Summary

Area Type: Other

Cycle Length: 160

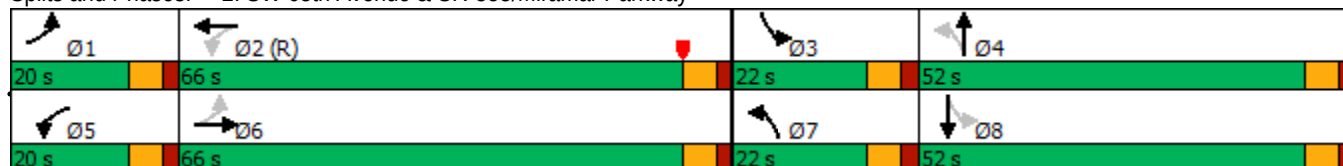
Actuated Cycle Length: 160

Offset: 84 (53%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2025)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	930	61	68	785	23	50	20	51	22	38	70
Future Volume (veh/h)	30	930	61	68	785	23	50	20	51	22	38	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1011	66	74	853	25	54	22	55	24	41	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	469	2370	155	457	2484	73	129	49	123	154	49	91
Arrive On Green	0.04	1.00	1.00	0.02	0.71	0.71	0.04	0.10	0.10	0.02	0.08	0.08
Sat Flow, veh/h	1781	3360	219	1781	3497	102	1781	474	1184	1781	587	1088
Grp Volume(v), veh/h	33	530	547	74	430	448	54	0	77	24	0	117
Grp Sat Flow(s),veh/h/ln	1781	1763	1816	1781	1763	1837	1781	0	1657	1781	0	1675
Q Serve(g_s), s	0.8	0.0	0.0	1.9	15.0	15.0	4.4	0.0	7.0	2.0	0.0	11.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.9	15.0	15.0	4.4	0.0	7.0	2.0	0.0	11.0
Prop In Lane	1.00		0.12	1.00		0.06	1.00		0.71	1.00		0.65
Lane Grp Cap(c), veh/h	469	1243	1281	457	1252	1305	129	0	173	154	0	141
V/C Ratio(X)	0.07	0.43	0.43	0.16	0.34	0.34	0.42	0.00	0.45	0.16	0.00	0.83
Avail Cap(c_a), veh/h	591	1243	1281	570	1252	1305	243	0	476	303	0	481
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	0.0	0.0	6.1	8.9	8.9	64.2	0.0	67.3	65.7	0.0	72.2
Incr Delay (d2), s/veh	0.0	0.9	0.9	0.1	0.8	0.7	0.8	0.0	0.7	0.2	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.6	0.6	1.2	9.8	10.1	3.7	0.0	5.4	1.6	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	0.9	0.9	6.2	9.6	9.6	65.0	0.0	68.0	65.8	0.0	76.9
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1110			952			131			141	
Approach Delay, s/veh		1.1			9.4			66.8			75.0	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	119.6	8.6	22.7	9.9	118.9	11.8	19.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	60.0	16.0	46.0	14.0	60.0	16.0	46.0				
Max Q Clear Time (g_c+I1), s	2.8	17.0	4.0	9.0	3.9	2.0	6.4	13.0				
Green Ext Time (p_c), s	0.0	0.8	0.0	0.3	0.0	1.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2028)

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1189	197	21	981	8	170	14	34	31	12	117
Future Volume (vph)	96	1189	197	21	981	8	170	14	34	31	12	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	15.0	99.0	99.0	84.0	84.0		61.0	61.0		61.0	61.0	
Total Split (%)	9.4%	61.9%	61.9%	52.5%	52.5%		38.1%	38.1%		38.1%	38.1%	
Maximum Green (s)	9.0	93.0	93.0	78.0	78.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max	C-Max	Max	Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 6:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2028)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1189	197	21	981	8	170	14	34	31	12	117
Future Volume (veh/h)	96	1189	197	21	981	8	170	14	34	31	12	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	1336	221	25	1154	9	233	19	47	40	15	150
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.73	0.73	0.73	0.78	0.78	0.78
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	361	2049	921	153	1803	14	295	137	338	387	42	418
Arrive On Green	0.04	0.58	0.58	1.00	1.00	1.00	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	3526	1585	331	3585	28	1221	477	1181	1335	146	1461
Grp Volume(v), veh/h	108	1336	221	25	567	596	233	0	66	40	0	165
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	331	1763	1851	1221	0	1658	1335	0	1607
Q Serve(g_s), s	4.6	40.9	10.9	5.0	0.0	0.0	30.0	0.0	4.7	3.7	0.0	13.1
Cycle Q Clear(g_c), s	4.6	40.9	10.9	33.3	0.0	0.0	43.1	0.0	4.7	8.4	0.0	13.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.71	1.00		0.91
Lane Grp Cap(c), veh/h	361	2049	921	153	886	931	295	0	474	387	0	460
V/C Ratio(X)	0.30	0.65	0.24	0.16	0.64	0.64	0.79	0.00	0.14	0.10	0.00	0.36
Avail Cap(c_a), veh/h	388	2049	921	153	886	931	365	0	570	465	0	553
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.8	22.6	16.3	5.9	0.0	0.0	62.6	0.0	42.5	45.6	0.0	45.4
Incr Delay (d2), s/veh	0.2	1.6	0.6	2.1	3.3	3.1	8.4	0.0	0.1	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	23.9	7.4	0.7	1.5	1.5	15.2	0.0	3.6	2.3	0.0	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.0	24.2	16.9	8.0	3.3	3.1	70.9	0.0	42.6	45.7	0.0	45.8
LnGrp LOS	B	C	B	A	A	A	E	A	D	D	A	D
Approach Vol, veh/h		1665			1188			299			205	
Approach Delay, s/veh		22.8			3.3			64.7			45.8	
Approach LOS		C			A			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.5	86.5		51.8		99.0		51.8				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	78.0		55.0		93.0		55.0				
Max Q Clear Time (g_c+I1), s	6.6	35.3		45.1		42.9		15.1				
Green Ext Time (p_c), s	0.0	10.5		0.7		15.6		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				21.0								
HCM 6th LOS				C								

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2028)

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	995	63	70	846	23	51	21	52	22	40	70
Future Volume (vph)	30	995	63	70	846	23	51	21	52	22	40	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1115			1500			1000			1000	
Travel Time (s)		21.7			29.2			22.7			22.7	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	20.0	66.0		20.0	66.0		22.0	52.0		22.0	52.0	
Total Split (%)	12.5%	41.3%		12.5%	41.3%		13.8%	32.5%		13.8%	32.5%	
Maximum Green (s)	14.0	60.0		14.0	60.0		16.0	46.0		16.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		18.0			18.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary

Area Type: Other

Cycle Length: 160

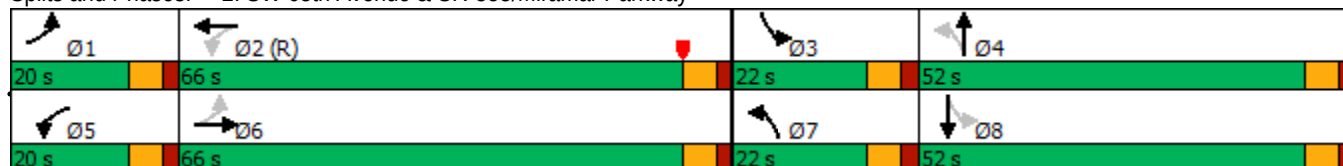
Actuated Cycle Length: 160

Offset: 84 (53%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2028)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	995	63	70	846	23	51	21	52	22	40	70
Future Volume (veh/h)	30	995	63	70	846	23	51	21	52	22	40	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1082	68	76	920	25	55	23	57	24	43	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	438	2370	149	432	2484	67	131	50	125	154	52	91
Arrive On Green	0.04	1.00	1.00	0.02	0.71	0.71	0.04	0.11	0.11	0.02	0.09	0.09
Sat Flow, veh/h	1781	3369	212	1781	3506	95	1781	477	1181	1781	606	1071
Grp Volume(v), veh/h	33	566	584	76	463	482	55	0	80	24	0	119
Grp Sat Flow(s),veh/h/ln	1781	1763	1817	1781	1763	1838	1781	0	1658	1781	0	1678
Q Serve(g_s), s	0.8	0.0	0.0	1.9	16.6	16.6	4.5	0.0	7.3	2.0	0.0	11.2
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.9	16.6	16.6	4.5	0.0	7.3	2.0	0.0	11.2
Prop In Lane	1.00		0.12	1.00		0.05	1.00		0.71	1.00		0.64
Lane Grp Cap(c), veh/h	438	1240	1279	432	1249	1303	131	0	175	154	0	143
V/C Ratio(X)	0.08	0.46	0.46	0.18	0.37	0.37	0.42	0.00	0.46	0.16	0.00	0.83
Avail Cap(c_a), veh/h	560	1240	1279	545	1249	1303	243	0	477	303	0	482
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	0.0	6.2	9.2	9.2	64.0	0.0	67.2	65.5	0.0	72.1
Incr Delay (d2), s/veh	0.0	1.0	1.0	0.1	0.8	0.8	0.8	0.0	0.7	0.2	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.6	0.6	1.3	10.6	11.0	3.7	0.0	5.6	1.6	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.0	1.0	1.0	6.3	10.1	10.0	64.8	0.0	67.9	65.7	0.0	76.8
LnGrp LOS	A	A	A	A	B	B	E	A	E	E	A	E
Approach Vol, veh/h		1183			1021			135			143	
Approach Delay, s/veh		1.1			9.8			66.6			74.9	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	119.4	8.6	22.9	9.9	118.6	11.9	19.6				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	60.0	16.0	46.0	14.0	60.0	16.0	46.0				
Max Q Clear Time (g_c+I1), s	2.8	18.6	4.0	9.3	3.9	2.0	6.5	13.2				
Green Ext Time (p_c), s	0.0	0.9	0.0	0.3	0.0	1.1	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Existing (2020)
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1088	134	30	1281	10	223	28	57	35	22	73
Future Volume (vph)	96	1088	134	30	1281	10	223	28	57	35	22	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	15.0	117.0	117.0	102.0	102.0		43.0	43.0		43.0	43.0	
Total Split (%)	9.4%	73.1%	73.1%	63.8%	63.8%		26.9%	26.9%		26.9%	26.9%	
Maximum Green (s)	9.0	111.0	111.0	96.0	96.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max	Max	C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 32 (20%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Existing (2020)
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1088	134	30	1281	10	223	28	57	35	22	73
Future Volume (veh/h)	96	1088	134	30	1281	10	223	28	57	35	22	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	1133	140	33	1423	11	286	36	73	44	28	92
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.78	0.78	0.78	0.79	0.79	0.79
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	199	2446	1100	284	2238	17	262	127	259	273	89	291
Arrive On Green	0.03	0.69	0.69	0.21	0.21	0.21	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	3526	1585	435	3586	28	1272	551	1118	1284	383	1260
Grp Volume(v), veh/h	100	1133	140	33	699	735	286	0	109	44	0	120
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	435	1763	1851	1272	0	1669	1284	0	1644
Q Serve(g_s), s	3.2	23.2	4.7	10.2	58.0	58.0	27.3	0.0	8.6	4.7	0.0	9.7
Cycle Q Clear(g_c), s	3.2	23.2	4.7	22.3	58.0	58.0	37.0	0.0	8.6	13.3	0.0	9.7
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.67	1.00		0.77
Lane Grp Cap(c), veh/h	199	2446	1100	284	1100	1155	262	0	386	273	0	380
V/C Ratio(X)	0.50	0.46	0.13	0.12	0.64	0.64	1.09	0.00	0.28	0.16	0.00	0.32
Avail Cap(c_a), veh/h	243	2446	1100	284	1100	1155	262	0	386	273	0	380
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	11.1	8.2	37.8	46.9	46.9	68.7	0.0	50.6	56.0	0.0	51.0
Incr Delay (d2), s/veh	0.7	0.6	0.2	0.7	2.2	2.1	82.2	0.0	0.3	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	13.9	3.0	2.3	36.0	37.6	24.8	0.0	6.6	2.8	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	11.7	8.5	38.4	49.1	49.0	150.8	0.0	50.9	56.2	0.0	51.4
LnGrp LOS	C	B	A	D	D	D	F	A	D	E	A	D
Approach Vol, veh/h		1373			1467			395			164	
Approach Delay, s/veh		12.4			48.8			123.3			52.7	
Approach LOS		B			D			F			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.1	105.9		43.0		117.0		43.0				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	96.0		37.0		111.0		37.0				
Max Q Clear Time (g_c+I1), s	5.2	60.0		39.0		25.2		15.3				
Green Ext Time (p_c), s	0.0	13.9		0.0		12.0		0.6				
Intersection Summary												
HCM 6th Ctrl Delay			42.9									
HCM 6th LOS			D									

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Existing (2020)
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	956	76	94	1184	12	94	27	68	23	46	72
Future Volume (vph)	89	956	76	94	1184	12	94	27	68	23	46	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1115			1500			1000			1000	
Travel Time (s)		21.7			29.2			22.7			22.7	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	25.0	68.0		25.0	68.0		25.0	42.0		25.0	42.0	
Total Split (%)	15.6%	42.5%		15.6%	42.5%		15.6%	26.3%		15.6%	26.3%	
Maximum Green (s)	19.0	62.0		19.0	62.0		19.0	36.0		19.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		18.0			18.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary

Area Type: Other

Cycle Length: 160

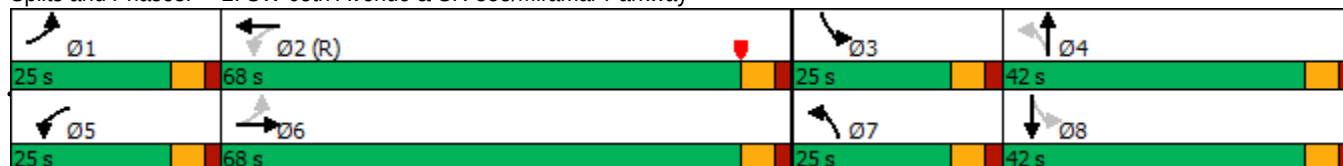
Actuated Cycle Length: 160

Offset: 66 (41%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Existing (2020)
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	956	76	94	1184	12	94	27	68	23	46	72
Future Volume (veh/h)	89	956	76	94	1184	12	94	27	68	23	46	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	1039	83	102	1287	13	102	29	74	25	50	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	302	2203	176	358	2386	24	176	63	162	177	59	92
Arrive On Green	0.03	0.67	0.67	0.03	0.67	0.67	0.06	0.14	0.14	0.02	0.09	0.09
Sat Flow, veh/h	1781	3307	264	1781	3576	36	1781	466	1190	1781	658	1027
Grp Volume(v), veh/h	97	554	568	102	634	666	102	0	103	25	0	128
Grp Sat Flow(s),veh/h/ln	1781	1763	1808	1781	1763	1849	1781	0	1656	1781	0	1685
Q Serve(g_s), s	2.8	24.5	24.5	2.9	29.9	29.9	8.1	0.0	9.2	2.0	0.0	12.0
Cycle Q Clear(g_c), s	2.8	24.5	24.5	2.9	29.9	29.9	8.1	0.0	9.2	2.0	0.0	12.0
Prop In Lane	1.00		0.15	1.00		0.02	1.00		0.72	1.00		0.61
Lane Grp Cap(c), veh/h	302	1174	1205	358	1176	1234	176	0	225	177	0	152
V/C Ratio(X)	0.32	0.47	0.47	0.29	0.54	0.54	0.58	0.00	0.46	0.14	0.00	0.84
Avail Cap(c_a), veh/h	460	1174	1205	514	1176	1234	276	0	373	358	0	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	13.0	13.0	10.1	13.8	13.8	59.8	0.0	63.7	64.7	0.0	71.7
Incr Delay (d2), s/veh	0.2	1.2	1.2	0.2	1.8	1.7	1.1	0.0	0.5	0.1	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	14.7	15.0	2.0	17.9	18.6	6.7	0.0	7.1	1.7	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	14.2	14.2	10.3	15.6	15.5	60.9	0.0	64.2	64.9	0.0	76.5
LnGrp LOS	B	B	B	B	B	B	E	A	E	E	A	E
Approach Vol, veh/h	1219		1402				205		153			
Approach Delay, s/veh	14.0		15.2				62.6		74.6			
Approach LOS	B		B				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	112.8	8.7	27.7	10.9	112.6	16.0	20.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	19.0	62.0	19.0	36.0	19.0	62.0	19.0	36.0				
Max Q Clear Time (g_c+I1), s	4.8	31.9	4.0	11.2	4.9	26.5	10.1	14.0				
Green Ext Time (p_c), s	0.1	1.3	0.0	0.4	0.1	1.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	21.0											
HCM 6th LOS	C											

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2021)

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1110	138	31	1307	10	226	29	58	35	23	73
Future Volume (vph)	96	1110	138	31	1307	10	226	29	58	35	23	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	15.0	106.0	106.0	91.0	91.0		54.0	54.0		54.0	54.0	
Total Split (%)	9.4%	66.3%	66.3%	56.9%	56.9%		33.8%	33.8%		33.8%	33.8%	
Maximum Green (s)	9.0	100.0	100.0	85.0	85.0		48.0	48.0		48.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max	Max	C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 32 (20%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2021)

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1110	138	31	1307	10	226	29	58	35	23	73
Future Volume (veh/h)	96	1110	138	31	1307	10	226	29	58	35	23	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	1156	144	34	1452	11	290	37	74	44	29	92
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.78	0.78	0.78	0.79	0.79	0.79
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	228	2222	999	236	1998	15	348	164	328	358	116	369
Arrive On Green	0.04	0.63	0.63	0.74	0.74	0.74	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	3526	1585	424	3586	27	1270	557	1113	1282	394	1251
Grp Volume(v), veh/h	100	1156	144	34	713	750	290	0	111	44	0	121
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	424	1763	1851	1270	0	1670	1282	0	1645
Q Serve(g_s), s	3.8	28.9	5.9	5.8	36.3	36.4	36.0	0.0	8.0	4.3	0.0	9.0
Cycle Q Clear(g_c), s	3.8	28.9	5.9	22.9	36.3	36.4	45.0	0.0	8.0	12.3	0.0	9.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.67	1.00		0.76
Lane Grp Cap(c), veh/h	228	2222	999	236	982	1031	348	0	492	358	0	485
V/C Ratio(X)	0.44	0.52	0.14	0.14	0.73	0.73	0.83	0.00	0.23	0.12	0.00	0.25
Avail Cap(c_a), veh/h	265	2222	999	236	982	1031	355	0	501	365	0	494
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	16.3	12.0	16.0	13.9	13.9	60.1	0.0	42.6	47.3	0.0	43.0
Incr Delay (d2), s/veh	0.5	0.9	0.3	1.0	3.7	3.5	14.9	0.0	0.2	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	17.4	3.9	1.1	17.5	18.2	19.0	0.0	6.1	2.5	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	17.1	12.3	17.0	17.6	17.4	75.0	0.0	42.8	47.4	0.0	43.2
LnGrp LOS	C	B	B	B	B	B	E	A	D	D	A	D
Approach Vol, veh/h		1400			1497			401			165	
Approach Delay, s/veh		16.9			17.5			66.1			44.3	
Approach LOS		B			B			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.7	95.1		53.1		106.9		53.1				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	85.0		48.0		100.0		48.0				
Max Q Clear Time (g_c+I1), s	5.8	38.4		47.0		30.9		14.3				
Green Ext Time (p_c), s	0.0	15.6		0.2		12.3		0.7				
Intersection Summary												
HCM 6th Ctrl Delay				24.1								
HCM 6th LOS				C								

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2021)

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	975	76	96	1208	12	94	27	69	23	46	72
Future Volume (vph)	89	975	76	96	1208	12	94	27	69	23	46	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red	Yes			Yes			Yes			Yes		
Link Speed (mph)	35			35			30			30		
Link Distance (ft)	1115			1500			1000			1000		
Travel Time (s)	21.7			29.2			22.7			22.7		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	20.0	73.0		20.0	73.0		25.0	42.0		25.0	42.0	
Total Split (%)	12.5%	45.6%		12.5%	45.6%		15.6%	26.3%		15.6%	26.3%	
Maximum Green (s)	14.0	67.0		14.0	67.0		19.0	36.0		19.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)	7.0			7.0			7.0			7.0		
Flash Dont Walk (s)	18.0			18.0			25.0			25.0		
Pedestrian Calls (#/hr)	0			0			0			0		

Intersection Summary

Area Type: Other

Cycle Length: 160

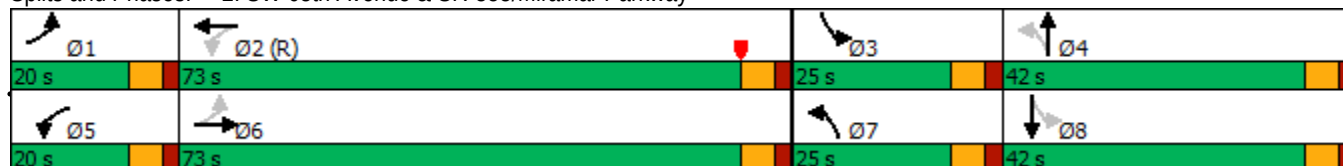
Actuated Cycle Length: 160

Offset: 66 (41%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2021)

