Kimley»Horn

MEMORANDUM

To: Dani Fawaz, P.E.
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE AK

Date: September 21, 2022

Subject: 1920 Alton Road
Response to Traffic Assessment Comments

We have received comments provided by the City of Miami Beach's Transportation Department received September 21, 2022. We offer the following response:

1. Please provide additional peak hour manual turning movement counts and traffic analysis at the following intersections based on the proposed trip assignment.
   - Dade Blvd and West Avenue
   - Dade Blvd and Alton Road
   - Alton Road and 20th Street

   Response: Note that the proposed redevelopment is expected to generate 37 net new weekday A.M. peak hour vehicular trips and 39 net new weekday P.M. peak hour trips. As the project proposes so few net new trips, and to be consistent with the submitted methodology and methodology meeting, the additional intersections were not included. Furthermore, this was discussed with the reviewing consultant on a call back in early August 2022.

2. Please provide a more detailed site plan that depicts the proposed driveway connections to the adjacent roadway network including the related traffic control.

   Response: Please refer to the detailed Architectural/Civil plans that were updated as part of this application to the Energov system.

3. Please provide an initial trip distribution and assignment for the new site generated trips based on the Miami Dade TPO 2045 LRTP Directional Trip Distribution Report for TAZ 639.

   Response: The trip distribution was based on an interpolated cardinal trip distribution for the project site's TAZ 639 obtained from the Miami-Dade Transportation Planning Organization's (TPO's) 2045 Long Range Transportation Plan Directional Trip Distribution Report. Distribution and assignment of projects trips is provided in the traffic study as Figures 4 and 5. This was also provided as part of the traffic study methodology document submitted to the City.

4. Please update the detailed Trip Generation calculations in the Appendix to correct the following item:

- AM Peak Hour for LUC 220 for the Proposed Condition- The AM peak hour site generated trips for the low-rise multifamily units should be 25 trips (6 entry, 19 exit) by using the fitted curve like what was use for the PM peak hour calculations.

Please update Table 1 and the traffic analysis where necessary.

Response: Although, Figure 4.2 of ITE's Trip Generation Handbook, 3rd Edition, suggests the fitted curve equation be used to calculate the A.M. and P.M. peak hour trip generation for LUC 220 (Multifamily Housing [Low-Rise]), the average rate should be used as the y-intercept of the fitted equation results in disproportionate trips generated. The use of the equation may produce illogical trip ends estimates for independent variables that are significantly less than the y-intercept value, as illustrated in the table below. The residential land use linear equation for the A.M. peak hour has a y-intercept of 22.85 and a P.M. peak hour y-intercept of 20.55. Therefore, at a scale of less than 20 dwelling units, utilizing the equation results in illogical trip estimates. Please note the proposed residential land use is 6 dwelling units. If the linear equation was used, the residential land use would generate 25 gross A.M. peak hour trips and 23 gross P.M. peak hour trips which significantly overestimates trip generation and is not accurate for 6 residential units for one (1) hour between 7 to 9 A.M. and 4 to 6 P.M. Therefore, the A.M. trip generation calculations were not revised. Note that the fitted curve equation was erroneously used for P.M. peak hour trip generation calculations. However, as this provides a conservative analysis, and to be consistent with the submitted methodology, P.M. peak hour trips were not revised to use the average rate. This was discussed with the reviewing consultant on a call back in early August 2022.

Multifamily Housing (Low-Rise), Land Use Trip Generation Rate and Equation Comparison				
Scale (du)	**A.M. Rate**	**A.M. Equation**	**P.M. Rate**	**P.M. Equation**
1	0	**23**	1	**21**
5	2	**24**	3	**23**
6	2	**25**	3	**23**
10	4	**26**	5	**25**
20	8	29	10	29
30	12	32	15	33
A.M. Rate = 0.40 P.M. Rate = 0.51				
A.M. Equation = 0.31(X) + 22.85 P.M. Equation = 0.43(X) + 20.55				

5. Please provide the 95th percentile vehicle queue stacking and the existing turn lane storage lengths for each intersection for each of the analysis scenarios summarized in Table 3. Please provide a separate new table/exhibit, as necessary. Please address any required turn lane extensions based on the 95th percentile vehicle queue stacking in the narrative of the traffic impact study.

Response: Note that a queue analysis was not discussed as part of the methodology process and was therefore not included in the traffic study. However, in order to move the project forward, a 95th percentile queue analysis was included in the revised traffic study included in

Attachment A-2. As the report discusses, the results of the 95th percentile queue analysis indicate that the anticipated future queues are not expected to exceed the provided storage.

6. Please provide any comments provided by FDOT and Miami Dade County Department of Transportation and Public Works (DTPW).

   Response: Note that the project does front any FDOT maintained roadways and is not seeking an access permit from FDOT, therefore, there is no coordination with FDOT. Additionally, City of Miami Beach does not require coordination with DTPW unless a road closure or traffic flow modification is proposed. Neither is proposed as part of this project. Therefore, no coordination with DTPW is contemplated.

7. Please provide maneuverability exhibits that depict the required vehicle turning movements for ingress and egress and loading for the various design vehicles. Please confirm if there will be vehicular gates for the residential and commercial uses and if so, how will these be controlled.

   Response: The maneuverability analysis that was previously submitted to the City is included in Attachment B-2. Entry gates will not be provided to the project.

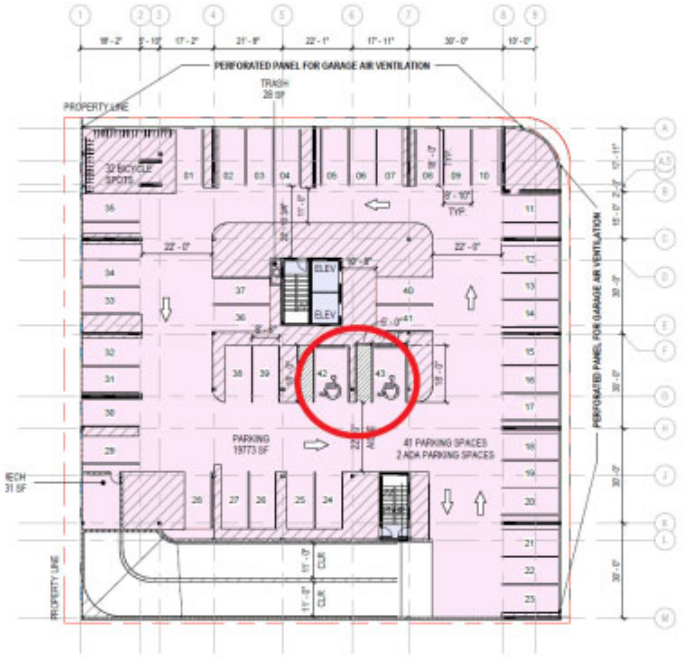
8. Please provide a copy of a pavement, marking and signage plan signed and sealed by a professional engineer in the State of Florida. Please ensure that sight triangles are depicted at the driveway connection to 20th Street. Please also confirm if the existing angled on-street parking will remain along Sunset Drive.

   Response: Please refer to the detailed Architectural/Civil plans that were updated as part of this application to the Energov system.

9. Please confirm if Citibike incentives will be offered to the residential tenants and subsidies for commercial employees as part of the Transportation Demand Management strategies. There is an existing Citibike bike share station located at the southeast corner of Sunset Drive and 20th Street.

   Response: They are not. Please refer to the transportation demand management/transportation control measure strategies provided by the project in the Transportation Demand Management Strategies section of the traffic study in Attachment A-2.

10. Please ensure that the handicap parking spaces are oriented appropriately on all plan sheets per the Miami Dade County DTPW and City of Miami Beach handicap accessible parking space details and design standards/criteria. This comment applies to all ADA spaces depicted on all building garage floor levels of the site plan.



Response: Please refer to the detailed Architectural/Civil plans that were updated as part of this application to the Energov system.

11. Please provide one-way/Do Not Enter signage per MUTCD criteria for garage levels that have one-way drive aisles as depicted on the proposed site plan.

    Response: Please refer to the detailed Architectural/Civil plans that were updated as part of this application to the Energov system.

12. Please confirm if there will be valet parking provided at this mixed-use development. If valet parking will be provided, please provide a detailed valet parking traffic operational analysis.

    Response: Valet services will not be provided by the project.

We trust that this response adequately addresses the comment provided. Please contact us if you have any questions.

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Attachment A-2
Updated Traffic Study

Traffic Impact Analysis
for Submittal to
the City of Miami Beach

1920 ALTON ROAD
MIAMI BEACH, FLORIDA

Kimley»Horn

Updated September 2022
July 2022
143589000

Traffic Impact Analysis
for Submittal to
the City of Miami Beach

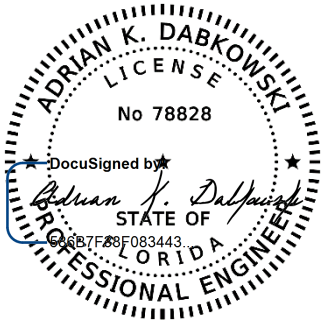
1920 ALTON ROAD
MIAMI BEACH, FLORIDA

Prepared for:

Alton Office Holdings II, LLC

Prepared by:

Kimley-Horn and Associates, Inc.



This item has been digitally signed and sealed by Adrian K. Dabkowski, P.E., PTOE, on 9/21/2022.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Adrian K. Dabkowski, P.E., PTOE
Florida Registration Number 78828
Kimley-Horn and Associates, Inc.
8201 Peters Road, Suite 2200
Plantation, FL 33324

Updated September 2022
July 2022
143589000

EXECUTIVE SUMMARY

Alton Office Holdings II, LLC is proposing to redevelop the property located at 1920 Alton Road in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by a 20,682 square-foot retail building. The proposed redevelopment consists of approximately 9,000 square feet of retail space, 26,932 square-feet of office space, and six (6) low-rise multifamily residential units. The project is expected to be completed by year 2025.

Access to the proposed development is provided via one (1) full access driveway along 20th Street.

Trip generation for the proposed redevelopment was calculated using rates contained in the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11th Edition. The project is expected to generate 27 net new weekday A.M. peak hour trips and 39 net new weekday P.M. peak hour trips.

The results of the intersection capacity analysis indicate that all study intersections are expected to operate at adopted levels of service or better during the A.M. and P.M. peak hours under all analysis scenarios.

The results of the 95th percentile queue analysis indicate that the anticipated future queues are not expected to exceed the provided storage.

Transportation Control Measures (TCM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network City of Miami Beach provide public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant proposes the following TCMs:

- Secure bicycle parking spaces (bike racks and lockers)
- Provide transit information within the site including route schedules and maps
- Designated scooter/motorcycle parking spaces
- Wide hallways that can accommodate bikes
- Elevators that can accommodate bikes
- Lockers shower facility for bicyclists

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INTRODUCTION

Alton Office Holdings II, LLC is proposing to redevelop 1920 Alton Road in Miami Beach, Florida. Currently, the site is occupied by a 20,682 square-foot retail building. The proposed redevelopment consists of approximately 9,000 square feet of retail space, 26,932 square-feet of office space, and a maximum of 6 low-rise multifamily residential units. The project is expected to be completed and opened by year 2025. A project location map is provided as Figure 1. A conceptual site plan is provided in Appendix A.

Kimley-Horn and Associates, Inc. has completed this traffic impact analysis 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. 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.

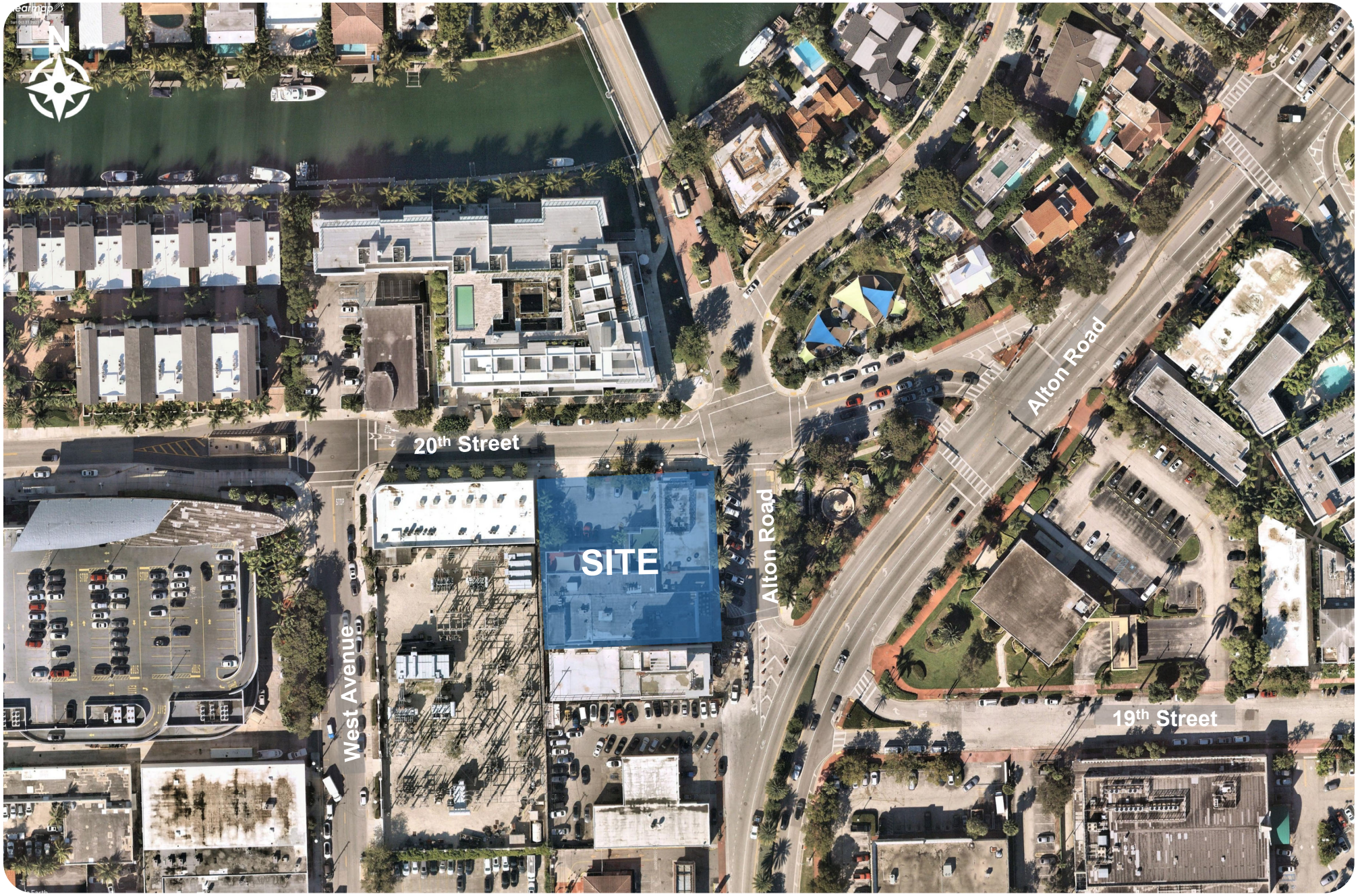

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Figure 1
Location Map
1920 Alton Road
Miami Beach, Florida

EXISTING TRAFFIC

A.M. peak period (7:00 A.M. to 9:00 A.M.) and P.M. peak period (4:00 P.M. to 6:00 P.M.) turning movement counts were collected on June 28, 2022 (Tuesday) at the following intersections:

- 20th Street and West Avenue
- 20th Street and Sunrise Drive

All traffic volumes were collected in 15-minute intervals and the peak hour was determined for each intersection. Turning movement counts also included pedestrian and bicycle data. The appropriate Florida Department of Transportation (FDOT) peak season conversion factor (PSCF) of 1.05 was applied to the turning movement counts.

The turning movement counts and FDOT peak season factor category report are included in Appendix C. Figure 2 presents the existing turning movement volumes at the study intersections during the A.M. and P.M. peak hours.

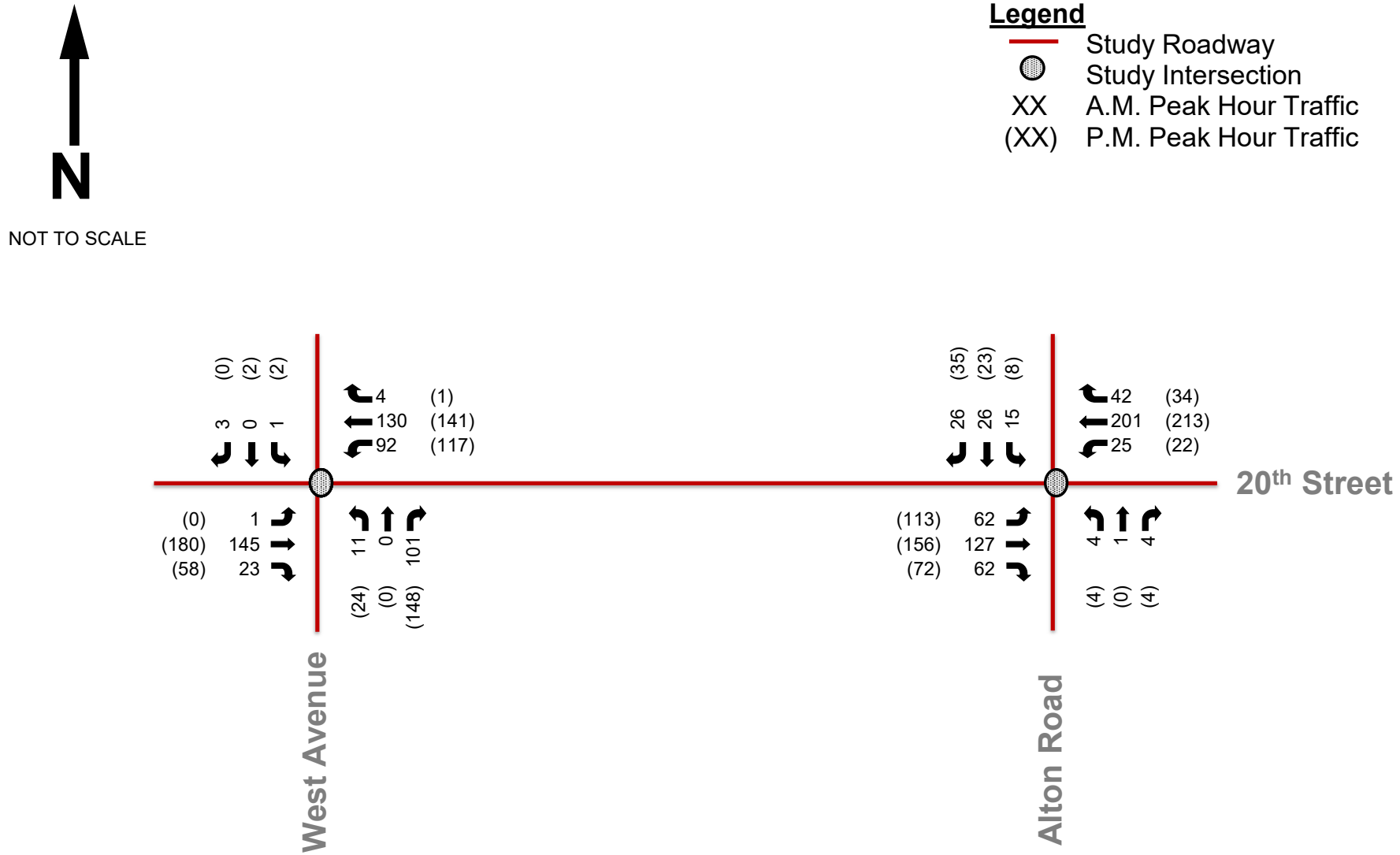

Figure 2
Existing Peak Hour Traffic
1920 Alton Road
Miami Beach, Florida

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FUTURE BACKGROUND TRAFFIC

Future background traffic conditions are defined as expected traffic conditions on the roadway network in the year 2025 without the completion of the proposed redevelopment. Future background traffic volumes used in the analysis are the sum of the existing traffic and additional traffic generated by growth in the study area. Refer to Figure 3 for the future background 2025 peak hour traffic volumes.

BACKGROUND AREA GROWTH

Traffic growth on the transportation network was determined based upon (a) historical growth trends at nearby FDOT traffic count stations and (b) traffic volume comparisons from the year 2015 and 2045 Florida Standard Urban Transportation Model Structure (FSUTMS) - Southeast Florida Regional Planning Model (SERPM).

FDOT count stations referenced in this analysis include:

- Count Station #870012: SR 907/Alton Road – 200 feet North of 20th Street
- Count Station #872542: SR 907/Alton Road – 200 feet South of Venetian Causeway
- Count Station #878350: Venetian Causeway – 200 feet East of West Avenue
- Count Station #878531: 17th Street – 200 feet East of Meridian Avenue

The historical growth rate analysis, based on the FDOT count station, 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 negative 1.05 percent (-1.05%) over the most recent five (5) year period and negative 0.78 percent (-0.78%) over the most recent ten (10) year period. The exponential growth trend yielded a growth rate of negative 0.96 percent (-0.96%) over the most recent five (5) year period and negative 0.80 percent (-0.80%) over the most recent ten (10) year period. The decaying exponential growth trend yielded a growth rate of negative 1.51 percent (-1.51%) over the most recent five (5) year period and negative 0.95 percent (-0.95%) over the most recent ten (10) year period. The calculated growth rate with the highest R^2 value was determined to be the five (5) year decaying exponential growth trend which yielded a growth rate of negative 1.51 percent (-1.51%).

Based on the volume information obtained from the years 2015 and 2045 FSUTMS SERPM, an annual growth rate of 0.68 percent (0.68%) in the vicinity of the redevelopment was calculated.

To provide a conservative analysis, the higher growth rate of 0.68 percent (0.68%) was applied annually to the existing traffic volumes to establish future (2025) background conditions. Detailed growth calculations are contained in Appendix D.

COMMITTED DEVELOPMENTS

The following developments were identified as a committed development to be included as a as part of future traffic conditions:

- 1910 Alton Road

Committed development information is included in Appendix D.

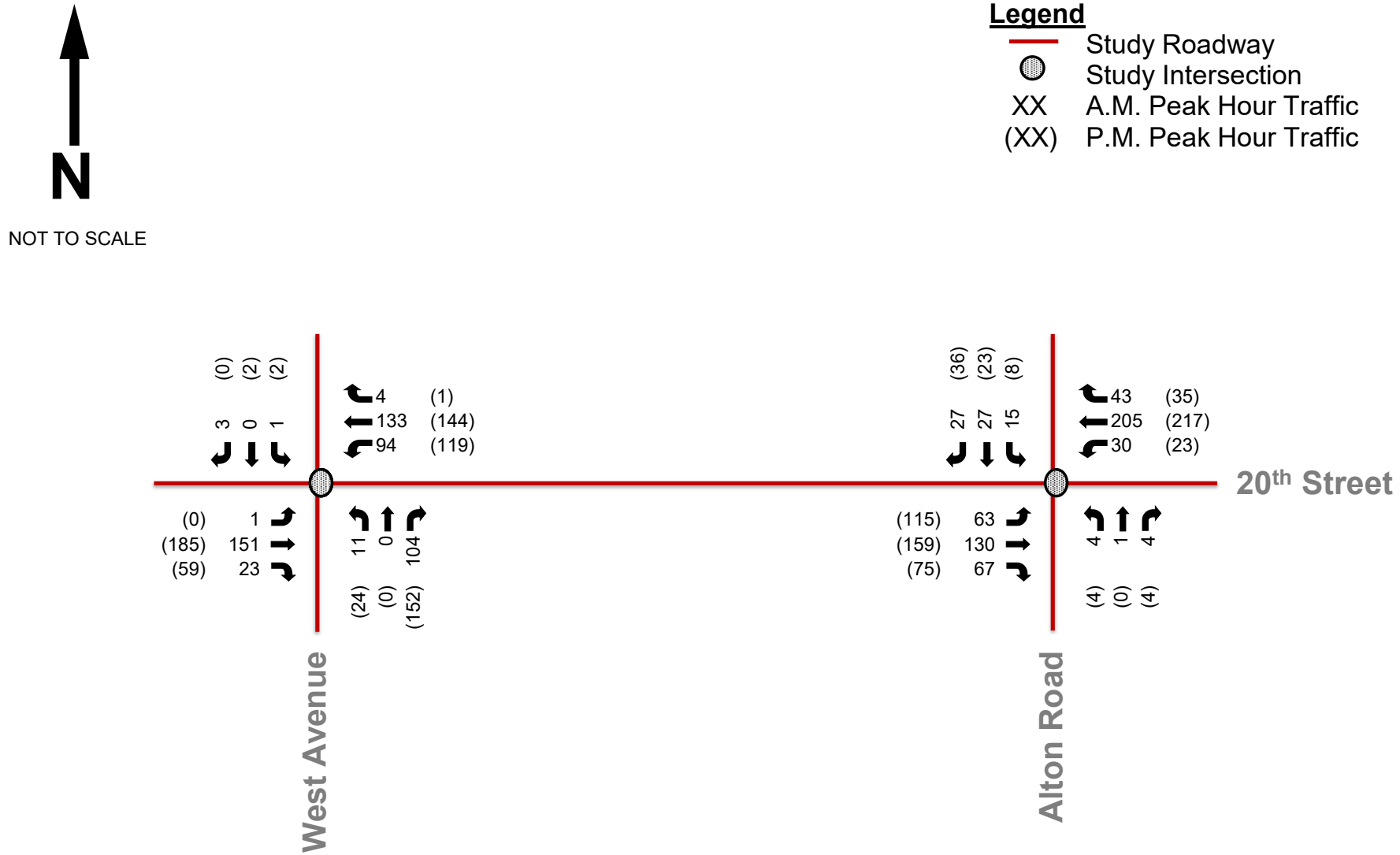

Figure 3
Future Background Peak Hour Traffic
1920 Alton Road
Miami Beach, Florida

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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.

EXISTING AND PROPOSED LAND USE

Currently, the site is proposed for redevelopment is occupied by a 20,682 square-foot retail building. The proposed redevelopment consists of approximately 9,000 square feet of retail space, 26,932 square-feet of office space, and six (6) low-rise multifamily residential units.

PROJECT ACCESS

Access to the proposed redevelopment is provided via one (1) full access driveway along 20th Street.

TRIP GENERATION

Trip generation calculations for the proposed project were performed using rates contained in ITE *Trip Generation Manual*, 11th Edition. The trip generation for the proposed land uses was determined using ITE Land Use Code LUC 822 (Strip Retail Plaza), LUC 710 (General Office Building), and LUC 220 (Multifamily Housing [Low-Rise]). Project trips were estimated for the weekday A.M. peak hour and P.M. peak hour.

MULTIMODAL REDUCTION

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tract in which the development is located. A multimodal factor of 12.2 percent (12.2%) was determined for the proposed development. A multimodal factor of 12.2 percent (12.2%) was applied to the project traffic to account for the urban environment in which the project site is located. It is expected that a portion of residents, guests, employees, and patrons will choose to walk, bike, or use public transit to and from the proposed development. Detailed census information is provided in Appendix E.

INTERNAL CAPTURE

A portion of trips generated by the redevelopment will be captured internally within the site. Internal capture trips were determined based upon values contained in the ITE's *Trip Generation Handbook*, 3rd Edition. The expected internal capture rate for the proposed redevelopment is 8.2 percent (8.2%) during the A.M. peak hour and 19.5 percent (19.5%) during the P.M. peak hour.

PASS-BY CAPTURE

In addition to internal capture, pass-by capture trips were also determined based on average rates provided in the *Trip Generation Handbook*, 3rd Edition. The pass-by capture rate for the existing retail building is 40 percent (40.0%) during the P.M. peak hour. Note that to provide for a conservative analysis, pass-by was not applied to the proposed redevelopment.

NET NEW PROJECT TRIPS

The net new project trips represent the additional vehicles on the roadway network. As shown in Table 1, the project is expected to generate 27 net new weekday A.M. peak hour vehicular trips and 39 net new weekday P.M. peak hour trips. Detailed calculations are contained in Appendix E.

Table 1: Trip Generation

A.M. Peak Hour (P.M. Peak Hour)

Future Land Use (ITE Code)	Scale	Net New External Trips	Entering Trips	Exiting Trips
Existing Development				
Strip Retail Plaza (822)	20,682 square feet	40 (68)	24 (34)	16 (34)
Proposed Redevelopment				
Strip Retail Plaza (822)	9,000 square feet	21 (51)	13 (26)	8 (25)
General Office Building (710)	26,932 square feet	44 (45)	40 (8)	4 (37)
Multifamily Housing (Low-Rise) (220)	6 dwelling units	2 (11)	0 (6)	2 (5)
Net New Vehicle Trips				
Net New Vehicle Trips		**27 (39)**	**29 (6)**	**-2 (33)**

TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution was based on an interpolated cardinal trip distribution for the project site's traffic analysis zone (TAZ) obtained from the Miami-Dade Transportation Planning Organization's (TPO's) *2045 Long Range Transportation Plan Directional Trip Distribution Report*. The project is located within TAZ 639. The cardinal distribution is shown in Table 2.

Table 2: Cardinal Trip Distribution	
Cardinal Direction	**Percentage of Trips**
North-Northeast	15%
East-Northeast	5%
East-Southeast	5%
South-Southeast	19%
South-Southwest	2%
West-Southwest	28%
West-Northwest	15%
North-Northwest	12%
Total	**100%**

Figure 4 presents the peak hour net new trip distribution and Figure 5 presents the peak hour net new trip assignment. Detailed cardinal distribution calculations are contained in Appendix F.

