

■

*Traffic Impact Analysis
for Submittal to the
City of Miami Beach*

Eighteen Sunset
Miami Beach, Florida



Kimley»»Horn

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Updated March 2020
February 2020
143013001

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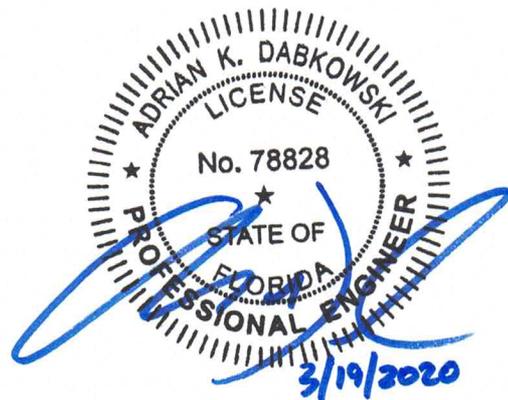
Eighteen Sunset Miami Beach, Florida

Prepared for:

Sunset Land Associates, LLC

Prepared by:

Kimley-Horn and Associates, Inc.



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EXECUTIVE SUMMARY

Sunset Land Associates, LLC is proposing to redevelop the properties located at 1733 to 1759 Purdy Avenue and 1724 to 1752 Bay Road in Miami Beach, Florida. The previously approved development consisted of 12 multifamily residential units and 19,988 square feet of retail space. The proposed redevelopment includes two (2) multifamily residential units, 16,000 square feet of retail space, and 24,000 square feet of office space. The project is expected to be completed and opened by year 2023.

Access to the proposed redevelopment will be provided by one (1) full access driveway located along Bay Road just north of Dade Boulevard. Please note that valet operations will not be provided as part of the proposed redevelopment. However, self-parking will be provided on-site. Further note that the previously approved development provided valet operations as self-parking was not provided.

Trip generation calculations for the previously approved development and the proposed redevelopment were performed using Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition. The proposed redevelopment is expected to generate 101 vehicle trips during the weekday P.M. peak hour. However, the proposed redevelopment is expected to generate two (2) net new vehicle trips during the weekday P.M. peak hour as compared to the previously approved development. Please note that as the previously approved development did not provide self-parking on-site, all trips were valeted resulting in an additional 149 vehicle trips circulating the external roadway network. As the proposed redevelopment only provides self-parking and will not provide valet operations, the proposed redevelopment is expected to result in a net reduction of 147 vehicle trips circulating the external roadway network.

The results of the intersection capacity analysis indicate that the study intersections are expected to operate at LOS B or better during the P.M. peak hour under all analysis conditions.

The results of the entry gate analysis indicate that the 95th percentile queue is expected to be less than one (1) vehicle. Therefore, it is expected that vehicle queues will be accommodated on-site and will not extend onto Bay Drive.

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. The applicant will commit to implementing the following strategies:

- Offer two (2) Citi Bike passes to employees or tenant employees.
- Provide integrated bikeshare information with communication materials for commuters and visitors.
- Offer two (2) transit passes to employees or tenant employees.
- Secure bicycle parking (bicycle racks and/lockers).
- Designated scooter/motorcycle parking spaces.
- Carpool incentive program for employees or tenant employees.
- Car/vanpooling designated parking spaces.
- Provide enlarged pedestrian/bicycle pathways and breezeway that will accommodate bikers.
- Elevators that can accommodate bikes.

Please note that three (3) Citi Bike stations are located within the vicinity of the project site on the east side of Sunset Harbour Drive/Purdy Avenue just south of 18th Street (14 bicycle docks), south side of 20th Street just west of West Avenue (16 bicycle docks), and east side of Sunset Drive just south of 20th Street (16 bicycle docks).

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INTRODUCTION

Sunset Land Associates, LLC is proposing to redevelop the property located at 1733 to 1759 Purdy Avenue and 1724 to 1752 Bay Road in Miami Beach, Florida. The previously approved development consisted of 12 multifamily residential units and 19,988 square feet of retail space. The proposed redevelopment includes two (2) multifamily residential units, 16,000 square feet of retail space, and 24,000 square feet of office space. A project location map is provided as Figure 1. A site plan is included in Appendix A.

Kimley-Horn and Associates, Inc. has completed this traffic impact analysis update for submittal to the City of Miami Beach. The purpose of the study is to assess the project's impact on the surrounding roadway network and determine if adequate capacity is available to support future traffic volumes. The study's methodology is consistent with the requirements of the City of Miami Beach. Methodology correspondence detailing the traffic study requirements is included in Appendix B. This report summarizes the data collection, project trip generation and distribution, capacity analysis, and Transportation Demand Management (TDM) strategies.

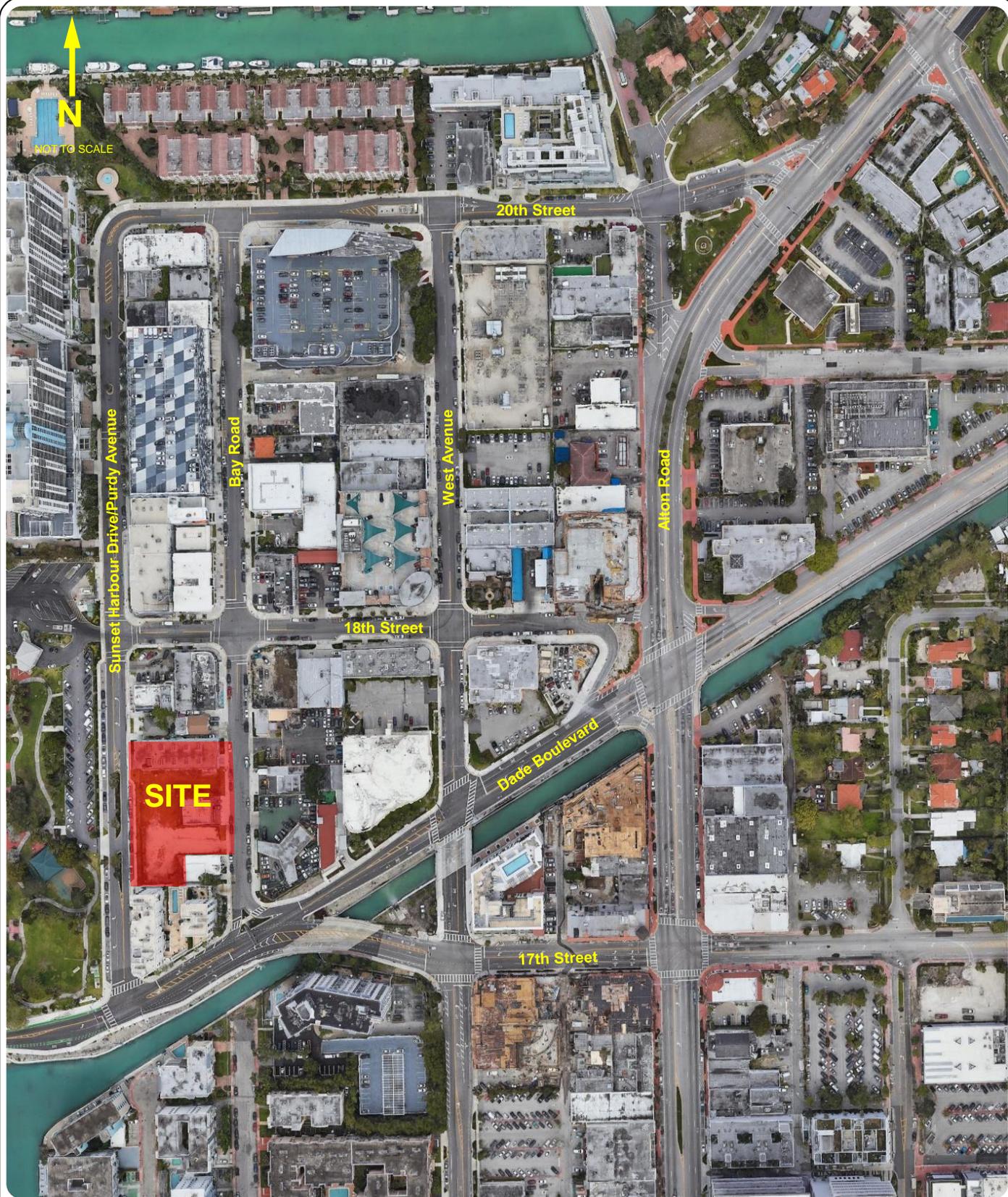


Figure 1
Location Map
Eighteen Sunset
Miami Beach, Florida

EXISTING TRAFFIC

Weekday P.M. peak period (4:00 P.M. to 6:00 P.M.) turning movements were collected on Tuesday, February 11, 2020 at the following intersections:

- Sunset Harbour Drive/Purdy Avenue and Dade Boulevard
- Bay Road and Dade Boulevard
- 18th Street and Dade Boulevard

Please note that prohibited southbound left-turns were collected at two (2) of the intersections; Bay Road at Dade Boulevard and 18th Street at Dade Boulevard. Additionally, prohibited southbound through movements were collected at the intersection of Bay Road and Dade Boulevard.

The traffic volumes were collected in 15-minute intervals. City of Miami Beach peak season conversion factors were developed from Florida Department of Transportation (FDOT) data and were applied to the traffic counts to adjust the traffic to peak season volumes. The appropriate peak season conversion factor of 1.11 was applied to collected turning movement counts.

Existing signal phasing and timing patterns were obtained from the Miami-Dade County Department of Transportation and Public Works – Traffic Signals and Signs Division for the signalized intersection required to be evaluated in this analysis. The turning movement counts, FDOT peak season factor category report, and signal timing data are included in Appendix C. Figure 2 presents the existing turning movement volumes at the study intersections during the weekday P.M. peak hour.



NOT TO SCALE

- Legend**
- Study Roadway
 - Study Intersection
 - XX P.M. Peak Hour Traffic
 - XX Prohibited P.M. Peak Hour Traffic



FUTURE BACKGROUND TRAFFIC

Future background traffic conditions are defined as expected traffic conditions on the roadway network in the year 2023 without the construction of the proposed redevelopment. Future background traffic volumes used in the analysis are the sum of the existing traffic, an additional amount of traffic generated by growth in the study area, and committed development traffic. Refer to Figure 3 for the 2023 peak hour background traffic volumes.

Background Area Growth

Future traffic growth on the transportation network was determined based upon (a) historic growth trends at nearby FDOT traffic count stations and (b) traffic volume comparisons from the year 2010 and 2040 Florida Standard Urban Transportation Model Structure (FSUTMS) – Southeast Florida Regional Planning Model (SERPM). FDOT count stations referenced in this analysis include:

- Count Station #0012: SR 907/Alton Road – 200 feet north of 20th Street
- Count Station #2542: SR 907/Alton Road – 200 feet south of Venetian Causeway

The historic growth rate analysis, based on FDOT count stations examined linear, exponential, and decaying exponential growth rates for the most recent five (5) year and ten (10)-year periods. The linear growth trend yielded a growth rate of 0.69 percent (0.69%) over the most recent five (5) year period and a growth rate of negative 0.75 percent (-0.75%) over the most recent ten (10) year period. The exponential growth trend yielded a growth rate of 0.84 percent (0.84%) over the most recent five (5) year period and a growth rate of negative 0.84 percent (-0.84%) over the most recent ten (10) year period. The decaying exponential growth trend yielded a growth rate of 0.79 percent (0.79%) over the most recent five (5) year period and a growth rate of negative 0.91 percent (-0.91%) over the most recent ten (10) year period. Based on the forecasted volumes obtained from the 2010 and 2040 FSUTMS SERPM, an annual growth rate of 0.25 percent (0.25%) was calculated in the vicinity of the redevelopment. The highest growth rate of 0.84 percent (0.84%) was applied to existing traffic volumes compounded annually to develop

future 2023 volumes. The worksheets used to analyze the historic growth trends along with the FSUTMS transportation model outputs are included in Appendix D.

Committed Development

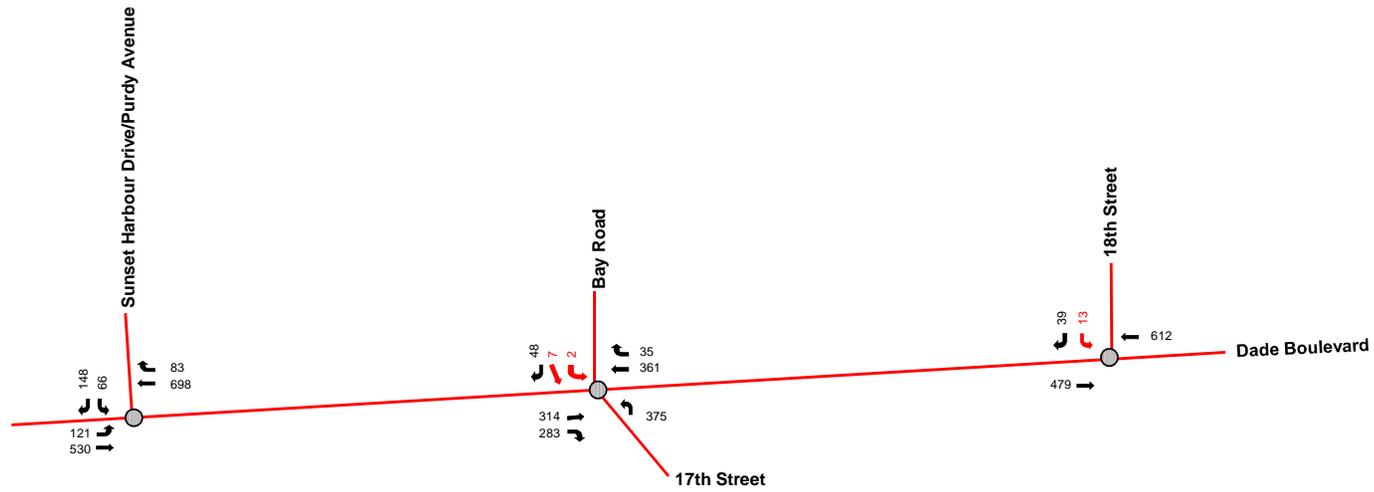
The following committed developments were included as part of future traffic conditions. Committed development information is included in Appendix E.

- 1750 Alton
- 1901 Alton



NOT TO SCALE

- Legend**
- Study Roadway
 - Study Intersection
 - XX P.M. Peak Hour Traffic
 - XX Prohibited P.M. Peak Hour Traffic



PROJECT TRAFFIC

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project and the distribution and assignment of that traffic over the study roadway network.

Previously Approved and Proposed Land Uses

The previously approved development consisted of 12 multifamily residential units and 19,988 square feet of retail space. The proposed redevelopment includes two (2) multifamily residential units, 16,000 square feet of retail space, and 24,000 square feet of office space. The project is expected to be opened and completed by year 2023.

Project Access

Access to the proposed redevelopment will be provided by one (1) full access driveway located along Bay Road just north of Dade Boulevard. Please note that valet operations will not be provided as part of the proposed redevelopment. However, self-parking will be provided on-site. Further note that the previously approved development provided valet operations as self-parking was not provided.

Trip Generation

Trip generation calculations for the previously approved development and the proposed redevelopment were performed using Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition. The trip generation for the previously approved development was determined using ITE Land Use Code (LUC) 221 (Multifamily (Mid-Rise)) and 820 (Shopping Center). The trip generation for the proposed redevelopment was determined using ITE LUC 221 (Multifamily (Mid-Rise)), 820 (Shopping Center), and 710 (General Office Building). Project trips were estimated for the weekday P.M. peak hour.

Multimodal Reduction

A multimodal (public transit, bicycle, and pedestrian) factor of 10.8 percent (10.8%) was identified based on US Census *Means of Transportation to Work* data was for the census tract containing the proposed redevelopment. It is expected that a portion of employees, residents, guests, and patrons will choose to walk, bike, or take public transit to the proposed redevelopment. Miami-Dade County Transit (MDT) provides bus service via three (3) routes and the City of Miami Beach's Trolley provides two (2) routes to and from the project area.

- Route 101/Route A operates along NE 17th Terrace/Biscayne Boulevard, Omni Bus Terminal, City of Miami Beach via Venetian Causeway, Lincoln Road, and South Beach within the vicinity of the proposed redevelopment. This route operates with 35-minute headways during the P.M. peak hour.
- Route 113/Route M operates along NW 21st Street & 19th Avenue via 17th Avenue, NW 19th Avenue/20th Street, Civic Center Metrorail station, University of Miami/Jackson Memorial hospitals and clinics, Cedars Medical Center, VA Hospital, Omni Metromover Station/Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Road, Collins Avenue/41st Street, and Mt. Sinai Hospital within the vicinity of the proposed redevelopment. This route operates with 45-minute headways during the P.M. peak hour.
- Route 119/Route S serves Downtown (Miami) Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail station, Omni Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Road, Collins Avenue, 192 Street Causeway, City of Aventura, and Aventura Mall. This route operates with 12-minute headways during the P.M. peak hour.
- South Beach Loop operates on Venetian Causeway, Sunset Harbour Drive/Purdy Avenue, Bay Road, 18th Street, 17th Street, and West Avenue within the vicinity of the proposed redevelopment. This route operates with 20-minute headways during the P.M. peak hour.

- Middle Beach Loop operates on Dade Boulevard within the vicinity of the proposed redevelopment. This route operates within 15-minute headways during the P.M. peak hour.

Detailed route information and headway data is provided in Appendix F.

Internal Capture

A portion of the trips generated by the previously approved development and the proposed redevelopment are expected to be captured internally on the site. Internal capture trips for the project were determined based upon the methodology contained in the ITE's, *Trip Generation Handbook*, 3rd Edition. The internal capture rate for the previously approved development is expected to be 2.6 percent (2.6%) during the P.M. peak hour and the internal capture rate for the proposed redevelopment is expected to be 6.6 percent (6.6%) during the P.M. peak hour. Internal capture calculations are contained in Appendix F.

Pass-By Capture

Pass-by capture trip rates were determined based on average rates provided in the ITE's, *Trip Generation Handbook*, 3rd Edition. The average pass-by rate for the retail land use is 34.0 percent (34.0%) during the P.M. peak hour.

Net New Project Trips

Net new project trips are equal to the gross project trips minus the multimodal reduction factor, internal capture, and pass-by capture. The net new project trips represent the additional vehicles on the roadway network. Table 1 summarizes the project's trip generation potential for the P.M. peak hour. As shown in Table 1, the proposed redevelopment is expected to generate 101 vehicle trips during the weekday P.M. peak hour. However, the proposed redevelopment is expected to generate two (2) net new vehicle trips during the weekday P.M. peak hour as compared to the previously approved development. Please note that as the previously approved development was valet-only, all trips were valeted resulting in an additional 149 vehicle trips circulating the external roadway network. As the proposed redevelopment only provides self-parking and will

not provide valet service, the proposed redevelopment is expected to result in a net reduction of 147 vehicle trips circulating the external roadway network.

Table 1: Proposed Net New Trip Generation				
Future Land Use (ITE Code)	Scale	Net External Trips	Entering	Exiting
			Trips	Trips
<i>Previously Approved Development</i>				
Mid-Rise Multifamily (221)	12 dwelling units	3	2	1
Shopping Center (820)	19,988 square feet	96	46	50
Net New Project Trips		99	48	51
Total Valet Trips ⁽¹⁾		149	72	77
<i>Proposed Redevelopment</i>				
Mid-Rise Multifamily (221)	2 dwelling units	1	1	0
Shopping Center (820)	16,000 square feet	79	37	42
General Office Building (710)	24,000 square feet	21	4	17
Net New Project Trips		101	42	59
<i>Net New Redevelopment</i>				
Net New Project Trips		2	-6	8
Net New External Trips ⁽²⁾		-147	-78	-69

Note:

- (1) The valet trips include pass-by trips.
- (2) Net new external trips equate to the previously approved development total valet trips minus proposed redevelopment net new project trips.

Trip Distribution and Assignment

The trip distribution was based on the cardinal trip distribution for the project site’s traffic analysis zone (TAZ) obtained from the Miami-Dade Metropolitan Planning Organization’s (MPO’s) 2040 Long Range Transportation Plan Directional Trip Distribution Report, consistent

with the previously approved *Sunset Park Traffic Study*, August 2018. The project is located within TAZ 639. The cardinal distribution is shown in Table 2. Detailed cardinal distribution calculations are contained in Appendix G.

Table 2: Cardinal Trip Distribution	
Cardinal Direction	Percentage of Trips
North-Northeast	15.2%
East-Northeast	5.8%
East-Southeast	3.5%
South-Southeast	19.6%
South-Southwest	2.3%
West-Southwest	26.8%
West-Northwest	17%
North-Northwest	9.8%
Total	100.0%

Figure 4 presents the project’s net new trip distribution for the P.M. peak hour and Figure 5 presents the project’s net new project trip assignment for the P.M. peak hour. Figure 6 details the project’s pass-by trip distribution for the weekday P.M. peak hour and Figure 7 details the project’s pass-by trip assignments for the weekday P.M. peak hour.



NOT TO SCALE

Legend

-  Study Roadway
-  Study Intersection
- XX% Entering Trip Distribution
- (XX%) Exiting Trip Distribution

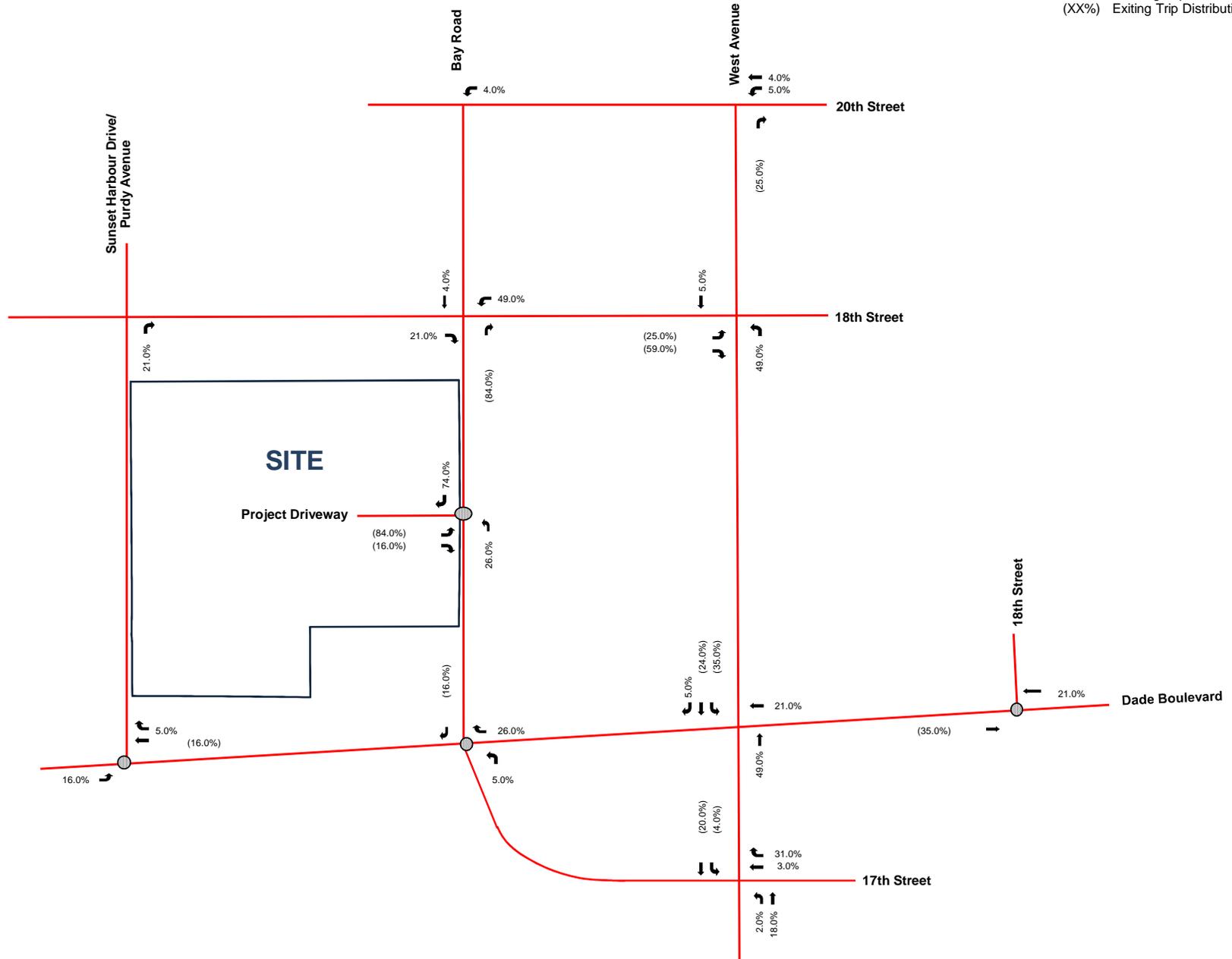
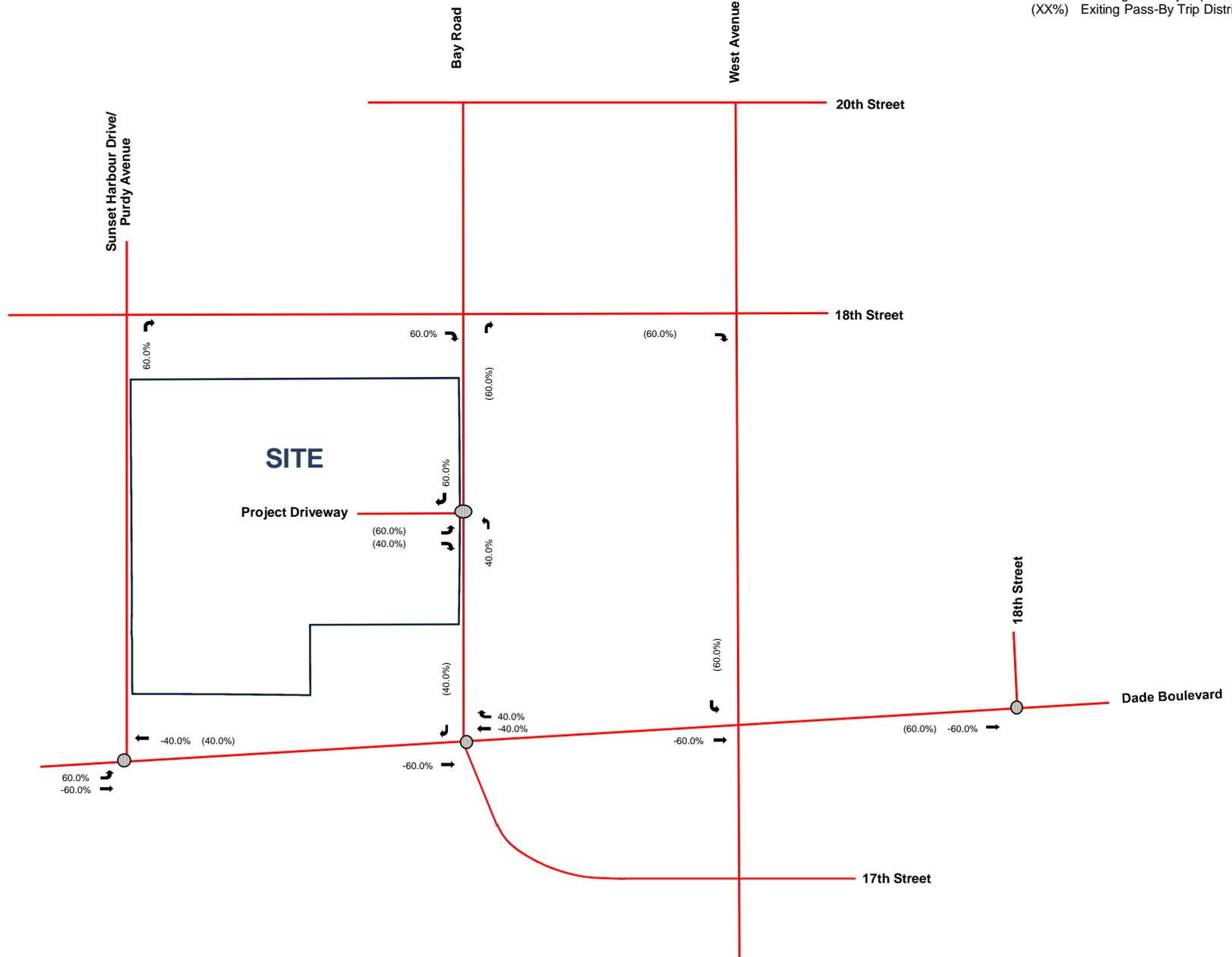


Figure 4
P.M. Peak Hour Net New Trip Distribution
Eighteen Sunset
Miami Beach, Florida