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	975	76	96	1208	12	94	27	69	23	46	72
Future Volume (veh/h)	89	975	76	96	1208	12	94	27	69	23	46	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	1060	83	104	1313	13	102	29	75	25	50	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	294	2206	173	351	2387	24	176	63	162	176	59	92
Arrive On Green	0.03	0.67	0.67	0.03	0.67	0.67	0.06	0.14	0.14	0.02	0.09	0.09
Sat Flow, veh/h	1781	3312	259	1781	3577	35	1781	462	1194	1781	658	1027
Grp Volume(v), veh/h	97	564	579	104	647	679	102	0	104	25	0	128
Grp Sat Flow(s),veh/h/ln	1781	1763	1809	1781	1763	1849	1781	0	1655	1781	0	1685
Q Serve(g_s), s	2.8	25.1	25.2	3.0	30.9	30.9	8.1	0.0	9.3	2.0	0.0	12.0
Cycle Q Clear(g_c), s	2.8	25.1	25.2	3.0	30.9	30.9	8.1	0.0	9.3	2.0	0.0	12.0
Prop In Lane	1.00		0.14	1.00		0.02	1.00		0.72	1.00		0.61
Lane Grp Cap(c), veh/h	294	1174	1205	351	1176	1234	176	0	225	176	0	152
V/C Ratio(X)	0.33	0.48	0.48	0.30	0.55	0.55	0.58	0.00	0.46	0.14	0.00	0.84
Avail Cap(c_a), veh/h	397	1174	1205	451	1176	1234	276	0	372	357	0	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	13.1	13.1	10.3	14.0	14.0	59.8	0.0	63.7	64.7	0.0	71.7
Incr Delay (d2), s/veh	0.2	1.2	1.2	0.2	1.9	1.8	1.1	0.0	0.6	0.1	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	15.0	15.3	2.1	18.4	19.1	6.7	0.0	7.2	1.7	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	14.4	14.3	10.5	15.8	15.8	60.9	0.0	64.3	64.9	0.0	76.5
LnGrp LOS	B	B	B	B	B	B	E	A	E	E	A	E
Approach Vol, veh/h	1240		1430				206		153			
Approach Delay, s/veh	14.1		15.4				62.6		74.6			
Approach LOS	B		B				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	112.8	8.7	27.7	11.0	112.6	16.0	20.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	67.0	19.0	36.0	14.0	67.0	19.0	36.0				
Max Q Clear Time (g_c+I1), s	4.8	32.9	4.0	11.3	5.0	27.2	10.1	14.0				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.0	1.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	21.1											
HCM 6th LOS	C											

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2025)

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1202	155	35	1415	10	248	29	64	35	23	73
Future Volume (vph)	96	1202	155	35	1415	10	248	29	64	35	23	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	15.0	105.0	105.0	90.0	90.0		55.0	55.0		55.0	55.0	
Total Split (%)	9.4%	65.6%	65.6%	56.3%	56.3%		34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)	9.0	99.0	99.0	84.0	84.0		49.0	49.0		49.0	49.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max	Max	C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 32 (20%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study
1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2025)
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1202	155	35	1415	10	248	29	64	35	23	73
Future Volume (veh/h)	96	1202	155	35	1415	10	248	29	64	35	23	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	1252	161	39	1572	11	318	37	82	44	29	92
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.78	0.78	0.78	0.79	0.79	0.79
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	171	2181	981	201	1955	14	364	158	351	367	121	383
Arrive On Green	0.04	0.62	0.62	0.54	0.54	0.54	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	3526	1585	380	3589	25	1270	517	1147	1273	394	1251
Grp Volume(v), veh/h	100	1252	161	39	772	811	318	0	119	44	0	121
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	380	1763	1851	1270	0	1664	1273	0	1645
Q Serve(g_s), s	3.9	33.6	6.9	10.8	56.7	56.8	40.0	0.0	8.5	4.3	0.0	8.8
Cycle Q Clear(g_c), s	3.9	33.6	6.9	32.6	56.7	56.8	48.8	0.0	8.5	12.8	0.0	8.8
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.69	1.00		0.76
Lane Grp Cap(c), veh/h	171	2181	981	201	961	1009	364	0	510	367	0	504
V/C Ratio(X)	0.58	0.57	0.16	0.19	0.80	0.80	0.87	0.00	0.23	0.12	0.00	0.24
Avail Cap(c_a), veh/h	207	2181	981	201	961	1009	364	0	510	367	0	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.73	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	18.0	12.9	31.2	29.5	29.5	59.8	0.0	41.5	46.3	0.0	41.6
Incr Delay (d2), s/veh	1.2	1.1	0.4	1.6	5.3	5.1	19.9	0.0	0.2	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	19.8	4.6	2.0	31.9	33.3	21.2	0.0	6.5	2.5	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	19.1	13.3	32.7	34.8	34.6	79.7	0.0	41.6	46.4	0.0	41.7
LnGrp LOS	C	B	B	C	C	C	E	A	D	D	A	D
Approach Vol, veh/h		1513			1622			437			165	
Approach Delay, s/veh		19.3			34.6			69.4			43.0	
Approach LOS		B			C			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.8	93.2		55.0		105.0		55.0				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	84.0		49.0		99.0		49.0				
Max Q Clear Time (g_c+I1), s	5.9	58.8		50.8		35.6		14.8				
Green Ext Time (p_c), s	0.0	13.8		0.0		14.1		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			C									

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2025)

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	1062	77	102	1311	12	95	27	76	23	46	72
Future Volume (vph)	89	1062	77	102	1311	12	95	27	76	23	46	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red	Yes			Yes			Yes			Yes		
Link Speed (mph)	35			35			30			30		
Link Distance (ft)	1115			1500			1000			1000		
Travel Time (s)	21.7			29.2			22.7			22.7		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	20.0	73.0		20.0	73.0		25.0	42.0		25.0	42.0	
Total Split (%)	12.5%	45.6%		12.5%	45.6%		15.6%	26.3%		15.6%	26.3%	
Maximum Green (s)	14.0	67.0		14.0	67.0		19.0	36.0		19.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)	7.0			7.0			7.0			7.0		
Flash Dont Walk (s)	18.0			18.0			25.0			25.0		
Pedestrian Calls (#/hr)	0			0			0			0		

Intersection Summary

Area Type: Other

Cycle Length: 160

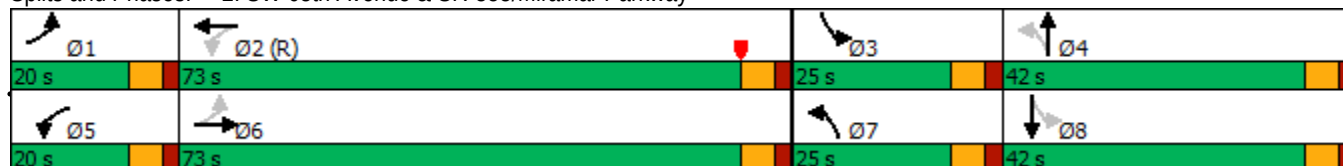
Actuated Cycle Length: 160

Offset: 66 (41%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2025)