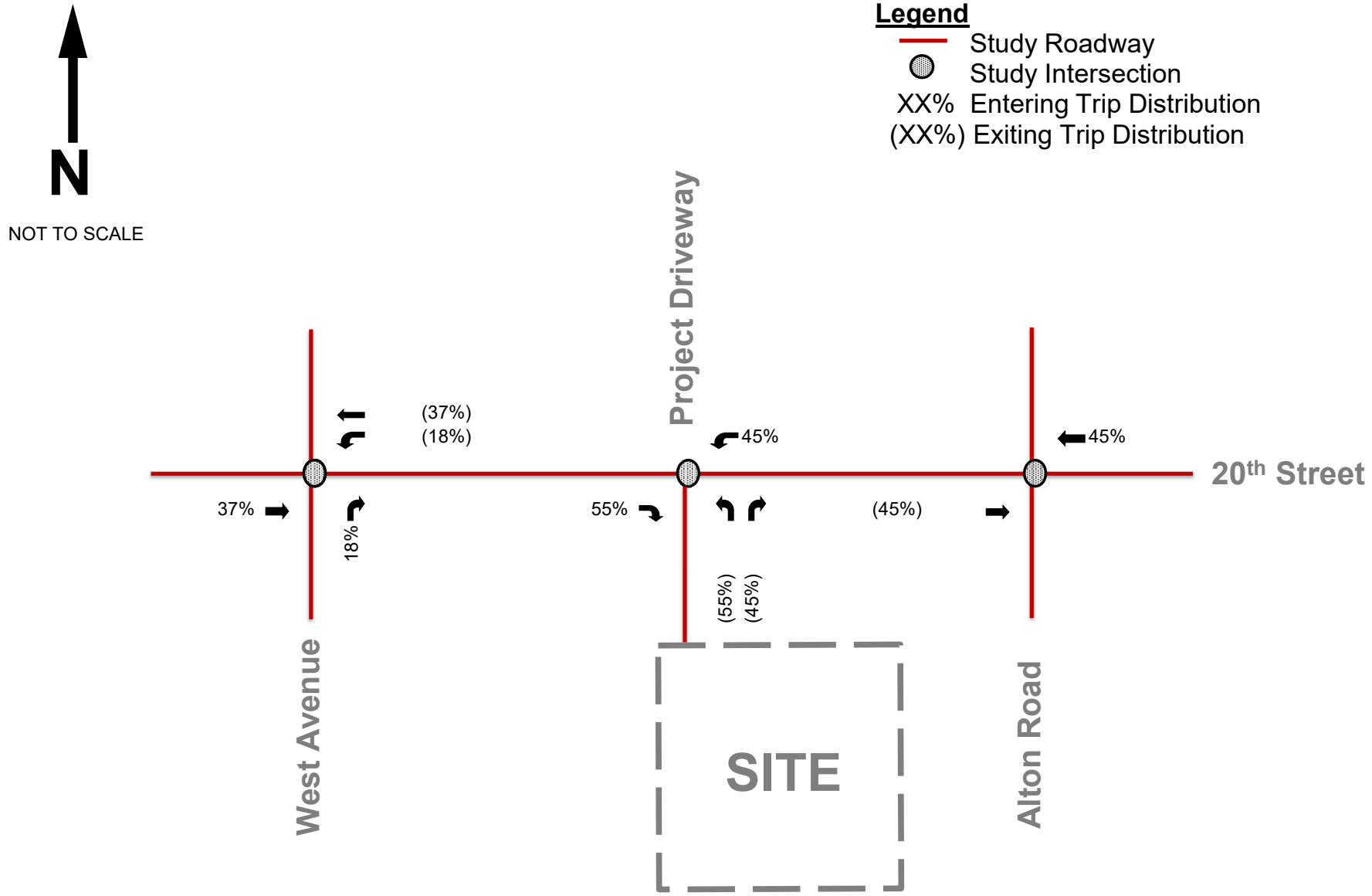
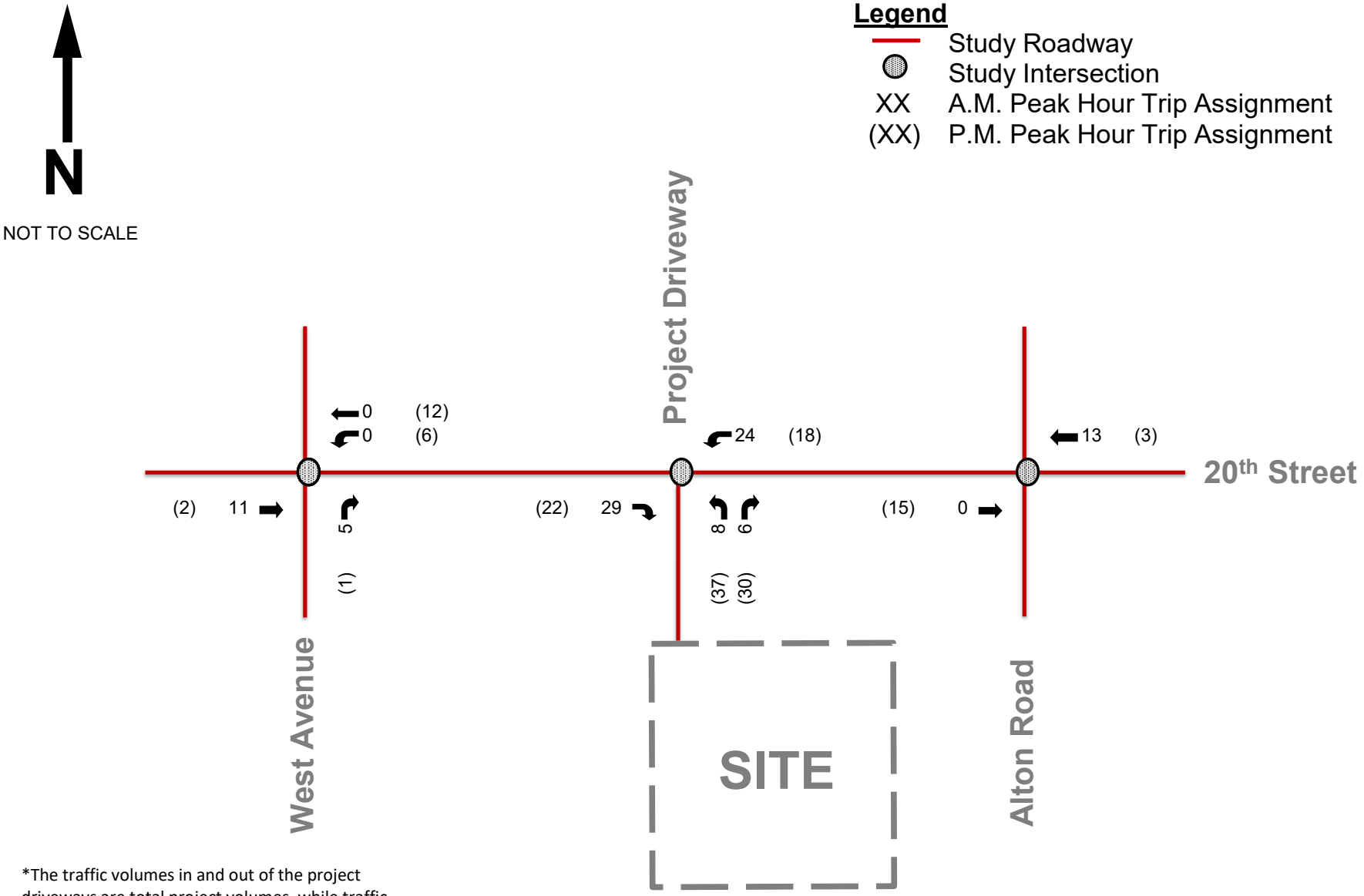


Figure 4
Peak Hour Project Trip Distribution
1920 Alton Road
Miami beach, Florida

Kimley»Horn



*The traffic volumes in and out of the project driveways are total project volumes, while traffic volumes at external intersections are net new trips accounting for the existing development.

Figure 5
Peak Hour Project Trip Assignment
1920 Alton Road
Miami Beach, Florida

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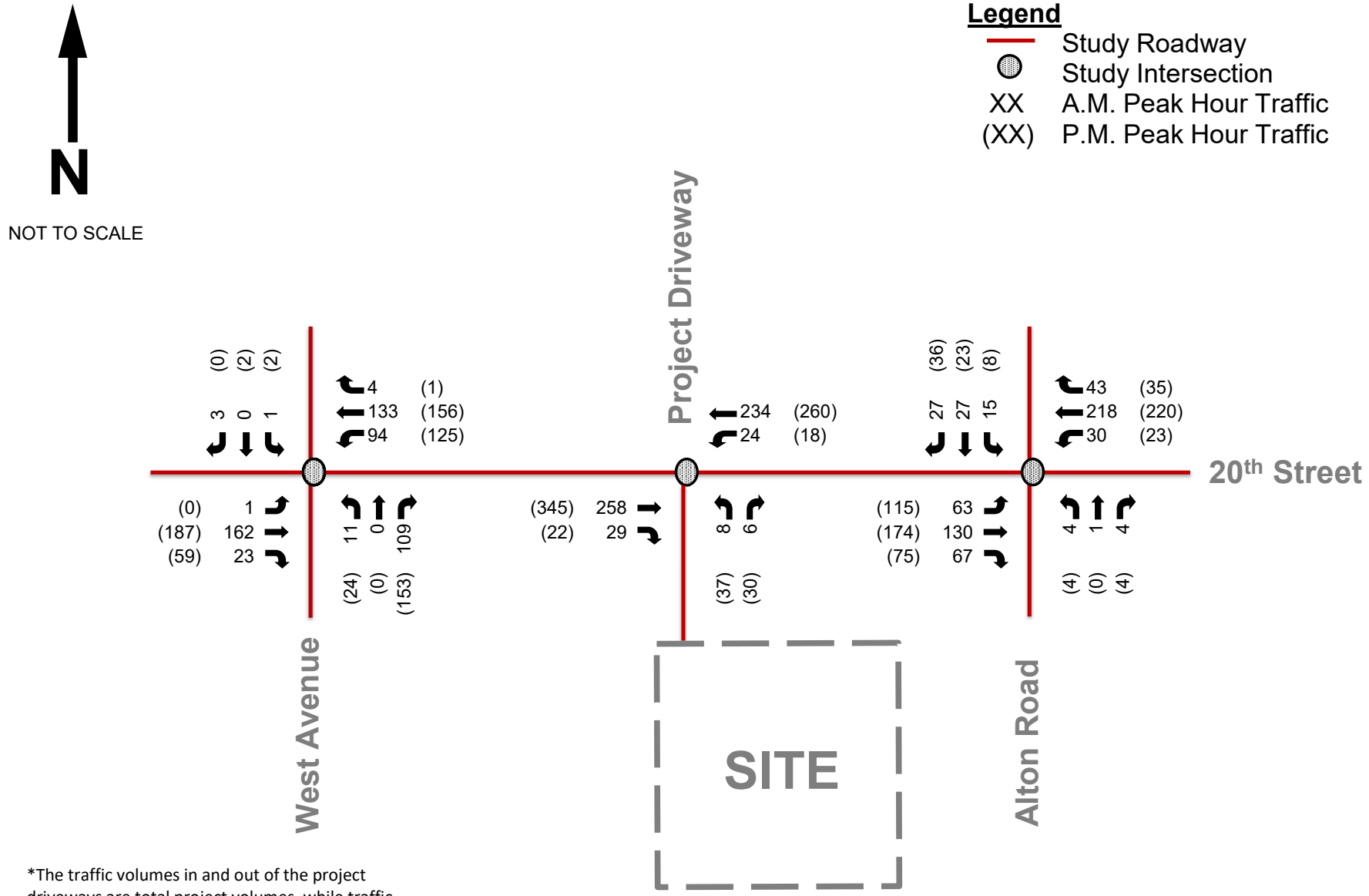
FUTURE TOTAL TRAFFIC

Future total traffic conditions are defined as the expected traffic conditions in the year 2025 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. Figure 6 presents the future total turning movement volumes at the study intersections during the weekday A.M. and P.M. peak hours. Volume development worksheets for the study intersections are included in Appendix G.



*The traffic volumes in and out of the project driveways are total project volumes, while traffic volumes at external intersections are net new trips accounting for the existing development.

Figure 6
Future Total Peak Hour Traffic
1920 Alton Road
Miami Beach, Florida

Kimley»Horn

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* software, which applies methodologies outlined in the Transportation Research Board's (TRB's) *Highway Capacity Manual* (HCM) 6th Edition. Synchro worksheets for the study intersections are included in Appendix H.

A summary of the intersection analyses for the A.M. and P.M. peak hours is presented in Table 3. As Table 3 indicates, all study intersections are expected to operate at adopted levels of service (LOS D) or better during the A.M. and P.M. peak hours under all analysis scenarios.

Table 3: Peak Hour Intersection Capacity Analysis

Intersection	Traffic Control	Overall LOS/Delay	Approach LOS/Delay			
			EB	WB	NB	SB
Existing Conditions (Future Background Conditions) [Future Total Conditions]						
A.M. Peak Hour						
20th Street and West Avenue	All-Way Stop Control	A/9.1 sec (A/9.1 sec) [A/9.2 sec]	A (A) [A]	A (A) [A]	A (A) [A]	A (A) [A]
20th Street and Sunset Drive	All-Way Stop Control	A/10.0 sec (B/10.2 sec) [B/10.4 sec]	A (B) [B]	B (B) [B]	A (A) [A]	A (A) [A]
20th Street and Project Driveway	Two-Way Stop Control	(1)	(3) ((3)) [(2)]	(3) ((3)) [(2)]	(3) ((3)) [B]	(3)
P.M. Peak Hour						
20th Street and West Avenue	All-Way Stop Control	A/9.7 sec (A/9.8 sec) [A/9.9 sec]	B (B) [B]	A (A) [A]	A (A) [A]	A (A) [A]
20th Street and Sunset Drive	All-Way Stop Control	B/10.5 sec (B/10.7 sec) [B/10.9 sec]	B (B) [B]	B (B) [B]	A (A) [A]	A (A) [A]
20th Street and Project Driveway	Two-Way Stop Control	(1)	(3) ((3)) [(2)]	(3) ((3)) [(2)]	(3) ((3)) [B]	(3)

Notes: (1) Overall intersection LOS is not defined, as intersection operates under stop-control conditions.
(2) Approach operates under free-flow conditions. LOS is not defined.
(3) Approach does not exist.

95TH PERCENTILE QUEUE ANALYSIS

A queue analysis was performed to determine if the existing storage lengths for external movements at study area intersections can accommodate expected 95th percentile vehicle queue lengths under existing, future background, and future total conditions. The 95th percentile queue lengths were calculated using Trafficware's *SYNCHRO 11* software, which applies methodologies outlined in the TRB's *HCM*, 2000/6th Edition. Synchro worksheets for the study intersections are included in Appendix H. A summary of the queue analyses for the A.M. and P.M. peak hours is presented in Table 4. As indicated, the anticipated future queues are not expected to exceed the provided storage.

Table 4: 95th Percentile Queues

Existing Conditions (Future Background Conditions) [Future Total Conditions]

Intersection	Movement	Storage Provided(1) (ft)	95th Percentile Queue(2) (ft)	
			A.M. Peak Hour	P.M. Peak Hour
20th Street and West Avenue	EBL/T/R	410	25 (28) [30]	38 (38) [40]
	WBL	75	<25 (<25) [<25]	<25 (<25) [<25]
	WBT/R	315	<25 (<25) [<25]	<25 (<25) [25]
	NBL/T/R	215	<25 (<25) [<25]	<25 (25) [25]
	SBL/T/R	115	<25 (<25) [<25]	<25 (<25) [<25]
20th Street and Sunset Drive	EBL/T/R	110	43 (45) [45]	60 (63) [70]
	WBL/T/R	140	48 (50) [55]	43 (45) [45]
	NBL/T/R	135	<25 (<25) [<25]	<25 (<25) [<25]
	SBL/T/R	45	<25 (<25) [<25]	<25 (<25) [<25]
20th Street and Project Driveway	EBL/T/R	170	(3) ((3)) [<25]	(3) ((3)) [<25]
	WBL/T/R	110	(3) ((3)) [<25]	(3) ((3)) [<25]

Note: (1) Storage length based on distance to upstream intersection.
(2) The 95th percentile queue length is based on HCM methodology. Minimum queue of 25 feet assumed.
(3) Intersection not analyzed under existing and future background conditions.

PLANNED ROADWAY IMPROVEMENTS

The most recent City of Miami Beach Transportation Master Plan was reviewed to identify planned roadway improvements in the study area. Currently, planned improvements include the following:

- Installation of protected/buffered bicycle lanes and enhanced crosswalks along West Avenue from 6th Street to 20th Street.
- Neighborhood Greenway (Bicycle Boulevard Markers and enhanced crosswalk along 20th Street from Purdy Avenue to Sunset Drive.

Detailed information regarding planned roadway improvements can be found in Appendix I.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Control Measures (TCM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network City of Miami Beach provide public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant proposes the following TCMs:

- Secure bicycle parking spaces (bike racks and lockers)
- Provide transit information within the site including route schedules and maps
- Designated scooter/motorcycle parking spaces
- Wide hallways that can accommodate bikes
- Elevators that can accommodate bikes
- Lockers shower facility for bicyclists

CONCLUSION

Alton Office Holdings II, LLC is proposing to redevelop the property located at 1920 Alton Road in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by a 20,682 square-foot retail building. The proposed redevelopment consists of approximately 9,000 square feet of retail space, 26,932 square-feet of office space, and six (6) low-rise multifamily residential units. The project is expected to be completed by year 2025.

Access to the proposed development is provided via one (1) full access driveway along 20th Street.

Trip generation for the proposed redevelopment was calculated using rates contained in the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11th Edition. The project is expected to generate 27 net new weekday A.M. peak hour trips and 39 net new weekday P.M. peak hour trips.

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The results of the 95th percentile queue analysis indicate that the anticipated future queues are not expected to exceed the provided storage.

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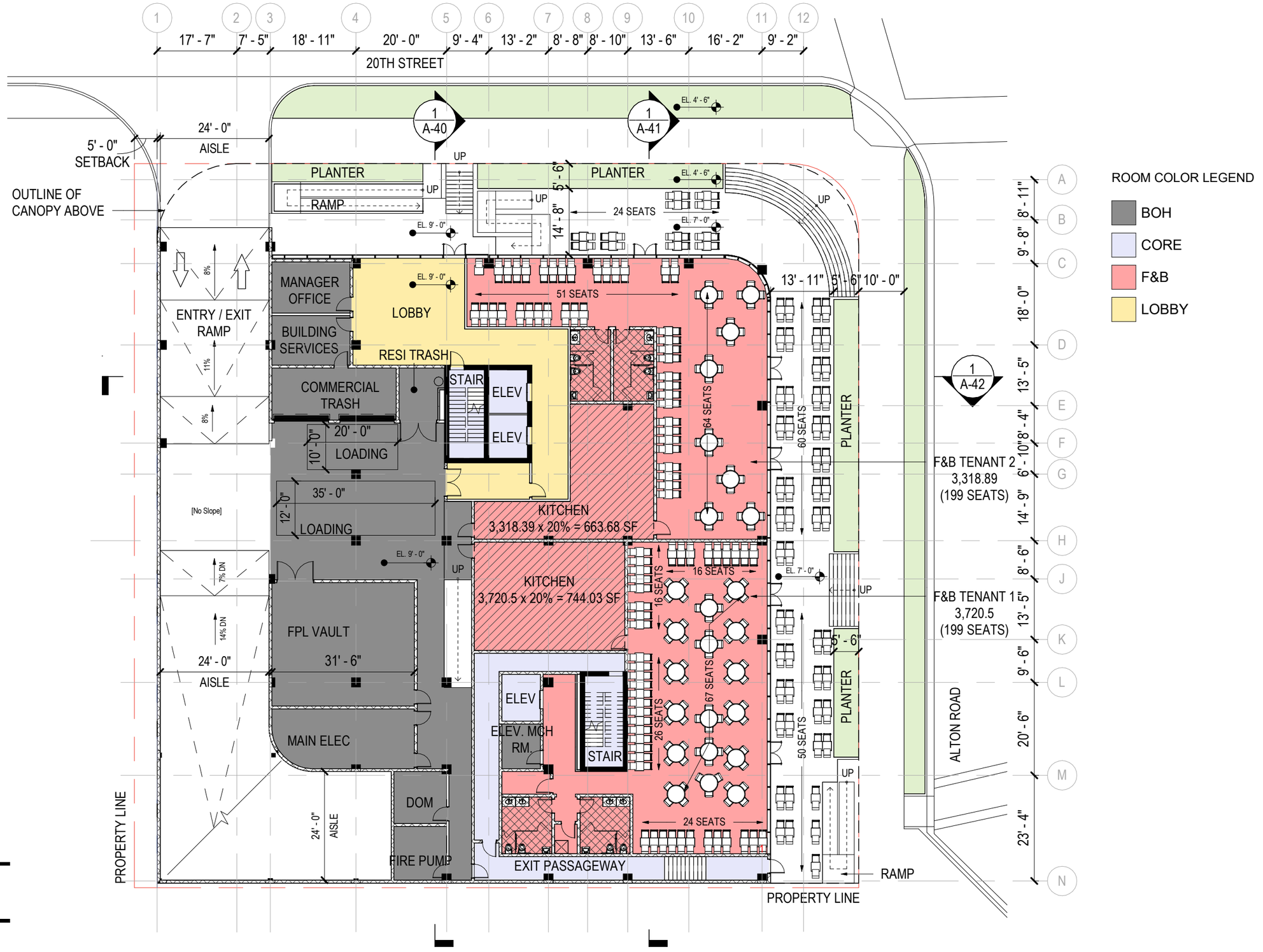
Appendix A

Site Plan



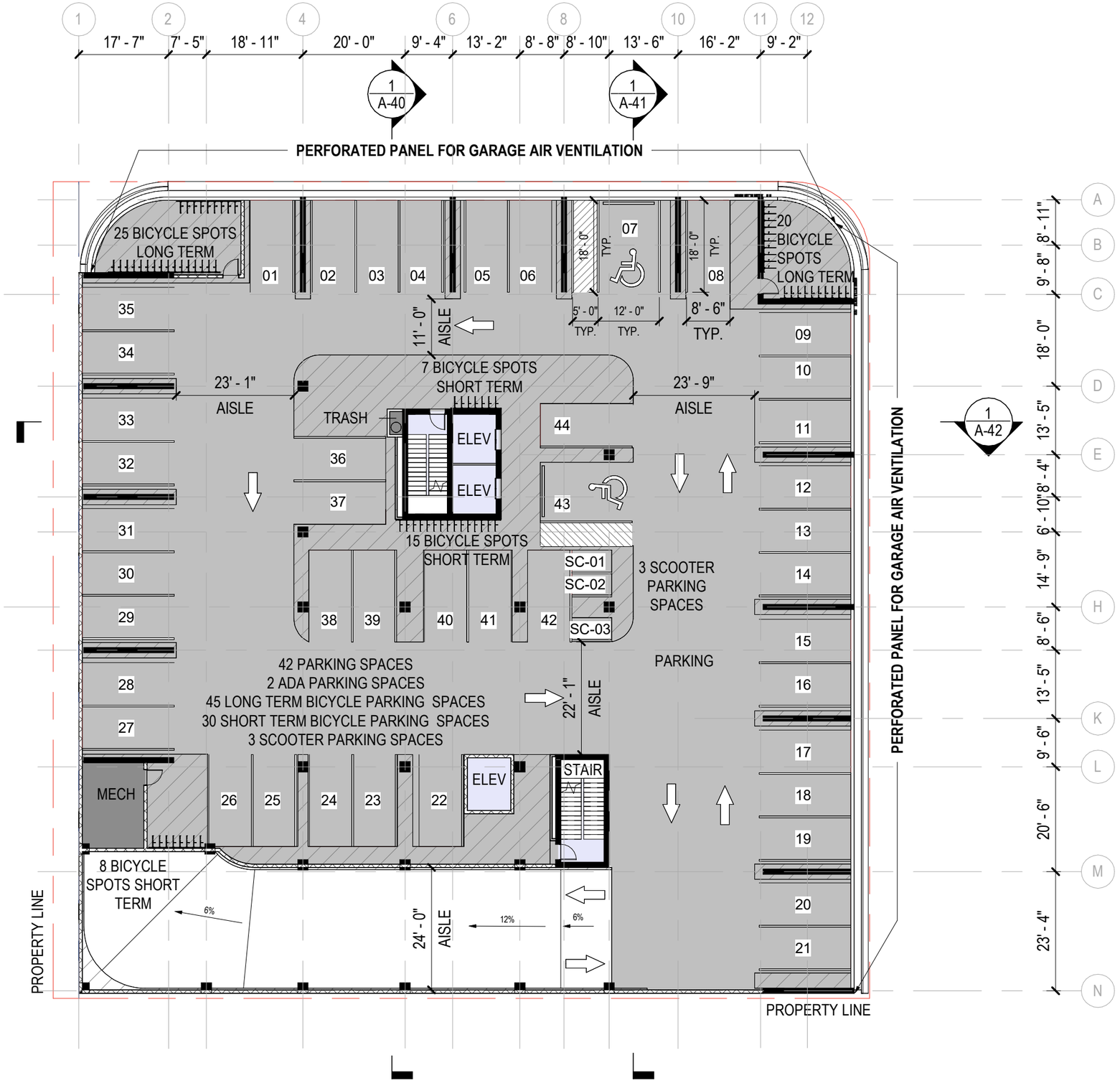
ROOM COLOR LEGEND

- BOH
- CORE
- F&B
- LOBBY

Area Schedule (FAR-Total) - Level 01	
Level	Area
LEVEL 01 (DFE)	11,850.3 SF

REFER TO SHEET A-09 FOR FAR DIAGRAMS AND EXCLUSIONS

1 FLOOR PLAN - LEVEL 01
SCALE: 3/64" = 1'-0"



ROOM COLOR LEGEND

- BOH
- CORE
- PARKING

Area Schedule (FAR-Total) - Level 02	
Level	Area
LEVEL 02	900.9 SF

REFER TO SHEET A-09 FOR FAR DIAGRAMS AND EXCLUSIONS

1 **FLOOR PLAN - LEVEL 02**
SCALE: 3/64" = 1'-0"

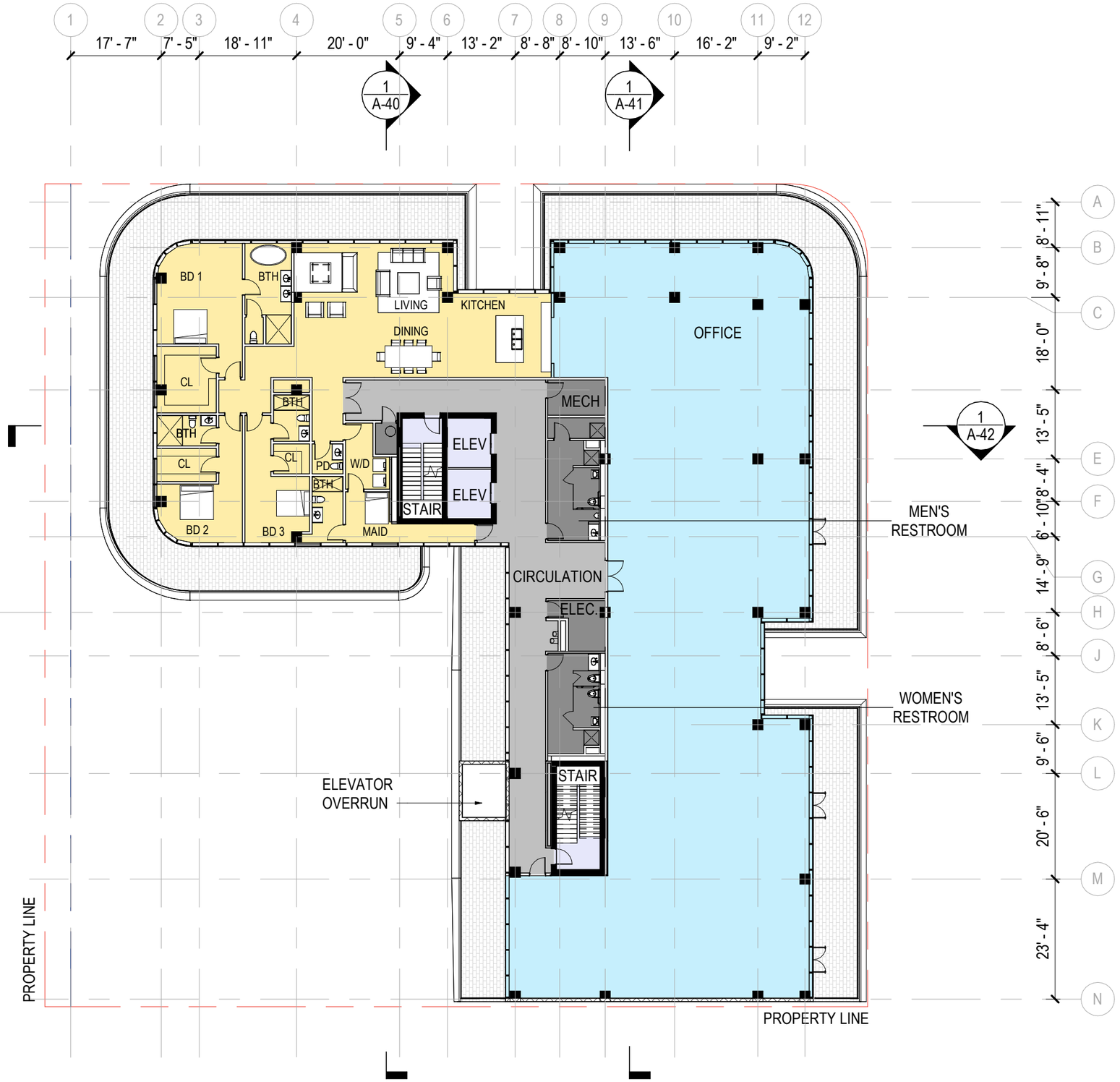
ROOM COLOR LEGEND

- AMENITY-EXTERIOR
- BOH
- CIRCULATION
- CORE
- F&B
- OFFICE
- RESIDENTIAL

Area Schedule (FAR-Total) - Level 03	
Level	Area
LEVEL 03	12,821.3 SF

REFER TO SHEET A-09 FOR FAR DIAGRAMS AND EXCLUSIONS

1 FLOOR PLAN - LEVEL 03
SCALE: 3/64" = 1'-0"



ROOM COLOR LEGEND

- BOH
- CIRCULATION
- CORE
- RESIDENTIAL

Area Schedule (FAR-Total) - Level 04	
Level	Area
LEVEL 04	12,731.7 SF

REFER TO SHEET A-09 FOR FAR DIAGRAMS AND EXCLUSIONS

1 FLOOR PLAN - LEVEL 04
SCALE: 3/64" = 1'-0"

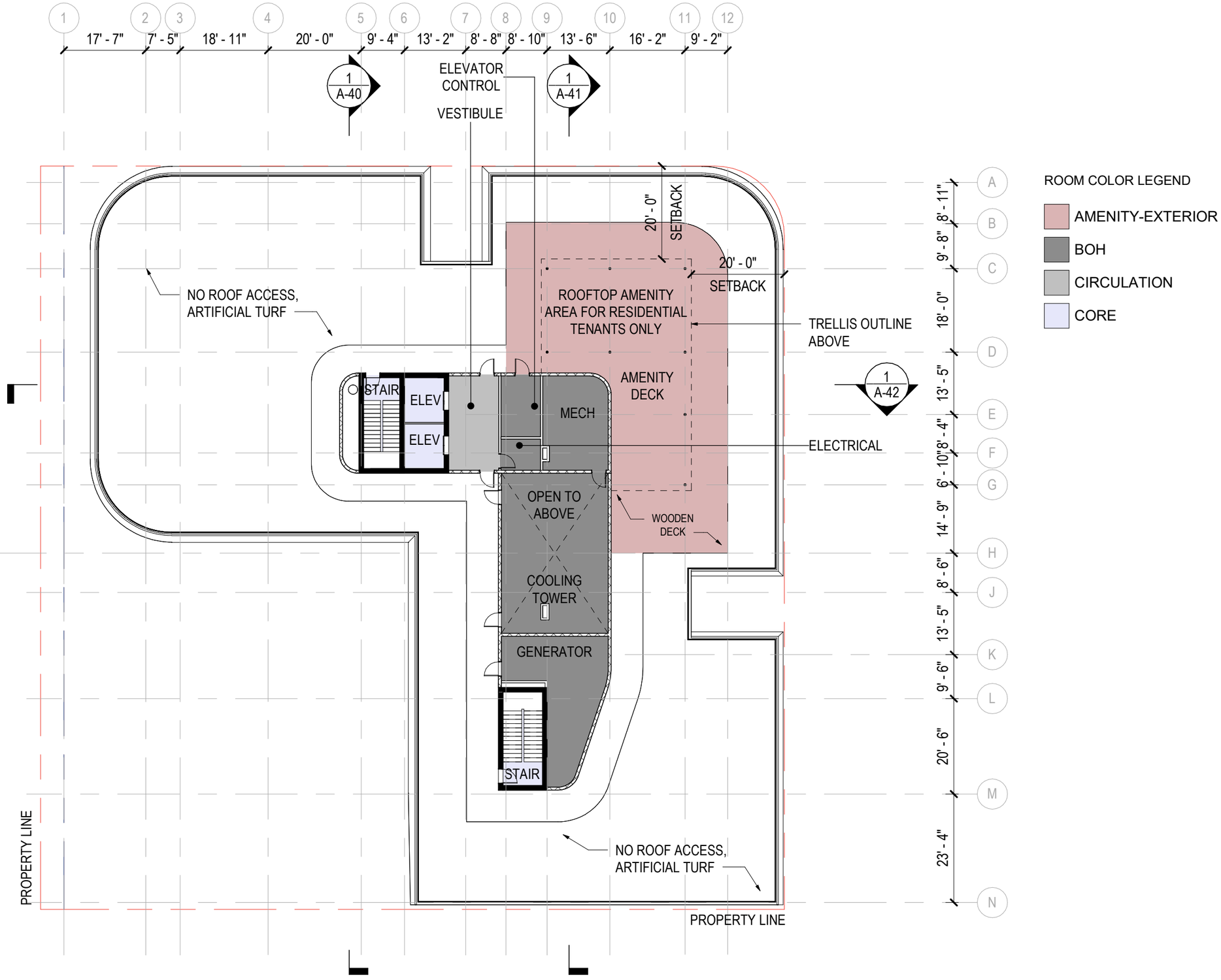
ROOM COLOR LEGEND

- BOH
- CIRCULATION
- CORE
- OFFICE
- RESIDENTIAL

Area Schedule (FAR-Total) - Level 05	
Level	Area
LEVEL 05	12,733.4 SF

REFER TO SHEET A-09 FOR FAR DIAGRAMS AND EXCLUSIONS

1 FLOOR PLAN - LEVEL 05
SCALE: 3/64" = 1'-0"



ROOM COLOR LEGEND

- AMENITY-EXTERIOR
- BOH
- CIRCULATION
- CORE

NOTE:
MIAMI BEACH ZONING, VERSION MARCH 25, 2022, DIVISION 5, SECTION 142-313. (6) HEIGHT EXCEPTIONS-(E)
ROOFTOP AREAS THAT ARE ACCESSIBLE ONLY TO THE OWNERS OR TENANTS OF RESIDENTIAL UNITS MAY HAVE TRELLISES, PERGOLAS OR SIMILAR STRUCTURES THAT HAVE AN OPEN ROOF OF CROSS RAFTERS OR LATTICEWORK. SUCH STRUCTURES SHALL NOT EXCEED A COMBINED AREA OF 20 PERCENT OF THE ENCLOSED FLOOR AREA IMMEDIATELY ONE FLOOR BELOW AND SHALL BE SET BACK A MINIMUM OF 20 FEET FROM THE PROPERTY LINE AND NO LESS THAN TEN FEET FROM THE ROOF PARAPETS ON STREET-FACING FACADES.

LEVEL 05 ENCLOSED FLOOR AREA:
12,550.03 SF X 20% = 2,510.06 SF

ROOFTOP TRELLIS AREA = 2,510.06 SF

Area Schedule (FAR-Total) - Level 06	
Level	Area

REFER TO SHEET A-09 FOR FAR DIAGRAMS AND EXCLUSIONS

1 **FLOOR PLAN - Level 06**
SCALE: 3/64" = 1'-0"

Appendix B

Methodology Correspondence

Kimley»Horn

MEMORANDUM

To: Dani Fawaz, P.E.
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE

Date: June 16, 2022

Subject: 1920 Alton Road
Traffic Study Methodology

The purpose of this memorandum is to summarize the traffic study methodology for the redevelopment located at 1920 Alton Road in Miami Beach, Florida. The parcels proposed for development is currently occupied by a 20,682 square foot retail building. The proposed redevelopment consists of approximately 9,000 square feet of retail space, 26,932 square-feet of office space, and a maximum of 6 low-rise multifamily residential units. A conceptual site plan and location map are included in Attachment B. The following sections summarize our proposed methodology.