NOT TO SCALE

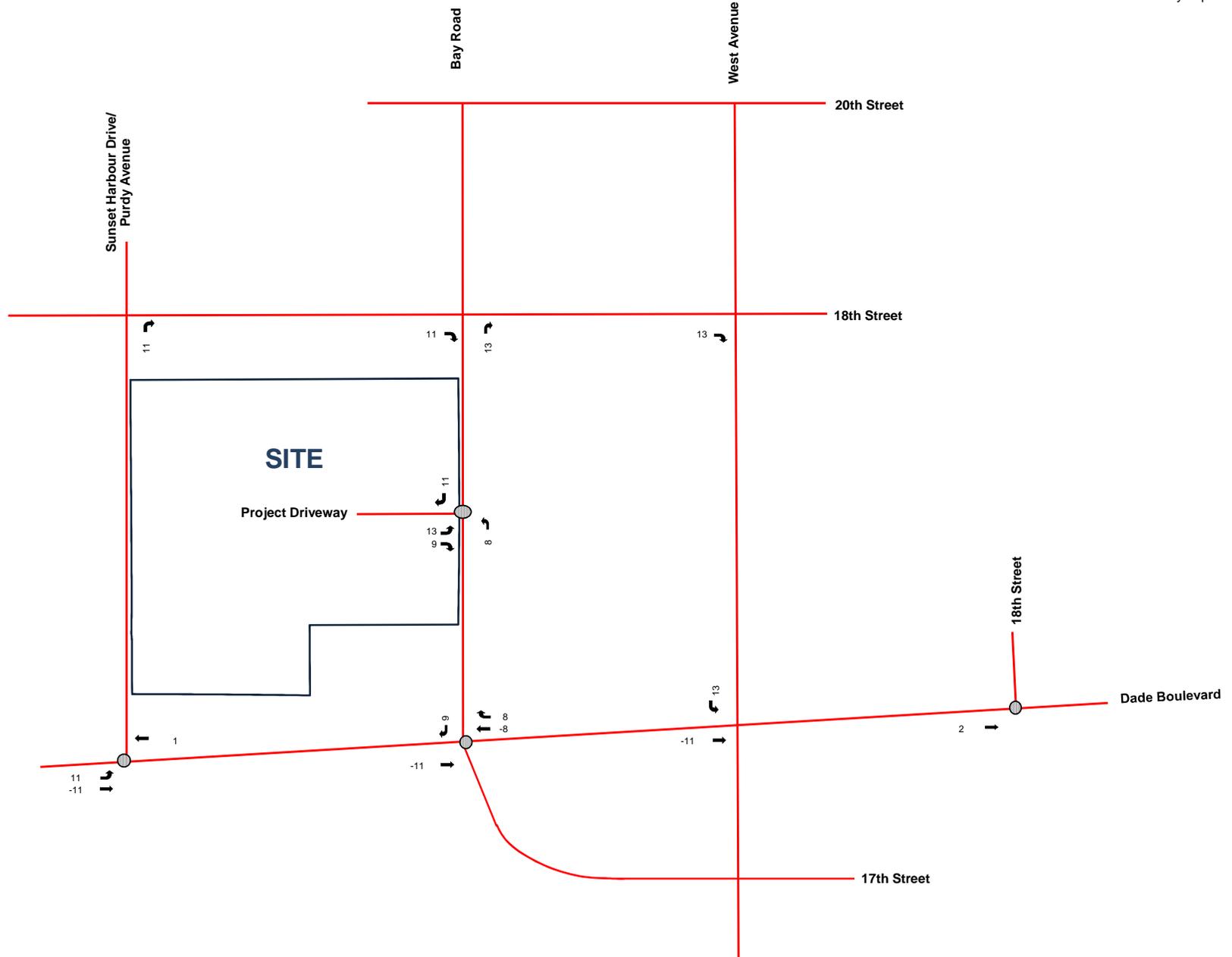
- Legend**
-  Study Roadway
 -  Study Intersection
 - XX% Entering Pass-By Trip Distribution
 - (XX%) Exiting Pass-By Trip Distribution





NOT TO SCALE

- Legend**
- Study Roadway
 - Study Intersection
 - XX P.M. Peak Hour Pass-By Trip Assignment



FUTURE TOTAL TRAFFIC

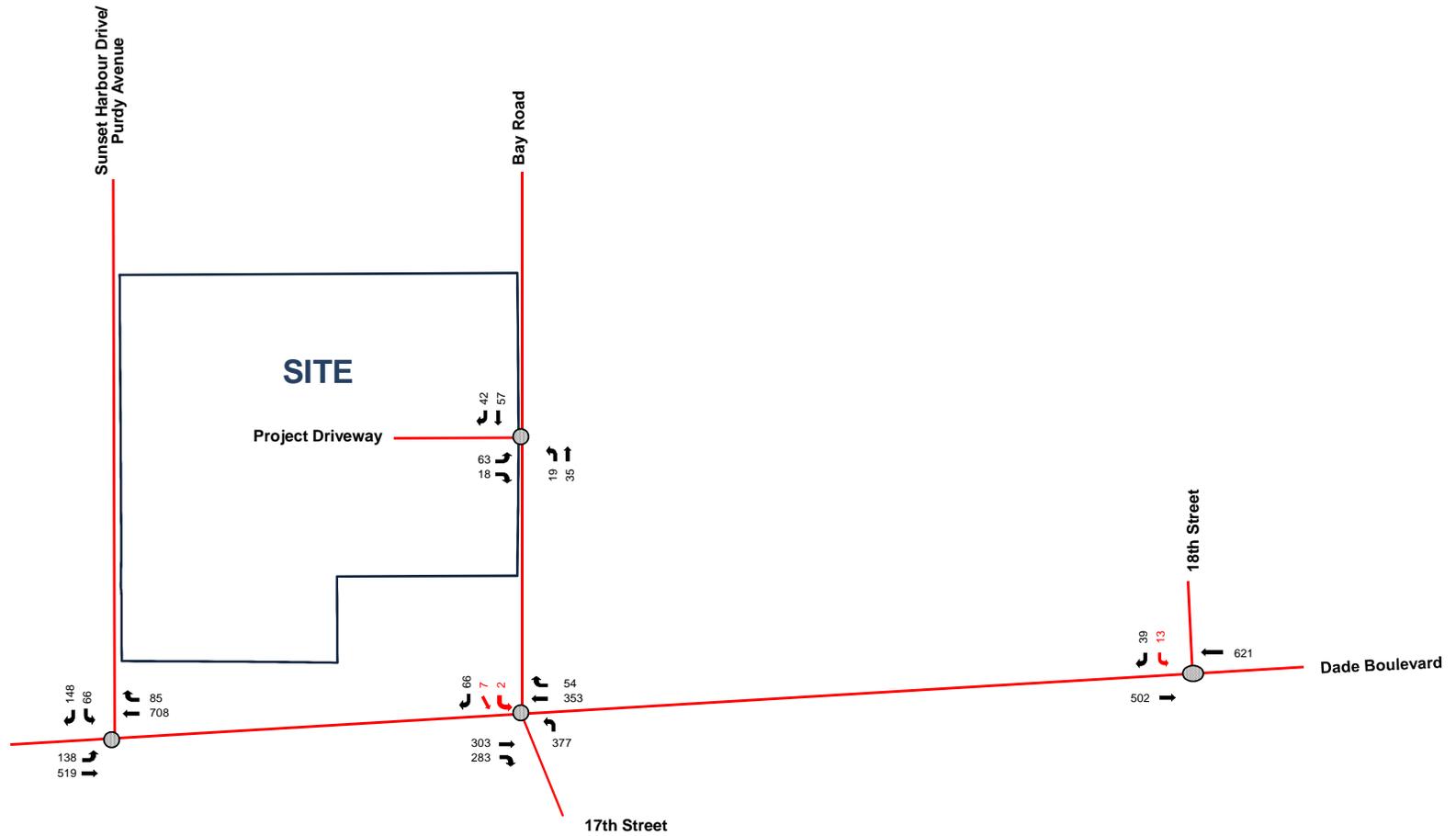
Future total traffic conditions are defined as the expected traffic conditions in the year 2023 after the opening of the project. Total traffic volumes considered in the analysis for this project are the sum of the background traffic volumes and the expected project traffic volumes. The analysis peak hour future traffic volumes are shown in Figure 8. Volume development worksheets for the study intersections are included in Appendix H.



NOT TO SCALE

Legend

-  Study Roadway
-  Study Intersection
-  P.M. Peak Hour Traffic
-  Prohibited P.M. Peak Hour Traffic



INTERSECTION CAPACITY ANALYSIS

The study area intersection operating conditions were analyzed for three (3) scenarios (existing conditions, future background conditions, and future total conditions) using Trafficware's *SYNCHRO 10.0* software, which applies methodologies outlined in the Transportation Research Board's (TRB's) *Highway Capacity Manual* (HCM), 2000 and 6th Editions. Synchro worksheets for the study intersections are included in Appendix I.

A summary of the intersection analyses is presented in Table 3. Please note that as mass transit service with headways of 20 minutes or less operates within 0.25 miles of the study area, LOS D+20% was utilized as the adopted level of service standard consistent with the City of Miami Beach's *2025 Comprehensive Plan*. The results of the analysis indicate that the study intersections are expected to operate at LOS B or better during the P.M. peak hour under all analysis conditions.

Table 3: P.M. Peak Hour Intersection Capacity Analysis						
Intersection	Traffic Control	Overall LOS/Delay	Approach LOS			
			EB	WB	NB	SB
<i>Existing Conditions (Future Background Conditions) [Future Total Conditions]</i>						
Sunset Harbor Drive/ Purdy Avenue and Dade Boulevard	Signalized	A/8.1 sec (A/8.1 sec) [A/8.1 sec]	A (A) [A]	A (A) [A]	(1)	D (D) [D]
Bay Road and Dade Boulevard	Signalized ⁽⁵⁾	B/18.3 sec (B/18.4 sec) [B/18.4 sec]	A (A) [A]	B (B) [B]	D (D) [D]	A (A) [A]
18 th Street and Dade Boulevard	One-Way Stop-Controlled	(2)	(3)	(3)	(1)	A (A) [A]
Project Driveway and Bay Road	One-Way Stop-Controlled	(2)	(4) (⁽⁴⁾) [A]	(1)	(3)	(3)

Notes:

- (1) Approach does not exist.
- (2) Overall intersection LOS is not defined, as intersection operates under stop-control conditions.
- (3) Approach operates under free-flow conditions. LOS is not defined.
- (4) Approach does not exist under existing and future background conditions.
- (5) Intersection cannot be analyzed in HCM 6th Edition or HCM 2010; therefore HCM 2000 was used.

ENTRY GATE ANALYSIS

A 95th percentile entry gate queue analysis using the methodology outlined in ITE’s *Transportation and Land Development* was performed at the parking garage entry point for the proposed redevelopment. Based on the expected trip generation, the proposed redevelopment is expected to generate 61 P.M. peak hour inbound trips (42 net new project trips and 19 net new pass-by trips).

Vehicles entering the parking garage will gain access via an automatic gate system with a proximity card for employees and residents and a ticket-spitter for guests, visitors, and patrons. The proposed site plan provides one (1) entry lane for access to the parking garage. Based on the service rates contained in *Parking Structures 3rd Edition: Planning, Design, Construction, Maintenance, and Repair*, it was assumed that the average service rate would be approximately 600 vehicles per hour (6.0 seconds per vehicle) for the proximity card and 400 vehicles per hour (9.0 seconds per vehicle) for the ticket-spitter. Additionally, based on the manufacturer specification for the automatic gate system, it was assumed that based on a 15-foot gate, the average service rate would be approximately 400 vehicles per hour (9.0 seconds per vehicle). To provide a conservative analysis, it was assumed that all vehicles will utilize the ticket-spitter and that the processing time for the opening of the automatic gate system is not included in the processing time of the ticket-spitter. Therefore, an average service rate of approximately 200 vehicles per hour (18.0 seconds per vehicle) was utilized in the analysis.

Table 4 presents a summary of the results of the entry gate analysis. Based on Table 4, the proposed redevelopment is expected to result in a 95th percentile queue of less than one (1) vehicle. Therefore, it is expected that vehicle queues will be accommodated on-site and will not extend onto Bay Drive. Detailed entry gate calculations and automatic gate system manufacturer specifications are included in Appendix J.

Table 4: Entry Gate Calculations		
Entering Volumes (vph)	Service Rate (vph)	95 th Percentile Queue
61 ⁽¹⁾	200	Less than one (1) vehicle

Note: ⁽¹⁾Entering volumes represent the sum of net new project trips and pass-by project trips.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. The applicant will commit to implementing the following strategies:

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- Provide integrated bikeshare information with communication materials for commuters and visitors.
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- Secure bicycle parking (bicycle racks and/lockers).
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CONCLUSIONS

Sunset Land Associates, LLC is proposing to redevelop the properties located at 1733 to 1759 Purdy Avenue and 1724 to 1752 Bay Road in Miami Beach, Florida. The previously approved development consisted of 12 multifamily residential units and 19,988 square feet of retail space. The proposed redevelopment includes two (2) multifamily residential units, 16,000 square feet of retail space, and 24,000 square feet of office space.

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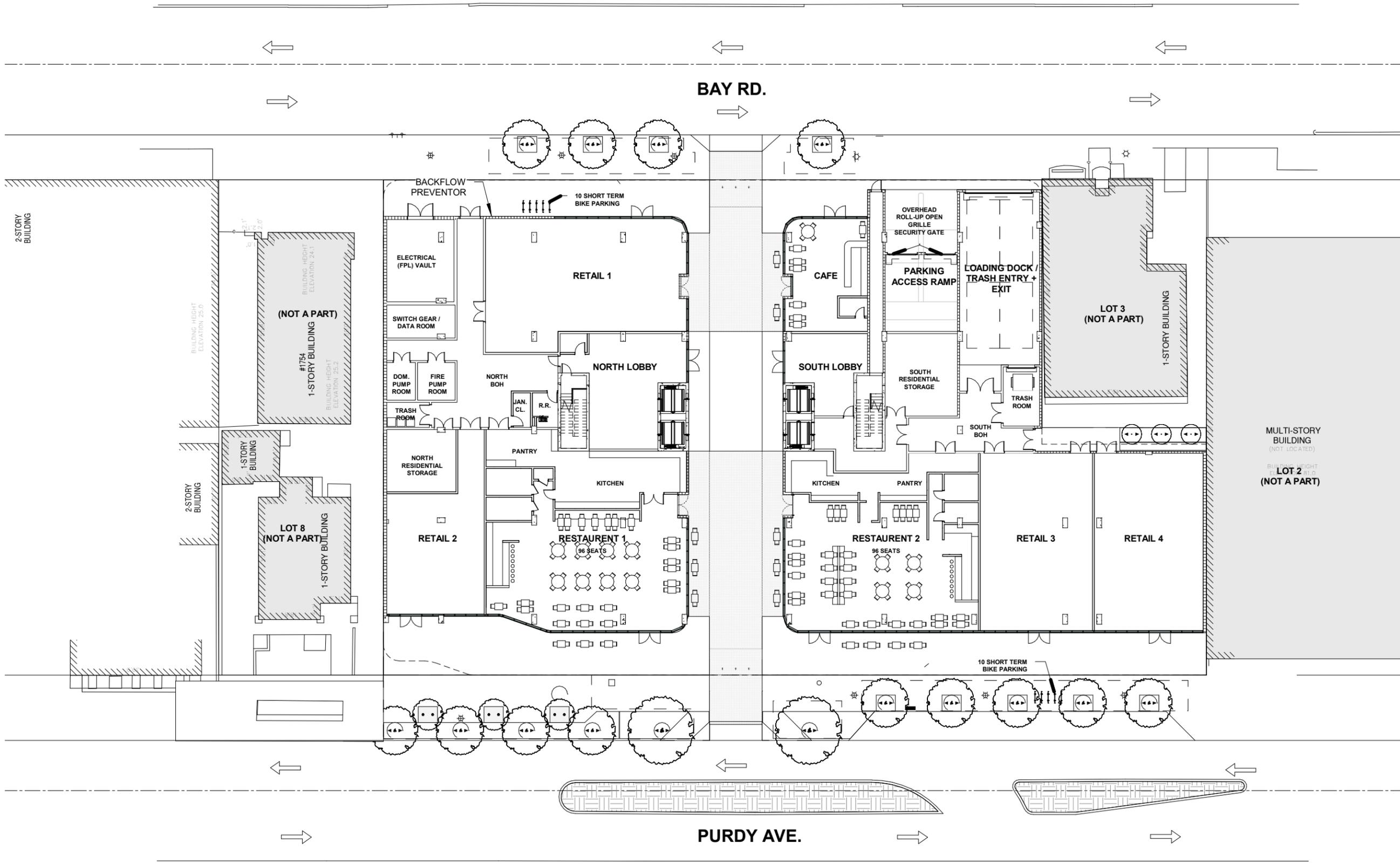
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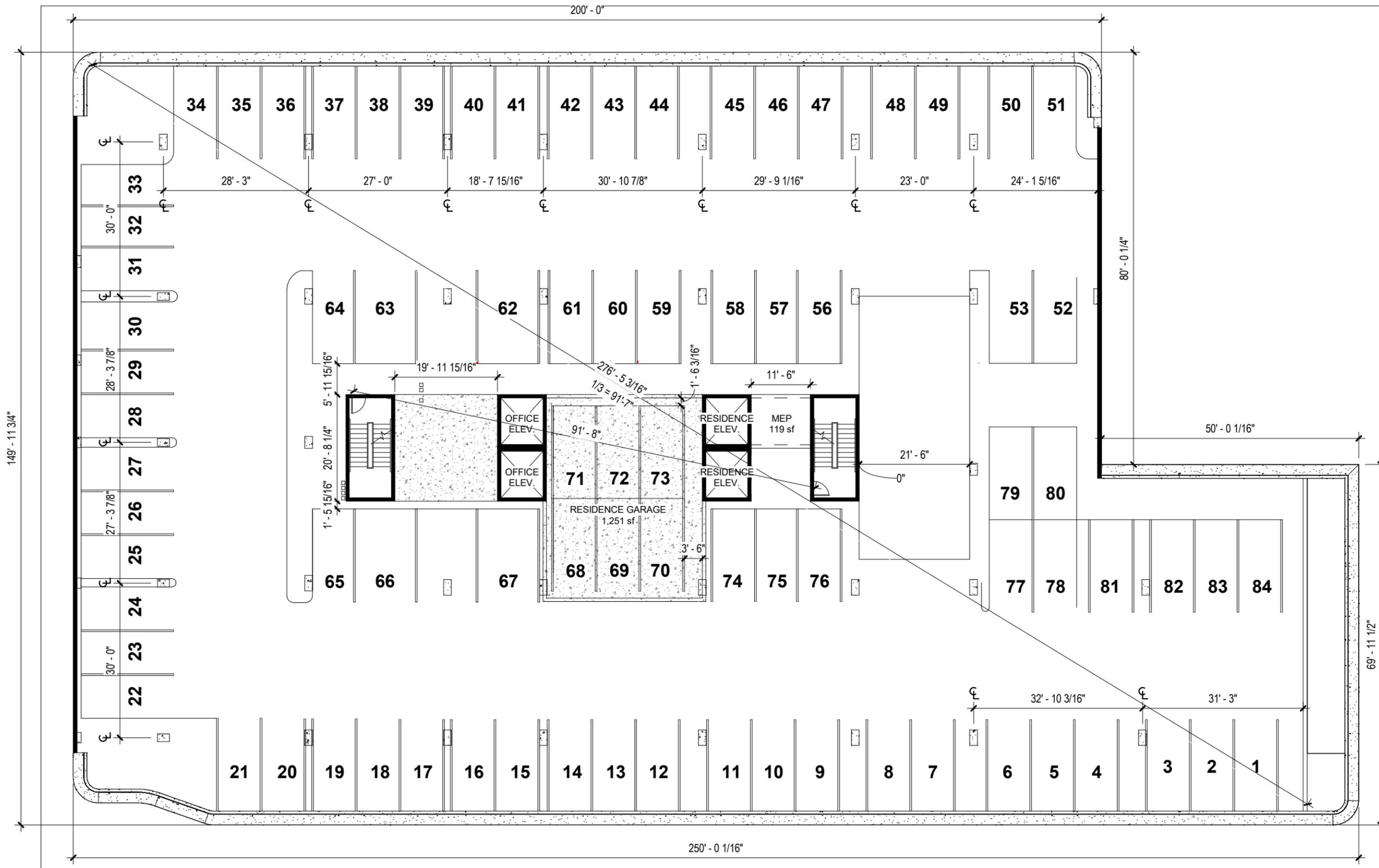
Appendix A

Site Plan



SCALE: 1"=30'-0"

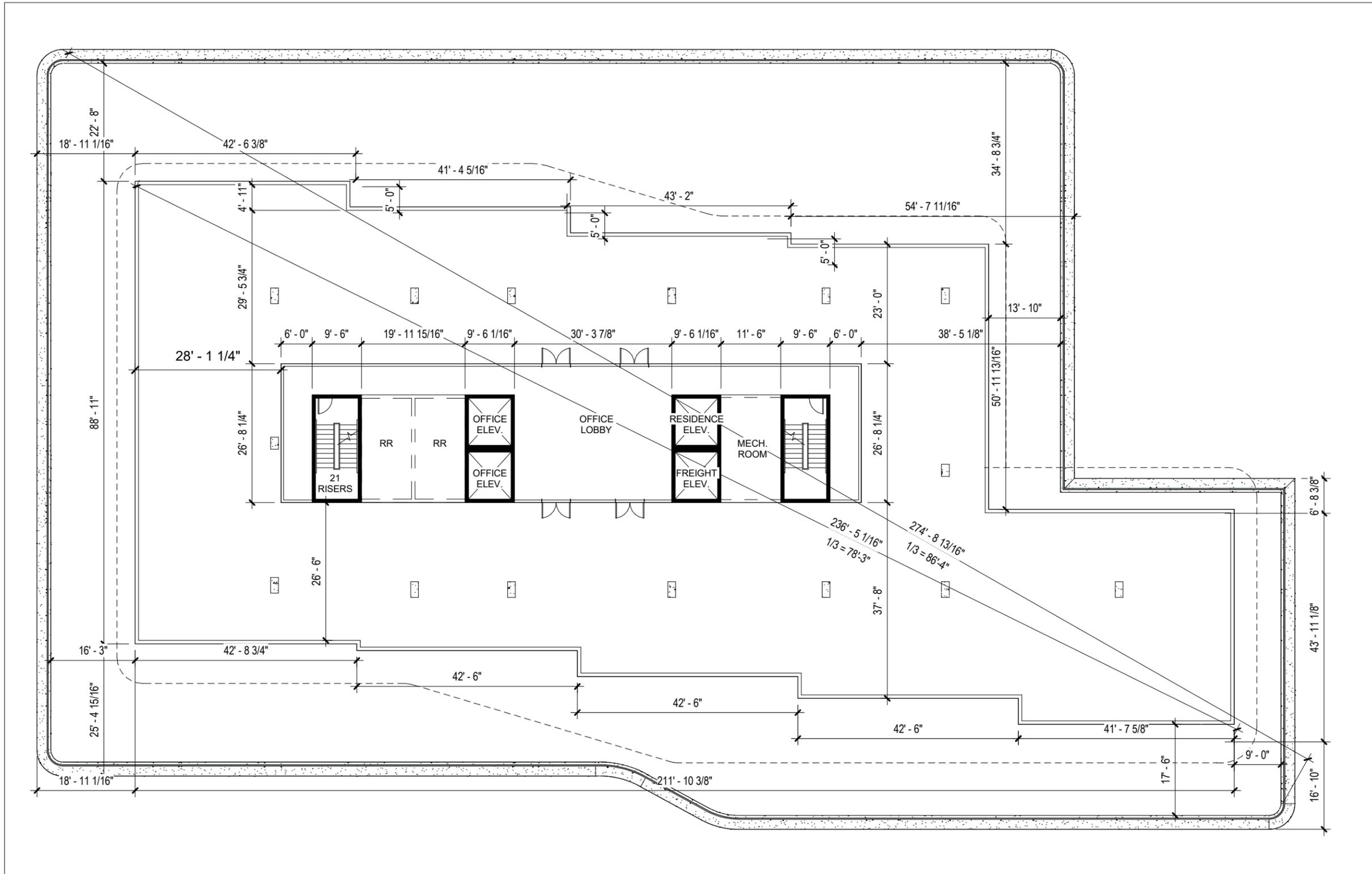
EIGHTEEN SUNSET
 1759 PURDY AVE
 MIAMI BEACH, FLORIDA
 07/16/18



SECOND FLOOR FAR CALCULATIONS

MEP	119 sf
OFFICE	
STAIR CORE	196 sf (South)
ELEV. CORE	196 sf (North)
RESIDENCE	
GARAGE	1,251 sf
ELEV. CORE	196 sf (South)
TOTAL SECOND FLOOR FAR - 2,154 sf	

① SECOND FLOOR - Plan Study E
1" = 20'-0"



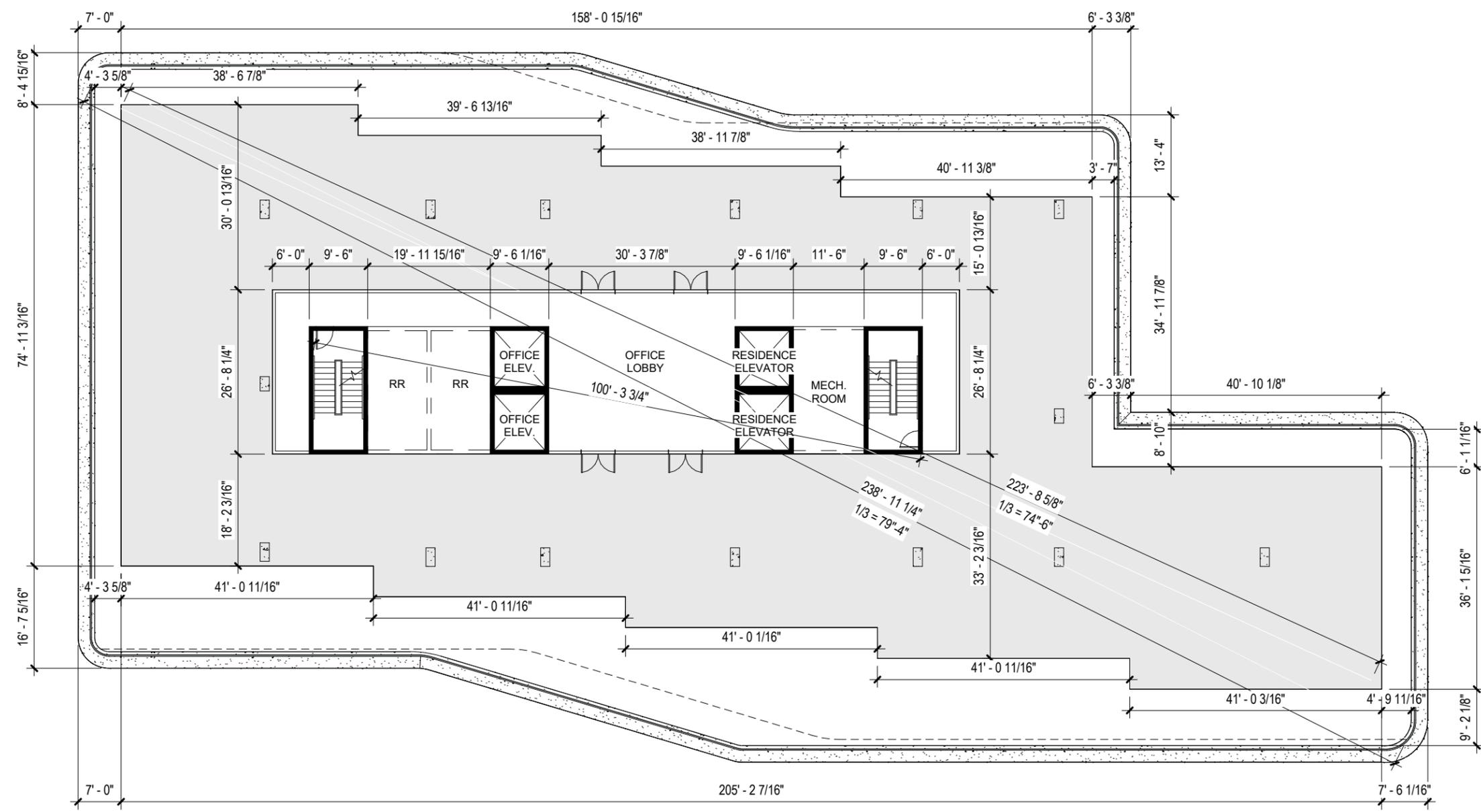
THIRD FLOOR FAR CALCULATIONS

<u>MEP</u>	238 sf
<u>OFFICE</u>	
LEASEABLE	13,193 sf
LOBBY / R.R.	1,960 sf
STAIR CORE	196 sf (South)
ELEV. CORE	196 sf (North)
<u>RESIDENCE</u>	
ELEV. CORE	196 sf (South)
<u>TERRACE</u>	13,365 sf
TOTAL THIRD FLOOR FAR - 16,177 sf	

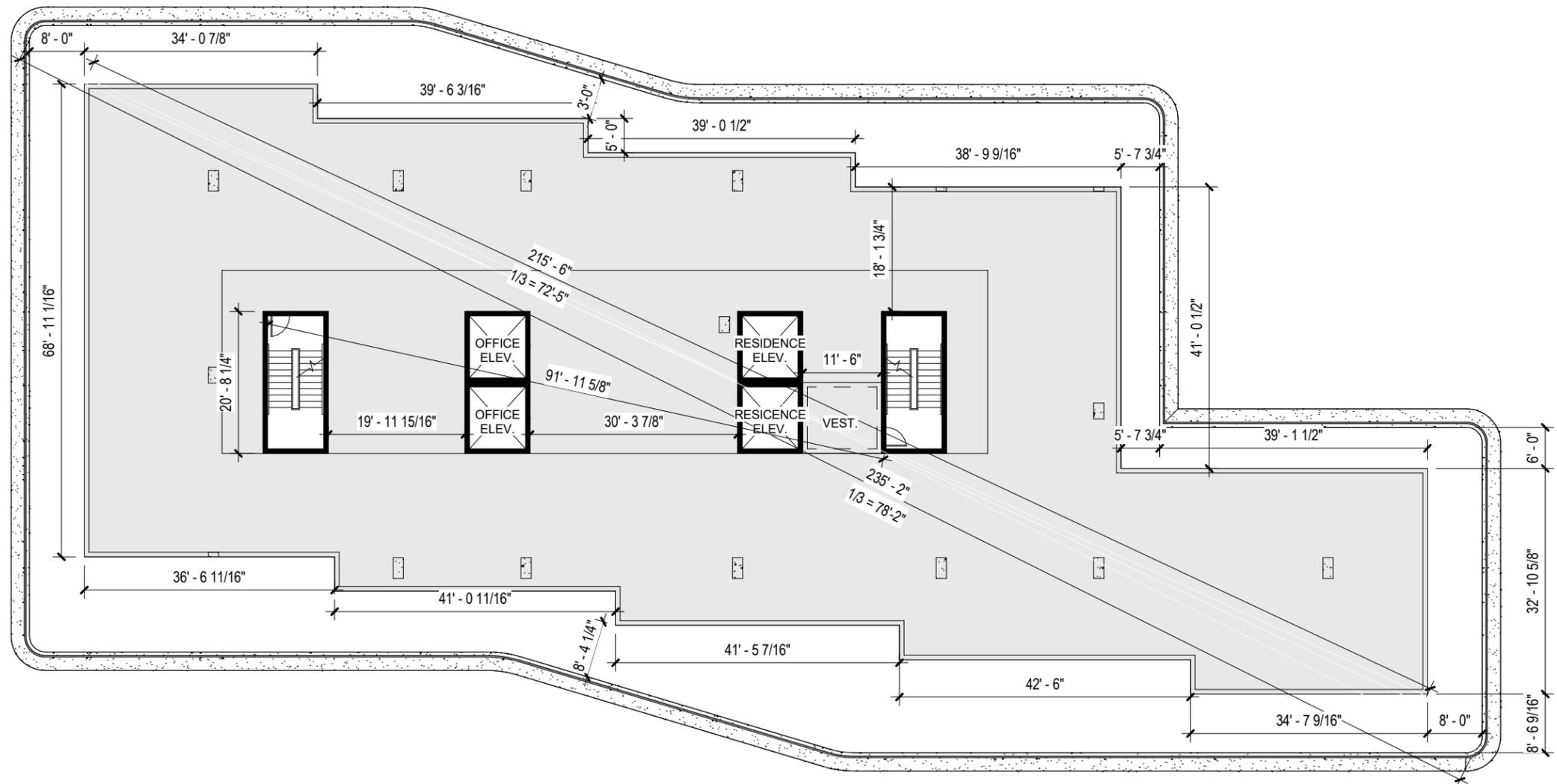
① THIRD FLOOR - Plan Study E
1" = 20'-0"

FOURTH FLOOR FAR CALCULATIONS

MEP	238 sf
OFFICE	
LEASEABLE	10,470 sf
LOBBY / R.R.	1,960 sf
STAIR CORE	196 sf (South)
ELEV. CORE	196 sf (North)
TERRACE	5,602 sf
RESIDENCE	
ELEV. CORE	196 sf (South)
TOTAL FOURTH FLOOR FAR - 13,452 sf	



① FOURTH FLOOR - Plan Study E
1" = 20'-0"



FIFTH FLOOR FAR CALCULATIONS

<u>MEP</u>	TBD
<u>OFFICE</u>	
ELEV. CORE	196 sf (North)
<u>RESIDENCE</u>	
LEASEABLE	11,007 sf
STAIR CORE	196 sf (North)
ELEV. CORE	196 sf (South)
<u>TERRACE</u>	5,440 sf
<u>TOTAL FIFTH FLOOR FAR - 11,791 sf</u>	

① FIFTH FLOOR - Plan Study E
1" = 20'-0"

Appendix B

Methodology Correspondence

Juan, Lisa

From: Dabkowski, Adrian
Sent: Monday, February 10, 2020 3:23 PM
To: Juan, Lisa
Subject: FW: Sunset Park | Updated Assessment

From: Akcay, Firat <FiratAkcay@miamibeachfl.gov>
Sent: Friday, January 31, 2020 6:08 PM
To: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>
Cc: Ferrer, Josiel <JOSIELFERRER@miamibeachfl.gov>
Subject: RE: Sunset Park | Updated Assessment

Hello Adrian,

For the application below we propose a revised traffic study with updated data.