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	1062	77	102	1311	12	95	27	76	23	46	72
Future Volume (veh/h)	89	1062	77	102	1311	12	95	27	76	23	46	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	1154	84	111	1425	13	103	29	83	25	50	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	264	2212	161	322	2387	22	177	58	167	169	59	92
Arrive On Green	0.03	0.66	0.66	0.03	0.67	0.67	0.06	0.14	0.14	0.02	0.09	0.09
Sat Flow, veh/h	1781	3332	242	1781	3580	33	1781	427	1223	1781	658	1027
Grp Volume(v), veh/h	97	610	628	111	701	737	103	0	112	25	0	128
Grp Sat Flow(s),veh/h/ln	1781	1763	1812	1781	1763	1850	1781	0	1650	1781	0	1685
Q Serve(g_s), s	2.8	28.4	28.5	3.2	35.2	35.3	8.2	0.0	10.1	2.0	0.0	12.0
Cycle Q Clear(g_c), s	2.8	28.4	28.5	3.2	35.2	35.3	8.2	0.0	10.1	2.0	0.0	12.0
Prop In Lane	1.00		0.13	1.00		0.02	1.00		0.74	1.00		0.61
Lane Grp Cap(c), veh/h	264	1170	1203	322	1175	1233	177	0	225	169	0	152
V/C Ratio(X)	0.37	0.52	0.52	0.35	0.60	0.60	0.58	0.00	0.50	0.15	0.00	0.84
Avail Cap(c_a), veh/h	367	1170	1203	419	1175	1233	276	0	371	351	0	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	13.8	13.8	11.2	14.8	14.8	59.7	0.0	64.0	64.7	0.0	71.7
Incr Delay (d2), s/veh	0.3	1.4	1.3	0.2	2.2	2.1	1.1	0.0	0.6	0.1	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	16.5	16.9	2.2	20.6	21.4	6.8	0.0	7.7	1.7	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	15.2	15.2	11.5	17.0	16.9	60.9	0.0	64.6	64.9	0.0	76.5
LnGrp LOS	B	B	B	B	B	B	E	A	E	E	A	E
Approach Vol, veh/h	1335			1549			215			153		
Approach Delay, s/veh	15.1			16.6			62.8			74.6		
Approach LOS	B			B			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	112.7	8.7	27.8	11.2	112.2	16.1	20.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	67.0	19.0	36.0	14.0	67.0	19.0	36.0				
Max Q Clear Time (g_c+I1), s	4.8	37.3	4.0	12.1	5.2	30.5	10.2	14.0				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.4	0.0	1.2	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	21.7											
HCM 6th LOS	C											

Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2028)

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	1301	158	37	1533	15	251	34	67	41	28	93
Future Volume (vph)	112	1301	158	37	1533	15	251	34	67	41	28	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	110		0	110		0	50		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			1115			1000			1000	
Travel Time (s)		25.0			21.7			22.7			22.7	
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6		6	2			4			8		
Detector Phase	1	6	6	2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	12.0	12.0	12.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	29.0	29.0	29.0	29.0		32.0	32.0		40.0	40.0	
Total Split (s)	14.0	104.0	104.0	90.0	90.0		56.0	56.0		56.0	56.0	
Total Split (%)	8.8%	65.0%	65.0%	56.3%	56.3%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	8.0	98.0	98.0	84.0	84.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Minimum Gap (s)	1.5	3.0	3.0	3.0	3.0		2.5	2.5		2.5	2.5	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max	Max	C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		16.0	16.0	16.0	16.0		19.0	19.0		27.0	27.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0		0	0	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 32 (20%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

1: SW 69th Avenue/SW 69th Way & SR-858/Miramar Parkway

Future (2028)

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1301	158	37	1533	15	251	34	67	41	28	93
Future Volume (veh/h)	112	1301	158	37	1533	15	251	34	67	41	28	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	117	1355	165	41	1703	17	322	44	86	52	35	118
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.78	0.78	0.78	0.79	0.79	0.79
Percent Heavy Veh, %	2	3	2	2	3	3	2	2	2	2	2	2
Cap, veh/h	149	2159	971	172	1908	19	343	177	346	366	117	396
Arrive On Green	0.04	0.61	0.61	0.53	0.53	0.53	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	3526	1585	343	3576	36	1234	566	1106	1260	376	1267
Grp Volume(v), veh/h	117	1355	165	41	839	881	322	0	130	52	0	153
Grp Sat Flow(s),veh/h/ln	1781	1763	1585	343	1763	1849	1234	0	1671	1260	0	1642
Q Serve(g_s), s	4.6	38.7	7.2	13.7	67.7	68.0	38.7	0.0	9.3	5.1	0.0	11.3
Cycle Q Clear(g_c), s	4.6	38.7	7.2	39.8	67.7	68.0	50.0	0.0	9.3	14.4	0.0	11.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.66	1.00		0.77
Lane Grp Cap(c), veh/h	149	2159	971	172	941	987	343	0	522	366	0	513
V/C Ratio(X)	0.78	0.63	0.17	0.24	0.89	0.89	0.94	0.00	0.25	0.14	0.00	0.30
Avail Cap(c_a), veh/h	165	2159	971	172	941	987	343	0	522	366	0	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.68	0.68	0.68	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	19.5	13.4	36.0	33.2	33.2	62.1	0.0	41.0	46.4	0.0	41.7
Incr Delay (d2), s/veh	17.2	1.4	0.4	2.2	9.0	8.8	32.6	0.0	0.2	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	22.5	4.9	2.3	38.0	39.8	23.1	0.0	7.1	3.0	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	20.9	13.8	38.2	42.2	42.0	94.6	0.0	41.2	46.5	0.0	41.9
LnGrp LOS	D	C	B	D	D	D	F	A	D	D	A	D
Approach Vol, veh/h		1637			1761			452			205	
Approach Delay, s/veh		22.5			42.0			79.3			43.1	
Approach LOS		C			D			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.6	91.4		56.0		104.0		56.0				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	8.0	84.0		50.0		98.0		50.0				
Max Q Clear Time (g_c+I1), s	6.6	70.0		52.0		40.7		16.4				
Green Ext Time (p_c), s	0.0	10.2		0.0		16.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			38.3									
HCM 6th LOS			D									

Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

Future (2028)

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	1143	79	104	1404	12	98	30	79	23	48	72
Future Volume (vph)	89	1143	79	104	1404	12	98	30	79	23	48	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	195		0	245		0	125		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1115			1500			1000			1000	
Travel Time (s)		21.7			29.2			22.7			22.7	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	10.0	31.0		10.0	31.0		10.0	38.0		10.0	38.0	
Total Split (s)	20.0	73.0		20.0	73.0		25.0	42.0		25.0	42.0	
Total Split (%)	12.5%	45.6%		12.5%	45.6%		15.6%	26.3%		15.6%	26.3%	
Maximum Green (s)	14.0	67.0		14.0	67.0		19.0	36.0		19.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Minimum Gap (s)	1.5	0.2		1.5	0.2		1.5	2.0		1.5	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		18.0			18.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary

Area Type: Other

Cycle Length: 160

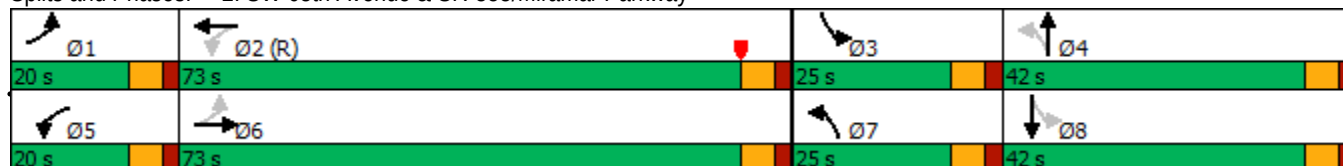
Actuated Cycle Length: 160

Offset: 66 (41%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 2: SW 68th Avenue & SR-858/Miramar Parkway