TRIP GENERATION

Trip generation calculations for the existing development and proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. The trip generation for the existing land use was determined using ITE Land Use Code LUC 822 (Strip Retail Plaza). The trip generation for the proposed land uses was determined using ITE LUC 822 (Strip Retail Plaza), LUC 710 (General Office Building), and LUC 220 (Multifamily Housing [Low-Rise]).

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tract in the vicinity of the redevelopment. The US Census data indicated that there is a 12.15 percent (12.15%) multimodal factor within the vicinity of the development. It is expected that patrons and visitors will choose to walk, bike, or use public transit to and from the proposed development. Transit route information will be documented in the report. Detailed trip generation calculations and US Census *Means of Transportation to Work* data are included in Attachment C.

The project is expected to generate 27 net new vehicle trips during the weekday A.M. peak hour and 39 net new vehicle trips during the P.M. peak hour. Detailed trip generation calculations are included as Attachment C.

STUDY AREA

The following intersections in addition to the project driveway, are proposed to be analyzed.

1. 20th Street at West Avenue
2. 20th Street at Sunrise Drive

Turning movement counts will include pedestrians and bicyclists.

DATA COLLECTION

Weekday A.M. (7:00 to 9:00 A.M.) and P.M. (4:00 to 6:00 P.M.) peak period turning movement counts will be collected at all identified study intersections on a typical weekday (Tuesday, Wednesday, or Thursday). All traffic counts will be adjusted to peak season conditions using the appropriate Florida Department of Transportation (FDOT) peak season conversion factors for Miami Beach. Turning movement counts will be collected in 15-minute intervals during the analysis peak period and will include pedestrian and bicycle counts. Signal timing information will be obtained from Miami-Dade County Department of Transportation and Public Works – Traffic Signals and Signs Division. All collected traffic data will be provided in the Appendix of the traffic impact study.

TRIP DISTRIBUTION

Trip distribution will be determined based on turning movements counts collected at the study area intersections as well as the location of parking facilities used by the proposed redevelopment. Additionally, the distribution will be based on an interpolated cardinal trip distribution for the project site's traffic analysis zones (TAZs) obtained from the Miami-Dade Transportation Planning Organization's *2045 LRTP Directional Trip Distribution Report* travel demand model 2015 and 2045 data. The trip distribution for the anticipated build-out year of 2025 was interpolated from the 2015 and 2045 data. The project is located within TAZ 639. The detailed cardinal distribution is provided in Attachment D.

BACKGROUND GROWTH RATE/MAJOR COMMITTED DEVELOPMENT

A background growth rate will be calculated based on historic growth trends at nearby Florida Department of Transportation (FDOT) traffic count stations. Additionally, growth rates based on Miami-Dade Transportation Planning Organization's (TPO) projected 2015 and 2045 model network volumes will be examined. The higher of the two (2) growth rates will be used in the analysis. Documentation will be provided in the Appendix of the traffic impact study.

The 1910 Alton redevelopment will be included as part of future background conditions as a committed development.

CAPACITY ANALYSIS

Capacity analyses will be conducted for the analysis period for the study intersections. Intersection analyses will be performed using Trafficware's *Synchro* traffic engineering analysis software which applies the Transportation Research Board's (TRB's), *Highway Capacity Manual* (HCM), 2000 and 2010 methodologies. Capacity analyses will be conducted for three (3) scenarios: existing, build-out without project, and build-out with project.

The following figures will be included for the study intersections:

- Existing conditions
- Future background traffic conditions (with growth rate and committed development traffic)
- Trip distribution
- Trip assignment
- Future total traffic conditions (with project)

GARAGE ENTRY GATE OPERATIONS ANALYSIS

If garage entry gates are provided, a 95th percentile entry gate analysis will be prepared for parking garage entry points. The entry gate queuing analysis will be prepared for the weekday A.M. and P.M. peak hours. Entry gate queuing analysis will be conducted consistent with the procedures outlined in ITE's *Transportation and Land Development*, 1988 and/or *Parking Structures – Planning, Design, Construction, Maintenance, and Repair*, 2001. The purpose of this analysis is to determine any future queue storage deficiencies at the entry gates and provide preliminary recommendations for mitigating these deficiencies.

PROGRAMMED ROADWAY IMPROVEMENTS

Local transportation plans will be reviewed in order to gather information about planned and programmed transportation improvements in the study area. The purpose of the plan review is to identify programmed capacity improvements for consideration in the analysis. The City of Miami Beach *Transportation Master Plan* will be reviewed.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Demand Management (TDM) strategies will be developed to reduce the impact of project traffic on the surrounding roadway network and promote trip reduction. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours.

DOCUMENTATION

The results of the traffic analysis will be summarized in a report. The report will include supporting documents including signal timings, lane geometry, and software output sheets. The report will also include text and graphics necessary to summarize the assumptions and analysis.

VALET ASSESSMENT

If valet is provided, a valet operations queuing assessment will be prepared for the vehicle drop-off/pick-up area to ensure that queues do not spill back into public right-of-way.

Trip generation estimates will be utilized to provide for the highest demand scenario. The valet operations queuing analysis will be conducted consistent with procedures described in ITE's Transportation and Land Development, 1988. A traffic circulation figure will be prepared to illustrate the valet routes to and from the vehicle drop-off/pick-up area.

A technical memorandum documenting analysis assumptions and results, including the location of the valet garage and the required number of valet attendants to service the facility under both typical and highest demand will be prepared.

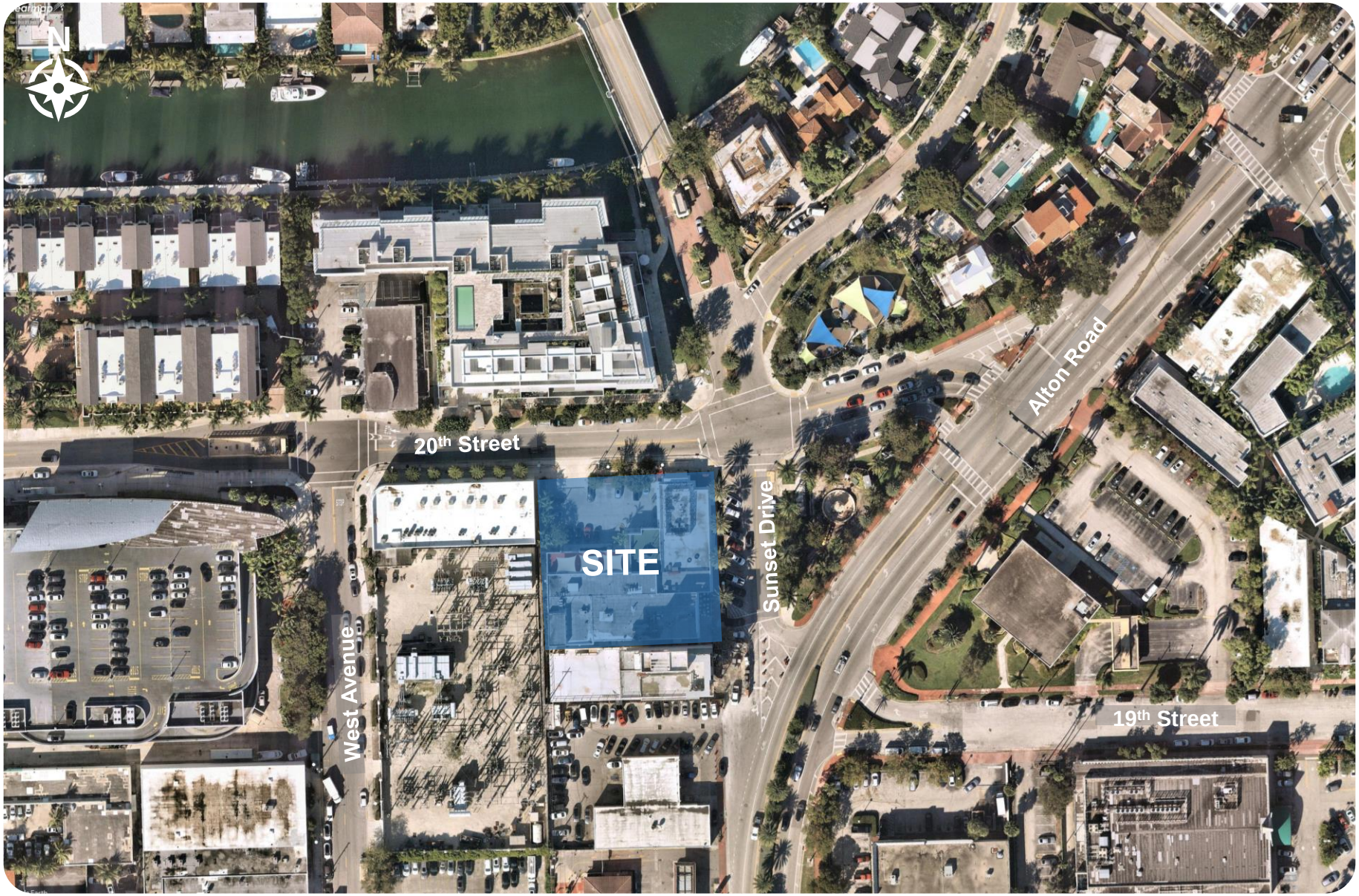
MANEUVERABILITY ANALYSIS

A maneuverability analysis for the parking garage and loading areas of the proposed development will be performed utilizing Transoft Solutions' *AutoTURN* software. Deficiencies related to maneuverability, traffic flow, and vehicular conflicts will be documented in a technical memorandum.

O:\adabkowski\1920 Alton Road\Correspondence\1920 Alton Road - Traffic Study Methodology.docx

Attachment A

Conceptual Site Plan and Location Map



Kimley»Horn

Figure 1
Location Map
1920 Alton Road
Miami Beach, Florida

BUNGALOW

RESIDENTIAL OFFICE PARKING RETAIL

Attachment B

Trip Generation Calculations

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING 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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	20.682	ksf	60%	40%	28	18	46	12.2%	6	24	16	40	0.0%	0	24	16	40	0.0%	0	24	16	40
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				Total:	28	18	46	12.2%	6	24	16	40	0.0%	0	24	16	40	0.0%	0	24	16	40
		822		LN(Y) = 0.66*LN(X)+1.84																						

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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	9	ksf	60%	40%	16	11	27	12.2%	3	14	10	24	12.5%	3	13	8	21	0.0%	0	13	8	21
	2	General Office Building	11	710	26.932	ksf	88%	12%	48	6	54	12.2%	7	42	5	47	6.4%	3	40	4	44	0.0%	0	40	4	44
	3	Multifamily Housing (Low-Rise) Not Close to Rail Transit	11	220	6	du	24%	76%	0	2	2	12.2%	0	0	2	2	0.0%	0	0	2	2	0.0%	0	0	2	2
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				Total:	64	19	83	12.2%	10	56	17	73	8.2%	6	53	14	67	0.0%	0	53	14	67
		822		LN(Y) = 0.66*LN(X)+1.84																						
		710		LN(Y) = 0.86*LN(X)+1.16																						
		220		Y=0.4(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	29	-2	27

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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	20.682	ksf	50%	50%	65	65	130	12.2%	16	57	57	114	0.0%	0	57	57	114	40.0%	46	34	34	68
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
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	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	65	65	130	12.2%	16	57	57	114	0.0%	0	57	57	114	40.4%	46	34	34	68
		822		LN(Y) = 0.71*LN(X)+2.72																						

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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	9	ksf	50%	50%	36	36	72	12.2%	8	32	32	64	20.3%	13	26	25	51	0.0%	0	26	25	51
	2	General Office Building	11	710	26.932	ksf	17%	83%	10	46	56	12.2%	7	9	40	49	8.2%	4	8	37	45	0.0%	0	8	37	45
	3	Multifamily Housing (Low-Rise) Not Close to Rail Transit	11	220	6	du	63%	37%	14	9	23	12.2%	3	12	8	20	45.0%	9	6	5	11	0.0%	0	6	5	11
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	60	91	151	12.2%	18	53	80	133	19.5%	26	40	67	107	0.0%	0	40	67	107
		822		LN(Y) = 0.71*LN(X)+2.72																						
		710		LN(Y) = 0.83*LN(X)+1.29																						
		220		Y=0.43*(X)+20.55																						

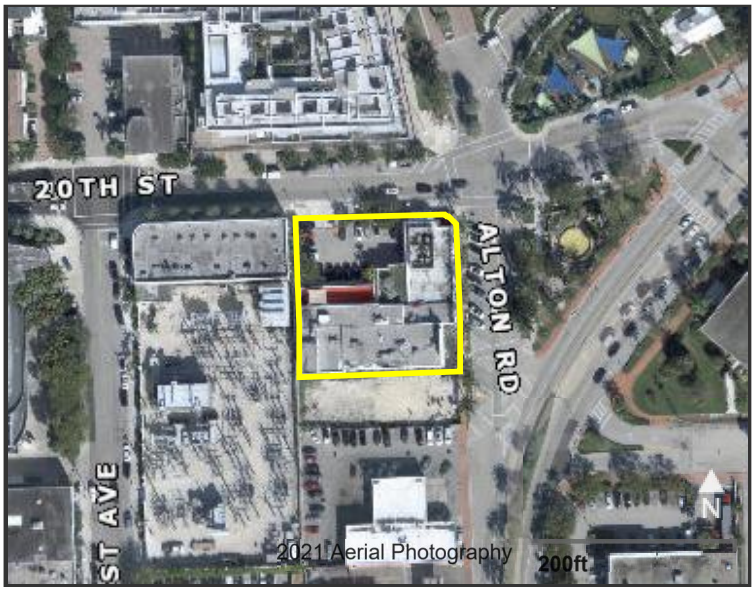
	IN	OUT	TOTAL
NET NEW TRIPS	**6**	**33**	**39**

OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On : 6/8/2022

Property Information	
Folio:	02-3233-022-0030
Property Address:	1920 ALTON RD Miami Beach, FL 33139-1507
Owner	ALTON OFFICE HOLDINGS II LLC
Mailing Address	1691 MICHIGAN AVE STE 445 MIAMI BEACH, FL 33139 USA
PA Primary Zone	6400 COMMERCIAL - CENTRAL
Primary Land Use	1229 MIXED USE-STORE/RESIDENTIAL : MIXED USE - COMMERCIAL
Beds / Baths / Half	0 / 0 / 0
Floors	3
Living Units	0
Actual Area	20,713 Sq.Ft
Living Area	20,713 Sq.Ft
Adjusted Area	20,682 Sq.Ft
Lot Size	25,600 Sq.Ft
Year Built	Multiple (See Building Info.)



Assessment Information			
Year	2021	2020	2019
Land Value	$8,576,000	$6,100,000	$6,400,000
Building Value	$1,889,336	$1,912,294	$1,847,288
XF Value	$101,937	$103,117	$104,297
Market Value	$10,567,273	$8,115,411	$8,351,585
Assessed Value	$7,045,089	$6,404,627	$5,822,389

Benefits Information				
Benefit	Type	2021	2020	2019
Non-Homestead Cap	Assessment Reduction	$3,522,184	$1,710,784	$2,529,196

Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).

Taxable Value Information			
	2021	2020	2019
County			
Exemption Value	$0	$0	$0
Taxable Value	$7,045,089	$6,404,627	$5,822,389
School Board			
Exemption Value	$0	$0	$0
Taxable Value	$10,567,273	$8,115,411	$8,351,585
City			
Exemption Value	$0	$0	$0
Taxable Value	$7,045,089	$6,404,627	$5,822,389
Regional			
Exemption Value	$0	$0	$0
Taxable Value	$7,045,089	$6,404,627	$5,822,389

Sales Information			
Previous Sale	Price	OR Book-Page	Qualification Description
12/01/2021	$21,250,000	32901-0974	Qual by exam of deed
11/08/2011	$3,500,000	27889-3133	Qual by exam of deed

Short Legal Description
34 53 42 ISLAND VIEW ADDN PB 9-144 LOTS 3 TO 5 BLK 12 A LOT SIZE 160.000 X 160 74R-97675

Version:

(88+56)/(1575-390)=12.15%

MEANS OF TRANSPORTATION TO WORK

United States® Census Bureau

Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

	Census Tract 41.06, Miami-Dade County, Florida	
Label	**Estimate**	**Margi**
Total:	1,575	
Car, truck, or van:	955	
Drove alone	904	
Carpooled:	51	
In 2-person carpool	51	
In 3-person carpool	0	
In 4-person carpool	0	
In 5- or 6-person carpool	0	
In 7-or-more-person carpool	0	
Public transportation (excluding taxicab):	5	
Bus	5	
Subway or elevated rail	0	
Long-distance train or commuter rail	0	
Light rail, streetcar or trolley (carro público in Puerto Rico)	0	
Ferryboat	0	
Taxicab	20	
Motorcycle	33	
Bicycle	88	
Walked	56	
Other means	28	
Worked from home	390	

Table Notes

MEANS OF TRANSPORTATION TO WORK

Survey/Program: American Community Survey
Universe: Workers 16 years and over
Year: 2019
Estimates: 5-Year
Table ID: B08301

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.

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

2019 ACS data products include updates to several categories of the existing means of transportation question. For more information, see: Change to Means of Transportation.

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 ACS Technical Documentation). 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.

The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations 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 delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, 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.

Explanation of Symbols:

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.
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, or the margin of error associated with a median was larger than the median itself.
An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
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.
An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
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.

displayed because the number of sample cases is too small.

An "(X)" means that the estimate is not applicable or not available.

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

Attachment C

Cardinal Trip Distribution

MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION

2045 LRTP SUPPORTING DOCUMENTS

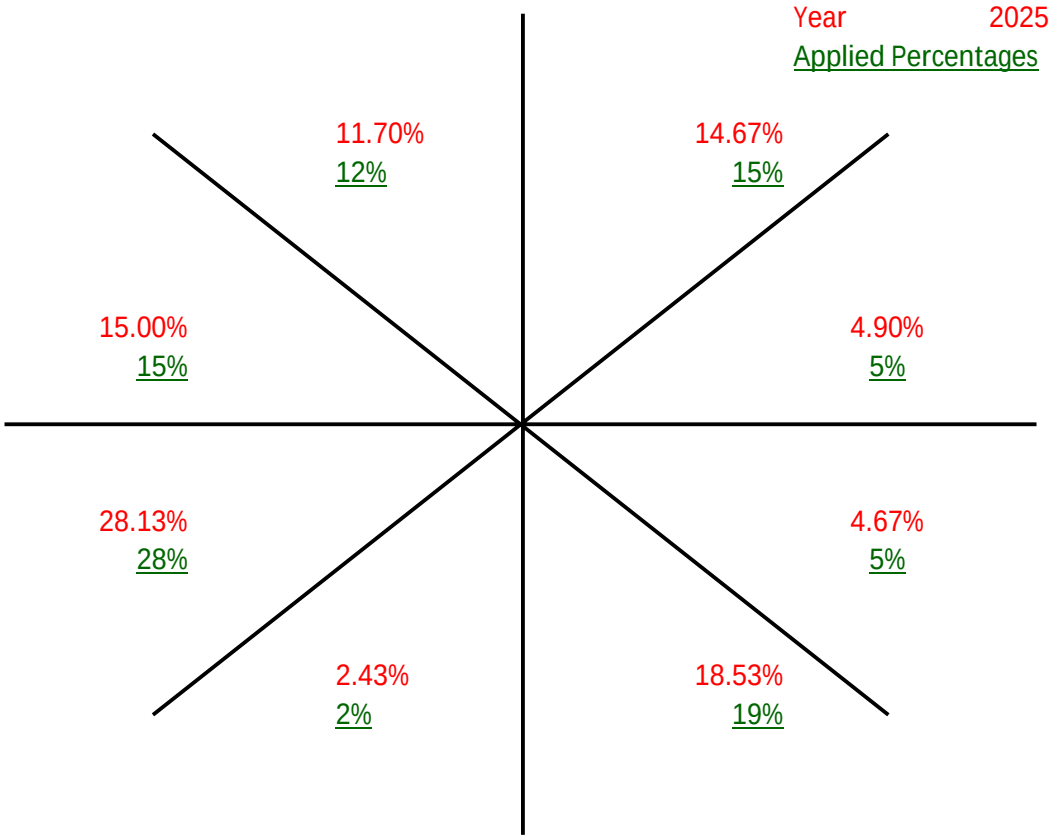
DIRECTIONAL TRIP DISTRIBUTION REPORT

SEPTEMBER 2019

Miami-Dade 2015 Base Year Direction Trip Distribution Summary											
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
625	3525	Trips	610	160	-	557	431	1,317	679	1,035	4,961
625	3525	Percent	12.7	3.3	-	11.6	9.0	27.5	14.2	21.6	
626	3526	Trips	122	-	-	-	2,090	2,277	1,198	2,942	9,399
626	3526	Percent	1.4	-	-	-	24.2	26.4	13.9	34.1	
627	3527	Trips	279	-	-	-	2,051	2,578	845	1,965	8,061
627	3527	Percent	3.6	-	-	-	26.6	33.4	11.0	25.5	
628	3528	Trips	298	-	49	79	984	902	332	679	3,579
628	3528	Percent	9.0	-	1.5	2.4	29.6	27.2	10.0	20.5	
629	3529	Trips	1,374	549	344	1,656	1,708	3,707	1,668	2,101	14,261
629	3529	Percent	10.5	4.2	2.6	12.6	13.0	28.3	12.7	16.0	
630	3530	Trips	952	-	210	347	1,696	2,375	794	1,114	8,135
630	3530	Percent	12.7	-	2.8	4.6	22.7	31.7	10.6	14.9	
631	3531	Trips	255	-	-	-	1,215	1,471	440	1,030	4,651
631	3531	Percent	5.8	-	-	-	27.6	33.4	10.0	23.4	
632	3532	Trips	309	-	-	-	1,242	1,751	750	635	4,880
632	3532	Percent	6.6	-	-	-	26.5	37.4	16.0	13.5	
633	3533	Trips	310	-	-	-	1,181	1,428	750	730	4,590
633	3533	Percent	7.0	-	-	-	26.9	32.5	17.1	16.6	
634	3534	Trips	1,502	112	240	837	1,718	1,928	976	1,727	9,998
634	3534	Percent	16.6	1.2	2.7	9.3	19.0	21.3	10.8	19.1	
635	3535	Trips	779	-	-	-	2,021	1,994	952	1,411	8,010
635	3535	Percent	10.9	-	-	-	28.2	27.9	13.3	19.7	
636	3536	Trips	1,041	-	-	686	1,152	2,072	911	1,071	7,384
636	3536	Percent	15.0	-	-	9.9	16.6	29.9	13.1	15.4	
637	3537	Trips	323	31	87	217	126	601	303	290	1,987
637	3537	Percent	16.4	1.6	4.4	11.0	6.4	30.4	15.3	14.7	
638	3538	Trips	152	35	87	86	114	218	162	126	999
638	3538	Percent	15.5	3.6	8.9	8.7	11.6	22.3	16.5	12.9	
639	3539	Trips	825	281	277	1,089	131	1,364	796	599	5,721
639	3539	Percent	15.4	5.2	5.2	20.3	2.4	25.4	14.9	11.2	
640	3540	Trips	344	247	868	104	43	685	405	274	3,053
640	3540	Percent	11.6	8.3	29.2	3.5	1.5	23.1	13.6	9.2	
641	3541	Trips	1,051	1,714	291	723	309	1,572	1,188	916	8,356
641	3541	Percent	13.5	22.1	3.7	9.3	4.0	20.3	15.3	11.8	
642	3542	Trips	1,849	1,404	115	1,263	457	2,697	1,962	1,518	12,299
642	3542	Percent	16.4	12.5	1.0	11.2	4.1	23.9	17.4	13.5	
643	3543	Trips	1,747	551	-	965	479	2,595	1,554	1,715	10,383
643	3543	Percent	18.2	5.7	-	10.1	5.0	27.0	16.2	17.9	
644	3544	Trips	2,022	-	-	-	2,250	4,141	2,585	2,646	15,224
644	3544	Percent	14.8	-	-	-	16.5	30.4	19.0	19.4	
645	3545	Trips	1,268	-	-	-	907	1,498	1,720	1,351	7,018
645	3545	Percent	18.8	-	-	-	13.5	22.2	25.5	20.0	
646	3546	Trips	986	-	156	520	250	1,081	1,094	1,181	5,470
646	3546	Percent	18.7	-	3.0	9.9	4.7	20.5	20.8	22.4	
647	3547	Trips	350	103	114	165	66	354	359	408	1,979
647	3547	Percent	18.2	5.4	5.9	8.6	3.5	18.5	18.7	21.2	
648	3548	Trips	1,027	434	254	401	48	903	1,001	514	4,747
648	3548	Percent	22.4	9.5	5.5	8.8	1.0	19.7	21.9	11.2	
649	3549	Trips	754	192	184	230	41	612	743	427	3,320
649	3549	Percent	23.7	6.0	5.8	7.2	1.3	19.2	23.3	13.4	
650	3550	Trips	45	80	104	0	14	155	304	133	850
650	3550	Percent	5.4	9.6	12.4	0.0	1.6	18.5	36.5	16.0	

Miami-Dade 2045 Cost Feasible Plan Direction Trip Distribution Summary											
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
625	3525	Trips	515	114	-	541	802	1,791	829	1,096	5,972
625	3525	Percent	9.1	2.0	-	9.5	14.1	31.5	14.6	19.3	
626	3526	Trips	66	-	-	-	2,417	3,260	1,417	2,993	11,237
626	3526	Percent	0.7	-	-	-	23.8	32.1	14.0	29.5	
627	3527	Trips	174	-	-	-	2,276	3,212	1,138	1,885	9,055
627	3527	Percent	2.0	-	-	-	26.2	37.0	13.1	21.7	
628	3528	Trips	238	-	23	101	1,053	1,266	390	660	4,028
628	3528	Percent	6.4	-	0.6	2.7	28.2	33.9	10.5	17.7	
629	3529	Trips	1,686	621	373	1,692	1,801	6,032	2,362	2,490	18,425
629	3529	Percent	9.9	3.6	2.2	9.9	10.6	35.4	13.9	14.6	
630	3530	Trips	888	-	326	303	1,717	3,876	1,515	1,553	11,277
630	3530	Percent	8.7	-	3.2	3.0	16.9	38.1	14.9	15.3	
631	3531	Trips	296	-	-	-	1,351	2,360	838	1,324	6,591
631	3531	Percent	4.8	-	-	-	21.9	38.3	13.6	21.5	
632	3532	Trips	343	-	-	-	1,500	2,647	1,390	1,098	7,499
632	3532	Percent	4.9	-	-	-	21.5	37.9	19.9	15.7	
633	3533	Trips	368	-	-	-	1,052	1,986	859	841	5,391
633	3533	Percent	7.2	-	-	-	20.6	38.9	16.8	16.5	
634	3534	Trips	1,404	80	149	773	1,637	2,733	1,332	1,712	10,593
634	3534	Percent	14.3	0.8	1.5	7.9	16.7	27.8	13.6	17.4	
635	3535	Trips	566	-	-	-	1,311	2,266	1,228	1,254	7,246
635	3535	Percent	8.5	-	-	-	19.8	34.2	18.5	18.9	
636	3536	Trips	1,066	-	-	607	978	3,045	1,398	1,193	8,805
636	3536	Percent	12.9	-	-	7.3	11.8	36.8	16.9	14.4	
637	3537	Trips	468	44	144	315	198	868	501	309	2,865
637	3537	Percent	16.5	1.6	5.1	11.1	6.9	30.5	17.6	10.9	
638	3538	Trips	127	33	78	94	79	401	285	185	1,342
638	3538	Percent	9.9	2.6	6.1	7.3	6.2	31.3	22.2	14.5	
639	3539	Trips	944	303	253	1,068	176	2,395	1,085	905	7,569
639	3539	Percent	13.2	4.3	3.6	15.0	2.5	33.6	15.2	12.7	
640	3540	Trips	119	74	216	10	30	177	136	147	1,166
640	3540	Percent	13.1	8.2	23.7	1.1	3.4	19.4	14.9	16.2	
641	3541	Trips	1,145	1,056	206	569	242	2,378	1,724	1,142	9,066
641	3541	Percent	13.5	12.5	2.4	6.7	2.9	28.1	20.4	13.5	
642	3542	Trips	1,701	1,196	113	964	433	3,470	2,140	1,631	12,324
642	3542	Percent	14.6	10.3	1.0	8.3	3.7	29.8	18.4	14.0	
643	3543	Trips	1,884	580	-	1,133	631	3,768	2,190	2,157	13,183
643	3543	Percent	15.3	4.7	-	9.2	5.1	30.5	17.7	17.5	
644	3544	Trips	1,948	-	-	-	2,227	5,534	3,264	3,082	17,780
644	3544	Percent	12.1	-	-	-	13.9	34.5	20.3	19.2	
645	3545	Trips	1,314	-	-	-	844	1,661	2,170	1,703	8,075
645	3545	Percent	17.1	-	-	-	11.0	21.6	28.2	22.1	
646	3546	Trips	1,025	-	125	496	263	1,741	1,656	1,299	6,976
646	3546	Percent	15.5	-	1.9	7.5	4.0	26.4	25.1	19.7	
647	3547	Trips	296	122	96	109	79	582	661	405	2,490
647	3547	Percent	12.6	5.2	4.1	4.6	3.4	24.8	28.1	17.3	
648	3548	Trips	943	278	128	313	73	1,525	1,351	576	5,397
648	3548	Percent	18.2	5.4	2.5	6.0	1.4	29.4	26.0	11.1	
649	3549	Trips	643	120	121	216	43	873	952	508	3,661
649	3549	Percent	18.5	3.4	3.5	6.2	1.3	25.1	27.4	14.6	
650	3550	Trips	60	71	65	8	14	279	312	136	969
650	3550	Percent	6.4	7.5	6.9	0.9	1.5	29.5	33.0	14.4	

Cardinal Distribution for TAZ 639



Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips		2025 Interpolated	2025 Rounded
	2015	2045		
North-Northeast	15.4%	13.2%	14.7%	15.0%
East-Northeast	5.2%	4.3%	4.9%	5.0%
East-Southeast	5.2%	3.6%	4.7%	5.0%
South-Southeast	20.3%	15.0%	18.5%	19.0%
South-Southwest	2.4%	2.5%	2.4%	2.0%
West-Southwest	25.4%	33.6%	28.1%	28.0%
West-Northwest	14.9%	15.2%	15.0%	15.0%
North-Northwest	11.2%	12.7%	11.7%	12.0%
Total	100.0%	100.1%	100.03%	101.00%

Appendix C

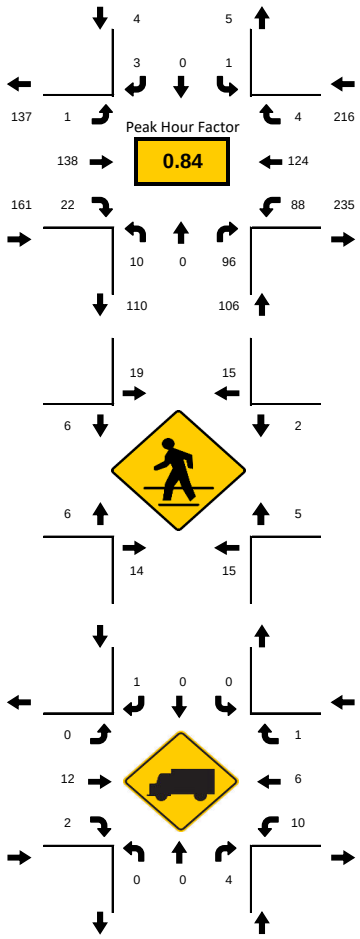
Traffic Data

Turning Movement Counts

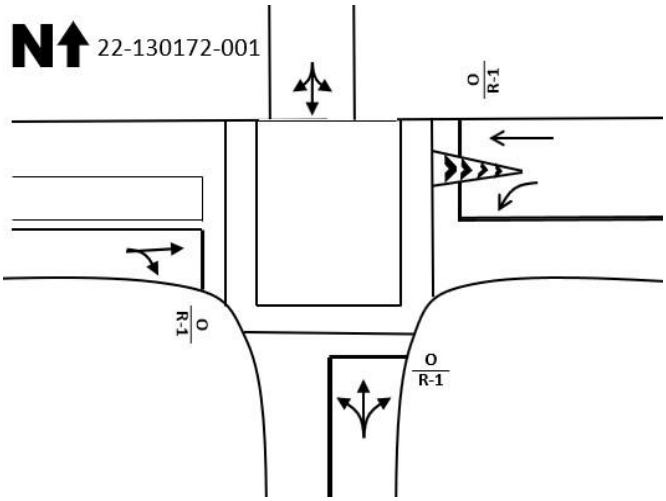
LOCATION: West Ave & 20th St
CITY/STATE: Miami Beach, FL