The intersections to be analyzed:

- Sunset Harbor Drive x Dade Blvd
- Bay Rd x Dade Blvd *Important to collect illegal SBL turning vehicles by vehicle type
- 18th Street EBR connection to Dade Blvd *Important to collect illegal SBL turning vehicles by vehicle type

Please let us know if you need clarification on the above locations.

Thank you



*Firat Akcay, M.S.C.E. MBA
Transportation Analyst
Transportation and Mobility Department
1688 Meridian Avenue, Suite 801, Miami Beach, FL 33139
Tel: 305-673-7000, ext 26839*

We are committed to providing excellent public service and safety to all who live, work and play in our vibrant, tropical, historic community.



Please do not print this e-mail unless necessary.

From: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>
Sent: Friday, January 31, 2020 4:46 PM
To: Akcay, Firat <FiratAkcay@miamibeachfl.gov>
Cc: Ferrer, Josiel <JOSIELFERRER@miamibeachfl.gov>
Subject: RE: Sunset Park | Updated Assessment

[THIS MESSAGE COMES FROM AN EXTERNAL EMAIL - USE CAUTION WHEN REPLYING AND OPENING LINKS OR ATTACHMENTS]

Trip generation attached this time.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE

Kimley-Horn | 600 North Pine Island Road, Suite 450, Plantation, FL 33324

Direct: 954-535-5144 | Mobile: 303-990-2761

From: Dabkowski, Adrian

Sent: Friday, January 31, 2020 4:39 PM

To: Akcay, Firat <FiratAkcay@miamibeachfl.gov>

Cc: Ferrer, Josiel <JOSIELFERRER@miamibeachfl.gov>

Subject: Sunset Park | Updated Assessment

Good afternoon Firat:

Thank you for also getting back to me on Sunset Park as well, I know you are super busy. The project was approved for 19,998 sf of retail/restaurant space and 12 multifamily units and essentially valet-only. They are now proposing 16,000 sf of retail/restaurant space, 2 multifamily units, and 19,000 sf of office, the updated site plan is attached. It's all self-park now. The redevelopment results in 31 net new AM peak hour trips over the previously approved plan and 2 net new PM peak hour trips compared to the previously approved plan. Trip generation calculations are attached.

Additionally, as the valet is eliminated the "double trip" for valet pick up is eliminated. We propose to prepare the following:

- Trip generation comparison
- Summary of reduced trips on roadway network due to valet being removed
- TDM Strategies

Let me know your thoughts.

Thank you

Adrian

Adrian K. Dabkowski, P.E., PTOE

Kimley-Horn | 600 North Pine Island Road, Suite 450, Plantation, FL 33324

Direct: 954-535-5144 | Mobile: 303-990-2761

AM PEAK HOUR TRIP GENERATION COMPARISON

PREVIOUSLY APPROVED WEEKDAY PM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS			
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total	
						In	Out																			
GROUP 1	1	Multifamily (Mid-Rise)	10	221	12	du	26%	74%	1	3	4	10.8%	0	1	3	4	0.0%	0	1	3	4	0.0%	0	1	3	4
	2	Shopping Center	10	820	19,988	ksf	62%	38%	12	7	19	10.8%	2	11	6	17	0.0%	0	11	6	17	0.0%	0	11	6	17
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation		Total:		13	10	23	10.8%	2	12	9	21	0.0%	0	12	9	21	0.0%	0	12	9	21	
		221	LN(Y) = 0.98*LN(X)+-0.98																							
		820	Y=0.94(X)																							

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS				
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total		
						In	Out																				
GROUP 2	1	Multifamily (Mid-Rise)	10	221	2	du	26%	74%	0	1	1	10.8%	0	0	1	1	0.0%	0	0	1	1	0.0%	0	0	1	1	
	2	Shopping Center	10	820	16	ksf	62%	38%	9	6	15	10.8%	2	8	5	13	23.1%	3	6	4	10	0.0%	0	6	4	10	
	3	General Office Building	10	710	24	ksf	86%	14%	42	7	49	10.8%	5	38	6	44	6.8%	3	37	4	41	0.0%	0	37	4	41	
	4																										
	5																										
	6																										
	7																										
	8																										
	9																										
	10																										
	11																										
	12																										
	13																										
	14																										
	15																										
		ITE Land Use Code		Rate or Equation		Total:		51	14	65	11.5%	7	46	12	58	10.3%	6	43	9	52	0.0%	0	43	9	52		
		221	LN(Y) = 0.98*LN(X)+-0.98																								
		820	Y=0.94(X)																								
		710	Y=0.94*(X)+26.49																								

NET NEW TRIPS	IN	OUT	TOTAL
31	0	31	31

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS			
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total	
						In	Out																			
GROUP 1	1	Multifamily (Mid-Rise)	10	221	12	du	61%	39%	4	2	6	10.8%	1	3	2	5	40.0%	2	2	1	3	0.0%	0	2	1	3
	2	Shopping Center	10	820	19,988	ksf	48%	52%	79	86	165	10.8%	17	71	77	148	1.4%	2	70	76	146	34.0%	50	46	50	96
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation		Total:		83	88	171	10.8%	18	74	79	153	2.6%	4	72	77	149	33.6%	50	48	51	99	
		221	LN(Y) = 0.96*LN(X)+0.63																							
		820	LN(Y) = 0.74*LN(X)+2.89																							

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS			
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total	
						In	Out																			
GROUP 2	1	Multifamily (Mid-Rise)	10	221	2	du	61%	39%	1	0	1	10.8%	0	1	0	1	0.0%	0	1	0	1	0.0%	0	1	0	1
	2	Shopping Center	10	820	16	ksf	48%	52%	67	73	140	10.8%	15	60	65	125	4.0%	5	56	64	120	34.0%	41	37	42	79
	3	General Office Building	10	710	24	ksf	16%	84%	5	24	29	10.8%	3	5	21	26	19.2%	5	4	17	21	0.0%	0	4	17	21
	4																									
	5																									
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	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation		Total:		73	97	170	10.6%	18	66	86	152	6.6%	10	61	81	142	28.9%	41	42	59	101	
		221	LN(Y) = 0.96*LN(X)+0.63																							
		820	LN(Y) = 0.74*LN(X)+2.89																							
		710	LN(Y) = 0.95*LN(X)+0.36																							

NET NEW TRIPS	IN	OUT	TOTAL
-6	8	2	2

Internal Capture Reduction Calculations

Methodology for P.M. Peak Hour
based on the *Trip Generation Handbook*, 3rd Edition, published by the
Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the
P.M. Peak Hour

SUMMARY (PREVIOUSLY APPROVED)

GROSS TRIP GENERATION			
INPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	71	77
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	3	2
	Hotel	0	0
	74	79	
INTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	1	1
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	1	1
	Hotel	0	0
	2	2	
OUTPUT	Total % Reduction	2.6%	
	Office		
	Retail	1.4%	
	Restaurant		
	Cinema/Entertainment		
	Residential	40.0%	
Hotel			
EXTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	70	76
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	2	1
	Hotel	0	0
	72	77	

Internal Capture Reduction Calculations

Methodology for P.M. Peak Hour
based on the *Trip Generation Handbook*, 3rd Edition, published by the
Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the
P.M. Peak Hour

SUMMARY (PROPOSED)

GROSS TRIP GENERATION			
INPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	5	21
	Retail	60	65
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	1	0
	Hotel	0	0
	66	86	
INTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	1	4
	Retail	4	1
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	0	0
	Hotel	0	0
	5	5	
OUTPUT	Total % Reduction	6.6%	
	Office	19.2%	
	Retail	4.0%	
	Restaurant		
	Cinema/Entertainment		
	Residential	0.0%	
	Hotel		
EXTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	4	17
	Retail	56	64
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	1	0
	Hotel	0	0
	61	81	



B08301

MEANS OF TRANSPORTATION TO WORK

Universe: Workers 16 years and over

2012-2016 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Tell us what you think. Provide feedback to help make American Community Survey data more useful for you.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

$$(156+43+8) / 1914 = 10.8\%$$

	Census Tract 41.06, Miami-Dade County, Florida	
	Estimate	Margin of Error
Total:	1,914	+/-303
Car, truck, or van:	1,310	+/-243
Drove alone	1,232	+/-244
Carpooled:	78	+/-98
In 2-person carpool	78	+/-98
In 3-person carpool	0	+/-13
In 4-person carpool	0	+/-13
In 5- or 6-person carpool	0	+/-13
In 7-or-more-person carpool	0	+/-13
Public transportation (excluding taxicab):	8	+/-13
Bus or trolley bus	8	+/-13
Streetcar or trolley car (carro publico in Puerto Rico)	0	+/-13
Subway or elevated	0	+/-13
Railroad	0	+/-13
Ferryboat	0	+/-13
Taxicab	0	+/-13
Motorcycle	61	+/-58
Bicycle	43	+/-29
Walked	156	+/-88
Other means	75	+/-85
Worked at home	261	+/-168

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2012-2016 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-l' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+u' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '****' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

Appendix C

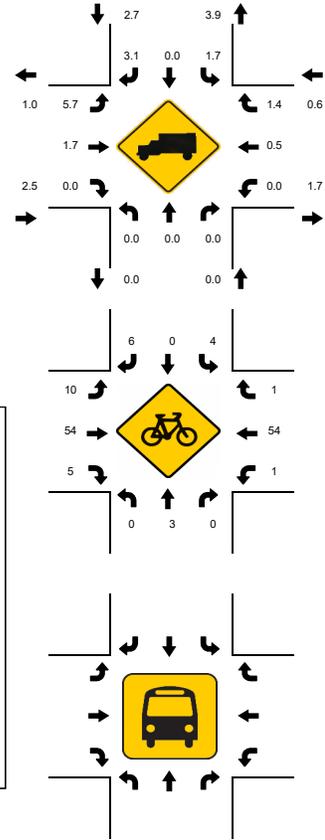
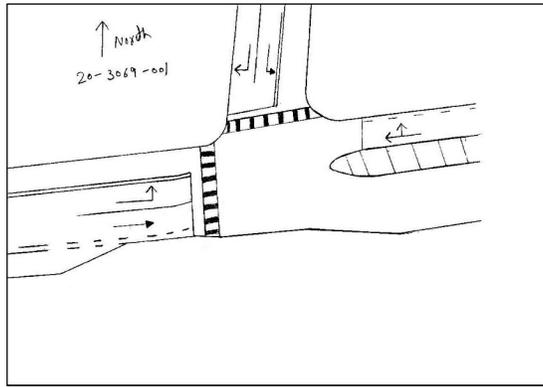
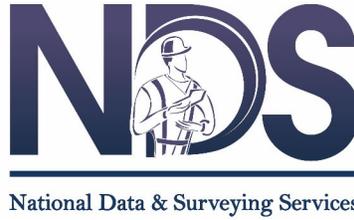
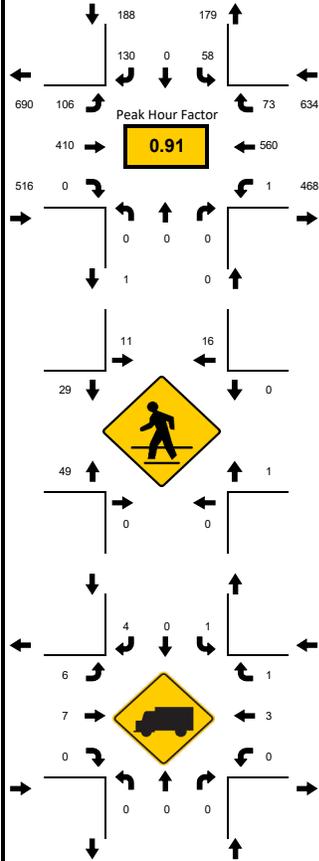
Traffic Data

Turning Movement Counts

LOCATION: Sunset Harbour Dr & Dade Blvd
 CITY/STATE: Miami Beach, FL

PROJECT ID: 20-03069-001
 DATE: 02/11/2020

Peak-Hour: 05:00 PM - 06:00 PM
 Peak 15-Minute: 05:15 PM - 05:30 PM

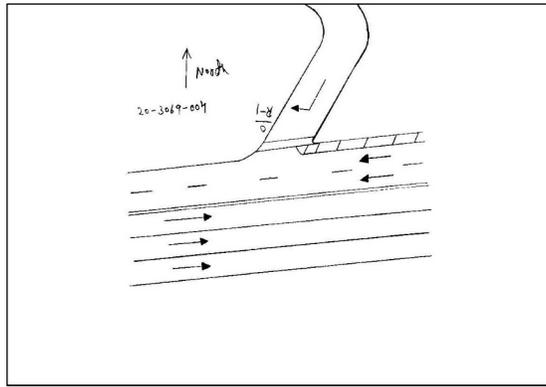
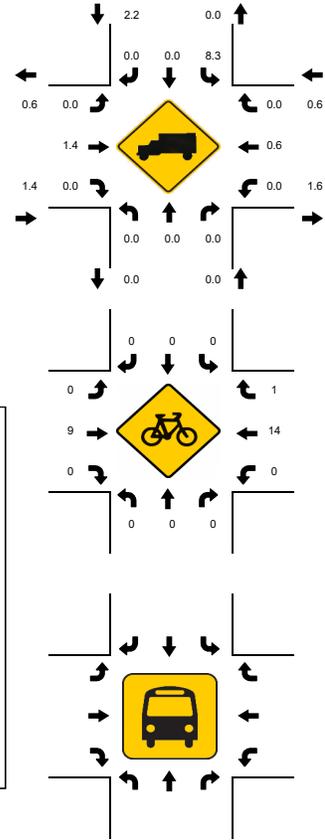
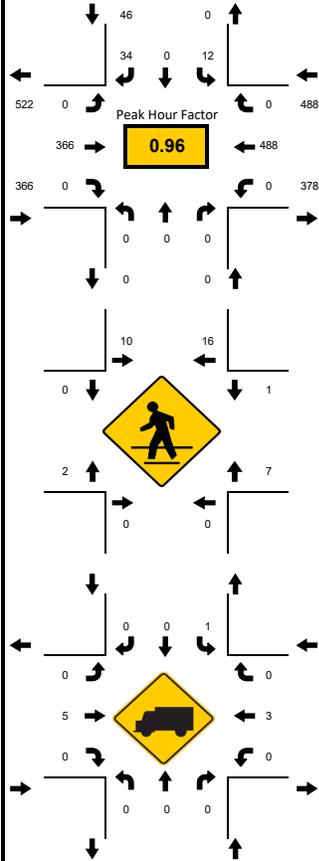


15-Min Count Period Beginning At	Sunset Harbour Dr Northbound					Sunset Harbour Dr Southbound					Dade Blvd Eastbound					Dade Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	0	0	0	0	9	0	42	0	0	27	119	0	0	0	0	117	11	0	0	325	1288
04:15 PM	0	0	0	0	0	13	0	33	0	0	21	115	0	0	0	0	139	19	0	0	340	1251
04:30 PM	0	0	0	0	0	12	0	30	0	0	23	94	0	0	0	0	122	17	0	0	298	1277
04:45 PM	0	0	0	0	0	13	0	39	0	0	28	107	0	0	0	0	117	21	0	0	325	1333
05:00 PM	0	0	0	0	0	14	0	28	0	0	16	89	0	0	0	0	129	12	0	0	288	1338
05:15 PM	0	0	0	0	0	17	0	41	0	0	31	119	0	0	0	0	140	18	0	0	366	1050
05:30 PM	0	0	0	0	0	10	0	36	1	0	25	94	0	0	0	0	169	18	1	0	354	684
05:45 PM	0	0	0	0	0	16	0	25	0	0	34	108	0	0	0	0	122	25	0	0	330	330
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0	0	68	0	164	4	0	136	476	0	0	0	0	676	100	4	0	1628	
Heavy Trucks	0	0	0	0	0	4	0	12	0	0	12	8	0	0	0	0	8	4	0	0	48	
Pedestrians	0	0	0	0	0			32	0	0		96	0	0	0		4	0	0	0	132	
Bicycles	0	4	0	0	0	12	0	8	0	0	16	84	8	0	0	4	72	4	0	0	212	
Railroad																						
Stopped Buses																						

LOCATION: 18th St EB Right-Turn & Dade Blvd
 CITY/STATE: Miami Beach, FL

PROJECT ID: 20-03069-004
 DATE: 02/11/2020

Peak-Hour: 05:00 PM - 06:00 PM
 Peak 15-Minute: 05:30 PM - 05:45 PM



15-Min Count Period Beginning At	18th St EB Right-Turn Northbound					18th St EB Right-Turn Southbound					Dade Blvd Eastbound					Dade Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	0	0	0	0	0	0	5	0	0	0	92	0	0	0	0	103	0	0	0	200	856
04:15 PM	0	0	0	0	0	2	0	9	0	0	0	108	0	1	0	0	112	0	0	0	232	886
04:30 PM	0	0	0	0	0	3	0	5	0	0	0	94	0	0	0	0	103	0	0	0	205	867
04:45 PM	0	0	0	0	0	3	0	6	0	0	0	91	0	0	0	0	119	0	0	0	219	896
05:00 PM	0	0	0	0	0	4	0	4	0	0	0	97	0	0	0	0	125	0	0	0	230	900
05:15 PM	0	0	0	0	0	2	0	9	0	0	0	87	0	0	0	0	115	0	0	0	213	670
05:30 PM	0	0	0	0	0	2	0	5	0	0	0	88	0	0	0	0	139	0	0	0	234	457
05:45 PM	0	0	0	0	0	4	0	16	0	0	0	94	0	0	0	0	109	0	0	0	223	223
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0	0	16	0	64	0	0	0	388	0	0	0	0	556	0	0	0	1024	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	8	0	0	0	0	12	0	0	0	24	
Pedestrians	0	0	0	0	0			36			0	4	0	0	0	0	12	0	0	0	52	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	28	4	0	0	48	
Railroad																						
Stopped Buses																						

Signal Timings

TOD Schedule Report
for 6593: Dade Blvd&Purdy Av

Print Date:
1/5/2020

Print Time:
2:06 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
6593	Dade Blvd&Purdy Av	DOW-1		N/A	0	0	N/A	0	Max 0

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	WBT	-	-	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	7	7	7	22	22	22	14	14	14	1	1	1	35	55	55	0	0	0	4	2.1
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 EBT	0	0	0	0	0	0	14	14	14	1	1	1	35	55	55	0	0	0	4	2.1
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBT	7	7	7	17	17	17	7	7	7	2.5	2.5	2.5	12	14	22	60	0	0	4	2

Last In Service Date: unknown

Permitted Phases	
	12345678
Default	-2---6-8
External Permit 0	-2---6-8
External Permit 1	-2---6-8
External Permit 2	-2---6-8

TOD Schedule Report
for 6593: Dade Blvd&Purdy Av

Print Date:
1/5/2020

Print Time:
2:06 AM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 -	2 WBT	3 -	4 -	5 -	6 EBT	7 -	8 SBT		
2		100	0	63	0	0	0	63	0	25	0	59
3		110	0	73	0	0	0	73	0	25	0	86
4		90	0	52	0	0	0	52	0	26	0	32
5		110	0	73	0	0	0	73	0	25	0	24
7		110	0	73	0	0	0	73	0	25	0	24
13		110	0	73	0	0	0	73	0	25	0	90
20		110	0	73	0	0	0	73	0	25	0	24
25		140	0	103	0	0	0	103	0	25	0	19
26		180	0	143	0	0	0	143	0	25	0	28
27		140	0	103	0	0	0	103	0	25	0	66
28		140	0	103	0	0	0	103	0	25	0	12

Local TOD Schedule		
Time	Plan	DOW
0000	Free	Su M T W Th F S
0530	2	M T W Th F
0700	13	Su M T W Th F S
0900	3	Su S
0930	5	M T W Th F
1115	7	M T W Th F
1315	5	M T W Th F
1545	3	M T W Th F
1830	2	M T W Th F
2030	Free	Su S
2330	Free	M T W Th F

Current Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFU	---4---	SuM T W ThF S
0030	TOD OUTPUTS	-----1	SuM T W ThF S
0500	TOD LOCAL MULTIFU	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----	SuM T W ThF S
2000	TOD OUTPUTS	-----1	Su S

Local Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	---4---	SuM T W ThF S
0030	TOD OUTPUTS	-----1	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----	SuM T W ThF S
2000	TOD OUTPUTS	-----1	Su S
2330	TOD OUTPUTS	-----1	M T W ThF

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

TOD Schedule Report

for 4131: Bay Rd&Dade Blvd&17 St

Print Date:
12/24/2019

Print Time:
10:46 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
4131	Bay Rd&Dade Blvd&17 St	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	SWT	-	WBT	-	NET	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 SWT	0	0	0	0	0	0	7	14	14	2.5	-2.5	-2.5	12	12	12	80	80	80	4	2.9
3 -	0	7	7	0	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	0	0	0	0	0	0	7	14	14	3.5	-3.5	-3.5	10	10	10	80	80	50	4	3.7
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 NET	0	0	0	0	0	0	7	14	14	2.5	-2.5	-2.5	12	12	12	80	80	80	4	2.9
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

Permitted Phases	
12345678	
Default	-2-4-6--
External Permit 0	-234-6--
External Permit 1	-234-6--
External Permit 2	-234-6--

TOD Schedule Report

for 4131: Bay Rd&Dade Blvd&17 St

Print Date:
12/24/2019

Print Time:
10:46 AM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 -	2 SWT	3 -	4 WBT	5 -	6 NET	7 -	8 -		
1		85	0	27	0	43	0	27	0	0	0	64
2		100	0	42	0	43	0	42	0	0	0	92
3		110	0	42	0	53	0	42	0	0	0	0
4		95	0	37	0	43	0	37	0	0	0	0
5		110	0	52	0	43	0	52	0	0	0	45
6		90	0	32	0	43	0	32	0	0	0	68
7		110	0	52	0	43	0	52	0	0	0	45
13		110	0	62	0	33	0	62	0	0	0	70
25		140	0	82	0	43	0	82	0	0	0	122
26		180	0	122	0	43	0	122	0	0	0	58
27		140	0	82	0	43	0	82	0	0	0	64
28		140	0	82	0	43	0	82	0	0	0	114

Local TOD Schedule		
Time	Plan	DOW
0000	Free	Su M T W Th F S
0530	2	M T W Th F
0700	13	Su M T W Th F S
0900	3	Su S
0930	5	M T W Th F
1115	7	M T W Th F
1315	5	M T W Th F
1545	3	M T W Th F
1830	2	M T W Th F
2030	Free	Su S
2330	Free	M T W Th F

Current Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFU	----4--	SuM T W ThF S
0500	TOD LOCAL MULTIFU	-----	SuM T W ThF S
0530	TOD OUTPUTS	----3--	M T W ThF
1115	VEH MAX RECALL	----4--	M T W ThF
1315	VEH MAX RECALL	-----	M T W ThF
1600	TOD OUTPUTS	----4--	M T W ThF
2330	TOD OUTPUTS	-----	M T W ThF

Local Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	----4--	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S
0530	TOD OUTPUTS	----3--	M T W ThF
0930	TOD OUTPUTS	----2-	Su S
1115	VEH MAX RECALL	----4--	M T W ThF
1315	VEH MAX RECALL	-----	M T W ThF
1600	TOD OUTPUTS	----4--	M T W ThF
2030	TOD OUTPUTS	-----	Su S
2330	TOD OUTPUTS	-----	M T W ThF

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

SIGNAL OPERATING PLAN



	Direction	SB	NB	WB		Ped Heads		
Timing Phases	Head No.	2	6	4			Movements/Display/Actuation	
(2+6) NEB/SWB DADE Blvd RECALL	Dwell	G	G	R				
	Clear to	4	Y	Y	R			
(4) WBT 17 St ACTUATED	Dwell	R	R	G				
	2+6	R	R	Y				
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							

Flashing Operation

FY FY FR

Page 1 of 1

MIAMI-DADE COUNTY PUBLIC WORK DEPARTMENT

Drawn
MLH

Date
11/2/2017

Dade Blvd & 17 St & Bay Rd

Checked

Date
11/8/17

Placed in Service

Phasing No.