Historic Miramar Innovation and Technology Village Traffic Study

2: SW 68th Avenue & SR-858/Miramar Parkway

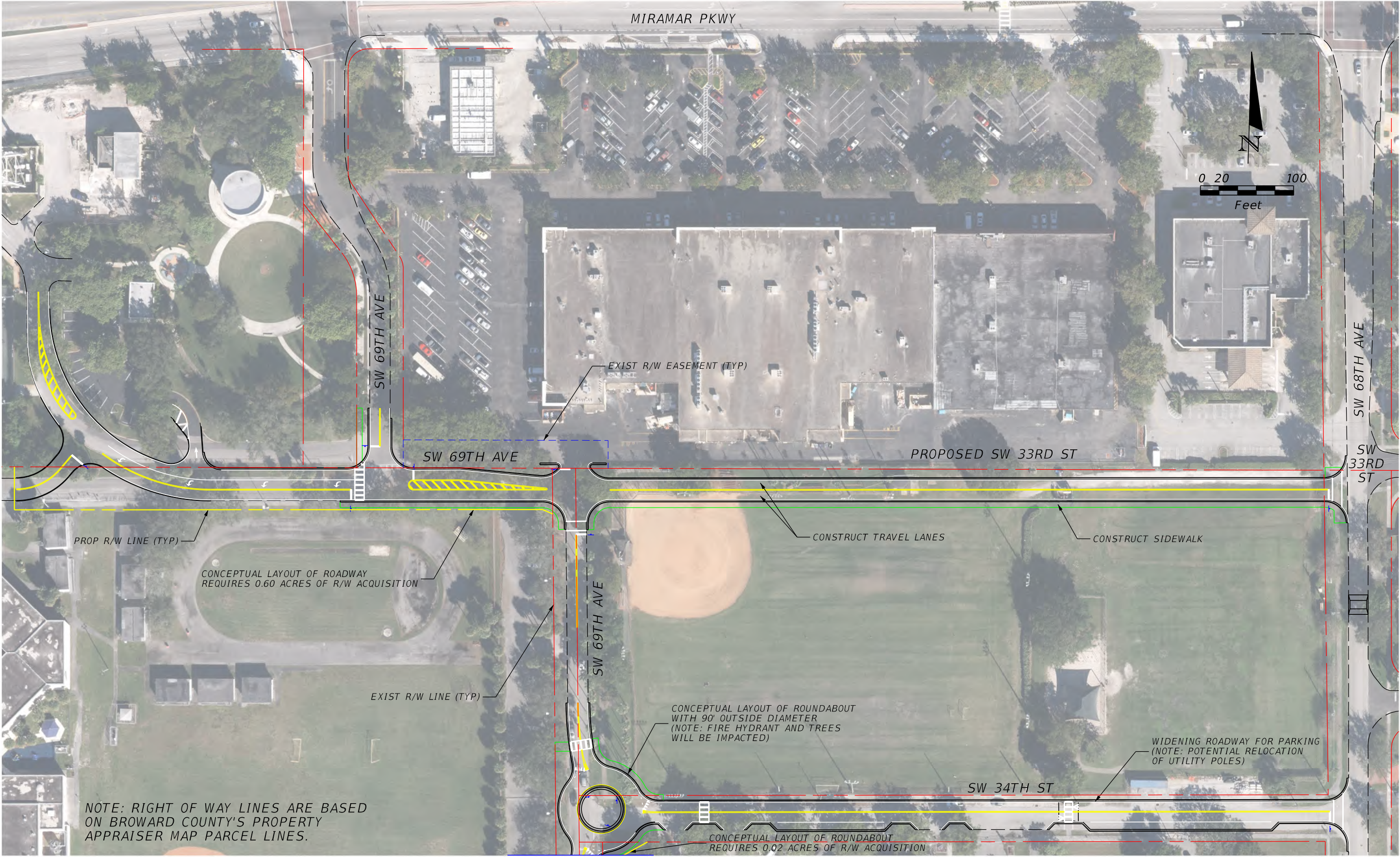
Future (2028)

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	1143	79	104	1404	12	98	30	79	23	48	72
Future Volume (veh/h)	89	1143	79	104	1404	12	98	30	79	23	48	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1856	1870	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	1242	86	113	1526	13	107	33	86	25	52	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	2	3	3	2	2	2	2	2	2
Cap, veh/h	238	2209	153	294	2376	20	181	64	167	168	62	92
Arrive On Green	0.03	0.66	0.66	0.03	0.66	0.66	0.07	0.14	0.14	0.02	0.09	0.09
Sat Flow, veh/h	1781	3345	231	1781	3582	31	1781	459	1196	1781	675	1013
Grp Volume(v), veh/h	97	654	674	113	751	788	107	0	119	25	0	130
Grp Sat Flow(s),veh/h/ln	1781	1763	1814	1781	1763	1850	1781	0	1655	1781	0	1688
Q Serve(g_s), s	2.9	32.0	32.2	3.3	39.9	40.0	8.5	0.0	10.7	2.0	0.0	12.1
Cycle Q Clear(g_c), s	2.9	32.0	32.2	3.3	39.9	40.0	8.5	0.0	10.7	2.0	0.0	12.1
Prop In Lane	1.00		0.13	1.00		0.02	1.00		0.72	1.00		0.60
Lane Grp Cap(c), veh/h	238	1164	1198	294	1169	1227	181	0	231	168	0	154
V/C Ratio(X)	0.41	0.56	0.56	0.38	0.64	0.64	0.59	0.00	0.52	0.15	0.00	0.85
Avail Cap(c_a), veh/h	340	1164	1198	390	1169	1227	276	0	372	349	0	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.0	14.7	14.7	12.5	15.8	15.8	59.5	0.0	63.8	64.6	0.0	71.6
Incr Delay (d2), s/veh	0.3	1.5	1.5	0.3	2.7	2.6	1.2	0.0	0.7	0.2	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	18.1	18.6	2.3	23.0	24.0	7.1	0.0	8.1	1.7	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	16.2	16.2	12.8	18.5	18.4	60.6	0.0	64.5	64.7	0.0	76.4
LnGrp LOS	B	B	B	B	B	B	E	A	E	E	A	E
Approach Vol, veh/h	1425		1652				226		155			
Approach Delay, s/veh	16.1		18.1				62.7		74.5			
Approach LOS	B		B				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	112.1	8.7	28.3	11.3	111.6	16.5	20.6				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	67.0	19.0	36.0	14.0	67.0	19.0	36.0				
Max Q Clear Time (g_c+I1), s	4.9	42.0	4.0	12.7	5.3	34.2	10.5	14.1				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.4	0.0	1.4	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	22.7											
HCM 6th LOS	C											

Appendix H

Long-Term Roadway Improvements and Cost Estimate



NOTE: RIGHT OF WAY LINES ARE BASED ON BROWARD COUNTY'S PROPERTY APPRAISER MAP PARCEL LINES.

MATCH SHEET 2

NO.	REVISION	BY	DATE



CITY OF MIRAMAR
2200 CIVIC CENTER PLACE
2ND FLOOR
MIRAMAR, FL 33025



2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908

FLORIDA LICENSE No.