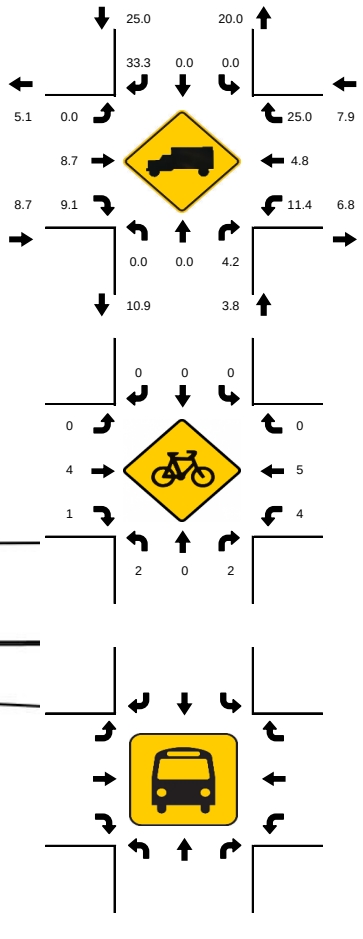
PROJECT ID: 22-140326-001
DATE: Tue, Jun 28, 2022

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:30 AM - 08:45 AM



National Data & Surveying Services





15-Min Count Period Beginning At	West Ave Northbound					West Ave Southbound					20th St Eastbound					20th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	2	0	10	0		0	0	0	0		0	13	3	0		11	21	0	0		60	276
07:15 AM	0	0	6	0		0	0	0	0		0	13	2	0		14	14	0	0		49	312
07:30 AM	3	0	11	0		0	0	0	0		0	20	2	0		16	24	2	0		78	379
07:45 AM	2	0	11	0		0	0	0	0		0	25	8	0		20	21	2	0		89	446
08:00 AM	1	0	13	0		0	0	0	0		0	30	3	0		19	28	2	0		96	487
08:15 AM	2	0	25	0		0	0	2	0		0	32	6	0		15	34	0	0		116	391
08:30 AM	3	0	35	0		1	0	1	0		0	42	7	0		19	36	1	0		145	275
08:45 AM	3	0	23	1		0	0	0	0		1	34	6	0		34	26	1	1		130	130
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	**Total**	
All Vehicles	12	0	140	4		4	0	8	0		4	168	28	0		136	144	8	4		**660**	
Heavy Trucks	0	0	8	0		0	0	4	0		0	12	8	0		16	16	4	0		**68**	
Pedestrians		40					40					24					16				**120**	
Bicycles	4	0	4	0		0	0	0	0		0	8	4	0		8	8	0	0		**36**	
Buses																						
Stopped Buses																						

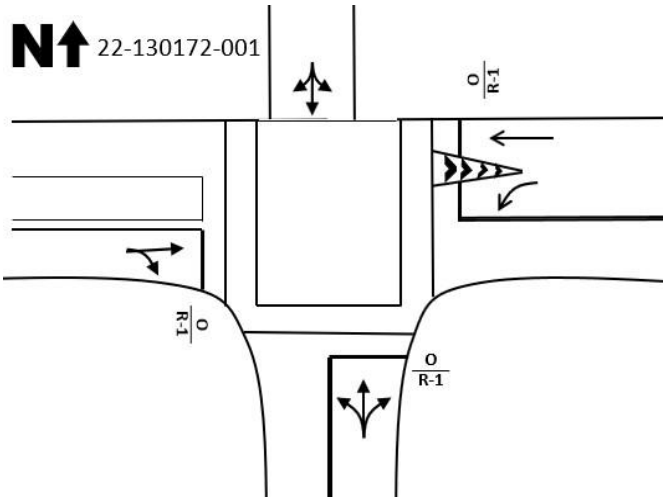
LOCATION: West Ave & 20th St
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140326-001
DATE: Tue, Jun 28, 2022

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

Peak Hour Factor: **0.93**

National Data & Surveying Services

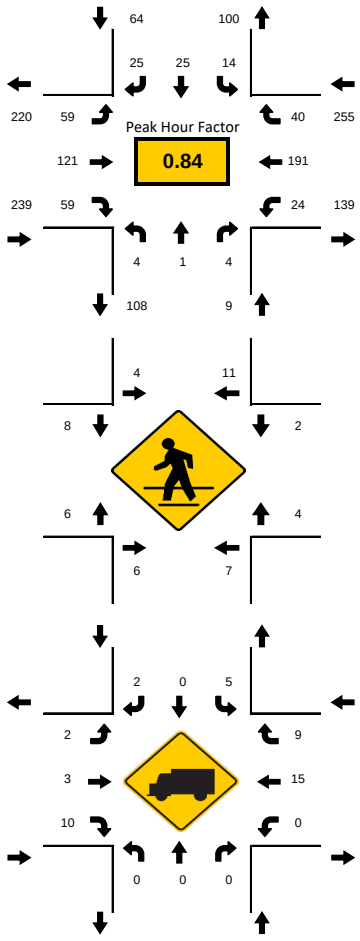


15-Min Count Period Beginning At	West Ave Northbound					West Ave Southbound					20th St Eastbound					20th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	7	1	44	1		1	0	1	0		0	41	13	0		20	23	0	0		152	610
04:15 PM	9	1	40	0		0	0	0	0		0	44	8	0		27	32	1	0		162	618
04:30 PM	4	0	26	0		0	1	1	0		0	53	12	0		23	27	0	0		147	627
04:45 PM	6	0	31	0		2	1	0	0		0	41	9	0		22	34	3	0		149	617
05:00 PM	7	0	29	0		0	1	0	0		0	54	9	0		25	35	0	0		160	640
05:15 PM	4	0	38	0		1	1	0	0		0	47	11	0		33	35	1	0		171	480
05:30 PM	6	0	31	0		1	0	0	0		0	30	12	0		21	36	0	0		137	309
05:45 PM	6	0	43	0		0	0	0	0		0	40	23	0		32	28	0	0		172	172
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	28	0	172	0		4	4	0	0		0	216	92	0		132	144	4	0		**796**	
Heavy Trucks	0	0	8	0		0	0	0	0		0	12	4	0		8	0	0	0		**32**	
Pedestrians		64					24					16					8				**112**	
Bicycles	8	0	8	0		0	0	0	0		0	4	8	0		0	12	0	0		**40**	
Buses																						
Stopped Buses																						

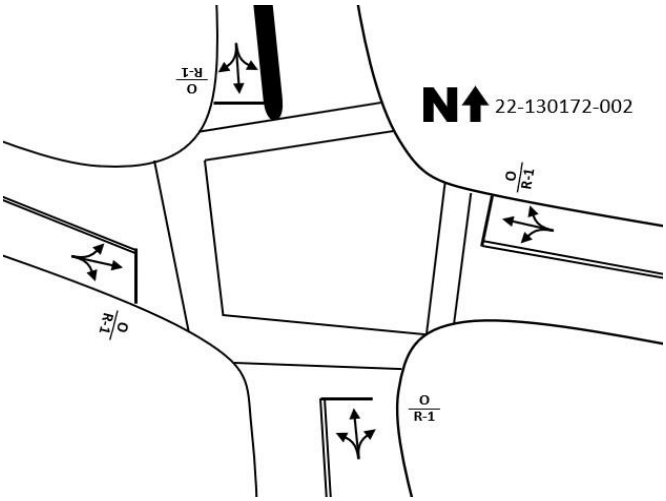
LOCATION: Sunset Dr & 20th St
CITY/STATE: Miami Beach, FL

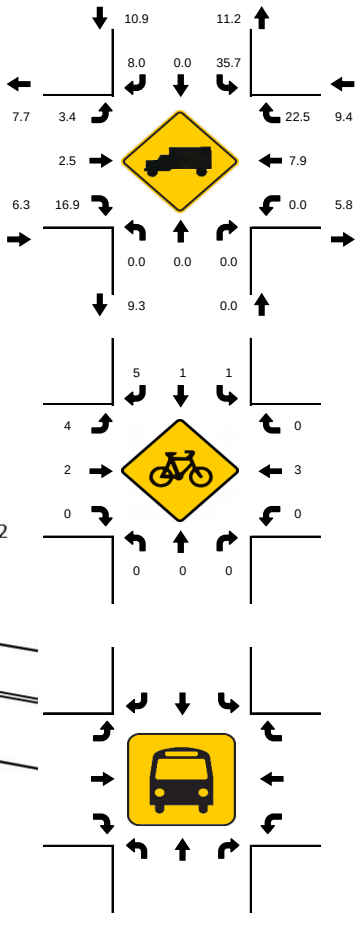
PROJECT ID: 22-140326-002
DATE: Tue, Jun 28, 2022

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM



National Data & Surveying Services

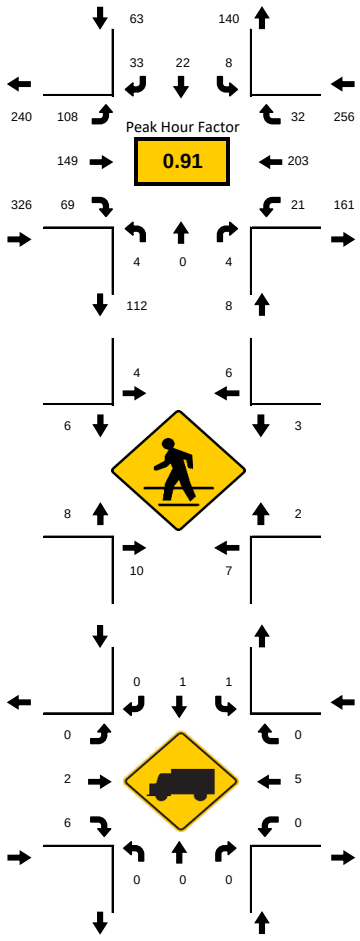




15-Min Count Period Beginning At	Sunset Dr Northbound					Sunset Dr Southbound					20th St Eastbound					20th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	0	0	0		0	2	2	1		3	16	5	0		4	31	7	0		71	339
07:15 AM	0	3	0	0		0	1	6	0		4	14	4	0		4	24	10	0		70	385
07:30 AM	0	1	0	0		0	1	1	0		9	17	4	0		1	41	18	0		93	439
07:45 AM	0	1	3	0		1	4	3	0		10	21	6	0		6	39	11	0		105	504
08:00 AM	0	0	0	0		4	10	6	0		13	28	5	0		1	44	6	0		117	567
08:15 AM	1	0	1	0		2	1	5	0		11	25	19	1		5	45	8	0		124	450
08:30 AM	1	1	0	0		3	8	6	0		13	43	18	1		5	49	10	0		158	326
08:45 AM	2	0	3	0		5	6	8	0		20	25	17	0		13	53	16	0		168	168
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Total**	
All Vehicles	8	4	12	0		20	40	32	0		80	172	76	4		52	212	64	0		**776**	
Heavy Trucks	0	0	0	0		8	0	4	0		4	4	12	0		0	16	16	0		**64**	
Pedestrians		16					20					20					16				**72**	
Bicycles	0	0	0	0		4	4	8	0		8	4	0	0		0	8	0	0		**36**	
Buses																						
Stopped Buses																						

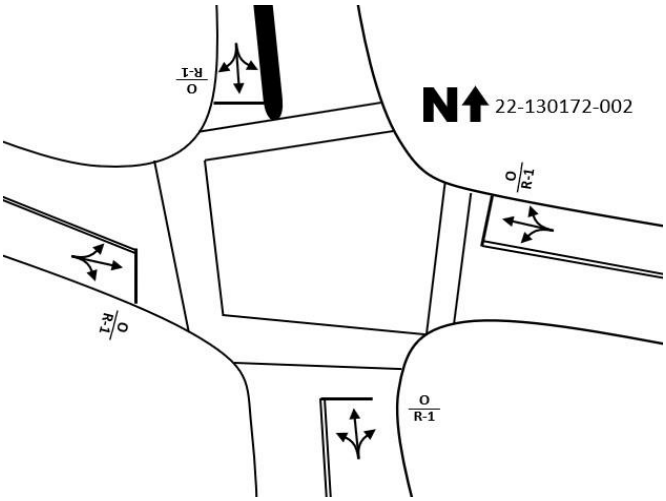
LOCATION: Sunset Dr & 20th St
CITY/STATE: Miami Beach, FL

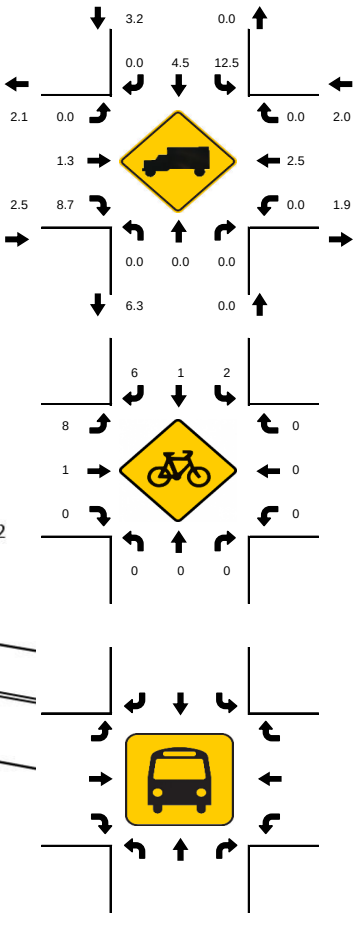
PROJECT ID: 22-140326-002
DATE: Tue, Jun 28, 2022



Peak-Hour: 04:30 PM - 05:30 PM
Peak 15-Minute: 05:15 PM - 05:30 PM

National Data & Surveying Services





15-Min Count Period Beginning At	Sunset Dr Northbound					Sunset Dr Southbound					20th St Eastbound					20th St 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	2	2	1	0		6	9	7	0		30	52	7	0		4	34	6	0		160	644
04:15 PM	2	0	1	0		4	7	10	0		19	44	18	0		8	47	15	0		175	649
04:30 PM	2	0	3	0		5	6	7	0		34	34	12	0		5	42	8	0		158	653
04:45 PM	1	0	1	0		1	4	8	0		22	38	14	0		6	50	5	1		151	641
05:00 PM	1	0	0	0		1	7	8	0		27	43	14	0		4	50	10	0		165	651
05:15 PM	0	0	0	0		1	5	10	0		24	34	29	1		5	61	9	0		179	486
05:30 PM	1	0	2	0		7	3	8	0		11	39	12	0		7	50	6	0		146	307
05:45 PM	0	0	0	0		2	3	10	0		18	51	12	0		12	49	4	0		161	161
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	**Total**	
All Vehicles	8	0	12	0		20	28	40	0		136	172	116	4		24	244	40	4		**848**	
Heavy Trucks	0	0	0	0		4	4	0	0		0	8	8	0		0	8	0	0		**32**	
Pedestrians		32					16					20					12				**80**	
Bicycles	0	0	0	0		0	4	12	8		16	4	0	0		0	0	0	0		**36**	
Buses																						
Stopped Buses																						

Peak Season Category Report

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8700 MIAMI-DADE NORTH

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	1.03	1.06
2	01/06/2019 - 01/12/2019	1.02	1.05
3	01/13/2019 - 01/19/2019	1.01	1.04
4	01/20/2019 - 01/26/2019	1.00	1.03
* 5	01/27/2019 - 02/02/2019	0.98	1.01
* 6	02/03/2019 - 02/09/2019	0.97	1.00
* 7	02/10/2019 - 02/16/2019	0.96	0.99
* 8	02/17/2019 - 02/23/2019	0.96	0.99
* 9	02/24/2019 - 03/02/2019	0.96	0.99
*10	03/03/2019 - 03/09/2019	0.96	0.99
*11	03/10/2019 - 03/16/2019	0.97	1.00
*12	03/17/2019 - 03/23/2019	0.97	1.00
*13	03/24/2019 - 03/30/2019	0.97	1.00
*14	03/31/2019 - 04/06/2019	0.97	1.00
*15	04/07/2019 - 04/13/2019	0.98	1.01
*16	04/14/2019 - 04/20/2019	0.98	1.01
*17	04/21/2019 - 04/27/2019	0.98	1.01
18	04/28/2019 - 05/04/2019	0.99	1.02
19	05/05/2019 - 05/11/2019	0.99	1.02
20	05/12/2019 - 05/18/2019	1.00	1.03
21	05/19/2019 - 05/25/2019	1.00	1.03
22	05/26/2019 - 06/01/2019	1.01	1.04
23	06/02/2019 - 06/08/2019	1.01	1.04
24	06/09/2019 - 06/15/2019	1.02	1.05
25	06/16/2019 - 06/22/2019	1.02	1.05
26	06/23/2019 - 06/29/2019	1.02	1.05
27	06/30/2019 - 07/06/2019	1.02	1.05
28	07/07/2019 - 07/13/2019	1.03	1.06
29	07/14/2019 - 07/20/2019	1.03	1.06
30	07/21/2019 - 07/27/2019	1.03	1.06
31	07/28/2019 - 08/03/2019	1.02	1.05
32	08/04/2019 - 08/10/2019	1.02	1.05
33	08/11/2019 - 08/17/2019	1.02	1.05
34	08/18/2019 - 08/24/2019	1.02	1.05
35	08/25/2019 - 08/31/2019	1.02	1.05
36	09/01/2019 - 09/07/2019	1.03	1.06
37	09/08/2019 - 09/14/2019	1.03	1.06
38	09/15/2019 - 09/21/2019	1.03	1.06
39	09/22/2019 - 09/28/2019	1.02	1.05
40	09/29/2019 - 10/05/2019	1.01	1.04
41	10/06/2019 - 10/12/2019	1.00	1.03
42	10/13/2019 - 10/19/2019	0.99	1.02
43	10/20/2019 - 10/26/2019	1.00	1.03
44	10/27/2019 - 11/02/2019	1.00	1.03
45	11/03/2019 - 11/09/2019	1.01	1.04
46	11/10/2019 - 11/16/2019	1.01	1.04
47	11/17/2019 - 11/23/2019	1.02	1.05
48	11/24/2019 - 11/30/2019	1.02	1.05
49	12/01/2019 - 12/07/2019	1.02	1.05
50	12/08/2019 - 12/14/2019	1.03	1.06
51	12/15/2019 - 12/21/2019	1.03	1.06
52	12/22/2019 - 12/28/2019	1.02	1.05
53	12/29/2019 - 12/31/2019	1.01	1.04

* PEAK SEASON

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
870012	SR 907/Alton Road -- 200 feet North of 20th Street	-0.53%	2.87%	-0.28%	5.81%	-0.59%	3.70%	-0.33%	6.56%	-0.16%	0.28%	-0.14%	1.24%
872542	SR 907/Alton Road -- 200 feet South of Venetian Causeway	-1.93%	7.56%	-1.28%	12.81%	-1.65%	5.10%	-1.27%	11.70%	-3.28%	21.15%	-1.75%	20.63%
878350	Venetian Causeway -- 200 feet East of West Avenue	-1.09%	6.45%	-	-	-0.93%	6.29%	-	-	-1.66%	18.17%	-	-
878531	17th Street -- 200 feet East of Meridian Avenue	-0.66%	4.05%	-	-	-0.67%	4.48%	-	-	-0.93%	6.96%	-	-
Total		**-1.05%**	**5.23%**	**-0.78%**	**9.31%**	**-0.96%**	**4.89%**	**-0.80%**	**9.13%**	**-1.51%**	**11.64%**	**-0.95%**	**10.94%**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

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

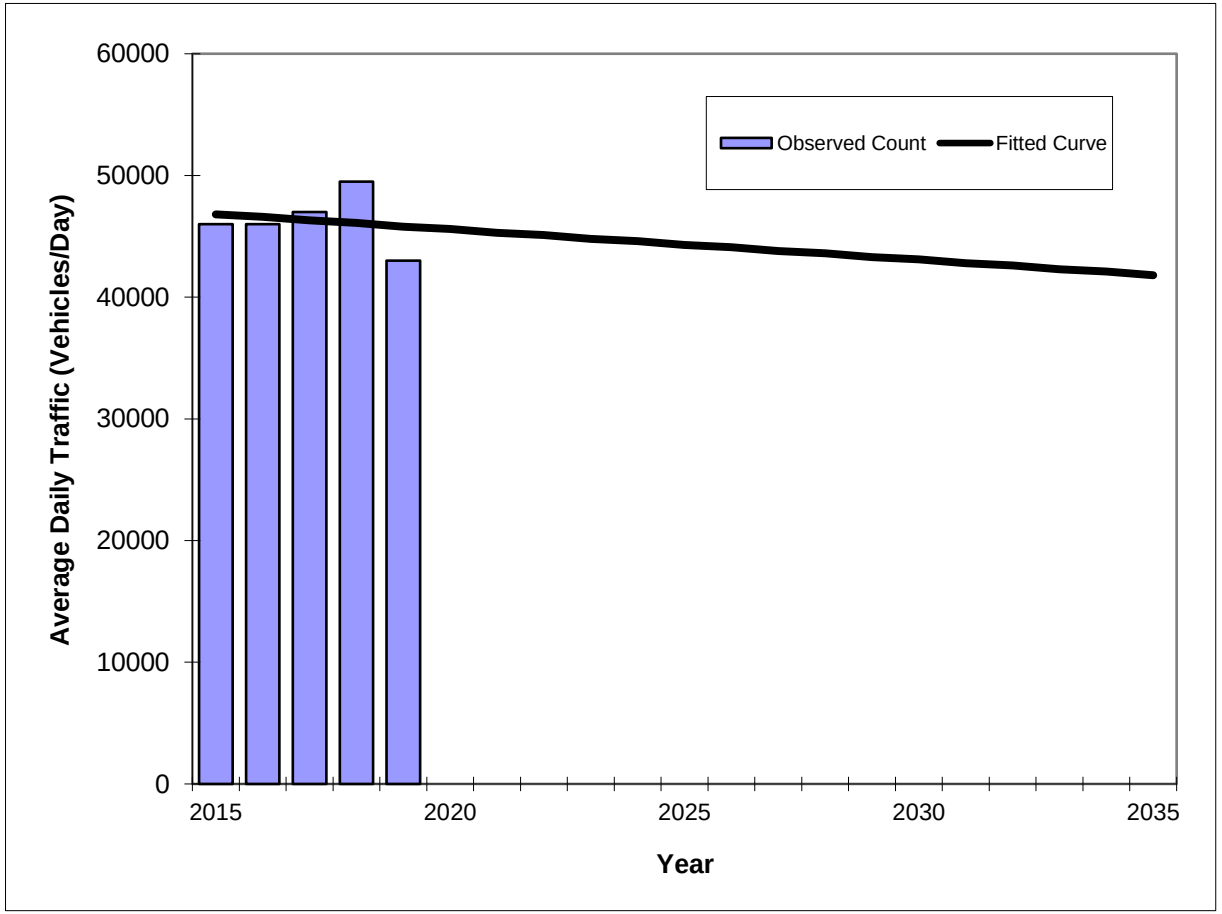
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	49000 C	N 24000	S 25000	9.00	54.30	5.40
2020	36500 C	N 17000	S 19500	9.00	54.20	2.70
2019	43000 C	N 23000	S 20000	9.00	54.60	3.40
2018	49500 C	N 24500	S 25000	9.00	54.30	4.80
2017	47000 C	N 22500	S 24500	9.00	55.00	3.00
2016	46000 C	N 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

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

SR 907/ALTON ROAD -- 200 FEET NORTH OF 20TH STREET

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	46000	46800
2016	46000	46600
2017	47000	46300
2018	49500	46100
2019	43000	45800

Trend R-squared:	2.87%
Trend Annual Historic Growth Rate:	-0.53%
Printed:	26-Jul-22

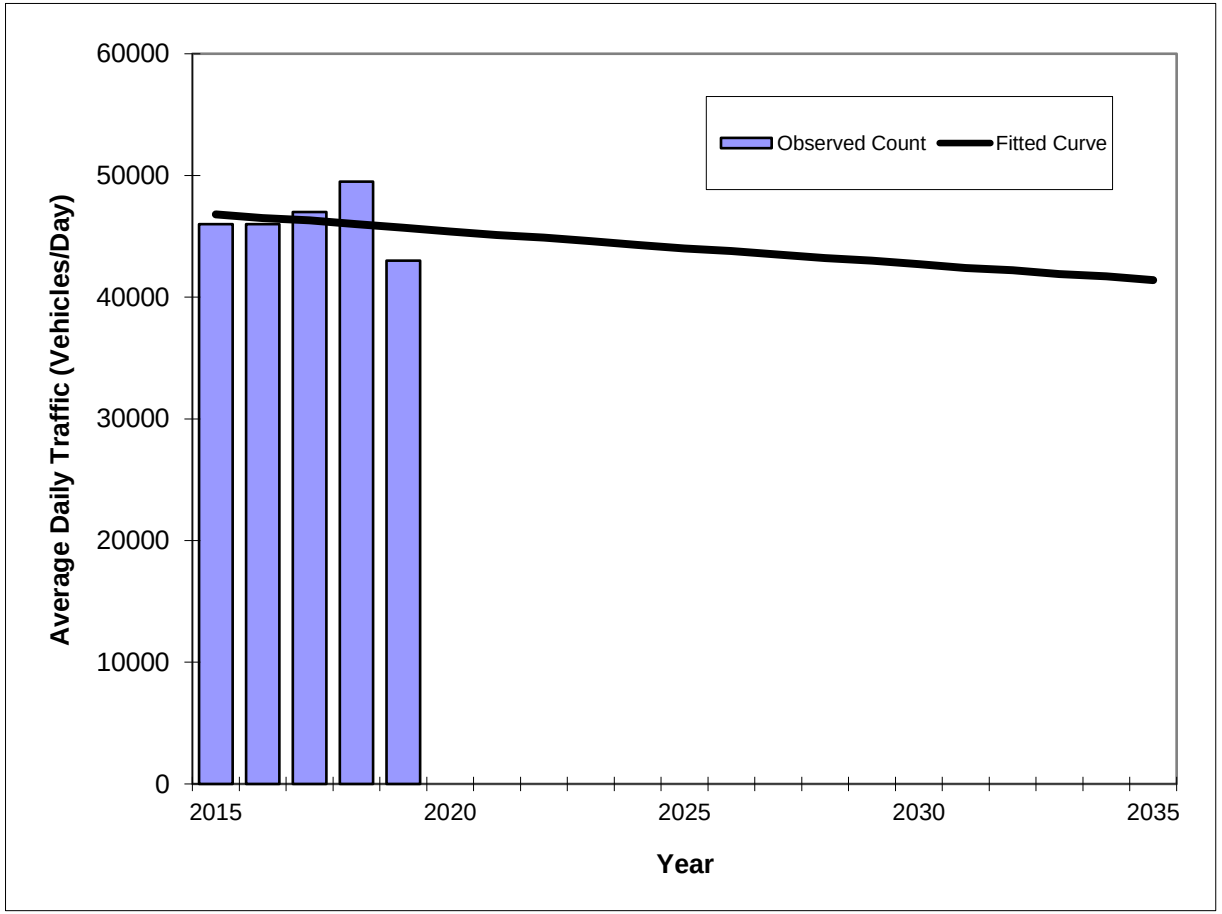
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET NORTH OF 20TH STREET

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	46000	46800
2016	46000	46500
2017	47000	46300
2018	49500	46000
2019	43000	45700

Trend R-squared:	3.70%
Compounded Annual Historic Growth Rate:	-0.59%
Printed:	26-Jul-22

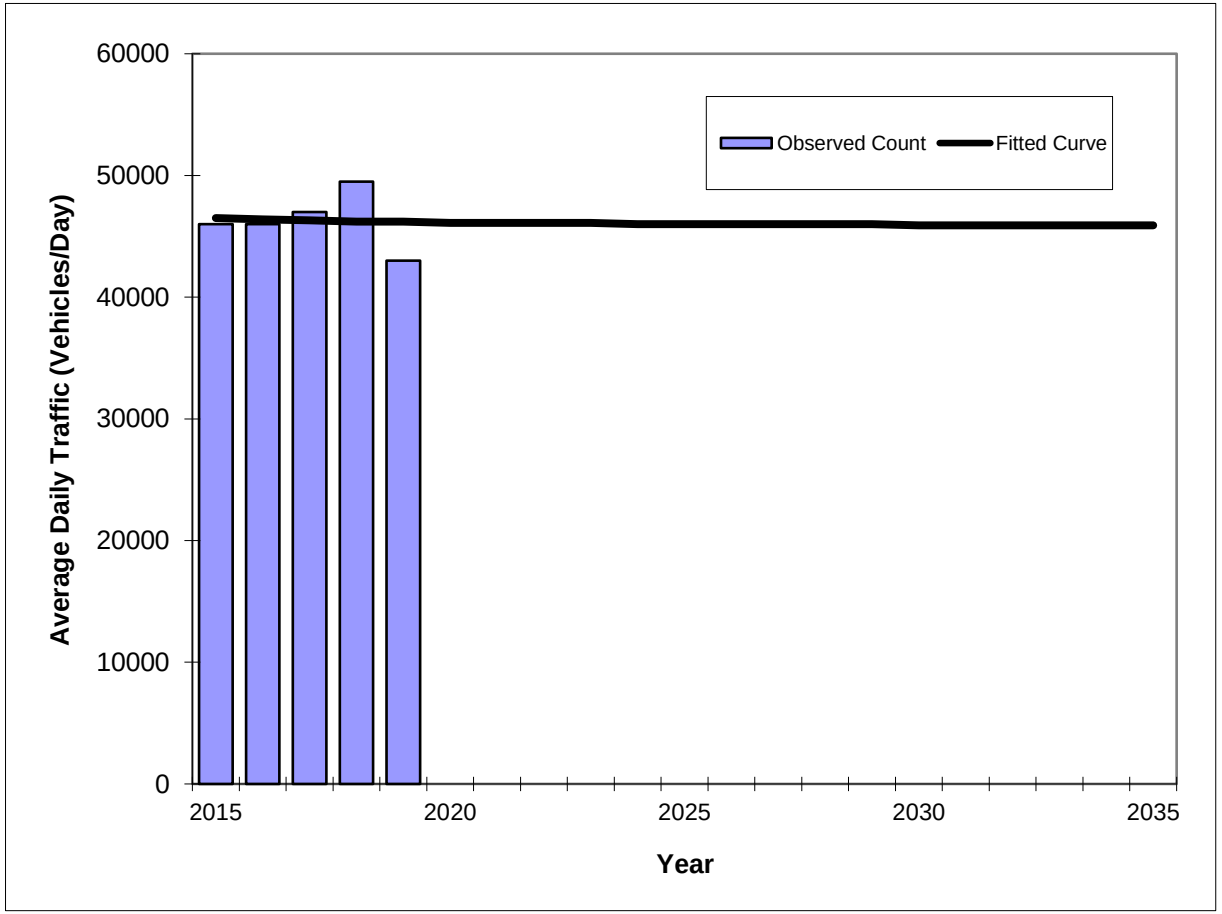
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET NORTH OF 20TH STREET

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



Year	Traffic (ADT/AADT) Count*	Trend**
2015	46000	46500
2016	46000	46400
2017	47000	46300
2018	49500	46200
2019	43000	46200

Trend R-squared:	0.28%
Compounded Annual Historic Growth Rate:	-0.16%
Printed:	26-Jul-22

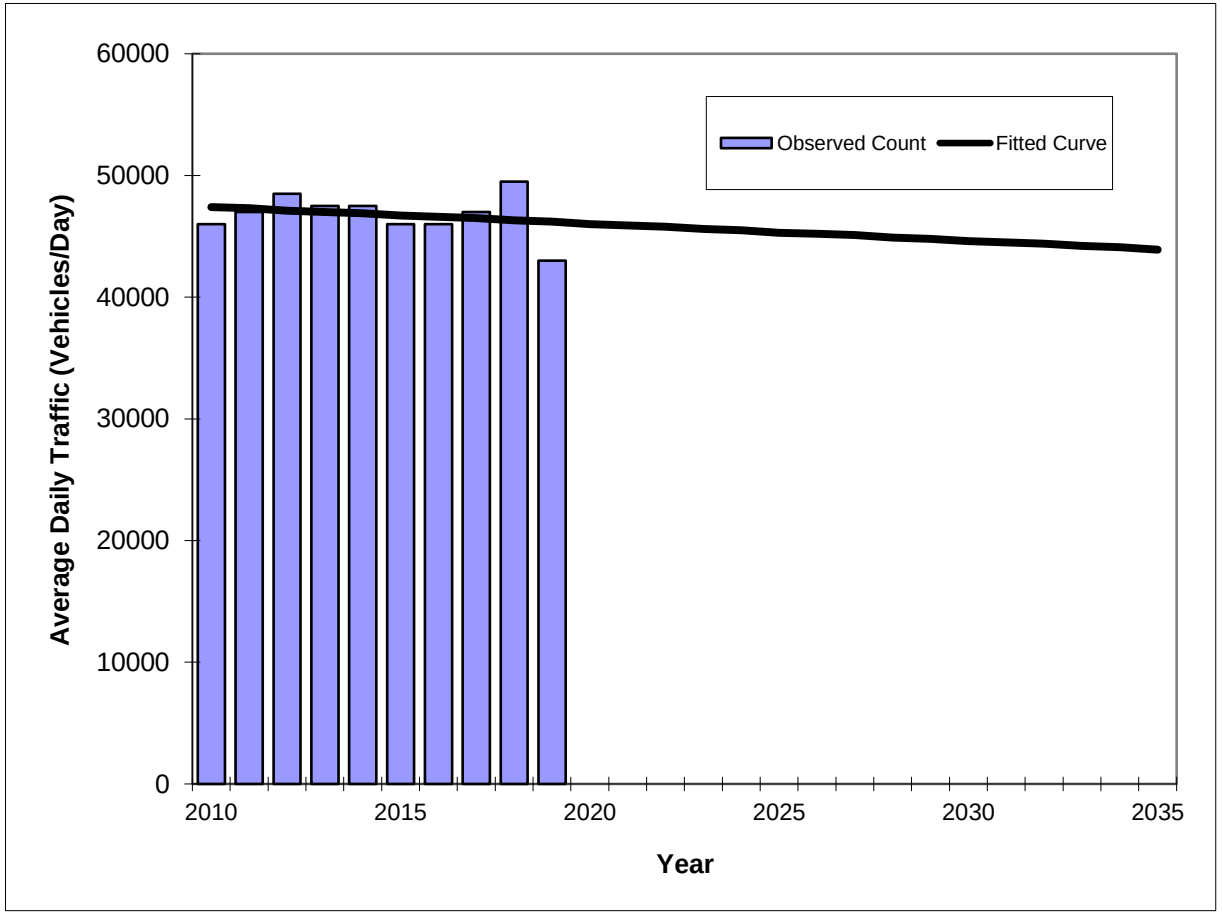
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET NORTH OF 20TH STREET