Asset Number

QuadPPConcPeds

Date

4

4131

Peak Season Conversion Factor

I-195 Peak Season Conversion Factor				
Week	Weekly Volume	PSCF	Month	Days
1	103657	1.27	Jan	1-2
2	118133	1.12		5-9
3	116803	1.13		12-16
4	117632	1.12		19-23
5	115429	1.14		26-30
6	116486	1.13	Feb	2-6
7	118570	1.11		9-13
8	121138	1.09		16-20
9	121579	1.09		23-27
10	119121	1.11	Mar	2-6
11	123996	1.07		9-13
12	122332	1.08		16-20
13	123477	1.07		23-27
14	123280	1.07	Apr	30-3
15	122197	1.08		6-10
16	122168	1.08		13-17
17	117178	1.13		20-24
18	117485	1.12	May	27-1
19	118214	1.12		4-8
20	122625	1.08		11-15
21	115777	1.14		18-22
22	111920	1.18		25-29
23	119378	1.11	June	1-5
24	119407	1.11		8-12
25	119270	1.11		15-19
26	121686	1.09		22-26
27	116696	1.13	July	29-3
28	118989	1.11		6-10
29	120243	1.10		13-17
30	119679	1.10		20-24
31	119616	1.10		27-31
32	122915	1.07	Aug	3-7
33	119112	1.11		10-14
34	119316	1.11		17-21
35	117869	1.12		24-28
36	115663	1.14	Sept	1-4
37	112700	1.17		7-11
38	115471	1.14		14-18
39	115641	1.14		21-25
40	119049	1.11	Oct	28-2
41	113439	1.16		5-9
42	118812	1.11		12-16
43	121438	1.09		19-23
44	121647	1.09		26-30
45	117841	1.12	Nov	2-6
46	110428	1.20		9-13
47	123139	1.07		16-20
48	108529	1.22		23-27
49	132077	1.00	Dec	30-4
50	122158	1.08		7-11
51	113709	1.16		14-18
52	107344	1.23		21-25
53	123058	1.07		28-31

Appendix D

Growth Rate Calculations

FDOT Historic Growth Trends

FDOT Growth Rate Summary

Station Number	Location	Historic Growth- Linear				Historic Growth- Exponential				Historic Growth- Decaying Exponential			
		5-year	R-squared	10-year	R-squared	5-year	R-squared	10-year	R-squared	5-year	R-squared	10-year	R-squared
12	SR 907/Alton Road -- 200' N of 20 Street	1.08%	30.12%	0.24%	7.55%	1.07%	29.65%	0.21%	7.27%	0.69%	12.11%	0.21%	5.76%
2542	SR 907/Alton Road -- 200' S of Venetian Cswy	0.30%	0.13%	-1.74%	23.02%	0.60%	0.53%	-1.88%	22.60%	0.89%	1.05%	-2.03%	25.82%
Total		0.69%	15.13%	-0.75%	15.29%	0.84%	15.09%	-0.84%	14.94%	0.79%	6.58%	-0.91%	15.79%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

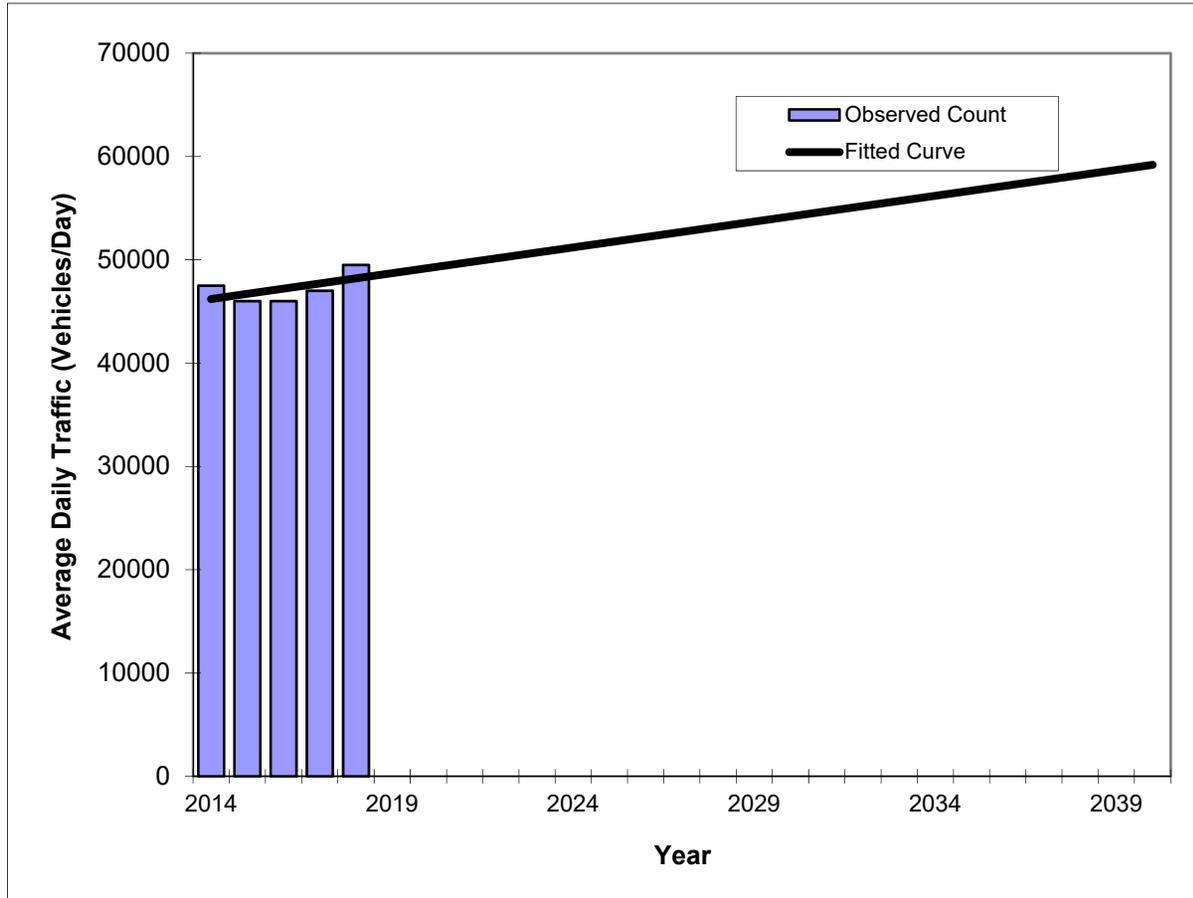
SITE: 0012 - SR 907/ALTON RD, 200' N OF 20 ST (MIAMI BEACH)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	49500 C	N 24500	S 25000	9.00	54.30	4.80
2017	47000 C	N 22500	S 24500	9.00	55.00	3.00
2016	46000 C	N 22500	S 23500	9.00	54.50	3.70
2015	46000 C	N 22500	S 23500	9.00	54.70	3.20
2014	47500 S	N 22000	S 25500	9.00	54.50	2.50
2013	47500 F	N 22000	S 25500	9.00	52.40	2.50
2012	48500 C	N 22500	S 26000	9.00	55.70	2.50
2011	47000 C	N 22500	S 24500	9.00	55.10	3.50
2010	46000 C	N 23000	S 23000	8.98	54.08	3.50
2009	47000 C	N 23500	S 23500	8.99	53.24	3.90
2008	46500 C	N 23000	S 23500	9.09	55.75	2.10
2007	47500 C	N 23000	S 24500	8.01	54.34	2.20
2006	46500 C	N 23000	S 23500	7.97	54.22	3.00
2005	46500 F	N 22500	S 24000	8.80	53.80	5.30
2004	46500 C	N 22500	S 24000	9.00	53.30	5.30
2003	42500 C	N 20500	S 22000	8.80	53.40	4.80

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

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' N OF 20 ST

County:	Miami-Dade (87)
Station #:	0012
Highway:	SR 907/ALTON RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	47500	46200
2015	46000	46700
2016	46000	47200
2017	47000	47700
2018	49500	48200

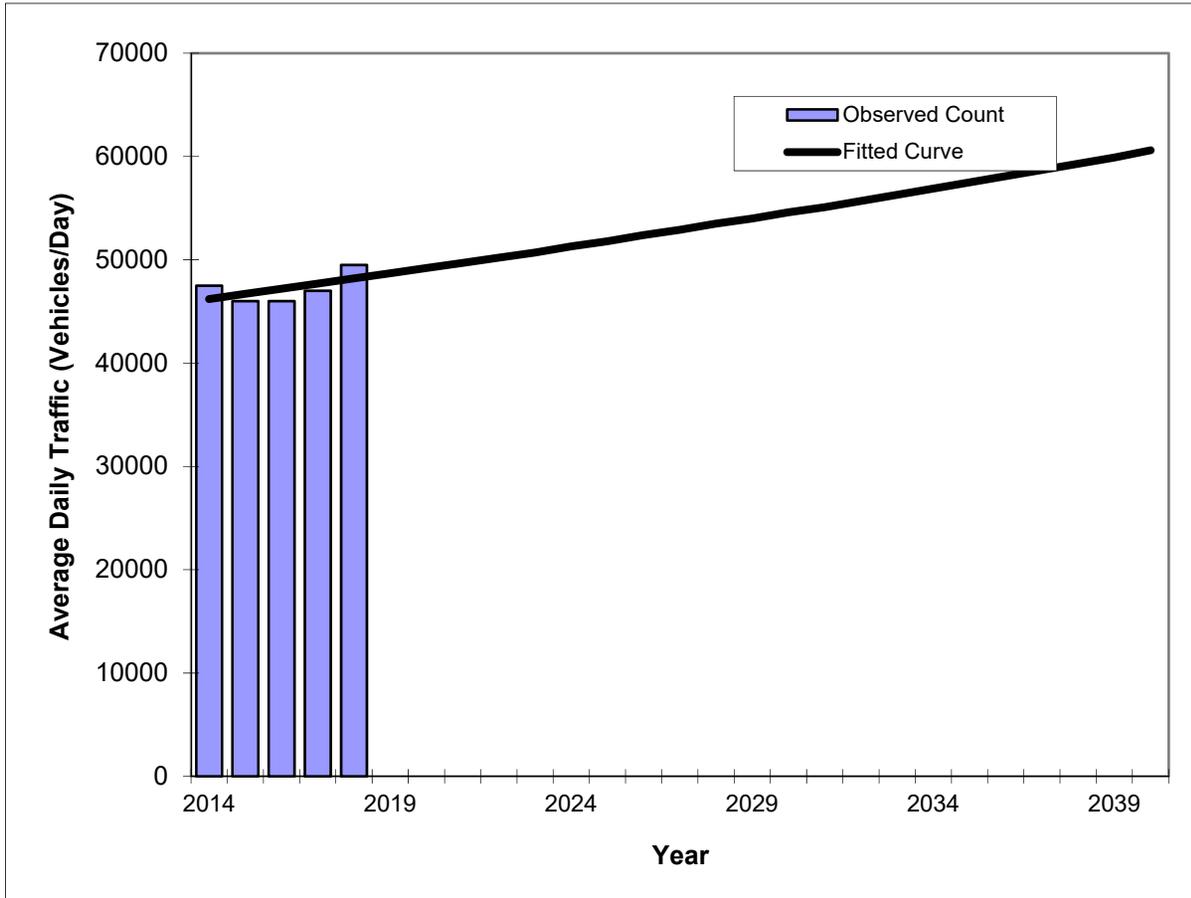
Trend R-squared: 30.12%
Trend Annual Historic Growth Rate: 1.08%
Printed: 6-Feb-20

Straight Line Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' N OF 20 ST

County:	Miami-Dade (87)
Station #:	0012
Highway:	SR 907/ALTON RD



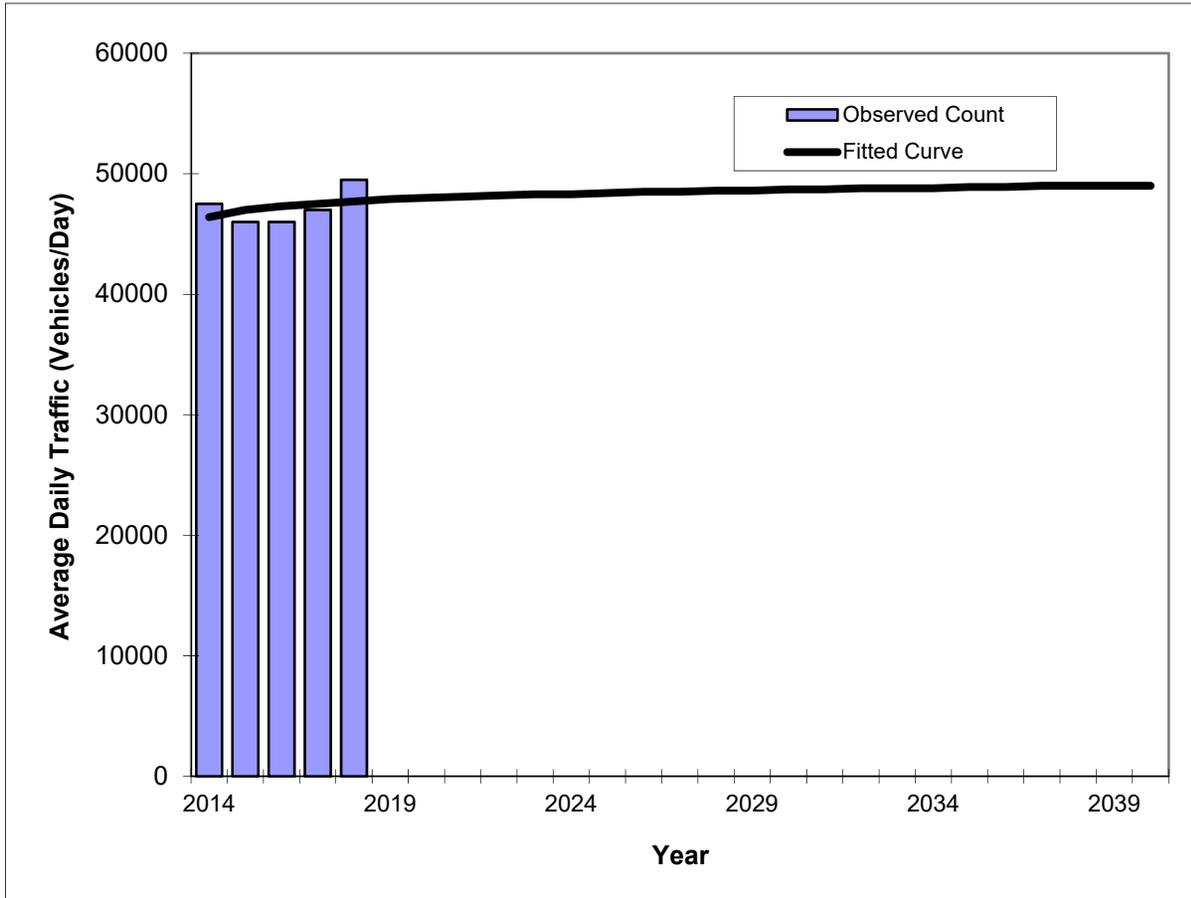
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	47500	46200
2015	46000	46700
2016	46000	47200
2017	47000	47700
2018	49500	48200

Trend R-squared: 29.65%
 Compounded Annual Historic Growth Rate: 1.07%
 Printed: 6-Feb-20
Exponential Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' N OF 20 ST

County:	Miami-Dade (87)
Station #:	0012
Highway:	SR 907/ALTON RD



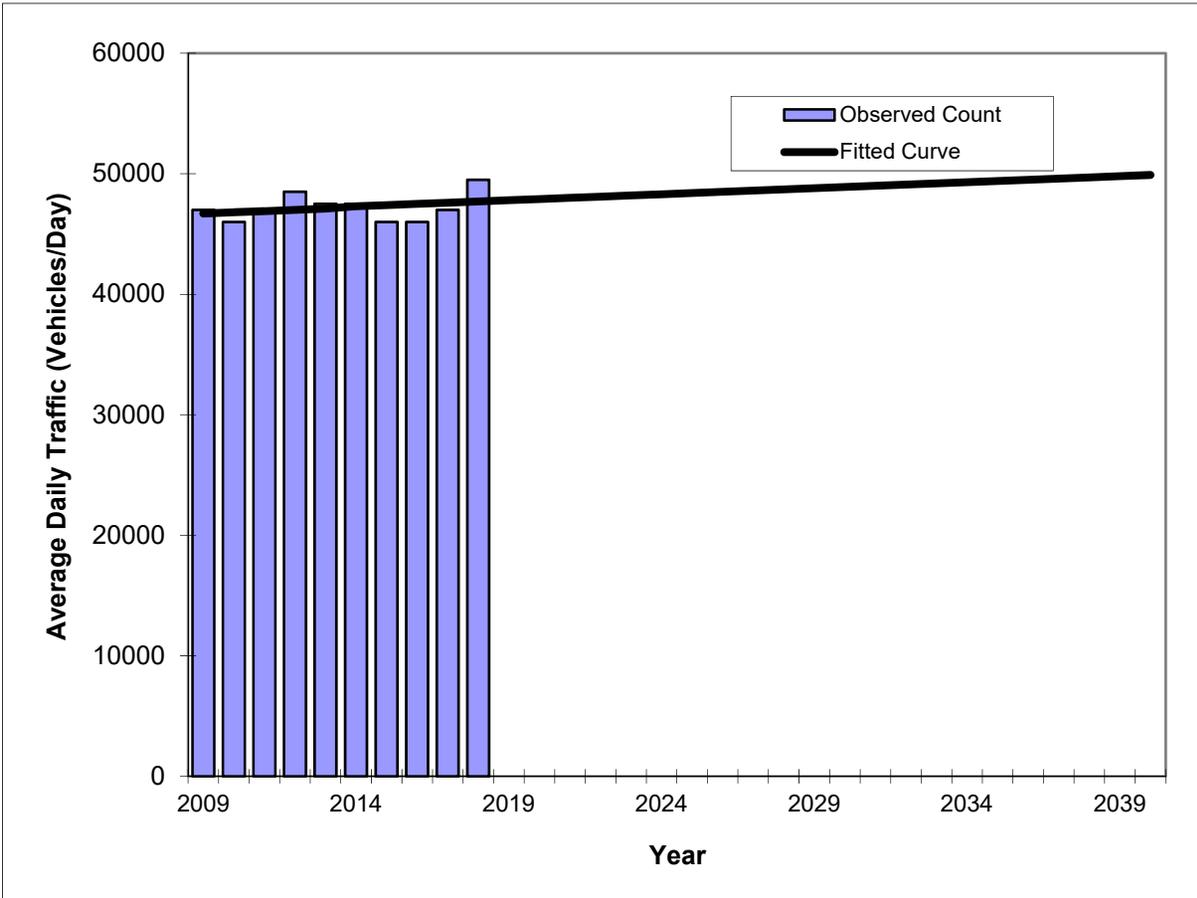
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	47500	46400
2015	46000	47000
2016	46000	47300
2017	47000	47500
2018	49500	47700

Trend R-squared: 12.11%
 Compounded Annual Historic Growth Rate: 0.69%
 Printed: 6-Feb-20
Decaying Exponential Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' N OF 20 ST

County:	Miami-Dade (87)
Station #:	0012
Highway:	SR 907/ALTON RD



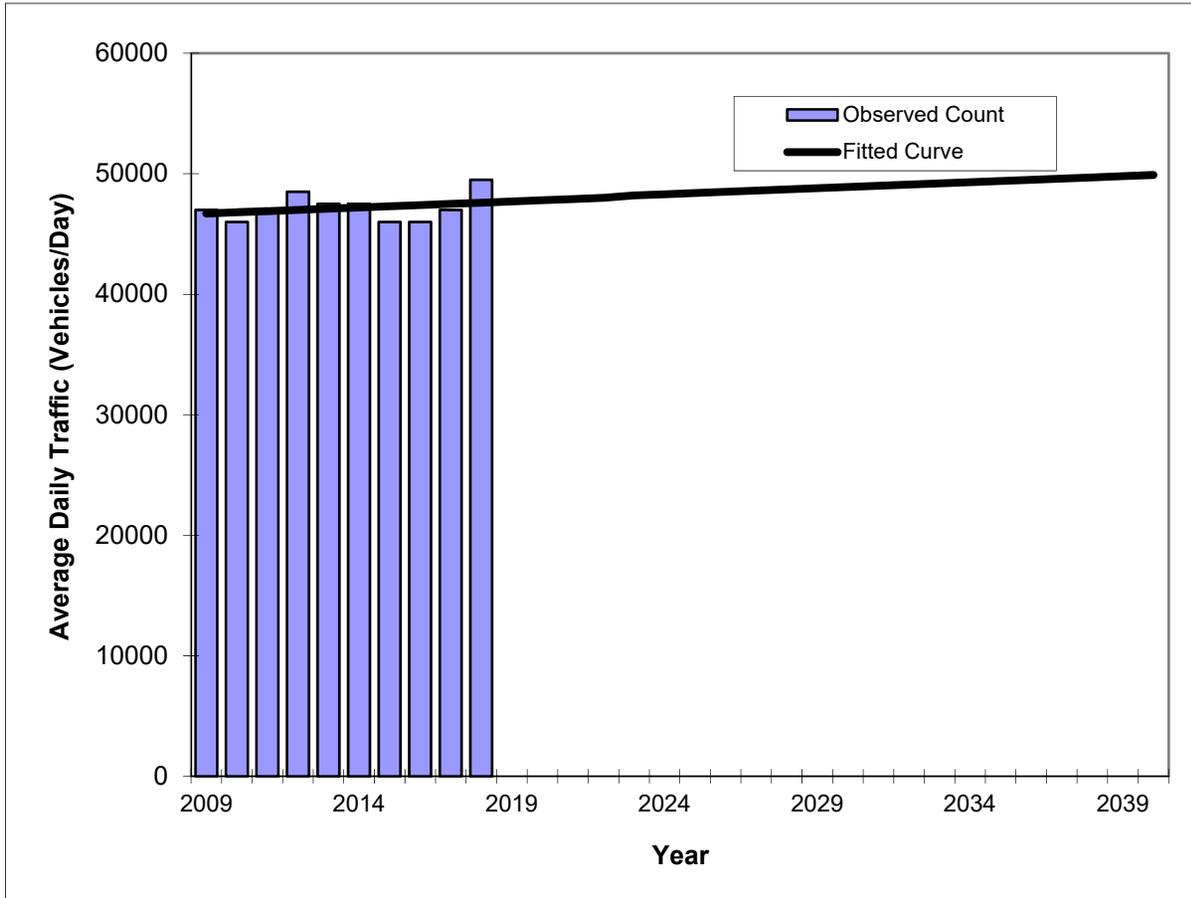
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2009	47000	46700
2010	46000	46800
2011	47000	46900
2012	48500	47000
2013	47500	47100
2014	47500	47300
2015	46000	47400
2016	46000	47500
2017	47000	47600
2018	49500	47700

Trend R-squared: 7.55%
Trend Annual Historic Growth Rate: 0.24%
Printed: 6-Feb-20
Straight Line Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' N OF 20 ST

County:	Miami-Dade (87)
Station #:	0012
Highway:	SR 907/ALTON RD



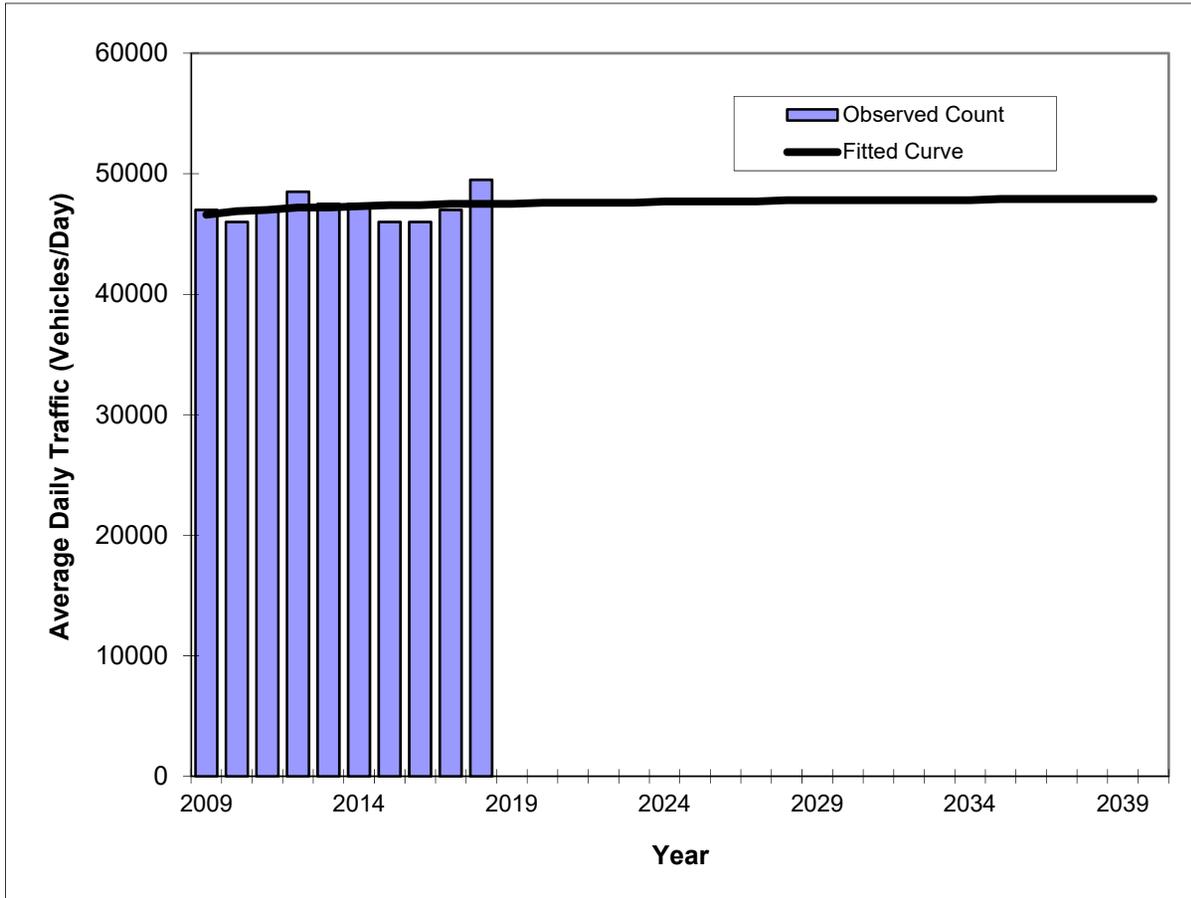
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2009	47000	46700
2010	46000	46800
2011	47000	46900
2012	48500	47000
2013	47500	47100
2014	47500	47200
2015	46000	47300
2016	46000	47400
2017	47000	47500
2018	49500	47600

Trend R-squared: 7.27%
 Compounded Annual Historic Growth Rate: 0.21%
 Printed: 6-Feb-20
Exponential Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' N OF 20 ST

County:	Miami-Dade (87)
Station #:	0012
Highway:	SR 907/ALTON RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2009	47000	46600
2010	46000	46900
2011	47000	47000
2012	48500	47200
2013	47500	47200
2014	47500	47300
2015	46000	47400
2016	46000	47400
2017	47000	47500
2018	49500	47500

Trend R-squared: 5.76%
 Compounded Annual Historic Growth Rate: 0.21%
 Printed: 6-Feb-20
Decaying Exponential Growth Option

*Axle-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

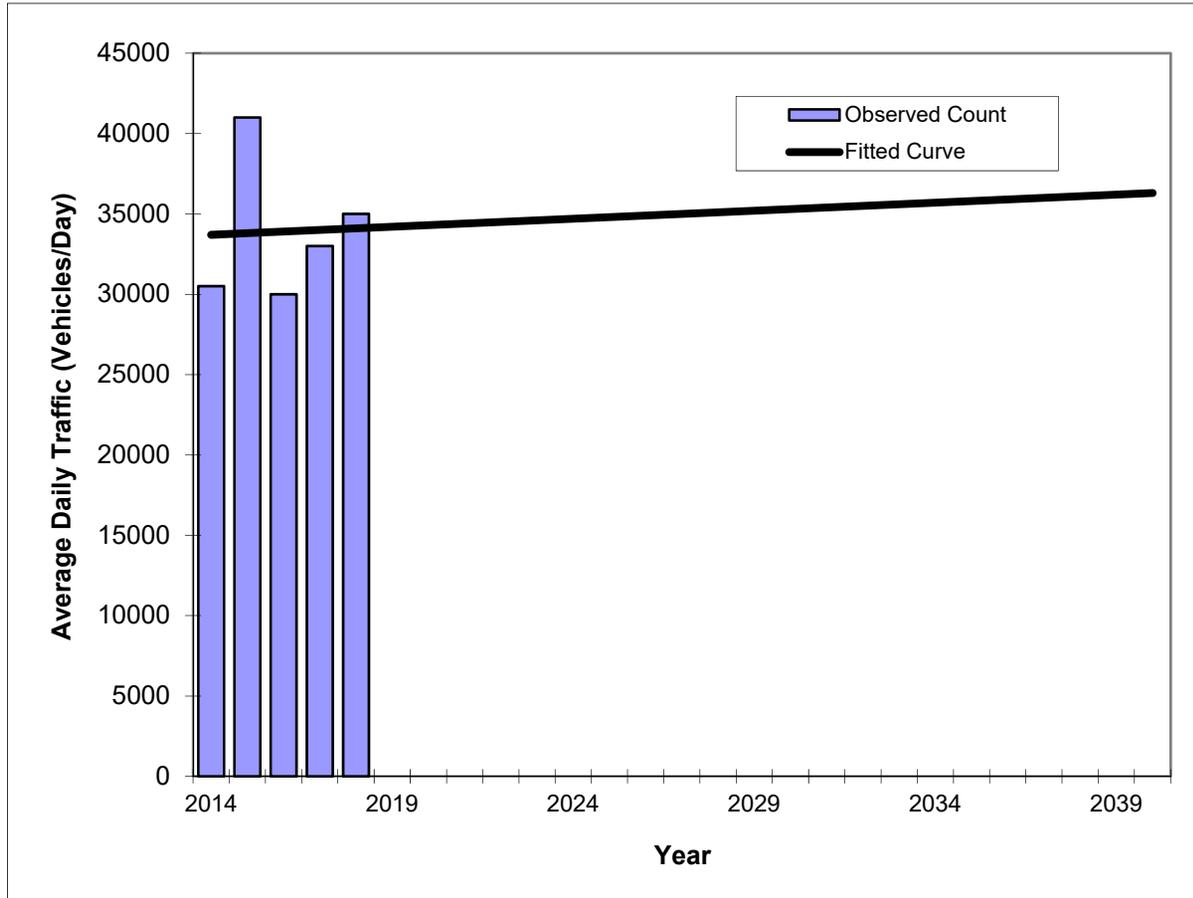
SITE: 2542 - SR 907/ALTON RD, 200' S OF VENETIAN CSWY

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	35000 C	N 17500	S 17500	9.00	54.30	3.50
2017	33000 C	N 16500	S 16500	9.00	55.00	2.80
2016	30000 C	N 15000	S 15000	9.00	54.50	5.90
2015	41000 C	N 21000	S 20000	9.00	54.70	1.60
2014	30500 F	N 14000	S 16500	9.00	54.50	7.60
2013	30500 C	N 14000	S 16500	9.00	52.40	7.60
2012	37000 C	N 19000	S 18000	9.00	55.70	7.50
2011	39500 C	N 19000	S 20500	9.00	55.10	1.50
2010	39000 C	N 20000	S 19000	8.98	54.08	1.50
2009	38500 C	N 19000	S 19500	8.99	53.24	6.20
2008	37500 C	N 17500	S 20000	9.09	55.75	4.80
2007	39500 C	N 18500	S 21000	8.01	54.34	5.20
2006	36500 C	N 17500	S 19000	7.97	54.22	1.60
2005	34000 C	N 17000	S 17000	8.80	53.80	9.30
2004	39000 C	N 18500	S 20500	9.00	53.30	9.30
2003	32500 C	N 16000	S 16500	8.80	53.40	10.60

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

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' S OF VENETIAN CSWY

County:	Miami-Dade (87)
Station #:	2542
Highway:	SR 907/ALTON RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	30500	33700
2015	41000	33800
2016	30000	33900
2017	33000	34000
2018	35000	34100

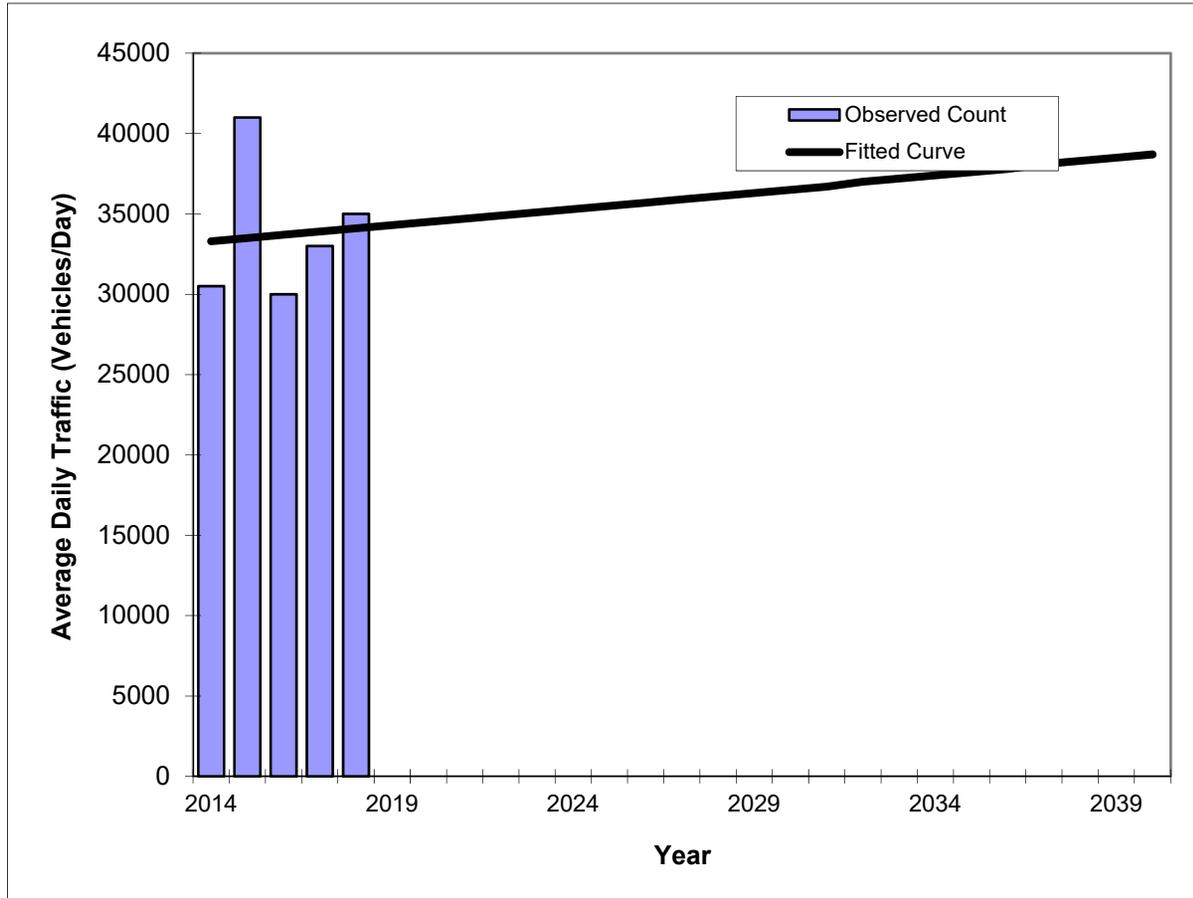
Trend R-squared: 0.13%
Trend Annual Historic Growth Rate: 0.30%
Printed: 6-Feb-20