SIGNATURE

DATE

DATE : 12/8/2020

PROJ. # : 18541L_02

DRAWN BY: HAR

APPD. BY: N/A

PLOT BY: HAR

FILE NAME: N/A

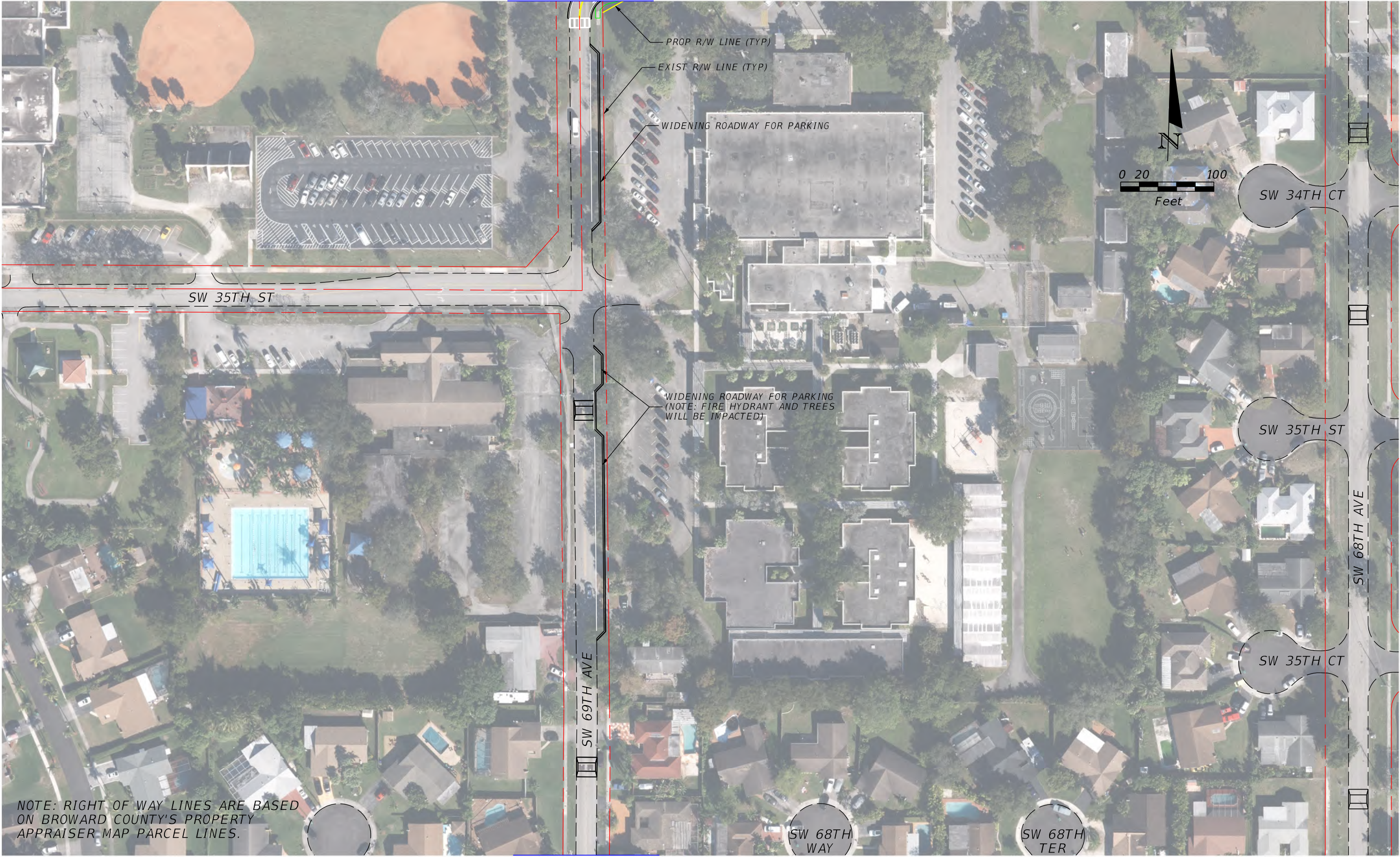
REF. # : 18541L_02

F.B. & PG. : N/A

HISTORIC MIRAMAR
LONG-TERM
IMPROVEMENTS EXHIBIT

SHEET

1



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△			
△			
NO.	REVISION	BY	DATE