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	46000	47400
2011	47000	47300
2012	48500	47100
2013	47500	47000
2014	47500	46900
2015	46000	46700
2016	46000	46600
2017	47000	46500
2018	49500	46300
2019	43000	46200

Trend R-squared:	5.81%
Trend Annual Historic Growth Rate:	-0.28%
Printed:	26-Jul-22

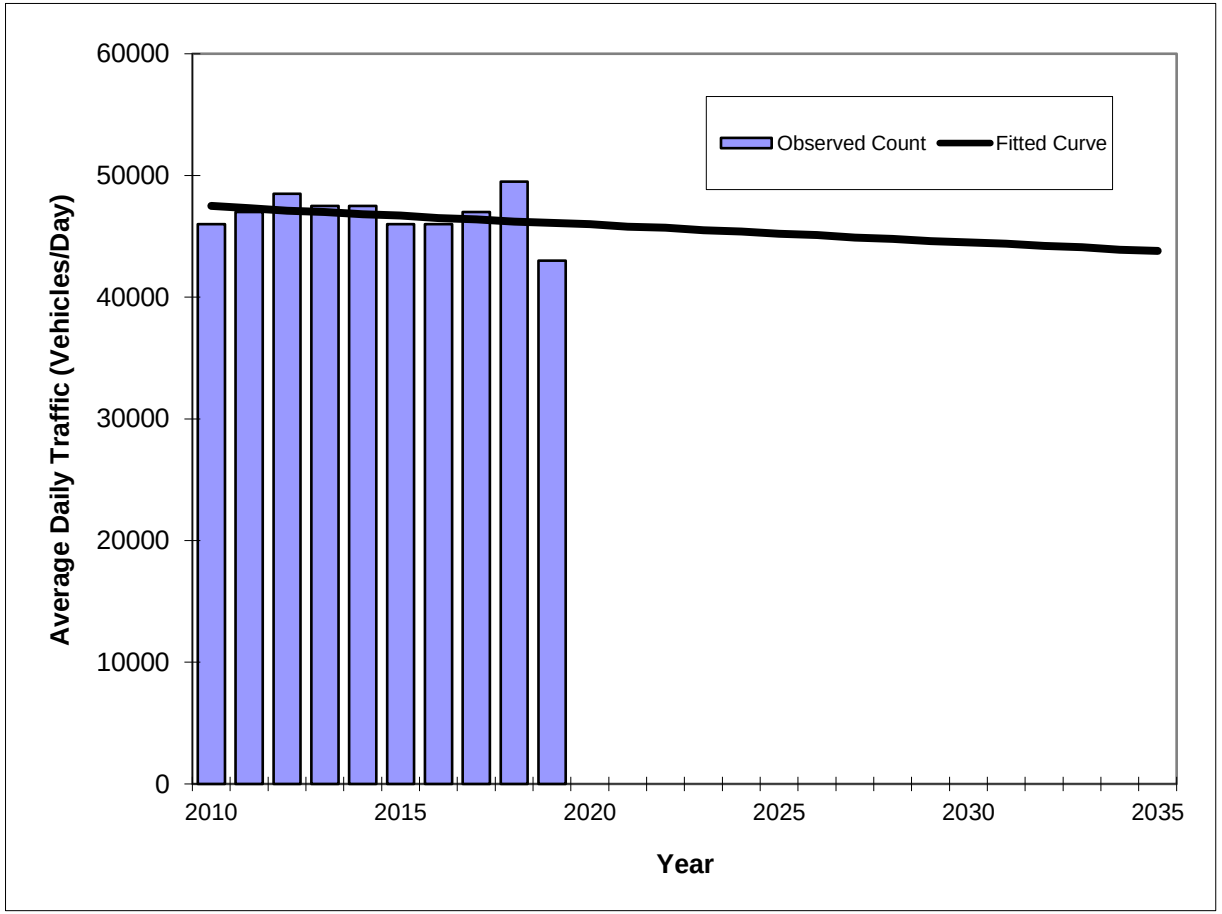
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET NORTH OF 20TH STREET

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	46000	47500
2011	47000	47300
2012	48500	47100
2013	47500	47000
2014	47500	46800
2015	46000	46700
2016	46000	46500
2017	47000	46400
2018	49500	46200
2019	43000	46100

Trend R-squared:	6.56%
Compounded Annual Historic Growth Rate:	-0.33%
Printed:	26-Jul-22

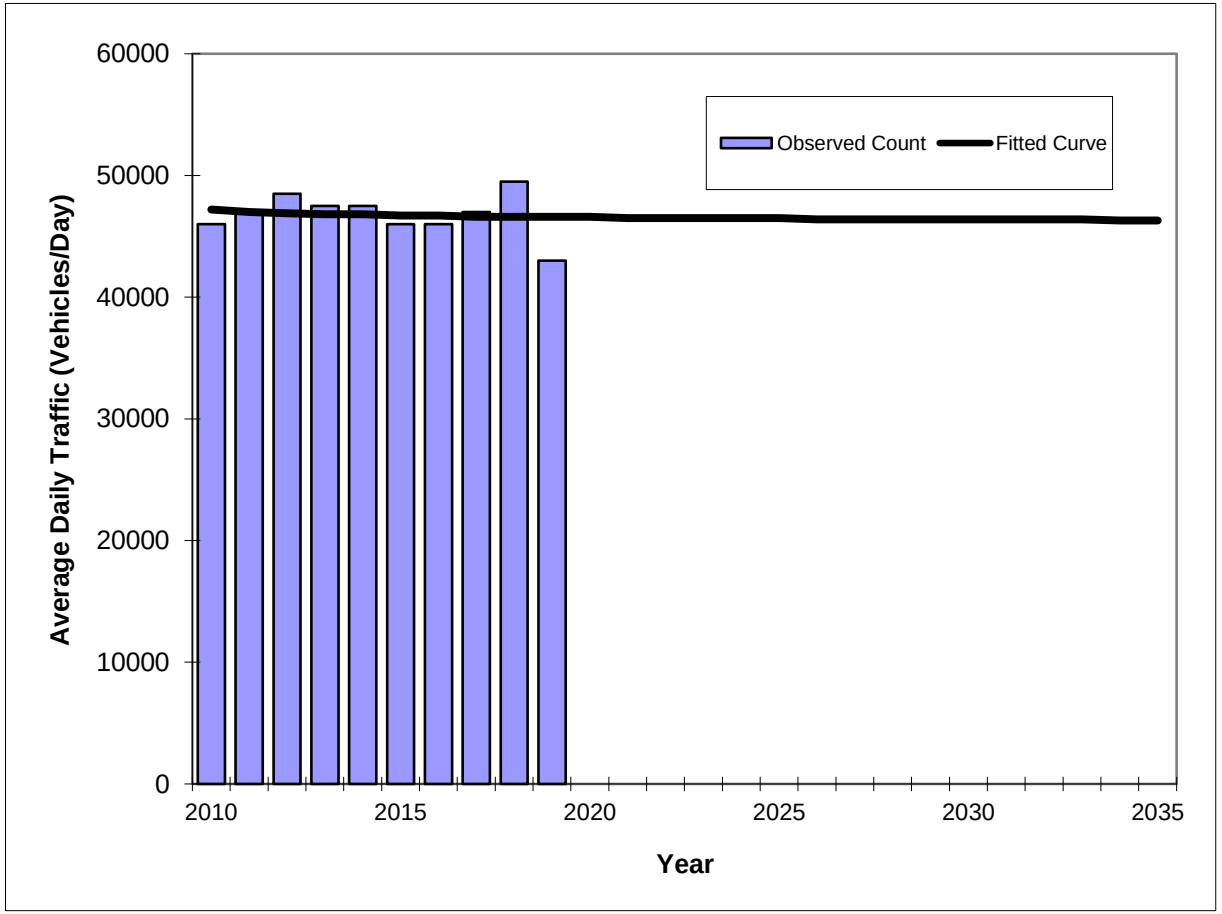
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET NORTH OF 20TH STREET

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	46000	47200
2011	47000	47000
2012	48500	46900
2013	47500	46800
2014	47500	46800
2015	46000	46700
2016	46000	46700
2017	47000	46600
2018	49500	46600
2019	43000	46600

Trend R-squared:	1.24%
Compounded Annual Historic Growth Rate:	-0.14%
Printed:	26-Jul-22

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

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

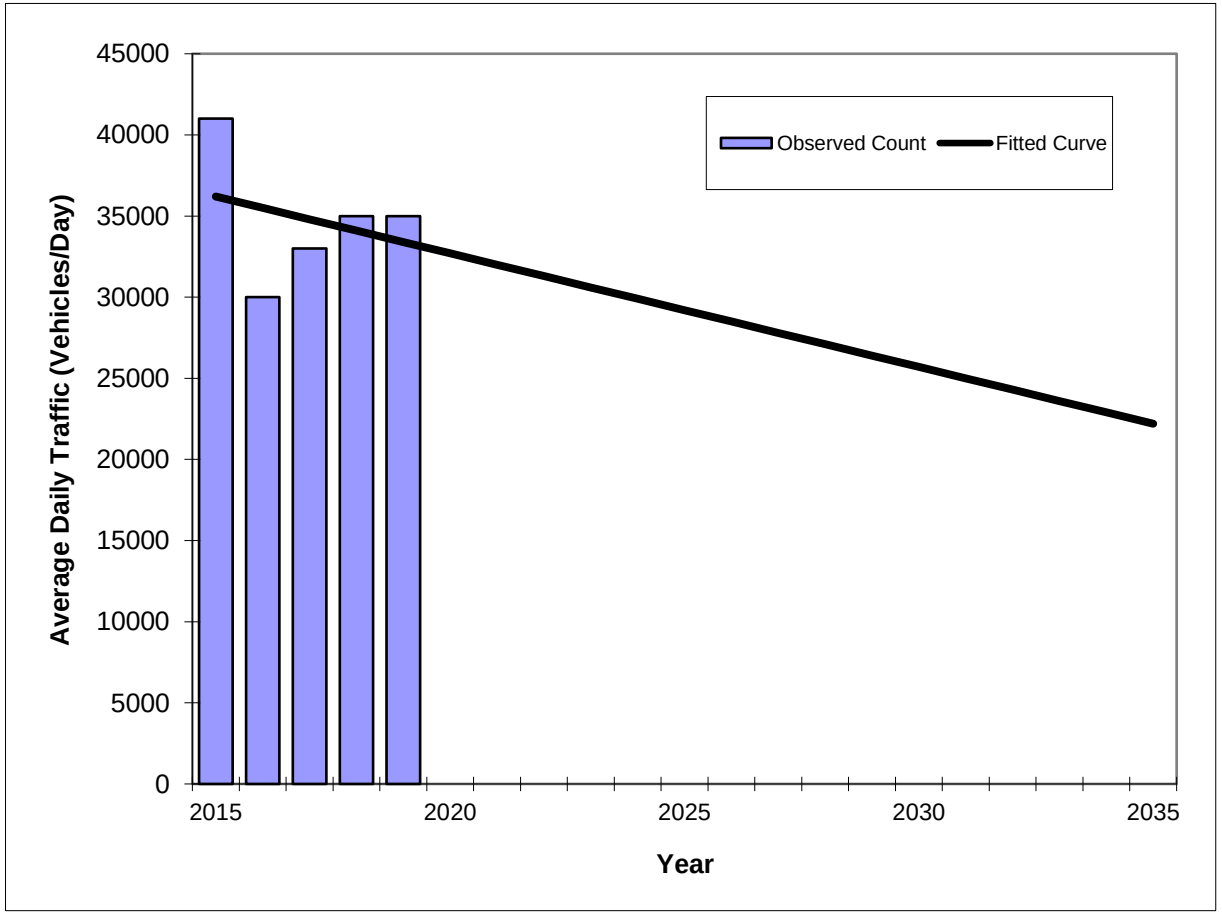
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	32500 C	N 13500	S 19000	9.00	54.30	2.90
2020	27500 C	N 14000	S 13500	9.00	54.20	5.60
2019	35000 F	N 17500	S 17500	9.00	54.60	3.50
2018	35000 C	N 17500	S 17500	9.00	54.30	3.50
2017	33000 C	N 16500	S 16500	9.00	55.00	2.80
2016	30000 C	N 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

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

SR 907/ALTON ROAD -- 200 FEET SOUTH OF VENETIAN CAUSEWAY

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	41000	36200
2016	30000	35500
2017	33000	34800
2018	35000	34100
2019	35000	33400

Trend R-squared:	7.56%
Trend Annual Historic Growth Rate:	-1.93%
Printed:	26-Jul-22

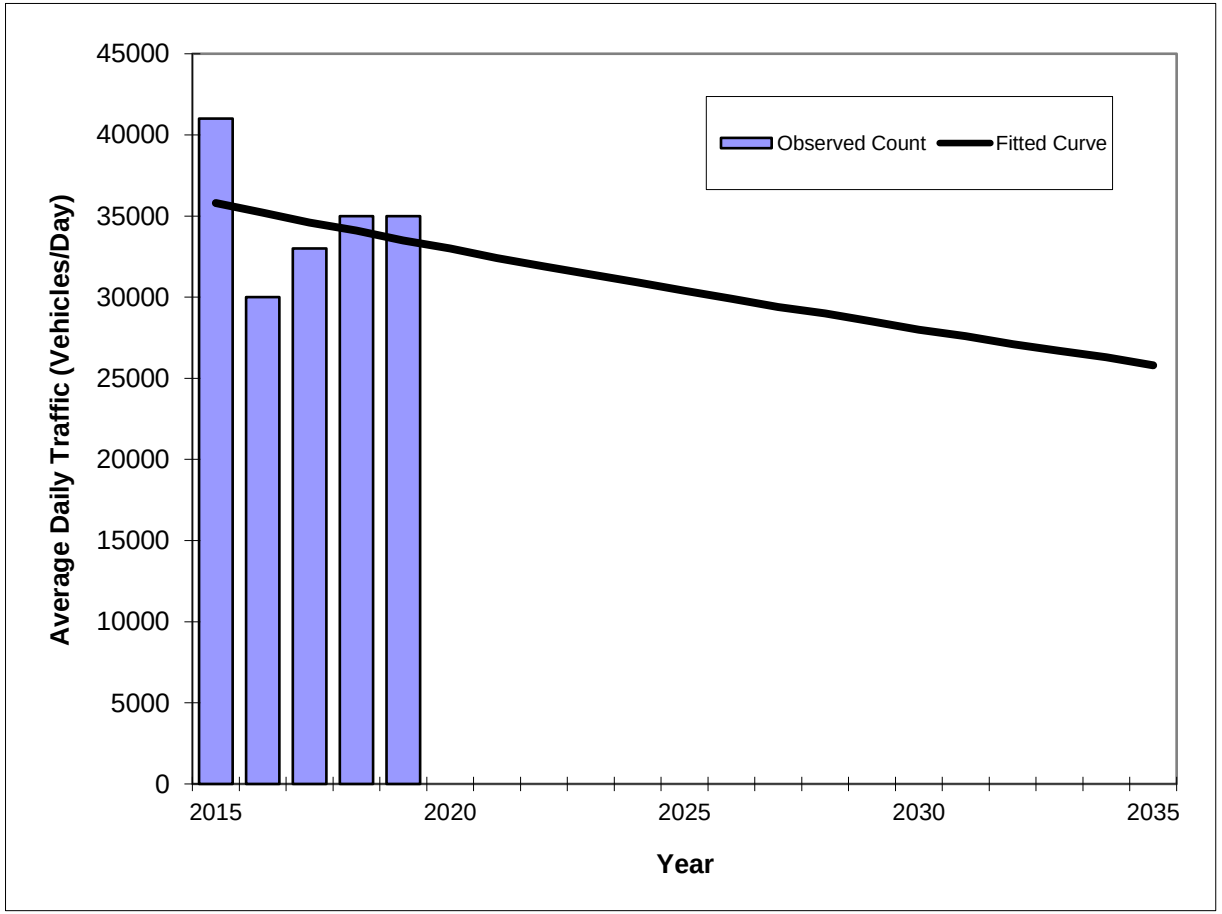
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET SOUTH OF VENETIAN CAUSEWAY

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	41000	35800
2016	30000	35200
2017	33000	34600
2018	35000	34100
2019	35000	33500

Trend R-squared:	5.10%
Compounded Annual Historic Growth Rate:	-1.65%
Printed:	26-Jul-22

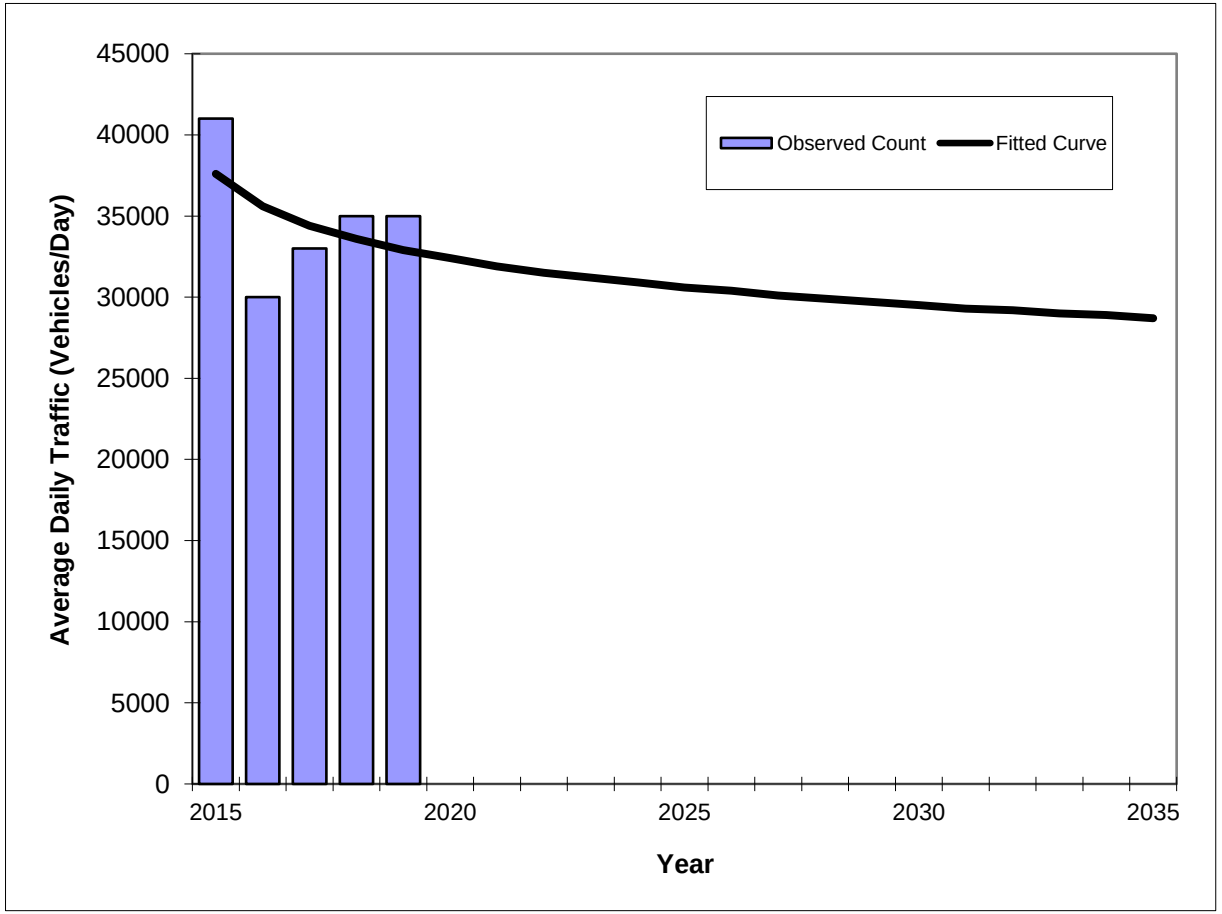
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET SOUTH OF VENETIAN CAUSEWAY

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	41000	37600
2016	30000	35600
2017	33000	34400
2018	35000	33600
2019	35000	32900

Trend R-squared:	21.15%
Compounded Annual Historic Growth Rate:	-3.28%
Printed:	26-Jul-22

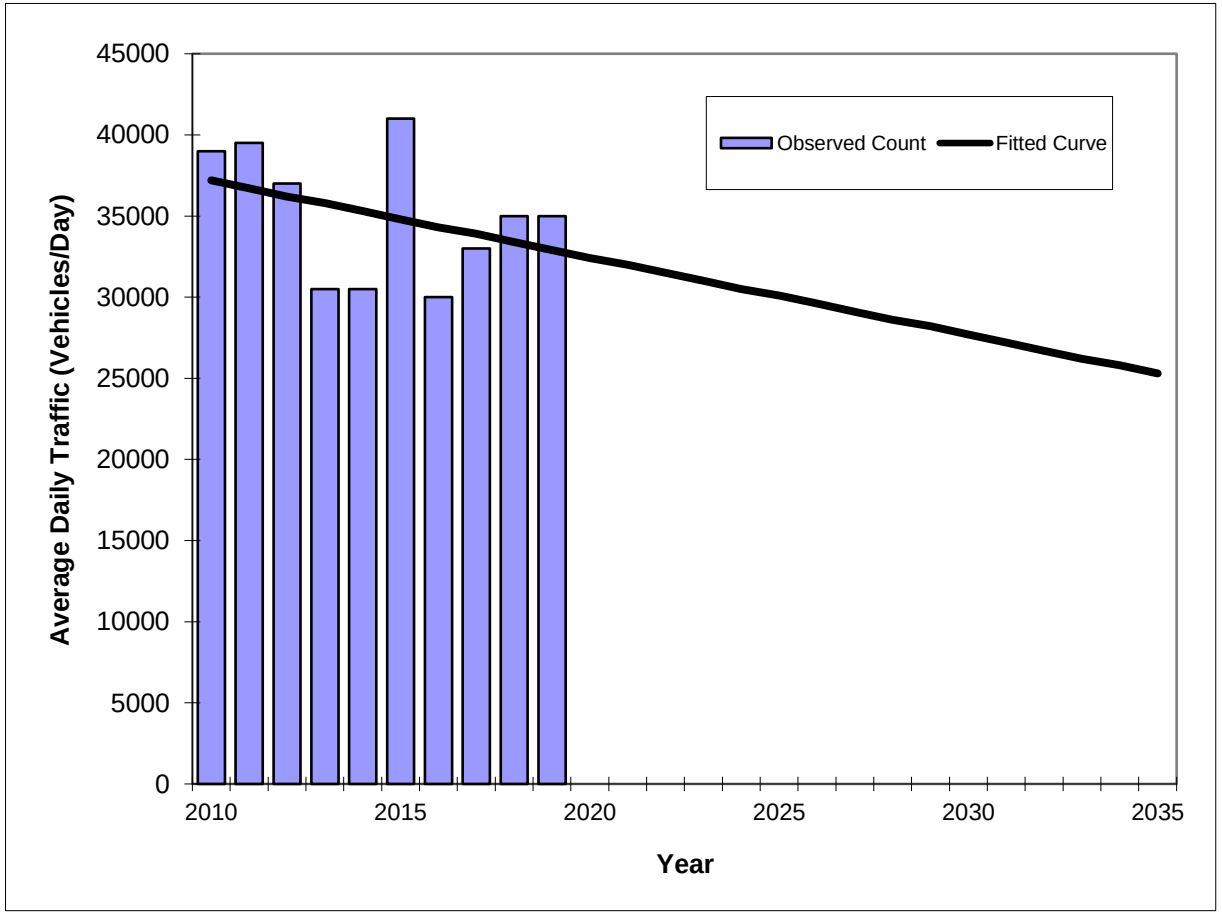
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET SOUTH OF VENETIAN CAUSEWAY

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	39000	37200
2011	39500	36700
2012	37000	36200
2013	30500	35800
2014	30500	35300
2015	41000	34800
2016	30000	34300
2017	33000	33900
2018	35000	33400
2019	35000	32900

Trend R-squared:	12.81%
Trend Annual Historic Growth Rate:	-1.28%
Printed:	26-Jul-22

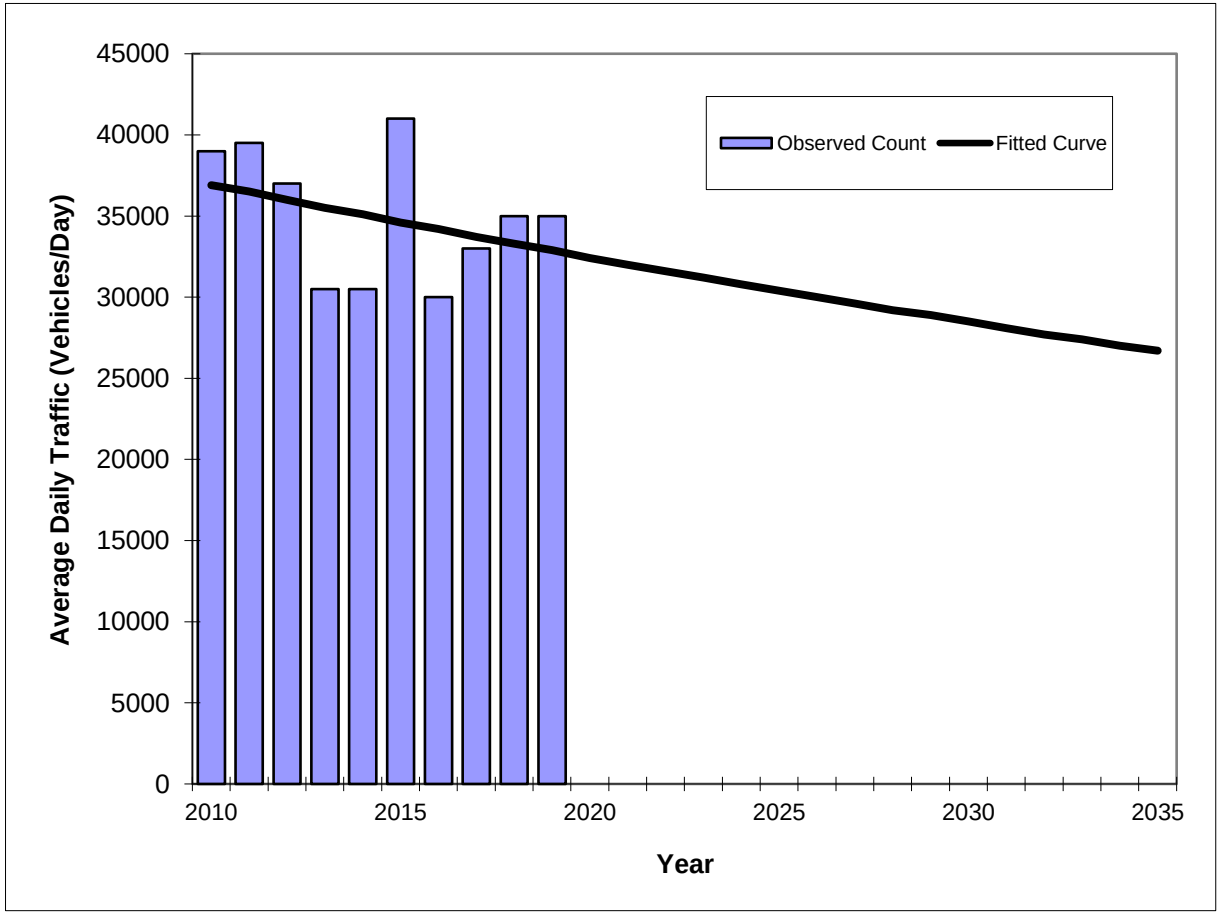
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET SOUTH OF VENETIAN CAUSEWAY

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	39000	36900
2011	39500	36500
2012	37000	36000
2013	30500	35500
2014	30500	35100
2015	41000	34600
2016	30000	34200
2017	33000	33700
2018	35000	33300
2019	35000	32900

Trend R-squared:	11.70%
Compounded Annual Historic Growth Rate:	-1.27%
Printed:	26-Jul-22

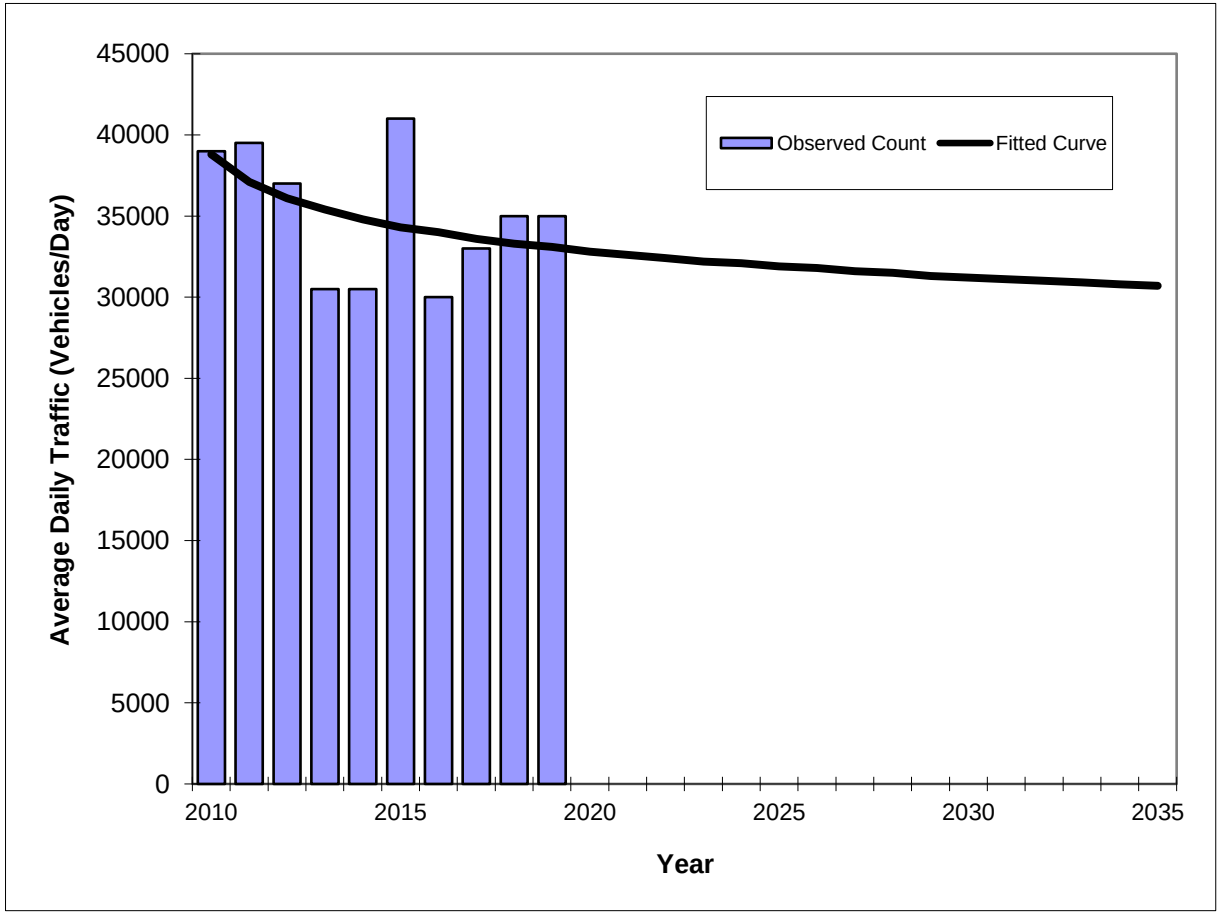
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR 907/ALTON ROAD -- 200 FEET SOUTH OF VENETIAN CAUSEWAY

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



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	39000	38800
2011	39500	37100
2012	37000	36100
2013	30500	35400
2014	30500	34800
2015	41000	34300
2016	30000	34000
2017	33000	33600
2018	35000	33300
2019	35000	33100

Trend R-squared:	20.63%
Compounded Annual Historic Growth Rate:	-1.75%
Printed:	26-Jul-22

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8350 - VENETIAN CSWY, 200' EAST OF WEST AVENUE

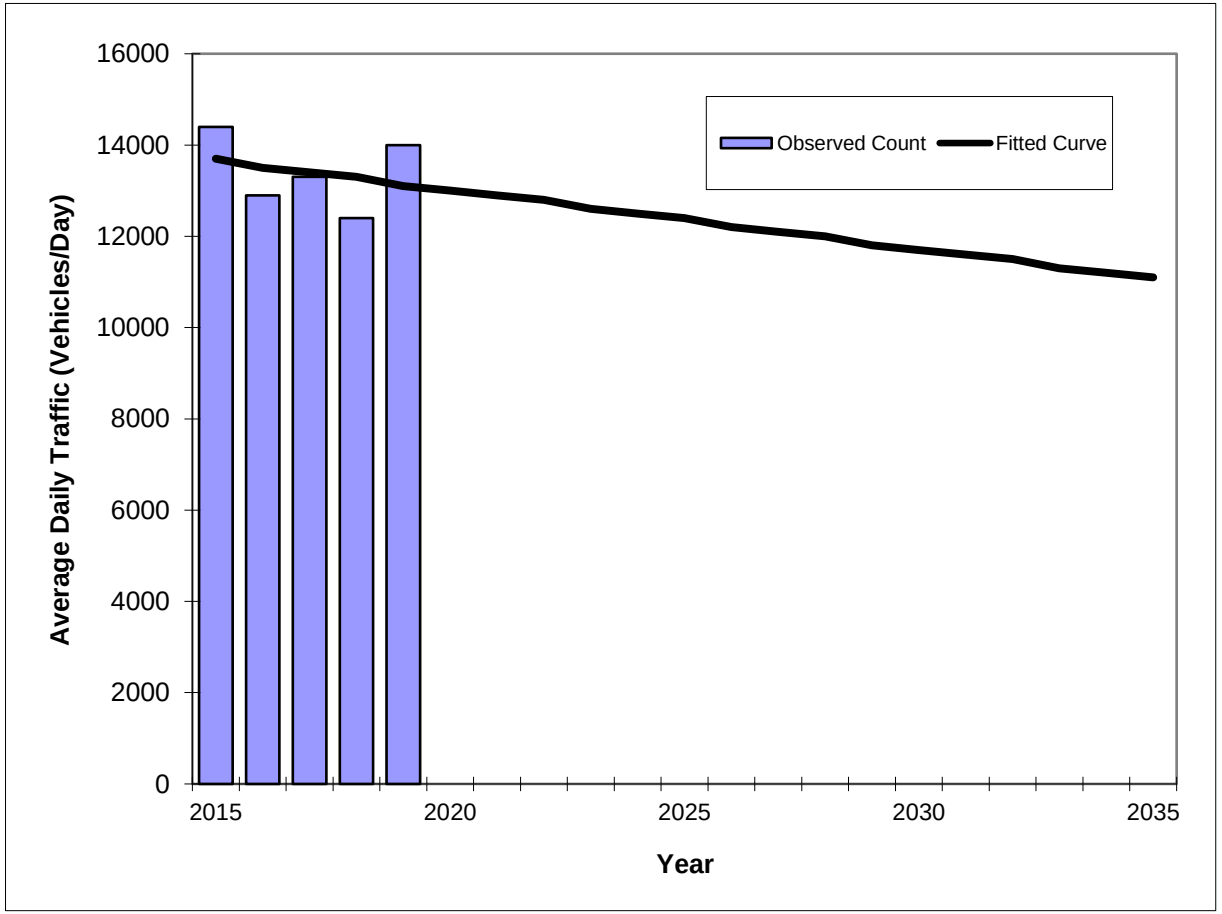
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	12000 C	E 5600	W 6400	9.00	54.30	1.90
2020	11600 C	E 5200	W 6400	9.00	54.20	1.60
2019	14000 C	E 6900	W 7100	9.00	54.60	2.90
2018	12400 C	E 5900	W 6500	9.00	54.30	2.60
2017	13300 F	E 6600	W 6700	9.00	55.00	2.40
2016	12900 C	E 6400	W 6500	9.00	54.50	2.40
2015	14400 C	E 6200	W 8200	9.00	54.70	12.80
2014	5100 F	E 2100	W 3000	9.00	54.50	11.70
2013	5100 C	E 2100	W 3000	9.00	52.40	16.20
2012	5400 F	E 2500	W 2900	9.00	55.70	16.00
2011	5400 C	E 2500	W 2900	9.00	55.10	14.70

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

Traffic Trends

VENETIAN CAUSEWAY -- 200 FEET EAST OF WEST AVENUE

County:	Miami-Dade (87)
Station #:	8350
Highway:	VENETIAN CAUSEWAY



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14400	13700
2016	12900	13500
2017	13300	13400
2018	12400	13300
2019	14000	13100

Trend R-squared:	6.45%
Trend Annual Historic Growth Rate:	-1.09%
Printed:	26-Jul-22

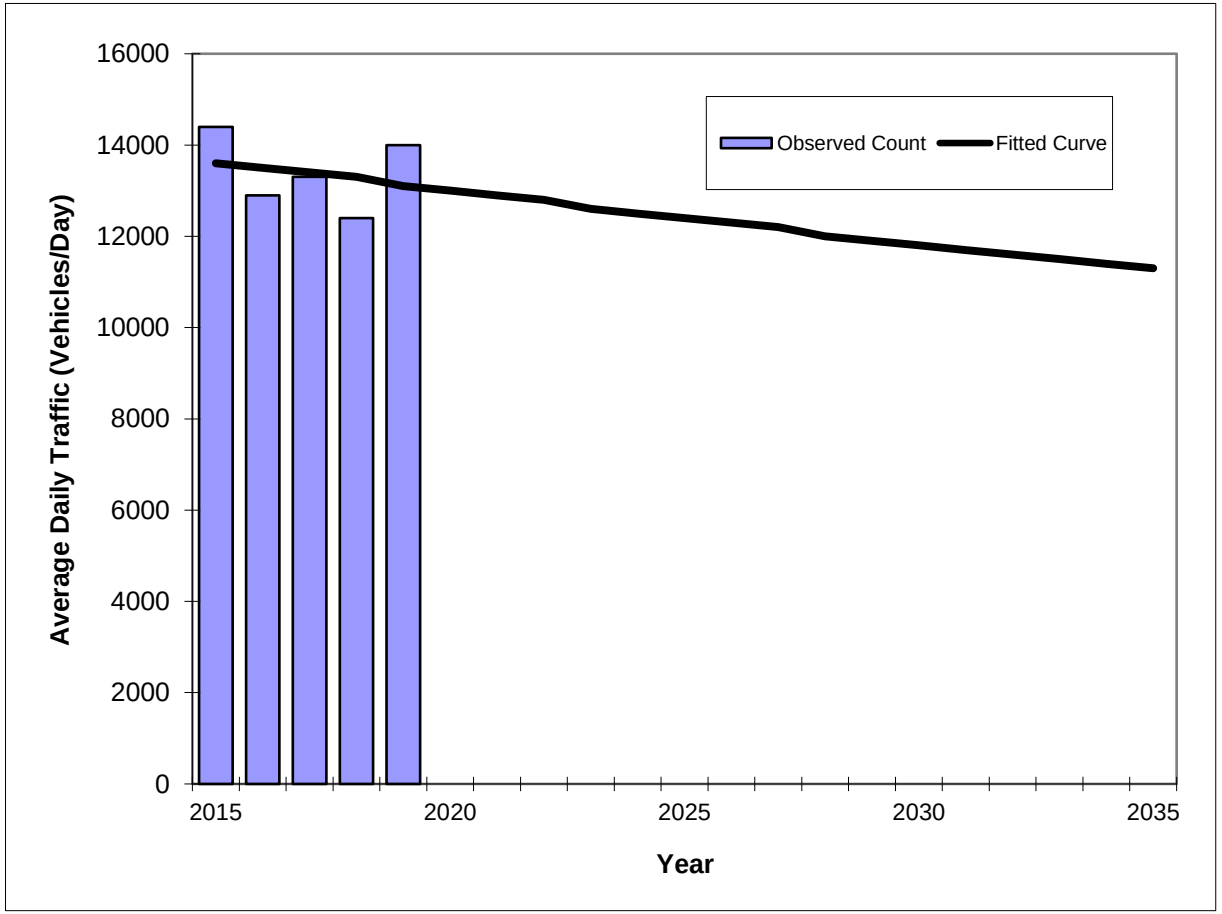
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

VENETIAN CAUSEWAY -- 200 FEET EAST OF WEST AVENUE

County:	Miami-Dade (87)
Station #:	8350
Highway:	VENETIAN CAUSEWAY



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14400	13600
2016	12900	13500
2017	13300	13400
2018	12400	13300
2019	14000	13100

Trend R-squared:	6.29%
Compounded Annual Historic Growth Rate:	-0.93%
Printed:	26-Jul-22

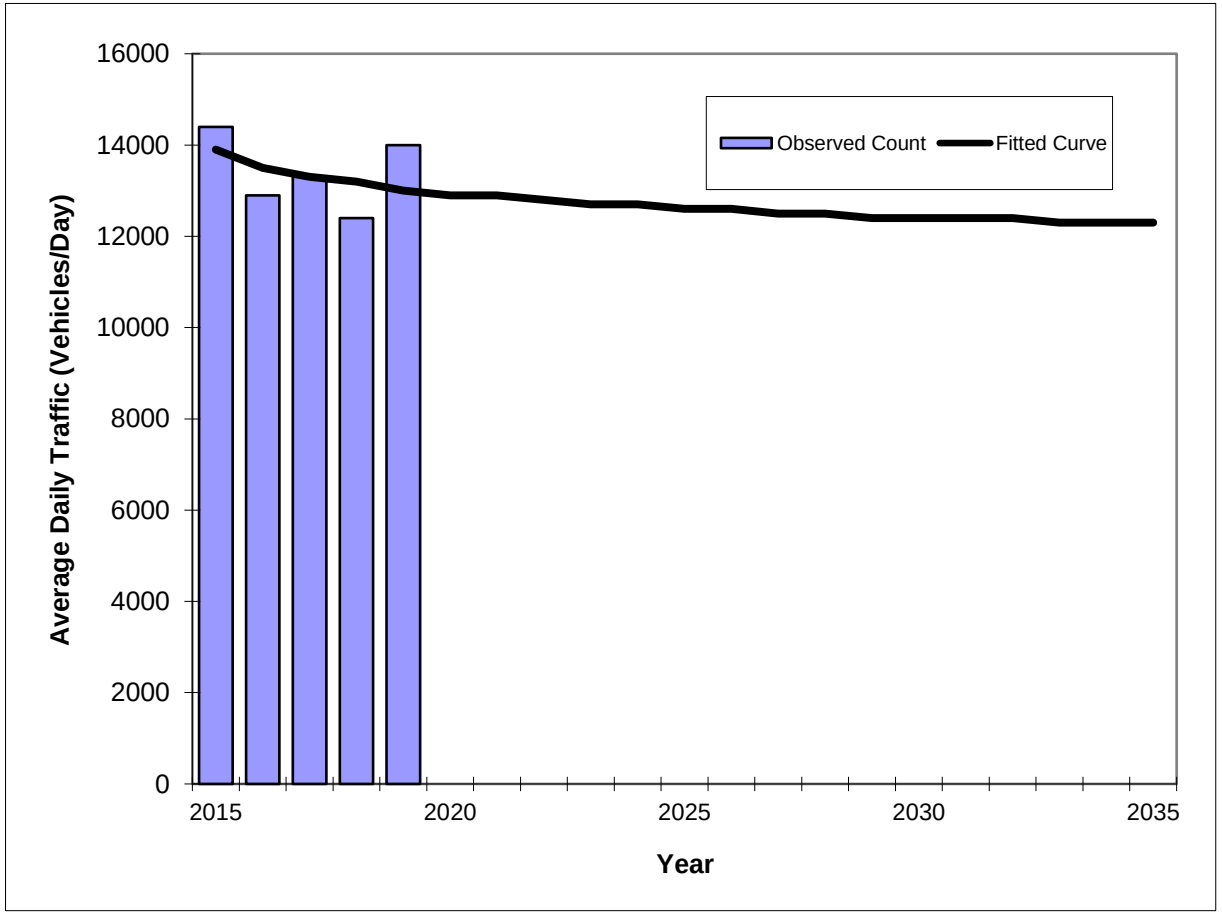
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

VENETIAN CAUSEWAY -- 200 FEET EAST OF WEST AVENUE

County:	Miami-Dade (87)
Station #:	8350
Highway:	VENETIAN CAUSEWAY



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14400	13900
2016	12900	13500
2017	13300	13300
2018	12400	13200
2019	14000	13000

Trend R-squared:	18.17%
Compounded Annual Historic Growth Rate:	-1.66%
Printed:	26-Jul-22

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8531 - 17TH ST, 200' EAST OF MERIDIAN AVE (2011 OFF SYSTEM CYCLE)

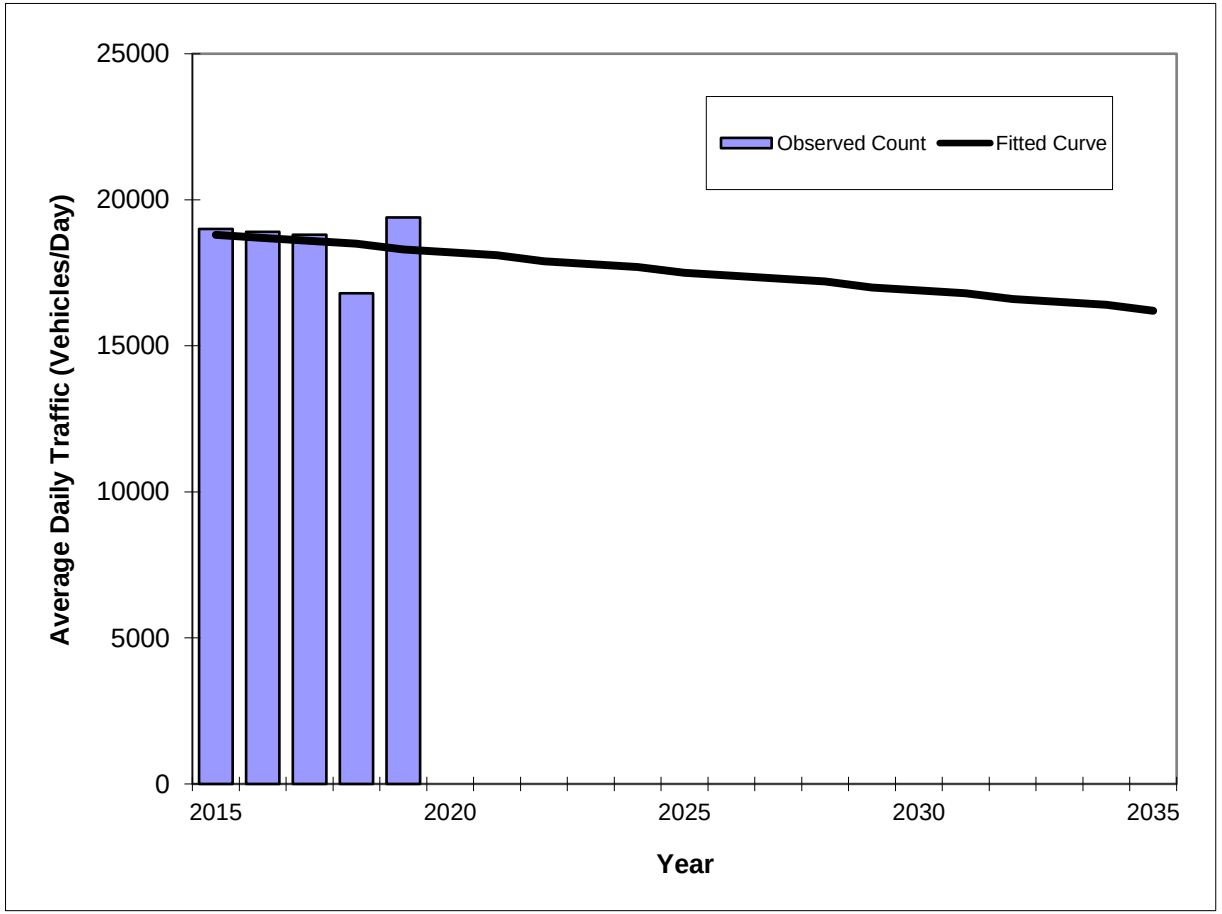
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	16500 S	E 8300	W 8200	9.00	55.00	2.90
2020	17300 F	E 8700	W 8600	9.00	56.00	4.40
2019	19400 C	E 9800	W 9600	9.00	56.00	4.00
2018	16800 T	E 7400	W 9400	9.00	54.30	3.00
2017	18800 S	E 8300	W 10500	9.00	59.30	2.50
2016	18900 F	E 8400	W 10500	9.00	56.10	5.10
2015	19000 C	E 8500	W 10500	9.00	57.40	7.10
2014	18700 S	E 9600	W 9100	9.00	59.30	10.70
2013	18900 F	E 9700	W 9200	9.00	58.90	16.20
2012	19000 C	E 9800	W 9200	9.00	59.70	16.00

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

Traffic Trends

17TH STREET -- 200 FEET EASY OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8531
Highway:	17TH STREET



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	18800
2016	18900	18700
2017	18800	18600
2018	16800	18500
2019	19400	18300

Trend R-squared:	4.05%
Trend Annual Historic Growth Rate:	-0.66%
Printed:	26-Jul-22

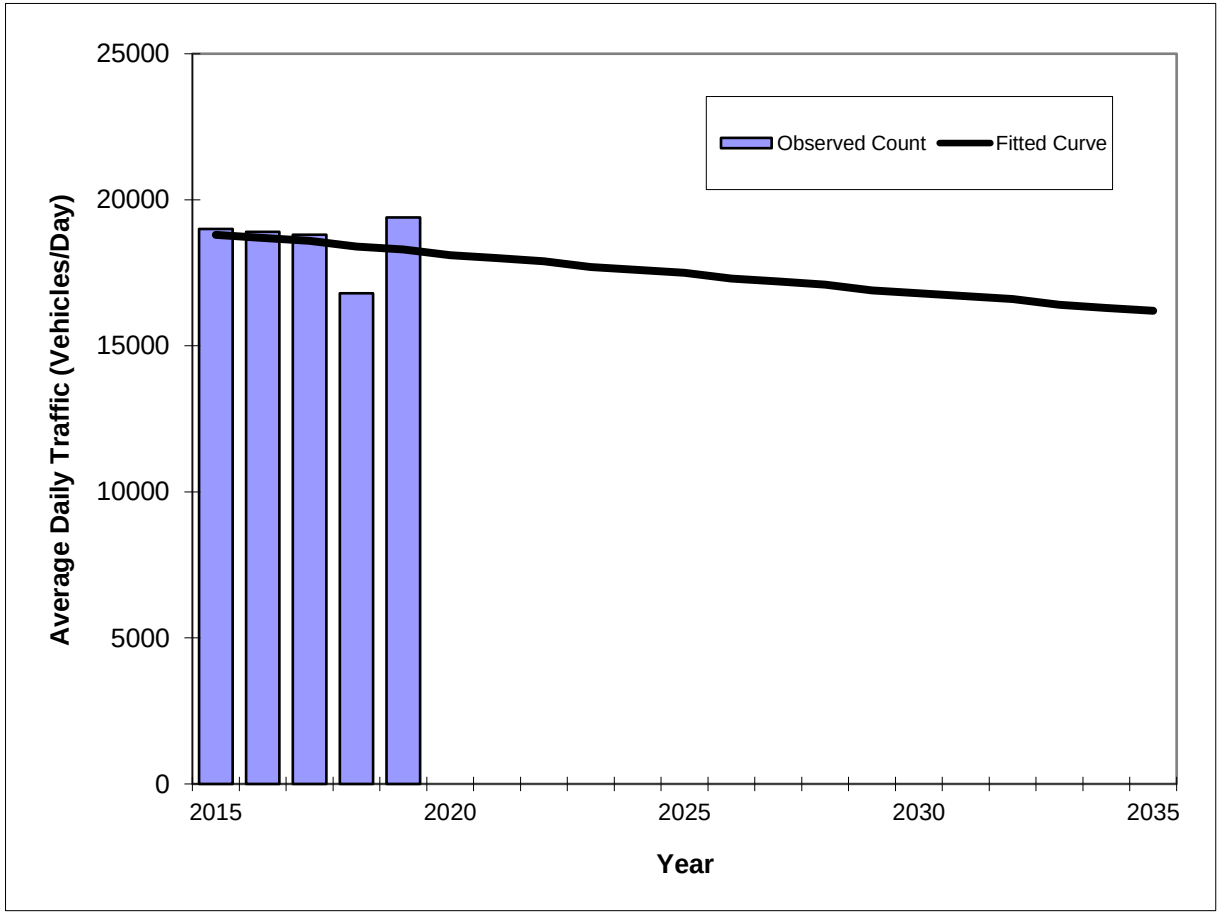
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

17TH STREET -- 200 FEET EASY OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8531
Highway:	17TH STREET



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	18800
2016	18900	18700
2017	18800	18600
2018	16800	18400
2019	19400	18300

Trend R-squared:	4.48%
Compounded Annual Historic Growth Rate:	-0.67%
Printed:	26-Jul-22

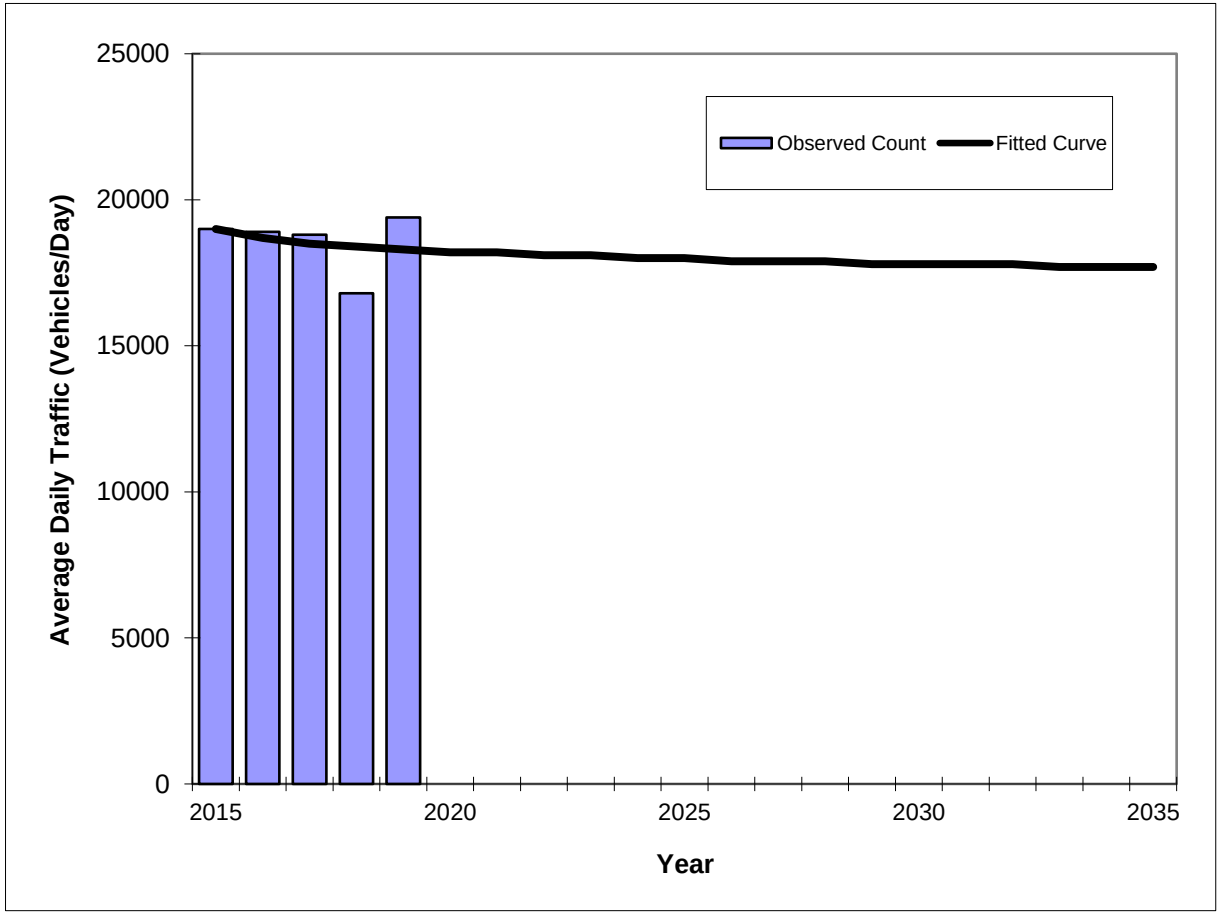
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

17TH STREET -- 200 FEET EASY OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8531
Highway:	17TH STREET



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	19000
2016	18900	18700
2017	18800	18500
2018	16800	18400
2019	19400	18300

Trend R-squared:	6.96%
Compounded Annual Historic Growth Rate:	-0.93%
Printed:	26-Jul-22

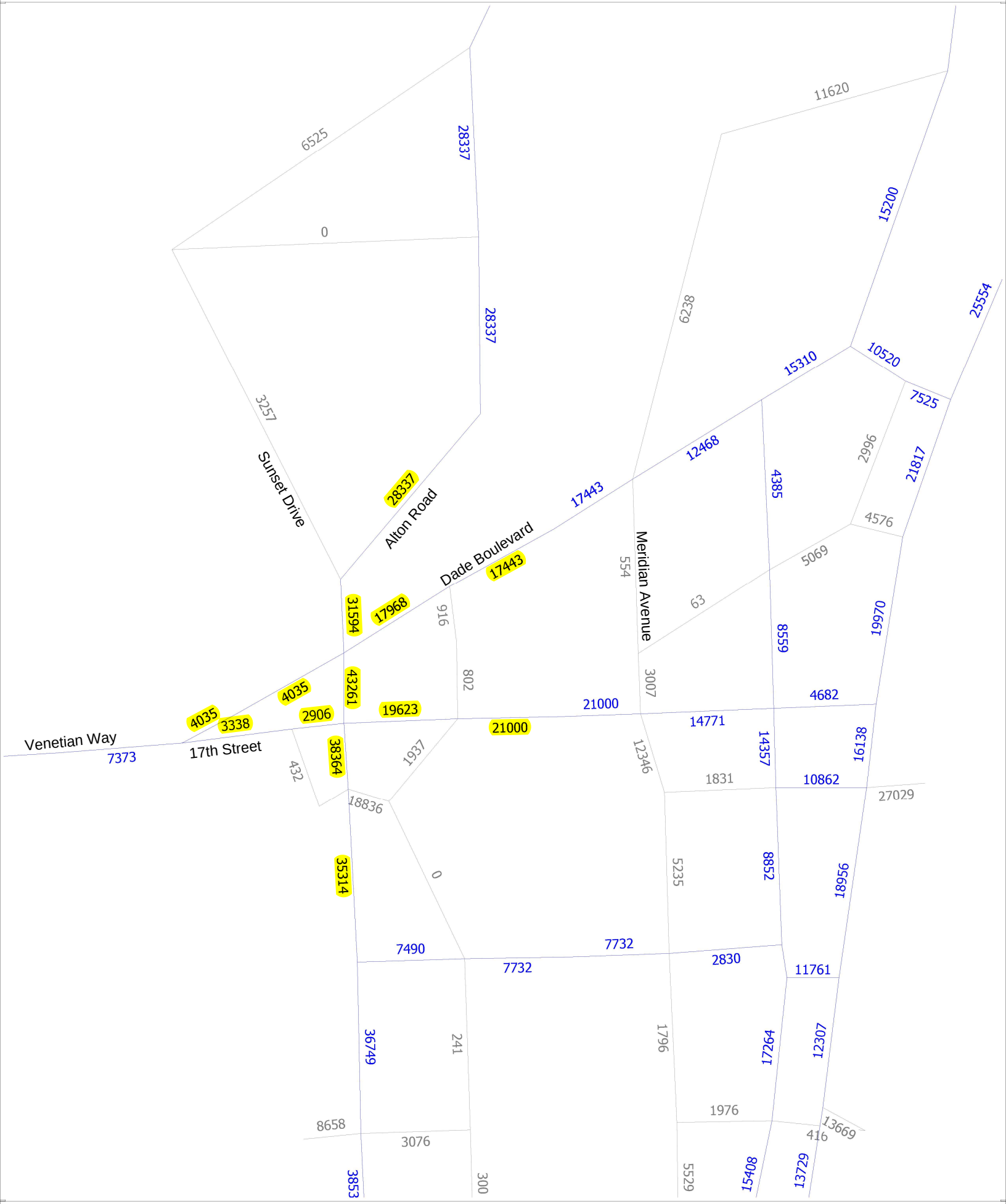
Decaying Exponential Growth Option

***Axle-Adjusted**

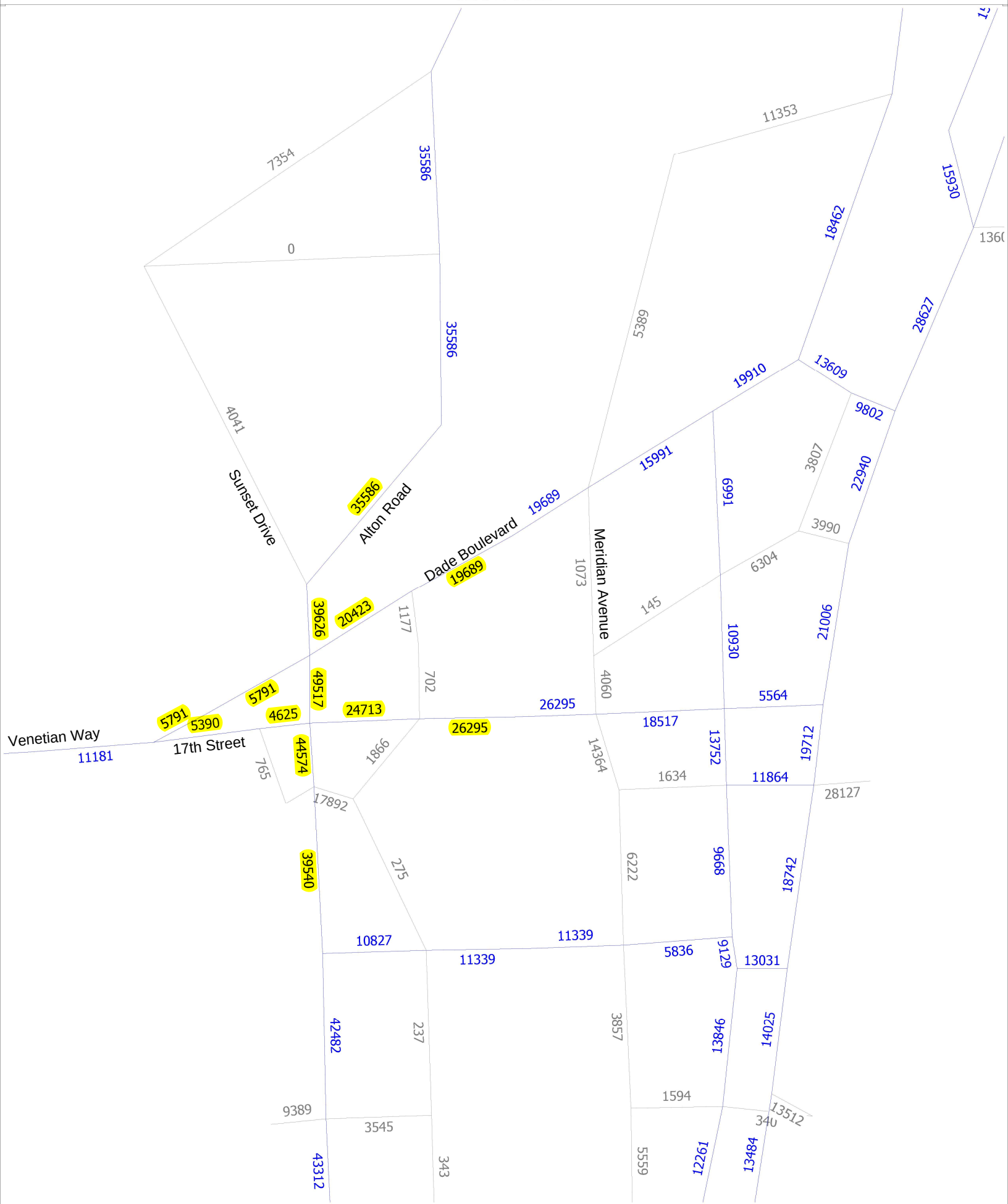
SERPM Analysis

SERPM Growth Rate Summary					
Street Name	**2015**	**2045**	**Difference**	**Growth Rate**	**Annual Growth Rate**
Dade Boulevard	17,443	19,689	2,246	12.88%	0.43%
	17,968	20,423	2,455	13.66%	0.46%
	4,035	5,791	1,756	43.52%	1.45%
	4,035	5,791	1,756	43.52%	1.45%
17th Street	3,338	5,390	2,052	61.47%	2.05%
	2,906	4,625	1,719	59.15%	1.97%
	19,623	24,713	5,090	25.94%	0.86%
	21,000	26,295	5,295	25.21%	0.84%
Alton Road	28,337	35,586	7,249	25.58%	0.85%
	31,594	39,626	8,032	25.42%	0.85%
	43,261	49,517	6,256	14.46%	0.48%
	38,364	44,574	6,210	16.19%	0.54%
	35,314	39,540	4,226	11.97%	0.40%
Total	**267,218**	**321,560**	**54,342**	**20.34%**	**0.68%**

1920 Alton Road
2015 Volumes
SERPM 8.521



1920 Alton Road
2045 Volumes
SERPM 8.521



Committed Development

March 20, 2020

Firat Akcay
City of Miami Beach
Transportation Department
1688 Meridian Avenue, Suite 801
Miami Beach, Florida 33139

Re: 1910 Alton Road
Miami Beach, Florida
Traffic Assessment

Dear Mr. Akcay:

Kimley-Horn and Associates, Inc. has performed a traffic assessment for the proposed 1910 Alton Road redevelopment in Miami Beach, Florida. Currently, the site is occupied by a vacant 6,364 square-foot office. The proposed redevelopment consists of a 4,000 square-foot of art gallery, one (1) multifamily residential unit, and 8,000 square feet of office space. A project location map and conceptual site plan is provided in Attachment A-1.