Straight Line Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' S OF VENETIAN CSWY

County:	Miami-Dade (87)
Station #:	2542
Highway:	SR 907/ALTON RD



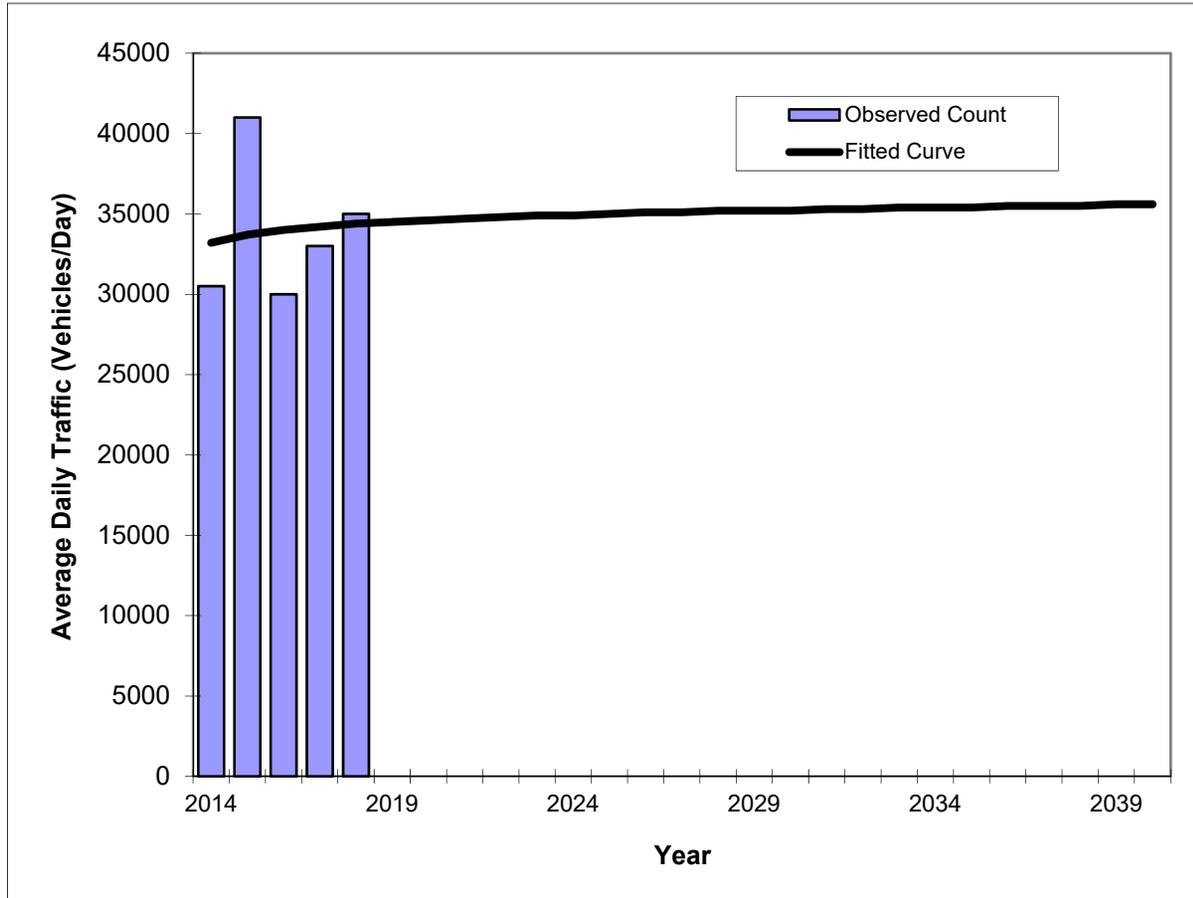
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	30500	33300
2015	41000	33500
2016	30000	33700
2017	33000	33900
2018	35000	34100

Trend R-squared: 0.53%
 Compounded Annual Historic Growth Rate: 0.60%
 Printed: 6-Feb-20
Exponential Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' S OF VENETIAN CSWY

County:	Miami-Dade (87)
Station #:	2542
Highway:	SR 907/ALTON RD



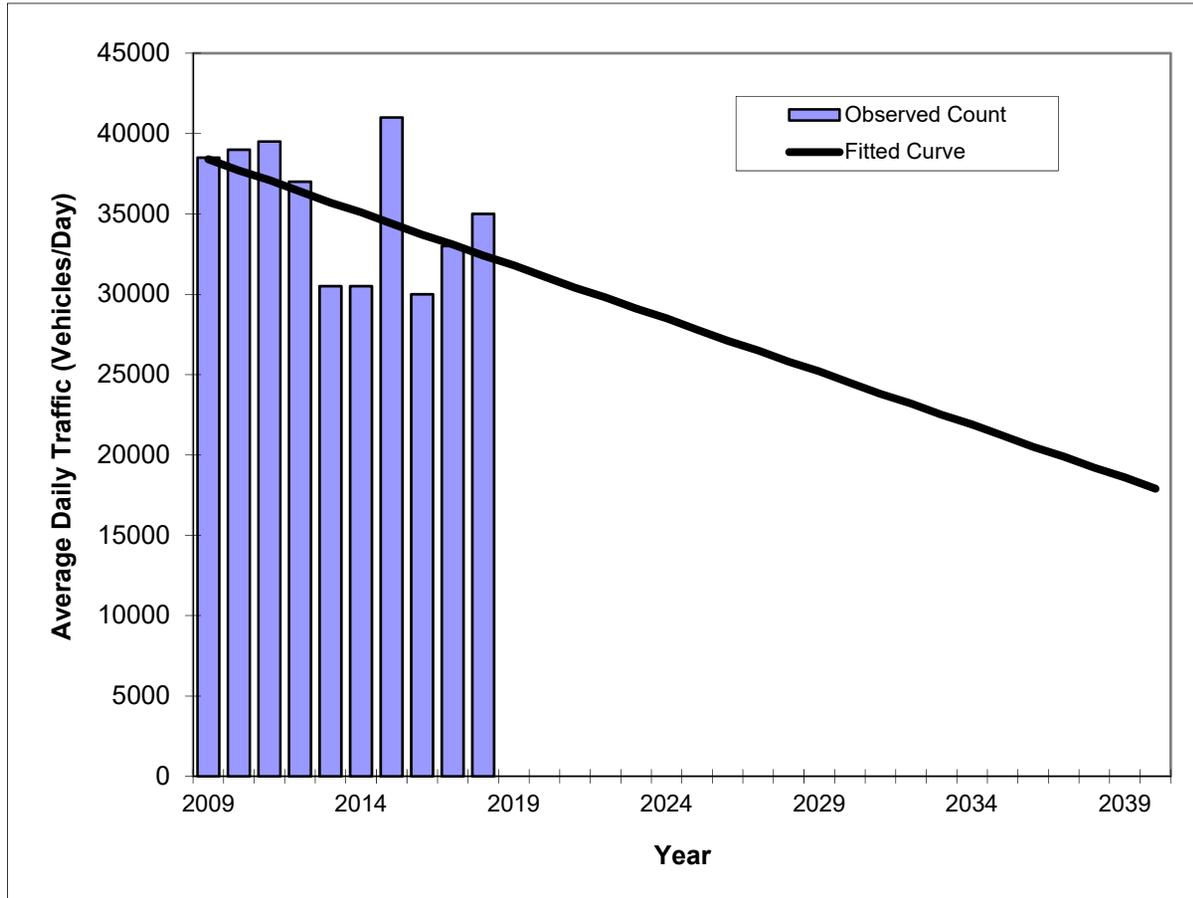
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	30500	33200
2015	41000	33700
2016	30000	34000
2017	33000	34200
2018	35000	34400

Trend R-squared: 1.05%
 Compounded Annual Historic Growth Rate: 0.89%
 Printed: 6-Feb-20
Decaying Exponential Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' S OF VENETIAN CSWY

County:	Miami-Dade (87)
Station #:	2542
Highway:	SR 907/ALTON RD



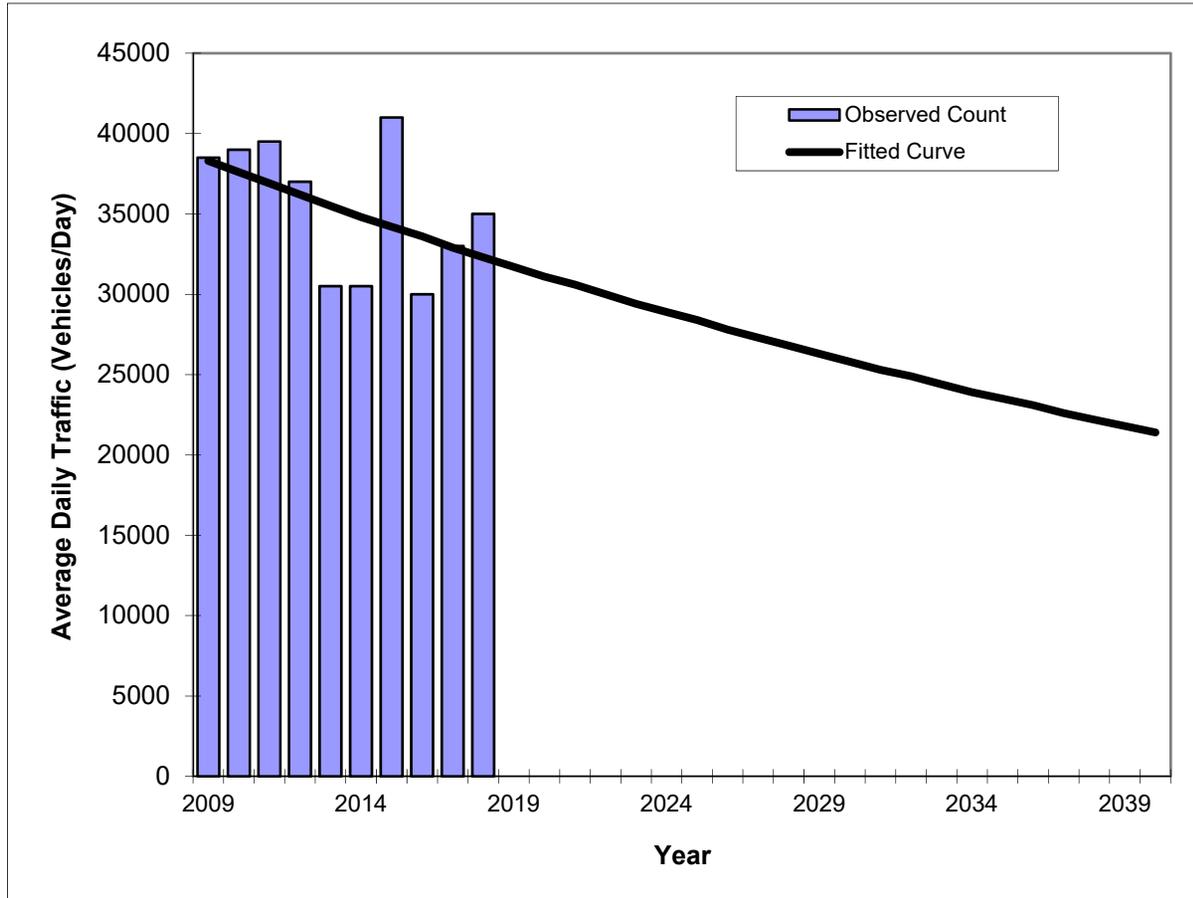
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2009	38500	38400
2010	39000	37700
2011	39500	37100
2012	37000	36400
2013	30500	35700
2014	30500	35100
2015	41000	34400
2016	30000	33700
2017	33000	33100
2018	35000	32400

Trend R-squared: 23.02%
 Trend Annual Historic Growth Rate: -1.74%
 Printed: 6-Feb-20
Straight Line Growth Option

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' S OF VENETIAN CSWY

County:	Miami-Dade (87)
Station #:	2542
Highway:	SR 907/ALTON RD



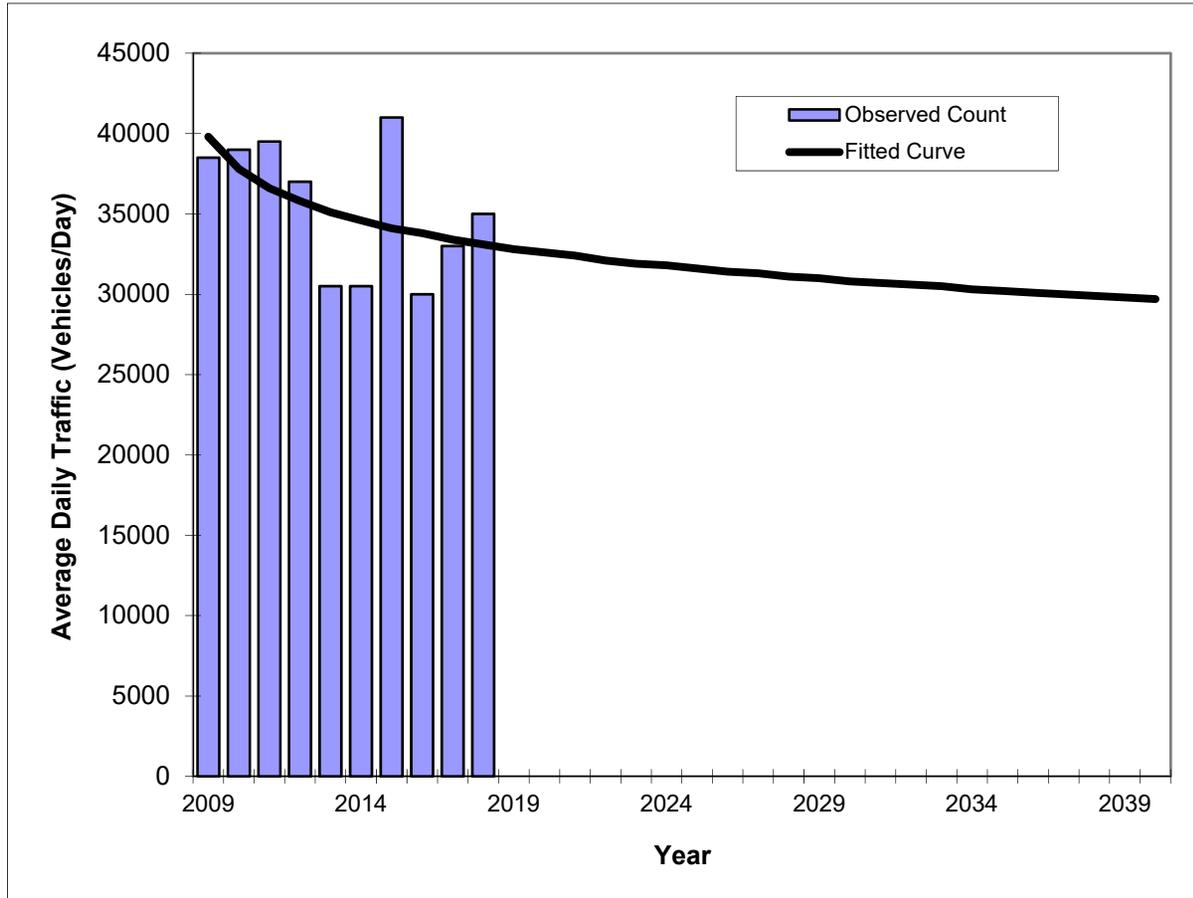
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2009	38500	38300
2010	39000	37600
2011	39500	36900
2012	37000	36200
2013	30500	35500
2014	30500	34800
2015	41000	34200
2016	30000	33600
2017	33000	32900
2018	35000	32300

Trend R-squared:	22.60%
Compounded Annual Historic Growth Rate:	-1.88%
Printed:	6-Feb-20
Exponential Growth Option	

*Axle-Adjusted

Traffic Trends - V03.a
SR 907/ALTON RD -- 200' S OF VENETIAN CSWY

County:	Miami-Dade (87)
Station #:	2542
Highway:	SR 907/ALTON RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2009	38500	39800
2010	39000	37800
2011	39500	36600
2012	37000	35800
2013	30500	35100
2014	30500	34600
2015	41000	34100
2016	30000	33800
2017	33000	33400
2018	35000	33100

Trend R-squared: 25.82%
 Compounded Annual Historic Growth Rate: -2.03%
 Printed: 6-Feb-20
Decaying Exponential Growth Option

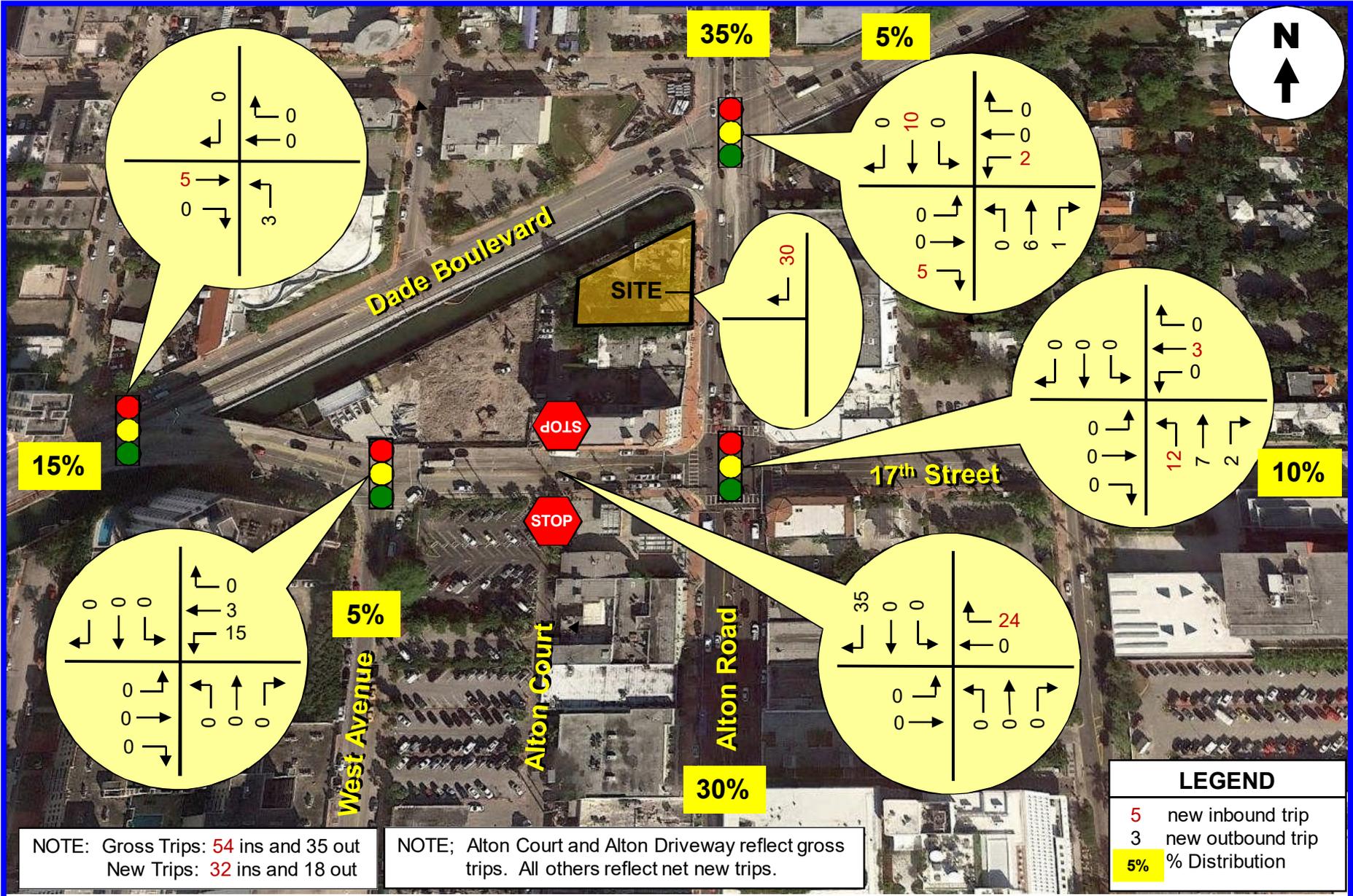
*Axle-Adjusted

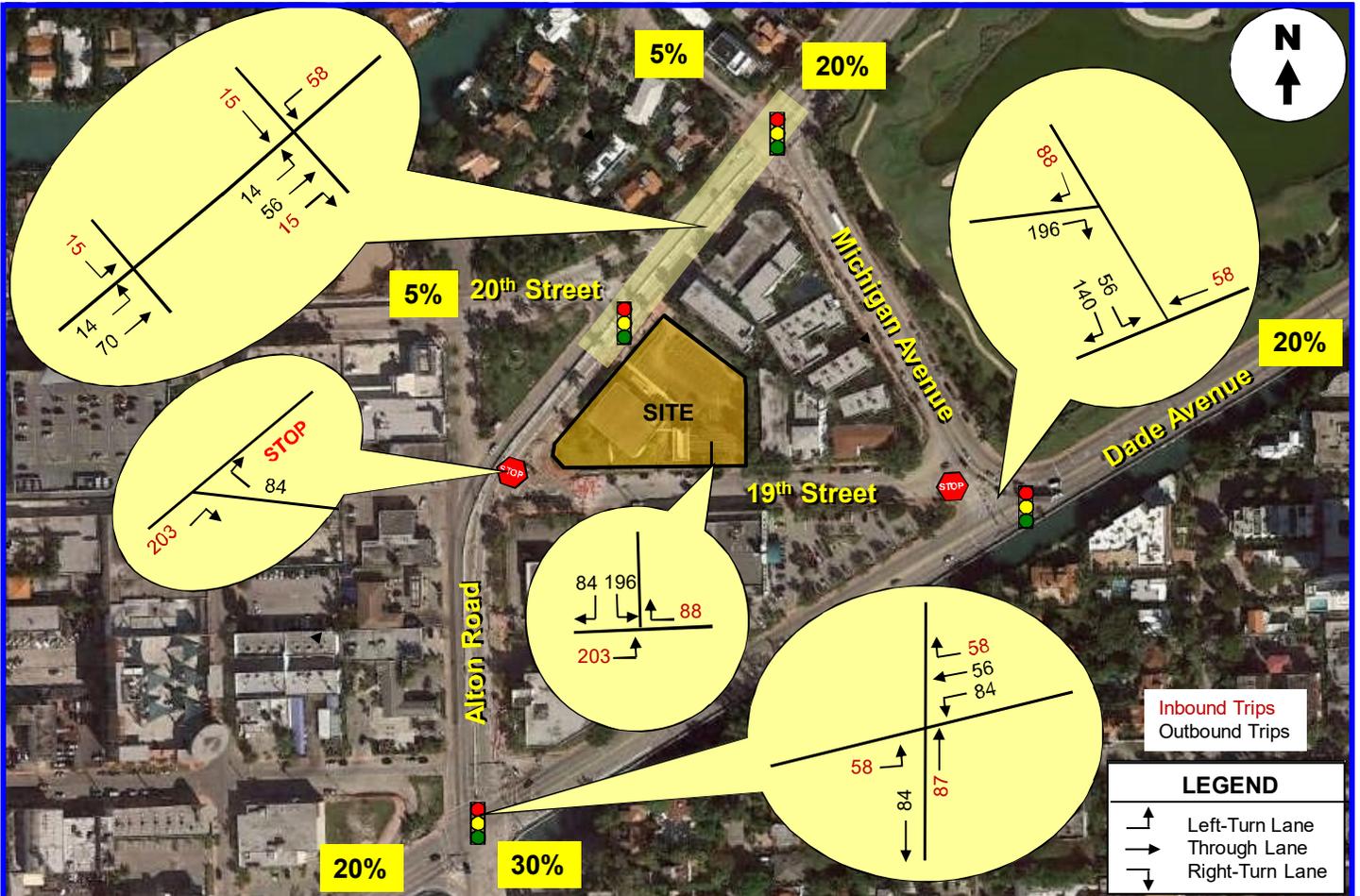
SERPM Analysis

SERPM Growth Rate Summary				
Street Name	2010	2040	Difference	Annual Growth Rate
Venetian Way	12,523	13,777	1,254	0.33%
Dade Boulevard	4,762	7,048	2,286	1.60%
	16,471	19,135	2,664	0.54%
	16,041	18,739	2,698	0.56%
17th Street	9,917	9,968	51	0.02%
	8,313	7,268	-1,045	-0.42%
	16,481	20,139	3,658	0.74%
	18,148	21,476	3,328	0.61%
Alton Road	35,802	36,680	878	0.08%
	46,253	46,942	689	0.05%
	50,106	52,571	2,465	0.16%
	41,745	44,262	2,517	0.20%
	39,097	41,166	2,069	0.18%
Total	315,659	339,171	23,512	0.25%

Appendix E

Committed Developments





Traf Tech
ENGINEERING, INC.