CITY OF MIRAMAR
2200 CIVIC CENTER PLACE
2ND FLOOR
MIRAMAR, FL 33025



2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908

FLORIDA LICENSE No. _____

SIGNATURE _____

DATE _____

DATE : 12/8/2020

PROJ. # : 18541L_02

DRAWN BY: HAR

APPD. BY : N/A

PLOT BY : HAR

FILE NAME: N/A

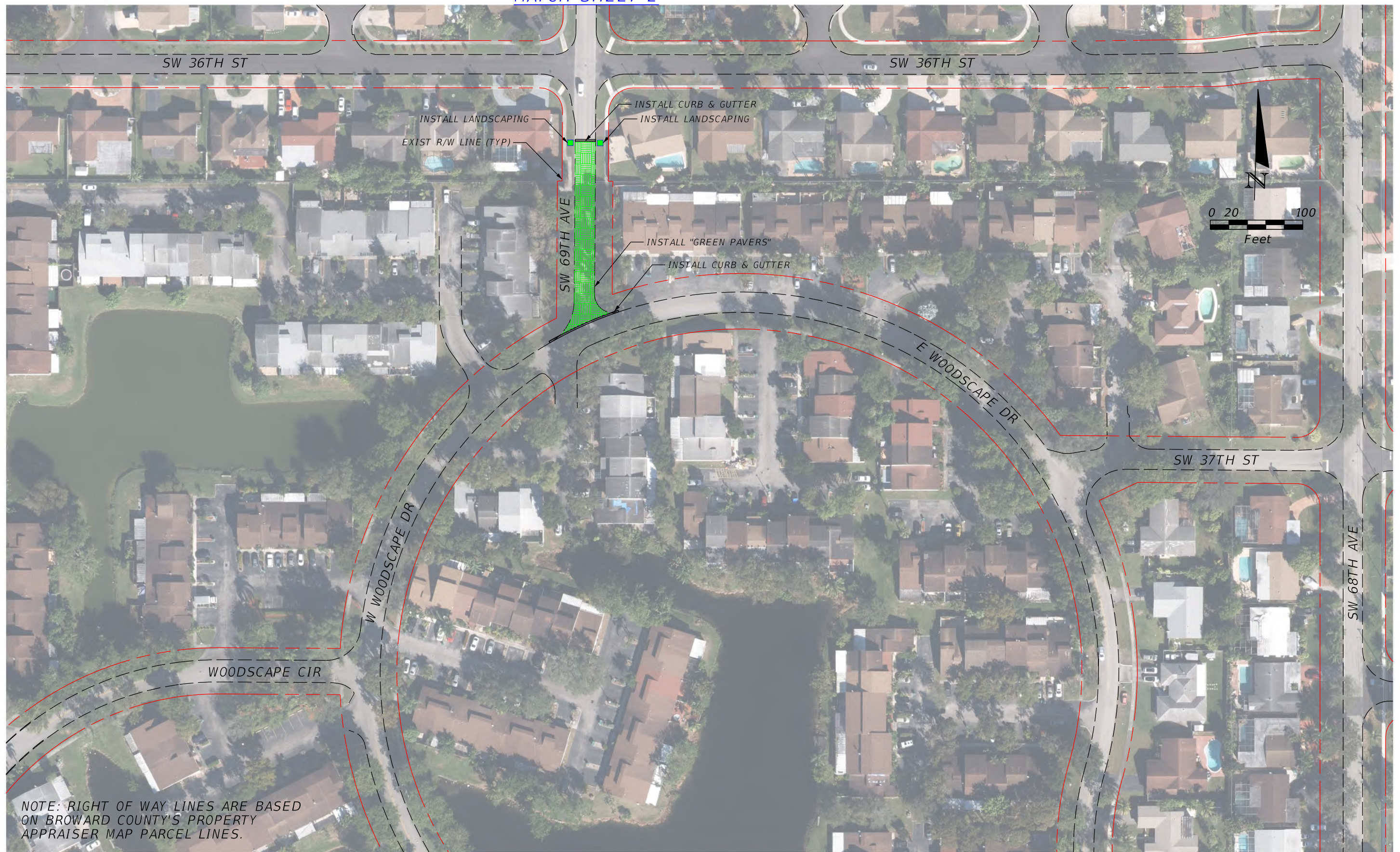
REF. # : 18541L_02

F.B. & PG. : N/A

HISTORIC MIRAMAR
LONG-TERM
IMPROVEMENTS EXHIBIT

SHEET

2



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△			
NO.	REVISION	BY	DATE



CITY OF MIRAMAR
2200 CIVIC CENTER PLACE
2ND FLOOR
MIRAMAR, FL 33025



2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908

FLORIDA LICENSE No.

SIGNATURE DATE

DATE : 12/8/2020
PROJ. # : 18541L_02
DRAWN BY: HAR
APPD. BY : N/A
PLOT BY : HAR
FILE NAME: N/A
REF. # : 18541L_02
F.B. & PG. : N/A

HISTORIC MIRAMAR LONG-TERM IMPROVEMENTS EXHIBIT

SHEET

3

ENGINEERS COST ESTIMATE Project Title: Historic Miramar Long-Term Improvements Date: November 6, 2020					
Pay Item Number	Pay Item Description	Quantity	Unit	Engineer's Unit Cost	Total Engineer's Cost
Roadway					
0101-1	MOBILIZATION	1	LS	-	\$70,000.00
0104-18	INLET PROTECTION SYSTEM	10	EA	\$104.57	\$1,045.70
0110-1-1	CLEARING & GRUBBING	2.66	AC	\$10,662.57	\$28,362.44
0110-4-10	REMOVAL OF EXISTING CONCRETE PAVEMENT	402	SY	\$17.78	\$7,147.56
0120-1	REGULAR EXCAVATION	2751.4	CY	\$9.22	\$25,367.91
0160-4	TYPE B STABILIZATION	7620	SY	\$3.04	\$23,164.80
0285-70-11	OPTIONAL BASE, BASE GROUP 11 (LIMEROCK 12")	6249	SY	\$21.96	\$137,228.04
0327-70-5	MILLING EXIST ASPHALT PAVEMENT, 2" AVG DEPTH	4871	SY	\$2.65	\$12,908.15
0337-7-81	ASPHALT CONCRETE FRICTION COURSE,TRAFFIC B, FC-12.5, PG 76-22 (2")	1223.2	TN	\$142.73	\$174,587.34
0520-1-10	CONCRETE CURB & GUTTER, TYPE F	4908	LF	\$22.51	\$110,479.08
0520-2-4	CONCRETE CURB, TYPE D	643	LF	\$14.34	\$9,220.62
0520-2-8	CONCRETE CURB, TYPE RA**	151	LF	\$37.82	\$5,710.82
0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	695	SY	\$43.32	\$30,107.40
0522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	279	SY	\$45.52	\$12,700.08
0526-1-1	PAVERS, ARCHITECTURAL, ROADWAY	510	SY	\$136.50	\$69,615.00
0527-2	DETECTABLE WARNINGS	96	SF	\$35.24	\$3,383.04
0570-1-2	PERFORMANCE TURF, SOD	3034	SY	\$2.57	\$7,797.38
1644-800	FIRE HYDRANT, RELOCATE**	2	EA	\$3,130.83	\$6,261.66
*	ASPHALT SPEED HUMP	7.9	TN	\$400.00	\$3,160.00
-	LANDSCAPING	2.0	EA	\$200.00	\$400.00
Signing & Pavement Markings					
0700-1-11	SINGLE POST SIGN, F&I GM. <12 SF	21	AS	\$345.71	\$7,259.91
0700-1-50	SINGLE POST SIGN, RELOCATE	1	AS	\$313.09	\$313.09
0700-1-60	SINGLE POST SIGN, REMOVE	7	AS	\$37.75	\$264.25
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	256	EA	\$6.94	\$1,776.64
0710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	1.043	GM	\$780.82	\$814.40
0710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	383	LF	\$0.57	\$218.31
0710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	380	LF	\$3.28	\$1,246.40
0710-11-141	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE / 6-10 DOTTED EXTENTION, 6"	0.013	GM	\$370.00	\$4.81
0710-11-170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	4.000	EA	\$31.79	\$127.16
0710-11-180	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, YIELD LINE**	37	LF	\$5.18	\$191.66
0710-11-201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	1.056	GM	\$752.75	\$794.90
0710-11-224	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID FOR DIAGONAL OR CHEVRON, 18"	212	LF	\$1.04	\$220.48
0711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	383	LF	\$1.75	\$670.25
0711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	380	LF	\$3.66	\$1,390.80
0711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE / 6-10 GAP EXTENTION, 6"	0.013	GM	\$1,472.21	\$19.14
0711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	4.000	EA	\$52.67	\$210.68
0711-11-180	THERMOPLASTIC, STANDARD, WHITE, YIELD LINE**	37	LF	\$18.08	\$668.96
0711-11-224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONALS AND CHEVRONS	212	LF	\$3.69	\$782.28
0711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	1.043	GM	\$3,969.17	\$4,139.84
0711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	1.056	GM	\$3,986.47	\$4,209.71
SUBTOTAL ITEMIZED CONSTRUCTION COST					\$763,970.68
1	Design (20%)		LS	20%	\$ 152,794.14
2	Post Design (10%)		LS	10%	\$ 76,397.07
3	CEI (15%)		LS	15%	\$ 114,595.60
4	MOT (20%)		LS	20%	\$ 152,794.14
5	Permit (5%)		LS	5%	\$ 38,198.53
6	Surveying (5%)		LS	5%	\$ 38,198.53
TOTAL ITEMIZED CONSTRUCTION COST					\$1,336,948.70
7	Contingency (30%)		LS	30%	\$ 401,084.61
				TOTAL COST	\$1,738,033.31

Note: Cost from FDOT Area 12 Current 12 Month Moving Market Area Averages from 2019/09/01 to 2020/08/31. The estimate does not include utility relocations, landscaping (other than the landscaping at the road closure), irrigation (at the roundabout), relocation/removal of the sports field lighting, R.O.W. acquisition, and drainage along proposed SW 33rd Street and at the roundabout.

* Each Asphalt Speed Hump is 7.83 TN. One Speed Humps proposed.

** Cost from FDOT Current 12 Month Moving Statewide Averages from 2019/09/01 to 2020/08/31