The traffic assessment's methodology is consistent with the requirements outlined by the City of Miami Beach. Methodology correspondence detailing the study requirements is provided in Attachment B-1. The following sections summarize the trip generation analysis, valet analysis, and transportation demand management (TDM) strategies. Note that the raised median conceptual plan and driveway sight distance analyzed are contained in a separate document. Please also note that the maneuverability analysis is contained is a separate document. An event period valet analysis was also required by the city. However, after further coordination with the applicant, special events are not proposed at the redevelopment.

TRIP GENERATION

Trip generation calculations for the proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition. The trip generation for the existing development was determined using ITE Land Use Code (LUC) 710 (General Office Building). LUC 580 (Museum), 221 (Multifamily Housing [Mid-Rise]), and LUC 710 (General Office Building) were utilized for the proposed redevelopment. Project trips were estimated for the weekday A.M. and P.M. peak hours.

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tracts in the vicinity of the redevelopment. A multimodal factor of 7.7 percent (7.7%) was calculated using the Census data. It is expected that residents and patrons will choose to walk, bike, or use public transit to and from the proposed redevelopment.

The redevelopment is expected to generate nine (9) vehicular trips during the A.M. peak hour and 11 vehicular trips during the P.M. peak hour. Note that credit for the existing development was not taken as the facility is currently vacant. Detailed trip generation calculations are included in Attachment C-1. Table 1 provides a summary of the trip generation for the proposed redevelopment.

Table 1: Proposed Net New Trip Generation				
A.M. (P.M.) Peak Hour				
Future Land Use (ITE Code)	Scale	Net New External Trips	Entering Trips	Exiting Trips
Proposed Redevelopment				
Museum (580)	4,000 square feet	1 (1)	1 (0)	0 (1)
Multifamily Housing (Mid-Rise) (221)	1 dwelling unit	0 (1)	0 (1)	0 (0)
General Office Building (710)	8,000 square feet	8 (9)	7 (2)	1 (7)
Net New Project Trips		9 (11)	8 (3)	1 (8)

VALET ANALYSIS

The proposed redevelopment will provide valet-only parking operations. Self-parking will not be provided on-site. The redevelopment will be served by one (1) dedicated valet drop-off and one (1) dedicated valet pick-up area. Three (3) drop-off spaces and three (3) pick-up space are provided at the site's porte-cochere area. Valet vehicles accessing the site drop-off and pick-up will be driven by a valet attendant to the on-site valet parking area. The on-site valet parking area consists of seven (7) mechanical lift parking spaces (14 spaces) and one (1) ADA space for a total of 15 parking spaces. Attachment D-1 contains graphics illustrating drop-off and pick-up area stacking and proposed valet routes to and from the site's valet parking area.

The valet analysis was prepared for the highest generator of valet trips, therefore the total weekday A.M. peak hour drop-off trips and the total P.M. peak hour pick-up trips were used for the analysis. The valet trip generation calculations indicate that the development will generate eight (8) A.M. peak hour drop-off trips and eight (8) P.M. peak hour pick-up trips. Note that all vehicles will be valeted internally on-site.

The valet queuing operations analysis was performed based on the methodology outlined in ITE's *Transportation and Land Development*, 1988. The analysis was performed to determine if valet operations could accommodate vehicular queues without blocking travel lanes on Sunset Drive.

Valet Assumptions

The queuing analysis used the multiple-channel waiting line model with Poisson arrivals and exponential service times. The queuing analysis is based on the coefficient of utilization, ρ, which is the ratio of the average vehicle arrival rate over the average service rate multiplied by the number of channels.

Valet attendants for the site will be stationed at the porte-cochere area and will travel to and from the on-site valet parking area. Valet drop-off trip service time was calculated based on the time it would take a valet parking attendant to obtain and park a drop-off vehicle to the valet parking area. Valet pick-up trip service time was calculated based on the time it would take a valet parking attendant to bring a parked vehicle back to a patron at the valet porte-cochere area for pick-up. Note that the average mechanical lift processing time was based on the Klaus Model G61 vehicle lift. The average mechanical

lift processing time was based on the average processing times of parking and retrieving vehicles from all the various positions within the non-tandem mechanical lift system. The detailed mechanical-lift processing time analysis is contained in Attachment D-1. The following summarizes the total valet drop-off and pick-up service times.

The calculated average service time for the site valet vehicle drop-off is 2.4 minutes. The following summarizes the valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off area to on-site valet parking area (0.3 minutes)
- Valet attendant parks vehicle utilizing mechanical lift (1.2 minutes)
- Valet attendant returns to valet station (0.4 minutes)
- Total service rate: **2.4 minutes**

The calculated average service time for the site valet vehicle pick-up is 2.3 minutes. The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the valet parking area to retrieve the vehicle (0.4 minutes)
- Valet attendant retrieves vehicle from mechanical lift (1.1 minutes)
- Valet attendant drives vehicle from valet parking area to valet pick-up area (0.3 minutes)
- Exchange between valet attendant and driver (0.5 minutes)
- Total service rate: **2.3 minutes**

Detailed travel time calculations are included in Attachment D-1.

If the coefficient of utilization (average service rate/valet attendant service capacity) is greater than one (>1), the calculation methodology does not yield a finite queue length. This result indicates overcapacity conditions for the valet area. The valet attendant service capacity is the number of total trips a valet attendant can make in a one-hour period multiplied by the number of valet attendants.

The analysis determined the required queue storage, M, which is exceeded P percent of the time. Since this analysis seeks to examine if the queue length exceeds the storage provided, at a level of confidence of 95 percent (95%). Three (3) drop-off spaces are provided at the site's drop-off area and three (3) pick-up spaces are provided at the site's pick-up area.

Valet Analysis

An iterative approach was used to determine the number of valet attendants required to accommodate the proposed redevelopment demand during the analysis hour and ensure that the 95th percentile valet queue does not extend beyond the designated valet service area. The valet analysis worksheet is provided in Attachment D-1.

It was determined that one (1) valet attendant is needed for the site's valet drop-off area and one (1) valet attendant is needed for the site's pick-up area (two (2) attendants total) during the weekday P.M. peak hour so that the vehicle queues from the drop-off and pick-up area do not extend beyond the designated valet areas or negatively impact circulation.

Valet Conclusion

Based on the valet operations analysis performed, it was determined that the 95th percentile valet queues will not extend beyond the valet service area and into the public right-of-way or negatively impacting circulation. Based upon the conservative assumptions applied to the traffic demand conditions, it was estimated that one (1) valet attendant is needed for the site's valet drop-off area and one (1) valet attendant is needed for the site's pick-up area (two (2) attendants total) during the weekday P.M. peak hour so that the vehicle queues from the drop-off and pick-up areas do not extend beyond the designated valet areas or negatively impact circulation. It should be noted that projected vehicular volumes and estimated valet processing times were conservatively assumed in the analysis.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

The applicant is considering providing the following TDM strategies to encourage people to use public transportation, use bicycles and walk, use car/vanpools, and find alternatives to the typical workday hours to reduce the impacts of the project traffic on the surrounding roadway network:

- Providing secure bicycle parking (15 long-term spaces)
- A shower facility bicyclists can use on site
- Providing wide hallways to accommodate bicycles
- Elevators that can accommodate bicycles

CONCLUSION

The analysis results indicate that the proposed redevelopment is expected to generate nine (9) vehicular trips during the A.M. peak hour trips and 11 vehicular trips during the P.M. peak hour.

The valet operations analysis performed determined that the 95th percentile valet queues will not extend beyond the valet drop-off and pick-up areas onto Sunset Drive. Based upon the conservative assumptions applied to the traffic demand conditions, it was estimated that one (1) valet attendant is needed for the site's valet drop-off area and one (1) valet attendant is needed for the site's pick-up area (two (2) attendants total) during the weekday P.M. peak hour so that the vehicle queues from the drop-off and pick-up areas do not extend beyond the designated valet areas or negatively impact circulation. It should be noted that projected vehicular volumes and estimated valet processing times were conservatively assumed in the analysis.

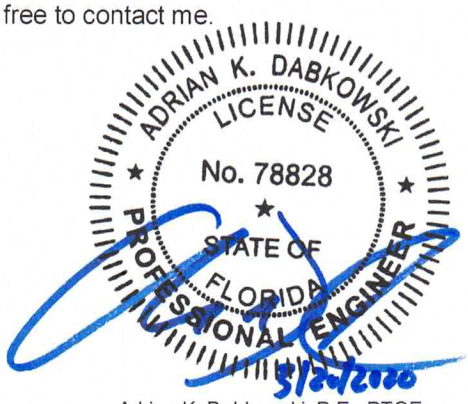
TDM strategies are also proposed as part of the redevelopment to reduce the impacts of the project traffic on the surrounding roadway network. The applicant is considering providing 15 long-term secure bicycle parking spaces, a shower facility for bicyclists to use on site, wide hallways to accommodate bicycles, and large elevators to accommodate bicycles.

If you have any questions regarding this analysis, please feel free to contact me.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Adrian K. Dabkowski, P.E., PTOE
Associate



Adrian K. Dabkowski, P.E., PTOE
Florida Registration Number 78828
Kimley-Horn and Associates, Inc.
600 North Pine Island Road, Suite 450
Plantation, Florida 33324
Registry # 00000696

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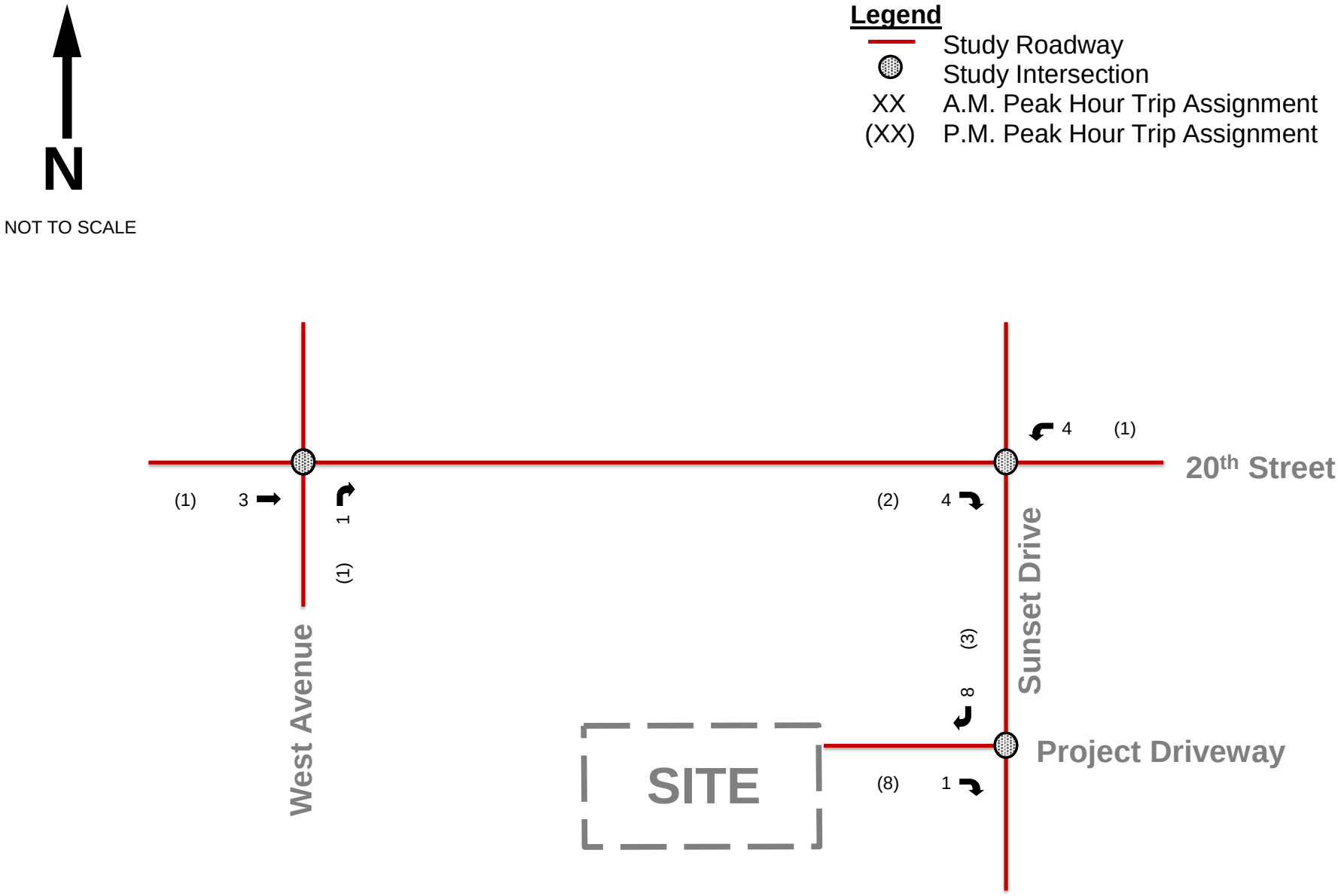


Kimley»Horn

Peak Hour Project Trip Assignment
1910 Alton Road
Miami Beach, Florida

Appendix E

Trip Generation Calculations

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING 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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	20.682	ksf	60%	40%	28	18	46	12.2%	6	24	16	40	0.0%	0	24	16	40	0.0%	0	24	16	40
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				Total:	28	18	46	12.2%	6	24	16	40	0.0%	0	24	16	40	0.0%	0	24	16	40
		822		LN(Y) = 0.66*LN(X)+1.84																						

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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	9	ksf	60%	40%	16	11	27	12.2%	3	14	10	24	12.5%	3	13	8	21	0.0%	0	13	8	21
	2	General Office Building	11	710	26.932	ksf	88%	12%	48	6	54	12.2%	7	42	5	47	6.4%	3	40	4	44	0.0%	0	40	4	44
	3	Multifamily Housing (Low-Rise) Not Close to Rail Transit	11	220	6	du	24%	76%	0	2	2	12.2%	0	0	2	2	0.0%	0	0	2	2	0.0%	0	0	2	2
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				Total:	64	19	83	12.2%	10	56	17	73	8.2%	6	53	14	67	0.0%	0	53	14	67
		822		LN(Y) = 0.66*LN(X)+1.84																						
		710		LN(Y) = 0.86*LN(X)+1.16																						
		220		Y=0.4(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	29	-2	27

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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	20.682	ksf	50%	50%	65	65	130	12.2%	16	57	57	114	0.0%	0	57	57	114	40.0%	46	34	34	68
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	65	65	130	12.2%	16	57	57	114	0.0%	0	57	57	114	40.4%	46	34	34	68
		822		LN(Y) = 0.71*LN(X)+2.72																						

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		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Strip Retail Plaza (Not Close to Rail Transit)	11	822	9	ksf	50%	50%	36	36	72	12.2%	8	32	32	64	20.3%	13	26	25	51	0.0%	0	26	25	51
	2	General Office Building	11	710	26.932	ksf	17%	83%	10	46	56	12.2%	7	9	40	49	8.2%	4	8	37	45	0.0%	0	8	37	45
	3	Multifamily Housing (Low-Rise) Not Close to Rail Transit	11	220	6	du	63%	37%	14	9	23	12.2%	3	12	8	20	45.0%	9	6	5	11	0.0%	0	6	5	11
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	60	91	151	12.2%	18	53	80	133	19.5%	26	40	67	107	0.0%	0	40	67	107
		822		LN(Y) = 0.71*LN(X)+2.72																						
		710		LN(Y) = 0.83*LN(X)+1.29																						
		220		Y=0.43*(X)+20.55																						

	IN	OUT	TOTAL
NET NEW TRIPS	**6**	**33**	**39**

(88+56)/(1575-390)=12.15%

MEANS OF TRANSPORTATION TO WORK

United States® Census Bureau

Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

	Census Tract 41.06, Miami-Dade County, Florida	
Label	**Estimate**	**Margi**
Total:	1,575	
Car, truck, or van:	955	
Drove alone	904	
Carpooled:	51	
In 2-person carpool	51	
In 3-person carpool	0	
In 4-person carpool	0	
In 5- or 6-person carpool	0	
In 7-or-more-person carpool	0	
Public transportation (excluding taxicab):	5	
Bus	5	
Subway or elevated rail	0	
Long-distance train or commuter rail	0	
Light rail, streetcar or trolley (carro público in Puerto Rico)	0	
Ferryboat	0	
Taxicab	20	
Motorcycle	33	
Bicycle	88	
Walked	56	
Other means	28	
Worked from home	390	

Table Notes

MEANS OF TRANSPORTATION TO WORK

Survey/Program: American Community Survey
Universe: Workers 16 years and over
Year: 2019
Estimates: 5-Year
Table ID: B08301

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.

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

2019 ACS data products include updates to several categories of the existing means of transportation question. For more information, see: Change to Means of Transportation.

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 ACS Technical Documentation). 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.

The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations 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 delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, 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.

Explanation of Symbols:

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.
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, or the margin of error associated with a median was larger than the median itself.
An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
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.
An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
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.

displayed because the number of sample cases is too small.

An "(X)" means that the estimate is not applicable or not available.

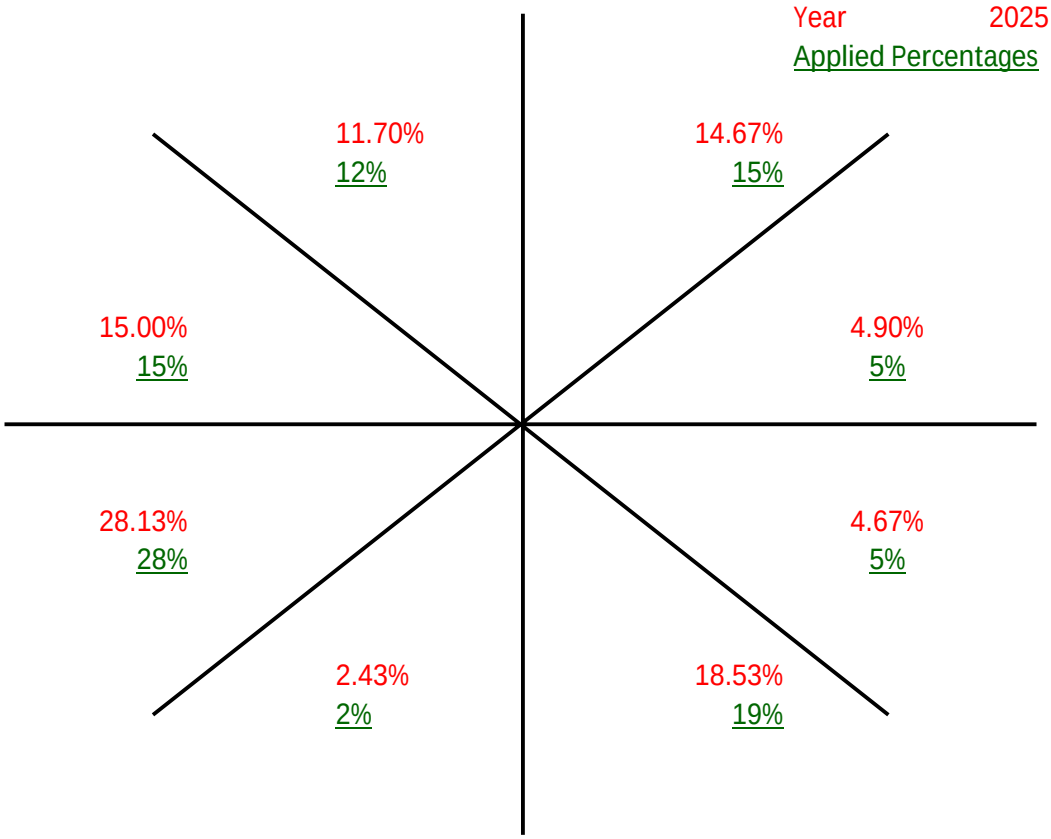
Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

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.

Appendix F

Cardinal Trip Distribution

Cardinal Distribution for TAZ 639



Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips		2025 Interpolated	2025 Rounded
	2015	2045		
North-Northeast	15.4%	13.2%	14.7%	15.0%
East-Northeast	5.2%	4.3%	4.9%	5.0%
East-Southeast	5.2%	3.6%	4.7%	5.0%
South-Southeast	20.3%	15.0%	18.5%	19.0%
South-Southwest	2.4%	2.5%	2.4%	2.0%
West-Southwest	25.4%	33.6%	28.1%	28.0%
West-Northwest	14.9%	15.2%	15.0%	15.0%
North-Northwest	11.2%	12.7%	11.7%	12.0%
Total	100.0%	100.1%	100.03%	101.00%

MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION

2045 LRTP SUPPORTING DOCUMENTS

DIRECTIONAL TRIP DISTRIBUTION REPORT

SEPTEMBER 2019

Miami-Dade 2015 Base Year Direction Trip Distribution Summary											
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
625	3525	Trips	610	160	-	557	431	1,317	679	1,035	4,961
625	3525	Percent	12.7	3.3	-	11.6	9.0	27.5	14.2	21.6	
626	3526	Trips	122	-	-	-	2,090	2,277	1,198	2,942	9,399
626	3526	Percent	1.4	-	-	-	24.2	26.4	13.9	34.1	
627	3527	Trips	279	-	-	-	2,051	2,578	845	1,965	8,061
627	3527	Percent	3.6	-	-	-	26.6	33.4	11.0	25.5	
628	3528	Trips	298	-	49	79	984	902	332	679	3,579
628	3528	Percent	9.0	-	1.5	2.4	29.6	27.2	10.0	20.5	
629	3529	Trips	1,374	549	344	1,656	1,708	3,707	1,668	2,101	14,261
629	3529	Percent	10.5	4.2	2.6	12.6	13.0	28.3	12.7	16.0	
630	3530	Trips	952	-	210	347	1,696	2,375	794	1,114	8,135
630	3530	Percent	12.7	-	2.8	4.6	22.7	31.7	10.6	14.9	
631	3531	Trips	255	-	-	-	1,215	1,471	440	1,030	4,651
631	3531	Percent	5.8	-	-	-	27.6	33.4	10.0	23.4	
632	3532	Trips	309	-	-	-	1,242	1,751	750	635	4,880
632	3532	Percent	6.6	-	-	-	26.5	37.4	16.0	13.5	
633	3533	Trips	310	-	-	-	1,181	1,428	750	730	4,590
633	3533	Percent	7.0	-	-	-	26.9	32.5	17.1	16.6	
634	3534	Trips	1,502	112	240	837	1,718	1,928	976	1,727	9,998
634	3534	Percent	16.6	1.2	2.7	9.3	19.0	21.3	10.8	19.1	
635	3535	Trips	779	-	-	-	2,021	1,994	952	1,411	8,010
635	3535	Percent	10.9	-	-	-	28.2	27.9	13.3	19.7	
636	3536	Trips	1,041	-	-	686	1,152	2,072	911	1,071	7,384
636	3536	Percent	15.0	-	-	9.9	16.6	29.9	13.1	15.4	
637	3537	Trips	323	31	87	217	126	601	303	290	1,987
637	3537	Percent	16.4	1.6	4.4	11.0	6.4	30.4	15.3	14.7	
638	3538	Trips	152	35	87	86	114	218	162	126	999
638	3538	Percent	15.5	3.6	8.9	8.7	11.6	22.3	16.5	12.9	
639	3539	Trips	825	281	277	1,089	131	1,364	796	599	5,721
639	3539	Percent	15.4	5.2	5.2	20.3	2.4	25.4	14.9	11.2	
640	3540	Trips	344	247	868	104	43	685	405	274	3,053
640	3540	Percent	11.6	8.3	29.2	3.5	1.5	23.1	13.6	9.2	
641	3541	Trips	1,051	1,714	291	723	309	1,572	1,188	916	8,356
641	3541	Percent	13.5	22.1	3.7	9.3	4.0	20.3	15.3	11.8	
642	3542	Trips	1,849	1,404	115	1,263	457	2,697	1,962	1,518	12,299
642	3542	Percent	16.4	12.5	1.0	11.2	4.1	23.9	17.4	13.5	
643	3543	Trips	1,747	551	-	965	479	2,595	1,554	1,715	10,383
643	3543	Percent	18.2	5.7	-	10.1	5.0	27.0	16.2	17.9	
644	3544	Trips	2,022	-	-	-	2,250	4,141	2,585	2,646	15,224
644	3544	Percent	14.8	-	-	-	16.5	30.4	19.0	19.4	
645	3545	Trips	1,268	-	-	-	907	1,498	1,720	1,351	7,018
645	3545	Percent	18.8	-	-	-	13.5	22.2	25.5	20.0	
646	3546	Trips	986	-	156	520	250	1,081	1,094	1,181	5,470
646	3546	Percent	18.7	-	3.0	9.9	4.7	20.5	20.8	22.4	
647	3547	Trips	350	103	114	165	66	354	359	408	1,979
647	3547	Percent	18.2	5.4	5.9	8.6	3.5	18.5	18.7	21.2	
648	3548	Trips	1,027	434	254	401	48	903	1,001	514	4,747
648	3548	Percent	22.4	9.5	5.5	8.8	1.0	19.7	21.9	11.2	
649	3549	Trips	754	192	184	230	41	612	743	427	3,320
649	3549	Percent	23.7	6.0	5.8	7.2	1.3	19.2	23.3	13.4	
650	3550	Trips	45	80	104	0	14	155	304	133	850
650	3550	Percent	5.4	9.6	12.4	0.0	1.6	18.5	36.5	16.0	

Miami-Dade 2045 Cost Feasible Plan Direction Trip Distribution Summary											
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
625	3525	Trips	515	114	-	541	802	1,791	829	1,096	5,972
625	3525	Percent	9.1	2.0	-	9.5	14.1	31.5	14.6	19.3	
626	3526	Trips	66	-	-	-	2,417	3,260	1,417	2,993	11,237
626	3526	Percent	0.7	-	-	-	23.8	32.1	14.0	29.5	
627	3527	Trips	174	-	-	-	2,276	3,212	1,138	1,885	9,055
627	3527	Percent	2.0	-	-	-	26.2	37.0	13.1	21.7	
628	3528	Trips	238	-	23	101	1,053	1,266	390	660	4,028
628	3528	Percent	6.4	-	0.6	2.7	28.2	33.9	10.5	17.7	
629	3529	Trips	1,686	621	373	1,692	1,801	6,032	2,362	2,490	18,425
629	3529	Percent	9.9	3.6	2.2	9.9	10.6	35.4	13.9	14.6	
630	3530	Trips	888	-	326	303	1,717	3,876	1,515	1,553	11,277
630	3530	Percent	8.7	-	3.2	3.0	16.9	38.1	14.9	15.3	
631	3531	Trips	296	-	-	-	1,351	2,360	838	1,324	6,591
631	3531	Percent	4.8	-	-	-	21.9	38.3	13.6	21.5	
632	3532	Trips	343	-	-	-	1,500	2,647	1,390	1,098	7,499
632	3532	Percent	4.9	-	-	-	21.5	37.9	19.9	15.7	
633	3533	Trips	368	-	-	-	1,052	1,986	859	841	5,391
633	3533	Percent	7.2	-	-	-	20.6	38.9	16.8	16.5	
634	3534	Trips	1,404	80	149	773	1,637	2,733	1,332	1,712	10,593
634	3534	Percent	14.3	0.8	1.5	7.9	16.7	27.8	13.6	17.4	
635	3535	Trips	566	-	-	-	1,311	2,266	1,228	1,254	7,246
635	3535	Percent	8.5	-	-	-	19.8	34.2	18.5	18.9	
636	3536	Trips	1,066	-	-	607	978	3,045	1,398	1,193	8,805
636	3536	Percent	12.9	-	-	7.3	11.8	36.8	16.9	14.4	
637	3537	Trips	468	44	144	315	198	868	501	309	2,865
637	3537	Percent	16.5	1.6	5.1	11.1	6.9	30.5	17.6	10.9	
638	3538	Trips	127	33	78	94	79	401	285	185	1,342
638	3538	Percent	9.9	2.6	6.1	7.3	6.2	31.3	22.2	14.5	
639	3539	Trips	944	303	253	1,068	176	2,395	1,085	905	7,569
639	3539	Percent	13.2	4.3	3.6	15.0	2.5	33.6	15.2	12.7	
640	3540	Trips	119	74	216	10	30	177	136	147	1,166
640	3540	Percent	13.1	8.2	23.7	1.1	3.4	19.4	14.9	16.2	
641	3541	Trips	1,145	1,056	206	569	242	2,378	1,724	1,142	9,066
641	3541	Percent	13.5	12.5	2.4	6.7	2.9	28.1	20.4	13.5	
642	3542	Trips	1,701	1,196	113	964	433	3,470	2,140	1,631	12,324
642	3542	Percent	14.6	10.3	1.0	8.3	3.7	29.8	18.4	14.0	
643	3543	Trips	1,884	580	-	1,133	631	3,768	2,190	2,157	13,183
643	3543	Percent	15.3	4.7	-	9.2	5.1	30.5	17.7	17.5	
644	3544	Trips	1,948	-	-	-	2,227	5,534	3,264	3,082	17,780
644	3544	Percent	12.1	-	-	-	13.9	34.5	20.3	19.2	
645	3545	Trips	1,314	-	-	-	844	1,661	2,170	1,703	8,075
645	3545	Percent	17.1	-	-	-	11.0	21.6	28.2	22.1	
646	3546	Trips	1,025	-	125	496	263	1,741	1,656	1,299	6,976
646	3546	Percent	15.5	-	1.9	7.5	4.0	26.4	25.1	19.7	
647	3547	Trips	296	122	96	109	79	582	661	405	2,490
647	3547	Percent	12.6	5.2	4.1	4.6	3.4	24.8	28.1	17.3	
648	3548	Trips	943	278	128	313	73	1,525	1,351	576	5,397
648	3548	Percent	18.2	5.4	2.5	6.0	1.4	29.4	26.0	11.1	
649	3549	Trips	643	120	121	216	43	873	952	508	3,661
649	3549	Percent	18.5	3.4	3.5	6.2	1.3	25.1	27.4	14.6	
650	3550	Trips	60	71	65	8	14	279	312	136	969
650	3550	Percent	6.4	7.5	6.9	0.9	1.5	29.5	33.0	14.4	

Appendix G

Volume Development Worksheets

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: 20th Street and West Avenue
COUNT DATE: June 28, 2022
AM PEAK HOUR FACTOR: 0.84
PM PEAK HOUR FACTOR: 0.93

"AM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Raw Turning Movements		1	138	22		88	124	4		10	0	96		1	0	3
Peak Season Correction Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
AM EXISTING CONDITIONS		**1**	**145**	**23**		**92**	**130**	**4**		**11**	**0**	**101**		**1**	**0**	**3**

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	171	55		111	134	1		23	0	141		2	2	0
Peak Season Correction Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
PM EXISTING CONDITIONS		**0**	**180**	**58**		**117**	**141**	**1**		**24**	**0**	**148**		**2**	**2**	**0**

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1910 Alton Road			3									1				
TOTAL "VESTED" TRAFFIC		0	3	0		0	0	0		0	0	1		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	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%
AM BACKGROUND TRAFFIC GROWTH		0	3	0		2	3	0		0	0	2		0	0	0
AM NON-PROJECT TRAFFIC		**1**	**151**	**23**		**94**	**133**	**4**		**11**	**0**	**104**		**1**	**0**	**3**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1910 Alton Road			1									1				
TOTAL "VESTED" TRAFFIC		0	1	0		0	0	0		0	0	1		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	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%
PM BACKGROUND TRAFFIC GROWTH		0	4	1		2	3	0		0	0	3		0	0	0
PM NON-PROJECT TRAFFIC		**0**	**185**	**59**		**119**	**144**	**1**		**24**	**0**	**152**		**2**	**2**	**0**

"AM PROJECT DISTRIBUTION" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering																
Distribution	Exiting																
Net New	Entering			37.0%									18.0%				
Distribution	Exiting						18.0%	37.0%									

"PM PROJECT DISTRIBUTION" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering																
Distribution	Exiting																
Net New	Entering			37.0%									18.0%				
Distribution	Exiting						18.0%	37.0%									

"AM PROJECT TRAFFIC" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet																
	Net New			11			0	0					5				
AM TOTAL PROJECT TRAFFIC			**0**	**11**	**0**		**0**	**0**	**0**		**0**	**0**	**5**		**0**	**0**	**0**
AM TOTAL TRAFFIC			**1**	**162**	**23**		**94**	**133**	**4**		**11**	**0**	**109**		**1**	**0**	**3**

"PM PROJECT TRAFFIC" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet																
	Net New			2			6	12					1				
PM TOTAL PROJECT TRAFFIC			**0**	**2**	**0**		**6**	**12**	**0**		**0**	**0**	**1**		**0**	**0**	**0**
PM TOTAL TRAFFIC			**0**	**187**	**59**		**125**	**156**	**1**		**24**	**0**	**153**		**2**	**2**	**0**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: 20th Street and Sunset Drive
COUNT DATE: June 28, 2022
AM PEAK HOUR FACTOR: 0.84
PM PEAK HOUR FACTOR: 0.91

"AM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Raw Turning Movements		59	121	59		24	191	40		4	1	4		14	25	25
Peak Season Correction Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
AM EXISTING CONDITIONS		**62**	**127**	**62**		**25**	**201**	**42**		**4**	**1**	**4**		**15**	**26**	**26**

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		108	149	69		21	203	32		4	0	4		8	22	33
Peak Season Correction Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
PM EXISTING CONDITIONS		**113**	**156**	**72**		**22**	**213**	**34**		**4**	**0**	**4**		**8**	**23**	**35**

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1910 Alton Road				4		4										
TOTAL "VESTED" TRAFFIC		0	0	4		4	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	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%
AM BACKGROUND TRAFFIC GROWTH		1	3	1		1	4	1		0	0	0		0	1	1
AM NON-PROJECT TRAFFIC		**63**	**130**	**67**		**30**	**205**	**43**		**4**	**1**	**4**		**15**	**27**	**27**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1910 Alton Road				2		1										
TOTAL "VESTED" TRAFFIC		0	0	2		1	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	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%
PM BACKGROUND TRAFFIC GROWTH		2	3	1		0	4	1		0	0	0		0	0	1
PM NON-PROJECT TRAFFIC		**115**	**159**	**75**		**23**	**217**	**35**		**4**	**0**	**4**		**8**	**23**	**36**

"AM PROJECT DISTRIBUTION" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering																
Distribution	Exiting																
Net New	Entering							45.0%									
Distribution	Exiting			45.0%													

"PM PROJECT DISTRIBUTION" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering																
Distribution	Exiting																
Net New	Entering							45.0%									
Distribution	Exiting			45.0%													

"AM PROJECT TRAFFIC" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet																
	Net New			0				13									
AM TOTAL PROJECT TRAFFIC			**0**	**0**	**0**		**0**	**13**	**0**		**0**	**0**	**0**		**0**	**0**	**0**
AM TOTAL TRAFFIC			**63**	**130**	**67**		**30**	**218**	**43**		**4**	**1**	**4**		**15**	**27**	**27**

"PM PROJECT TRAFFIC" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet																
	Net New			15				3									
PM TOTAL PROJECT TRAFFIC			**0**	**15**	**0**		**0**	**3**	**0**		**0**	**0**	**0**		**0**	**0**	**0**
PM TOTAL TRAFFIC			**115**	**174**	**75**		**23**	**220**	**35**		**4**	**0**	**4**		**8**	**23**	**36**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: 20th Street and Project Driveway
COUNT DATE: June 28, 2022
AM PEAK HOUR FACTOR: 0.92
PM PEAK HOUR FACTOR: 0.92

"AM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Raw Turning Movements		0	237	0		0	218	0		0	0	0		0	0	0
Peak Season Correction Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
AM EXISTING CONDITIONS		**0**	**249**	**0**		**0**	**229**	**0**		**0**	**0**	**0**		**0**	**0**	**0**

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	320	0		0	243	0		0	0	0		0	0	0
Peak Season Correction Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
PM EXISTING CONDITIONS		**0**	**336**	**0**		**0**	**255**	**0**		**0**	**0**	**0**		**0**	**0**	**0**

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1910 Alton Road			4													
TOTAL "VESTED" TRAFFIC		0	4	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	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%
AM BACKGROUND TRAFFIC GROWTH		0	5	0		0	5	0		0	0	0		0	0	0
AM NON-PROJECT TRAFFIC		**0**	**258**	**0**		**0**	**234**	**0**		**0**	**0**	**0**		**0**	**0**	**0**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
1910 Alton Road			2													
TOTAL "VESTED" TRAFFIC		0	2	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	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%
PM BACKGROUND TRAFFIC GROWTH		0	7	0		0	5	0		0	0	0		0	0	0
PM NON-PROJECT TRAFFIC		**0**	**345**	**0**		**0**	**260**	**0**		**0**	**0**	**0**		**0**	**0**	**0**

"AM PROJECT DISTRIBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering																
Distribution	Exiting																
Net New	Entering				55.0%		45.0%										
Distribution	Exiting										55.0%		45.0%				

"PM PROJECT DISTRIBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering																
Distribution	Exiting																
Net New	Entering				55.0%		45.0%										
Distribution	Exiting										55.0%		45.0%				

"AM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet																
	Net New				29		24				8		6				
AM TOTAL PROJECT TRAFFIC			**0**	**0**	**29**		**24**	**0**	**0**		**8**	**0**	**6**		**0**	**0**	**0**
AM TOTAL TRAFFIC			**0**	**258**	**29**		**24**	**234**	**0**		**8**	**0**	**6**		**0**	**0**	**0**

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet																
	Net New				22		18				37		30				
PM TOTAL PROJECT TRAFFIC			**0**	**0**	**22**		**18**	**0**	**0**		**37**	**0**	**30**		**0**	**0**	**0**
PM TOTAL TRAFFIC			**0**	**345**	**22**		**18**	**260**	**0**		**37**	**0**	**30**		**0**	**0**	**0**

Appendix H

Intersection Capacity Analysis Worksheets

Existing A.M.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	145	23	92	130	4	11	0	101	1	0	3
Future Vol, veh/h	1	145	23	92	130	4	11	0	101	1	0	3
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	173	27	110	155	5	13	0	120	1	0	4
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.2	9.3	8.5	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	1%	100%	0%	25%
Vol Thru, %	0%	86%	0%	97%	0%
Vol Right, %	90%	14%	0%	3%	75%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	112	169	92	134	4
LT Vol	11	1	92	0	1
Through Vol	0	145	0	130	0
RT Vol	101	23	0	4	3
Lane Flow Rate	133	201	110	160	5
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.167	0.257	0.168	0.222	0.006
Departure Headway (Hd)	4.522	4.596	5.532	5.008	4.82
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	792	781	648	716	739
Service Time	2.554	2.628	3.265	2.742	2.869
HCM Lane V/C Ratio	0.168	0.257	0.17	0.223	0.007
HCM Control Delay	8.5	9.2	9.4	9.2	7.9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.6	1	0.6	0.8	0

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	127	62	25	201	42	4	1	4	15	26	26
Future Vol, veh/h	62	127	62	25	201	42	4	1	4	15	26	26
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	74	151	74	30	239	50	5	1	5	18	31	31
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	10.3	8.4	8.8
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	25%	9%	22%
Vol Thru, %	11%	51%	75%	39%
Vol Right, %	44%	25%	16%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	251	268	67
LT Vol	4	62	25	15
Through Vol	1	127	201	26
RT Vol	4	62	42	26
Lane Flow Rate	11	299	319	80
Geometry Grp	1	1	1	1
Degree of Util (X)	0.016	0.367	0.392	0.113
Departure Headway (Hd)	5.248	4.423	4.425	5.121
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	679	813	814	698
Service Time	3.307	2.453	2.454	3.17
HCM Lane V/C Ratio	0.016	0.368	0.392	0.115
HCM Control Delay	8.4	10	10.3	8.8
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0	1.7	1.9	0.4

Future Background A.M.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	151	23	94	133	4	11	0	104	1	0	3
Future Vol, veh/h	1	151	23	94	133	4	11	0	104	1	0	3
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	180	27	112	158	5	13	0	124	1	0	4
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.3	9.3	8.5	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	1%	100%	0%	25%
Vol Thru, %	0%	86%	0%	97%	0%
Vol Right, %	90%	13%	0%	3%	75%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	175	94	137	4
LT Vol	11	1	94	0	1
Through Vol	0	151	0	133	0
RT Vol	104	23	0	4	3
Lane Flow Rate	137	208	112	163	5
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.173	0.267	0.172	0.228	0.006
Departure Headway (Hd)	4.55	4.616	5.549	5.026	4.858
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	787	777	647	714	733
Service Time	2.583	2.651	3.285	2.762	2.909
HCM Lane V/C Ratio	0.174	0.268	0.173	0.228	0.007
HCM Control Delay	8.5	9.3	9.4	9.3	7.9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.6	1.1	0.6	0.9	0

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	130	67	30	205	43	4	1	4	15	27	27
Future Vol, veh/h	63	130	67	30	205	43	4	1	4	15	27	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	75	155	80	36	244	51	5	1	5	18	32	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	10.5	8.5	8.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	24%	11%	22%
Vol Thru, %	11%	50%	74%	39%
Vol Right, %	44%	26%	15%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	260	278	69
LT Vol	4	63	30	15
Through Vol	1	130	205	27
RT Vol	4	67	43	27
Lane Flow Rate	11	310	331	82
Geometry Grp	1	1	1	1
Degree of Util (X)	0.016	0.382	0.409	0.118
Departure Headway (Hd)	5.305	4.438	4.449	5.167
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	670	811	808	691
Service Time	3.371	2.471	2.482	3.222
HCM Lane V/C Ratio	0.016	0.382	0.41	0.119
HCM Control Delay	8.5	10.2	10.5	8.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0	1.8	2	0.4

Future Total A.M.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	162	23	94	133	4	11	0	109	1	0	3
Future Vol, veh/h	1	162	23	94	133	4	11	0	109	1	0	3
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	193	27	112	158	5	13	0	130	1	0	4
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.5	9.4	8.6	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	1%	100%	0%	25%
Vol Thru, %	0%	87%	0%	97%	0%
Vol Right, %	91%	12%	0%	3%	75%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	186	94	137	4
LT Vol	11	1	94	0	1
Through Vol	0	162	0	133	0
RT Vol	109	23	0	4	3
Lane Flow Rate	143	221	112	163	5
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.182	0.285	0.173	0.229	0.006
Departure Headway (Hd)	4.579	4.639	5.578	5.055	4.902
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	783	773	642	709	726
Service Time	2.614	2.677	3.317	2.793	2.956
HCM Lane V/C Ratio	0.183	0.286	0.174	0.23	0.007
HCM Control Delay	8.6	9.5	9.5	9.3	8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.7	1.2	0.6	0.9	0

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	130	67	30	218	43	4	1	4	15	27	27
Future Vol, veh/h	63	130	67	30	218	43	4	1	4	15	27	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	75	155	80	36	260	51	5	1	5	18	32	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	10.8	8.5	9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	24%	10%	22%
Vol Thru, %	11%	50%	75%	39%
Vol Right, %	44%	26%	15%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	260	291	69
LT Vol	4	63	30	15
Through Vol	1	130	218	27
RT Vol	4	67	43	27
Lane Flow Rate	11	310	346	82
Geometry Grp	1	1	1	1
Degree of Util (X)	0.016	0.383	0.429	0.119
Departure Headway (Hd)	5.342	4.457	4.456	5.202
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	805	807	686
Service Time	3.409	2.491	2.488	3.257
HCM Lane V/C Ratio	0.017	0.385	0.429	0.12
HCM Control Delay	8.5	10.3	10.8	9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0	1.8	2.2	0.4

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	258	29	24	234	8	6
Future Vol, veh/h	258	29	24	234	8	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	280	32	26	254	9	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	312	0	602	296
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	-	-	4.13	-	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	4.4	-
Critical Hdwy Stg 2	-	-	-	-	4.4	-
Follow-up Hdwy	-	-	2.227	-	3.8	3.9
Pot Cap-1 Maneuver	-	-	1243	-	613	721
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1243	-	598	721
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	645	-	-	1243	-
HCM Lane V/C Ratio	0.024	-	-	0.021	-
HCM Control Delay (s)	10.7	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Existing P.M.

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	180	58	117	141	1	24	0	148	2	2	0
Future Vol, veh/h	0	180	58	117	141	1	24	0	148	2	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	194	62	126	152	1	26	0	159	2	2	0
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.1	9.7	9.3	8.7
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	14%	0%	100%	0%	50%
Vol Thru, %	0%	76%	0%	99%	50%
Vol Right, %	86%	24%	0%	1%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	238	117	142	4
LT Vol	24	0	117	0	2
Through Vol	0	180	0	141	2
RT Vol	148	58	0	1	0
Lane Flow Rate	185	256	126	153	4
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.242	0.333	0.2	0.221	0.007
Departure Headway (Hd)	4.709	4.691	5.727	5.218	5.574
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	758	763	624	684	637
Service Time	2.76	2.747	3.485	2.976	3.654
HCM Lane V/C Ratio	0.244	0.336	0.202	0.224	0.006
HCM Control Delay	9.3	10.1	9.9	9.5	8.7
HCM Lane LOS	A	B	A	A	A
HCM 95th-tile Q	0.9	1.5	0.7	0.8	0

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	113	156	72	22	213	34	4	0	4	8	23	35
Future Vol, veh/h	113	156	72	22	213	34	4	0	4	8	23	35
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	124	171	79	24	234	37	4	0	4	9	25	38
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	10.1	8.5	8.8
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	33%	8%	12%
Vol Thru, %	0%	46%	79%	35%
Vol Right, %	50%	21%	13%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	341	269	66
LT Vol	4	113	22	8
Through Vol	0	156	213	23
RT Vol	4	72	34	35
Lane Flow Rate	9	375	296	73
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.459	0.369	0.103
Departure Headway (Hd)	5.332	4.414	4.492	5.125
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	668	817	801	696
Service Time	3.394	2.443	2.524	3.177
HCM Lane V/C Ratio	0.013	0.459	0.37	0.105
HCM Control Delay	8.5	11.2	10.1	8.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0	2.4	1.7	0.3

Future Background P.M.

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	185	59	119	144	1	24	0	152	2	2	0
Future Vol, veh/h	0	185	59	119	144	1	24	0	152	2	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	199	63	128	155	1	26	0	163	2	2	0
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.2	9.7	9.4	8.7
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	14%	0%	100%	0%	50%
Vol Thru, %	0%	76%	0%	99%	50%
Vol Right, %	86%	24%	0%	1%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	244	119	145	4
LT Vol	24	0	119	0	2
Through Vol	0	185	0	144	2
RT Vol	152	59	0	1	0
Lane Flow Rate	189	262	128	156	4
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.249	0.343	0.204	0.227	0.007
Departure Headway (Hd)	4.734	4.711	5.746	5.238	5.612
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	755	758	622	681	632
Service Time	2.788	2.77	3.508	2.999	3.697
HCM Lane V/C Ratio	0.25	0.346	0.206	0.229	0.006
HCM Control Delay	9.4	10.2	10	9.5	8.7
HCM Lane LOS	A	B	A	A	A
HCM 95th-tile Q	1	1.5	0.8	0.9	0

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	159	75	23	217	35	4	0	4	8	23	36
Future Vol, veh/h	115	159	75	23	217	35	4	0	4	8	23	36
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	126	175	82	25	238	38	4	0	4	9	25	40
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.4	10.3	8.5	8.8
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	33%	8%	12%
Vol Thru, %	0%	46%	79%	34%
Vol Right, %	50%	21%	13%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	349	275	67
LT Vol	4	115	23	8
Through Vol	0	159	217	23
RT Vol	4	75	35	36
Lane Flow Rate	9	384	302	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.471	0.378	0.105
Departure Headway (Hd)	5.368	4.423	4.506	5.153
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	663	813	798	692
Service Time	3.434	2.453	2.539	3.208
HCM Lane V/C Ratio	0.014	0.472	0.378	0.107
HCM Control Delay	8.5	11.4	10.3	8.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0	2.5	1.8	0.4

Future Total P.M.

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	187	59	125	156	1	24	0	153	2	2	0
Future Vol, veh/h	0	187	59	125	156	1	24	0	153	2	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	201	63	134	168	1	26	0	165	2	2	0
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.3	9.9	9.5	8.8
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	14%	0%	100%	0%	50%
Vol Thru, %	0%	76%	0%	99%	50%
Vol Right, %	86%	24%	0%	1%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	246	125	157	4
LT Vol	24	0	125	0	2
Through Vol	0	187	0	156	2
RT Vol	153	59	0	1	0
Lane Flow Rate	190	265	134	169	4
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.253	0.348	0.215	0.246	0.007
Departure Headway (Hd)	4.78	4.74	5.756	5.248	5.667
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	748	754	621	680	625
Service Time	2.836	2.802	3.521	3.012	3.757
HCM Lane V/C Ratio	0.254	0.351	0.216	0.249	0.006
HCM Control Delay	9.5	10.3	10.1	9.7	8.8
HCM Lane LOS	A	B	B	A	A
HCM 95th-tile Q	1	1.6	0.8	1	0

Intersection

Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	174	75	23	220	35	4	0	4	8	23	36
Future Vol, veh/h	115	174	75	23	220	35	4	0	4	8	23	36
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	126	191	82	25	242	38	4	0	4	9	25	40
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.7	10.4	8.6	8.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	32%	8%	12%
Vol Thru, %	0%	48%	79%	34%
Vol Right, %	50%	21%	13%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	364	278	67
LT Vol	4	115	23	8
Through Vol	0	174	220	23
RT Vol	4	75	35	36
Lane Flow Rate	9	400	305	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.493	0.384	0.106
Departure Headway (Hd)	5.416	4.433	4.527	5.197
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	656	812	794	686
Service Time	3.485	2.463	2.561	3.255
HCM Lane V/C Ratio	0.014	0.493	0.384	0.108
HCM Control Delay	8.6	11.7	10.4	8.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0	2.8	1.8	0.4

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	345	22	18	260	37	30
Future Vol, veh/h	345	22	18	260	37	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	375	24	20	283	40	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	399	0	710	387
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	-	-	4.13	-	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	4.4	-
Critical Hdwy Stg 2	-	-	-	-	4.4	-
Follow-up Hdwy	-	-	2.227	-	3.8	3.9
Pot Cap-1 Maneuver	-	-	1154	-	565	667
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1154	-	553	667
Mov Cap-2 Maneuver	-	-	-	-	553	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	737	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	599	-	-	1154	-
HCM Lane V/C Ratio	0.122	-	-	0.017	-
HCM Control Delay (s)	11.8	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Appendix I

Planned Roadway Improvements

TRANSPORTATION MASTER PLAN FINAL REPORT

MIAMIBEACH

City of Miami Beach Mayor and Commissioners

Mayor Philip Levine
Commissioner John Elizabeth Alemán
Commissioner Ricky Arriola
Commisioner Michael Grieco
Commissioner Joy Malakoff
Commissioner Kristen Rosen Gonzalez
Commissioner Micky Steinberg

City of Miami Beach Management Team

Jimmy L. Morales, City Manager
Kathie G. Brooks, Assistant City Manager
Jose R. Gonzalez, P.E., Transportation Director
Josiel Ferrer-Diaz, E.I., Transportation Manager
Milosh Majstorovic, M.S.C.E.,Transit Operations Supervisor
Xavier R. Falconi, P.E., Bicycle & Pedestrian Coordinator

Gannett Fleming

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
3	**West Avenue Protected Bicycle Lanes**	South	Bike/Ped	6th Street	20th Street	1.3	Protected/buffered bicycle lanes (Lane repurposing), Enhanced crosswalks	West Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
4	**73rd Street One Way Protected Bicycle Lanes**	North	Bike/Ped	Dickens Avenue	Atlantic Trail	0.35	Protected/buffered bicycle lanes (Lane repurposing), Enhanced crosswalks	73rd Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
5	**72nd Street One Way Protected Bicycle Lanes**	North	Bike/Ped	Dickens Avenue	Collins Avenue	0.28	Protected/buffered bicycle lanes *(Lane repurposing),* Enhanced crosswalks	72nd Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
28	**SR A1A/ Indian Creek Drive Protected Bicycle Lanes**	North	Bike/Ped	Abbott Avenue	Dickens Avenue	0.33	Protected Bicycle Lanes (Lane repurposing and/or roadway widening)	That section of Indian Creek Drive requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
29	**15th Street Neighborhood Greenway**	South	Bike/Ped	Washington Avenue	West Avenue	0.66	Neighborhood Greenway *(Bicycle Boulevard Markers) Enhanced crosswalks*	15th Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
30	**20 Street Neighborhood Greenway**	South	Bike/Ped	Purdy Avenue	Sunset Drive	0.25	Neighborhood Greenway *(Bicycle Boulevard Markers) Enhanced crosswalks*	20th Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

Attachment B-2
Maneuverability Analysis

Kimley»Horn

MEMORANDUM

To: Dani Fawaz, P.E.
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE

Date: August 30, 2022

Subject: 1920 Alton Road
Maneuverability Analysis

Kimley-Horn and Associates, Inc. has prepared a maneuverability analysis for the proposed 1920 Alton Road redevelopment in Miami Beach, Florida. The areas included in the analysis include the ground level access to the parking garage, parking garage level, and loading area. The analysis was performed using Transoft's *AutoTurn 11* software design vehicle turning templates and vehicle turning templates consistent with American Association of State Highway and Transportation Officials' (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 2004/2011/2018. The analysis was prepared using a passenger car (P) design vehicle for the parking garage. Passenger van (P) design vehicles and single-unit (SU-30) trucks will be used for loading activities. The following summarizes the results of this analysis.

Parking Garage

Ingress and egress access to the parking garage is provided via a ramp located on 20th Street. Parking is provided on the second level of the project. A P design vehicle will be able to maneuver into and through the site without conflicting with oncoming traffic. Please refer to Figures 1 and 2 in Attachment A.

Loading Area

Access to the loading area is provided via the ingress and egress access on 20th Street. A P design vehicle and SU-30 design vehicle will used for loading operations at the site and will be able to maneuver in and out of the on-site loading area. Please refer to Figures 3 through 4 in Attachment B.

Conclusion

In conclusion, passenger vehicles and loading vehicles will be able to ingress, egress, and travel through the site and loading areas without conflicting with oncoming traffic.

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Attachment A

Passenger Vehicle Maneuverability Plots

FIGURE 1: GROUND LEVEL PASSENGER VEHICLE MANEUVERABILITY

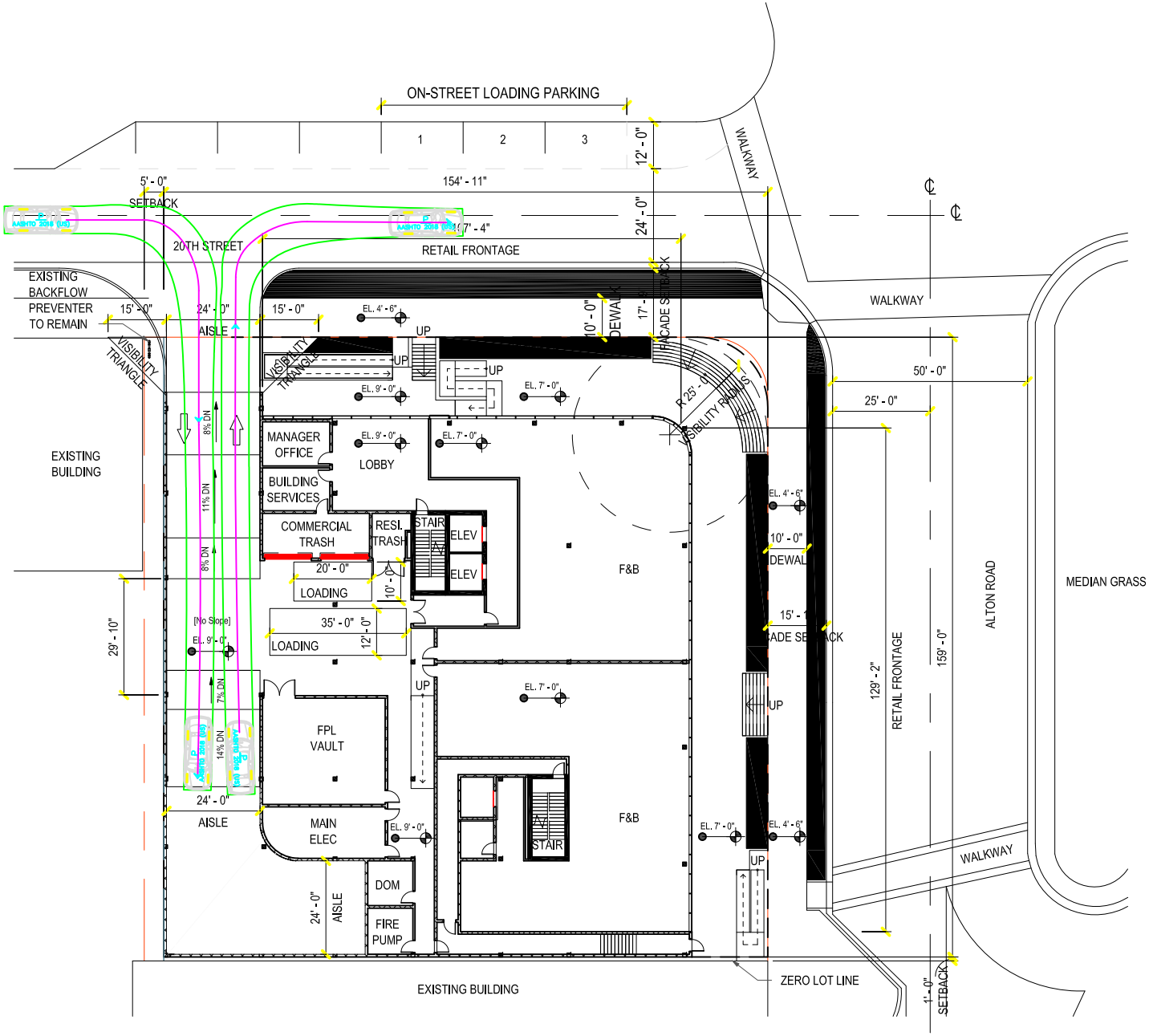
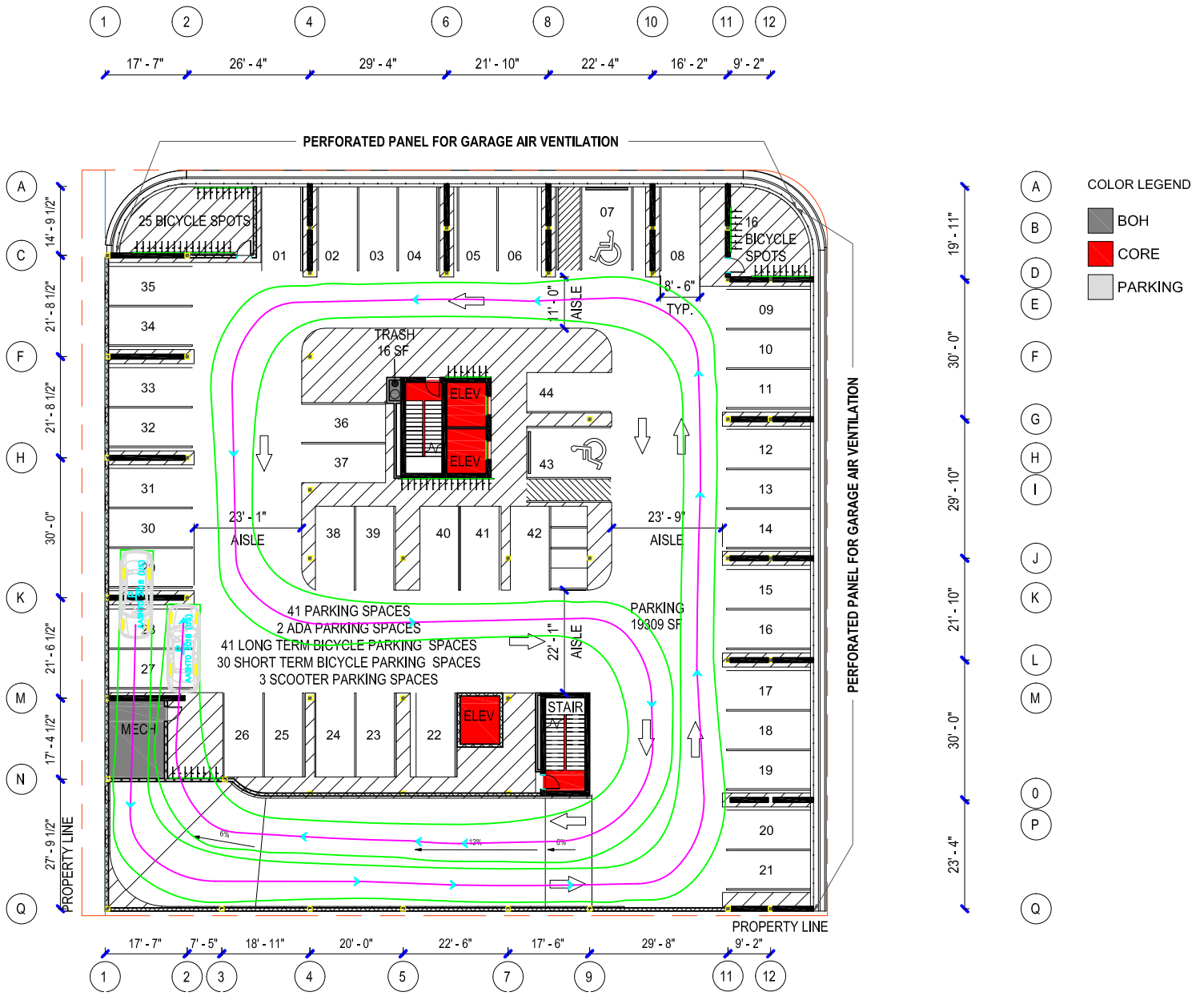


FIGURE 2: LEVEL 2 PASSENGER VEHICLE MANEUVERABILITY



1 FLOOR PLAN - LEVEL 02
SCALE: 3/64" = 1'-0"

Attachment B

Loading Vehicle Maneuverability Plots

FIGURE 3: P LOADING VEHICLE MANEUVERABILITY

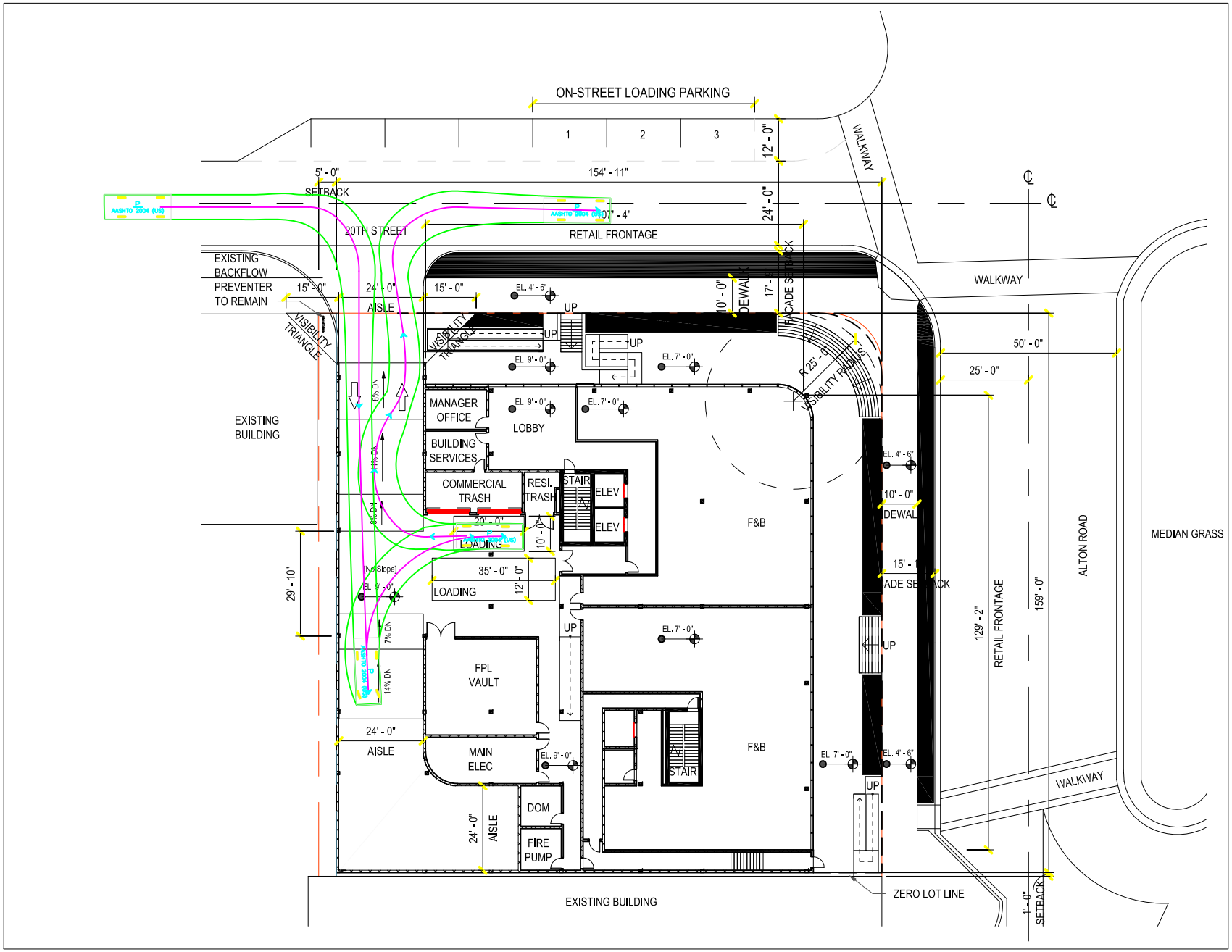


FIGURE 4: SU-30 LOADING VEHICLE MANEUVERABILITY