**NEW PROJECT TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)**

FIGURE E-1
1901 Alton
Miami Beach, Florida

Appendix F

Trip Generation and Transit Service Data

Trip Generation

PM PEAK HOUR TRIP GENERATION COMPARISON

PREVIOUSLY APPROVED WEEKDAY PM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS			
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total	
						In	Out																			
GROUP 1	1	Multifamily (Mid-Rise)	10	221	12	du	61%	39%	4	2	6	10.8%	1	3	2	5	40.0%	2	2	1	3	0.0%	0	2	1	3
	2	Shopping Center	10	820	19,988	ksf	48%	52%	79	86	165	10.8%	17	71	77	148	1.4%	2	70	76	146	34.0%	50	46	50	96
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation		Total:		83	88	171	10.8%	18	74	79	153	2.6%	4	72	77	149	33.6%	50	48	51	99	
		221	LN(Y) = 0.96*LN(X)+-0.63																							
		820	LN(Y) = 0.74*LN(X)+2.89																							

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS			
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total	
						In	Out																			
GROUP 2	1	Multifamily (Mid-Rise)	10	221	2	du	61%	39%	1	0	1	10.8%	0	1	0	1	0.0%	0	1	0	1	0.0%	0	1	0	1
	2	Shopping Center	10	820	16	ksf	48%	52%	67	73	140	10.8%	15	60	65	125	4.0%	5	56	64	120	34.0%	41	37	42	79
	3	General Office Building	10	710	24	ksf	16%	84%	5	24	29	10.8%	3	5	21	26	19.2%	5	4	17	21	0.0%	0	4	17	21
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation		Total:		73	97	170	10.6%	18	66	86	152	6.6%	10	61	81	142	28.9%	41	42	59	101	
		221	LN(Y) = 0.96*LN(X)+-0.63																							
		820	LN(Y) = 0.74*LN(X)+2.89																							
		710	LN(Y) = 0.95*LN(X)+0.36																							

NET NEW TRIPS	IN	OUT	TOTAL
-6	8	2	2

Internal Capture Reduction Calculations

Methodology for P.M. Peak Hour
based on the *Trip Generation Handbook*, 3rd Edition, published by the
Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the
P.M. Peak Hour

SUMMARY (PREVIOUSLY APPROVED)

GROSS TRIP GENERATION			
INPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	71	77
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	3	2
	Hotel	0	0
	74	79	
INTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	1	1
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	1	1
	Hotel	0	0
	2	2	
OUTPUT	Total % Reduction	2.6%	
	Office		
	Retail	1.4%	
	Restaurant		
	Cinema/Entertainment		
	Residential	40.0%	
Hotel			
EXTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	70	76
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	2	1
	Hotel	0	0
	72	77	

Internal Capture Reduction Calculations

Methodology for P.M. Peak Hour
based on the *Trip Generation Handbook*, 3rd Edition, published by the
Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the
P.M. Peak Hour

SUMMARY (PROPOSED)

GROSS TRIP GENERATION			
INPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	5	21
	Retail	60	65
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	1	0
	Hotel	0	0
	66	86	
INTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	1	4
	Retail	4	1
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	0	0
	Hotel	0	0
	5	5	
OUTPUT	Total % Reduction	6.6%	
	Office	19.2%	
	Retail	4.0%	
	Restaurant		
	Cinema/Entertainment		
	Residential	0.0%	
	Hotel		
EXTERNAL TRIPS			
OUTPUT	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	4	17
	Retail	56	64
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	1	0
	Hotel	0	0
	61	81	



B08301

MEANS OF TRANSPORTATION TO WORK

Universe: Workers 16 years and over

2012-2016 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Tell us what you think. Provide feedback to help make American Community Survey data more useful for you.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

$$(156+43+8) / 1914 = 10.8\%$$

	Census Tract 41.06, Miami-Dade County, Florida	
	Estimate	Margin of Error
Total:	1,914	+/-303
Car, truck, or van:	1,310	+/-243
Drove alone	1,232	+/-244
Carpooled:	78	+/-98
In 2-person carpool	78	+/-98
In 3-person carpool	0	+/-13
In 4-person carpool	0	+/-13
In 5- or 6-person carpool	0	+/-13
In 7-or-more-person carpool	0	+/-13
Public transportation (excluding taxicab):	8	+/-13
Bus or trolley bus	8	+/-13
Streetcar or trolley car (carro publico in Puerto Rico)	0	+/-13
Subway or elevated	0	+/-13
Railroad	0	+/-13
Ferryboat	0	+/-13
Taxicab	0	+/-13
Motorcycle	61	+/-58
Bicycle	43	+/-29
Walked	156	+/-88
Other means	75	+/-85
Worked at home	261	+/-168

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2012-2016 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

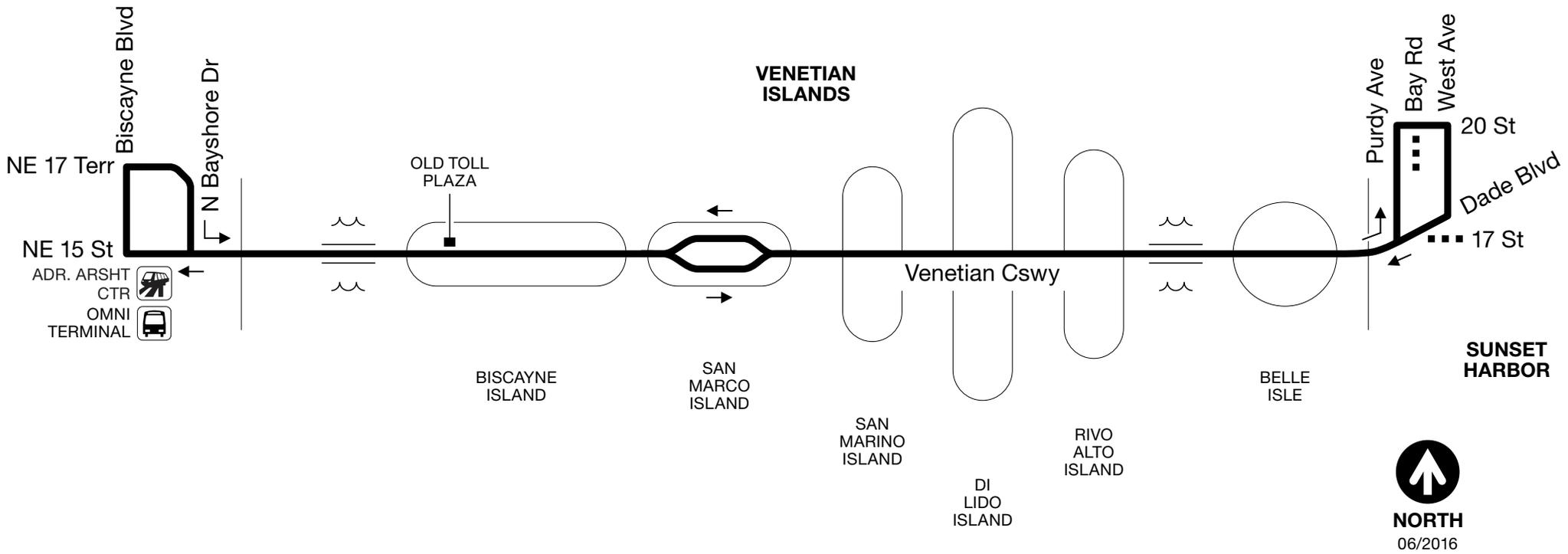
Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-l' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+u' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '****' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

Transit Service Data



A



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BUS ROUTES SCHEDULE



101 (Westbound) WEEKDAY

20 ST & BAY RD	NE 15 ST & BISCAYNE BD
07:12AM	07:27AM
07:47AM	08:02AM
08:22AM	08:37AM
08:57AM	09:12AM
09:32AM	09:47AM
02:12PM	02:27PM
02:47PM	03:02PM
03:22PM	03:37PM
03:57PM	04:12PM
04:32PM	04:47PM
05:07PM	05:22PM
05:42PM	05:57PM
06:17PM	06:32PM

06:52PM

07:07PM

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BUS ROUTES SCHEDULE



101 (Eastbound) WEEKDAY

NE 15 ST & BISCAYNE BD	20 ST & BAY RD
07:00AM	07:12AM
07:35AM	07:47AM
08:10AM	08:22AM
08:45AM	08:57AM
09:20AM	09:32AM
02:00PM	02:12PM
02:35PM	02:47PM
03:10PM	03:22PM
03:45PM	03:57PM
04:20PM	04:32PM
04:55PM	05:07PM
05:30PM	05:42PM
06:05PM	06:17PM

06:40PM

06:52PM

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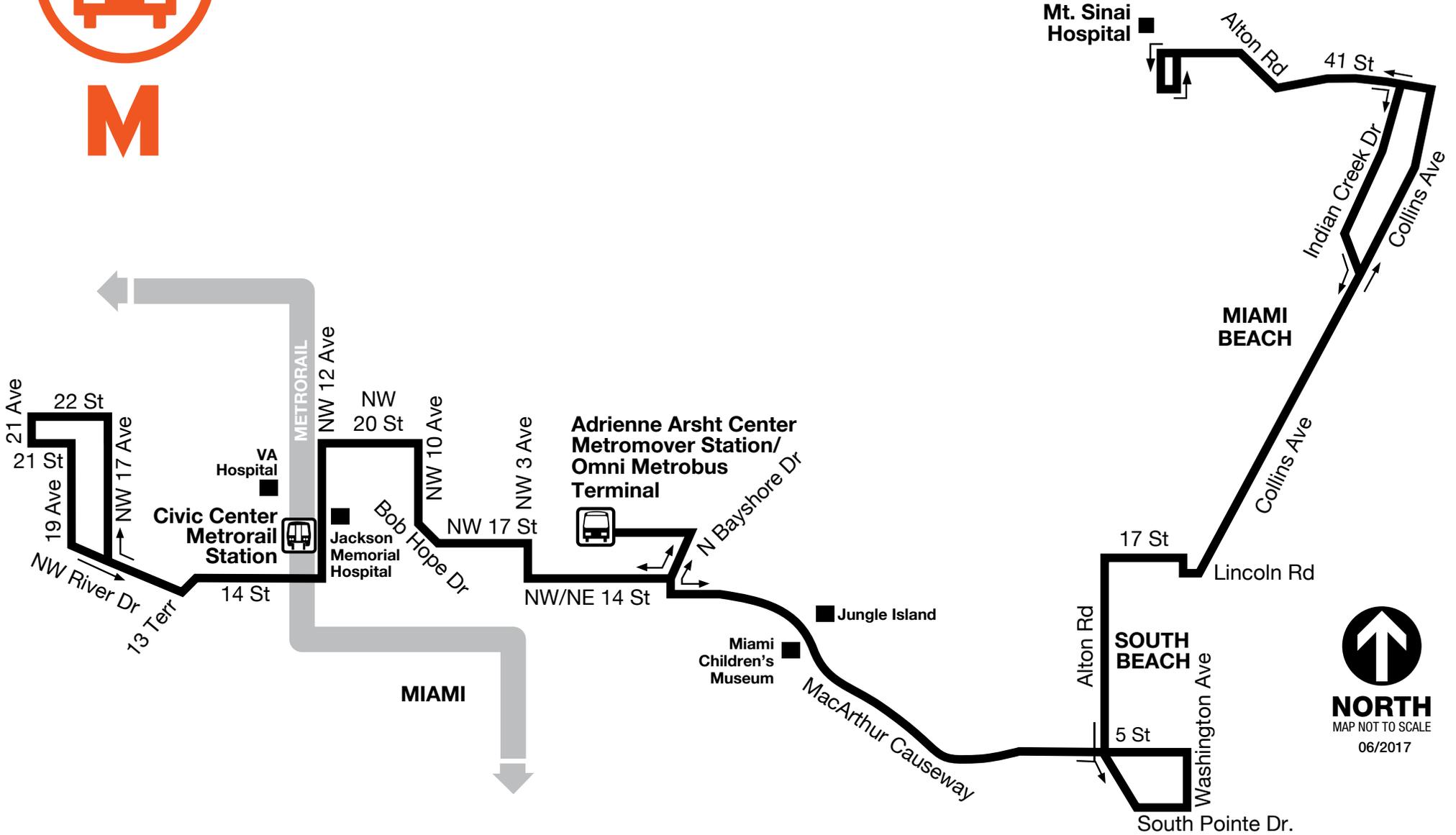
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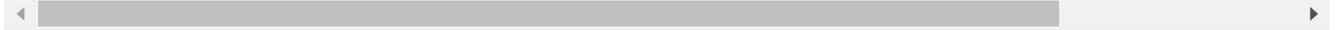
BUS ROUTES SCHEDULE

 Miami-Dade


113 (Westbound) WEEKDAY

ALTON RD & 39 ST	MT SINAI HOSPITAL	41 ST & ALTON RD	41 ST & MERIDIAN AV	INDIAN CREEK DR & 40 ST	LINCOLN RD & WASHINGTON AV	ALTON RD & LINCOLN RD	ALTON RD & 2 ST	5 ST & LENOX AV	OMNI TERMINAL/ ARSH METROMC
-	05:43AM	05:45AM	05:46AM	05:50AM	05:56AM	06:01AM	06:08AM	06:13AM	06:21AM
-	06:26AM	06:28AM	06:30AM	06:34AM	06:42AM	06:47AM	06:54AM	06:59AM	07:07AM
07:02AM	07:05AM	07:07AM	07:09AM	07:14AM	07:24AM	07:29AM	07:38AM	07:44AM	07:52AM
07:43AM	07:46AM	07:48AM	07:50AM	07:55AM	08:06AM	08:11AM	08:21AM	08:27AM	08:37AM
08:25AM	08:28AM	08:30AM	08:32AM	08:38AM	08:49AM	08:54AM	09:05AM	09:11AM	09:21AM
09:17AM	09:20AM	09:23AM	09:25AM	09:31AM	09:43AM	09:49AM	10:00AM	10:06AM	10:16AM
10:13AM	10:16AM	10:19AM	10:21AM	10:27AM	10:39AM	10:45AM	10:56AM	11:02AM	11:12AM
-	11:16AM	11:19AM	11:21AM	11:27AM	11:39AM	11:45AM	11:56AM	12:02PM	12:12PM
-	12:16PM	12:19PM	12:21PM	12:27PM	12:39PM	12:45PM	12:56PM	01:02PM	01:12PM
-	01:16PM	01:19PM	01:21PM	01:27PM	01:39PM	01:45PM	01:56PM	02:02PM	02:12PM
-	02:06PM	02:09PM	02:11PM	02:17PM	02:29PM	02:35PM	02:46PM	02:52PM	03:02PM
-	02:56PM	02:59PM	03:01PM	03:07PM	03:19PM	03:25PM	03:36PM	03:42PM	03:52PM

-	03:46PM	03:49PM	03:51PM	03:57PM	04:09PM	04:15PM	04:26PM	04:32PM	04:42PM
04:29PM	04:32PM	04:34PM	04:36PM	04:42PM	04:54PM	05:00PM	05:11PM	05:17PM	05:27PM
05:14PM	05:17PM	05:19PM	05:21PM	05:27PM	05:39PM	05:45PM	05:56PM	06:02PM	06:12PM
06:06PM	06:09PM	06:11PM	06:13PM	06:19PM	06:31PM	06:37PM	06:48PM	06:54PM	07:04PM
07:12PM	07:15PM	07:17PM	07:19PM	07:25PM	07:36PM	07:41PM	07:50PM	07:56PM	08:04PM
08:12PM	08:15PM	08:17PM	08:19PM	08:25PM	08:36PM	08:41PM	08:50PM	08:56PM	09:04PM
08:57PM	09:00PM	09:02PM	09:04PM	09:10PM	09:21PM	09:26PM	09:35PM	09:41PM	09:49PM



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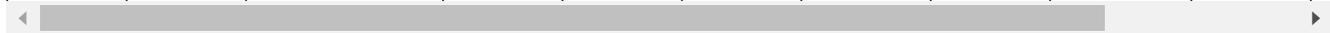
Bus Routes Schedule



113 (Eastbound) WEEKDAY

NW 21 AV & 22 ST	NW 12 AV & 15 ST	OMNI TERMINAL / ARSHT METROMOVER	ALTON RD & 2 ST	5 ST & LENOX AV	17 ST & LENOX AV	LINCOLN RD & JAMES AV	INDIAN CREEK DR & 43 ST	41 ST & MERIDIAN AV	41 ST & ALTON RD	
05:42AM	05:48AM	05:58AM	06:08AM	06:13AM	06:21AM	06:26AM	06:35AM	06:42AM	06:43AM	
06:20AM	06:27AM	06:39AM	06:49AM	06:54AM	07:04AM	07:10AM	07:20AM	07:27AM	07:29AM	
06:55AM	07:03AM	07:16AM	07:27AM	07:33AM	07:43AM	07:49AM	07:59AM	08:06AM	08:08AM	
07:45AM	07:53AM	08:06AM	08:17AM	08:23AM	08:33AM	08:39AM	08:51AM	08:58AM	09:00AM	
08:30AM	08:38AM	08:51AM	09:02AM	09:08AM	09:18AM	09:25AM	09:37AM	09:44AM	09:46AM	
09:15AM	09:23AM	09:37AM	09:48AM	09:54AM	10:04AM	10:11AM	10:23AM	10:30AM	10:32AM	
09:55AM	10:03AM	10:17AM	10:28AM	10:34AM	10:44AM	10:51AM	11:03AM	11:10AM	11:12AM	
10:55AM	11:03AM	11:17AM	11:28AM	11:34AM	11:44AM	11:51AM	12:03PM	12:10PM	12:12PM	
11:55AM	12:03PM	12:17PM	12:28PM	12:34PM	12:44PM	12:51PM	01:03PM	01:10PM	01:12PM	
12:55PM	01:03PM	01:17PM	01:28PM	01:34PM	01:44PM	01:51PM	02:03PM	02:10PM	02:12PM	
01:55PM	02:03PM	02:17PM	02:28PM	02:34PM	02:44PM	02:51PM	03:03PM	03:10PM	03:12PM	
02:55PM	03:03PM	03:17PM	03:28PM	03:34PM	03:44PM	03:51PM	04:03PM	04:11PM	04:13PM	

03:40PM	03:48PM	04:02PM	04:14PM	04:20PM	04:30PM	04:37PM	04:49PM	04:57PM	04:59PM
04:30PM	04:38PM	04:52PM	05:04PM	05:10PM	05:20PM	05:27PM	05:39PM	05:47PM	05:49PM
05:15PM	05:23PM	05:37PM	05:49PM	05:55PM	06:05PM	06:12PM	06:24PM	06:32PM	06:34PM
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06:45PM	06:53PM	07:07PM	07:18PM	07:24PM	07:32PM	07:38PM	07:49PM	07:56PM	07:57PM
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08:35PM	08:42PM	08:55PM	09:06PM	09:12PM	09:20PM	09:26PM	09:37PM	09:44PM	09:45PM
09:35PM	09:42PM	09:55PM	10:06PM	10:11PM	10:19PM	10:24PM	10:33PM	10:39PM	10:40PM



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TRANSPORTATION & PUBLIC WORKS

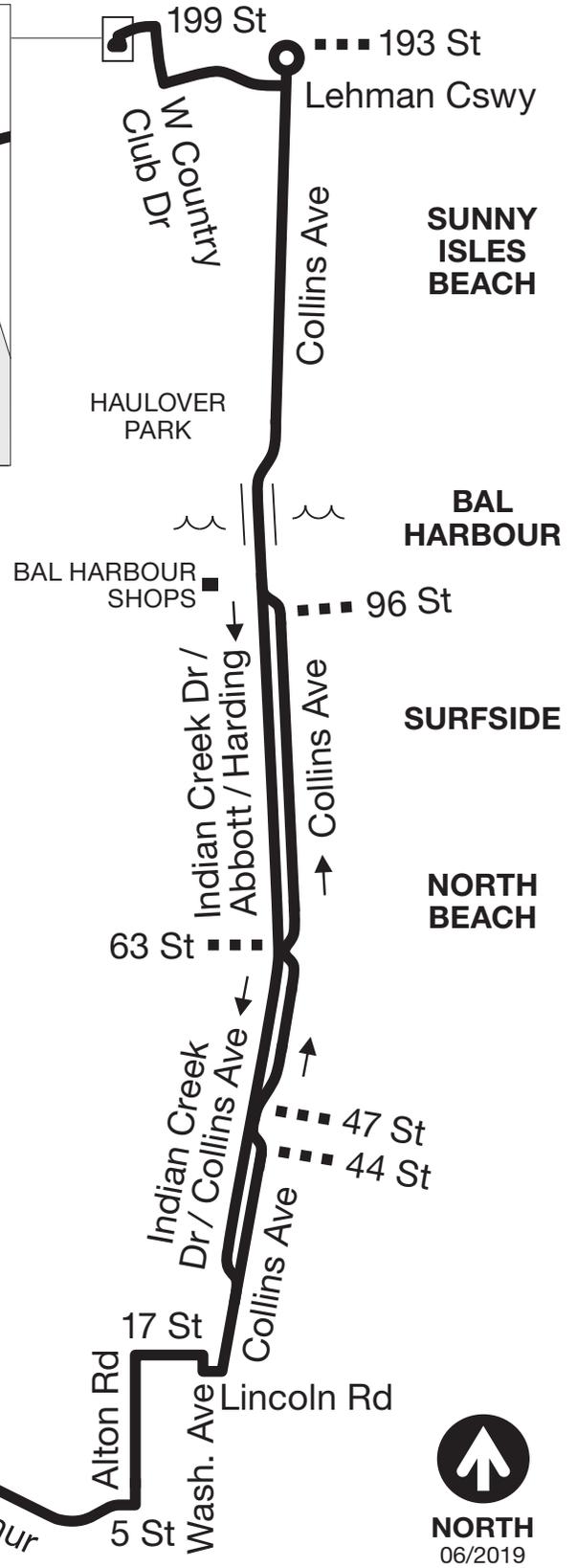
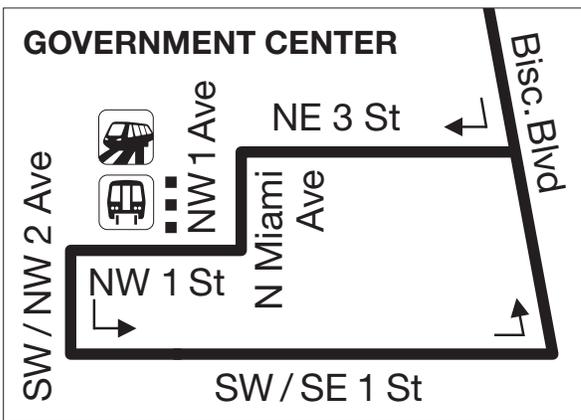
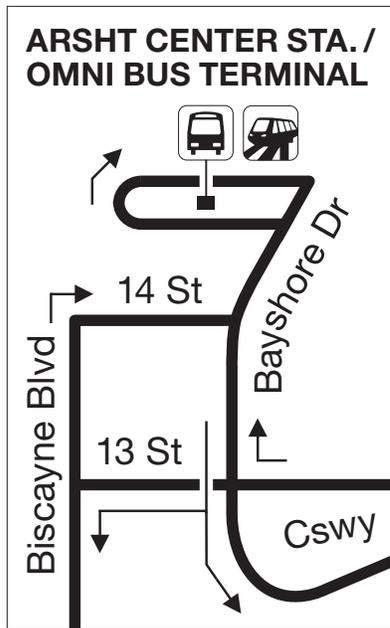
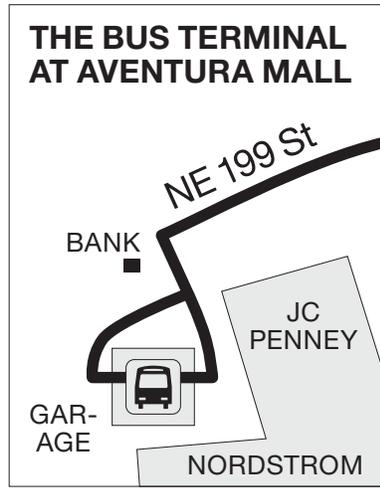
Alice N. Bravo, P.E., Director

Overtown Transit Village North

701 NW 1st Court, Suite 1700, Miami, FL 33136

786-469-5675 |

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NORTH
06/2019



@GoMiamiDade



MDT Tracker | EASY Pay Miami

www.miamidade.gov/transit



311 or 305.468.5900 TTY/Fla Relay: 711



The 2020 Census is coming. Learn how you can ensure Miami-Dade Counts!

Menu



Login

BUS ROUTES SCHEDULE



119 (Southbound) WEEKDAY

BUS TERMINAL AT AVENTURA MALL	COLLINS AV & 193 ST	COLLINS AV & 163 ST	BAL HARBOUR SHOPS	ABBOTT AV & 69 ST	INDIAN CREEK DR & 40 ST	LINCOLN RD & WASHINGTON AV	ALTON RD & LINCOLN RD	ALTON RD & 6 ST	ON TERM AR: METRO
04:16AM	04:23AM	04:29AM	04:35AM	04:44AM	04:52AM	04:58AM	05:03AM	05:08AM	05:1
04:53AM	05:00AM	05:06AM	05:12AM	05:21AM	05:29AM	05:35AM	05:40AM	05:45AM	05:5
05:13AM	05:20AM	05:26AM	05:32AM	05:41AM	05:49AM	05:55AM	06:01AM	06:07AM	06:1
05:28AM	05:35AM	05:41AM	05:47AM	05:56AM	06:07AM	06:15AM	06:21AM	06:27AM	06:3
05:46AM	05:53AM	05:59AM	06:06AM	06:16AM	06:27AM	06:35AM	06:41AM	06:47AM	06:5
05:59AM	06:08AM	06:16AM	06:23AM	06:33AM	06:44AM	06:52AM	06:58AM	07:04AM	07:1
06:15AM	06:24AM	06:32AM	06:39AM	06:49AM	07:01AM	07:10AM	07:17AM	07:23AM	07:3
06:28AM	06:37AM	06:45AM	06:52AM	07:04AM	07:16AM	07:25AM	07:32AM	07:38AM	07:4
06:42AM	06:51AM	06:59AM	07:07AM	07:19AM	07:31AM	07:40AM	07:47AM	07:53AM	08:0
06:53AM	07:04AM	07:13AM	07:21AM	07:33AM	07:45AM	07:54AM	08:01AM	08:08AM	08:1
07:06AM	07:17AM	07:26AM	07:34AM	07:46AM	08:00AM	08:09AM	08:16AM	08:23AM	08:3

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TRANSPORTATION & PUBLIC WORKS

The 2020 Census is coming. Learn how you can ensure Miami-Dade Counts!

Menu



Login

BUS ROUTES SCHEDULE



119 (Northbound) WEEKDAY

STEPHEN P CLARK CENTER	OMNI TERMINAL / ARSHT METROMOVER	ALTON RD & 6 ST	17 ST & LENOX AV	LINCOLN RD & JAMES AV	COLLINS AV & 43 ST	COLLINS AV & 69 ST	COLLINS AV & 96 ST	COLLINS AV AT 16900 BLK	COLLINS AV & 193 ST
05:00AM	05:09AM	05:16AM	05:22AM	05:27AM	05:33AM	05:41AM	05:49AM	05:55AM	06:03AM
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02:30PM	02:46PM	02:59PM	03:09PM	03:18PM	03:30PM	03:45PM	03:57PM	04:07PM	04:16PM
02:45PM	03:01PM	03:14PM	03:24PM	03:33PM	03:45PM	04:00PM	04:11PM	04:21PM	04:30PM
03:00PM	03:16PM	03:29PM	03:39PM	03:48PM	04:00PM	04:15PM	04:26PM	04:36PM	04:45PM
03:15PM	03:31PM	03:44PM	03:54PM	04:03PM	04:14PM	04:29PM	04:40PM	04:50PM	04:59PM
03:30PM	03:46PM	03:59PM	04:09PM	04:18PM	04:29PM	04:44PM	04:55PM	05:05PM	05:14PM
03:42PM	03:58PM	04:11PM	04:21PM	04:30PM	04:41PM	04:56PM	05:07PM	05:17PM	05:26PM
03:54PM	04:11PM	04:23PM	04:33PM	04:42PM	04:53PM	05:08PM	05:19PM	05:29PM	05:38PM
04:06PM	04:23PM	04:35PM	04:45PM	04:54PM	05:05PM	05:20PM	05:31PM	05:41PM	05:50PM
04:18PM	04:35PM	04:47PM	04:57PM	05:06PM	05:17PM	05:32PM	05:43PM	05:53PM	06:02PM
04:30PM	04:47PM	04:59PM	05:09PM	05:18PM	05:29PM	05:44PM	05:55PM	06:05PM	06:14PM
04:42PM	04:59PM	05:11PM	05:21PM	05:30PM	05:41PM	05:56PM	06:07PM	06:17PM	06:26PM
04:54PM	05:11PM	05:23PM	05:33PM	05:42PM	05:53PM	06:08PM	06:19PM	06:29PM	06:38PM
05:06PM	05:23PM	05:35PM	05:45PM	05:54PM	06:05PM	06:20PM	06:31PM	06:41PM	06:50PM

05:18PM	05:35PM	05:47PM	05:57PM	06:06PM	06:17PM	06:32PM	06:43PM	06:53PM	07:02PM
05:30PM	05:47PM	05:59PM	06:09PM	06:18PM	06:29PM	06:44PM	06:55PM	07:05PM	07:13PM
05:42PM	05:59PM	06:11PM	06:21PM	06:30PM	06:41PM	06:56PM	07:07PM	07:15PM	07:23PM
05:54PM	06:11PM	06:23PM	06:33PM	06:42PM	06:53PM	07:08PM	07:17PM	07:25PM	07:33PM
06:06PM	06:23PM	06:35PM	06:45PM	06:54PM	07:05PM	07:17PM	07:26PM	07:34PM	07:42PM
06:18PM	06:35PM	06:47PM	06:57PM	07:06PM	07:16PM	07:28PM	07:37PM	07:45PM	07:53PM
06:30PM	06:47PM	06:59PM	07:09PM	07:17PM	07:27PM	07:39PM	07:48PM	07:56PM	08:04PM
06:44PM	07:01PM	07:10PM	07:18PM	07:26PM	07:36PM	07:48PM	07:57PM	08:05PM	08:13PM
07:00PM	07:14PM	07:23PM	07:31PM	07:39PM	07:49PM	08:01PM	08:10PM	08:18PM	08:26PM
07:16PM	07:30PM	07:39PM	07:47PM	07:55PM	08:05PM	08:17PM	08:26PM	08:34PM	08:42PM
07:30PM	07:44PM	07:53PM	08:01PM	08:09PM	08:19PM	08:31PM	08:40PM	08:48PM	08:56PM
07:48PM	08:02PM	08:11PM	08:19PM	08:27PM	08:37PM	08:49PM	08:58PM	09:06PM	09:14PM
08:10PM	08:24PM	08:33PM	08:41PM	08:49PM	08:59PM	09:11PM	09:20PM	09:28PM	09:36PM
08:35PM	08:49PM	08:58PM	09:06PM	09:14PM	09:24PM	09:36PM	09:45PM	09:53PM	10:01PM
09:00PM	09:14PM	09:23PM	09:31PM	09:39PM	09:49PM	10:01PM	10:10PM	10:17PM	10:24PM
09:25PM	09:39PM	09:48PM	09:56PM	10:04PM	10:14PM	10:26PM	10:35PM	10:42PM	10:49PM
09:50PM	10:04PM	10:11PM	10:18PM	10:26PM	10:36PM	10:48PM	10:57PM	11:04PM	11:11PM
10:15PM	10:28PM	10:35PM	10:42PM	10:50PM	11:00PM	11:12PM	11:21PM	11:28PM	11:35PM
10:40PM	10:53PM	11:00PM	11:07PM	11:15PM	11:25PM	11:37PM	11:46PM	11:53PM	12:00AM
11:10PM	11:23PM	11:30PM	11:37PM	11:45PM	11:55PM	12:07AM	12:15AM	12:21AM	12:27AM

11:40PM	11:53PM	12:00AM	12:06AM	12:13AM	12:21AM	12:30AM	12:38AM	12:44AM	12:50AM
12:10AM	12:21AM	12:28AM	12:34AM	12:41AM	12:49AM	12:58AM	01:06AM	01:12AM	01:18AM
12:40AM	12:51AM	12:58AM	01:04AM	01:11AM	01:19AM	01:28AM	01:36AM	01:42AM	01:48AM
01:10AM	01:21AM	01:28AM	01:34AM	01:41AM	01:49AM	01:58AM	02:06AM	02:12AM	02:18AM
02:10AM	02:21AM	02:28AM	02:34AM	02:41AM	02:49AM	02:58AM	03:06AM	03:12AM	03:18AM
03:10AM	03:21AM	03:28AM	03:34AM	03:41AM	03:49AM	03:58AM	04:06AM	04:12AM	04:18AM
04:10AM	04:21AM	04:28AM	04:34AM	04:41AM	04:49AM	04:58AM	05:06AM	05:12AM	05:18AM

[Back to previous page](#)



TRANSPORTATION & PUBLIC WORKS

Alice N. Bravo, P.E., Director

Overtown Transit Village North

701 NW 1st Court, Suite 1700, Miami, FL 33136

786-469-5675 |

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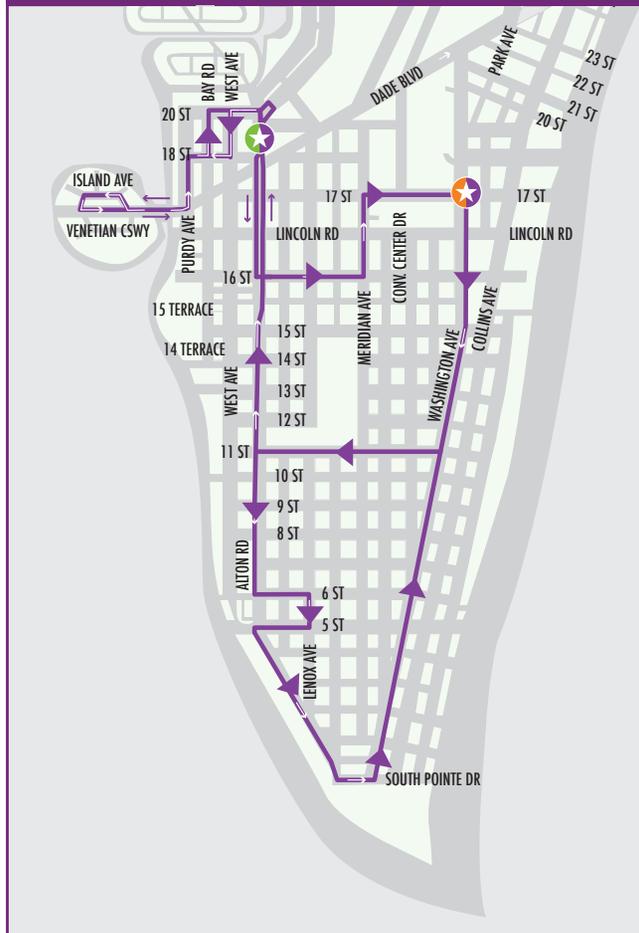
SOUTH BEACH LOOP - A

(Clockwise - Approximately 20 minutes)



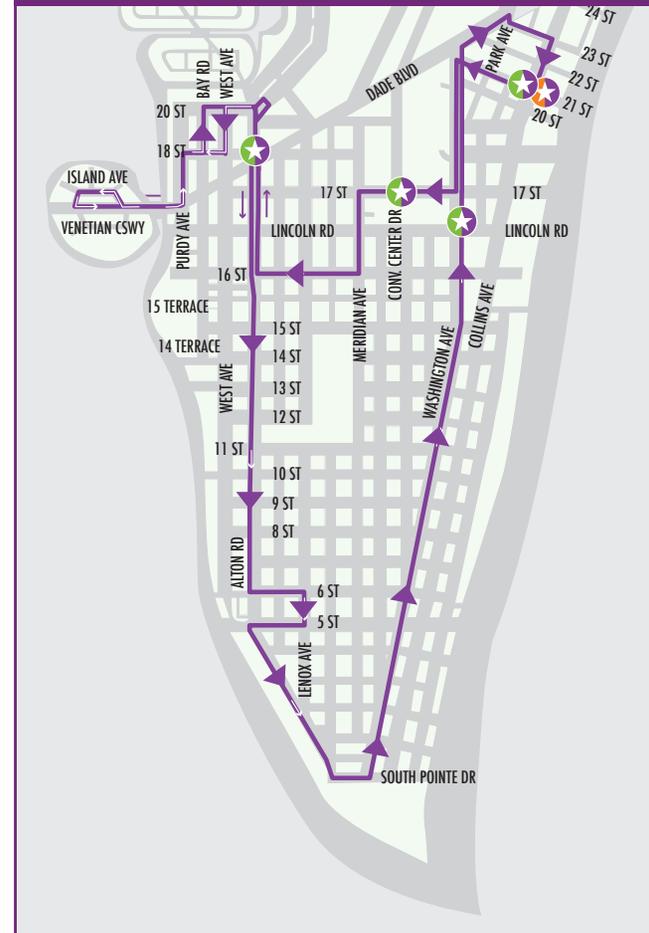
SOUTH BEACH LOOP - VIA 11 ST

(Approximately 40 minutes)



SOUTH BEACH LOOP - B

(Counter Clockwise - Approximately 20 minutes)



MIAMIBEACH

SOUTH BEACH TROLLEY

[HOME](#) > [CITY HALL](#) > [TRANSPORTATION](#) > [CITYWIDE FREE TROLLEY](#) > SOUTH BEACH TROLLEY

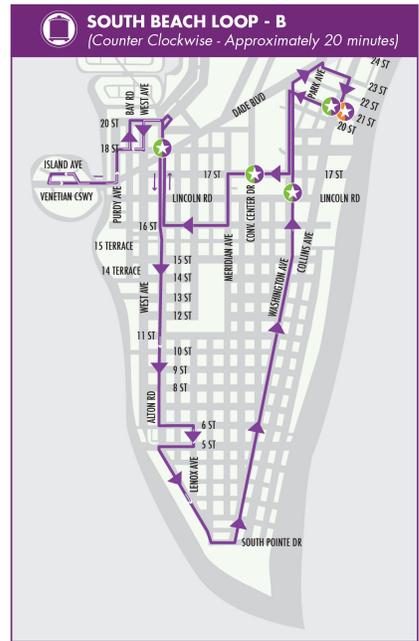
The South Beach Loop trolley service was soft-launched on November 20, 2017. The new South Beach Loop trolley service replaced County-operated South Beach Local and City-operated Alton-West Loop trolley service.

To better serve transit needs of the South Beach community, as of Monday, January 22, 2018, the South Beach Loops A (Clockwise) and B (Counter-Clockwise) have been extended to the Collins Park neighborhood, while service on the “Via 11 Street Loop” remained the same. As a result of this route extension, the average service frequency along Loops A and B is approximately 20 minutes, while average service frequency along the “Via 11 Street Loop” is approximately 40 minutes. See map below depicting new route alignment.

To improve accessibility and facilitate boarding and alighting of passengers, a fleet of ten (10) new low-floor trolley vehicles operate along the new South Beach Loop trolley route. Hours of service of the South Beach Loop trolley service are the same as hours of service of other trolley routes (365 days a year, Monday through Saturday 6 a.m. to midnight and 8 a.m. to midnight on Sundays).

The citywide trolley service enables travel from South Pointe Drive to 87 Street with as little as one (1) transfer.

South Beach Trolley Map



[Download South Beach Trolley Service Map in pdf](#)

South Beach Loop A Stops

Main Street	Cross Street	Direction	Stop ID	Transfer to
17 Street	Pennsylvania Avenue	EB	100	SoBe via 11 Street
Washington Avenue	17 Street	NB	190	SoBe Loop B
Washington Avenue	18 Street	NB	191	SoBe Loop B
Washington Avenue	20 Street	NB	192	SoBe Loop B
23 Street	Liberty Avenue	EB	194	SoBe Loop B
Collins Avenue	21 Street	SB	243	SoBe Loop B, Collins Express, Middle Beach Loop
Washington Avenue	19 Street	SB	195	SoBe Loop B

Washington Avenue	18 Street	SB	196	SoBe Loop B
Washington Avenue	17 Street	SB	101	Collins Express, SoBe via 11 Street
Washington Avenue	Lincoln Road	SB	102	SoBe via 11 Street
Washington Avenue	15 Street	SB	103	SoBe via 11 Street
Washington Avenue	14 Street	SB	104	SoBe via 11 Street
Washington Avenue	13 Street	SB	105	SoBe via 11 Street
Washington Avenue	12 Street	SB	106	SoBe via 11 Street
Washington Avenue	9 Street	SB	144	
Washington Avenue	8 Street	SB	145	
Washington Avenue	7 Street	SB	146	
Washington Avenue	5 Street	SB	147	
Washington Avenue	4 Street	SB	148	
Washington Avenue	2 Street	SB	149	
Washington Avenue	1 Street	SB	150	
S Pointe Drive	Washington Avenue	WB	151	
Alton Road	2 Street	NB	152	

Alton Road	4 Street	NB	153	
Alton Road	6 Street	NB	154	
Alton Road	8 Street	NB	155	
Alton Road	10 Street	NB	156	
Alton Road	11 Street	NB	124	SoBe via 11 Street
Alton Road	13 Street	NB	125	SoBe via 11 Street
Alton Road	14 Street	NB	126	SoBe via 11 Street
Alton Road	15 Street	NB	127	SoBe via 11 Street
Alton Road	16 Street	NB	180	SoBe Loop B, SoBe via 11 Street
Alton Road	19 Street	NB	182	Middle Beach Loop, SoBe Loop B, SoBe via 11 Street
West Avenue	20 Street	SB	183	SoBe Loop B, SoBe via 11 Street
18 Street	Purdy Avenue	WB	184	SoBe Loop B, SoBe via 11 Street
Venetian Way	E Island Avenue	EB	185	SoBe Loop B, SoBe via 11 Street
Purdy Avenue	18 Street	NB	186	SoBe Loop B, SoBe via 11 Street
20 Street	Bay Road	EB	187	SoBe Loop B, SoBe via 11 Street
Alton Road	19 Street	SB	188	SoBe Loop B, SoBe via 11 Street
Alton Road	Lincoln Road	SB	189	SoBe Loop B, SoBe via 11 Street
16 Street	Lenox Avenue	EB	128	SoBe via 11 Street
16 Street	Michigan Avenue	EB	129	SoBe via 11 Street
16 Street	Jefferson Avenue	EB	130	SoBe via 11 Street

Meridian Avenue	Lincoln Road	NB	131	SoBe via 11 Street
17 Street	Meridian Avenue	EB	132	SoBe via 11 Street

South Beach Loop B Route Stops

Main Street	Cross Street	Direction	Stop ID	Transfer to
Meridian Avenue	Lincoln Road	SB	133	
16 Street	Jefferson Avenue	WB	134	
16 Street	Michigan Avenue	WB	135	
Alton Road	16 Street	NB	180	SoBe Loop A, SoBe via 11 Street
Alton Road	19 Street	NB	182	Middle Beach Loop, SoBe Loop A, SoBe via 11 Street
West Avenue	20 Street	SB	183	SoBe Loop A, SoBe via 11 Street
18 Street	Purdy Avenue	WB	184	SoBe Loop A, SoBe via 11 Street
Venetian Way	E Island Avenue	EB	185	SoBe Loop A, SoBe via 11 Street
Purdy Avenue	18 Street	NB	186	SoBe Loop A, SoBe via 11 Street
20 Street	Bay Road	EB	187	SoBe Loop A, SoBe via 11 Street
Alton Road	19 Street	SB	188	SoBe Loop A, SoBe via 11 Street
Alton Road	Lincoln Road	SB	189	SoBe Loop A, SoBe via 11 Street
Alton Road	15 Street	SB	136	
Alton Road	14 Street	SB	137	
Alton Road	13 Street	SB	138	

Alton Road	10 Street	SB	111	
Alton Road	8 Street	SB	112	SoBe via 11 Street
6 Street	Lenox Avenue	EB	113	SoBe via 11 Street
Alton Road	4 Street	SB	114	SoBe via 11 Street
Alton Road	2 Street	SB	115	SoBe via 11 Street
S Pointe Drive	Washington Avenue	EB	116	SoBe via 11 Street
Washington Avenue	1 Street	NB	117	SoBe via 11 Street
Washington Avenue	2 Street	NB	118	SoBe via 11 Street
Washington Avenue	4 Street	NB	119	SoBe via 11 Street
Washington Avenue	5 Street	NB	120	SoBe via 11 Street
Washington Avenue	7 Street	NB	121	SoBe via 11 Street
Washington Avenue	8 Street	NB	122	SoBe via 11 Street
Washington Avenue	9 Street	NB	123	SoBe via 11 Street
Washington Avenue	11 Street	NB	157	
Washington Avenue	13 Street	NB	158	
Washington Avenue	14 Street	NB	159	
Washington Avenue	15 Street	NB	160	

Washington Avenue	16 Street	NB	161	
Washington Avenue	Lincoln Road	NB	248	Middle Beach Loop
Washington Avenue	17 Street	NB	190	SoBe Loop A
Washington Avenue	18 Street	NB	191	SoBe Loop A
Washington Avenue	20 Street	NB	192	SoBe Loop A
23 Street	Liberty Avenue	EB	194	SoBe Loop A
Collins Avenue	21 Street	SB	243	SoBe Loop A, Collins Express, Middle Beach Loop
Washington Avenue	19 Street	SB	195	SoBe Loop A
Washington Avenue	18 Street	SB	196	SoBe Loop A
17 Street	Washington Avenue	WB	249	Middle Beach Loop
17 Street	Convention Center Drive	WB	200	Middle Beach Loop

South Beach Loop via 11 Street Stops

Main Street	Cross Street	Direction	Stop ID	Transfer to
17 Street	Pennsylvania Avenue	EB	100	SoBe Loop A
Washington Avenue	17 Street	SB	101	Collins Express, SoBe Loop A
Washington Avenue	Lincoln Road	SB	102	SoBe Loop A

Washington Avenue	15 Street	SB	103	SoBe Loop A
Washington Avenue	14 Street	SB	104	SoBe Loop A
Washington Avenue	13 Street	SB	105	SoBe Loop A
Washington Avenue	12 Street	SB	106	SoBe Loop A
11 Street	Pennsylvania Avenue	WB	107	
11 Street	Jefferson Avenue	WB	108	
11 Street	Lenox Avenue	WB	109	
Alton Road	10 Street	SB	111	SoBe Loop B
Alton Road	8 Street	SB	112	SoBe Loop B
6 Street	Lenox Avenue	EB	113	SoBe Loop B
Alton Road	4 Street	SB	114	SoBe Loop B
Alton Road	2 Street	SB	115	SoBe Loop B
S Pointe Drive	Washington Avenue	EB	116	SoBe Loop B
Washington Avenue	1 Street	NB	117	SoBe Loop B
Washington Avenue	2 Street	NB	118	SoBe Loop B
Washington Avenue	4 Street	NB	119	SoBe Loop B
Washington Avenue	5 Street	NB	120	SoBe Loop B

Washington Avenue	7 Street	NB	121	SoBe Loop B
Washington Avenue	8 Street	NB	122	SoBe Loop B
Washington Avenue	9 Street	NB	123	SoBe Loop B
11 Street	Pennsylvania Avenue	WB	107	
11 Street	Jefferson Avenue	WB	108	
11 Street	Lenox Avenue	WB	109	
Alton Road	11 Street	NB	124	SoBe Loop A
Alton Road	13 Street	NB	125	SoBe Loop A
Alton Road	14 Street	NB	126	SoBe Loop A
Alton Road	15 Street	NB	127	SoBe Loop A
Alton Road	16 Street	NB	180	SoBe Loop A, SoBe Loop B
Alton Road	19 Street	NB	182	Middle Beach Loop, SoBe Loop A, SoBe Loop B
West Avenue	20 Street	SB	183	SoBe Loop A, SoBe Loop B
18 Street	Purdy Avenue	WB	184	SoBe Loop A, SoBe Loop B
Venetian Way	E Island Avenue	EB	185	SoBe Loop A, SoBe Loop B
Purdy Avenue	18 Street	NB	186	SoBe Loop A, SoBe Loop B
20 Street	Bay Road	EB	187	SoBe Loop A, SoBe Loop B
Alton Road	19 Street	SB	188	SoBe Loop A, SoBe Loop B
Alton Road	Lincoln Road	SB	189	SoBe Loop A, SoBe Loop B

16 Street	Lenox Avenue	EB	128	SoBe Loop A
16 Street	Michigan Avenue	EB	129	SoBe Loop A
16 Street	Jefferson Avenue	EB	130	SoBe Loop A
Meridian Avenue	Lincoln Road	NB	131	SoBe Loop A
17 Street	Meridian Avenue	EB	132	SoBe Loop A



MIDDLE BEACH LOOP

TROLLEY CONNECTIONS

- COLLINS EXPRESS**  **MIDDLE BEACH LOOP**
- MIDDLE BEACH LOOP**  **SOUTH BEACH LOOP**
- COLLINS EXPRESS**  **SOUTH BEACH LOOP**



MIAMI BEACH

MIDDLE BEACH LOOP

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The Middle Beach Loop provides a reliable and frequent service between Mount Sinai Hospital, schools in the vicinity of 41 Street, 41 Street Commercial Corridor, 42 Street Garage, 36 Street Park, Miami Beach Regional Library, Collins Park, Miami Beach Senior High, 21 Street recreational center, Miami Beach Convention Center, Miami Beach Botanical Garden, and City Hall.

The Middle Beach loop is an enhanced transit service with ample interior floor space to provide easy access, ambassador style customer service, security cameras, and wheelchair ramps and lifts that will allow easy access of wheelchairs and disabled passengers.

Some of the perks of the trolley service include free Wi-Fi on board the vehicles, real-time tracking and next bus information through the city's mobile application "City of Miami Beach e-Gov" available on Google and Apple app stores.

On November 1, 2017, the Middle Beach Loop route was extended to include Dade Boulevard, Alton Road, and 19 Street with an addition of three (3) stops.

Middle Beach Loop map



MIDDLE BEACH LOOP

TROLLEY CONNECTIONS

- COLLINS EXPRESS MIDDLE BEACH LOOP
- MIDDLE BEACH LOOP SOUTH BEACH LOOP
- COLLINS EXPRESS SOUTH BEACH LOOP



[Download Middle Beach Loop Map in pdf](#)

Middle Beach Loop Stops

Main Street	Cross Street	Direction	Stop ID	Transfer to
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Privacy - Terms

17 Street	Convention Center Drive	WB	200	SoBe Loop B
17 Street	Meridian Avenue	WB	200-1	
Meridian Avenue	19 Street	NB	201	
Dade Boulevard	Michigan Avenue	WB	201-1	
Alton Road	19 Street	NB	182	SoBe Loop A, SoBe Loop B, SoBe via 11 Street
19 Street	Alton Road	EB	201-2	
Dade Boulevard	Convention Center Drive	EB	201-3	
Washington Avenue	21 Street	SB	202	
20 Street	Liberty Avenue	EB	203	
Collins Avenue	22 Street	NB	204	Collins Express
Collins Avenue	23 Street	NB	205	
Collins Avenue	24 Street	NB	206	Collins Express
Collins Avenue	26 Street	NB	207	
Collins Avenue	27 Street	NB	208	
Collins Avenue	29 Street	NB	209	
Collins Avenue	31 Street	NB	210	Collins Express
Collins Avenue	32 Street	NB	211	
Collins Avenue	35 Street	NB	212	
Collins Avenue	38 Street	NB	213	Collins Express

Collins Avenue	41 Street	NB	214	
Collins Avenue	43 Street	NB	215	Collins Express
Indian Creek Drive	43 Street	SB	217	Collins Express
Pine Tree Drive	41 Street	NB	218	
Sheridan Avenue	41 Street	SB	219	
41 Street	Sheridan Avenue	WB	220	
41 Street	Prairie Avenue	WB	221	
41 Street	Meridian Avenue	WB	222	
Alton Road	41 Street	NB	224	
Mt. Sinai Hospital	Main Door	SB	225	
Mt. Sinai Hospital	Gumenick Building	WB	226	
41 Street	Alton Road	EB	227	
41 Street	Meridian Avenue	EB	228	
41 Street	Prairie Avenue	EB	229	
41 Street	Sheridan Avenue	EB	231	
41 Street	Pine Tree Drive	EB	232	
Indian Creek Drive	41 Street	SB	233	Collins Express
Indian Creek Drive	37 Street	SB	234	
Indian Creek Drive	35 Street	SB	235	

Indian Creek Drive	33 Street	SB	236	
Indian Creek Drive	31 Street	SB	237	
Indian Creek Drive	29 Street	SB	238	Collins Express
Indian Creek Drive	27 Street	SB	239	Collins Express
Indian Creek Drive	26 Street	SB	240	
Collins Avenue	24 Street	SB	241	Collins Express
Collins Avenue	23 Street	SB	242	
Collins Avenue	21 Street	SB	243	Collins Express, SoBe Loop A, SoBe Loop B
Collins Avenue	18 Street	SB	245	
Collins Avenue	17 Street	SB	246	Collins Express
Lincoln Road	Washington Avenue	WB	247	
Washington Avenue	Lincoln Road	NB	248	SoBe Loop B
17 Street	Washington Avenue	NB	249	SoBe Loop B

Appendix G

Cardinal Trip Distribution



Miami-Dade 2040 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
636	3536	PERCENT	19.5	0.0	0.0	8.2	14.8	29.5	14.8	13.3	
637	3537	TRIPS	374	82	83	225	55	396	261	151	1,627
637	3537	PERCENT	23.0	5.0	5.1	13.8	3.4	24.3	16.0	9.3	
638	3538	TRIPS	232	28	34	125	70	269	193	126	1,077
638	3538	PERCENT	21.5	2.6	3.2	11.6	6.5	25.0	17.9	11.7	
639	3539	TRIPS	735	283	169	948	113	1,300	821	476	4,845
639	3539	PERCENT	15.2	5.8	3.5	19.6	2.3	26.8	17.0	9.8	
640	3540	TRIPS	430	255	683	151	73	932	515	373	3,412
640	3540	PERCENT	12.6	7.5	20.0	4.4	2.1	27.3	15.1	10.9	
641	3541	TRIPS	1,419	1,154	177	632	303	1,982	1,752	1,049	8,468
641	3541	PERCENT	16.8	13.6	2.1	7.5	3.6	23.4	20.7	12.4	
642	3542	TRIPS	2,179	1,098	137	956	454	3,066	2,615	1,535	12,040
642	3542	PERCENT	18.1	9.1	1.1	7.9	3.8	25.5	21.7	12.8	
643	3543	TRIPS	2,025	464	0	785	437	2,968	1,920	1,574	10,173
643	3543	PERCENT	19.9	4.6	0.0	7.7	4.3	29.2	18.9	15.5	
644	3544	TRIPS	2,373	0	0	0	1,831	4,426	3,267	2,854	14,751
644	3544	PERCENT	16.1	0.0	0.0	0.0	12.4	30.0	22.2	19.4	
645	3545	TRIPS	1,336	0	0	0	789	1,367	1,649	1,160	6,301
645	3545	PERCENT	21.2	0.0	0.0	0.0	12.5	21.7	26.2	18.4	
646	3546	TRIPS	950	0	142	324	255	1,435	1,393	1,140	5,639
646	3546	PERCENT	16.9	0.0	2.5	5.8	4.5	25.5	24.7	20.2	
647	3547	TRIPS	400	97	99	84	58	528	545	323	2,134
647	3547	PERCENT	18.7	4.6	4.6	3.9	2.7	24.7	25.5	15.1	
648	3548	TRIPS	1,129	496	172	440	46	1,080	1,249	650	5,262
648	3548	PERCENT	21.5	9.4	3.3	8.4	0.9	20.5	23.7	12.4	
649	3549	TRIPS	917	197	118	194	38	829	1,043	478	3,814
649	3549	PERCENT	24.0	5.2	3.1	5.1	1.0	21.7	27.4	12.5	
650	3550	TRIPS	88	112	79	9	31	340	412	150	1,221
650	3550	PERCENT	7.2	9.2	6.5	0.7	2.5	27.9	33.7	12.3	
651	3551	TRIPS	833	9	103	0	52	472	1,049	629	3,147
651	3551	PERCENT	26.5	0.3	3.3	0.0	1.7	15.0	33.3	20.0	
652	3552	TRIPS	856	91	112	82	128	551	1,157	859	3,836
652	3552	PERCENT	22.3	2.4	2.9	2.1	3.3	14.4	30.2	22.4	
653	3553	TRIPS	659	74	119	117	68	718	812	627	3,194
653	3553	PERCENT	20.6	2.3	3.7	3.7	2.1	22.5	25.4	19.6	
654	3554	TRIPS	814	0	220	127	186	1,003	1,184	881	4,415
654	3554	PERCENT	18.4	0.0	5.0	2.9	4.2	22.7	26.8	20.0	
655	3555	TRIPS	2,196	0	0	0	807	1,970	3,347	2,212	10,532
655	3555	PERCENT	20.9	0.0	0.0	0.0	7.7	18.7	31.8	21.0	
656	3556	TRIPS	565	0	0	0	108	489	1,022	769	2,953
656	3556	PERCENT	19.1	0.0	0.0	0.0	3.7	16.6	34.6	26.0	

Appendix H

Volume Development Worksheets

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: Sunset Harbour Drive/Purdy Avenue and Dade Boulevard
 COUNT DATE: February 11, 2020
 PM PEAK HOUR FACTOR: 0.91

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		106	410	0		0	561	73		0	0	0		58	0	130
Peak Season Correction Factor	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110

PM EXISTING CONDITIONS		118	455	0		0	623	81		0	0	0		64	0	144
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"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1750 Alton			5				3									
1901 Alton			58				56									
TOTAL "VESTED" TRAFFIC		0	63	0		0	59	0		0	0	0		0	0	0

Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
PM BACKGROUND TRAFFIC GROWTH		3	12	0		0	16	2		0	0	0		2	0	4

PM NON-PROJECT TRAFFIC		121	530	0		0	698	83		0	0	0		66	0	148
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"PM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By	Entering		60.0%	-60.0%				-40.0%									
	Exiting							40.0%									
Valet	Entering																
	Exiting																
Net New	Entering		16.0%						5.0%								
	Exiting							16.0%									

"PM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By		11	-11				1									
	Valet																
	Net New		6					9	2								
PM TOTAL PROJECT TRAFFIC			17	-11	0		0	10	2		0	0	0		0	0	0

PM TOTAL TRAFFIC		138	519	0		0	708	85		0	0	0		66	0	148
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TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: Bay Road and Dade Boulevard
 COUNT DATE: February 11, 2020
 PM PEAK HOUR FACTOR: 0.95

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	221	249		0	268	31		327	0	0		2	6	42
Peak Season Correction Factor	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110

PM EXISTING CONDITIONS		0	245	276		0	297	34		363	0	0		2	7	47
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"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1750 Alton			5							3						
1901 Alton			58				56									
TOTAL "VESTED" TRAFFIC		0	63	0		0	56	0		3	0	0		0	0	0

Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
PM BACKGROUND TRAFFIC GROWTH		0	6	7		0	8	1		9	0	0		0	0	1

PM NON-PROJECT TRAFFIC		0	314	283		0	361	35		375	0	0		2	7	48
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"PM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering			-60.0%				-40.0%	40.0%								
	Exiting																40.0%
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering							26.0%		5.0%							
	Exiting																16.0%

"PM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By			-11				-8	8								9
	Valet																
	Net New								11		2						9
PM TOTAL PROJECT TRAFFIC			0	-11	0		0	-8	19		2	0	0		0	0	18

PM TOTAL TRAFFIC		0	303	283		0	353	54		377	0	0		2	7	66
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TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: 18th Street and Dade Boulevard
 COUNT DATE: February 11, 2020
 PM PEAK HOUR FACTOR: 0.96

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	366	0		0	488	0		0	0	0		12	0	34
Peak Season Correction Factor	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110

PM EXISTING CONDITIONS		0	406	0		0	542	0		0	0	0		13	0	38
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"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1750 Alton			5													
1901 Alton			58				56									
TOTAL "VESTED" TRAFFIC		0	63	0		0	56	0		0	0	0		0	0	0

Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
PM BACKGROUND TRAFFIC GROWTH		0	10	0		0	14	0		0	0	0		0	0	1

PM NON-PROJECT TRAFFIC		0	479	0		0	612	0		0	0	0		13	0	39
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"PM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering			-60.0%													
	Exiting			60.0%													
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering						21.0%										
	Exiting			35.0%													

"PM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By			2													
	Valet																
	Net New			21			9										
PM TOTAL PROJECT TRAFFIC			0	23	0		0	9	0		0	0	0		0	0	0

PM TOTAL TRAFFIC		0	502	0		0	621	0		0	0	0		13	0	39
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TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: Project Driveway and Bay Road
 COUNT DATE: February 11, 2020
 PM PEAK HOUR FACTOR: 0.95

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	0	0		0	0	0		0	31	0		0	50	0
Peak Season Correction Factor	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110

PM EXISTING CONDITIONS		0	0	0		0	0	0		0	34	0		0	56	0
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"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1750 Alton																
1901 Alton																
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0

Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
PM BACKGROUND TRAFFIC GROWTH		0	0	0		0	0	0		0	1	0		0	1	0

PM NON-PROJECT TRAFFIC		0	0	0		0	0	0		0	35	0		0	57	0
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"PM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By Distribution	Entering										40.0%						60.0%
	Exiting		60.0%		40.0%												
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering										26.0%						74.0%
	Exiting		84.0%		16.0%												

"PM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By		13		9						8						11
	Valet																
	Net New		50		9						11						31
PM TOTAL PROJECT TRAFFIC			63	0	18		0	0	0		19	0	0		0	0	42
PM TOTAL TRAFFIC			63	0	18		0	0	0		19	35	0		0	57	42

Appendix I

Intersection Capacity Analysis Worksheets

Existing Conditions

Timings
1: Dade Boulevard & Purdy Avenue

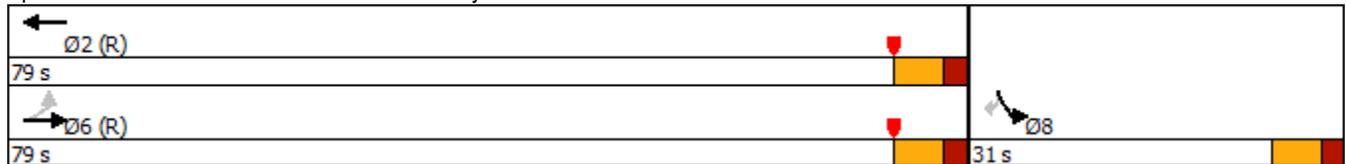
Existing Conditions
P.M. Peak Hour

					
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	118	455	623	64	144
Future Volume (vph)	118	455	623	64	144
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	7.0	7.0
Minimum Split (s)	24.1	24.1	35.1	30.0	30.0
Total Split (s)	79.0	79.0	79.0	31.0	31.0
Total Split (%)	71.8%	71.8%	71.8%	28.2%	28.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 86 (78%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dade Boulevard & Purdy Avenue



HCM 6th Signalized Intersection Summary
 1: Dade Boulevard & Purdy Avenue

Existing Conditions
 P.M. Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	118	455	623	81	64	144
Future Volume (veh/h)	118	455	623	81	64	144
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99			0.94	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	0.90	0.90
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	500	685	89	70	158
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	592	1422	1222	159	208	185
Arrive On Green	1.00	1.00	1.00	1.00	0.13	0.13
Sat Flow, veh/h	692	1870	1607	209	1603	1427
Grp Volume(v), veh/h	130	500	0	774	70	158
Grp Sat Flow(s),veh/h/ln	692	1870	0	1816	1603	1427
Q Serve(g_s), s	0.0	0.0	0.0	0.0	4.4	11.9
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	4.4	11.9
Prop In Lane	1.00			0.11	1.00	1.00
Lane Grp Cap(c), veh/h	592	1422	0	1380	208	185
V/C Ratio(X)	0.22	0.35	0.00	0.56	0.34	0.85
Avail Cap(c_a), veh/h	592	1422	0	1380	364	324
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.84	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	43.5	46.8
Incr Delay (d2), s/veh	0.9	0.7	0.0	1.4	0.7	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.0	0.5	1.8	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.9	0.7	0.0	1.4	44.2	54.8
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h		630	774		228	
Approach Delay, s/veh		0.7	1.4		51.6	
Approach LOS		A	A		D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		89.7			89.7	20.3
Change Period (Y+Rc), s		6.1			6.1	6.0
Max Green Setting (Gmax), s		72.9			72.9	25.0
Max Q Clear Time (g_c+I1), s		2.0			2.0	13.9
Green Ext Time (p_c), s		2.1			1.7	0.4
Intersection Summary						
HCM 6th Ctrl Delay			8.1			
HCM 6th LOS			A			

Timings
2: 17th Street/Bay Road & Dade Boulevard

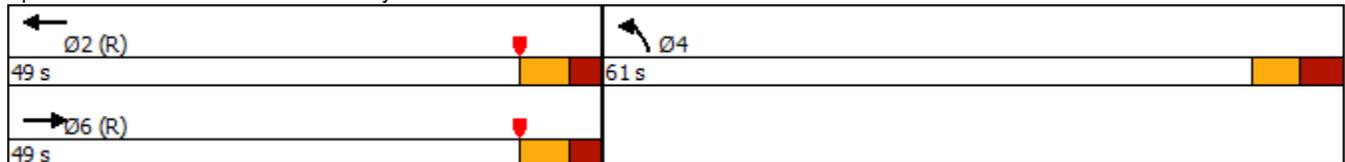
Existing Conditions
P.M. Peak Hour

	→	↘	←	↙	↘
Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Configurations	↑	↑	↑	↑	↑
Traffic Volume (vph)	245	276	297	363	56
Future Volume (vph)	245	276	297	363	56
Turn Type	NA	Free	NA	Prot	Free
Protected Phases	6		2	4	
Permitted Phases		Free			Free
Detector Phase	6		2	4	
Switch Phase					
Minimum Initial (s)	14.0		14.0	14.0	
Minimum Split (s)	22.5		24.9	22.5	
Total Split (s)	49.0		49.0	61.0	
Total Split (%)	44.5%		44.5%	55.5%	
Yellow Time (s)	4.0		4.0	4.0	
All-Red Time (s)	2.9		2.9	3.7	
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	6.9		6.9	7.7	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max		C-Max	None	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 2: 17th Street/Bay Road & Dade Boulevard



HCM Signalized Intersection Capacity Analysis
 2: 17th Street/Bay Road & Dade Boulevard

Existing Conditions
 P.M. Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	245	276	0	297	34	363	0	0	0	0	56	
Future Volume (vph)	0	245	276	0	297	34	363	0	0	0	0	56	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.9	4.0		6.9		7.7					4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00					1.00	
Frbp, ped/bikes		1.00	0.98		1.00		1.00					0.98	
Flpb, ped/bikes		1.00	1.00		1.00		1.00					1.00	
Frt		1.00	0.85		0.99		1.00					0.86	
Flt Protected		1.00	1.00		1.00		0.95					1.00	
Satd. Flow (prot)		1863	1548		1828		1770					1417	
Flt Permitted		1.00	1.00		1.00		0.95					1.00	
Satd. Flow (perm)		1863	1548		1828		1770					1417	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	0	258	291	0	313	36	382	0	0	0	0	59	
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	258	291	0	347	0	382	0	0	0	0	59	
Confl. Peds. (#/hr)	24						24	4		21	21	4	
Confl. Bikes (#/hr)			7				8			3		3	
Parking (#/hr)												0	
Turn Type		NA	Free		NA		Prot					Free	
Protected Phases		6			2		4						
Permitted Phases			Free									Free	
Actuated Green, G (s)		64.6	110.0		64.6		30.8					110.0	
Effective Green, g (s)		64.6	110.0		64.6		30.8					110.0	
Actuated g/C Ratio		0.59	1.00		0.59		0.28					1.00	
Clearance Time (s)		6.9			6.9		7.7						
Vehicle Extension (s)		2.5			2.5		3.5						
Lane Grp Cap (vph)		1094	1548		1073		495					1417	
v/s Ratio Prot		0.14			0.19		0.22						
v/s Ratio Perm			0.19									0.04	
v/c Ratio		0.24	0.19		0.32		0.77					0.04	
Uniform Delay, d1		10.9	0.0		11.6		36.4					0.0	
Progression Factor		1.12	1.00		1.00		1.00					1.00	
Incremental Delay, d2		0.5	0.3		0.8		7.5					0.1	
Delay (s)		12.7	0.3		12.4		43.9					0.1	
Level of Service		B	A		B		D					A	
Approach Delay (s)		6.1			12.4			43.9			0.1		
Approach LOS		A			B			D			A		
Intersection Summary													
HCM 2000 Control Delay			18.3									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.47										
Actuated Cycle Length (s)			110.0									Sum of lost time (s)	14.6
Intersection Capacity Utilization			50.2%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC
3: Dade Boulevard & 18th Street

Existing Conditions
P.M. Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	406	542	0	0	51
Future Vol, veh/h	0	406	542	0	0	51
Conflicting Peds, #/hr	26	0	0	26	8	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	423	565	0	0	53

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

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	905
HCM Lane V/C Ratio	-	-	0.059
HCM Control Delay (s)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

Future Background Conditions

Timings
1: Dade Boulevard & Purdy Avenue

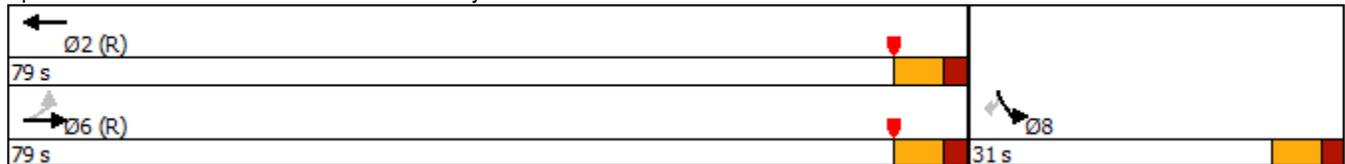
Future Background Conditions
P.M. Peak Hour

					
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	121	530	698	66	148
Future Volume (vph)	121	530	698	66	148
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	7.0	7.0
Minimum Split (s)	24.1	24.1	35.1	30.0	30.0
Total Split (s)	79.0	79.0	79.0	31.0	31.0
Total Split (%)	71.8%	71.8%	71.8%	28.2%	28.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 86 (78%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dade Boulevard & Purdy Avenue



HCM 6th Signalized Intersection Summary
 1: Dade Boulevard & Purdy Avenue

Future Background Conditions
 P.M. Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	530	698	83	66	148
Future Volume (veh/h)	121	530	698	83	66	148
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.94	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	0.90	0.90
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	582	767	91	73	163
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	537	1415	1231	146	214	190
Arrive On Green	0.98	0.98	0.98	0.98	0.13	0.13
Sat Flow, veh/h	641	1870	1627	193	1603	1427
Grp Volume(v), veh/h	133	582	0	858	73	163
Grp Sat Flow(s),veh/h/ln	641	1870	0	1820	1603	1427
Q Serve(g_s), s	1.3	1.0	0.0	2.2	4.5	12.3
Cycle Q Clear(g_c), s	3.5	1.0	0.0	2.2	4.5	12.3
Prop In Lane	1.00			0.11	1.00	1.00
Lane Grp Cap(c), veh/h	537	1415	0	1377	214	190
V/C Ratio(X)	0.25	0.41	0.00	0.62	0.34	0.86
Avail Cap(c_a), veh/h	537	1415	0	1377	364	324
HCM Platoon Ratio	1.30	1.30	1.30	1.30	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.82	1.00	1.00
Uniform Delay (d), s/veh	0.3	0.2	0.0	0.2	43.3	46.6
Incr Delay (d2), s/veh	1.1	0.9	0.0	1.8	0.7	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.5	0.0	0.9	1.8	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.4	1.1	0.0	2.0	44.0	54.8
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h		715	858		236	
Approach Delay, s/veh		1.2	2.0		51.5	
Approach LOS		A	A		D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		89.3			89.3	20.7
Change Period (Y+Rc), s		6.1			6.1	6.0
Max Green Setting (Gmax), s		72.9			72.9	25.0
Max Q Clear Time (g_c+I1), s		4.2			5.5	14.3
Green Ext Time (p_c), s		2.5			2.0	0.4
Intersection Summary						
HCM 6th Ctrl Delay			8.1			
HCM 6th LOS			A			

Timings
2: 17th Street/Bay Road & Dade Boulevard

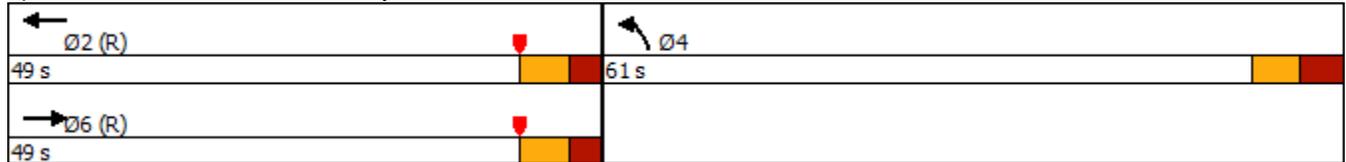
Future Background Conditions
P.M. Peak Hour

	→	↘	←	↙	↘
Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Configurations	↑	↗	↘	↙	↗
Traffic Volume (vph)	314	283	361	375	57
Future Volume (vph)	314	283	361	375	57
Turn Type	NA	Free	NA	Prot	Free
Protected Phases	6		2	4	
Permitted Phases		Free			Free
Detector Phase	6		2	4	
Switch Phase					
Minimum Initial (s)	14.0		14.0	14.0	
Minimum Split (s)	22.5		24.9	22.5	
Total Split (s)	49.0		49.0	61.0	
Total Split (%)	44.5%		44.5%	55.5%	
Yellow Time (s)	4.0		4.0	4.0	
All-Red Time (s)	2.9		2.9	3.7	
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	6.9		6.9	7.7	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max		C-Max	None	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 2: 17th Street/Bay Road & Dade Boulevard



HCM Signalized Intersection Capacity Analysis
2: 17th Street/Bay Road & Dade Boulevard

Future Background Conditions
P.M. Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	314	283	0	361	35	375	0	0	0	0	57	
Future Volume (vph)	0	314	283	0	361	35	375	0	0	0	0	57	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.9	4.0		6.9		7.7					4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00					1.00	
Frbp, ped/bikes		1.00	0.98		1.00		1.00					0.98	
Flpb, ped/bikes		1.00	1.00		1.00		1.00					1.00	
Frt		1.00	0.85		0.99		1.00					0.86	
Flt Protected		1.00	1.00		1.00		0.95					1.00	
Satd. Flow (prot)		1863	1548		1833		1770					1417	
Flt Permitted		1.00	1.00		1.00		0.95					1.00	
Satd. Flow (perm)		1863	1548		1833		1770					1417	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	0	331	298	0	380	37	395	0	0	0	0	60	
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	331	298	0	415	0	395	0	0	0	0	60	
Confl. Peds. (#/hr)	24						24	4		21	21	4	
Confl. Bikes (#/hr)			7			8			3			3	
Parking (#/hr)												0	
Turn Type		NA	Free		NA		Prot					Free	
Protected Phases		6			2		4						
Permitted Phases			Free									Free	
Actuated Green, G (s)		63.8	110.0		63.8		31.6					110.0	
Effective Green, g (s)		63.8	110.0		63.8		31.6					110.0	
Actuated g/C Ratio		0.58	1.00		0.58		0.29					1.00	
Clearance Time (s)		6.9			6.9		7.7						
Vehicle Extension (s)		2.5			2.5		3.5						
Lane Grp Cap (vph)		1080	1548		1063		508					1417	
v/s Ratio Prot		0.18			0.23		0.22						
v/s Ratio Perm			0.19									0.04	
v/c Ratio		0.31	0.19		0.39		0.78					0.04	
Uniform Delay, d1		11.8	0.0		12.5		36.0					0.0	
Progression Factor		1.12	1.00		1.00		1.00					1.00	
Incremental Delay, d2		0.7	0.3		1.1		7.6					0.1	
Delay (s)		13.9	0.3		13.6		43.6					0.1	
Level of Service		B	A		B		D					A	
Approach Delay (s)		7.5			13.6			43.6			0.1		
Approach LOS		A			B			D			A		
Intersection Summary													
HCM 2000 Control Delay			18.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			110.0									Sum of lost time (s)	14.6
Intersection Capacity Utilization			54.3%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC
3: Dade Boulevard & 18th Street

Future Background Conditions
P.M. Peak Hour

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	479	612	0	0	52
Future Vol, veh/h	0	479	612	0	0	52
Conflicting Peds, #/hr	26	0	0	26	8	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	499	638	0	0	54

Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All	-	0	-	0	-	321
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	5
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3
Pot Cap-1 Maneuver	0	-	-	0	0	876
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	874
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
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HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
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Capacity (veh/h)	-	-	874
HCM Lane V/C Ratio	-	-	0.062
HCM Control Delay (s)	-	-	9.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

Future Total Conditions

Timings
1: Dade Boulevard & Purdy Avenue

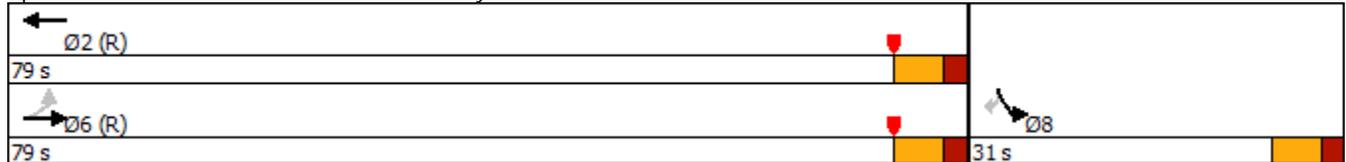
Future Total Conditions
P.M. Peak Hour

					
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	138	519	708	66	148
Future Volume (vph)	138	519	708	66	148
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	7.0	7.0
Minimum Split (s)	24.1	24.1	35.1	30.0	30.0
Total Split (s)	79.0	79.0	79.0	31.0	31.0
Total Split (%)	71.8%	71.8%	71.8%	28.2%	28.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 86 (78%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dade Boulevard & Purdy Avenue



HCM 6th Signalized Intersection Summary
 1: Dade Boulevard & Purdy Avenue

Future Total Conditions
 P.M. Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	138	519	708	85	66	148
Future Volume (veh/h)	138	519	708	85	66	148
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.94	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	0.90	0.90
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	570	778	93	73	163
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	532	1415	1230	147	214	190
Arrive On Green	0.98	0.98	0.98	1.00	0.13	0.13
Sat Flow, veh/h	633	1870	1626	194	1603	1427
Grp Volume(v), veh/h	152	570	0	871	73	163
Grp Sat Flow(s),veh/h/ln	633	1870	0	1820	1603	1427
Q Serve(g_s), s	1.6	0.9	0.0	2.1	4.5	12.3
Cycle Q Clear(g_c), s	3.6	0.9	0.0	2.1	4.5	12.3
Prop In Lane	1.00			0.11	1.00	1.00
Lane Grp Cap(c), veh/h	532	1415	0	1377	214	190
V/C Ratio(X)	0.29	0.40	0.00	0.63	0.34	0.86
Avail Cap(c_a), veh/h	532	1415	0	1377	364	324
HCM Platoon Ratio	1.30	1.30	1.30	1.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.83	1.00	1.00
Uniform Delay (d), s/veh	0.3	0.2	0.0	0.2	43.3	46.6
Incr Delay (d2), s/veh	1.3	0.9	0.0	1.8	0.7	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	0.0	1.0	1.8	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.7	1.1	0.0	2.1	44.0	54.8
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h		722	871		236	
Approach Delay, s/veh		1.2	2.1		51.5	
Approach LOS		A	A		D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		89.3			89.3	20.7
Change Period (Y+Rc), s		6.1			6.1	6.0
Max Green Setting (Gmax), s		72.9			72.9	25.0
Max Q Clear Time (g_c+I1), s		4.1			5.6	14.3
Green Ext Time (p_c), s		2.5			2.1	0.4
Intersection Summary						
HCM 6th Ctrl Delay			8.1			
HCM 6th LOS			A			

Timings
2: 17th Street/Bay Road & Dade Boulevard

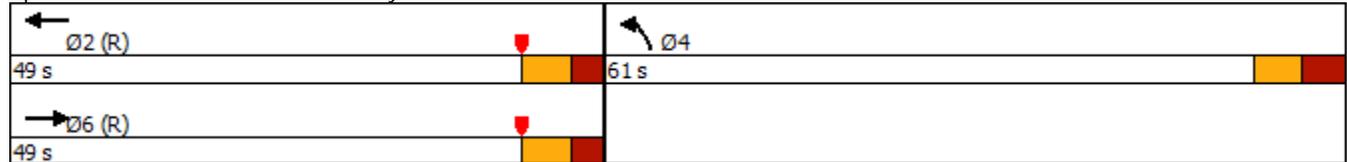
Future Total Conditions
P.M. Peak Hour

	→	↘	←	↙	↘
Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Configurations	↑	↗	↖	↙	↗
Traffic Volume (vph)	303	283	353	377	75
Future Volume (vph)	303	283	353	377	75
Turn Type	NA	Free	NA	Prot	Free
Protected Phases	6		2	4	
Permitted Phases		Free			Free
Detector Phase	6		2	4	
Switch Phase					
Minimum Initial (s)	14.0		14.0	14.0	
Minimum Split (s)	22.5		24.9	22.5	
Total Split (s)	49.0		49.0	61.0	
Total Split (%)	44.5%		44.5%	55.5%	
Yellow Time (s)	4.0		4.0	4.0	
All-Red Time (s)	2.9		2.9	3.7	
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	6.9		6.9	7.7	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max		C-Max	None	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 2: 17th Street/Bay Road & Dade Boulevard



HCM Signalized Intersection Capacity Analysis

2: 17th Street/Bay Road & Dade Boulevard

Future Total Conditions
P.M. Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	303	283	0	353	54	377	0	0	0	0	75	
Future Volume (vph)	0	303	283	0	353	54	377	0	0	0	0	75	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.9	4.0		6.9		7.7					4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00					1.00	
Frbp, ped/bikes		1.00	0.98		0.99		1.00					0.98	
Flpb, ped/bikes		1.00	1.00		1.00		1.00					1.00	
Frt		1.00	0.85		0.98		1.00					0.86	
Flt Protected		1.00	1.00		1.00		0.95					1.00	
Satd. Flow (prot)		1863	1548		1818		1770					1417	
Flt Permitted		1.00	1.00		1.00		0.95					1.00	
Satd. Flow (perm)		1863	1548		1818		1770					1417	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	0	319	298	0	372	57	397	0	0	0	0	79	
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	319	298	0	426	0	397	0	0	0	0	79	
Confl. Peds. (#/hr)	24						4		21	21		4	
Confl. Bikes (#/hr)			7			8			3			3	
Parking (#/hr)												0	
Turn Type		NA	Free		NA		Prot					Free	
Protected Phases		6			2		4						
Permitted Phases			Free									Free	
Actuated Green, G (s)		63.7	110.0		63.7		31.7					110.0	
Effective Green, g (s)		63.7	110.0		63.7		31.7					110.0	
Actuated g/C Ratio		0.58	1.00		0.58		0.29					1.00	
Clearance Time (s)		6.9			6.9		7.7						
Vehicle Extension (s)		2.5			2.5		3.5						
Lane Grp Cap (vph)		1078	1548		1052		510					1417	
v/s Ratio Prot		0.17			0.23		0.22						
v/s Ratio Perm			0.19									0.06	
v/c Ratio		0.30	0.19		0.40		0.78					0.06	
Uniform Delay, d1		11.8	0.0		12.7		35.9					0.0	
Progression Factor		1.18	1.00		1.00		1.00					1.00	
Incremental Delay, d2		0.7	0.3		1.2		7.6					0.1	
Delay (s)		14.5	0.3		13.9		43.5					0.1	
Level of Service		B	A		B		D					A	
Approach Delay (s)		7.6			13.9			43.5			0.1		
Approach LOS		A			B			D			A		
Intersection Summary													
HCM 2000 Control Delay			18.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.53										
Actuated Cycle Length (s)			110.0									Sum of lost time (s)	14.6
Intersection Capacity Utilization			55.2%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC
3: Dade Boulevard & 18th Street

Future Total Conditions
P.M. Peak Hour

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑			↑
Traffic Vol, veh/h	0	502	621	0	0	52
Future Vol, veh/h	0	502	621	0	0	52
Conflicting Peds, #/hr	26	0	0	26	8	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	523	647	0	0	54

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	869
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	869
HCM Lane V/C Ratio	-	-	0.062
HCM Control Delay (s)	-	-	9.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

HCM 6th TWSC
4: Bay Road & Project Driveway

Future Total Conditions
P.M. Peak Hour

Intersection

Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	63	18	19	35	57	42
Future Vol, veh/h	63	18	19	35	57	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	20	21	38	62	46

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	165	85	108	0	0
Stage 1	85	-	-	-	-
Stage 2	80	-	-	-	-
Critical Hdwy	5	5	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3	3	2.218	-	-
Pot Cap-1 Maneuver	1021	1105	1483	-	-
Stage 1	1094	-	-	-	-
Stage 2	1100	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	1007	1105	1483	-	-
Mov Cap-2 Maneuver	1007	-	-	-	-
Stage 1	1079	-	-	-	-
Stage 2	1100	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	2.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	1027	-	-
HCM Lane V/C Ratio	0.014	-	0.086	-	-
HCM Control Delay (s)	7.5	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Appendix J

Entry Gate Calculations

Eighteen Sunset Project Driveway P.M. Peak Hour

Arrival Rate

IN
61

 veh/hr

Service Rate

IN
0.30

 mins/veh

Control Delay = min
Service Time = mins/veh

Number Entry Lanes (N) = 1
Level of Confidence = 0.95
Storage Provided On-Site = 1 vehicles

Total Entering and Exiting Vehicles(q) = 61 veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) = 200.00 veh/hr/pos
Average Service Rate (t) = 0.30 mins/veh
 ρ (t/Q) = 0.305

Expected (avg.) number of vehicles in the system	E(m)=	0.13	
Expected (avg.) number of vehicles waiting in queue	E(n)=	0.44	
Mean time in the queue	E(w)=	0.13	mins
Mean time in system	E(t)=	0.43	mins

Proportion of customers who wait (P) (E(w) > 0)=		30.50%
Probability of a queue exceeding a length (M) P(x > M)=		5.00%

Queue length which is exceeded 5.00% of the times is equal to 0.5 vehicles



Standard features at a glance

Max. standard height	14'4" (4,369 mm)*
Max. standard width	30'4" (9,246 mm)*
Curtain	Galvanized steel links and rods with mill aluminum spacer tube
Curtain pattern	Straight lattice 9" center vertical links with 2" center rod spacing
Door roll	Directly driven, springless steel tube roll with integral shafts, keyed on the drive end and supported by self-aligning greaseable sealed bearings
Hood	24 gauge black painted steel
Guides	Three structural steel angles with PowderGuard® Premium powder coat in black
Bottom bar	Tubular extruded aluminum with mill finish
Standard mounting	Face of wall
Operation	Direct drive integrated gear/motor/brake assembly (up to 24" per second up speed / 12" per second down speed); Drive assembly and limit sensors are factory pre-assembled. Manual hand chain for power outage. Horsepower is appropriate to door size/weight; 230V AC 3-phase motor (operating range 208-245V)
Control panel	NEMA 4X rated; variable frequency drive, self-diagnostics, built-in cycle counter, and timer to close
Safety features	Built-in braking mechanism, photoelectric sensors with commercial grade guards, wireless, monitored sensing edge, motor cover
Limited warranty	60-month on motor; 24-month/300,000 cycles on door components

Options

- **Motor options:** Available options for supply voltages:
220-240V AC 1-phase;
440-480V AC 3-phase;
575V AC 3-phase (575 V requires additional transformer)
- **Curtain pattern:** Brick 9" on center vertical links with 2" on center rods spacing
- **Curtain material:** Mill aluminum link, galvanized steel rod, with mill aluminum spacer tube;
Clear anodized aluminum link, galvanized steel rod, and clear anodized aluminum spacer tube;
#4 or #2B stainless steel link, rod, and spacer tube
- **Guides:** PowderGuard® Premium finish
PowderGuard® Zinc or Textured finish
- **Hood:** 24 gauge powder coated steel, stainless steel with brush finish, powder coated aluminum
- **Actuators:** Loop detectors, radio control, push buttons, motion detectors and pull cords (wireless accessories available)

* Dependent upon the curtain material and pattern. Consult factory for sizes not listed above.



SECTION 08333
SECURITY GRILLES
RAPIDGRILLE™ AP MODEL 676 UPWARD COILING GRILLE

Display hidden notes to specifier by using 'Tools'/'Options'/'View'/'Hidden Text'. On newer versions of Microsoft Word click on round Windows logo in top left corner, Click on 'Word Options' button at bottom of drop down menu. Click on 'Display' on left menu bar, and check the box for 'Hidden Text'.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Advanced Performance Overhead Coiling Grille.

1.2 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications: Support framing and framed opening.
- B. Section 06200 - Finish Carpentry: Wood jamb and head trim.
- C. Section 08332 - Overhead Coiling Counter Doors.
- D. Section 08710 - Door Hardware: Product Requirements for cylinder core and keys.
- E. Section 16130 - Raceway and Boxes: Conduit from electric circuit to grille operator and from grille operator to control station.
- F. Section 16150 - Wiring Connections: Power to disconnect.

1.3 REFERENCES

- A. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- C. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
- D. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- F. NEMA ICS 2 - Industrial Control and Systems: Controllers, Contactors, and Overload Relays, Rated Not More Than 2000 Volts AC or 750 Volts DC.
- G. NEMA MG 1 - Motors and Generators.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Include detailed plans, elevations, details of framing members, required clearances, anchors, and accessories. Include relationship with adjacent materials.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples, representing actual product, color, and patterns.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing Work of this section with a minimum of five years experience in the fabrication and installation of security closures.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum three years and approved by manufacturer.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Install in areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship and installation is approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.
- C. Store materials in a dry, warm, ventilated weathertight location.

1.7 COORDINATION

- A. Coordinate Work with other operations and installation of adjacent finish materials to avoid damage to installed materials.

1.8 WARRANTY

- A. RapidGrille AP Model 676: Motor 5 year limited warranty; other components 2 year or 300,000 cycle limited warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Overhead Door Corp., 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: info@overheaddoor.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ADVANCED PERFORMANCE OVERHEAD COILING GRILLE

- A. RapidGrille AP Model 676 by Overhead Door Corporation.
 - 1. Curtain: Horizontal 5/16 inch (7.8 mm) diameter rods with network of vertically interlocking links to form a pattern. Vertical rod 2 inch (51 mm) on center spacing. Bottom bar extruded aluminum tubular shape.
 - a. Material:
 - 1) Stainless Steel Link, Rod, and Spacer: No. 4 finish.
 - 2) Stainless Steel Link, Rod, and Spacer: No. 2B finish.
 - 3) Galvanized w/ Rust Inhibitor Steel Link, Rod, and Mill Aluminum Spacer.
 - 4) Mill Aluminum Link, Rod, and Spacer
 - 5) Clear Anodized Aluminum Link, Rod, and Spacer
 - b. Pattern:
 - 1) Straight lattice; horizontal spacing 9 inches (228 mm) on center.
 - 2) Brick pattern; horizontal spacing 4-1/2 inches (114 mm) on center.
 - 2. Performance:
 - a. Opening speed of no less than 20 inches/second
 - b. Closing speed of no higher than 12 inches/second
 - c. Springless direct drive mechanism without chain and sprocket connecting the drive mechanism to the door.
 - d. System cycle of no less than 300,000 cycles.
 - 3. Finish:
 - a. Prime all non-galvanized, exposed ferrous surfaces with one coat of rust-inhibitive primer
 - b. Powder coat: PowderGuard
 - 1) PowderGuard Premium: Weather resistant polyester powder coat color as selected by the Architect.
 - 4. Guides: Three Structural steel angles.
 - a. Finish: PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder.
 - b. Finish: PowderGuard Zinc Rich with PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder/color as selected by the Architect.
 - c. Finish: Stainless steel #4.
 - d. Finish: Stainless steel #2B.
 - 5. Bottom Bar:
 - a. Tubular extruded aluminum
 - 1) Finish: Mill finish aluminum
 - b. Double structure steel angle
 - 1) Finish: PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder.
 - 2) Finish: PowderGuard Zinc Rich with PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder/color as selected by the Architect.

- 3) Finish: Stainless steel #4.
- 4) Finish: Stainless steel #2B.
- 6. Motor: Direct drive, hypoid gear motor/brake assembly sized for openings. Provide with a manual hand crank for operation during power outages. Operator and drive assembly is factory pre-assembled and provided with low voltage factory wiring with quick connect wiring harnesses where applicable.
 - a. Electrical Characteristics: 208/230V AC, three phase per motor/drive.
 - b. Electrical Characteristics: 460V AC, 3 phase per motor/drive.
 - c. Left hand mount.
 - d. Right hand mount.
- 7. Control Panel: Provide electronic Variable Frequency drive controller with microprocessor self-diagnostics. Two line LCD readout indicates door action, alarm conditions, and fault conditions. Time delay self close timer and non-resettable cycle counter is included. Enclosure is NEMA 4X rated.
- 8. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning grease-able sealed bearings. Door shall not require any counterbalance device.
- 9. Hood: Protecting drive motor, barrel, chain, stop lock brake and sprocket from dirt and debris and extending between the support brackets. Fabricated of:
 - a. 24 gauge black painted steel.
 - b. 24 gauge powder coated steel.
 - c. Stainless Steel with brush finish.
 - d. Powder coated aluminum.
 - e. Provide with sloped top for exterior mounting.
- 10. Brackets: Provide metal brackets to support motor, curtain, and hood and fabricated of:
 - a. Black powder coated steel.
 - b. Powder coated aluminum.
 - c. Stainless Steel.
- 11. Safety Devices: Provide door with following safety devices:
 - a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.
 - b. Self-monitoring 2-wire, black/yellow striped electric fail-safe sensing edge reverses downward motion upon impact.
 - c. Automatic stop lock brake eliminates uncontrolled curtain travel independent of other safeties.
- 12. Actuators:
 - a. One Open/Close/Stop push button station incorporated into Control Panel.
 - b. Loop detectors.
 - c. Radio control.
 - d. Push buttons.
 - e. Motion detectors.
 - f. Pull cords.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify opening sizes, tolerances and conditions are acceptable.
- B. Examine conditions of substrates, supports, and other conditions under which this work is to be performed.

- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.
- D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- E. Coordinate installation of electrical service with Section 16150. Complete wiring from disconnect to unit components.
- F. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.
- G. Install perimeter trim and closures.

3.4 ADJUSTING

- A. Test security grilles for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- B. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

- A. Clean curtain and components using non-abrasive materials and methods recommended by manufacturer.
- B. Remove labels and visible markings.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION