Traffic Impact Analysis
for Submittal to
the City of Miami Beach

ALTON ROAD OFFICE
MIAMI BEACH, FLORIDA

Kimley»Horn

Updated February 2024
November 2023
143747000

Traffic Impact Analysis for Submittal to the City of Miami Beach

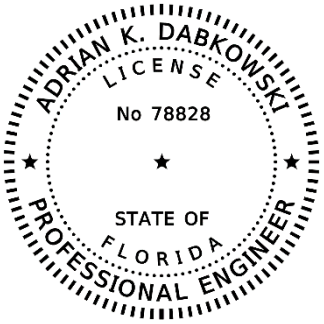
ALTON ROAD OFFICE
MIAMI BEACH, FLORIDA

Prepared for:

The Alton Venture, LLC

Prepared by:

Kimley-Horn and Associates, Inc.



This item has been digitally signed and sealed by Adrian K. Dabkowski, P.E., PTOE, on the date adjacent to the seal.

Adrian K. Dabkowski

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EXECUTIVE SUMMARY

Alton Venture, LLC is proposing to redevelop the property located on the southeast quadrant at the intersection of Alton Road and 5th Street in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by a 5,143 square foot fast-food restaurant with a drive-through (Burger King restaurant) and a vacant 8,556 square-foot retail center (former Pier 1 store). The proposed redevelopment consists of approximately 48,000 square feet of office space and 7,462 square feet of commercial space which may operate as a restaurant with 214 seats. The project is expected to be completed by year 2026.

Access to the proposed redevelopment will be provided via one full-access driveway along Lenox Avenue, between 5th Street and 4th Street. The project will effectively be operated as valet-only with limited self-parking provided on-site. The driveway will provide access to the valet pick-up and drop-off area which serves as an after-hours loading area and provides access to the parking garage. Note that the garage will not be open for the use of the public and will be used by valet service for tenant and patron vehicles. A security gate will be provided at the base of the ramp to restrict garage access after-hours. Further note that the security gate will remain open during operating hours.

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 a decrease of 14 net new weekday A.M. peak hour trips and increase of 37 net new weekday P.M. peak hour trips. Note that to provide a conservative analysis, the analysis was not updated from the previous submittal which accounts for a greater number of trips expected. The analysis accounts for an increase of 48 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 P.M. peak hour under all analysis scenarios.

The results of the 95th percentile turn lane queuing analysis indicates that exclusive turn lanes at all study intersections are not expected to exceed the provided storage under all analysis scenarios.

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote use of public transportation, bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. Note that the redevelopment is located less than five (5) miles from the Miami Central station and therefore trips between the development and the station fall within Brightline's rideshare program. Additionally, the applicant will commit to providing the following incentives including:

- Distributing a questionnaire to survey tenants preferred method of transportation.
- Providing 67 short-term and 72 long-term secure bicycle parking (bicycle racks and/lockers).
- Providing transit information within the site including route schedules and maps.
- Nine (9) designated scooter/motorcycle parking spaces.
- Subsidized transit passes for employees.
- Providing bike sharing/rentals passes for the Citibike station located across the street.
- Car/vanpooling designated parking spaces.
- Four (4) shower stalls for bicyclist use will be provided on site.

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 105 parking spaces. As part of the redevelopment, the project will provide 5 ADA spaces, 4 conventional parking spaces, and 48 mechanical lifts parking spaces for a total 105 parking spaces within the proposed parking garage and five (5) on-street parking spaces.

The results of the weekday A.M. peak hour valet operations analysis demonstrate that six (6) valet attendants would be required at the valet drop-off area and one (1) valet attendant would be required at the valet pick-up area to ensure that the vehicle drop-off/pick-up storage would not be exceeded. The results of the weekday P.M. peak hour valet operations analysis demonstrate that four (4) valet attendants would be required at the valet drop-off area and six (6) valet attendants would be required at the valet pick-up area to ensure that the vehicle drop-off/pick-up storage would not be exceeded.

The maneuverability analysis was prepared using a passenger (P) vehicle for the proposed valet area and parking level, delivery vans comparable to P design vehicles, and a single-unit 30-foot truck (SU-30) were used for deliveries/after-hours loading within the valet area. The maneuverability analysis determined that passenger vehicles and loading vehicles will be able to ingress, egress, and travel through the site and loading areas. Note that the delivery/loading vehicles require a back-in maneuver from Lenox Avenue to access the site.

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INTRODUCTION

Alton Venture, LLC is proposing to redevelop the property located on the southeast quadrant at the intersection of Alton Road and 5th Street in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by a 5,143 square foot fast-food restaurant with a drive-through (Burger King restaurant) and a vacant 8,556 square-foot retail center (former Pier 1 store). The proposed redevelopment consists of approximately 48,000 square feet of office space and 7,462 square feet of commercial space which may also operate as a restaurant with 214 seats. The project is expected to be completed by year 2026. The project will effectively be operated as valet-only with limited self-parking provided on-site. 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. The approved methodology correspondence detailing the traffic study requirements is included in Appendix B.

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Figure 1
Location Map
Alton Road Office
Miami Beach, Florida

EXISTING TRAFFIC

P.M. peak period (4:00 P.M. to 6:00 P.M.) turning movement counts were collected on October 17, 2023 (Tuesday) at the following intersections:

- Alton Road and 5th Street
- 5th Street and Lenox Avenue
- Alton Road and 4th Street
- 4th Street and Lenox Avenue

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 1.00 was applied to the turning movement counts.

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

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Study Roadway

Study Intersection

XX P.M. Peak Hour Traffic

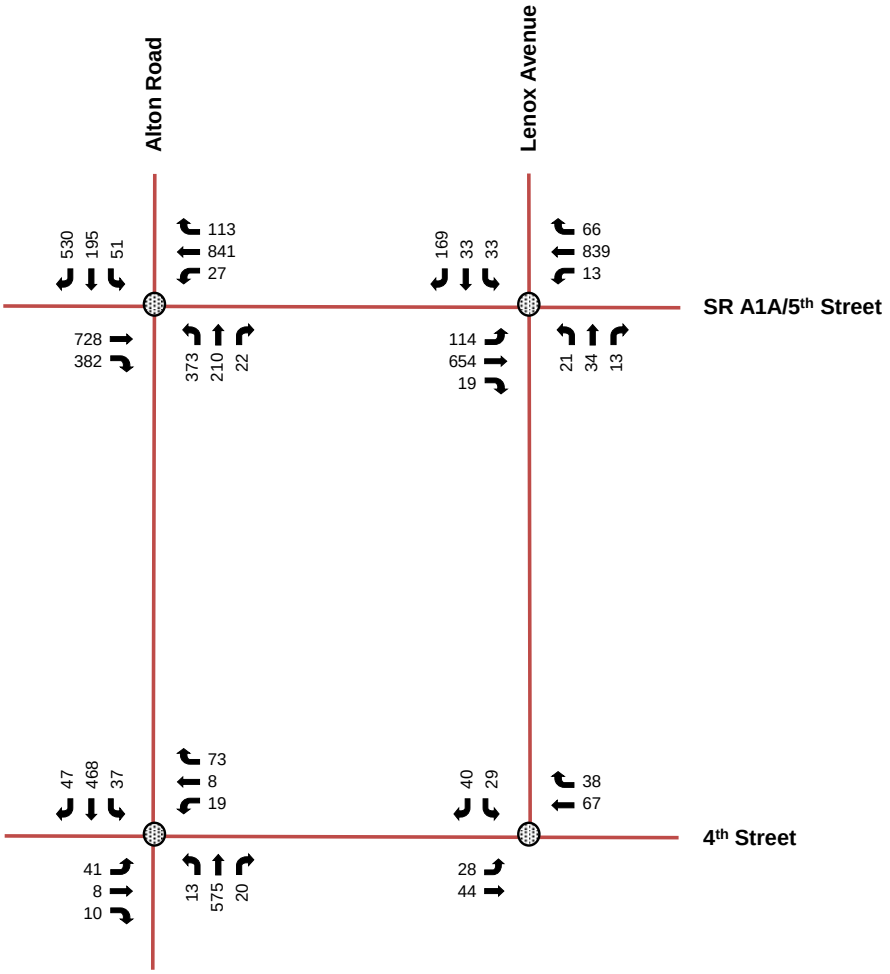

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Figure 2
Existing Peak Hour Traffic
Alton Road Office
Miami Beach, Florida

FUTURE BACKGROUND TRAFFIC

Future background traffic conditions are defined as expected traffic conditions on the roadway network in the year 2026 without the completion of the proposed redevelopment. Future background traffic volumes used in the analysis are the sum of the existing traffic, additional traffic generated by growth in the study area, and committed development traffic. Refer to Figure 3 for the future background 2026 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:

- FDOT count station no. 2527 located on SR A1A/MacArthur Causeway, west of SR 907/Alton Road
- FDOT count station no. 2528 located on SR A1A/MacArthur Causeway, north of Meridian Avenue
- FDOT count station no. 5159 located on SR A1A/Collins Avenue, north of 5th Street
- FDOT count station no. 8415 located on West Avenue, north of 12th Street
- FDOT count station no. 8590 located on S Pointe Drive, west of Washington 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 10-year periods. The linear growth trend yielded a growth rate of negative 3.35 percent (-3.35%) over the most recent five (5) year period and negative 2.70 percent (-2.70%) over the most recent 10-year period. The exponential growth trend yielded a growth rate of negative 4.33 percent (-4.33%) over the most recent five (5) year period and negative -3.27 percent (-3.27%) over the most recent 10-year period. The decaying exponential growth trend yielded a growth rate of negative 3.99 percent (-3.99%) over the most recent five (5) year period and negative 2.43 percent (-2.43%) over the most recent 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 3.35 percent (-3.35%).

Based on the forecasted volumes obtained from the 2015 and 2045 FSUTMS SERPM 8.524, an annual growth rate of 0.08 percent (0.08%) in the vicinity of the redevelopment was calculated.

To provide a conservative analysis, a minimum growth rate of 0.5 percent (0.5%) was applied annually to the existing traffic volumes to establish future (2026) 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:

- 411 Michigan Avenue
- 500-600-700 Alton Road

Committed development information is included in Appendix E.

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Study Roadway

Study Intersection

XX P.M. Peak Hour Traffic

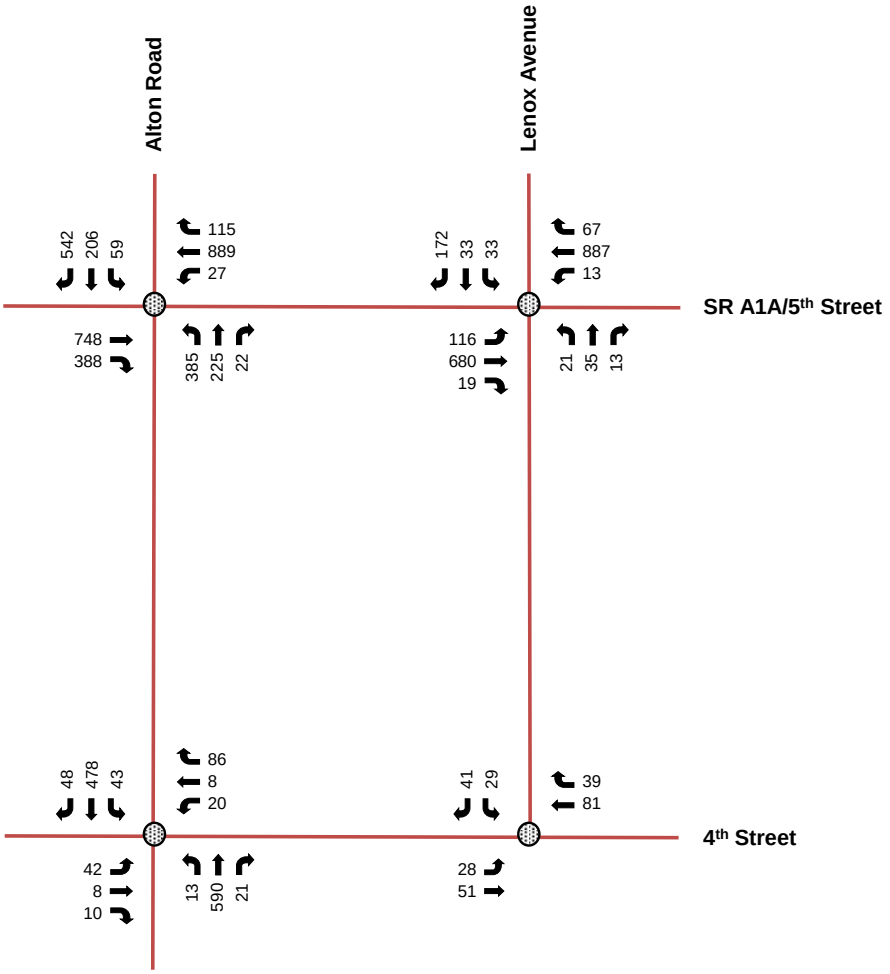

Figure 3
Future Background Peak Hour
Alton Road Office
Miami Beach, Florida

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 5,143 square foot fast-food restaurant with a drive-through (Burger King restaurant) and a vacant 8,556 square-foot retail center (former Pier 1 store). The proposed redevelopment consists of approximately 48,000 square feet of office space and 7,462 square feet of commercial space which may operate as a restaurant with 214 seats.

PROJECT ACCESS

Access to the proposed redevelopment will be provided via one full-access driveway along Lenox Avenue, between 5th Street and 4th Street. The project will effectively be operated as valet-only with limited self-parking provided on-site. The driveway will provide access to the valet pick-up and drop-off area which serves as an after-hours loading area and provides access to the parking garage. Note that the garage will not be open for the use of the public and will be used by valet service for tenant and patron vehicles. A security gate will be provided at the base of the ramp to restrict garage access after-hours. Further note that the security gate will remain open during operating hours.

TRIP GENERATION

The trip generation for the existing land use was determined using ITE Land Use Code LUC 934 (Fast-Food Restaurant with Drive-Through). Note that trip generation credit was not taken for the vacant retail center. Further note that the 7,462 square feet of commercial space has not been designated as restaurant or retail yet as this is dependent on the future tenant. Based on the updated site plan, if a restaurant is proposed in the future, approximately 214 seats may be provided whereas the previous site plan showed 320 seats for this land use. Therefore three (3) trip generation comparisons were prepared, one (1) for the previously submitted site plan alternative that proposed 320 restaurant seats (-981 net new daily trips, -17 net new A.M. peak hour trips, and 48 net new P.M. peak hour trips) for which the previously submitted traffic study was prepared for, one (1) for the current site plan proposing a reduced 214 seats (-1,213 net new daily trips, -17 net new A.M. peak hour trips, and 36 net new P.M. peak hour trips) and one (1) for

the current site plan assuming the area will be used as a retail space (-1,152 net new daily trips, -14 net new A.M. peak hour trips, and 37 net new P.M. peak hour trips), to determine which alternative generates higher net new trips. The trip generation for the proposed land uses was determined using ITE LUC 710 (General Office Building) and either LUC 931 (Fine Dining Restaurant) or LUC 822 (Strip Retail Plaza). Note that for the current site plan, the use of LUC 822 results in greater baseline trips compared to LUC 931. However, as the analysis was previously prepared for the higher generator of the restaurant land use with 320 seats, the analyses were not updated for the lower trip generation in order to provide a conservative analysis. Project trips were estimated for the weekday P.M. peak hour. Trip generation calculations for all three (3) alternatives and excerpts from ITE's *Trip Generation Manual*, 11th Edition are provided in Appendix F.

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 the vicinity of the redevelopment. The US Census data indicated that there is a 52.2 percent (52.2%) multimodal factor within the vicinity of the redevelopment. However, to provide a conservative analysis, a multimodal factor of 20.0 percent (20.0%) was applied to the trip generation calculations. It is expected that a portion of employees, patrons, and visitors will choose to walk, bike, or use public transit to and from the proposed redevelopment. Detailed census information is provided in Appendix F.

Five (5) Miami-Dade Transit (MDT) route and two (2) Miami Beach Trolley Routes operate in close proximity (within ½ mile) to the site during the A.M. and P.M. peak hours.

- Route 103/C operates along 5th Street in the vicinity of the study area with 30-minute headways in the eastbound and westbound directions during the A.M. and P.M. peak hours.
- Route 113/M operates along Alton Road in the vicinity of the study area with 40 to 60-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.

- Route 119/S operates along 5th Street in the vicinity of the study area with 7.5-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- Route 120 operates along 5th Street in the vicinity of the study area with 7.5-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- Route 150 operates along Washington Avenue in the vicinity of the study area with 20-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- The City of Miami Beach South Beach Loop/A Route operates along Alton Road in the vicinity of the study area with 20-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- The City of Miami Beach South Beach Loop/B Route operates along 5th Street in the vicinity of the study area with 20-minute headways in the eastbound and westbound directions during the A.M. and P.M. peak hours.

Additionally, Miami Central Station is located within five (5) miles of the redevelopment and therefore trips between the redevelopment and the station fall within Brightline's rideshare program. Detailed route information and headway data is provided in Appendix G.

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 2.6 percent (2.6%) during the A.M. peak hour and 2.8 percent (2.8%) 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 proposed restaurant land use is 44 percent (44.0%) during the P.M. peak hour.

NET NEW PROJECT TRIPS

The net new project trips represent the additional vehicles on the roadway network. As discussed previously, in order to provide a conservative analysis, the intersection capacity, 95th percentile lane queuing, and valet analyses, were not updated for the reduced trips generated and use the greater generator, LUC 931 for a restaurant with 320 seats. Therefore, for the purpose of this analyses, the project is expected to generate a decrease of 981 net new daily vehicular trips, a decrease of 17 net new weekday A.M. peak hour vehicular trips, and an increase of 48 net new weekday P.M. peak hour trips. Table 1 provides a summary of the trip generation calculations for the higher generator alternative. However, note that the current site plan is expected to generate a decrease of 981 net new daily vehicular trips, a decrease of 17 net new weekday A.M. peak hour vehicular trips, and an increase of 48 net new weekday P.M. peak hour trips. Detailed calculations and excerpts from ITE's *Trip Generation Manual*, 11th Edition are contained in Appendix F.

TRIP DISTRIBUTION AND ASSIGNMENT

`Table 1: Trip Generation

A.M. Peak Hour (P.M. Peak Hour) [Daily]

Future Land Use (ITE Code)	Scale	Net New External Trips	Entering Trips	Exiting Trips
Existing Development				
Fast-Food Restaurant with Drive-Through Window (934)	5,143 square feet	91 (61) [1,923]	47 (31) [962]	44 (30) [961]
Proposed Redevelopment				
General Office Building (710)	47,967 square feet	70 (70) [396]	62 (11) [191]	8 (59) [205]
Fine Dining Restaurant (931)	320 seats	4 (39) [546]	3 (26) [280]	1 (13) [266]
	Subtotal	74 (109) [942]	65 (37) [471]	9 (72) [471]
Net New Vehicle Trips				
Net New Vehicle Trips		**-17 (48) [-981]**	**18 (6) [-491]**	**-35 (42) [-490]**

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 652. The cardinal distribution is shown in Table 2. Detailed cardinal distribution calculations are contained in Appendix H.

Table 2: Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips
North-Northeast	21%
East-Northeast	4%
East-Southeast	3%
South-Southeast	2%
South-Southwest	3%
West-Southwest	18%
West-Northwest	23%
North-Northwest	26%
Total	**100%**

Figure 4 presents the P.M. peak hour net new trip distribution and Figure 5 presents the P.M. peak hour net new trip assignment. Figure 6 presents the P.M. peak hour pass-by trip distribution and Figure 7 presents the P.M. peak hour pass-by trip assignment.

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

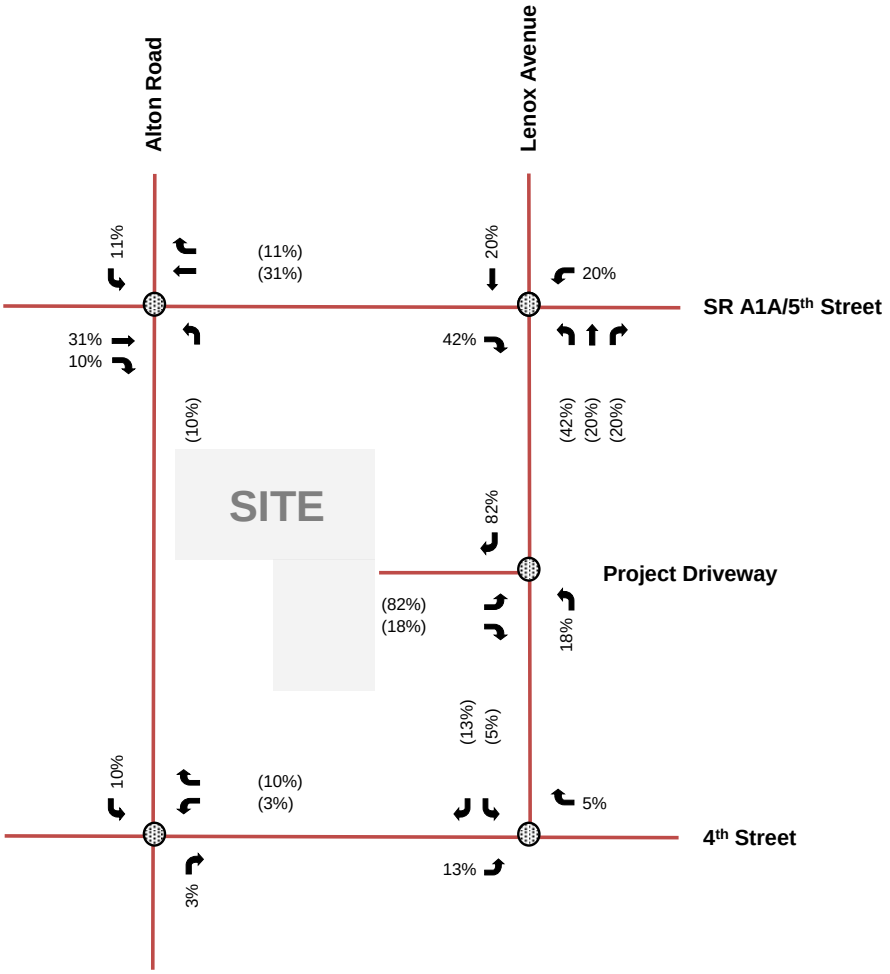

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Figure 4
Peak Hour Project Trip Distribution
Alton Road Office
Miami Beach, Florida

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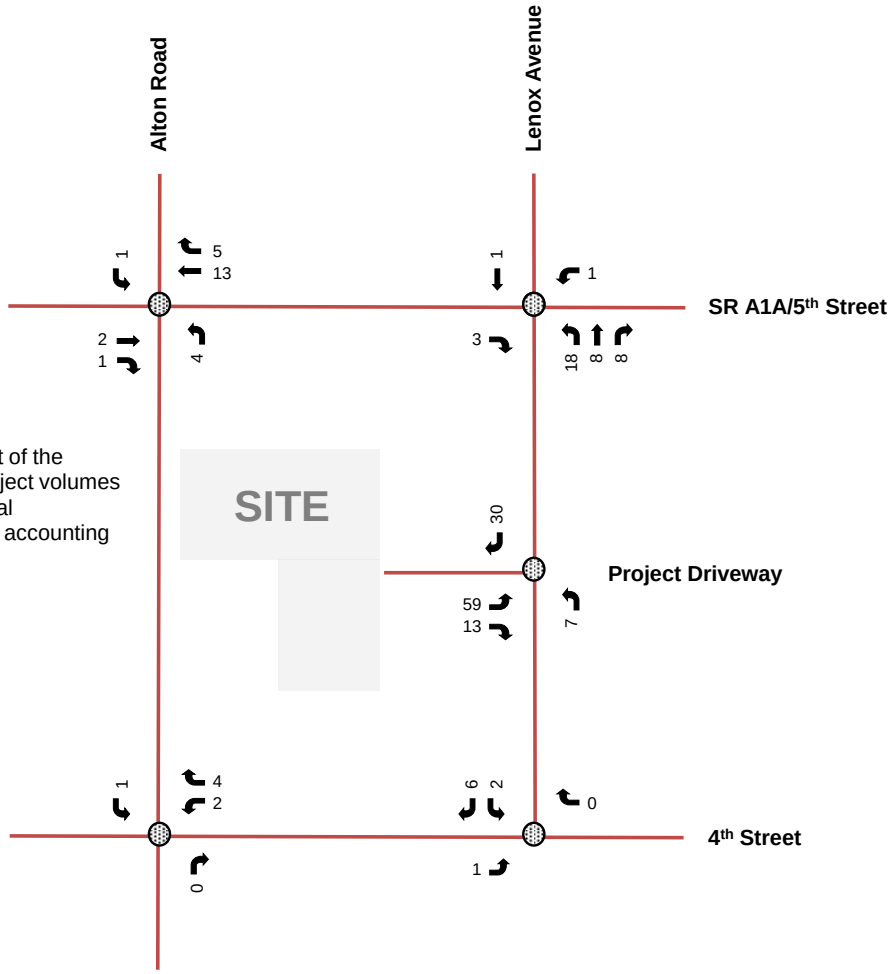
Study Roadway

Study Intersection

XX P.M. Peak Hour Trip Assignment



*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.

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

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Study Roadway

Study Intersection

XX% Entering Pass-By Trip Distribution

(XX%) Exiting Pass-By Trip Distribution

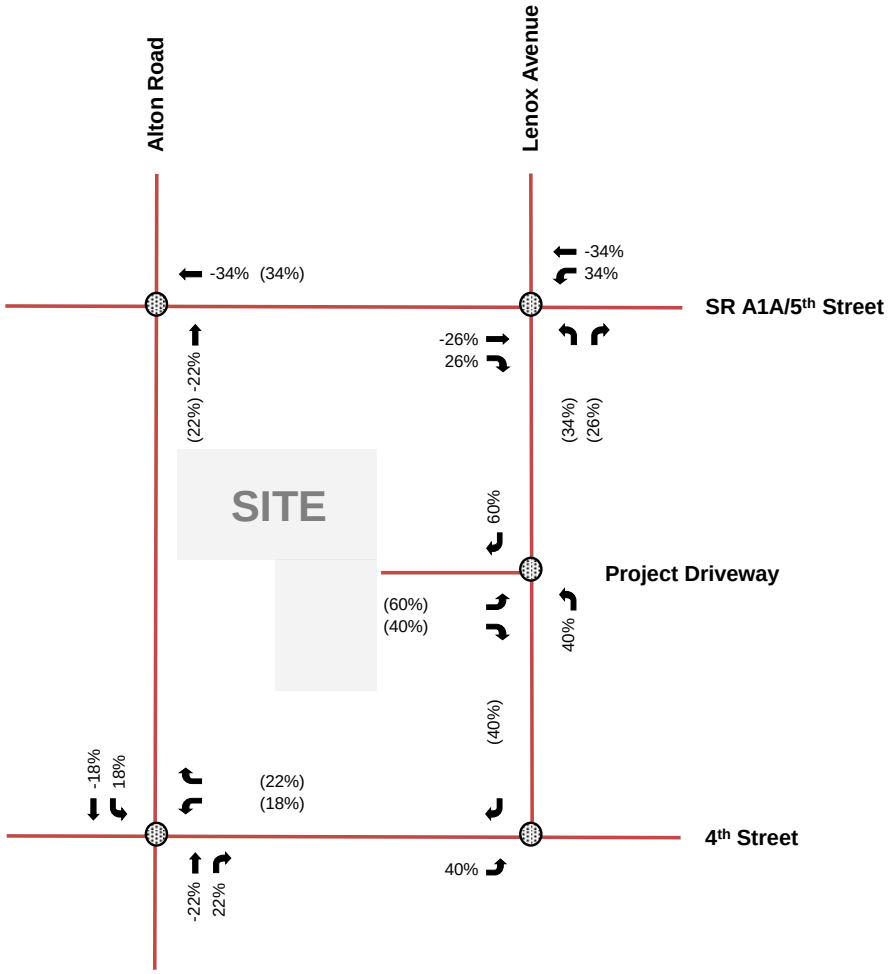

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Figure 6
P.M. Peak Hour Pass-By Trip Distribution
Alton Road Office
Miami Beach, Florida

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Study Roadway

Study Intersection

XX P.M. Peak Hour Pass-By Assignment

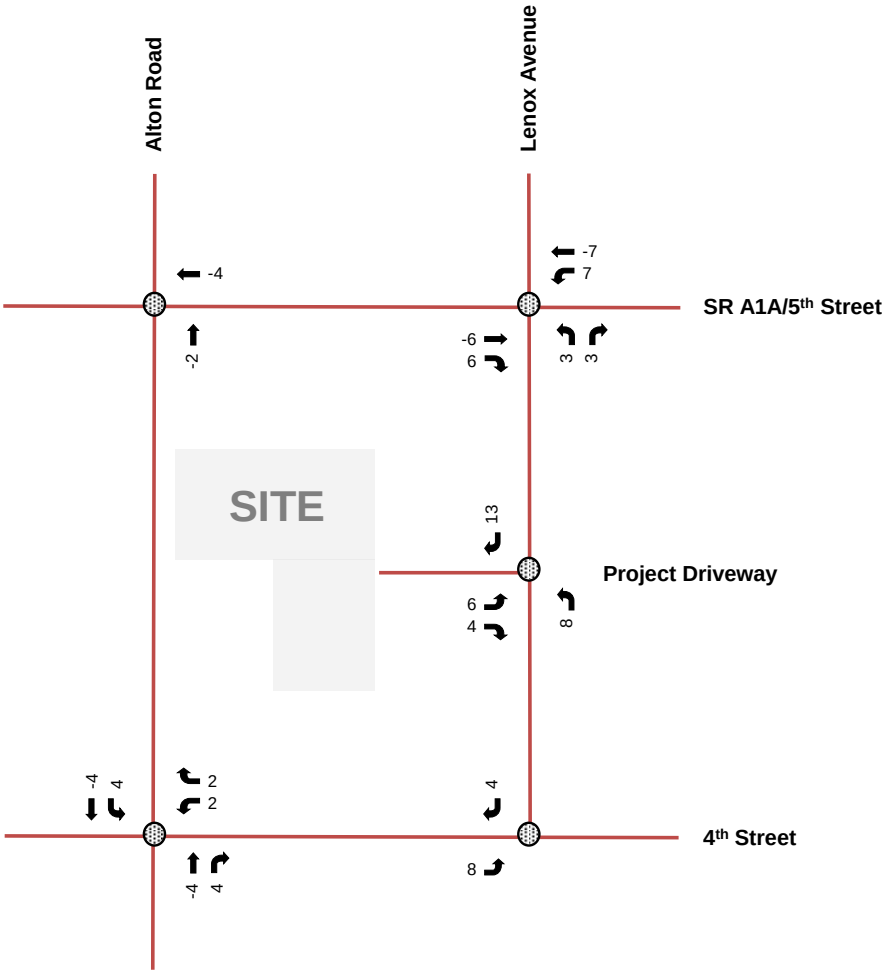

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Figure 7
P.M. Peak Hour Pass-By Trip Assignment
Alton Road Office
Miami Beach, Florida

FUTURE TOTAL TRAFFIC

Future total traffic conditions are defined as the expected traffic conditions in the year 2026 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 8 presents the future total turning movement volumes at the study intersections during the weekday P.M. peak hour. Volume development worksheets for the study intersections are included in Appendix I.

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Study Roadway

Study Intersection

XX P.M. Peak Hour Traffic

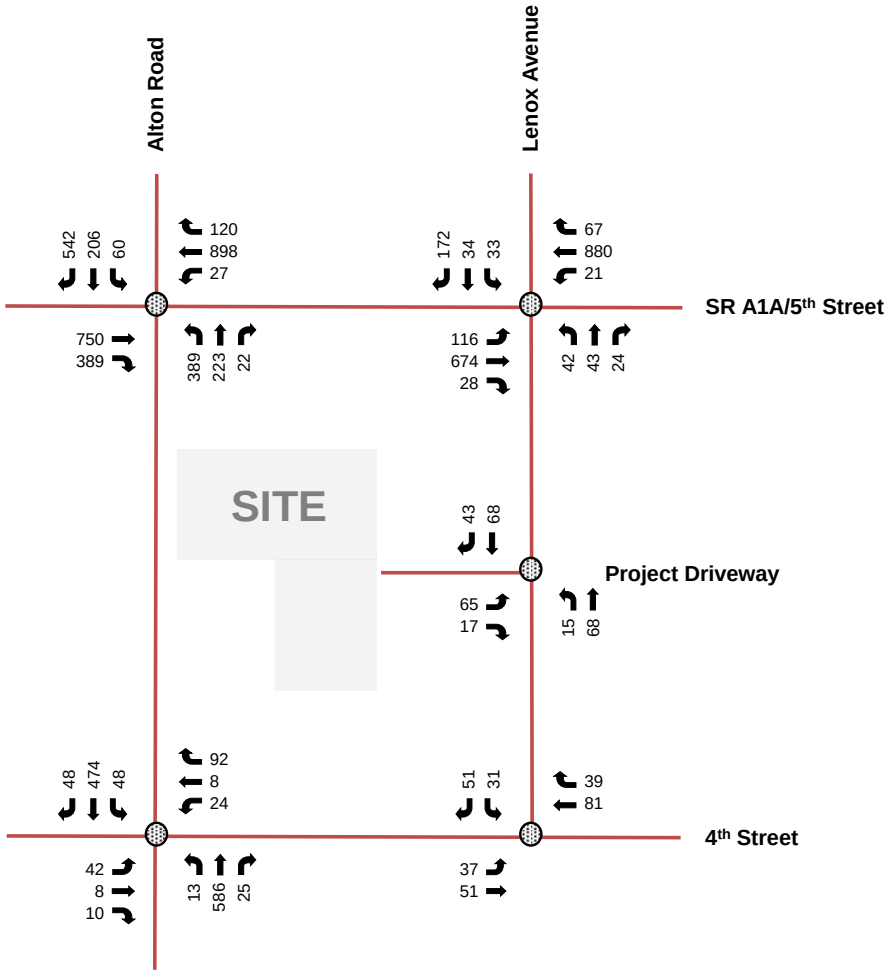

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Figure 8
Future Total Peak Hour Traffic
Alton Road Office
Miami Beach, Florida

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 J.

A summary of the intersection analyses for the 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 D+50% or better during the P.M. peak hour under all analysis scenarios.

Table 3: P.M. 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]						
Alton Road and 5th Street	Signalized	C/31.6 sec (C/33.1 sec) [C/33.1 sec]	B (B) [B]	B (B) [B]	E (E) [E]	E (E) [E]
5th Street and Lenox Avenue	Signalized	B/11.1 sec (B/11.0 sec) [B/11.8 sec]	A (A) [A]	A (A) [A]	D (D) [D]	D (D) [D]
Alton Road and 4th Street	Signalized	A/9.6 sec (B/10.1 sec) [B/10.6 sec]	D (D) [D]	E (E) [E]	A (A) [A]	A (A) [A]
4th Street and Lenox Avenue	One-Way Stop Control	(1)	(2)	(2)	(3)	B (B) [B]
Lenox Avenue and Project Driveway	One-Way Stop Control	(1)	(3) ((3)) [B]	(3)	(3) ((3)) [(2)]	(3) ((3)) [(2)]

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 TURN LANE QUEUEING ANALYSIS

A summary of the 95th percentile queue analyses for existing, future background, and future total conditions is presented in Table 3. As indicated, the anticipated future queues are not expected to exceed the provided storage at any of the study intersections.

Table 4. 95th Percentile Queues

Intersection	Movement	Storage Provided (ft)	95th Percentile Queue(1) (ft) P.M. Peak Hour
Existing Conditions (Future Background Conditions) [Future Total Conditions]			
Alton Road and 5th Street	EBR	260	(3)
	WBL(2)	150	59 (59) [64]
5th Street and Lenox Avenue	EBL(2)	240	39 (44) [43]
	WBL	165	<25 (<25) [<25]
Alton Road and 4th Street	NBL	70	<25 (<25) [<25]
	SBL(2)	125	<25 (<25) [<25]

Note: (1) The 95th percentile queue length is based on HCM methodology. Minimum queue of 25 feet assumed.
(2) Storage length based on distance to upstream intersection.
(3) The movement is under free-flow condition; therefore, Synchro indicates zero (0) vehicles queued.

VALET OPERATIONS ANALYSIS

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 the sidewalk or travel lanes along Lenox Avenue. Valet operations were analyzed for the number of valet attendants and required vehicle stacking for the redevelopment proposed traffic.

The redevelopment will be served by one (1) full access driveway along Lenox Avenue to serve the parking garage, on the northwest corner of Lenox Avenue and 4th Street. The valet drop-off/pick-up area consists of one (1) valet drop-off lane with storage for three (3) vehicles (approximately 75 feet), one (1) valet pick-up lane with storage for two (2) vehicles (approximately 56 feet), and ingress and egress bypass lanes. In addition to the valet pick-up area approximately 152 feet of storage space can be accommodated along the ramp. The project will effectively be operated as valet-only with limited self-parking provided on-site. For analysis purposes, valet was assumed for all trips. Office employees will be given a tag indicating they are a monthly parker, while restaurant and office guests will be given a ticket that can be validated. Therefore, based on the higher trip generation alternative of a restaurant land use with 320 seats, the project is expected to generate 74 valet trips (65 in/9 out) during the A.M. peak hour and 109 valet trips (37 in/72 out) during the P.M. peak hour.

Valet vehicles will be parked in the proposed parking garage, with access to the garage provided via the garage ramp located after the valet area. Note that the proposed garage contains four (4) conventional parking spaces, and 48 mechanical lifts parking spaces, which provides one (1) additional space on top of a conventional space, for a total 100 parking spaces to be exclusively used by valet attendants that will keep the mechanical lift keys. Further note, the vehicular travel distances differ slightly due to the different paths they take to ingress and egress out of the parking garage. The valet runners will utilize the staircase located nearest to the valet parking center to access the garage. The mechanical lifts will operate between 8:00 A.M. to 7:00 P.M. during the weekday with the exception of restaurant operating hours. After the operating hours of the building, the mechanical lifts will be locked by the valet attendants. Self-parking will not be permitted in the lifts. After 7:00 P.M., the vehicles will be moved to spaces that do not require the

use of the lift system to egress the building. The keys for the vehicles will be secured at the security desk for pick up and/or payment if necessary. A graphic illustration of the proposed ground level valet routes to and from the on-site parking garage is provided in Appendix K.

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 will be stationed at the valet drop-off/pick-up 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 within the on-site parking garage. 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 pick-up area. The following summarizes the total valet drop-off and pick-up service times.

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 the parking garage (0.4 minutes)
- Valet attendant parks vehicle in the mechanical lift parking space (1.6 minutes)
- Valet attendant returns to valet station (0.8 minutes)
- Total service rate: 3.3 minutes

The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the parking garage to retrieve the vehicle (0.8 minutes)
- Valet attendant retrieves vehicle from the mechanical lift parking space (1.0 minutes)
- Valet attendant drives vehicle from the parking garage to the valet pick-up area (0.3 minutes)
- Exchange between valet attendant and driver (0.5 minutes)
- Total service rate: 2.6 minutes

Detailed travel time calculations and mechanical lift processing time calculations are included in Appendix K.

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. This analysis seeks to ensure that the queue length does not exceed the storage provided at a level of confidence of 95 percent (95%). Three (3) vehicle drop-off spaces and two (2) vehicle pick-up are spaces provided for valet operations.

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. Detailed valet analysis worksheets are provided in Appendix K.

The results of the weekday A.M. peak hour valet operations analysis demonstrate that six (6) valet attendants would be required at the valet drop-off area and one (1) valet attendant would be required at the valet pick-up area to ensure that the vehicle drop-off/pick-up storage would not be exceeded. The results of the weekday P.M. peak hour valet operations analysis demonstrate that four (4) valet attendants would be required at the valet drop-off area and six (6) valet attendants would be required at the valet pick-up area to ensure that the vehicle drop-off/pick-up storage would not be exceeded. If it is determined that valet processing times can be performed more efficiently and/or actual traffic volumes are lower than projected, a reduced number of valet attendants may be adequate to serve the site.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote use of public transportation, bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. Note that the redevelopment is located less than five (5) miles from the Miami Central station and therefore trips between the development and the station fall within Brightline's rideshare program. Additionally, the applicant will commit to providing the following incentives including:

- Distributing a questionnaire to survey tenants preferred method of transportation.
- Providing 67 short-term and 72 long-term secure bicycle parking (bicycle racks and/lockers).
- Providing transit information within the site including route schedules and maps.
- Nine (9) designated scooter/motorcycle parking spaces.
- Subsidized transit passes for employees.
- Providing bike sharing/rentals passes for the Citibike station located across the street.
- Car/vanpooling designated parking spaces.
- Four (4) shower stalls for bicyclist use will be provided on site.

PARKING EVALUATION

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 105 parking spaces. As the 7,462 square feet of commercial space has not been designated as restaurant or retail yet, the parking requirements for restaurant and retail uses were compared. As the restaurant use results in a greater number of required spaces compared to retail, the parking calculations were prepared for a restaurant use.

As part of the redevelopment, the project will provide five (5) ADA spaces, four (4) conventional parking spaces, and 48 mechanical lifts parking spaces, which provides one (1) additional space on top of a conventional space, for a total 105 parking spaces within the proposed parking garage and five (5) on-street parking spaces. Refer to the detailed parking calculations prepared by others contained in Appendix A.

MANEUVERABILITY ANALYSIS

A maneuverability analysis was prepared for the ground level passenger vehicle circulation areas 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*, 2018. The analysis was prepared using a passenger (P) vehicle for the proposed valet area and parking level, delivery vans comparable to P design vehicles, and a single-unit 30-foot truck (SU-30) were used for deliveries/after-hours loading within the valet area. The maneuverability analysis determined that passenger vehicles and loading vehicles will be able to ingress, egress, and travel through the site and loading areas. Note that the delivery/loading vehicles require a back-in maneuver from Lenox Avenue to access the site. Maneuverability analysis plots are included in Appendix L.

EXISTING DRIVEWAY TRAFFIC

After further discussion with the City, a cut-through analysis will not be performed for the surface parking lot for the following reasons:

- Any cut-through traffic is removed with the construction of the project, as the existing Burger King driveways on 5th Street and 4th Street will be closed.
- A cut-through analysis is not a typical requirement of a private development traffic study.
- The only reasonable cut-through pattern would be to avoid the eastbound right-turn movement at the intersection of Lenox Avenue and 5th Street. The cut-through pattern to avoid this movement results in an eastbound right-turn movement from 5th Street at the existing Burger King driveway, followed by a southbound left-turn movement onto 4th Street. However, the PM peak hour right-turn volume at Lenox Avenue and 5th Street intersection is only 28 vehicles. Therefore, cut-through traffic through the meandering parking lot is not expected.
- Furthermore, the overall intersection of Lenox Avenue and 5th Street operates at LOS B (11.8 seconds of delay), the eastbound approach operates at LOS A (3.3 seconds of delay) and the eastbound through/right-turn movement group also operates at LOS A (2.2 seconds of delay) with the project in-place. Therefore, any cut-through traffic reassigned to this intersection is not expected to significantly impact the intersection operations.

CONCLUSION

Alton Venture, LLC is proposing to redevelop the property located on the southeast quadrant at the intersection of Alton Road and 5th Street in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by a 5,143 square foot fast-food restaurant with a drive-through (Burger King restaurant) and a vacant 8,556 square-foot retail center (former Pier 1 store). The proposed redevelopment consists of approximately 48,000 square feet of office space and 7,462 square feet of commercial space which may operate as a restaurant with 214 seats. The project is expected to be completed by year 2026.

Access to the proposed redevelopment will be provided via one full-access driveway along Lenox Avenue, between 5th Street and 4th Street. The project will effectively be operated as valet-only with limited self-parking provided on-site. The driveway will provide access to the valet pick-up and drop-off area which serves as an after-hours loading area and provides access to the parking garage. Note that the garage will not be open for the use of the public and will be used by valet service for tenant and patron vehicles. A security gate will be provided at the base of the ramp to restrict garage access after-hours. Further note that the security gate will remain open during operating hours.

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 a decrease of 14 net new weekday A.M. peak hour trips and increase of 37 net new weekday P.M. peak hour trips. Note that to provide a conservative analysis, the analysis was not updated from the previous submittal which accounts for a greater number of trips expected. The analysis accounts for an increase of 48 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 D+50% or better during the P.M. peak hour under all analysis scenarios.

The results of the 95th percentile turn lane queuing analysis indicates that exclusive turn lanes at all study intersections are not expected to exceed the provided storage under all analysis scenarios.

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote use of public transportation, bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. Note that the redevelopment is located less than five (5) miles from the Miami Central station and therefore trips between the development and the station fall within Brightline's rideshare program. Additionally, the applicant will commit to providing the following incentives including:

- Distributing a questionnaire to survey tenants preferred method of transportation.
- Providing 67 short-term and 72 long-term secure bicycle parking (bicycle racks and/lockers).
- Providing transit information within the site including route schedules and maps.
- Nine (9) designated scooter/motorcycle parking spaces.
- Subsidized transit passes for employees.
- Providing bike sharing/rentals passes for the Citibike station located across the street.
- Car/vanpooling designated parking spaces.
- Four (4) shower stalls for bicyclist use will be provided on site.

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 105 parking spaces. As part of the redevelopment, the project will provide 5 ADA spaces, 4 conventional parking spaces, and 48 mechanical lifts parking spaces for a total 105 parking spaces within the proposed parking garage and five (5) on-street parking spaces.

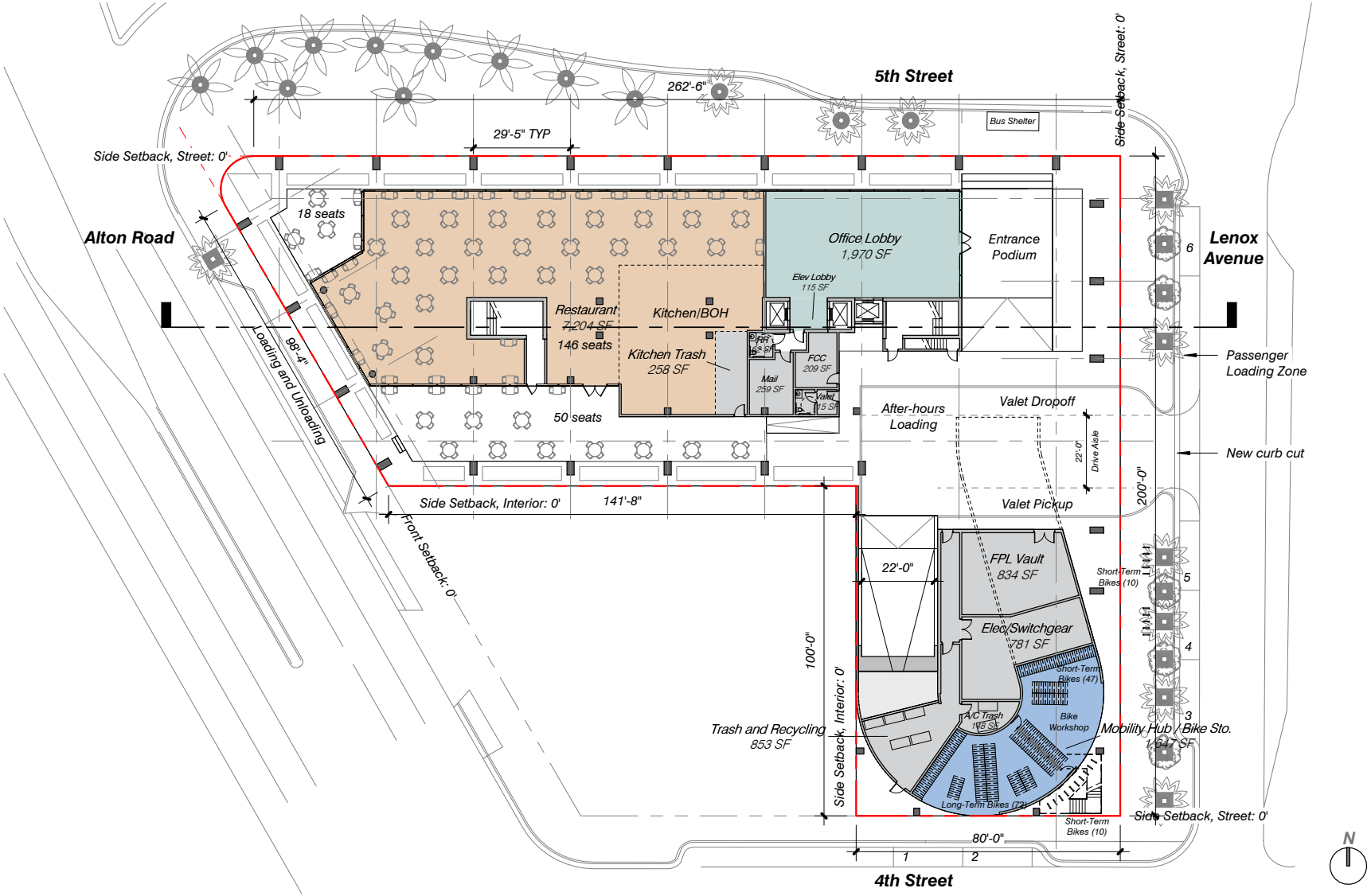
The results of the weekday A.M. peak hour valet operations analysis demonstrate that six (6) valet attendants would be required at the valet drop-off area and one (1) valet attendant would be required at the valet pick-up area to ensure that the vehicle drop-off/pick-up storage would not be exceeded. The results of the weekday P.M. peak hour valet operations analysis demonstrate that four (4) valet attendants would be required at the valet drop-off area and six (6) valet attendants would be required at the valet pick-up area to ensure that the vehicle drop-off/pick-up storage would not be exceeded.

The maneuverability analysis was prepared using a passenger (P) vehicle for the proposed valet area and parking level, delivery vans comparable to P design vehicles, and a single-unit 30-foot

truck (SU-30) were used for deliveries/after-hours loading within the valet area. The maneuverability analysis determined that passenger vehicles and loading vehicles will be able to ingress, egress, and travel through the site and loading areas. Note that the delivery/loading vehicles require a back-in maneuver from Lenox Avenue to access the site.

Appendix A

Site Plan



1100 5th Street	Miami Beach, Florida	Level 1	1" = 30'-0"	February 2, 2024

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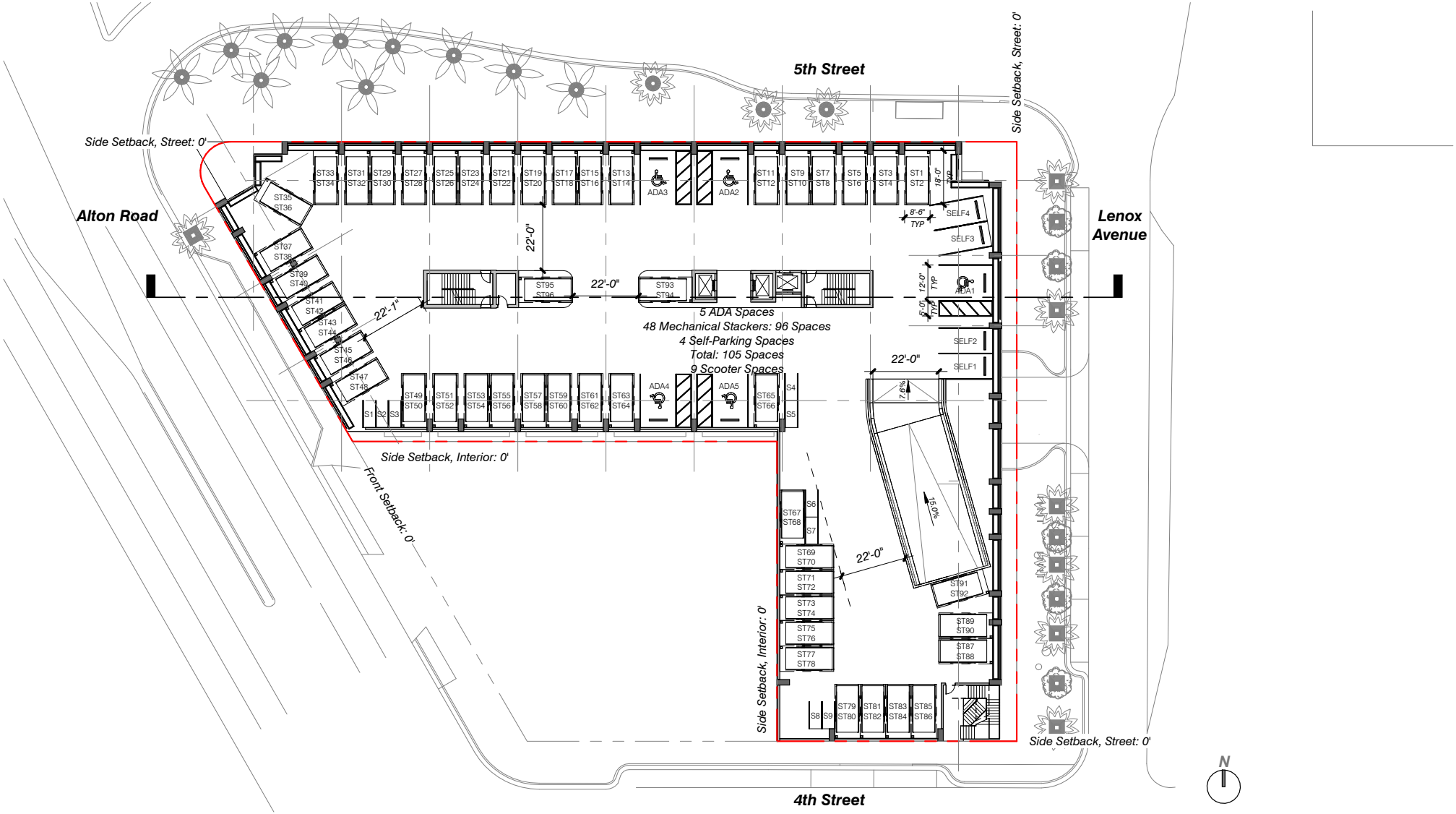

1100 5th Street

Miami Beach, Florida | Level 2 | 1" = 30'-0" | February 2, 2024

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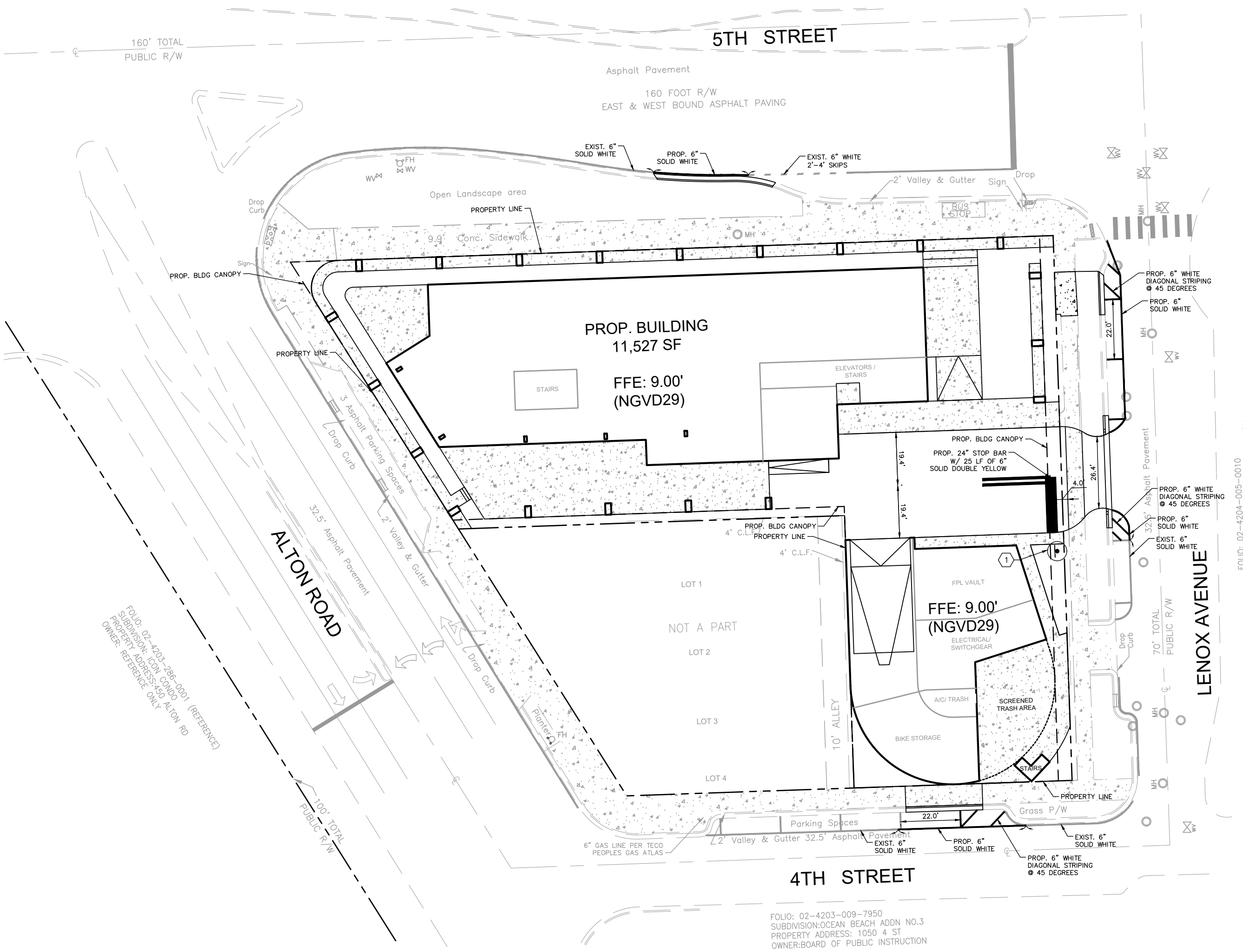

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

LEGEND	
— — —	PROPERTY LINE
●	PROPOSED SIGN

SIGN QUANTITY

LEGEND	SIGN SYMBOL	SIGN NUMBER & DIMENSIONS	QUANTITY
1	STOP	R1-1 30" X 30"	1

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON THE NGVD 29. TO CONVERT ELEVATIONS TO NAVD 88, SUBTRACT 1.56'.

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No.	REVISIONS	DATE	BY

Kimley»Horn

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PHONE: 954-535-5100 FAX: 954-739-2247
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL
CARLOS FLORIAN, P.E.
FL LICENSE NUMBER 80500
DATE: 1/31/2024

KHA PROJECT 143747001
DATE NOV 2023
SCALE AS SHOWN
DESIGNED BY CC
DRAWN BY LL
CHECKED BY CF

PAVEMENT MARKING AND SIGNING PLAN

ALTON ROAD OFFICE
PREPARED FOR
THE ALTON VENTURE, LLC
MIAMI BEACH FL

SHEET NUMBER
C600.0

Areas

Level	Name	Area Type	Area
Level 1 (NGVD 7.43')	Office Lobby	Office	1,970 SF
Level 1 (NGVD 7.43')	Elev Lobby	Office	115 SF
Level 1 (NGVD 7.43')	Restaurant	Restaurant	7,204 SF
Level 1 (NGVD 7.43')	A/C Trash	BOH	148 SF
Level 1 (NGVD 7.43')	Elec/Switchgear	BOH	781 SF
Level 1 (NGVD 7.43')	FCC	BOH	209 SF
Level 1 (NGVD 7.43')	FPL Vault	BOH	834 SF
Level 1 (NGVD 7.43')	Kitchen Trash	BOH	258 SF
Level 1 (NGVD 7.43')	Mail	BOH	259 SF
Level 1 (NGVD 7.43')	Mobility Hub / Bike Sto.	MOBILITY HUB	1,647 SF
Level 1 (NGVD 7.43')	RR	BOH	62 SF
Level 1 (NGVD 7.43')	Trash and Recycling	BOH	853 SF
Level 1 (NGVD 7.43')	Valet	BOH	115 SF
			14,455 SF
Level 1M	Dom. Water Pumps	BOH	86 SF
Level 1M	Fire Pumps	BOH	325 SF
Level 1M	MDF	BOH	197 SF
			607 SF
Level 2	Parking and Ramp	Parking	29,339 SF
			29,339 SF
Level 3	Common Area	Common Area	1,690 SF
Level 3	Elec	BOH	135 SF
Level 3	IDF	BOH	77 SF
Level 3	Office	Office	11,771 SF
Level 3	Amenity	Office	2,551 SF
			16,225 SF
Level 4	Elec	BOH	135 SF
Level 4	IDF	BOH	77 SF
Level 4	Office	Office	16,013 SF
			16,225 SF
Level 5	Elec	BOH	135 SF
Level 5	IDF	BOH	77 SF
Level 5	Office	Office	16,013 SF
			16,225 SF
			93,075 SF

Parking Calculations

Total Parking Required

Office L1	0	SF	300	SF/space	0.0	spaces
Office L3	16,000	SF	400	SF/space	40.0	spaces
Office L4	16,000	SF	400	SF/space	40.0	spaces
Office L5	16,000	SF	400	SF/space	40.0	spaces
Total	48,000	SF			120	spaces
Restaurant	214	Seats	4	Seats/space	54	spaces
Total Office + Restaurant					**174**	**spaces**

Shared Parking

	Weekdays				Weekends					
	Day		Evening		Day		Evening		Night	
Office	100%	120	5%	6	10%	12	5%	6	5%	6
Restaurant	50%	27	75%	41	75%	41	90%	49	10%	6
Total req.		**147**		**47**		**53**		**55**		**12**

Alternative Parking Incentives

		Max Reduction		Reduction provided			
Bicycle parking, long term	1 space / 5 bikes	15%	22	9%	13	65	Bikes
Bicycle parking, short term	1 space / 10 bikes	15%	22	4%	6	60	Bikes
Carpool/vanpool	3 spaces / 1 car/vanpool spaces	10%	14	6%	9	3	Carpool/Vanpool spaces
Drop-off	3 spaces / 1 curbside drop off stall		9		3	1	Drop-off stall
Scooter/moped/motorcycle	1 space / 3 spaces, off-street	15%	22	2%	3	9	Scooter stalls
Showers	2 spaces / shower facility		8		8	4	Shower stalls
Total Reduction			**97**		**42**		
	Max 50% Total Reduction		**73**				
				Spaces required	**105**		
				Spaces provided incl. 5 ADA spaces	**105**		

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Retail and Restaurant Parking Requirement Comparison

Comparison of Retail and Restaurant Required Parking Spaces				
Use	Scale	Units	Requirement	Required Spaces
Restaurant	214	seats	1 space per 4 indoor seats	**54**
			or	
Retail	7,462	sf	1 space per 300 sf	25

Appendix B

Methodology Correspondence

THE CORRADINO GROUP, INC.

CORRADINO

ENGINEERS · PLANNERS · PROGRAM MANAGERS · ENVIRONMENTAL SCIENTISTS

date: December 7, 2023
to: Grant Webster, Transportation Planner, City of Miami Beach

from: Diana White, P.E.

subject: Alton Road Office Traffic Methodology Review

MEMORANDUM

The Corradino Group, Inc (Corradino) has been requested to review the proposed traffic methodology for the Traffic Impact Study for the proposed development located at the intersection of Alton Road and 5th Street in the City of Miami Beach, Florida. In addition to the proposed methodology outlined on the 11/30/2023 submittal prepared by Kimley-Horn, see below additional requested information:

1. Please include the Planning Case number PB23-0636 in the subject line of the traffic study Methodology Memorandum.
   ***KHA Response**. The methodology was revised to include the Planning Case number in the subject line. The revised methodology is included in Response Attachment A.*
   TCG Response: Addressed

2. Please include all ITE Trip Generation Handbook Manual, 11th edition references used in the preparation of the Traffic Study as part of an Appendix with the next submittal.
   ***KHA Response**. The methodology was revised to include the ITE Trip Generation Manual, 11* Edition references in the Appendix. The revised methodology is included in Response Attachment A.*
   TCG Response: Addressed

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FAX 305.594.0755
WWW.CORRADINO.COM

3. Traffic impact study (TIS) must be signed and sealed by a professional engineer registered in the State of Florida. The traffic impact study should meet the criteria outlined in the "Land Use Boards- Coordination with the Transportation and Mobility Department" dated 09/09/22.
   KHA Response. *Comment noted*.
   TCG Response: Addressed

4. Please confirm in writing when the retail versus restaurant use will be determined. The final Methodology Memorandum and Traffic Study will be required to match the final proposal. Any changes to the proposed land uses identified on the Methodology Memorandum, may trigger the collection of AM turning movement counts or the analyses of additional intersections.

   KHA Response: *Response: This will depend on the future tenant of the space. Both cases were analyzed and included into the methodology. Note that in both cases, the proposed uses result in a total reduction of A.M. net new trips. Therefore, A.M. peak hour analyses are not proposed. Further note that the higher trip generator will be analyzed as part of the traffic study, as stated in the updated methodology. The revised methodology is included in Response Attachment A*
   TCG Response: Please be advised that parking requirements for the two land uses are also different.
   KHA Response: The parking requirements for both scenarios will be included in the traffic study. The methodology was updated to include this statement.
   TCG Response: Addressed

5. Please include the number of proposed restaurant seats in the narrative section of the methodology memorandum.
   KHA Response. *The methodology was revised to include the possible number of restaurant seats. The revised methodology is included in Response Attachment A.*
   TCG Response: Addressed

6. In addition to the weekday AM and PM peak trip generation calculations, please include the daily trip calculations as part of the TIS.
   KHA Response*. Comment noted. Daily trip calculations are provided as pad of the revised methodology included in Response Attachment A.*
   TCG Response: Addressed

7. Please use the peak season conversion factor (PSCF) from the most recent available FDOT peak Season Factor Category Report to adjust counted traffic volumes to average peak season conditions.

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KHA Response. *Comment noted. FDOT's 2022 Peak Season Factor Category Report will be used.*
TCG Response: Addressed

8. Please include the Internal Capture used as a percentage in the Trip Generation section of the methodology memorandum.
KHA Response. *The methodology was revised to include the internal capture percentage applied. The revised methodology is included in Response Attachment A.*
TCG Response: Addressed

9. Please include ITE relevant pages identifying the pass-by percentage utilized for the proposed Fine Dining Restaurant use.
KHA Response. *The methodology was revised to include the ITE relevant pages to identify pass-by for the proposed Fine Dining Restaurant in the Appendix. The revised methodology is included in Response Attachment A.*
TCG Response: Addressed

10. Please include any approved committed trips within the area of the study and include relevant pages from the traffic studies as part of an Appendix.
KHA Response*. Per direction from the City, the 411 Michigan development and 500-600-700 Alton Road development will be included as committed trips in the traffic impact analysis. The revised methodology is included in Response Attachment A.*
TCG Response: Addressed

11. Please identify 95th percentile queues as part of the TIS.
KHA Response : *In order to move the project forward 95!* percentile queues for exclusive turn lanes at the study intersections will be provided. However, note that this is not a pad of City code requirements. The revised methodology is included in Response Attachment A.*
TCG Response: Addressed

12. Please identify the buildout year for the proposed use of the site.
KHA Response*: The buildout year of 2026 is provided in the methodology.*
TCG Response: Addressed

13. Please provide a site plan figure that depicts the location of the valet stand and the parking spaces used for the valet operation. Please provide details regarding the location of the valet attendants, the drop-off location, pick-up location, etc.

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***KHA Response**. As discussed in the methodology, the valet parking operations and figures will be provided as part of the traffic impact analysis.*
TCG Response: Noted

14. Please include a narrative within the traffic impact study on how the valet operations will interact with the office use versus the retail/restaurant use separately and simultaneously, since there may be overlap at the end of the business day. Also, please clarify if the valet services will be provided for the retail use or restaurant only.
***KHA Response**. Comment noted. The narrative discussing valet parking operations will be provided as part of the traffic impact analysis.*
TCG Response: Addressed

15. Please provide a detailed valet parking operational analysis for the proposed use of the site. Please ensure that the arrival rate for any valet parking queuing analysis is based on the sum of the peak hour entering and exiting trip generation estimates.
***KHA Response.** Comment noted. The Valet parking operational analysis plan is provided in the methodology and the results will be provided as part of the traffic impact analysis.*
TCG Response: Addressed

16. Please include a narrative within the traffic study regarding the number of parking spots being provided versus the ones required for the proposed development within the garage.
***KHA Response**. Comment noted. An evaluation of the number of provided parking spaces and required parking spaces will be provided as part of the traffic impact analysis.*
TCG Response: Please note that number of parking spaces required should be per City of Miami Beach Code**.**
KHA Response: *the updated methodology includes this statement, refer to Response Attachment A*
TCG Response: Addressed

17. Regarding the proposed garage, please confirm in writing the following items:
    a. Will the garage be open for the use of the public?
    b. Will there be a gate for the proposed garage? If there is, please provide a detailed narrative of the proposed gate operations (ingress/egress)

***KHA Response**. The methodology was revised to include an entry gate analysis that will be provided as part of the traffic impact analysis. The revised methodology is included in Response Attachment A.*
TCG Response: Please note that item a. described above needs to be addressed in writing**.**

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KHA Response: *The methodology has been revised to state that the garage will not be open for the use of the public. The garage will be used by valet service for tenant and patron vehicles. The revised methodology is included in Response Attachment A.*
TCG Response: Addressed

18. Please provide a detailed narrative of the operations (ingress/egress) for the proposed mechanical parking. Narrative must include a detailed explanation of how the vehicles will be handled by the proposed car parking lifts, processing time per vehicle, which should factor the speed of the lift in the vertical direction, time for the lift to reach the highest floor where mechanical lifts will be provided, time to drive vehicle to and from the furthest parking space on the highest level. Traffic study must include a detailed mechanical parking operational analysis for the proposed use of the site. Site must provide enough inbound vehicle reservoir. Vehicles are not permitted to queue in the public right-of-way. Please provide the relevant plan sheets and references to support processing times. Please also include the following within the narrative:
    a. Number of lifts being proposed,
    b. Number of vertical spots proposed for each lift
    c. Who will have the keys to operate the lifts
    d. Will there be anyone without a key permitted to operate the lifts
    e. Whose vehicles will be permitted to park in the lifts
    f. Will self-parked be permitted in the lifts
    g. What are the proposed hours of operations for the lifts
    h. Will the lifts be locked and inoperable after hours

    KHA Response. *Comment noted. The narrative for mechanical parking will be provided in the traffic impact analysis as part of the valet analysis.*
    TCG Response: Please revise the methodology to include responses to items a. to h. described above in the Traffic Impact Study as the revised methodology dated 11/13/23 does not contain some of these.
    KHA Response*: The above items have been included in the methodology and will be discussed within the traffic study. The revised methodology is included in Response Attachment A*
    TCG Response: Addressed

19. There are some concerns regarding current traffic utilizing the existing two access openings proposed to be closed by the proposed development (5th Street and 4th Street) as cut-through. Please conduct a cut-through traffic survey at those two openings and distribute those trips to the adjacent intersections as necessary for the future buildout conditions analysis.
    KHA Response*: Based on review of the geometry of the surface lot, it is expected that the nominal number of vehicles that may cut-through the surface parking lot with multiple turns within the drive aisles will not have a*

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significant effect on the analysis. Further note, that will the project will close these driveways and any cut-through pattern will be eliminated. Therefore, this data collection and analysis is not proposed as part of our traffic impact analysis.

TCG Response: Understood; however, please provide a narrative to include a justification of why the applicant's team believe the cut-through survey is not significant based on the results of the operational analyses that have already been completed within the study area.

KHA Response: *After further discussion with the City, a cut-through analysis will not be performed for the surface parking lot for the following reasons:*

- *Any cut-through traffic is removed with the construction of the project, as the existing Burger King driveways on 5th Street and 4th Street will be closed.*
- *A cut-through analysis is not a typical requirement of a private development traffic study.*
- *The only reasonable cut-through pattern would be to avoid the eastbound right-turn movement at the intersection of Lenox Avenue and 5th Street. The cut-through pattern to avoid this movement results in an eastbound right-turn movement from 5th Street at the existing Burger King driveway, followed by a southbound left-turn movement onto 4th Street. However, the PM peak hour right-turn volume at Lenox Avenue and 5th Street intersection is only 28 vehicles. Therefore, cut-through traffic through the meandering parking lot is not expected.*
- *Furthermore, the overall intersection of Lenox Avenue and 5th Street operates at LOS B (11.8 seconds of delay), the eastbound approach operates at LOS A (3.3 seconds of delay) and the eastbound through/right-turn movement group also operates at LOS A (2.2 seconds of delay) with the project in-place. Therefore, any cut-through traffic reassigned to this intersection is not expected to significantly impact the intersection operations.*

These reasons are documented in the methodology and will be discussed within the traffic study. The revised methodology is included in Response Attachment A.

TCG Response: **Addressed**

20. Please provide a narrative within the TIS that describes the proposed loading and unloading operations of the site. This includes deliveries, solid waste collections, etc. Please provide an Auto TURN vehicle maneuverability exhibit for the proposed design vehicle to ensure acceptable traffic circulation for the loading and unloading operations.

KHA Response*. Comment noted. The maneuverability analysis is included in the methodology and the results will be provided as part of the traffic impact analysis.*

TCG Response: Addressed

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21. Please provide an Auto TURN vehicle maneuverability exhibit for the proposed design vehicle along the interior circulatory ramps demonstrating that enough ramp width is being provided for two vehicles driving in opposite directions to safely maneuver the curve simultaneously.
KHA Response. *Comment noted. The maneuverability analysis is included in the methodology and the results will be provided as part of the traffic impact analysis.*
TCG Response: Noted

22. Please include a copy of the most recent site plan with the revised traffic Methodology Memorandum.
KHA Response. The revised methodology will provide the most recent site plan in the Attachment. Note that the site plan may be revised by the time of the traffic impact analysis submittal. The revised methodology is included in Response Attachment A.
TCG Response: Noted

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Kimley»Horn

MEMORANDUM

To: Grant Webster and Otniel Rodriguez, E.I.
City of Miami Beach

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

Date: November 30, 2023

Subject: Alton Road Office | PB23-0636
Traffic Study Methodology

The purpose of this memorandum is to summarize the traffic study methodology for the redevelopment located on the southeast quadrant at the intersection of Alton Road and 5th Street in Miami Beach, Florida. The parcel proposed for redevelopment is currently occupied by a 5,143 square-foot fast-food restaurant w/drive through and a vacant 8,556 square-foot retail center. The proposed redevelopment consists of approximately 47,007 square feet of office space and 6,130 square feet of commercial space. A conceptual site plan and location map are included in Attachment A. The anticipated build-out year for the site is 2026 The following sections summarize our proposed methodology.

PROJECT ACCESS

Access to the proposed redevelopment will be provided via one full-access driveway along Lenox Avenue, between 5th Street and 4th Street. This driveway will provide access to the valet pick-up and drop-off area which serves as an after-hours loading area and provides access to the parking level via ramp. Note that the garage will not be open for the use of the public and will be used by valet service for tenant and patron vehicles. Access to the refuse loading area will be provided via the existing curb cut along Lenox Avenue, north of 4th Street.

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 934 (Fast-Food Restaurant with Drive-Through). Note that trip generation credit was not taken for the vacant retail center. Further note that the 6,130 square feet of commercial space has not be designated as restaurant or retail yet as this is dependent on the future tenant. Note that if a restaurant is proposed in the future, approximately 320 seats may be provided. Therefore two (2) trip generations were prepared for the proposed land uses to determine which land use generates higher net new trips. The trip generation for the proposed land uses was determined using ITE LUC 710 (General Office Building) and either LUC 931 (Fine Dining Restaurant) or LUC 822 (Strip Retail Plaza). Note that the use of LUC 931 results in greater baseline trips compared to LUC 822. Therefore, in order to provide a conservative analysis, trip generation calculations were prepared using LUC 931 for a restaurant with 320 seats. Trip generation calculations for both land use alternatives and excerpts from ITE's *Trip Generation Manual*, 11th Edition are provided in Attachment B.

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 52.2% percent (52.2%) multimodal factor within the vicinity of the development. However, to provide a conservative analysis, a multimodal factor of 20.0 percent (20.0%) was applied to the trip generation calculations. It is expected that patrons and visitors will choose to walk, bike, or use public transit to and from the proposed redevelopment. 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 B.

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 2.7 percent (2.7%) during the A.M. peak hour and 2.8 percent (2.8%) during the P.M. peak hour.

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 proposed restaurant land use is 44 percent (44.0%) during the P.M. peak hour.

The project is expected to generate a decrease of 18 net new vehicle trips during the weekday A.M. peak hour, an increase of 47 net new vehicle trips during the P.M. peak hour, and a decrease of 987. net new vehicle trips during the day. Detailed trip generation calculations are included as Attachment B.

STUDY AREA

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

1. Alton Road and 5th Street
2. 5th Street and Lenox Avenue
3. Alton Road and 4th Street
4. 4th Street and Lenox Avenue

DATA COLLECTION

As the proposed site is expected to result in a decrease of project trips during the A.M. peak hour, weekday 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 2022 Florida Department of Transportation (FDOT) peak season conversion factors for Miami-Dade. Turning movement counts will be collected in 15-minute intervals during the analysis peak period and will include pedestrian and bicycle counts and heavy vehicle percentages. 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. 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 2026 was interpolated from the 2015 and 2045 data. The project is located within TAZ 652. The detailed cardinal distribution is provided in Attachment C.

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 following developments will be included in background conditions as committed projects:

- 411 Michigan Avenue
- 500-600-700 Alton Road

INTERSECTION 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 6th Edition 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)

95TH PERCENTILE TURN LANE QUEUEING ANALYSIS

A 95th percentile queue analysis will be performed to determine if the existing turn lane 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 will be calculated using Trafficware's SYNCHRO 11 software, which applies methodologies outlined in the TRB's HCM, 2000/6th Edition.

PARKING EVALUATION

A summary of the proposed on-site parking supply, including conventional parking spaces, mechanical-lift spaces, ADA spaces, and bicycle parking, will be prepared and included as part of the traffic study and compared to the number of required parking spaces calculated by the architect per City of Miami Beach requirements. Note that both redevelopment program parking requirements will be documented in the traffic study.

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.

VALET OPERATION ANALYSIS

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

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.

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 documented in a traffic report.

Additional information will be discussed in the traffic study, including:

a. Number of lifts being proposed,
b. Number of vertical spots proposed for each lift
c. Who will have the keys to operate the lifts
d. Will there be anyone without a key permitted to operate the lifts
e. Whose vehicles will be permitted to park in the lifts
f. Will self-parked be permitted in the lifts
g. What are the proposed hours of operations for the lifts
h. Will the lifts be locked and inoperable after hours

GARAGE ENTRY GATE OPERATIONS ANALYSIS

A 95th percentile entry gate analysis will be prepared for parking garage entry points if entry gates are provided. 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. 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.

MANEUVERABILITY ANALYSIS

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

EXISTING DRIVEWAY TRAFFIC

After further discussion with the City, a cut-through analysis will not be performed for the surface parking lot for the following reasons:

- Any cut-through traffic is removed with the construction of the project, as the existing Burger King driveways on 5th Street and 4th Street will be closed.
- A cut-through analysis is not a typical requirement of a private development traffic study.
- The only reasonable cut-through pattern would be to avoid the eastbound right-turn movement at the intersection of Lenox Avenue and 5th Street. The cut-through pattern to avoid this movement results in an eastbound right-turn movement from 5th Street at the existing Burger King driveway, followed by a southbound left-turn movement onto 4th Street. However, the PM peak hour right-turn volume at Lenox Avenue and 5th Street intersection is

only 28 vehicles. Therefore, cut-through traffic through the meandering parking lot is not expected.

- Furthermore, the overall intersection of Lenox Avenue and 5th Street operates at LOS B (11.8 seconds of delay), the eastbound approach operates at LOS A (3.3 seconds of delay) and the eastbound through/right-turn movement group also operates at LOS A (2.2 seconds of delay) with the project in-place. Therefore, any cut-through traffic reassigned to this intersection is not expected to significantly impact the intersection operations.

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.

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METHODOLOGY ATTACHMENTS REMOVED AS TO LIMIT DUPLICATE INFORMATION

Appendix C

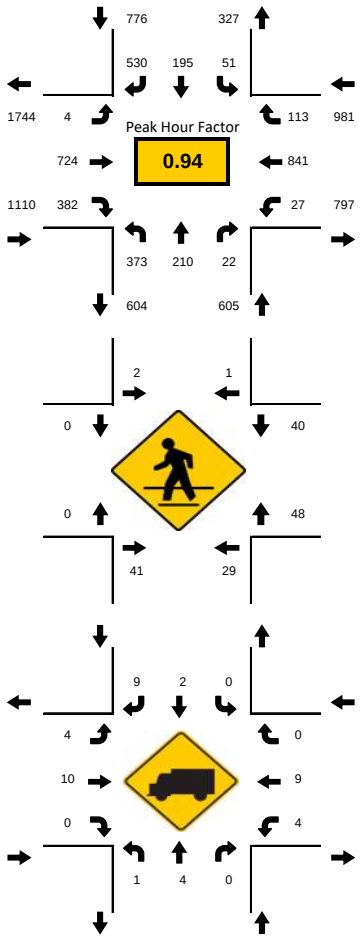
Traffic Data

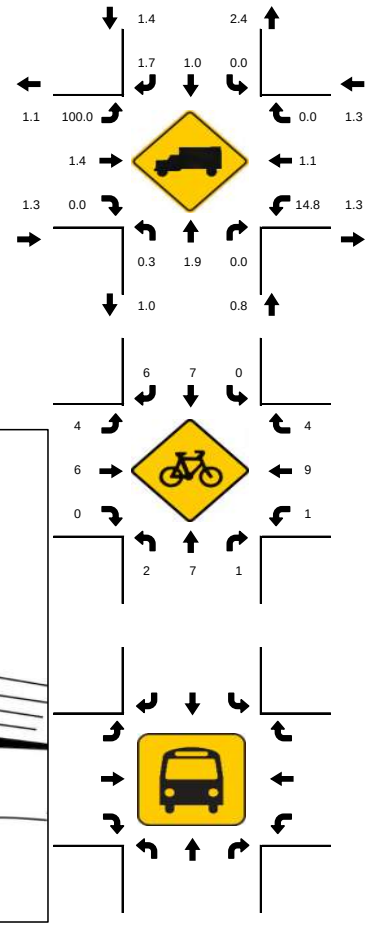
Turning Movement Counts

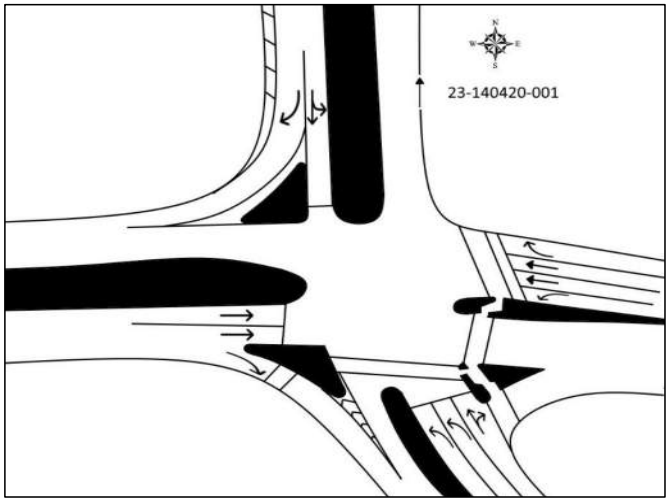
LOCATION: SR 907/Alton Rd & SR A1A/5th St
CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140420-001
DATE: Tue, Oct 17, 2023

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





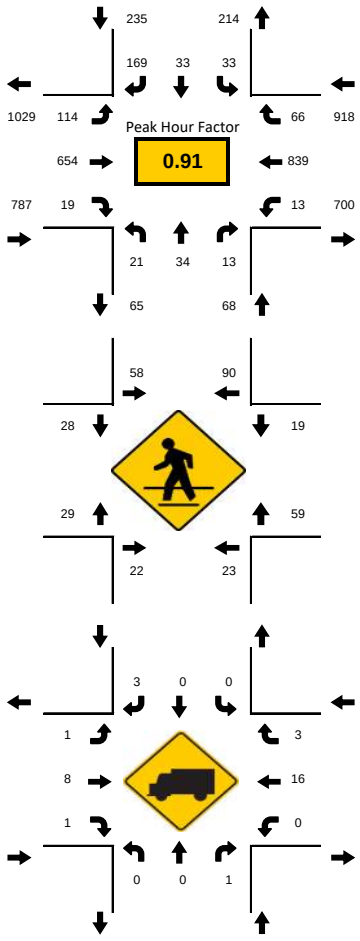


15-Min Count Period Beginning At	SR 907/Alton Rd Northbound					SR 907/Alton Rd Southbound					SR A1A/5th St Eastbound					SR A1A/5th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	112	46	2	0		11	40	98	0		1	177	102	0		7	231	35	0		862	3373
4:15 PM	120	54	4	0		11	37	95	0		1	170	98	0		12	271	25	0		898	3434
4:30 PM	120	60	4	0		10	42	88	0		2	157	93	0		4	214	22	0		816	3352
4:45 PM	95	55	4	0		12	33	98	0		0	187	79	0		6	195	32	1		797	3392
5:00 PM	121	62	10	0		9	47	102	0		2	206	95	0		6	235	27	1		923	3472
5:15 PM	96	55	3	0		14	44	132	0		1	163	94	0		6	184	23	1		816	2549
5:30 PM	67	46	0	0		12	47	164	0		1	174	91	0		6	217	31	0		856	1733
5:45 PM	89	47	9	0		14	57	132	2		0	181	102	0		6	205	32	1		877	877
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	484	248	40	0		56	228	656	8		8	824	408	0		24	940	128	4		**4056**	
Heavy Trucks	4	8	0	0		0	4	16	0		8	20	0	0		4	12	0	0		**76**	
Pedestrians		92					8					0					100				**200**	
Bicycles	8	16	4	0		0	12	12	0		8	12	0	0		4	20	12	0		**108**	
Buses																						
Stopped Buses																						

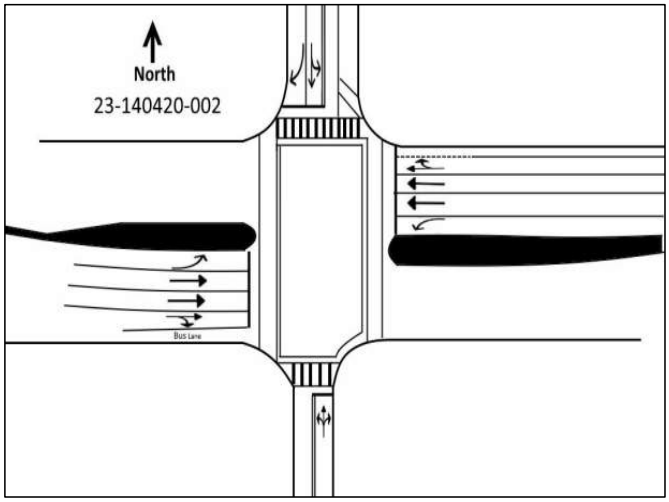
LOCATION: Lenox Ave & SR A1A/5th St
CITY/STATE: Miami Beach, FL

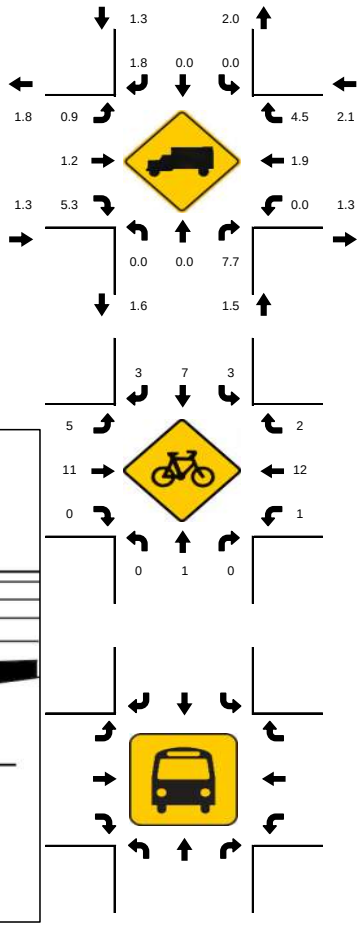
PROJECT ID: 23-140420-002
DATE: Tue, Oct 17, 2023

Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 05:00 PM - 05:15 PM



National Data & Surveying Services



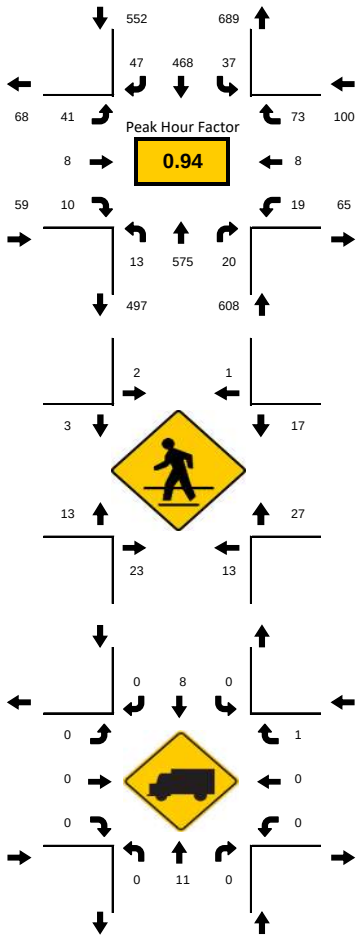


15-Min Count Period Beginning At	Lenox Ave Northbound					Lenox Ave Southbound					SR A1A/5th St Eastbound					SR A1A/5th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	3	9	4	0		10	8	56	0		33	151	3	5		4	213	19	0		518	1974
4:15 PM	6	9	4	0		7	7	52	0		22	152	3	5		4	247	16	0		534	2008
4:30 PM	4	7	1	0		6	11	35	0		18	144	10	2		4	192	19	1		454	1912
4:45 PM	5	6	3	0		11	3	47	0		25	168	2	4		2	181	11	0		468	1929
5:00 PM	6	12	5	0		9	12	35	0		32	190	4	6		2	219	20	0		552	1937
5:15 PM	2	11	1	0		7	5	46	0		21	156	4	2		2	169	11	1		438	1385
5:30 PM	2	7	4	0		5	5	33	0		18	164	1	4		1	213	14	0		471	947
5:45 PM	4	8	6	0		5	5	29	1		23	170	3	8		2	200	12	0		476	476
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
All Vehicles	24	48	20	0		44	48	208	0		128	760	40	24		16	988	80	4		**2432**	
Heavy Trucks	0	0	4	0		0	0	4	0		4	12	4	0		0	24	4	0		**56**	
Pedestrians		56					200					84					108				**448**	
Bicycles	0	4	0	0		4	16	8	4		8	20	0	0		4	24	8	0		**96**	
Buses																						
Stopped Buses																						

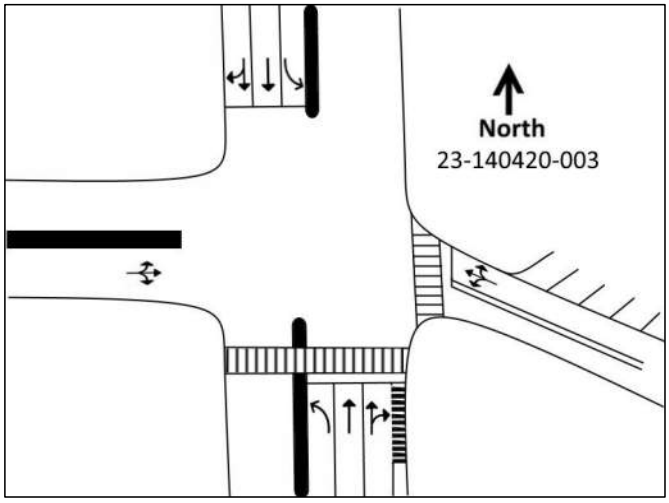
LOCATION: SR 907/Alton Rd & 4th St
CITY/STATE: Miami Beach, FL

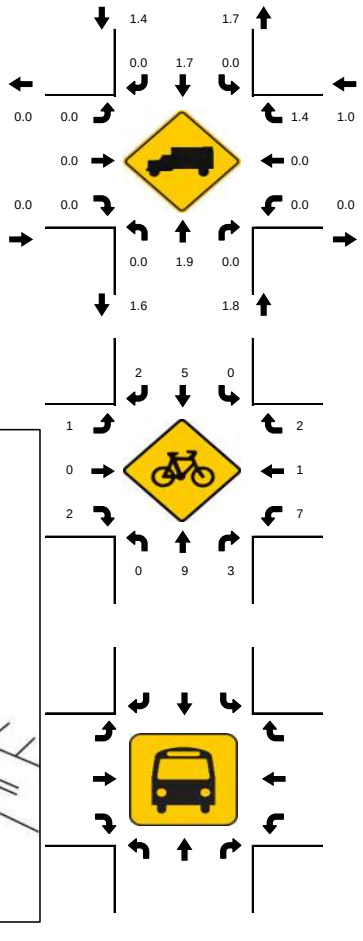
PROJECT ID: 23-140420-003
DATE: Tue, Oct 17, 2023

Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 05:00 PM - 05:15 PM



National Data & Surveying Services





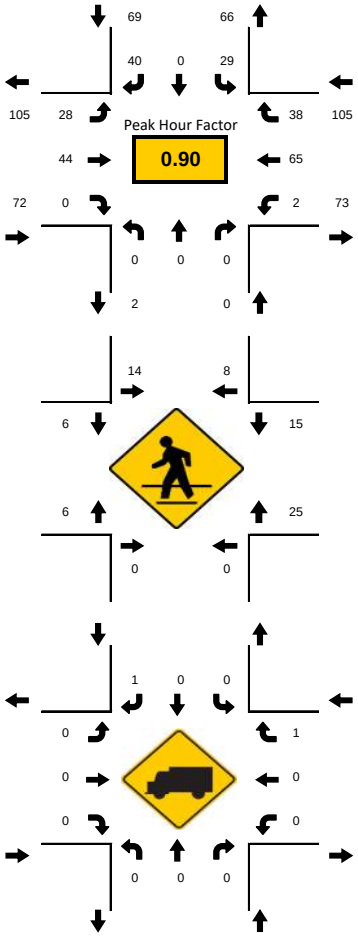
15-Min Count Period Beginning At	SR 907/Alton Rd Northbound					SR 907/Alton Rd Southbound					4th St Eastbound					4th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	4	147	9	1		7	131	12	2		8	3	3	0		1	3	13	0		344	1312
4:15 PM	3	141	5	0		9	118	16	1		8	3	6	0		4	1	18	0		333	1319
4:30 PM	5	148	6	0		9	126	7	0		12	3	3	0		7	2	17	0		345	1293
4:45 PM	2	136	4	0		8	96	10	2		9	1	1	0		1	3	17	0		290	1235
5:00 PM	3	150	5	0		7	128	14	1		12	1	0	0		7	2	21	0		351	1252
5:15 PM	2	119	2	0		13	111	15	2		12	1	4	0		1	3	22	0		307	901
5:30 PM	2	103	3	0		11	126	9	1		7	2	3	0		0	0	20	0		287	594
5:45 PM	2	96	7	0		10	147	6	0		11	0	4	0		2	1	21	0		307	307
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	20	600	24	0		36	512	64	8		48	12	24	0		28	12	84	0		**1472**	
Heavy Trucks	0	20	0	0		0	16	0	0		0	0	0	0		0	0	4	0		**40**	
Pedestrians		56					8					32					56				**152**	
Bicycles	0	12	4	0		0	12	4	0		4	0	4	0		8	4	4	0		**56**	
Buses																						
Stopped Buses																						

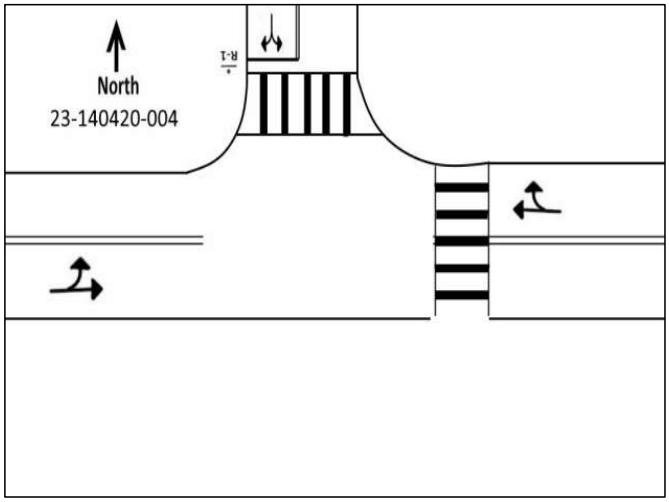
LOCATION: Lenox Ave & 4th St
CITY/STATE: Miami Beach, FL

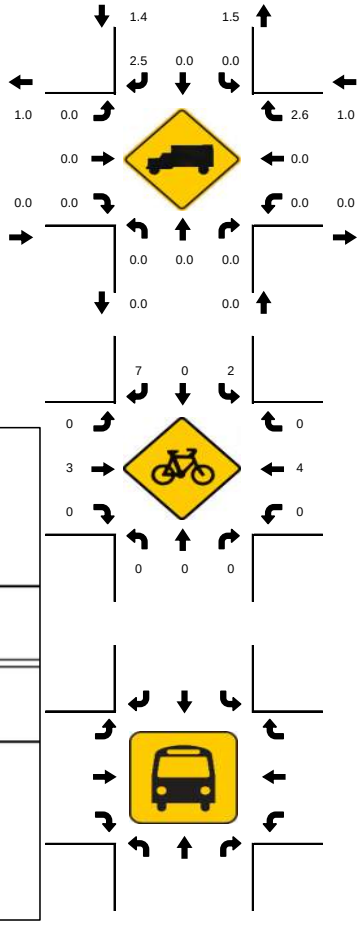
PROJECT ID: 23-140420-004
DATE: Tue, Oct 17, 2023

Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 05:00 PM - 05:15 PM

Peak Hour Factor: **0.90**







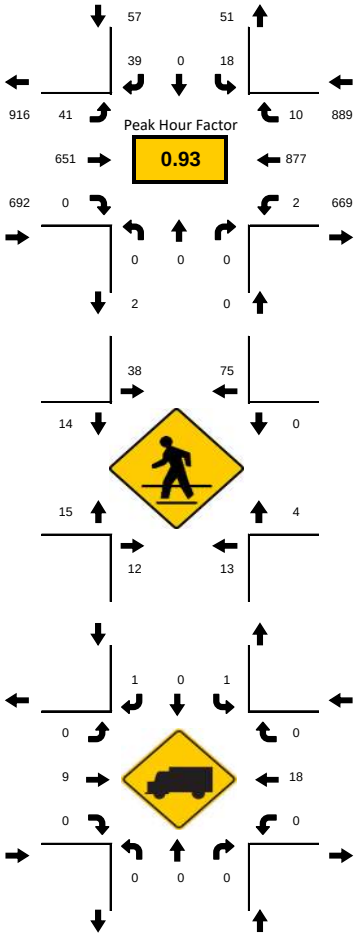
15-Min Count Period Beginning At	Lenox Ave Northbound					Lenox Ave Southbound					4th St Eastbound					4th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	0	0	0	0		7	0	5	0		8	16	0	0		0	10	12	0		58	236
4:15 PM	0	0	0	0		7	0	9	0		7	12	0	0		0	12	11	0		58	246
4:30 PM	0	0	0	0		9	0	13	1		6	11	0	0		0	15	6	1		62	241
4:45 PM	0	0	0	0		6	0	5	0		9	12	0	0		0	17	9	0		58	228
5:00 PM	0	0	0	0		6	0	13	0		6	9	0	0		0	21	12	1		68	224
5:15 PM	0	0	0	0		7	0	2	1		4	13	0	0		0	19	7	0		53	156
5:30 PM	0	0	0	0		4	0	3	0		4	12	0	0		0	15	11	0		49	103
5:45 PM	0	0	0	0		6	0	4	1		7	8	0	0		0	20	8	0		54	54
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	0	0	0	0		36	0	52	4		36	48	0	0		0	84	48	4		**312**	
Heavy Trucks	0	0	0	0		0	0	4	0		0	0	0	0		0	0	4	0		**8**	
Pedestrians		0					36					20					52				**108**	
Bicycles	0	0	0	0		4	0	12	0		0	4	0	0		0	8	0	0		**28**	
Buses																						
Stopped Buses																						

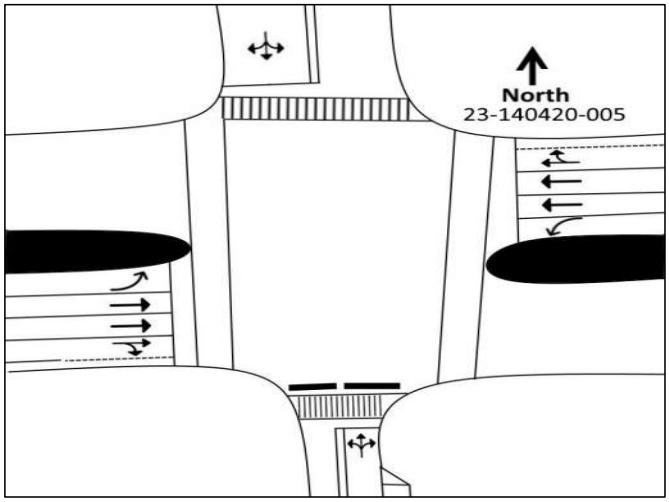
LOCATION: Michigan Ave & SR A1A/5th St
CITY/STATE: Miami Beach, FL

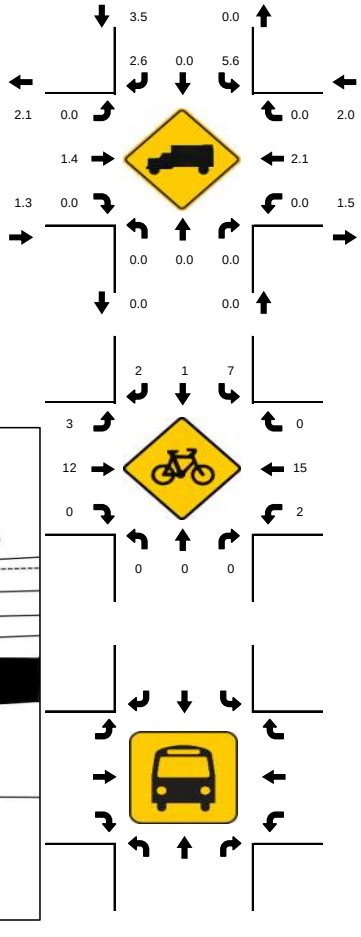
PROJECT ID: 23-140420-005
DATE: Tue, Oct 17, 2023

Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 05:00 PM - 05:15 PM

Peak Hour Factor: **0.93**







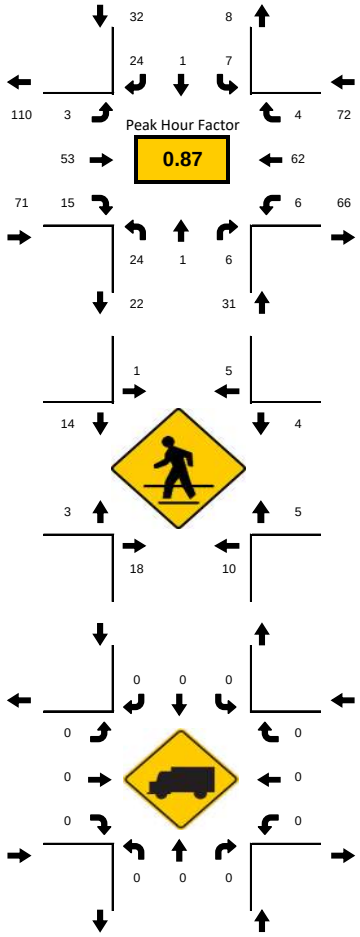
15-Min Count Period Beginning At	Michigan Ave Northbound					Michigan Ave Southbound					SR A1A/5th St Eastbound					SR A1A/5th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	0	0	0	0		4	0	8	0		11	155	0	1		0	221	5	2		407	1604
4:15 PM	0	0	0	0		2	0	11	0		6	153	0	0		0	260	5	0		437	1638
4:30 PM	0	0	0	0		6	0	10	0		7	139	0	2		0	200	0	0		364	1552
4:45 PM	0	0	0	0		5	0	8	0		10	177	0	1		0	193	1	1		396	1601
5:00 PM	0	0	0	0		5	0	10	0		13	182	0	2		0	224	4	1		441	1597
5:15 PM	0	0	0	0		2	0	13	0		15	146	0	2		0	172	1	0		351	1156
5:30 PM	0	0	0	0		1	0	15	0		9	167	0	3		0	216	2	0		413	805
5:45 PM	0	0	0	0		3	0	11	0		5	168	0	1		0	203	1	0		392	392
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	0	0	0	0		24	0	44	0		52	728	0	8		0	1040	20	4		**1920**	
Heavy Trucks	0	0	0	0		4	0	4	0		0	16	0	0		0	24	0	0		**48**	
Pedestrians		48					124					48					12				**232**	
Bicycles	0	0	0	0		16	4	4	0		8	20	0	0		0	36	0	8		**88**	
Buses																						
Stopped Buses																						

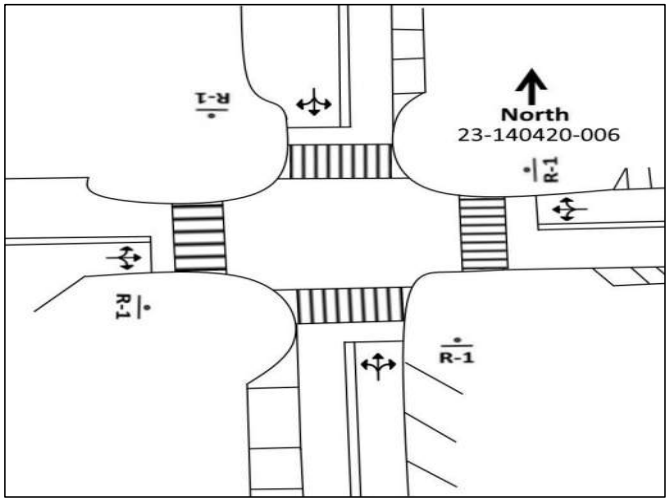
LOCATION: Michigan Ave & 4th St
CITY/STATE: Miami Beach, FL

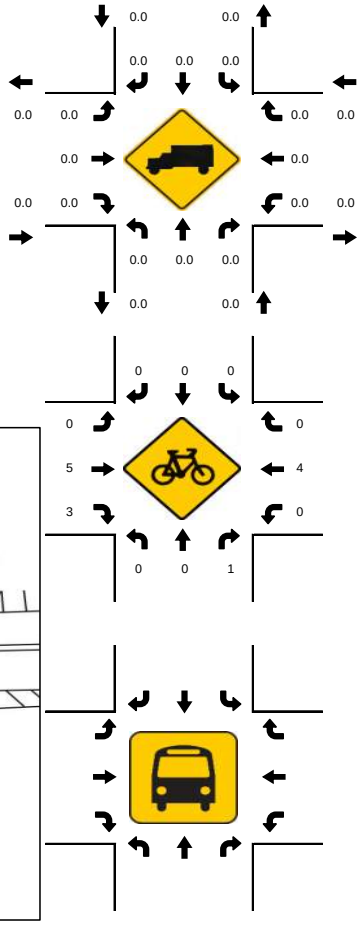
PROJECT ID: 23-140420-006
DATE: Tue, Oct 17, 2023

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:15 PM - 05:30 PM

Peak Hour Factor: **0.87**







15-Min Count Period Beginning At	Michigan Ave Northbound					Michigan Ave Southbound					4th St Eastbound					4th 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*		
4:00 PM	8	0	1	0		0	0	1	0		1	21	4	0		0	14	2	0		52	197
4:15 PM	5	0	1	0		1	0	3	0		0	15	6	0		0	16	0	2		49	195
4:30 PM	5	0	3	0		1	0	1	0		1	12	6	0		0	13	1	0		43	205
4:45 PM	8	0	3	0		0	0	6	0		2	13	5	0		2	14	0	0		53	206
5:00 PM	8	1	1	0		2	0	8	0		0	11	3	0		1	14	1	0		50	200
5:15 PM	3	0	2	0		3	0	4	0		1	18	3	0		2	20	3	0		59	150
5:30 PM	5	0	0	0		2	1	6	0		0	11	4	0		1	14	0	0		44	91
5:45 PM	2	1	3	0		2	1	4	0		0	5	7	0		0	21	1	0		47	47
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	32	4	12	0		12	4	32	0		8	72	20	0		8	80	12	0		**296**	
Heavy Trucks	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Pedestrians		48					12					32					12				**104**	
Bicycles	0	0	4	0		0	0	0	0		0	12	4	0		0	4	0	0		**24**	
Buses																						
Stopped Buses																						

Peak Season Category Report

2022 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL

CATEGORY: 8701 MIAMI-DADE SOUTH

MOCF: 0.98

WEEK	DATES	SF	PSCF
1	01/01/2022 - 01/01/2022	1.04	1.06
2	01/02/2022 - 01/08/2022	1.04	1.06
3	01/09/2022 - 01/15/2022	1.04	1.06
4	01/16/2022 - 01/22/2022	1.02	1.04
5	01/23/2022 - 01/29/2022	1.01	1.03
6	01/30/2022 - 02/05/2022	1.00	1.02
7	02/06/2022 - 02/12/2022	0.98	1.00
* 8	02/13/2022 - 02/19/2022	0.97	0.99
* 9	02/20/2022 - 02/26/2022	0.98	1.00
*10	02/27/2022 - 03/05/2022	0.98	1.00
*11	03/06/2022 - 03/12/2022	0.99	1.01
*12	03/13/2022 - 03/19/2022	0.99	1.01
*13	03/20/2022 - 03/26/2022	0.99	1.01
*14	03/27/2022 - 04/02/2022	0.98	1.00
*15	04/03/2022 - 04/09/2022	0.98	1.00
*16	04/10/2022 - 04/16/2022	0.97	0.99
*17	04/17/2022 - 04/23/2022	0.97	0.99
*18	04/24/2022 - 04/30/2022	0.97	0.99
*19	05/01/2022 - 05/07/2022	0.98	1.00
*20	05/08/2022 - 05/14/2022	0.98	1.00
21	05/15/2022 - 05/21/2022	0.98	1.00
22	05/22/2022 - 05/28/2022	0.99	1.01
23	05/29/2022 - 06/04/2022	1.00	1.02
24	06/05/2022 - 06/11/2022	1.01	1.03
25	06/12/2022 - 06/18/2022	1.02	1.04
26	06/19/2022 - 06/25/2022	1.03	1.05
27	06/26/2022 - 07/02/2022	1.04	1.06
28	07/03/2022 - 07/09/2022	1.05	1.07
29	07/10/2022 - 07/16/2022	1.06	1.08
30	07/17/2022 - 07/23/2022	1.04	1.06
31	07/24/2022 - 07/30/2022	1.03	1.05
32	07/31/2022 - 08/06/2022	1.02	1.04
33	08/07/2022 - 08/13/2022	1.01	1.03
34	08/14/2022 - 08/20/2022	1.00	1.02
35	08/21/2022 - 08/27/2022	1.00	1.02
36	08/28/2022 - 09/03/2022	1.01	1.03
37	09/04/2022 - 09/10/2022	1.01	1.03
38	09/11/2022 - 09/17/2022	1.01	1.03
39	09/18/2022 - 09/24/2022	1.00	1.02
40	09/25/2022 - 10/01/2022	0.99	1.01
41	10/02/2022 - 10/08/2022	0.98	1.00
42	10/09/2022 - 10/15/2022	0.98	1.00
43	10/16/2022 - 10/22/2022	0.98	1.00
44	10/23/2022 - 10/29/2022	0.99	1.01
45	10/30/2022 - 11/05/2022	0.99	1.01
46	11/06/2022 - 11/12/2022	1.00	1.02
47	11/13/2022 - 11/19/2022	1.01	1.03
48	11/20/2022 - 11/26/2022	1.01	1.03
49	11/27/2022 - 12/03/2022	1.02	1.04
50	12/04/2022 - 12/10/2022	1.03	1.05
51	12/11/2022 - 12/17/2022	1.04	1.06
52	12/18/2022 - 12/24/2022	1.04	1.06
53	12/25/2022 - 12/31/2022	1.04	1.06

* PEAK SEASON

Signal Timings

TOD Schedule Report
for 2640: Alton Rd&5 St

Print Date: 10/4/2021

Print Time: 3:10 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2640	Alton Rd&5 St	DOW-2	TOD	N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
WBL	EBT	NBT	SBT	-	WBT	-	-
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
	Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	25 - 20 - 7	4	2.3
2 EBT	7 - 7 - 7	22 - 22 - 22	5 - 5 - 5	1 - 1 - 1	30 - 30 - 30	0 - 30 - 30	4	2
3 NBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	3 - 3 - 3	18 - 18 - 16	33 - 30 - 30	4	2
4 SBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	3.5 - 3.5 - 3.5	15 - 17 - 8	38 - 38 - 28	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 WBT	7 - 7 - 7	22 - 22 - 22	5 - 5 - 5	1 - 1 - 1	30 - 30 - 30	0 - 30 - 30	4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	1234-6--
External Permit 0	1234-6--
External Permit 1	1234-6--
External Permit 2	1234-6--

TOD Schedule Report

for 2640: Alton Rd&5 St

Print Date: 10/4/2021

Print Time: 3:10 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 WB	2 EBT	3 NBT	4 SBT	5 -	6 WBT	7 -	8 -	Ring Offset	Offset
	1	170	5	78	30	33	0	89	0	0	0	61
	2	150	5	64	30	27	0	75	0	0	0	27
	3	120	5	45	18	28	0	56	0	0	0	96
	4	150	5	70	26	25	0	81	0	0	0	109
	5	150	5	67	20	34	0	78	0	0	0	31
	6	180	5	86	30	35	0	97	0	0	0	114
	7	140	5	53	33	25	0	64	0	0	0	43
	8	160	5	68	30	33	0	79	0	0	0	55
	10	160	10	80	20	26	0	96	0	0	0	55
	14	120	5	45	20	26	0	56	0	0	0	118
	15	130	5	51	25	25	0	62	0	0	0	127
	16	120	5	45	20	26	0	56	0	0	0	23
	20	200	5	113	30	28	0	124	0	0	0	0
	21	220	10	138	20	28	0	154	0	0	0	44
	22	110	5	35	18	28	0	46	0	0	0	42
	23	110	5	35	18	28	0	46	0	0	0	20
	24	160	5	73	30	28	0	84	0	0	0	44
	25	140	5	59	25	27	0	70	0	0	0	57
	26	200	5	113	30	28	0	124	0	0	0	44
	27	140	5	65	18	28	0	76	0	0	0	0
	28	220	10	138	20	28	0	154	0	0	0	44

Local TOD Schedule

Time	Plan	DOW
0000	3	Su M T W Th F S
0500	2	M T W Th F
0500	3	Su S
0700	7	Su S
0800	6	M T W Th F
1000	5	M T W Th F
1100	10	Su S
1300	6	M T W Th F
1615	25	M T W Th F
1800	1	M T W Th
1800	7	Su F S
2200	8	M T W Th

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

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

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS

3-SECT., 1-WAY
EXISTING

3-SECT., 1-WAY
EXISTING

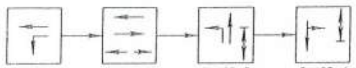
4-SECT., 1-WAY
EXISTING

3-SECT., 1-WAY
1 AS
650-51-311

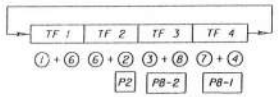
5 Street
A1A
EXISTING
TO REMAIN

Alton Rd
EXISTING
TO REMAIN

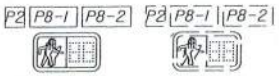
S.O.P.



PHASE 1 PHASE 2 PHASE 3 PHASE 4



SIGNAL PEDESTRIAN DETAIL



PED. SIGNAL
COUNT-DOWN
1-SECT., 1-WAY
3 AS
653-191

EXISTING
1-SECT., 1-WAY

R10-3E
(9" x15")
(MODIFIED)
TO BE INCLUDED
IN THE COST OF
ITEM 665-11
(4 EA)

Pull Boxes (13)
Peds
Loops
Traffic Signal Head + Pedestal
Conduit

NOTES

1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY.
2. PEDESTRIAN SIGNAL HEADS SHALL BE ALIGNED TO THE CENTER OF FAR-SIDED END OF CROSSWALK THEY SERVE.
3. PEDESTRIAN DETECTOR TO BE AUDIBLE TYPE. ARROW ON PEDESTRIAN DETECTOR SHALL BE ALIGNED PARALLEL WITH THE CROSSWALK THEY SERVE
4. ITEM 690-100 INCLUDES THE COST OF REMOVAL AND DISPOSAL OF PULL BOXES AT THE INTERSECTION

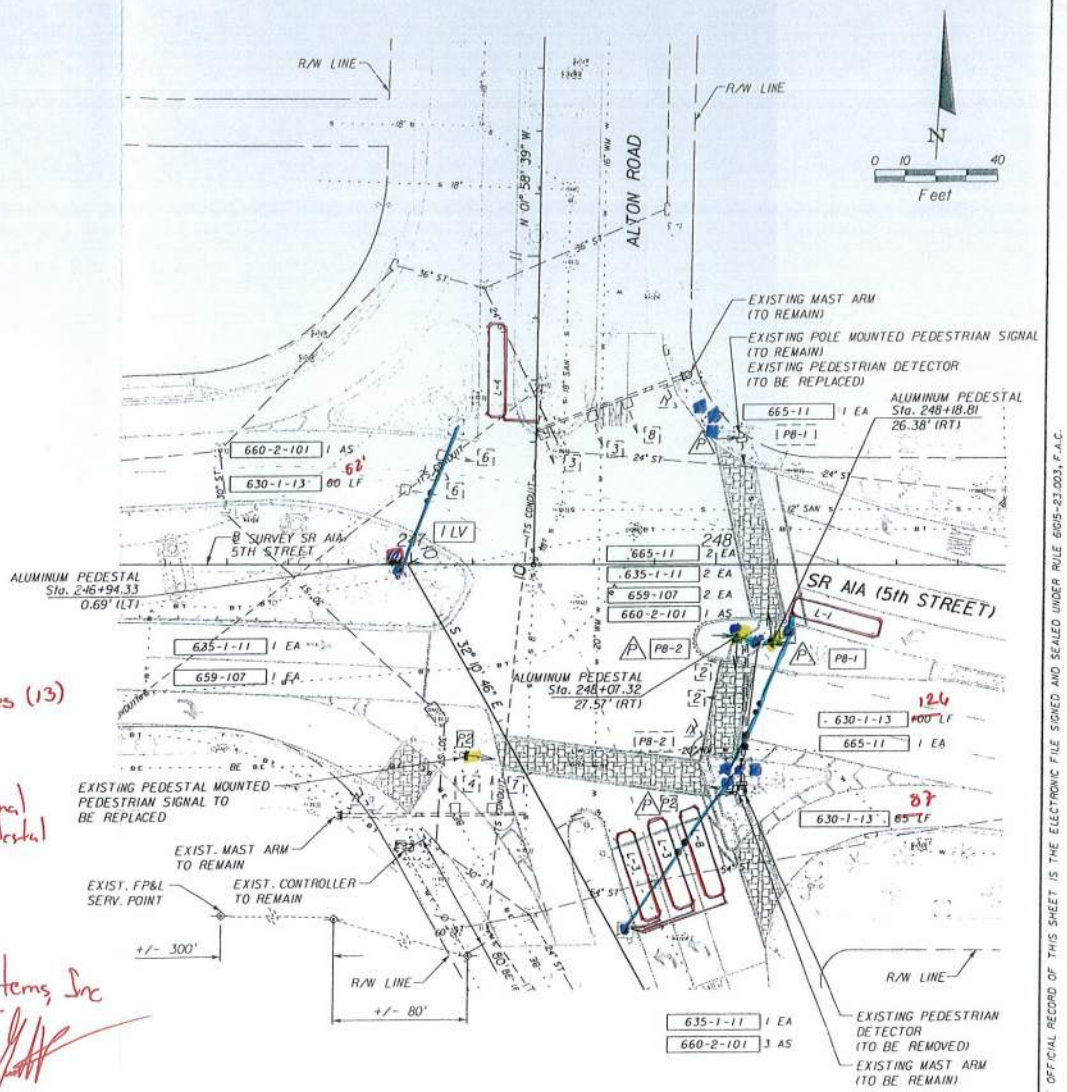
DETECTORS FOR LOOPS			
LOOP	NO. OF LOOPS	NO. OF NEW DETS.	NO. OF EXIST. DETS.
L-1	1	1	-
L-3	2	-	1
L-4	1	-	1
L-8	1	-	1

REMOVAL ITEMS

690-20	2 EA
690-70	2 EA
690-100	1 PI

CONTROLLER ITEMS

632-7-1	1 PI
660-1-109	2 EA
670-5-420	1 AS



Florida Sol Systems, Inc
AS-BUILT

INTERSECTION I.D. #2640
AIA/ 5TH STREET AND ALTON RD.

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS		
DESCRIPTION	DATE	DESCRIPTION

CORRADINO
4055 N.W. 97th Avenue, Doral, Florida, 33178
Ph: (305) 594-0735 Fax: (305) 594-0755
Certificate Of Authorization No. 00007665
E.O.R. Favio A. Laverde, P.E. No. 63546

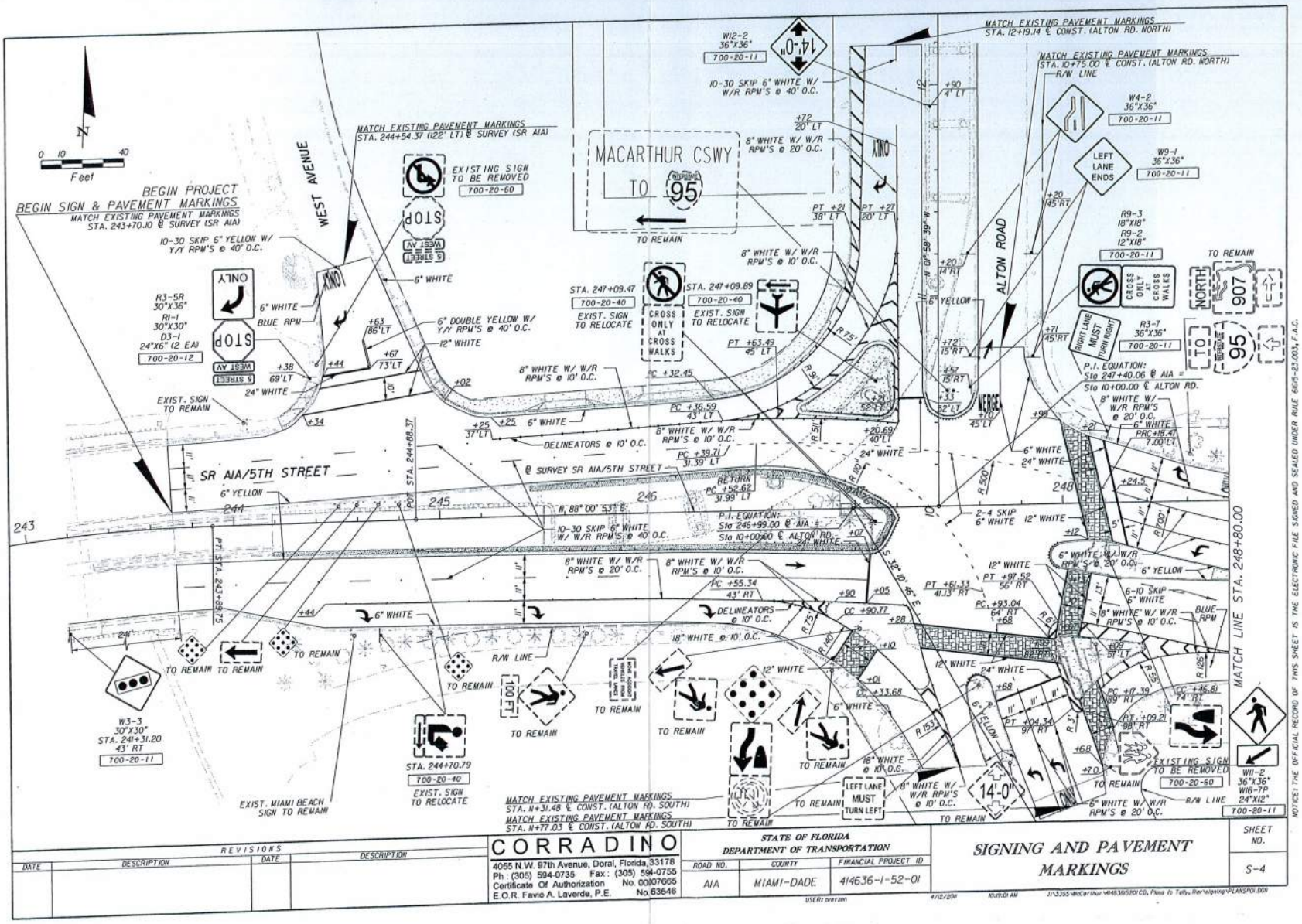
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
AIA	MIAMI-DADE	414636-1-52-01

SIGNALIZATION PLAN

SHEET NO. T-4

USER: iverson 4/12/2011 10:35:38 AM J:\3355\MacArthur\414636\520\CD, Plans to Tally, Revisions\PLANS001.DGN



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CORRADINO
4055 N.W. 97th Avenue, Doral, Florida, 33178
Ph : (305) 594-0735 Fax : (305) 594-0755
Certificate Of Authorization No. 00007665
E.O.R. Favio A. Laverde, P.E. No. 63546

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
AIA	MIAMI-DADE	414636-1-52-01

SIGNING AND PAVEMENT MARKINGS

SHEET NO. S-4

USER: overson 4/12/201 10:59:01 AM J:\3355\MacArthur\414636520101\CD_Plans In Tally\Re-signing\PLANSP01.DGN

SIGNAL OPERATING PLAN

	Direction	WB		EB	NB			SB		Ped Heads				N
Timing Phases	Head No.	1 LV	6	2	3	3/8	8	7/4	4	P2		P8-2	P8-1	Movements/Display/Actuation
(1+6)	Dwell	<G	G	R	<R	R	R	R	R	DW		DW	DW	
WB	Clear to 2+6	<Y	G	R	<R	R	R	R	R	DW		DW	DW	6 ←
	Clear to 3	<Y	Y	R	<R	R	R	R	R	DW		DW	DW	1 ↓
5 STREET	Clear to 4	<Y	Y	R	<R	R	R	R	R	DW		DW	DW	
(ACTUATED)														
(2+6)	Dwell	<R	G	G	<R	R	R	R	R	W/F		DW	DW	
	Clear to 3	<R	Y	Y	<R	R	R	R	R	DW		DW	DW	6 ←
E/WB	Clear to 4	<R	Y	Y	<R	R	R	R	R	DW		DW	DW	
5 STREET														2 →
														P2
(RECALL)														
(3)	Dwell	<R	R	R	<G	<G/G	G	R	R	DW		DW	W/F	
NB	Clear to 3	<R	R	R	<Y	Y	Y	R	R	DW		DW	DW	3 8 P8-2
	Clear to 4	<R	R	R	<Y	Y	Y	R	R	DW		DW	DW	
ALTON RD	Clear to 1+6	<R	R	R	<Y	Y	Y	R	R	DW		DW	DW	
	Clear to 2+6	<R	R	R	<Y	Y	Y	R	R	DW		DW	DW	
(ACTUATED)														
(4)	Dwell	<R	R	R	<R	R	R	<G/G	G	DW		W/F	DW	P8-1
	Clear to 1+6	<R	R	R	<R	R	R	Y	Y	DW		DW	DW	
NB	Clear to 2+6	<R	R	R	<R	R	R	Y	Y	DW		DW	DW	4 7
ALTON RD														
(ACTUATED)														
	Dwell													
	Clear to													
	Dwell													
	Clear to													
Flashing Operation		F<R	FY	FY	F<R	FR	FR	FR	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	
William Rivera-Paz	2/3/2012	ALTON RD & 5 STREET

Checked	Date	Placed in Service		Phasing No.	Asset Number
H. HERNANDEZ	2/13/12	Date 3/29/12	By FSS	5	2640

TOD Schedule Report

for 2734: Lenox Av&5 St

Print Date: 10/4/2021

Print Time: 3:22 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2734	Lenox Av&5 St	DOW-2	TOD	N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 / 2 / 3)	Don't Walk (Phase Bank 1 / 2 / 3)	Min Initial (Phase Bank 1 / 2 / 3)	Veh Ext (Phase Bank 1 / 2 / 3)	Max Limit (Phase Bank 1 / 2 / 3)	Max 2 (Phase Bank 1 / 2 / 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	30 - 30 - 20	4	2
2 WBT	5 - 5 - 5	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	55 - 55 - 55	0 - 0 - 0	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	4 - 4 - 4	28 - 28 - 28	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 12 - 12	65 - 50 - 22	4	2.5
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	5 - 5 - 5	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	55 - 55 - 55	0 - 0 - 0	4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	4 - 4 - 4	28 - 28 - 28	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 12 - 12	65 - 50 - 22	4	2.5

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6-8
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 2734: Lenox Av&5 St

Print Date: 10/4/2021

Print Time: 3:22 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset
	1	170	20	99	0	33	0	125	0	33	0	75
	2	150	20	79	0	33	0	105	0	33	0	49
	3	120	20	49	0	33	0	75	0	33	0	108
	4	150	20	79	0	33	0	105	0	33	0	85
	5	150	12	88	0	32	0	106	0	32	0	59
	6	180	20	109	0	33	0	135	0	33	0	137
	7	140	20	69	0	33	0	95	0	33	0	58
	8	160	20	89	0	33	0	115	0	33	0	72
	10	160	15	94	0	33	0	115	0	33	0	71
	14	120	20	49	0	33	0	75	0	33	0	14
	15	130	20	59	0	33	0	85	0	33	0	15
	16	120	20	49	0	33	0	75	0	33	0	12
	17	130	20	59	0	33	0	85	0	33	0	106
	20	200	25	108	0	49	0	139	0	49	0	0
	21	200	25	108	0	49	0	139	0	49	0	57
	22	110	9	51	0	32	0	66	0	32	0	33
	23	110	9	34	0	49	0	49	0	49	0	5
	24	180	9	104	0	49	0	119	0	49	0	56
	25	140	9	64	0	49	0	79	0	49	0	56
	26	200	9	124	0	49	0	139	0	49	0	41
	27	140	9	64	0	49	0	79	0	49	0	12
	28	220	25	128	0	49	0	159	0	49	0	57

Local TOD Schedule

Time	Plan	DOW
0000	3	Su M T W Th F S
0500	2	M T W Th F
0500	3	Su S
0700	7	Su S
0800	6	M T W Th F
1000	5	M T W Th F
1100	10	Su S
1300	6	M T W Th F
1615	25	M T W Th F
1800	1	M T W Th
1800	7	Su F S
2200	8	M T W Th

TOD Schedule Report

for 2734: Lenox Av&5 St

Print Date: 10/4/2021

Print Time: 3:22 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0000	TOD LOCAL MULTIFU	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFU	--------	SuM T W ThF S
0500	TOD OUTPUTS	------2-	M T W ThF
1500	TOD OUTPUTS	--------	M T W ThF
1500	TOD OUTPUTS	----4---	M T W ThF
1800	PED RECALL	8---4---	M T W ThF
1800	TOD OUTPUTS	--------	M T W ThF
2200	PED RECALL	--------	M T W ThF
2200	TOD OUTPUTS	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	--------	SuM T W ThF S
0500	TOD OUTPUTS	------2-	M T W ThF
0700	TOD OUTPUTS	-------1	Su S
0800	TOD OUTPUTS	--------	S
1000	TOD OUTPUTS	--------	Su
1000	PED RECALL	8---4---	Su S
1500	TOD OUTPUTS	--------	M T W ThF
1500	TOD OUTPUTS	----4---	M T W ThF
1800	PED RECALL	8---4---	M T W ThF
1800	PED RECALL	--------	Su S
1800	TOD OUTPUTS	--------	M T W ThF
1900	TOD OUTPUTS	--------	Su S
2200	PED RECALL	--------	M T W ThF
2200	TOD OUTPUTS	--------	M T W ThF

* Settings

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

No Calendar Defined/Enabled

SIGNAL HEAD & SIGN DETAILS

2 4 6 — 3-SECT., 1-WAY — EXISTING (TO REMAIN)

1/6 — 5-SECT., 1-WAY — EXISTING (TO REMAIN)

8 — 3-SECT., 1-WAY — 2 AS EXISTING (TO BE REMOVED)

8R — 5-SECT., 1-WAY (NO BACK-PLATES) 1 AS 650-1-511

8 — 3-SECT., 1-WAY (NO BACK-PLATES) 1 AS 650-1-311

Y — 5 Street — EXISTING INTERNALLY LED ILLUMINATED SIGNS (TO REMAIN)

V — 5 Street — EXISTING INTERNALLY LED ILLUMINATED SIGNS (TO BE RELOCATED) 700-5-50 1 EA

A — DO NOT BLOCK INTERSECTION — EXIST. SIGN (TO REMAIN)

P — START CROSSING Watch For Vehicles; DON'T START Finish Crossing If Started; DON'T CROSS; TO CROSS; PUSH BUTTON — EXIST. AUDIBLE PED SIGN (TO REMAIN)

N — START CROSSING Watch For Vehicles; DON'T START Finish Crossing If Started; DON'T CROSS; TO CROSS; PUSH BUTTON — EXIST. AUDIBLE PED SIGN (TO REMAIN)

X — Lenox Av — EXISTING INTERNALLY LED ILLUMINATED SIGNS (TO REMAIN)

P2 P4 P6 P8 — PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY (TO REMAIN)

U-TURN YIELD TO RIGHT TURN — PROP. SIGN R10-16 (30"X36") 1 AS 700-1-11

NOTES:

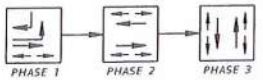
1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS TRAFFIC SIGNALS & SIGNS DIVISION.

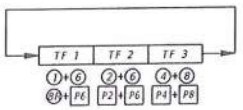
CONTROLLER OPERATIONS

1. MAJOR STREET: SR A1A / 5TH ST
   MINOR STREET: LENOX AVE
2. S.O.P. AS SHOWN.
3. PHASE 2 RECALL
   PHASES 1 AND 3 ACTUATED.
4. FLASHING OPERATIONS: 1/6, 2 AND 6 YELLOW
   4, 8 AND 8R RED.
5. PED. SIGNALS: P4 AND P8 UPON ACTUATION ONLY.
   P2 AND P6 ON RECALL.

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF EXIST. DET. (TO REMAIN)
L-1	1	1
L-4	1	1
L-8	2	2

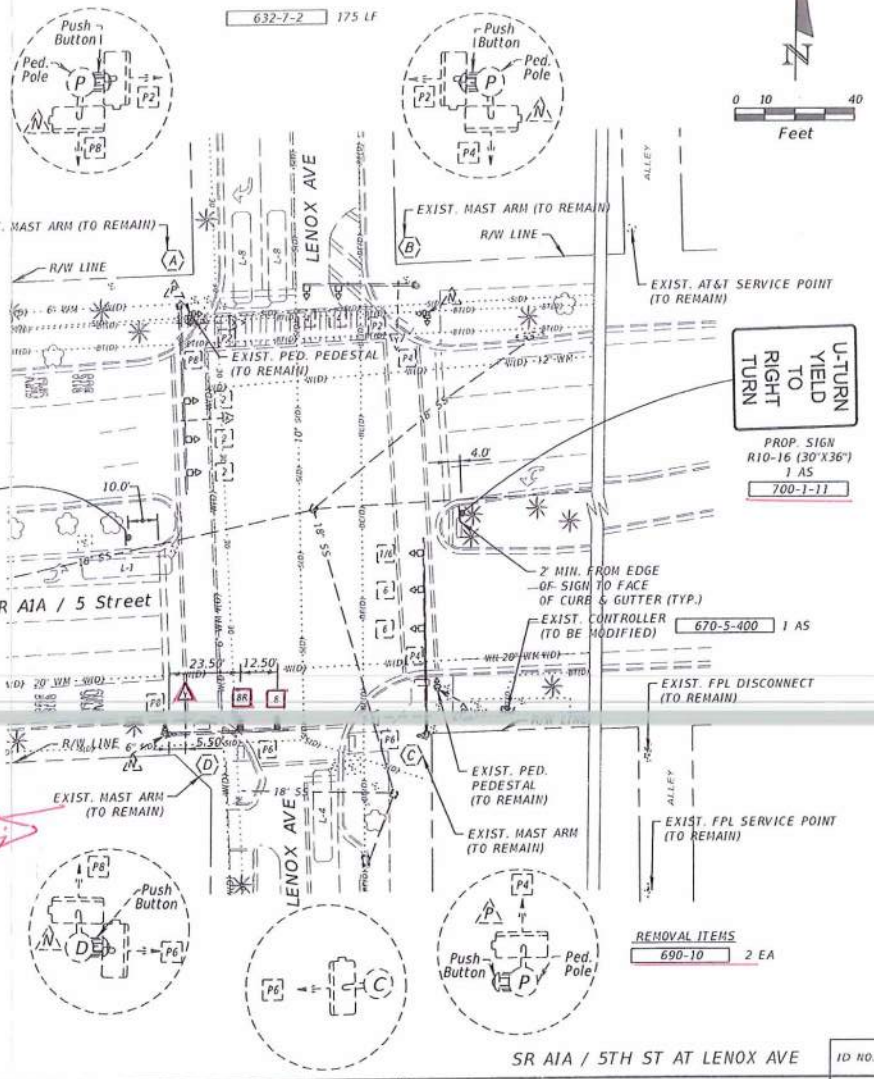
S.O.P.





AS BUILT
AGC Electric, Inc.
Date: 2/2/2017

EITHEL M. SIERRA LICENSE No. 55401 STATE OF FLORIDA PROFESSIONAL ENGINEER



SR A1A / 5TH ST AT LENOX AVE — ID NO. 2734

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

A&P Consulting Transportation Engineers Corp.
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Eithel M. Sierra, P.E. No. 55401

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	MIAMI-DADE	~~250629-3-32-01~~ 431434-1-52-01 W.O. #3

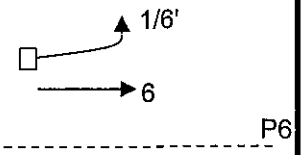
SIGNALIZATION PLAN

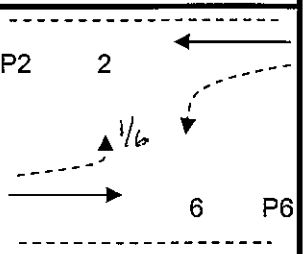
SHEET NO. 2

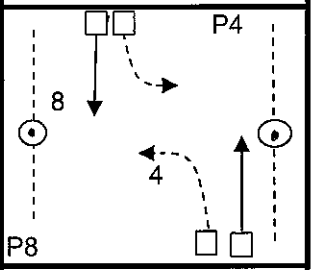
SIGNAL OPERATING PLAN

N

	Direction	EB		WB		SB		NB		Ped Heads				
Timing Phases	Head No.	1/6'	6		2		8		4	P2	P4	P6	P8	Movements/Display/Actuation
(1+6)	Dwell	<G/G	G		R		R		R	DW	DW	W/F	DW	
	2+6	<Y/G	G		R		R		R	DW	DW	DW	DW	
EB	Clear to													
5 STREET														
(ACTUATED)														
	Dwell													
	Clear to													
(2+6)	Dwell	G	G		G		R		R	W/F	DW	W/F	DW	
	4+8	Y	Y		Y		R		R	DW	DW	DW	DW	
E/WB	Clear to													
5 STREET														
(RECALL)														
	Dwell													
	Clear to													
(4+8)	Dwell	R	R		R		G		G	DW	W/F	DW	W/F	
	1+6	R	R		R		Y		Y	DW	DW	DW	DW	
N/SB	2+6	R	R		R		Y		Y	DW	DW	DW	DW	
LENOX AV	Clear to													
(ACTUATED)														
	Dwell													
	Clear to													
Flashing Operation		FY	FY		FY		FR		FR					Page 1 of 1







Miami-Dade County Public Works Department

Drawn	Date	LENOX AV & 5 STREET		
WILLIAM RIVERA-PAZ	6/22/2009			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	6/24/09	Date 8/24/09 By SSI	5	2734

Blank12

TOD Schedule Report
for 7699: Alton Rd&4 St

Print Date: 10/4/2021

Print Time: 10:16 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
7699	Alton Rd&4 St	DOW-2	TOD	Free	0	0	N/A	1	Max 1

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
SEL	SET	XPD	EBT	NWL	NWT	-	NBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase		Walk Phase Bank 1	Walk 2	Walk 3	Don't Walk 1	Don't Walk 2	Don't Walk 3	Min Initial 1	Min Initial 2	Min Initial 3	Veh Ext 1	Veh Ext 2	Veh Ext 3	Max Limit 1	Max Limit 2	Max Limit 3	Max 2 1	Max 2 2	Max 2 3	Yellow	Red
1	SEL	0	0	0	0	0	0	5	5	5	3	3	3	9	9	9	18	18	18	4	3.4
2	SET	6	0	7	19	0	19	7	7	7	1	1	1	35	49	49	0	0	0	4	3.4
3	XPD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	EBT	0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	30	49	49	65	65	65	4	2.6
5	NWL	0	0	0	0	0	0	5	5	5	3	3	3	9	9	9	18	18	18	4	3.4
6	NWT	6	0	7	19	0	19	7	7	7	1	1	1	35	49	49	0	0	0	4	3.4
7	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	NBT	6	0	7	20	0	20	7	7	7	2.5	2.5	2.5	30	49	49	65	65	65	4	2.6

Last In Service Date: unknown

Permitted Phases

	12345678
Default	123456-8
External Permit 0	123456-8
External Permit 1	123456-8
External Permit 2	123456-8

TOD Schedule Report

for 7699: Alton Rd&4 St

Print Date: 10/4/2021

Print Time: 10:16 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 SEL	2 SET	3 XPD	4 EBT	5 NWL	6 NWT	7 -	8 NBT	Ring Offset	Offset
	1	85	7	29	0	28	7	29	0	28	0	84
	2	120	8	41	0	50	8	41	0	50	0	0
	3	100	10	41	0	28	10	41	0	28	0	0
	5	110	12	46	0	31	12	46	0	31	0	0
	6	120	8	41	0	50	8	41	0	50	0	0
	7	140	5	87	0	27	5	87	0	27	0	118
	8	100	10	41	0	28	10	41	0	28	0	0
	10	80	5	27	0	27	5	27	0	27	0	43
	22	100	10	41	0	28	10	41	0	28	0	0
	25	140	10	76	0	33	10	76	0	33	0	37
	26	100	10	41	0	28	10	41	0	28	0	79

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	2	M T W Th F
0500	Free	Su S
0700	7	Su S
0800	5	M T W Th F
1100	10	Su F S
1130	1	M T W Th F
1300	6	M T W Th F
1615	25	M T W Th F
1800	1	M T W Th
1800	7	Su F S
2200	Free	Su M T W Th

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF S
0700	TOD OUTPUTS	-------1	M T W ThF
0700	PED RECALL	8-6-432-	M T W ThF
0850	PED RECALL	--------	M T W ThF
0850	TOD OUTPUTS	-7------	M T W ThF
1340	TOD OUTPUTS	-------1	M T W ThF
1340	PED RECALL	8-6-432-	M T W ThF
1540	PED RECALL	--------	M T W ThF
1540	TOD OUTPUTS	-7------	M T W ThF

Local Time of Day Function

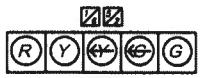
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF S
0700	TOD OUTPUTS	-------1	M T W ThF
0700	PED RECALL	8-6-432-	M T W ThF
0850	PED RECALL	--------	M T W ThF
0850	TOD OUTPUTS	-7------	M T W ThF
1340	TOD OUTPUTS	-------1	M T W ThF
1340	PED RECALL	8-6-432-	M T W ThF
1540	PED RECALL	--------	M T W ThF
1540	TOD OUTPUTS	-7------	M T W ThF

* Settings

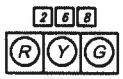
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

DETAIL OF SIGNAL HEADS

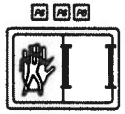


LED ILLUMINATED
ITEM NO. 650-1-18
(2 NEW)



LED ILLUMINATED
ITEM NO. 650-1-14
(4 NEW)

LED ILLUMINATED
ITEM NO. 650-1-14
(2 NEW)



PEDESTRIAN COUNTDOWN SIGNAL
ITEM NO. 653-1-11
(6 NEW)

E

ALTON RD

ITEM NO. 699-1-1A
D3-1B
LED ILLUMINATED STREET SIGN
(1 PROPOSED)

V

4 STREET

ITEM NO. 699-1-1A
D3-1B
LED ILLUMINATED STREET SIGN
(2 PROPOSED)

Z

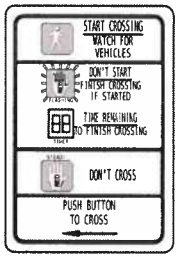
ALTON RD

ITEM NO. 700-1-12
D3-1S
STREET SIGN (6'X2')
(1 PROPOSED)

S1

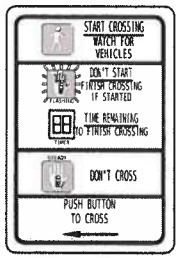
S1-1 / W10-7p
ITEM NO. 700-40-1
(4 NEW)

A



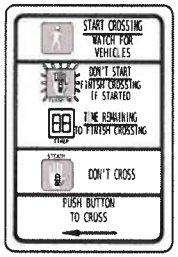
R10-3e
TO BE INCLUDED IN THE COST OF ITEM NO. 665-1-11
(2 NEW)

B

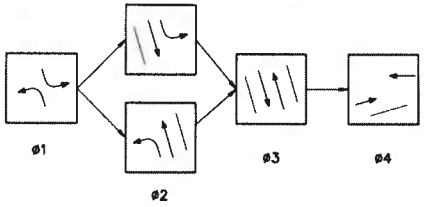


R10-3e
TO BE INCLUDED IN THE COST OF ITEM NO. 665-1-11
(2 NEW)

C



R10-3e
TO BE INCLUDED IN THE COST OF ITEM NO. 665-1-11
(1 NEW)



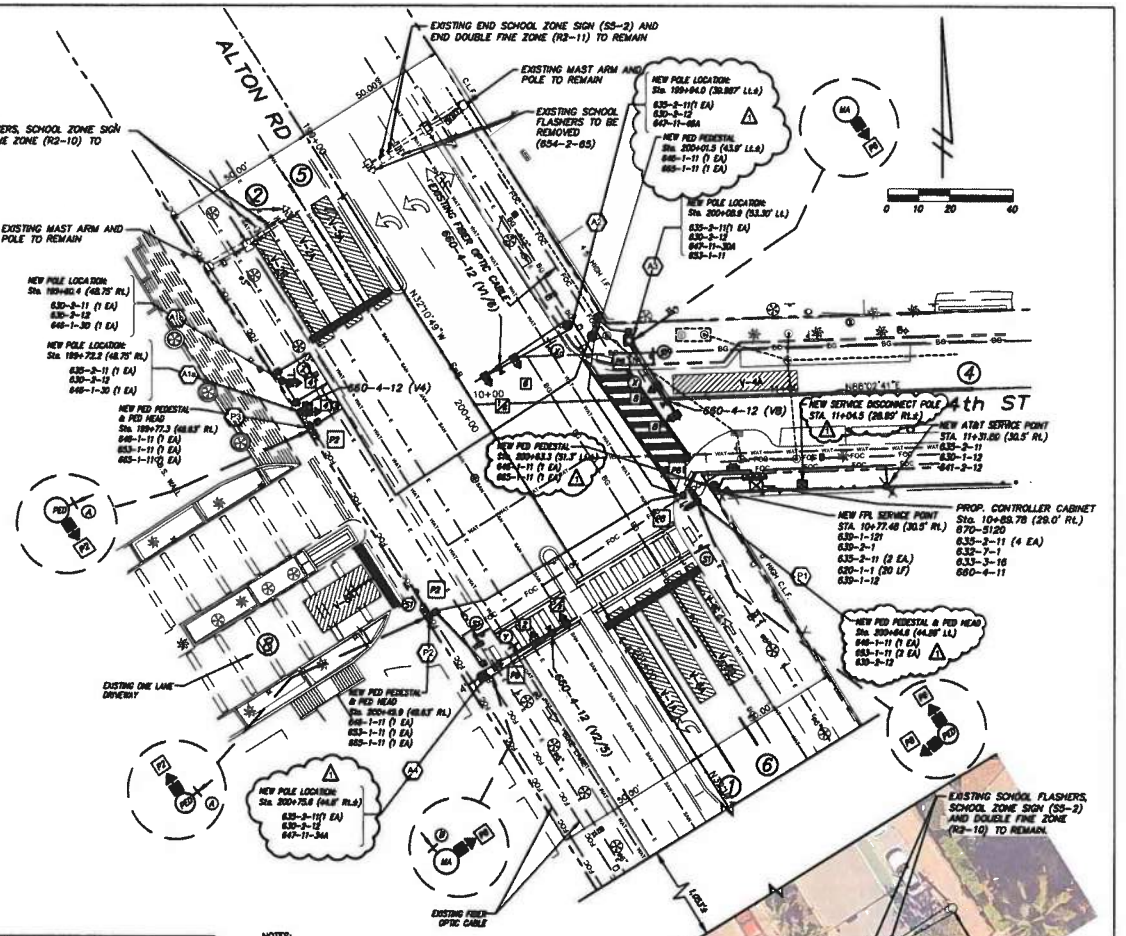
NOTE: SIGNAL HAS DUAL MODE OPERATION FOR PEDESTRIAN PHASE SHOWN AS CONCURRENT PHASE

SIGNAL OPERATION PLAN

CONTROLLER OPERATIONS

1. MAJOR STREET IS ALTON RD, MINOR STREET IS 4 ST
2. SIGNAL OPERATING PLAN AS SHOWN
3. PHASE(S) 1, 2, 3, 4 ACTUATED, PHASE ____ RECALL
4. MOVEMENT(S) 1, 5 IS(ARE) PROTECTED/PERMISSIVE
5. SIGNAL COORDINATION PHASE IS 2, 6
6. FLASHING OPERATION: 2, 6 YELLOW; 4, 8 RED

AS-BUILT



REMOVAL ITEMS		
ITEM NO.	ITEM DESCRIPTION	QTY
654-2-65	RRFB REMOVE COMPLETE SIGN ASSEMBLY	6
700-1-60	SINGLE POST SIGN REMOVE	6
700-80-30	FLASHING BEACON	4

VIDEO DETECTOR ASSIGNMENT		
DETECTOR NO.	MOVEMENT NO.	TIMING FUNCTION NO.
V1/8 (PROPOSED)	1, 8	1, 8
V2/5 (PROPOSED)	2, 5	2, 5
V4 (PROPOSED)	4	4
V8 (PROPOSED)	8	8

NOTES:

1. THE DEMAND WATTAGE FOR THIS INTERSECTION IS 389 WATTS.
2. REMOVE ALL PAVEMENT MARKINGS, RAISED PAVEMENT MARKERS AND SIGNS IN CONFLICT WITH THIS PLAN.
3. REMOVE EXISTING SIGNAL EQUIPMENT AND RETURN UNDAMAGED TO MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT, SIGNAL AND SIGNS DIVISION (7100 N.W. 36 ST)
4. INITIAL SIGNAL TIMING TO BE SUBMITTED BY THE EOR
5. PAVEMENT MARKING ARE SHOWN FOR INFORMATION ONLY. SEE SIGNING & PAVEMENT MARKING PLANS.
6. SIGNAL HAS A DUAL MODE OPERATION FOR PEDESTRIANS. SHOWN IS CONCURRENT PEDESTRIAN PHASE.

ALTON RD & 4 STREET SIGNALIZATION PLAN INT. ID# 7699

Revision	By	Appd	YY.MM.DD
1 AS BUILT MODIFICATIONS	RM		19.11.14

Issued	By	Appd.	YY.MM.DD

Seal

CARLOS M. HERDOCIA, P.E.
REGISTERED ENGINEER NO. 47660
STATE OF FLORIDA

Consultants

Stantec
901 Ponce de Leon Blvd. Suite 900
Coral Gables, Florida 33134
www.stantec.com

File Name:

Des.	Chkd.	Dsgn.	18.03.01 YY.MM.DD
RM	CMH	CMH	

ALTON RD & 4 ST
INTERSECTION IMPROVEMENTS
CITY OF MIAMI BEACH, Florida

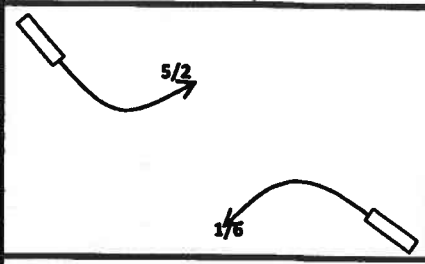
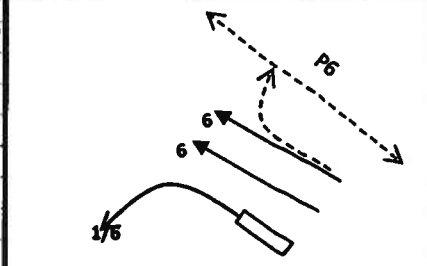
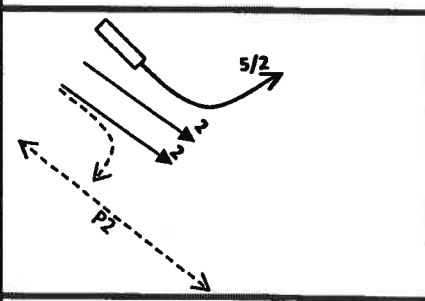
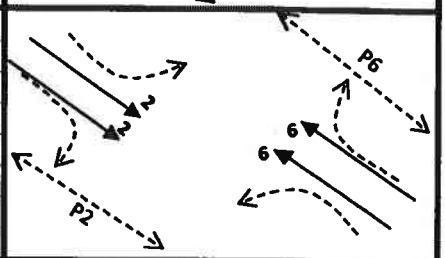
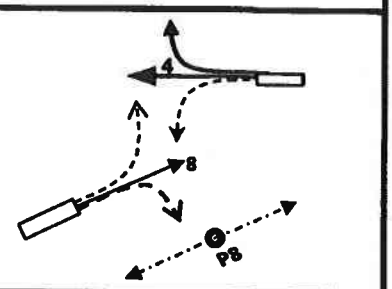
SIGNALIZATION PLANS

Project No.	Scale
215614403	SEE PLANS
Drawing No.	Sheet / Revision
C03	of 8

ORIGINAL SHEET - ANSI D (24.00 x 36.00)

SIGNAL OPERATING PLAN

N

Timing Phases	Direction / Head No.	SEB 5/2	SEB 2	NWB 1/6	NWB 6	WB 4	WB 4	EB 8	EB 8	Ped Heads P2	Ped Heads P6	Ped Heads	Ped Heads P8	Movements/Display/Actuation
[1+5] SEBL+NWBL ALTON RD	Dwell	R/<G	R	R/<G	R	R	R	R	R	DW	DW		DW	
	2+5	R/<G	R	R/<Y	R	R	R	R	R	DW	DW		DW	
	1+6	R/<Y	R	R/<G	R	R	R	R	R	DW	DW		DW	
	2+6	R/<Y	R	R/<Y	R	R	R	R	R	DW	DW		DW	
ACTUATED	clear to													
[1+6] NWBL+NWBT ALTON RD	Dwell	R	R	<G/G	G	R	R	R	R	DW	W/F		DW	
	2+6	R	R	<Y/G	G	R	R	R	R	DW	DW		DW	
ACTUATED	clear to													
[2+5] SEBL+SEBT ALTON RD	Dwell	<G/G	G	R	R	R	R	R	R	W/F	DW		DW	
	2+6	<Y/G	G	R	R	R	R	R	R	DW	DW		DW	
ACTUATED	clear to													
[2+6] NEBT+NWBT ALTON RD	Dwell	G	G	G	G	R	R	R	R	W/F	W/F		DW	
	4+8	Y	Y	Y	Y	R	R	R	R	DW	DW		DW	
RECALL	clear to													
[4+8] EB+WB 45T.	Dwell	R	R	R	R	G	G	G	G	DW	DW		W/F	
	1+5	R	R	R	R	Y	Y	Y	Y	DW	DW		DW	
	1+6	R	R	R	R	Y	Y	Y	Y	DW	DW		DW	
	2+6	R	R	R	R	Y	Y	Y	Y	DW	DW		DW	
ACTUATED	clear to													
	Dwell	FR	FY	FR	FY	FR		FR	FR					
	Year													

Flashing Operation			Page 1 of 1
	MIAMI-DADE COUNTY PUBLIC WORK DEPARTMENT		
E300974	Date 9/26/2019	Alton Rd & 4 St	
Checked	Date 10/22/19	Placed In Service Date / By	Phasing No. 1 / Asset Number 7699

Appendix D

Growth Rate Calculations

FDOT Historic Growth Trends

FDOT Growth Rate Summary

Station Number	Location	Historical Growth- Linear				Historical Growth- Exponential				Historical 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
2527	SR A1A/MacArthur Causeway -- 200 feet west of SR 907/Alton Road	-5.01%	98.09%	-4.45%	92.10%	-5.50%	97.50%	-5.57%	92.18%	-5.10%	87.21%	-4.82%	72.38%
2528	SR A1A/MacArthur Causeway -- 150 feet north of Meridian Avenue	0.64%	30.77%	-1.39%	14.32%	0.63%	30.49%	-1.48%	16.22%	0.39%	12.86%	-0.98%	5.58%
5159	SR A1A/Collins Avenue -- 200 feet north of 5th Street	5.63%	97.33%	-0.78%	6.35%	5.20%	96.22%	-0.64%	5.37%	5.51%	99.14%	-1.41%	21.77%
8415	West Avenue -- 100' north of 12th Street	-11.61%	94.16%	-2.85%	20.85%	-14.90%	92.08%	-3.60%	20.96%	-12.66%	79.54%	-1.24%	2.93%
8590	S Pointe Drive -- 150 feet west of Washington Avenue	-6.38%	80.89%	-4.02%	72.12%	-7.10%	84.07%	-5.05%	74.08%	-8.07%	94.20%	-3.71%	46.61%
Total		**-3.35%**	**80.25%**	**-2.70%**	**41.15%**	**-4.33%**	**80.07%**	**-3.27%**	**41.76%**	**-3.99%**	**74.59%**	**-2.43%**	**29.85%**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 2527 - SR A1A/MACARTHUR CSWY, 200' W SR 907/ALTON RD

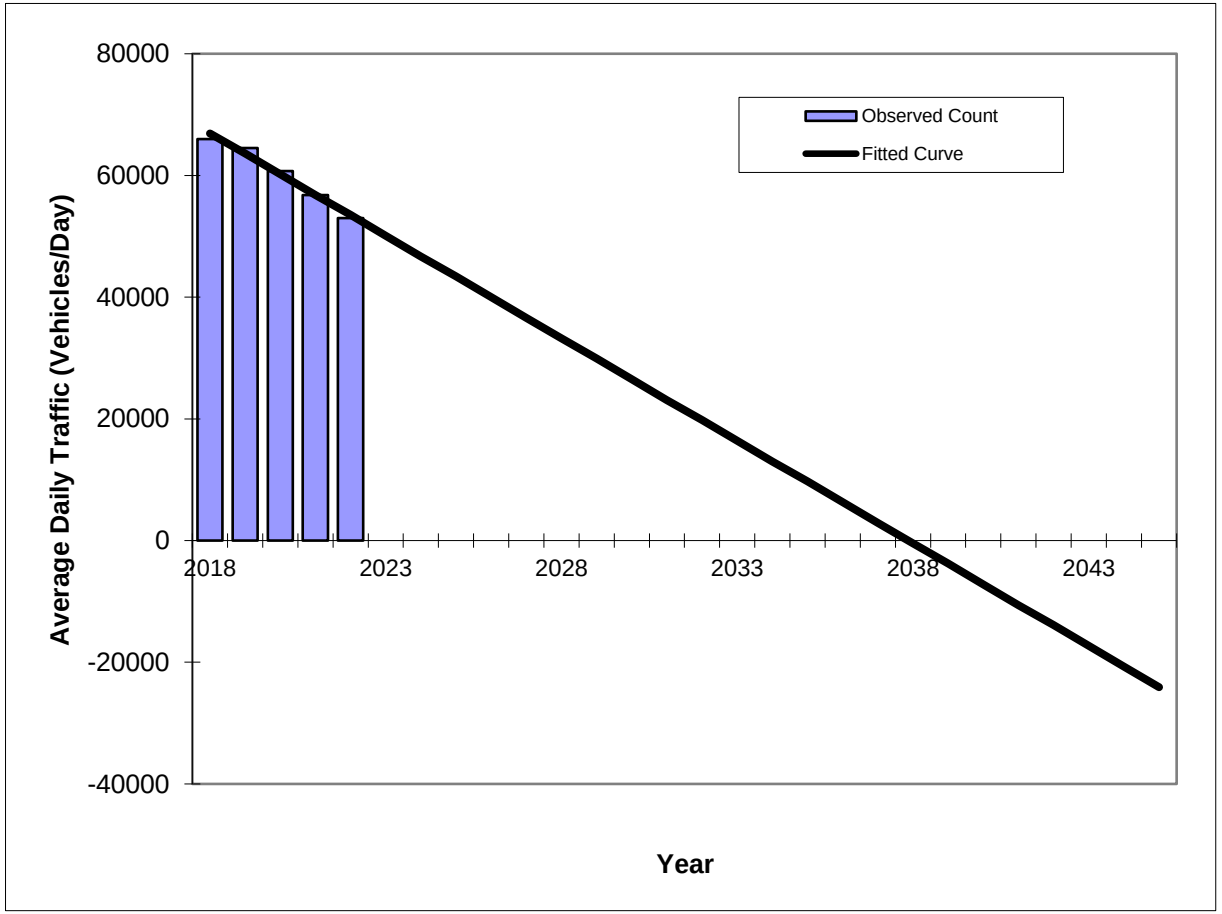
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	53000 C	E 22500	W 30500	9.00	54.90	4.50
2021	51000 C	E 20000	W 31000	9.00	54.70	5.40
2020	67000 C	E 25500	W 41500	9.00	54.30	9.20
2019	64500 F	E 29000	W 35500	9.00	54.00	5.00
2018	66000 C	E 29500	W 36500	9.00	55.20	5.60
2017	77000 C	E 37000	W 40000	9.00	54.00	5.30
2016	83000 C	E 41500	W 41500	9.00	55.50	7.80
2015	85000 C	E 41500	W 43500	9.00	55.10	4.60
2014	85000 C	E 42500	W 42500	9.00	54.30	5.10
2013	83000 C	E 42500	W 40500	9.00	54.10	6.10
2012	83500 C	E 41000	W 42500	9.00	53.40	8.40
2011	80000 C	E 39500	W 40500	9.00	51.90	7.50
2010	66000 C	E 36000	W 30000	7.16	52.27	8.80
2009	68500 C	E 36500	W 32000	9.21	57.60	8.40
2008	72500 C	E 36500	W 36000	7.42	52.15	5.30
2007	79500 C	E 40000	W 39500	7.11	53.51	4.90

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 A1A/MacArthur Causeway -- 200' west of SR 907/Atlon Road

County:	Miami-Dade (87)
Station #:	2527
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	66000	66900
2019	64500	63600
2020	60700	60200
2021	56800	56800
2022	53000	53500

Trend R-squared:	98.09%
Trend Annual Historic Growth Rate:	-5.01%
Printed:	16-Oct-23

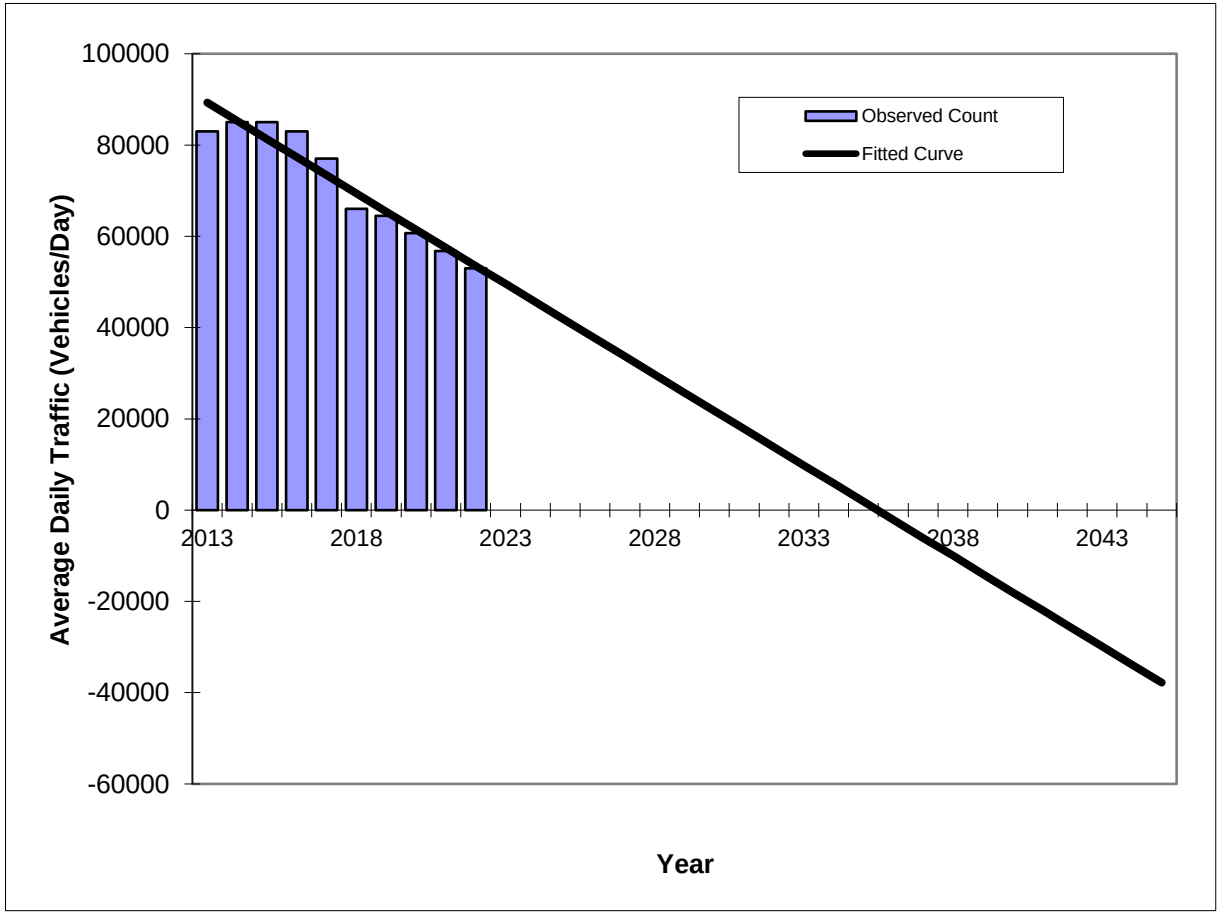
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 200' west of SR 907/Atlon Road

County:	Miami-Dade (87)
Station #:	2527
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT) Count*	Trend**
2013	83000	89300
2014	85000	85300
2015	85000	81300
2016	83000	77400
2017	77000	73400
2018	66000	69400
2019	64500	65400
2020	60700	61500
2021	56800	57500
2022	53000	53500

Trend R-squared:	92.10%
Trend Annual Historic Growth Rate:	-4.45%
Printed:	16-Oct-23

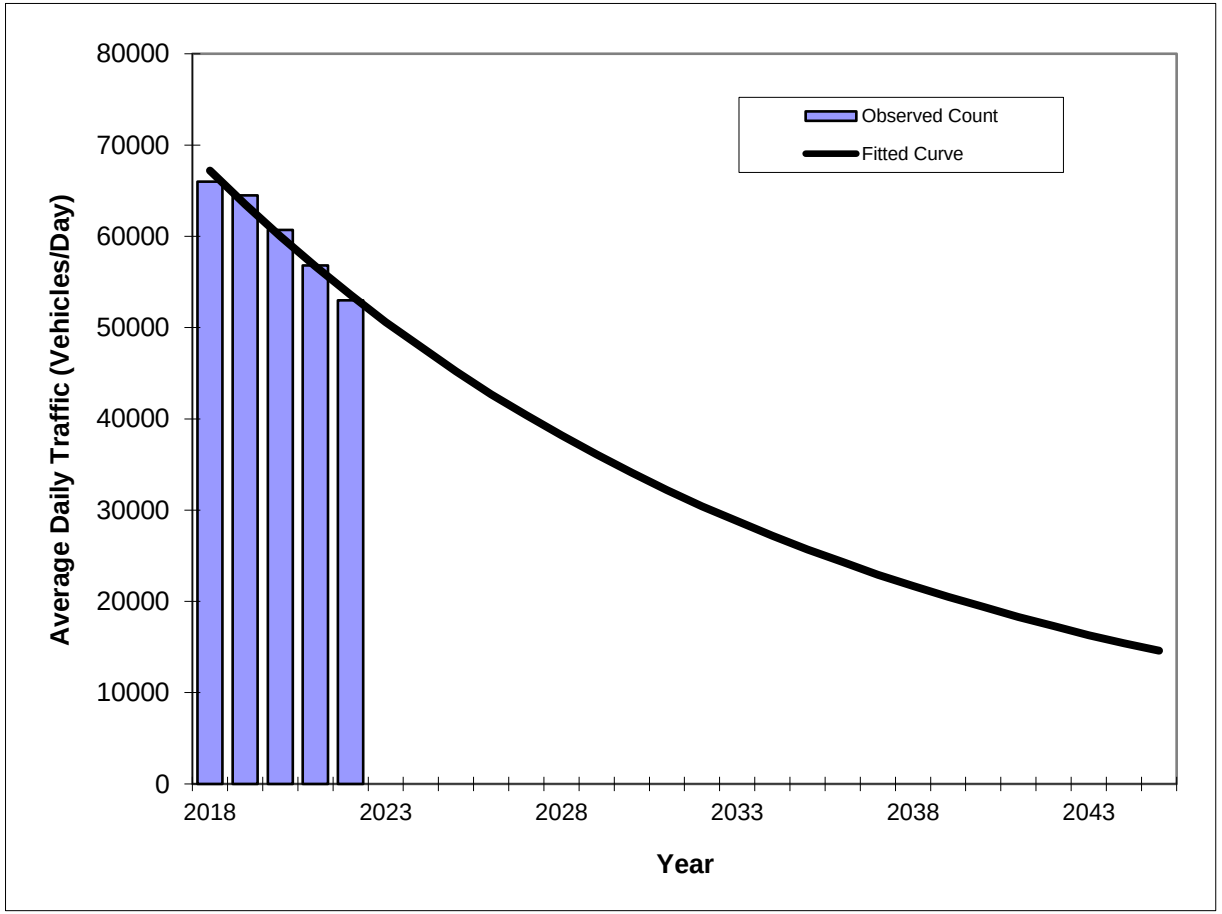
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 200' west of SR 907/Atlon Road

County:	Miami-Dade (87)
Station #:	2527
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	66000	67200
2019	64500	63500
2020	60700	60000
2021	56800	56700
2022	53000	53600

Trend R-squared:	97.50%
Compounded Annual Historic Growth Rate:	-5.50%
Printed:	16-Oct-23

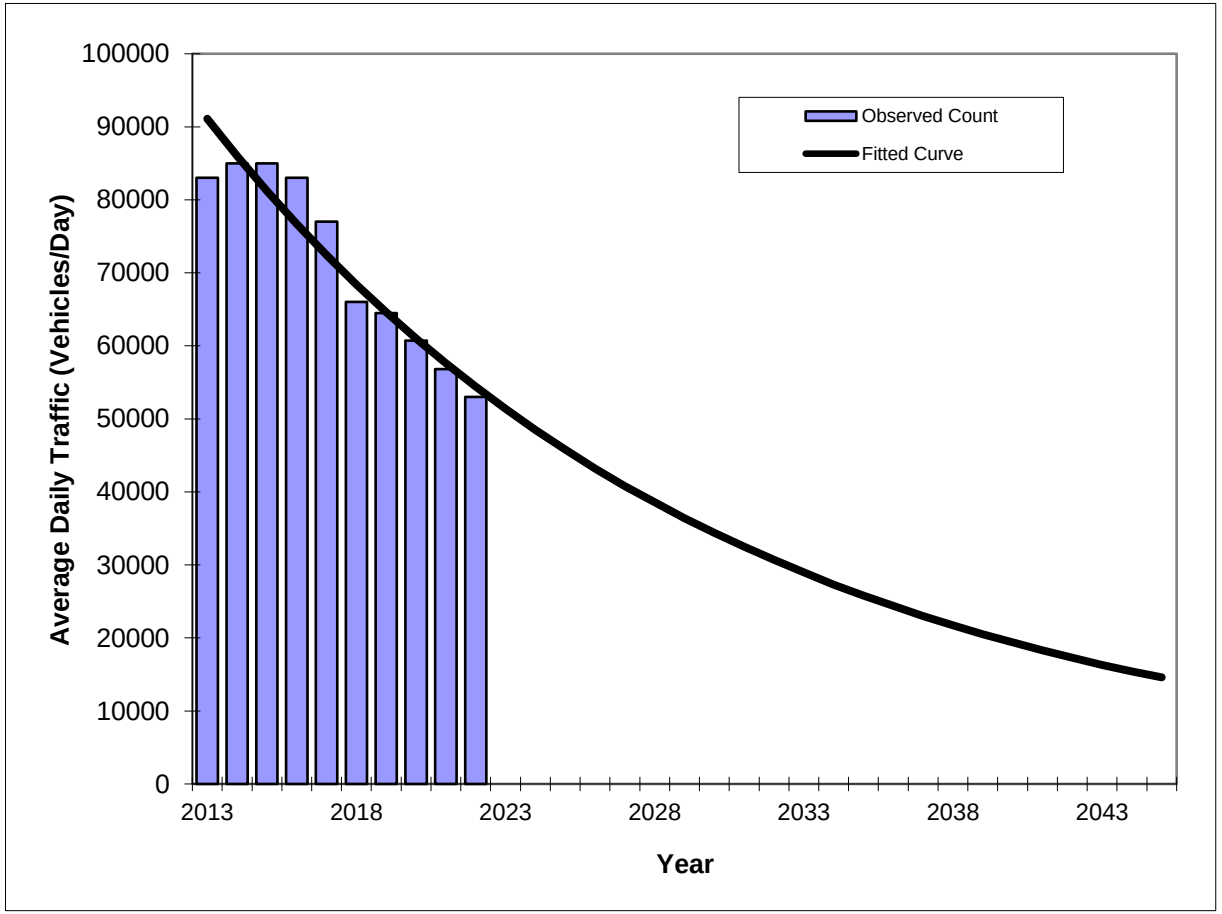
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 200' west of SR 907/Atlon Road

County:	Miami-Dade (87)
Station #:	2527
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	83000	91100
2014	85000	86000
2015	85000	81200
2016	83000	76700
2017	77000	72400
2018	66000	68400
2019	64500	64600
2020	60700	61000
2021	56800	57600
2022	53000	54400

Trend R-squared:	92.18%
Compounded Annual Historic Growth Rate:	-5.57%
Printed:	16-Oct-23

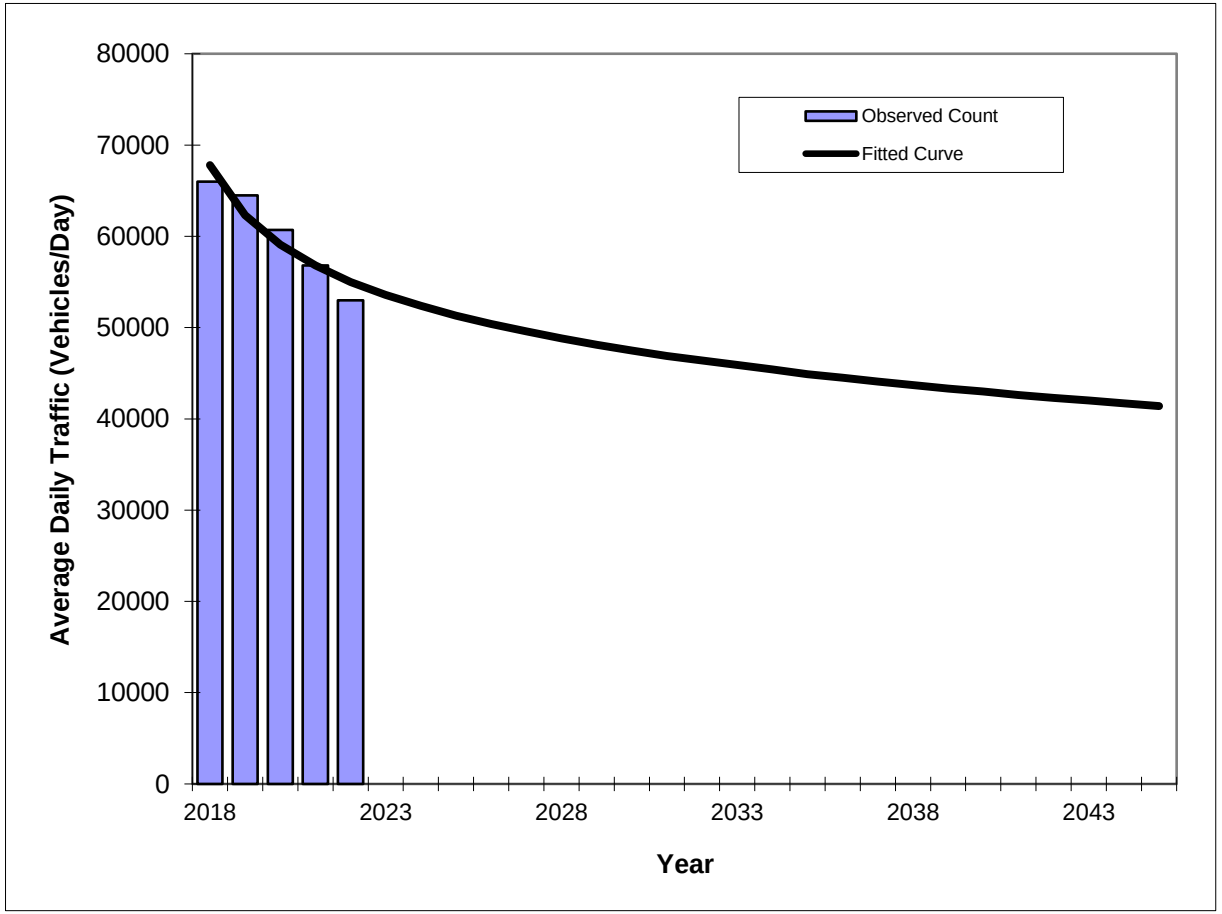
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 200' west of SR 907/Atlon Road

County:	Miami-Dade (87)
Station #:	2527
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	66000	67800
2019	64500	62300
2020	60700	59100
2021	56800	56800
2022	53000	55000

Trend R-squared:	87.21%
Compounded Annual Historic Growth Rate:	-5.10%
Printed:	16-Oct-23

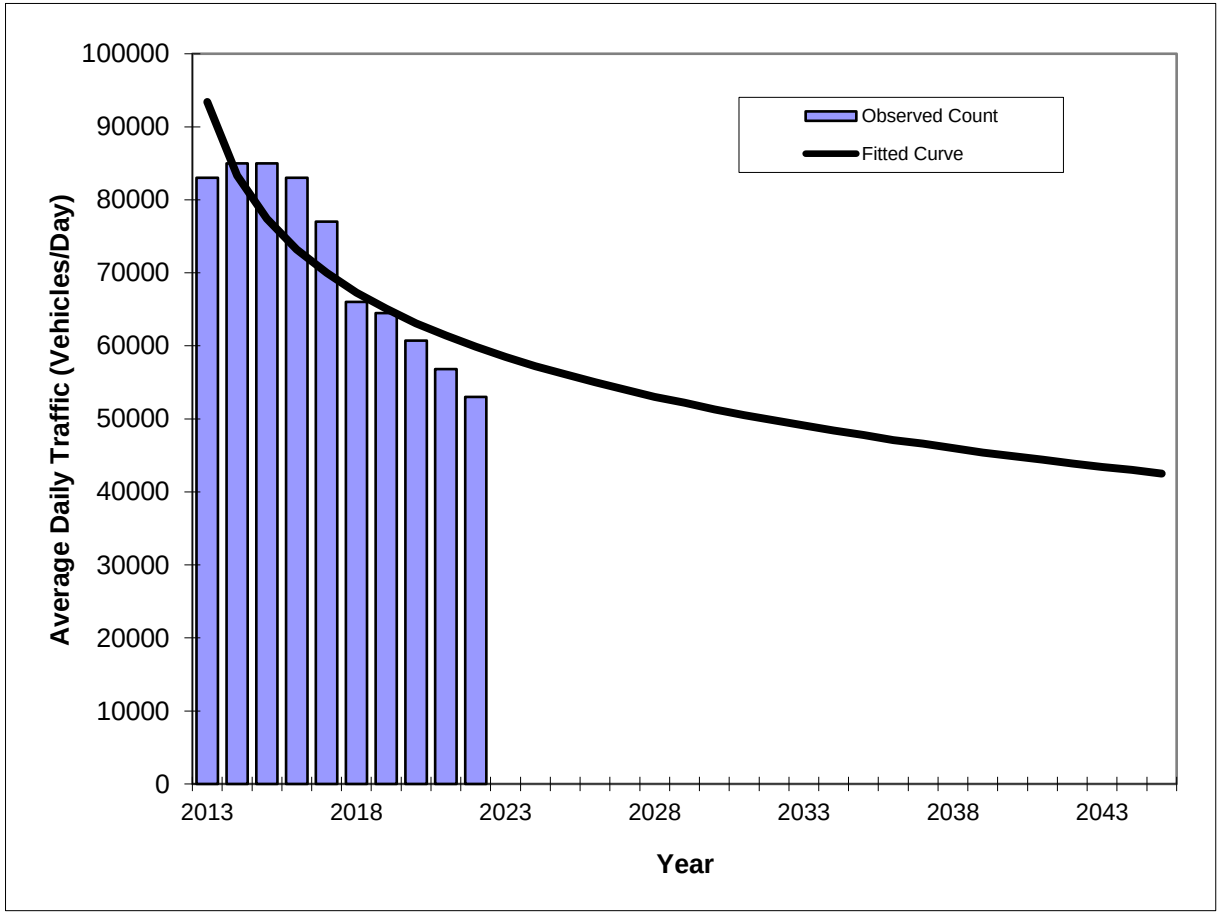
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 200' west of SR 907/Atlon Road

County:	Miami-Dade (87)
Station #:	2527
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT) Count*	Trend**
2013	83000	93400
2014	85000	83300
2015	85000	77400
2016	83000	73200
2017	77000	70000
2018	66000	67300
2019	64500	65100
2020	60700	63100
2021	56800	61400
2022	53000	59900

Trend R-squared:	72.38%
Compounded Annual Historic Growth Rate:	-4.82%
Printed:	16-Oct-23

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 2528 - SR A1A/MACARTHUR CSWY, 150' N OF MERIDIAN AVE

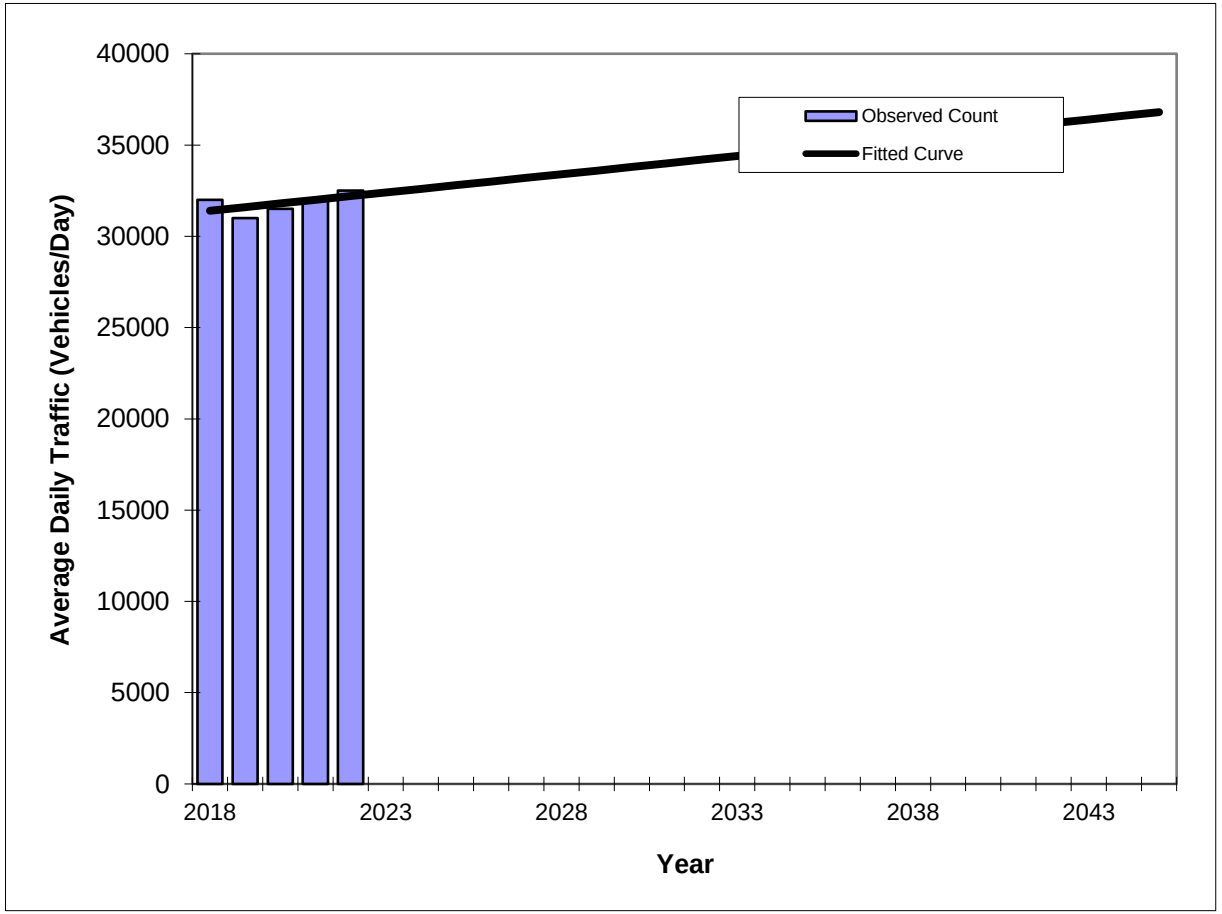
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	32500 C	E 15000	W 17500	9.00	54.90	4.50
2021	33000 C	E 15000	W 18000	9.00	54.70	5.40
2020	41000 C	E 19000	W 22000	9.00	54.30	9.20
2019	31000 F	E 15500	W 15500	9.00	54.00	5.00
2018	32000 C	E 16000	W 16000	9.00	55.20	5.60
2017	44000 C	E 20000	W 24000	9.00	54.00	5.30
2016	35500 C	E 18500	W 17000	9.00	55.50	7.80
2015	39500 C	E 20000	W 19500	9.00	55.10	4.60
2014	33000 C	E 17000	W 16000	9.00	54.30	5.10
2013	34000 C	E 17500	W 16500	9.00	54.10	6.10
2012	32500 C	E 14500	W 18000	9.00	53.40	8.40
2011	35000 C	E 16500	W 18500	9.00	51.90	7.50
2010	35000 C	E 16500	W 18500	7.16	52.27	8.80
2009	35500 C	E 16500	W 19000	9.21	57.60	8.40
2008	34500 C	E 16000	W 18500	7.42	52.15	5.30
2007	34000 C	E 16500	W 17500	7.11	53.51	4.90

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 A1A/MacArthur Causeway -- 150' north of Meridian Avenue

County:	Miami-Dade (87)
Station #:	2528
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	32000	31400
2019	31000	31600
2020	31500	31800
2021	32000	32000
2022	32500	32200

Trend R-squared:	30.77%
Trend Annual Historic Growth Rate:	0.64%
Printed:	16-Oct-23

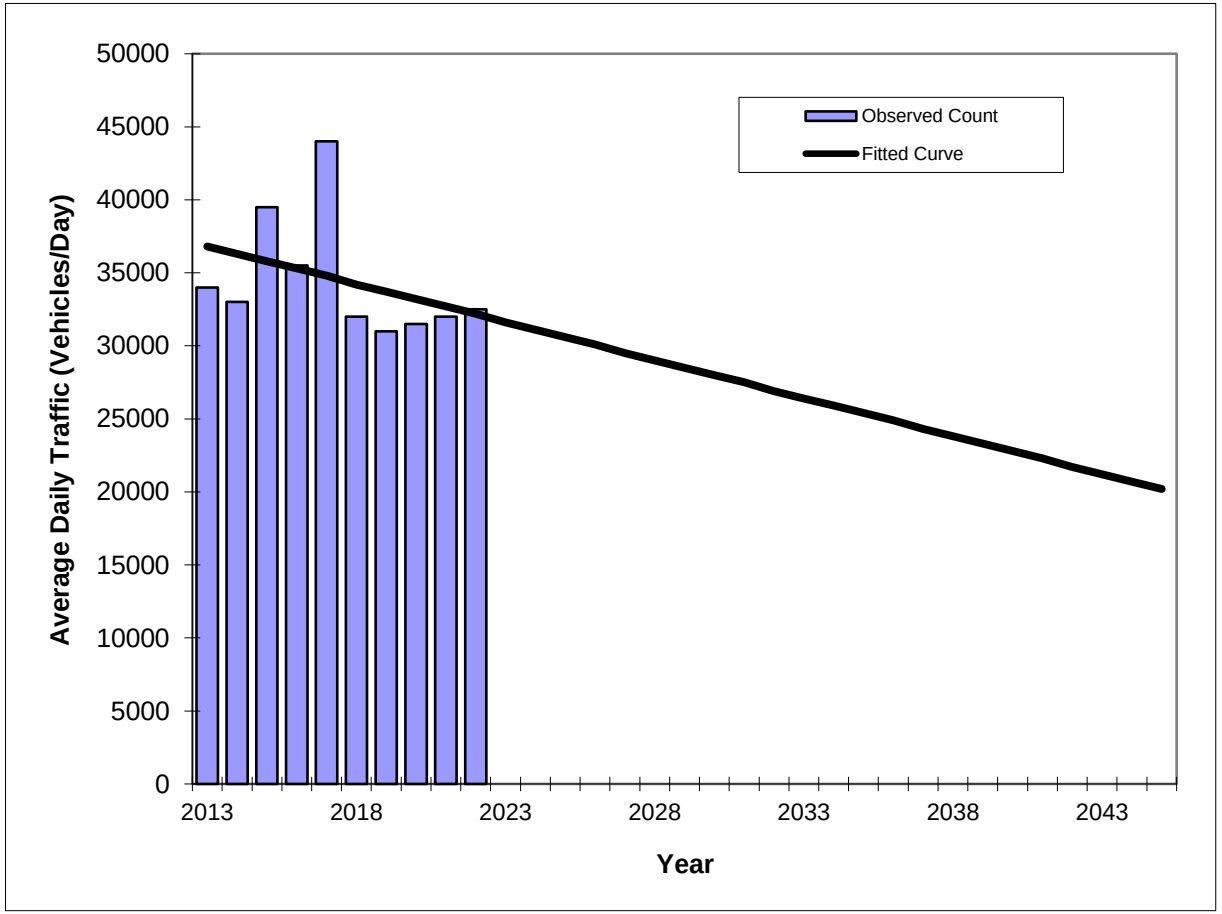
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 150' north of Meridian Avenue

County:	Miami-Dade (87)
Station #:	2528
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT) Count*	Trend**
2013	34000	36800
2014	33000	36300
2015	39500	35800
2016	35500	35300
2017	44000	34800
2018	32000	34200
2019	31000	33700
2020	31500	33200
2021	32000	32700
2022	32500	32200

Trend R-squared:	14.32%
Trend Annual Historic Growth Rate:	-1.39%
Printed:	16-Oct-23

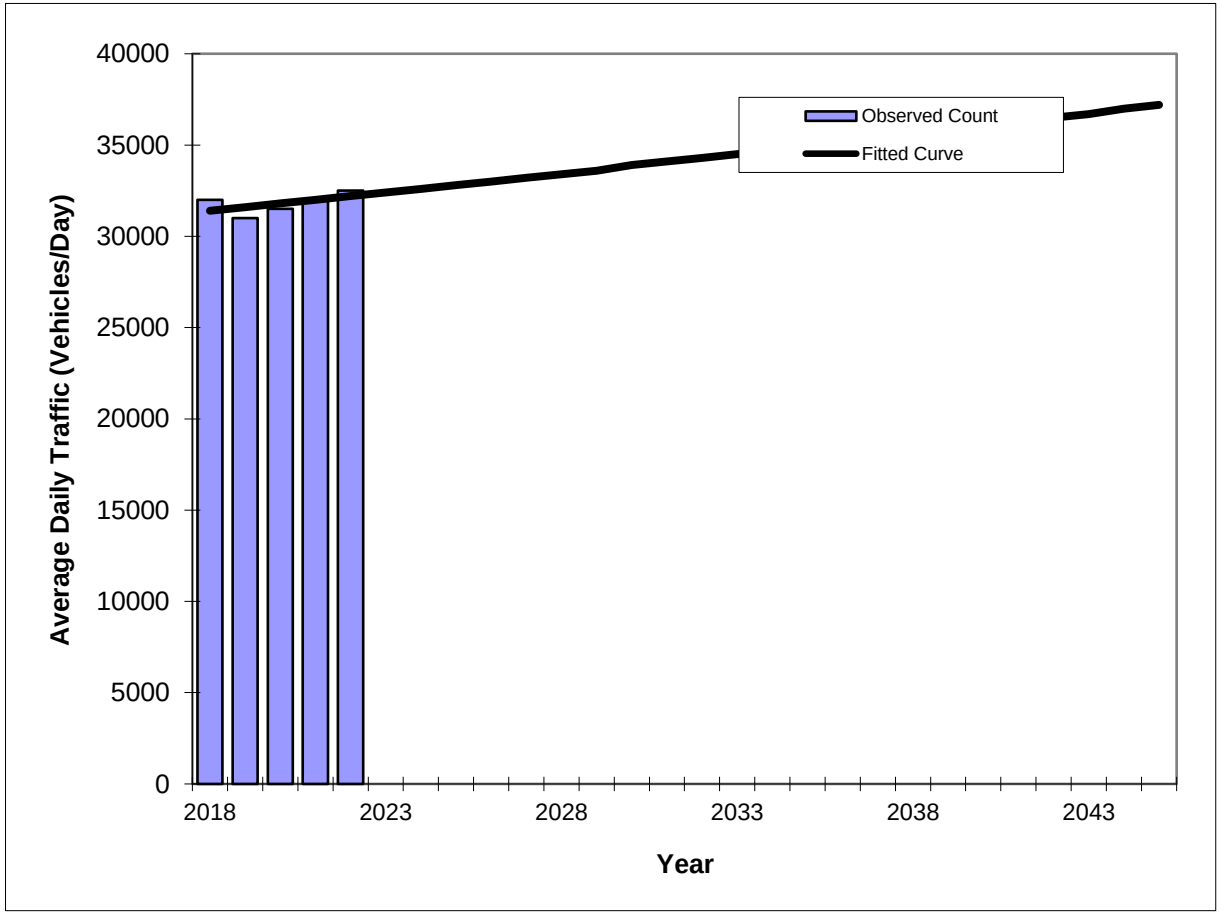
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 150' north of Meridian Avenue

County:	Miami-Dade (87)
Station #:	2528
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	32000	31400
2019	31000	31600
2020	31500	31800
2021	32000	32000
2022	32500	32200

Trend R-squared:	30.49%
Compounded Annual Historic Growth Rate:	0.63%
Printed:	16-Oct-23

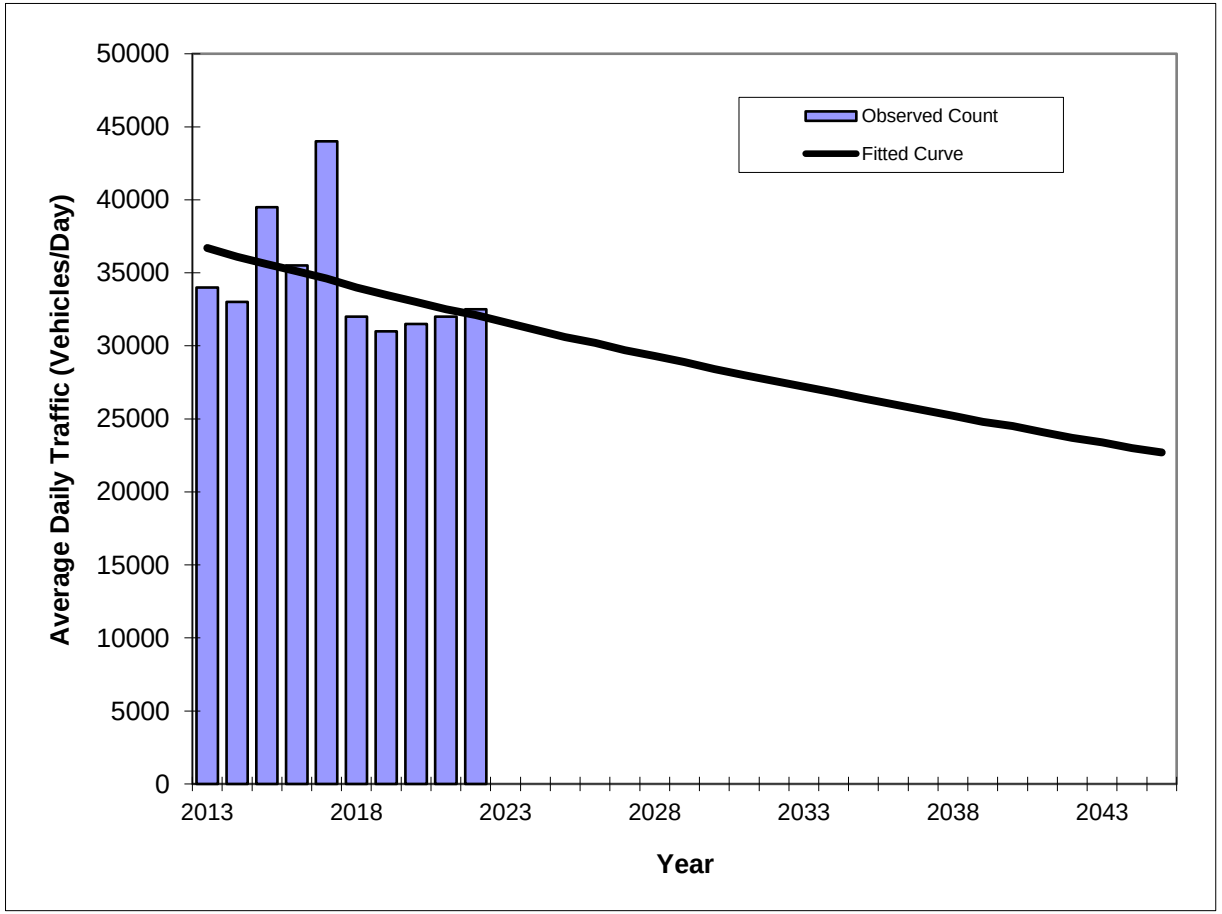
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 150' north of Meridian Avenue

County:	Miami-Dade (87)
Station #:	2528
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT) Count*	Trend**
2013	34000	36700
2014	33000	36100
2015	39500	35600
2016	35500	35100
2017	44000	34600
2018	32000	34000
2019	31000	33500
2020	31500	33000
2021	32000	32500
2022	32500	32100

Trend R-squared:	16.22%
Compounded Annual Historic Growth Rate:	-1.48%
Printed:	16-Oct-23

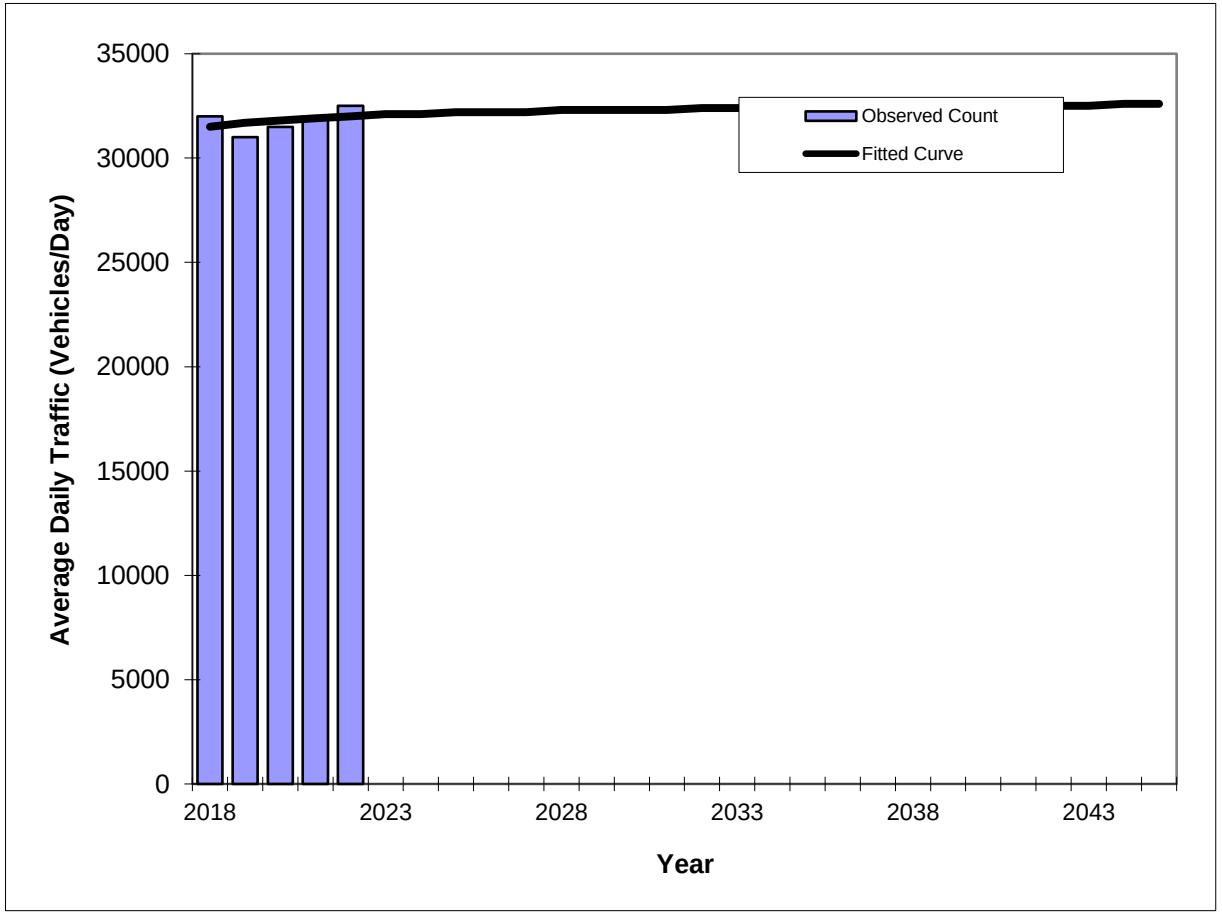
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 150' north of Meridian Avenue

County:	Miami-Dade (87)
Station #:	2528
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	32000	31500
2019	31000	31700
2020	31500	31800
2021	32000	31900
2022	32500	32000

Trend R-squared:	12.86%
Compounded Annual Historic Growth Rate:	0.39%
Printed:	16-Oct-23

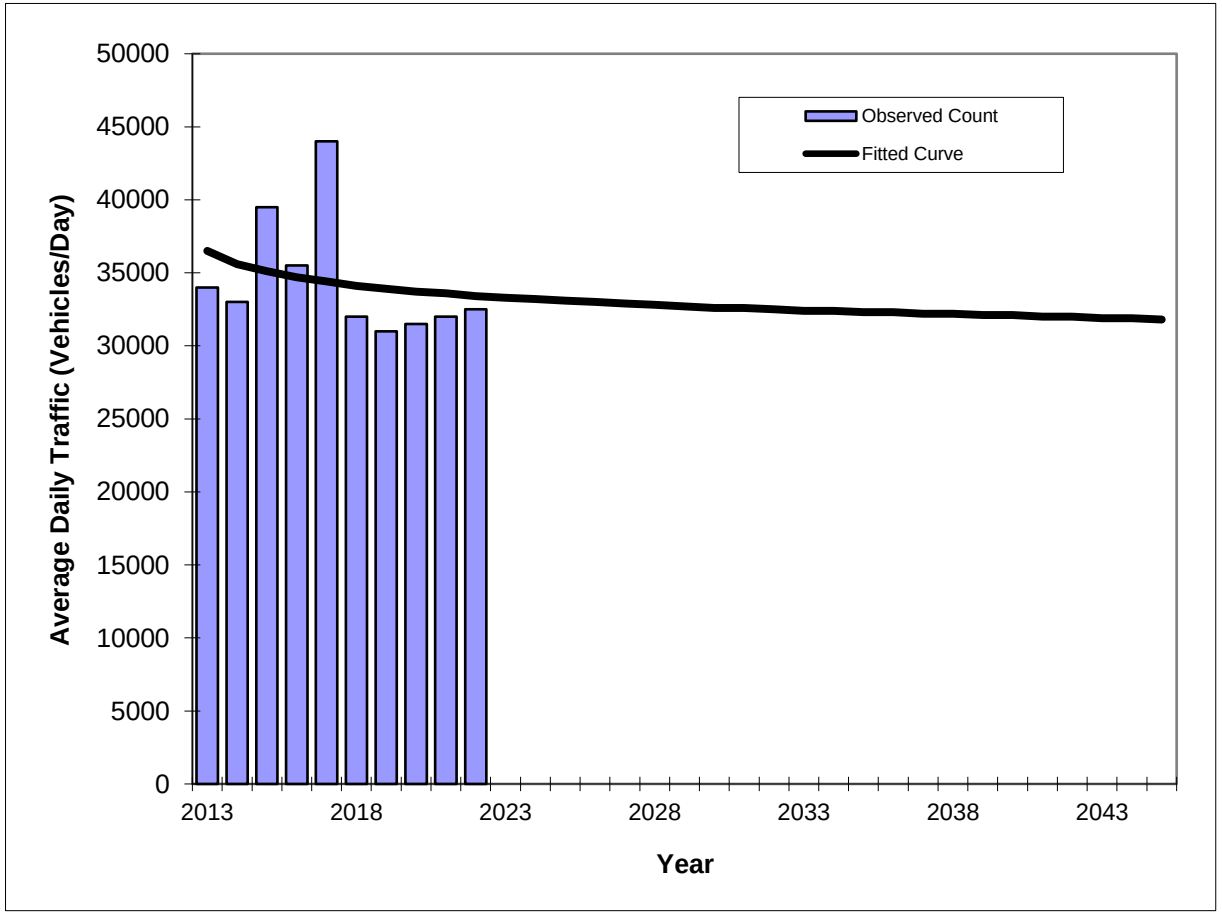
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/MacArthur Causeway -- 150' north of Meridian Avenue

County:	Miami-Dade (87)
Station #:	2528
Highway:	SR A1A/MacArthur Causeway



Year	Traffic (ADT/AADT) Count*	Trend**
2013	34000	36500
2014	33000	35600
2015	39500	35100
2016	35500	34700
2017	44000	34400
2018	32000	34100
2019	31000	33900
2020	31500	33700
2021	32000	33600
2022	32500	33400

Trend R-squared:	5.58%
Compounded Annual Historic Growth Rate:	-0.98%
Printed:	16-Oct-23

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5159 - SR AIA/COLLINS AV, 200' N 5 ST(MIAMI BEACH)

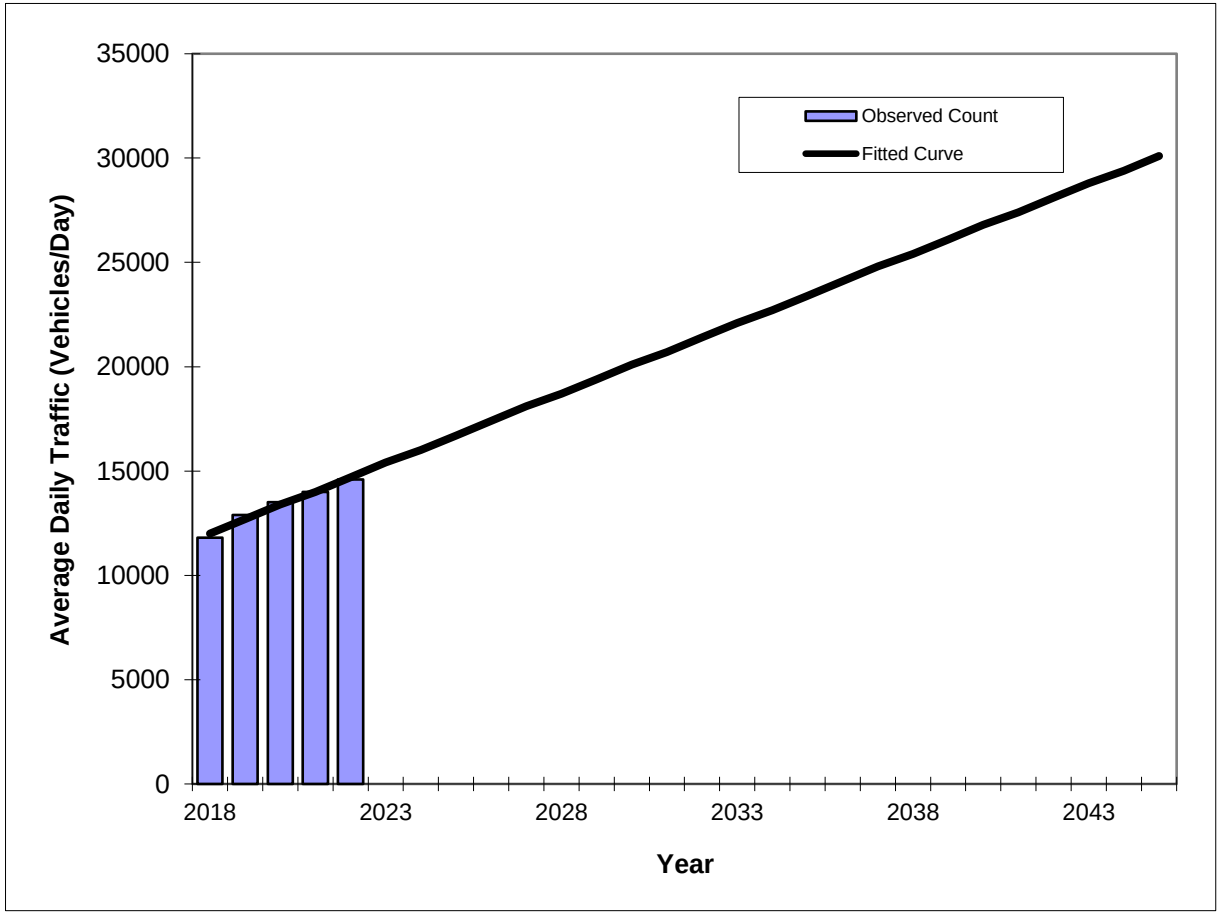
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	14600 C	N 7500	S 7100	9.00	54.70	4.50
2021	15700 C	N 9400	S 6300	9.00	54.30	5.40
2020	14500 C	N 6900	S 7600	9.00	54.20	9.20
2019	12900 C	N 6900	S 6000	9.00	54.60	5.00
2018	11800 C	N 6600	S 5200	9.00	54.30	5.60
2017	14600 C	N 8800	S 5800	9.00	55.00	5.30
2016	13100 C	N 6700	S 6400	9.00	54.50	7.80
2015	13800 C	N 5500	S 8300	9.00	54.70	4.60
2014	13400 C	N 6500	S 6900	9.00	54.50	5.10
2013	16400 C	N 7400	S 9000	9.00	52.40	6.10
2012	16700 C	N 7100	S 9600	9.00	55.70	8.40
2011	13600 C	N 6900	S 6700	9.00	55.10	7.50
2010	12900 C	N 6200	S 6700	8.98	54.08	8.80
2009	15300 C	N 7600	S 7700	8.99	53.24	8.40
2008	13600 C	N 6300	S 7300	9.09	55.75	5.30
2007	14300 C	N 6500	S 7800	8.01	54.34	4.90

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 A1A/Collins Avenue -- 200' north of 5th Street

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/Collins Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	11800	12000
2019	12900	12700
2020	13500	13400
2021	14000	14000
2022	14600	14700

Trend R-squared:	97.33%
Trend Annual Historic Growth Rate:	5.63%
Printed:	16-Oct-23

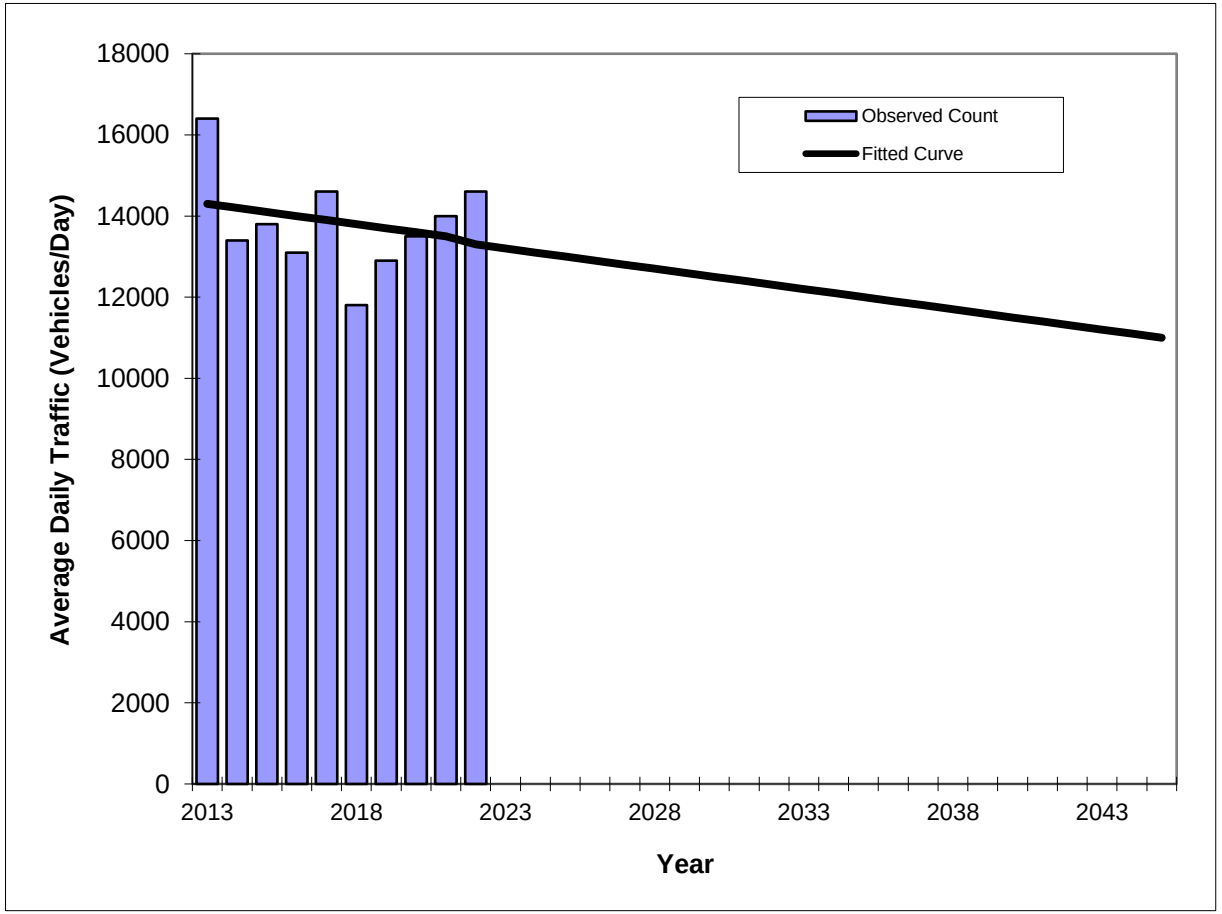
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/Collins Avenue -- 200' north of 5th Street

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/Collins Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	16400	14300
2014	13400	14200
2015	13800	14100
2016	13100	14000
2017	14600	13900
2018	11800	13800
2019	12900	13700
2020	13500	13600
2021	14000	13500
2022	14600	13300

Trend R-squared:	6.35%
Trend Annual Historic Growth Rate:	-0.78%
Printed:	16-Oct-23

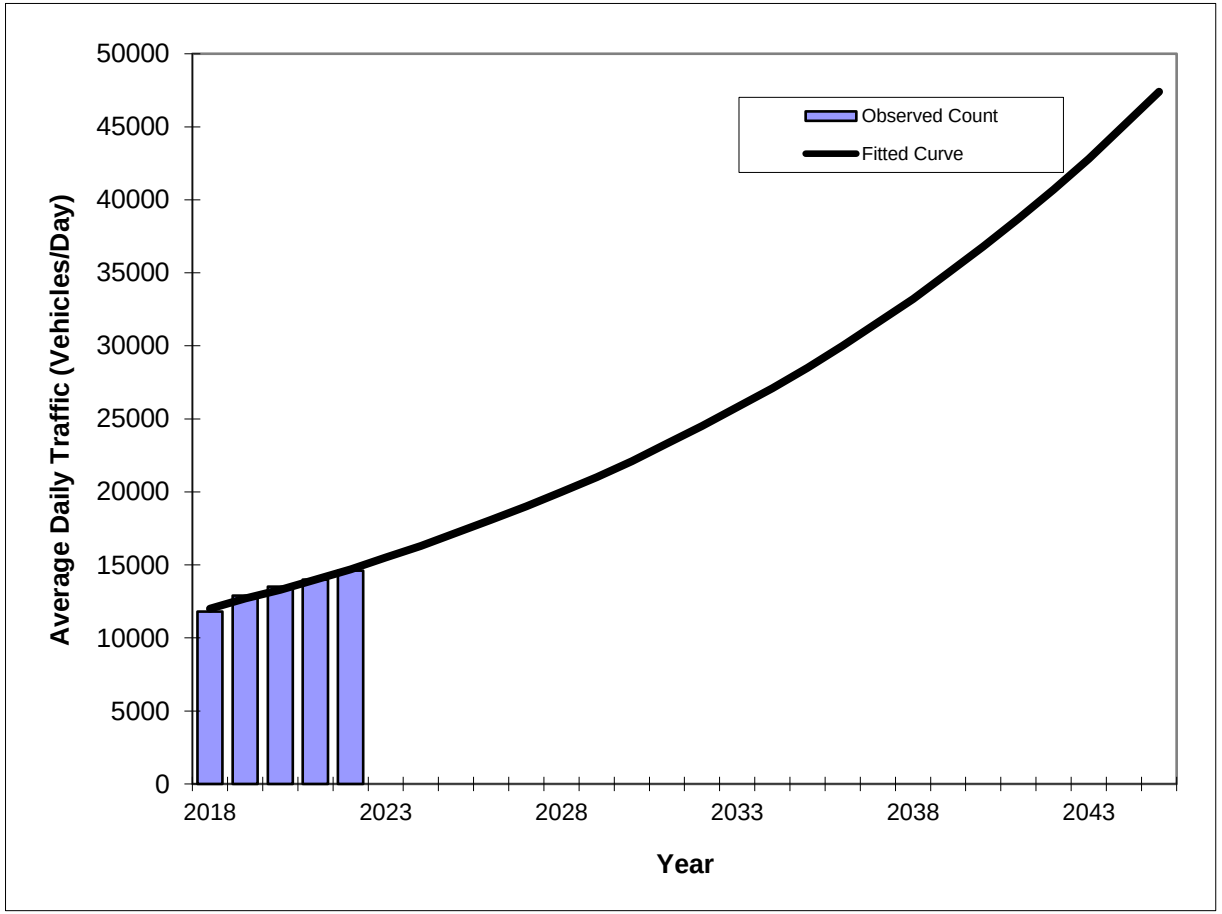
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/Collins Avenue -- 200' north of 5th Street

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/Collins Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	11800	12000
2019	12900	12700
2020	13500	13300
2021	14000	14000
2022	14600	14700

Trend R-squared:	96.22%
Compounded Annual Historic Growth Rate:	5.20%
Printed:	16-Oct-23

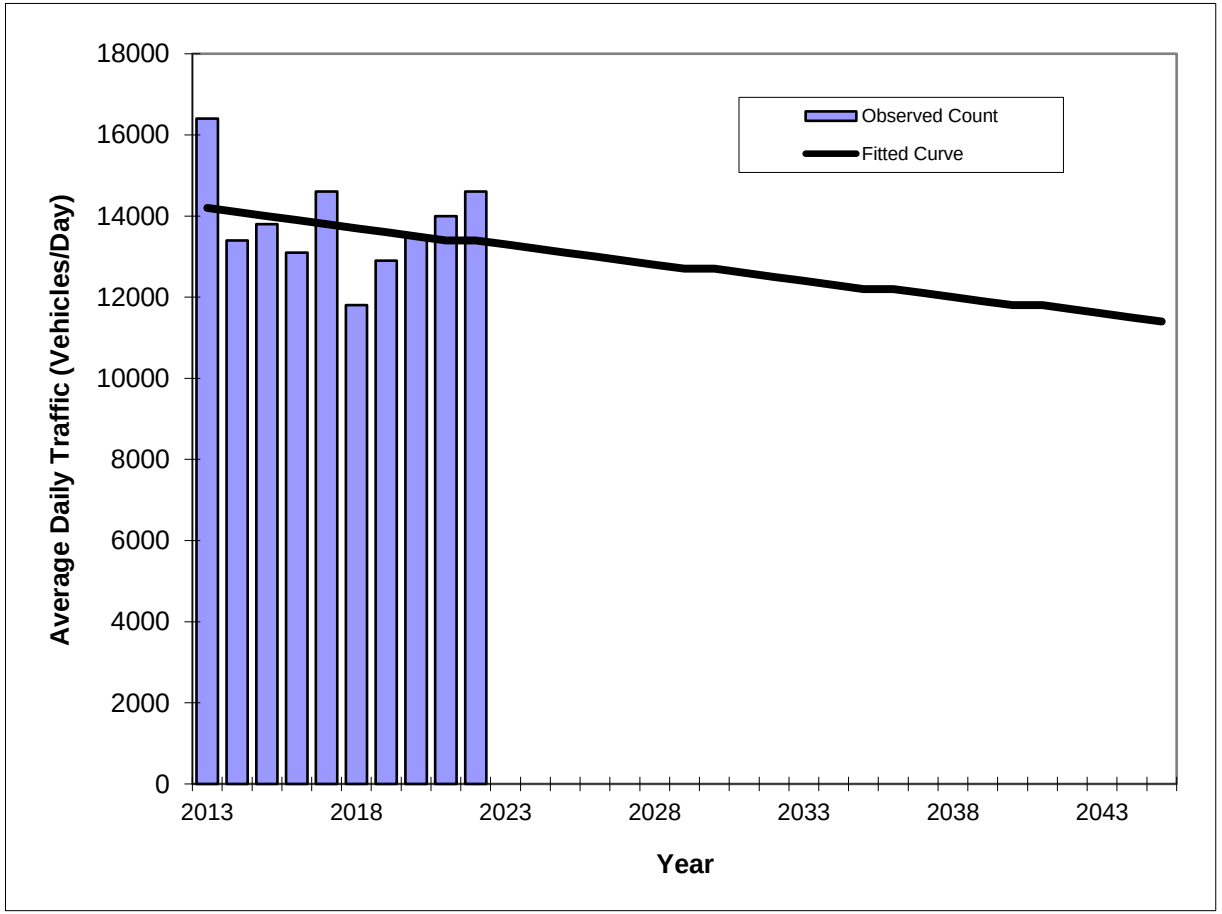
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/Collins Avenue -- 200' north of 5th Street

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/Collins Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	16400	14200
2014	13400	14100
2015	13800	14000
2016	13100	13900
2017	14600	13800
2018	11800	13700
2019	12900	13600
2020	13500	13500
2021	14000	13400
2022	14600	13400

Trend R-squared:	5.37%
Compounded Annual Historic Growth Rate:	-0.64%
Printed:	16-Oct-23

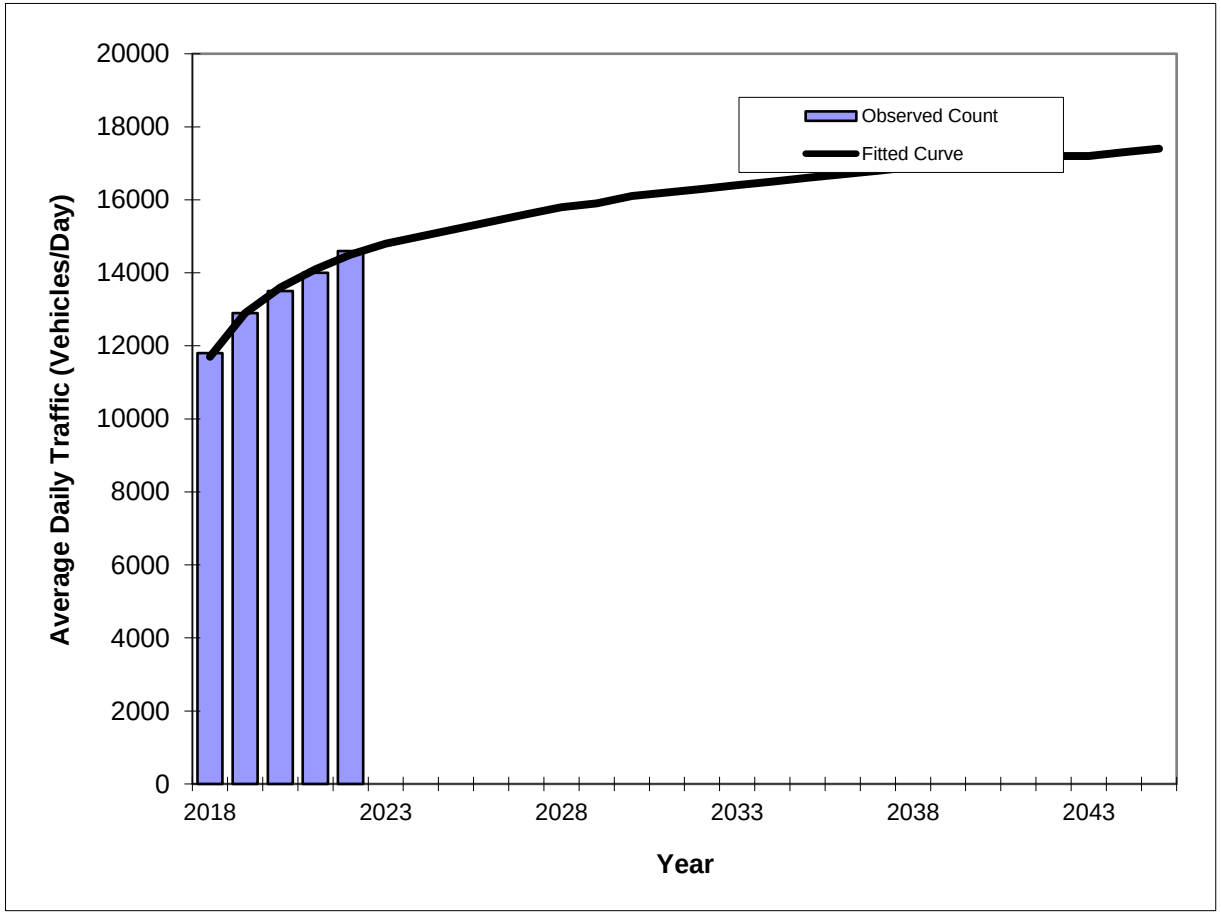
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/Collins Avenue -- 200' north of 5th Street

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/Collins Avenue



Year	Traffic (ADT/AADT) Count*	Trend**
2018	11800	11700
2019	12900	12900
2020	13500	13600
2021	14000	14100
2022	14600	14500

Trend R-squared:	99.14%
Compounded Annual Historic Growth Rate:	5.51%
Printed:	16-Oct-23

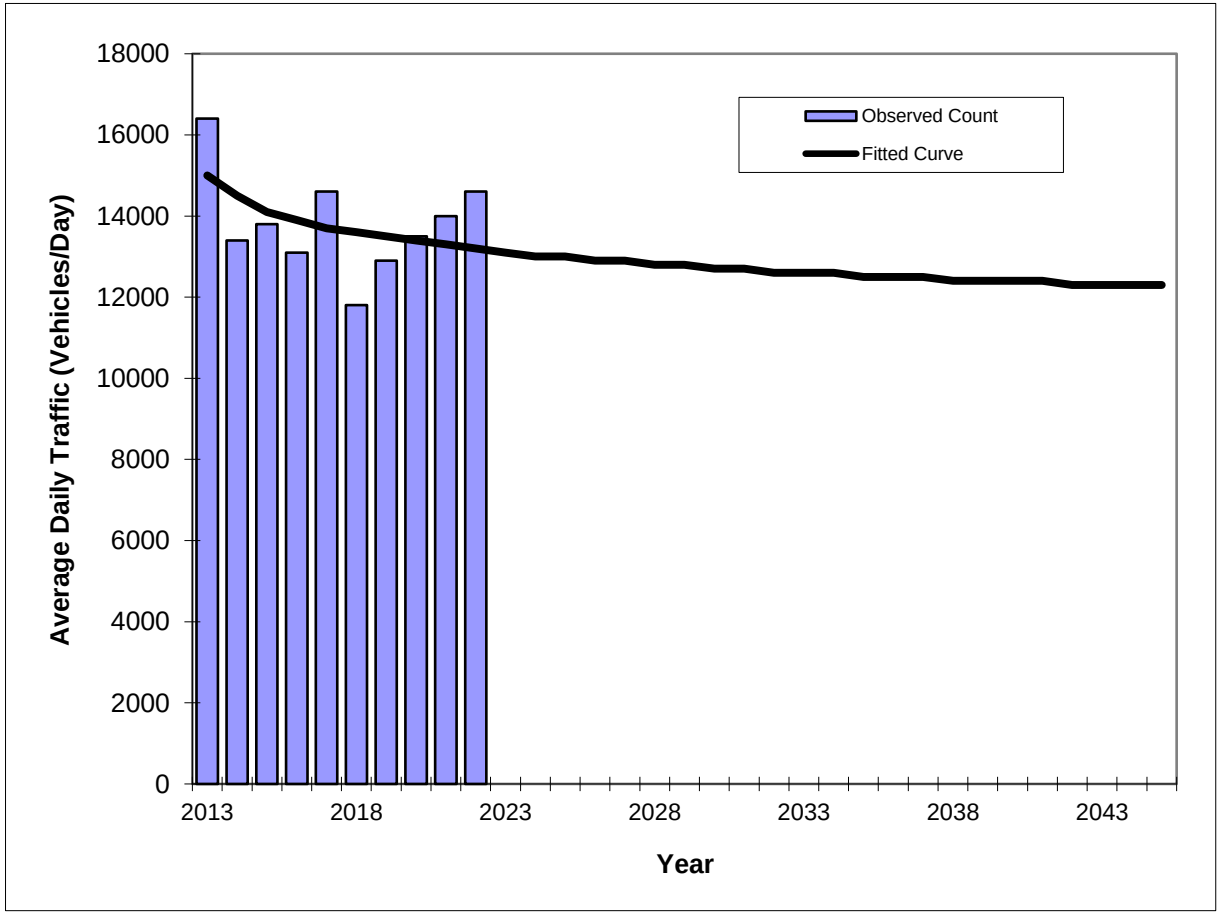
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/Collins Avenue -- 200' north of 5th Street

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/Collins Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	16400	15000
2014	13400	14500
2015	13800	14100
2016	13100	13900
2017	14600	13700
2018	11800	13600
2019	12900	13500
2020	13500	13400
2021	14000	13300
2022	14600	13200

Trend R-squared:	21.77%
Compounded Annual Historic Growth Rate:	-1.41%
Printed:	16-Oct-23

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8415 - WEST AVE, 100 FT N OF 12TH ST MIAMI BEACH(2011 OFFSYS)

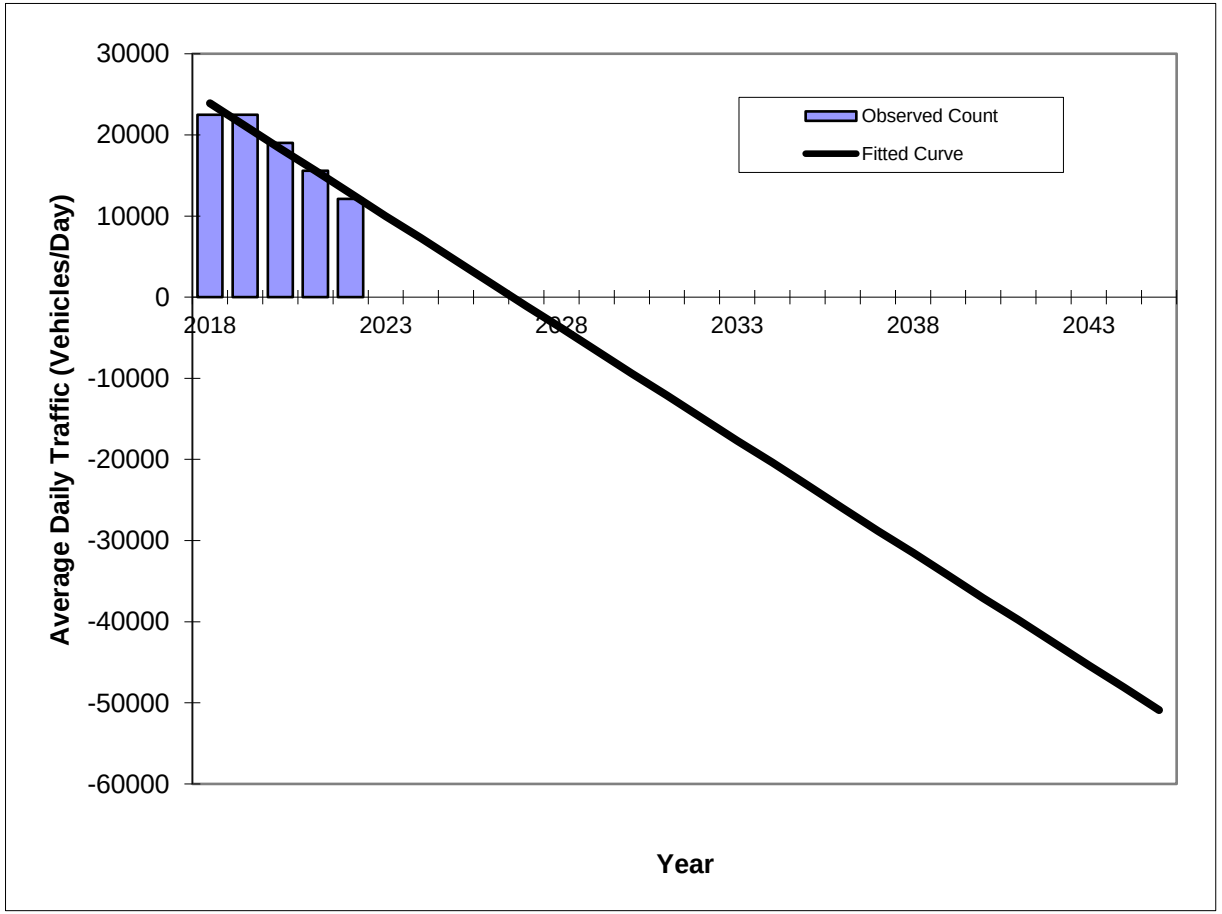
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	12100 C	N 5600	S 6500	9.00	56.50	3.50
2021	19300 T	N 10000	S 9300	9.00	55.00	2.90
2020	20300 S	N 10500	S 9800	9.00	56.00	4.40
2019	22500 F	N 11500	S 11000	9.00	56.00	4.00
2018	22500 C	N 11500	S 11000	9.00	54.30	3.00
2017	23500 T	N 10500	S 13000	9.00	59.30	2.50
2016	23500 S	N 10500	S 13000	9.00	56.10	5.10
2015	23500 F	N 10500	S 13000	9.00	57.40	7.10
2014	23500 C	N 10500	S 13000	9.00	59.30	10.70
2013	15000 F	0	0	9.00	58.90	16.20
2012	15000 C	N 0	S 0	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

West Avenue -- 100' north of 12th Street

County:	Miami-Dade (87)
Station #:	8415
Highway:	West Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	22500	23900
2019	22500	21100
2020	19000	18300
2021	15600	15600
2022	12100	12800

Trend R-squared:	94.16%
Trend Annual Historic Growth Rate:	-11.61%
Printed:	16-Oct-23

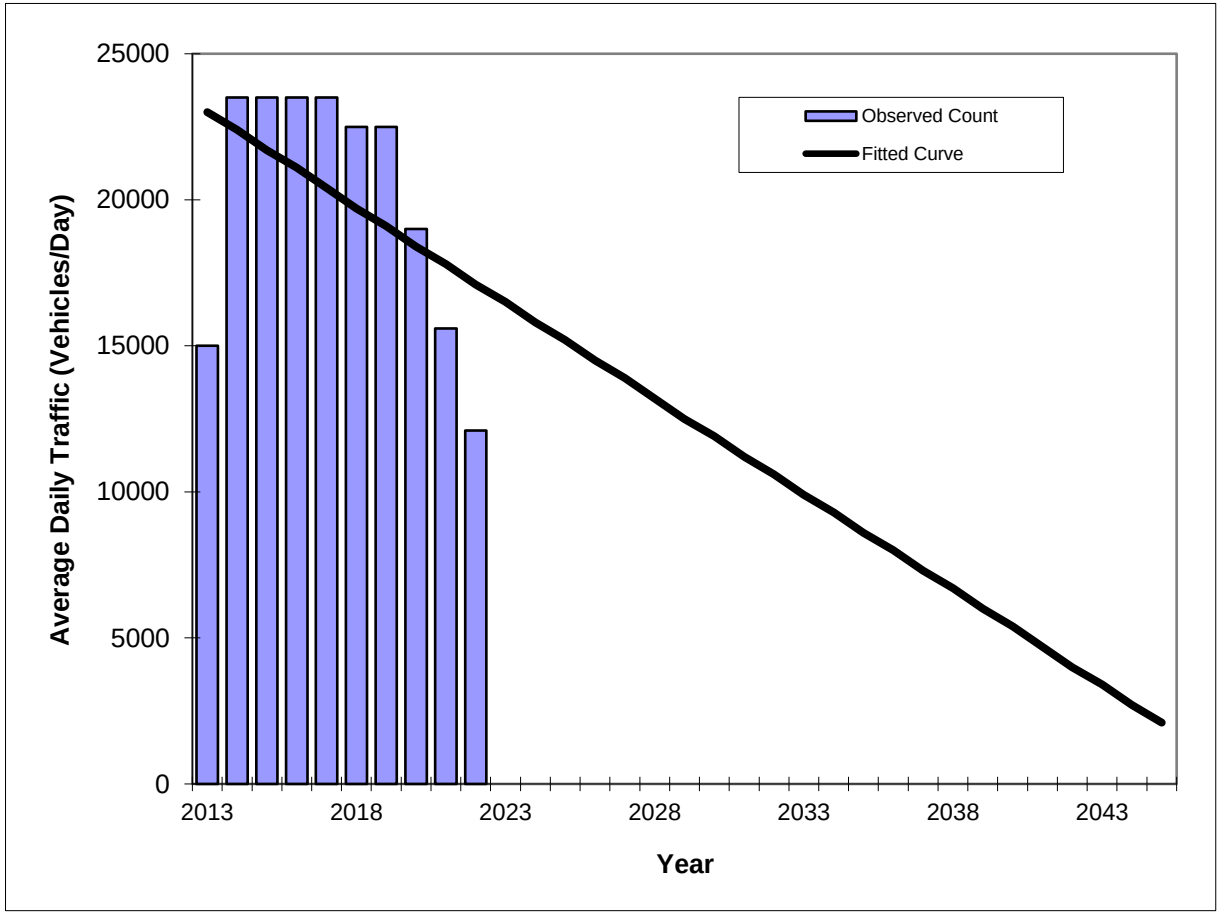
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

West Avenue -- 100' north of 12th Street

County:	Miami-Dade (87)
Station #:	8415
Highway:	West Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	15000	23000
2014	23500	22400
2015	23500	21700
2016	23500	21100
2017	23500	20400
2018	22500	19700
2019	22500	19100
2020	19000	18400
2021	15600	17800
2022	12100	17100

Trend R-squared:	20.85%
Trend Annual Historic Growth Rate:	-2.85%
Printed:	16-Oct-23

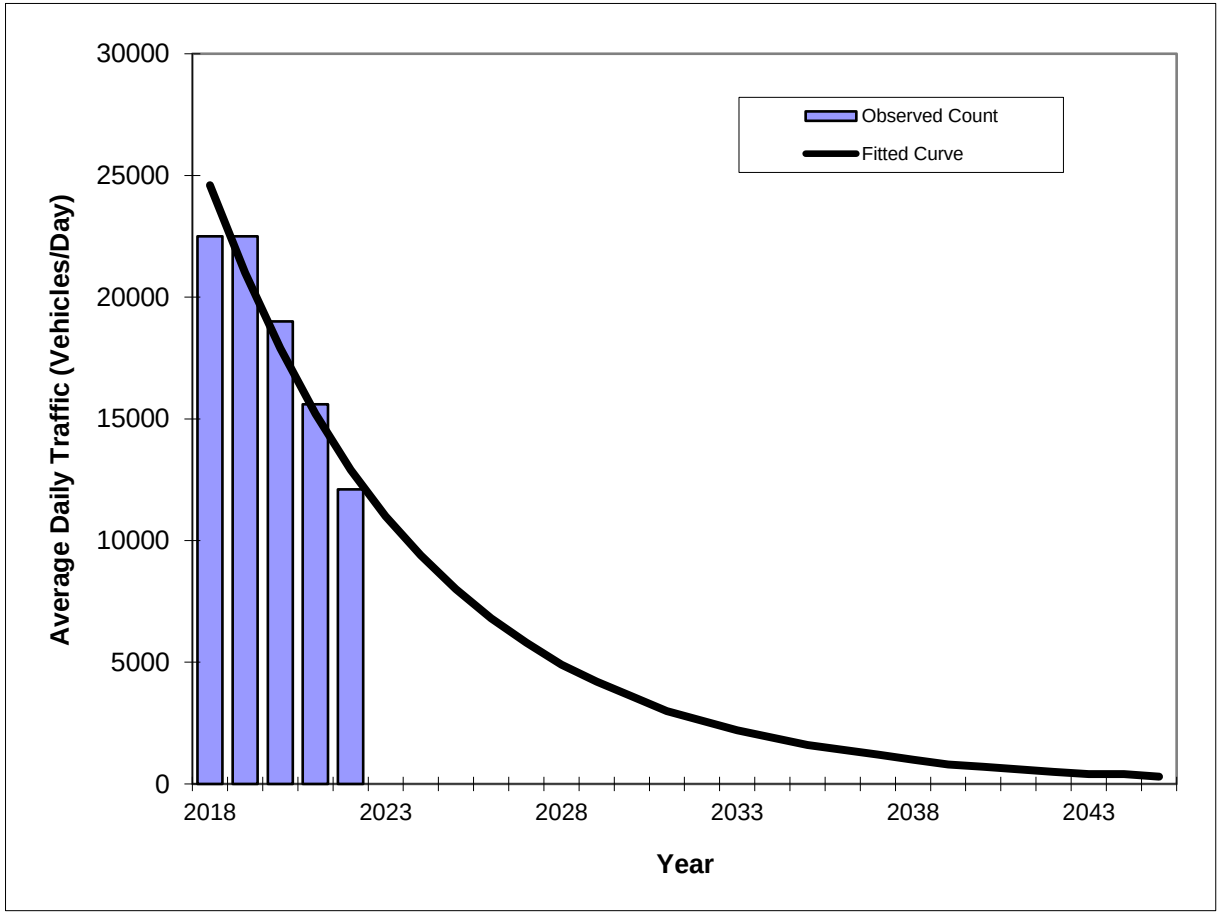
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

West Avenue -- 100' north of 12th Street

County:	Miami-Dade (87)
Station #:	8415
Highway:	West Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	22500	24600
2019	22500	21000
2020	19000	17900
2021	15600	15200
2022	12100	12900

Trend R-squared:	92.08%
Compounded Annual Historic Growth Rate:	-14.90%
Printed:	16-Oct-23

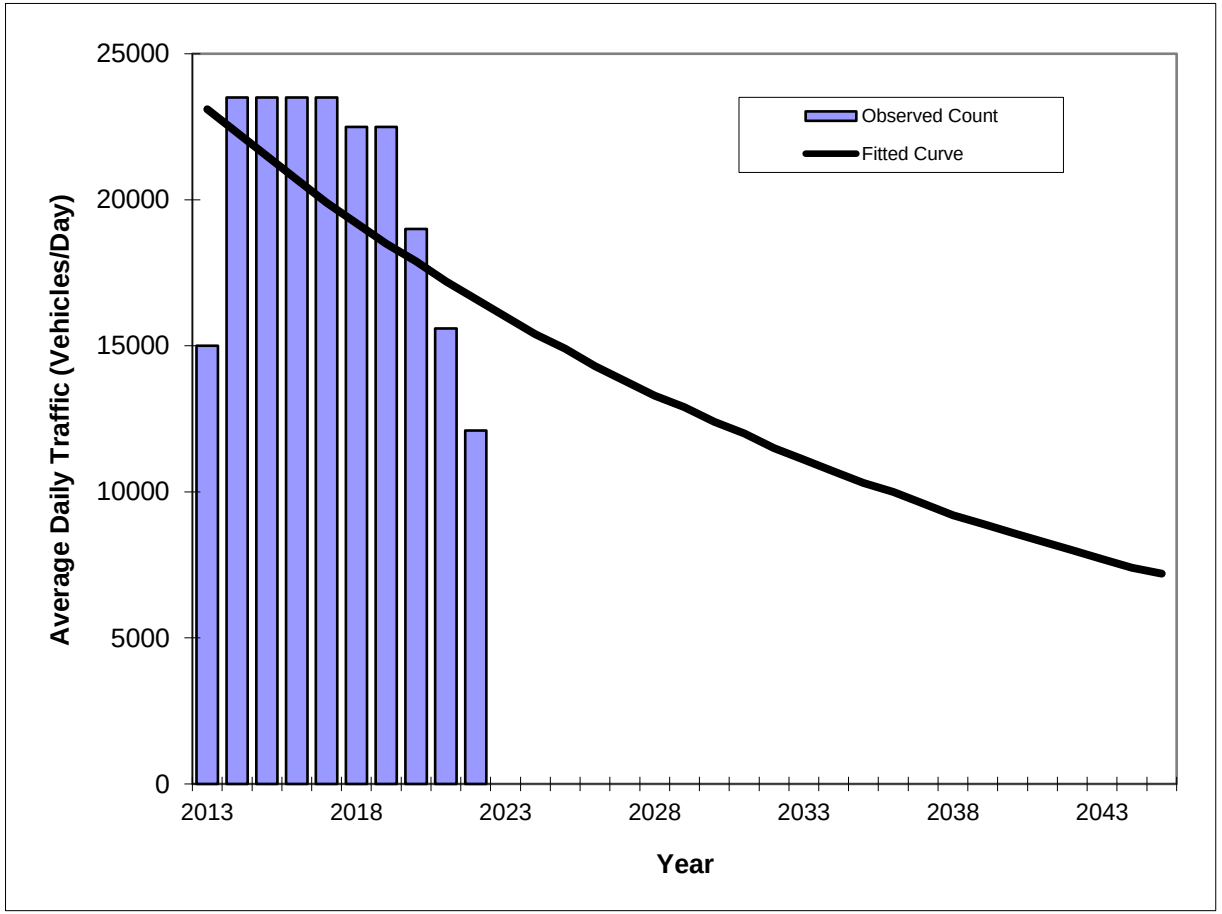
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

West Avenue -- 100' north of 12th Street

County:	Miami-Dade (87)
Station #:	8415
Highway:	West Avenue



Year	Traffic (ADT/AADT) Count*	Trend**
2013	15000	23100
2014	23500	22300
2015	23500	21500
2016	23500	20700
2017	23500	19900
2018	22500	19200
2019	22500	18500
2020	19000	17900
2021	15600	17200
2022	12100	16600

Trend R-squared:	20.96%
Compounded Annual Historic Growth Rate:	-3.60%
Printed:	16-Oct-23

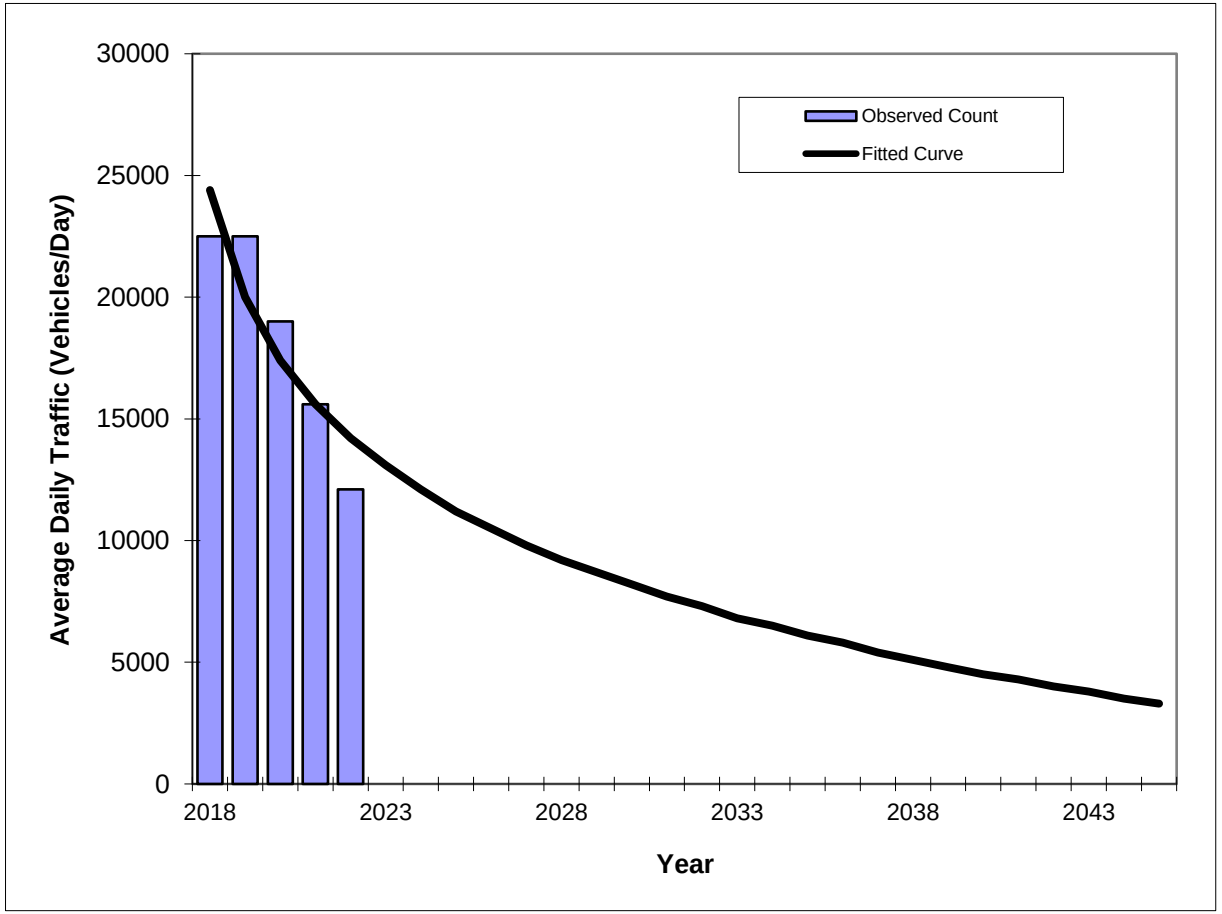
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

West Avenue -- 100' north of 12th Street

County:	Miami-Dade (87)
Station #:	8415
Highway:	West Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	22500	24400
2019	22500	20000
2020	19000	17400
2021	15600	15600
2022	12100	14200

Trend R-squared:	79.54%
Compounded Annual Historic Growth Rate:	-12.66%
Printed:	16-Oct-23

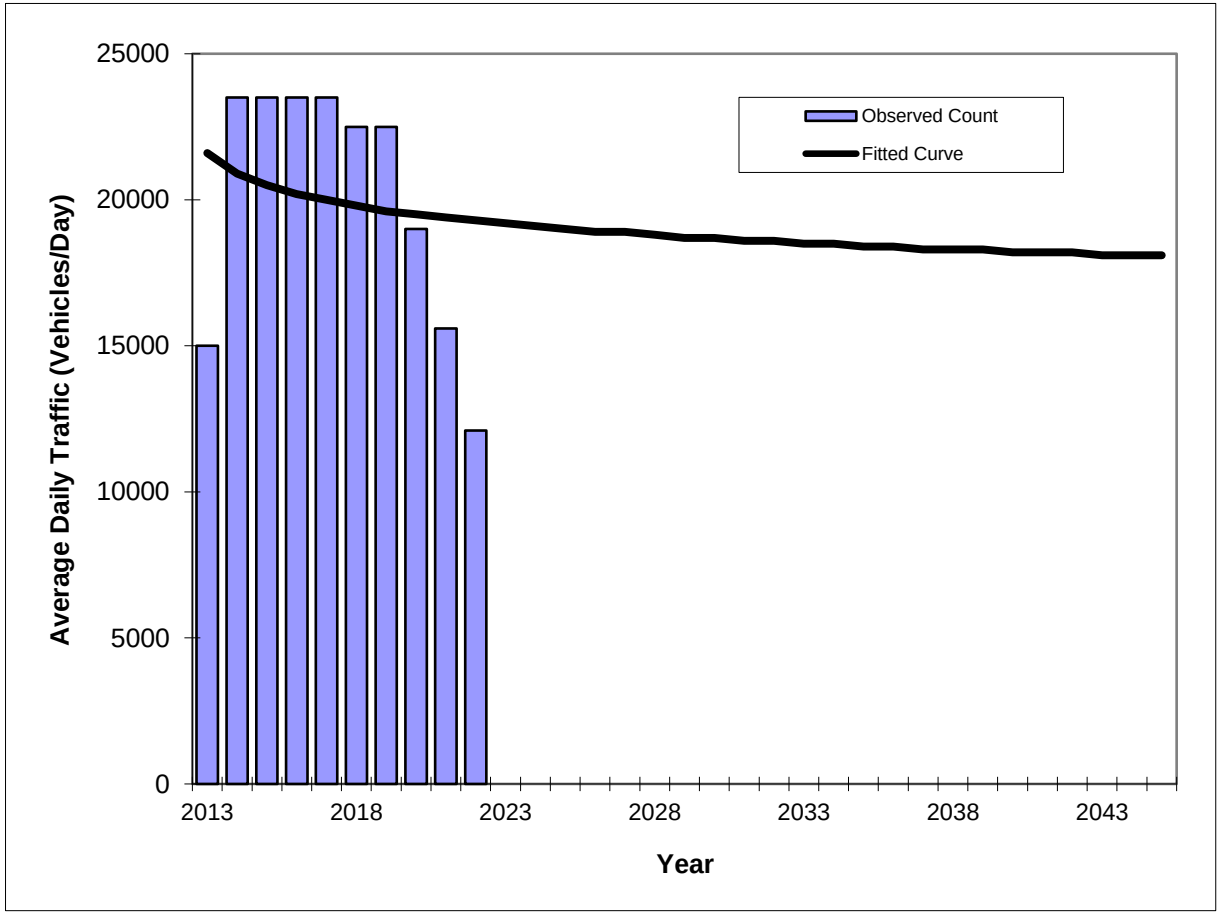
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

West Avenue -- 100' north of 12th Street

County:	Miami-Dade (87)
Station #:	8415
Highway:	West Avenue



Year	Traffic (ADT/AADT) Count*	Trend**
2013	15000	21600
2014	23500	20900
2015	23500	20500
2016	23500	20200
2017	23500	20000
2018	22500	19800
2019	22500	19600
2020	19000	19500
2021	15600	19400
2022	12100	19300

Trend R-squared:	2.93%
Compounded Annual Historic Growth Rate:	-1.24%
Printed:	16-Oct-23

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8590 - S POINTE DR, 150 FT W OF WASHINGTON AVE, MIAMI BEACH

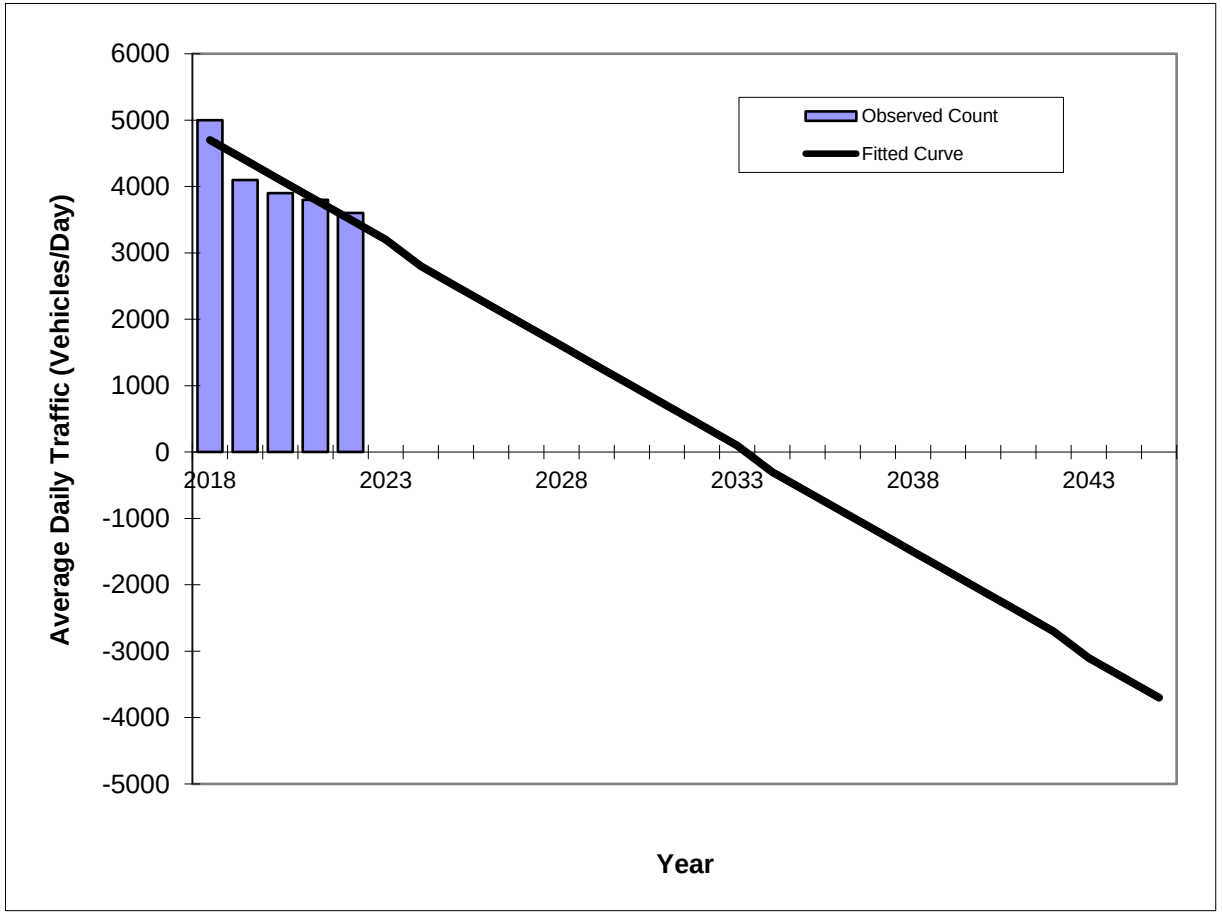
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	3600 T	E 1900	W 1700	9.00	56.50	3.50
2021	3500 S	E 1800	W 1700	9.00	55.00	2.90
2020	3700 F	E 1900	W 1800	9.00	56.00	4.40
2019	4100 C	E 2100	W 2000	9.00	56.00	4.00
2018	5000 T	E 2700	W 2300	9.00	54.30	3.00
2017	5600 S	E 3000	W 2600	9.00	59.30	2.50
2016	5600 F	E 3000	W 2600	9.00	56.10	5.10
2015	5600 C	E 3000	W 2600	9.00	57.40	7.10
2014	5200 S	E 2700	W 2500	9.00	59.30	10.70
2013	5200 F	E 2700	W 2500	9.00	58.90	16.20
2012	5200 C	E 2700	W 2500	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

South Pointe Drive -- 150' west of Washington Avenue

County:	Miami-Dade (87)
Station #:	8590
Highway:	South Pointe Drive



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	5000	4700
2019	4100	4400
2020	3900	4100
2021	3800	3800
2022	3600	3500

Trend R-squared:	80.89%
Trend Annual Historic Growth Rate:	-6.38%
Printed:	16-Oct-23

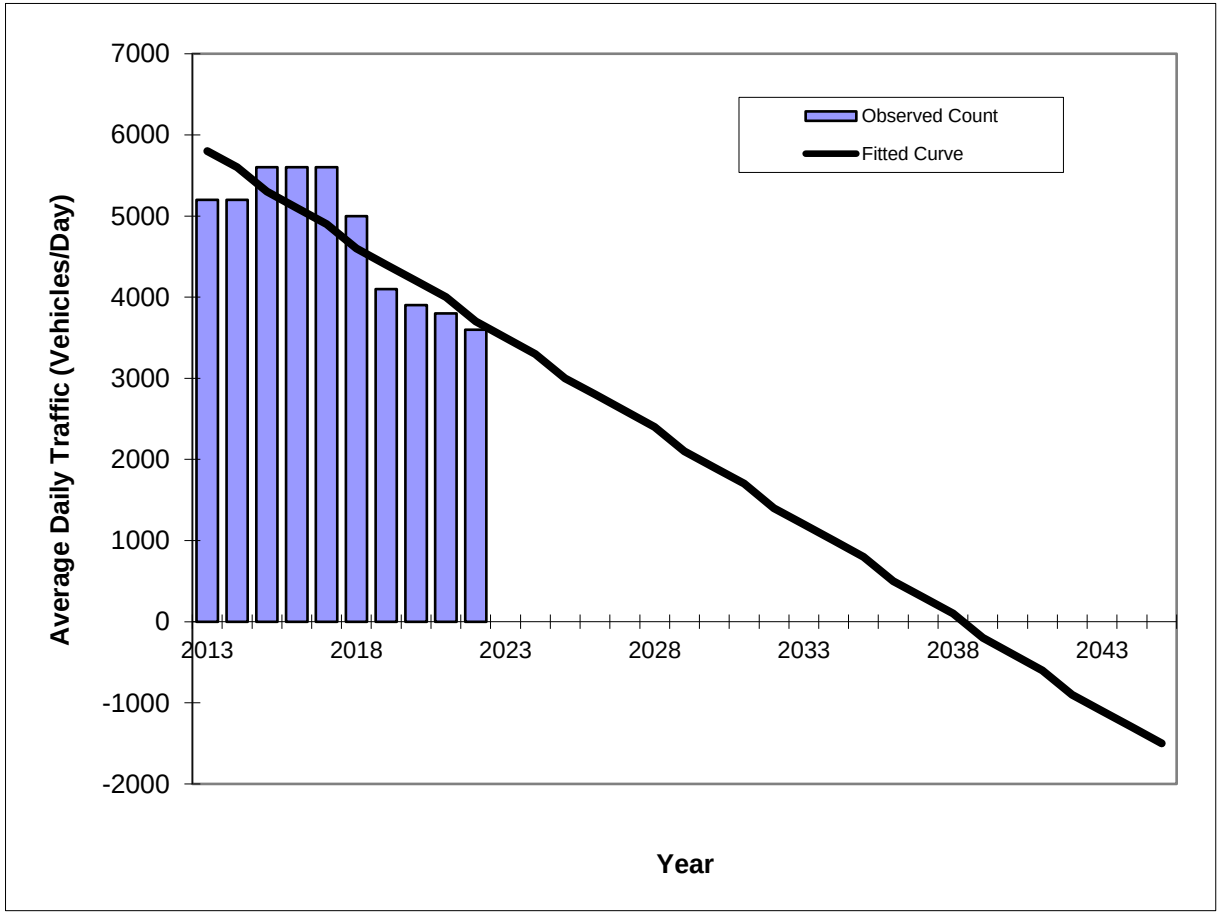
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

South Pointe Drive -- 150' west of Washington Avenue

County:	Miami-Dade (87)
Station #:	8590
Highway:	South Pointe Drive



Year	Traffic (ADT/AADT) Count*	Trend**
2013	5200	5800
2014	5200	5600
2015	5600	5300
2016	5600	5100
2017	5600	4900
2018	5000	4600
2019	4100	4400
2020	3900	4200
2021	3800	4000
2022	3600	3700

Trend R-squared:	72.12%
Trend Annual Historic Growth Rate:	-4.02%
Printed:	16-Oct-23

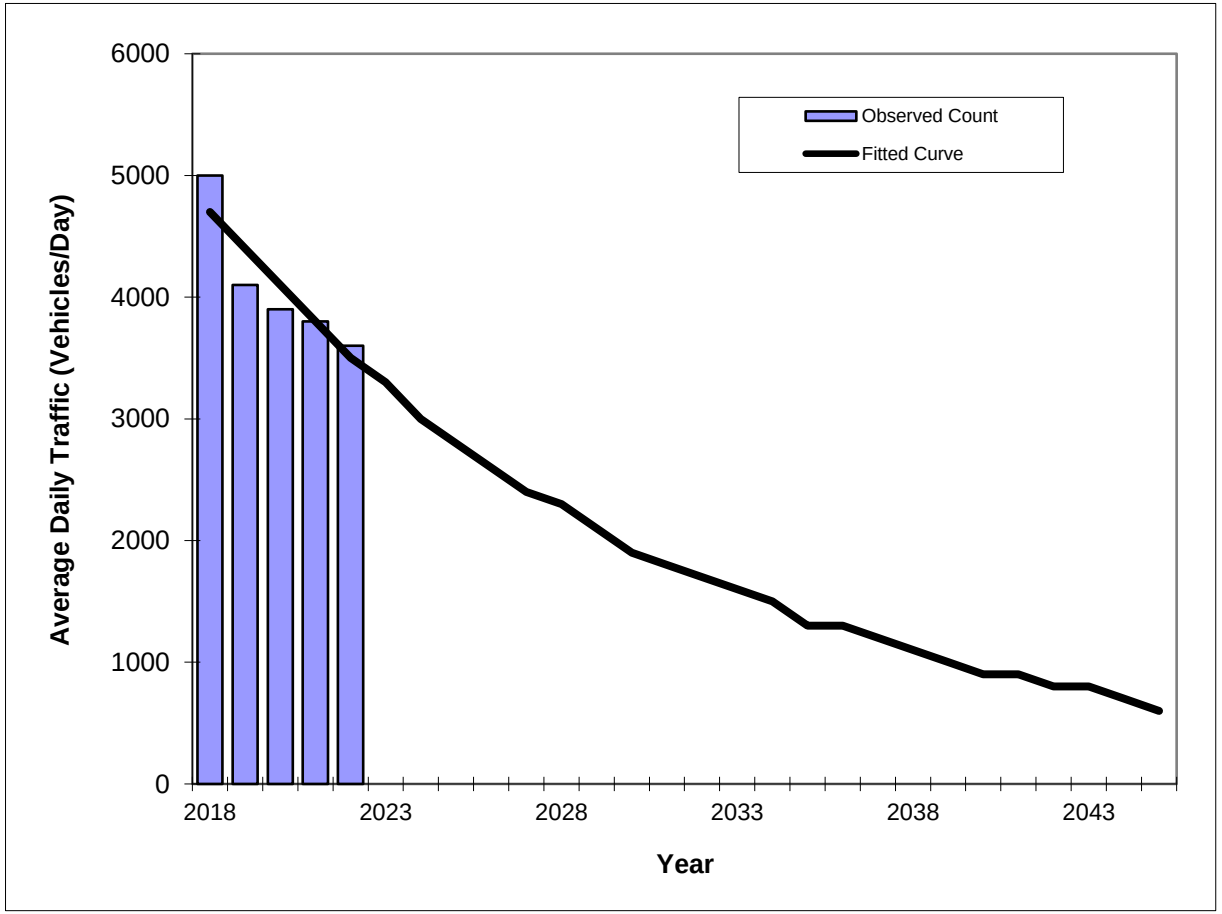
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

South Pointe Drive -- 150' west of Washington Avenue

County:	Miami-Dade (87)
Station #:	8590
Highway:	South Pointe Drive



Year	Traffic (ADT/AADT) Count*	Trend**
2018	5000	4700
2019	4100	4400
2020	3900	4100
2021	3800	3800
2022	3600	3500

Trend R-squared:	84.07%
Compounded Annual Historic Growth Rate:	-7.10%
Printed:	16-Oct-23

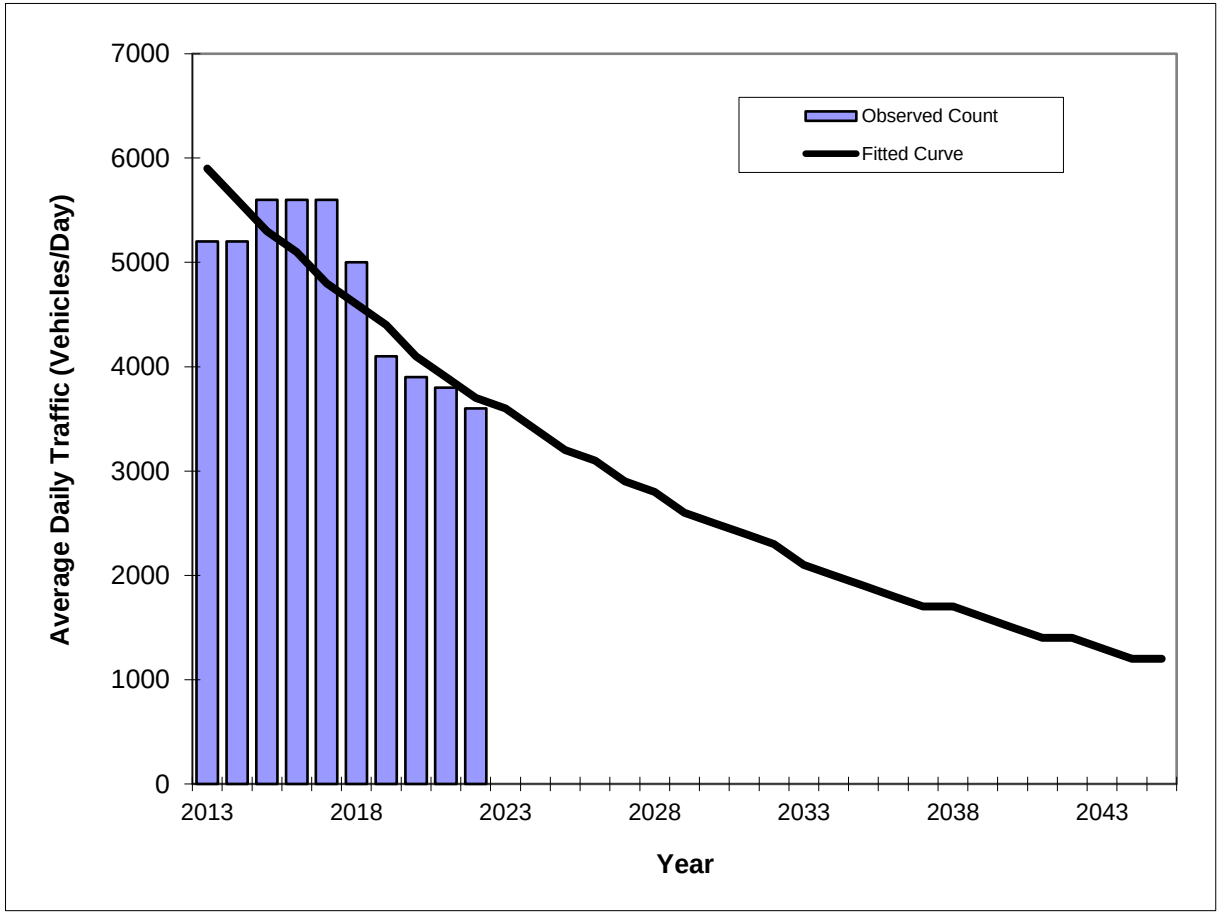
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

South Pointe Drive -- 150' west of Washington Avenue

County:	Miami-Dade (87)
Station #:	8590
Highway:	South Pointe Drive



Year	Traffic (ADT/AADT) Count*	Trend**
2013	5200	5900
2014	5200	5600
2015	5600	5300
2016	5600	5100
2017	5600	4800
2018	5000	4600
2019	4100	4400
2020	3900	4100
2021	3800	3900
2022	3600	3700

Trend R-squared:	74.08%
Compounded Annual Historic Growth Rate:	-5.05%
Printed:	16-Oct-23

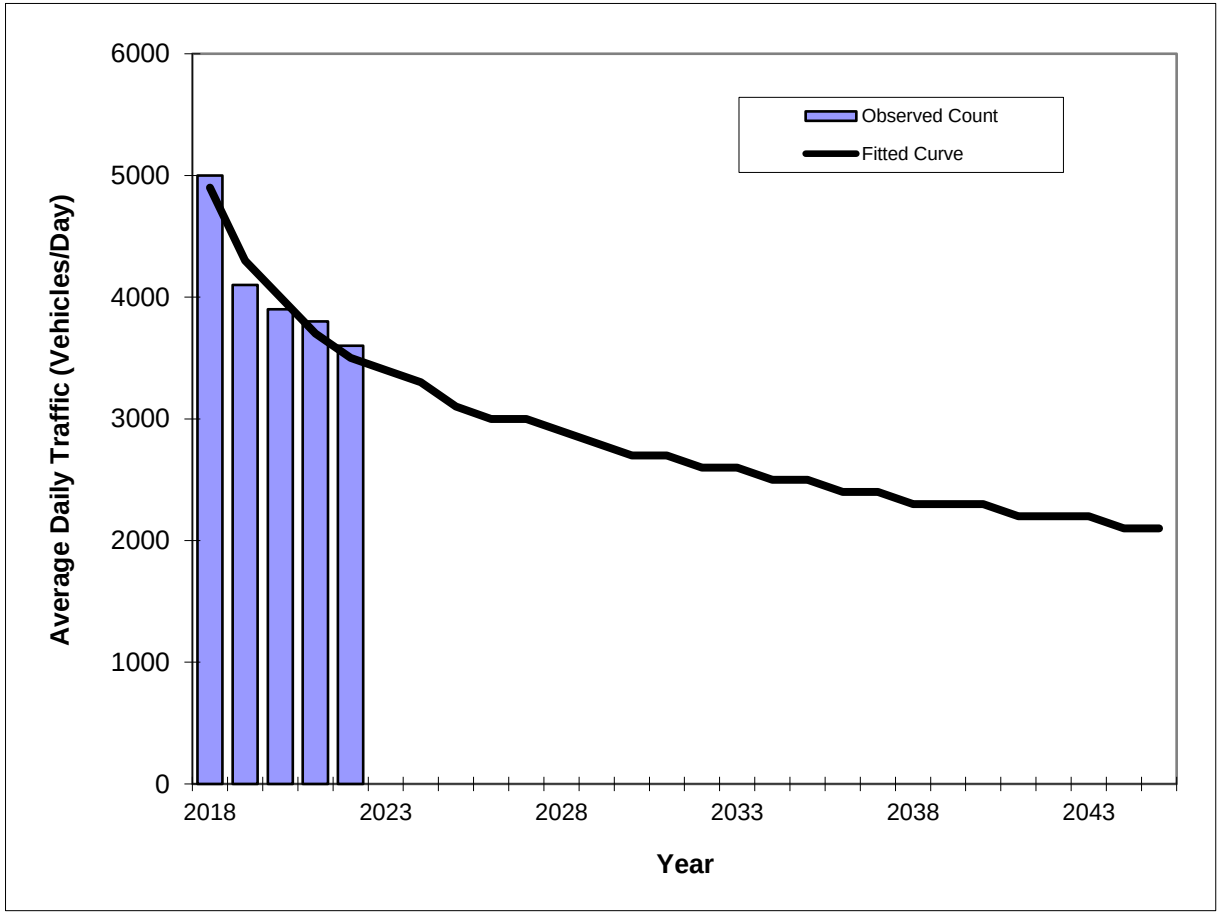
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

South Pointe Drive -- 150' west of Washington Avenue

County:	Miami-Dade (87)
Station #:	8590
Highway:	South Pointe Drive



Year	Traffic (ADT/AADT) Count*	Trend**
2018	5000	4900
2019	4100	4300
2020	3900	4000
2021	3800	3700
2022	3600	3500

Trend R-squared:	94.20%
Compounded Annual Historic Growth Rate:	-8.07%
Printed:	16-Oct-23

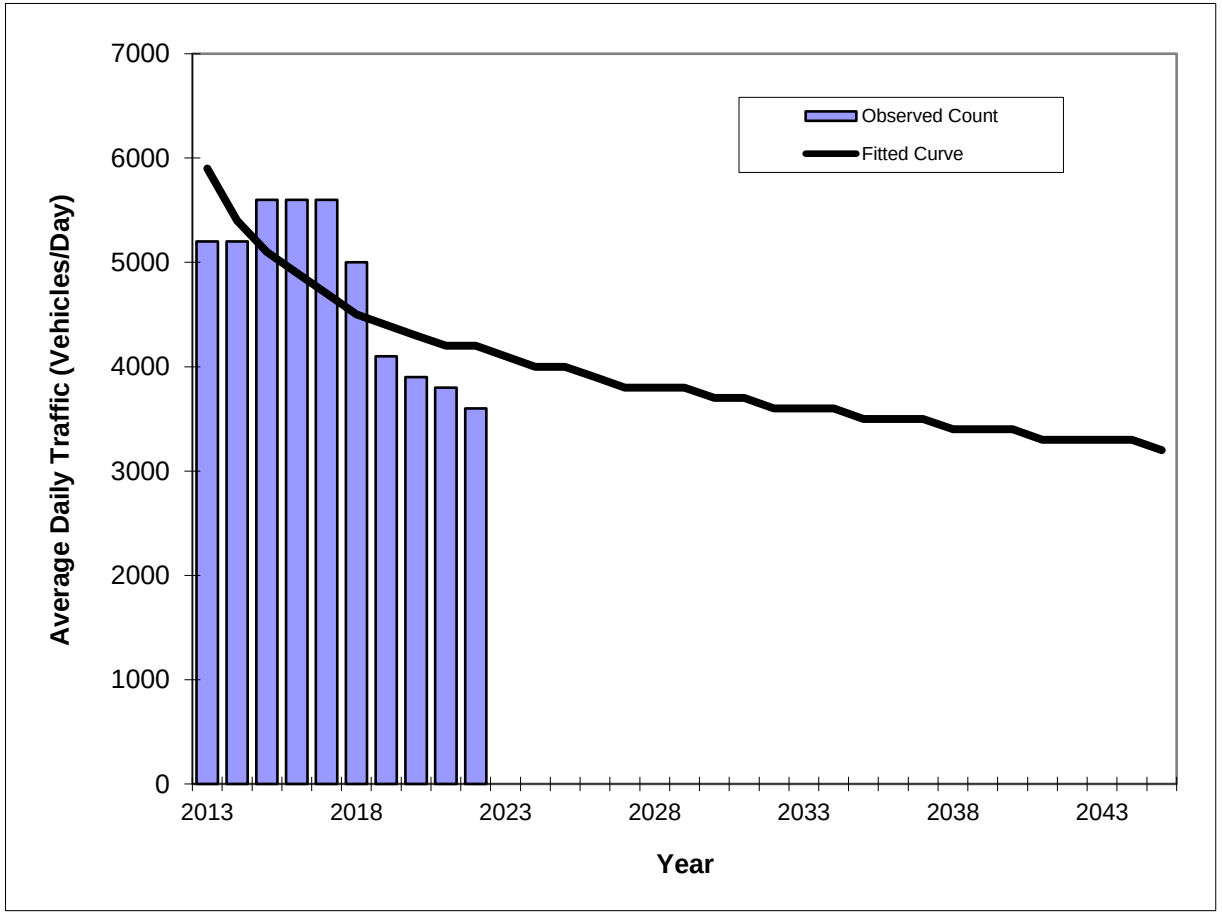
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

South Pointe Drive -- 150' west of Washington Avenue

County:	Miami-Dade (87)
Station #:	8590
Highway:	South Pointe Drive



Year	Traffic (ADT/AADT) Count*	Trend**
2013	5200	5900
2014	5200	5400
2015	5600	5100
2016	5600	4900
2017	5600	4700
2018	5000	4500
2019	4100	4400
2020	3900	4300
2021	3800	4200
2022	3600	4200

Trend R-squared:	46.61%
Compounded Annual Historic Growth Rate:	-3.71%
Printed:	16-Oct-23

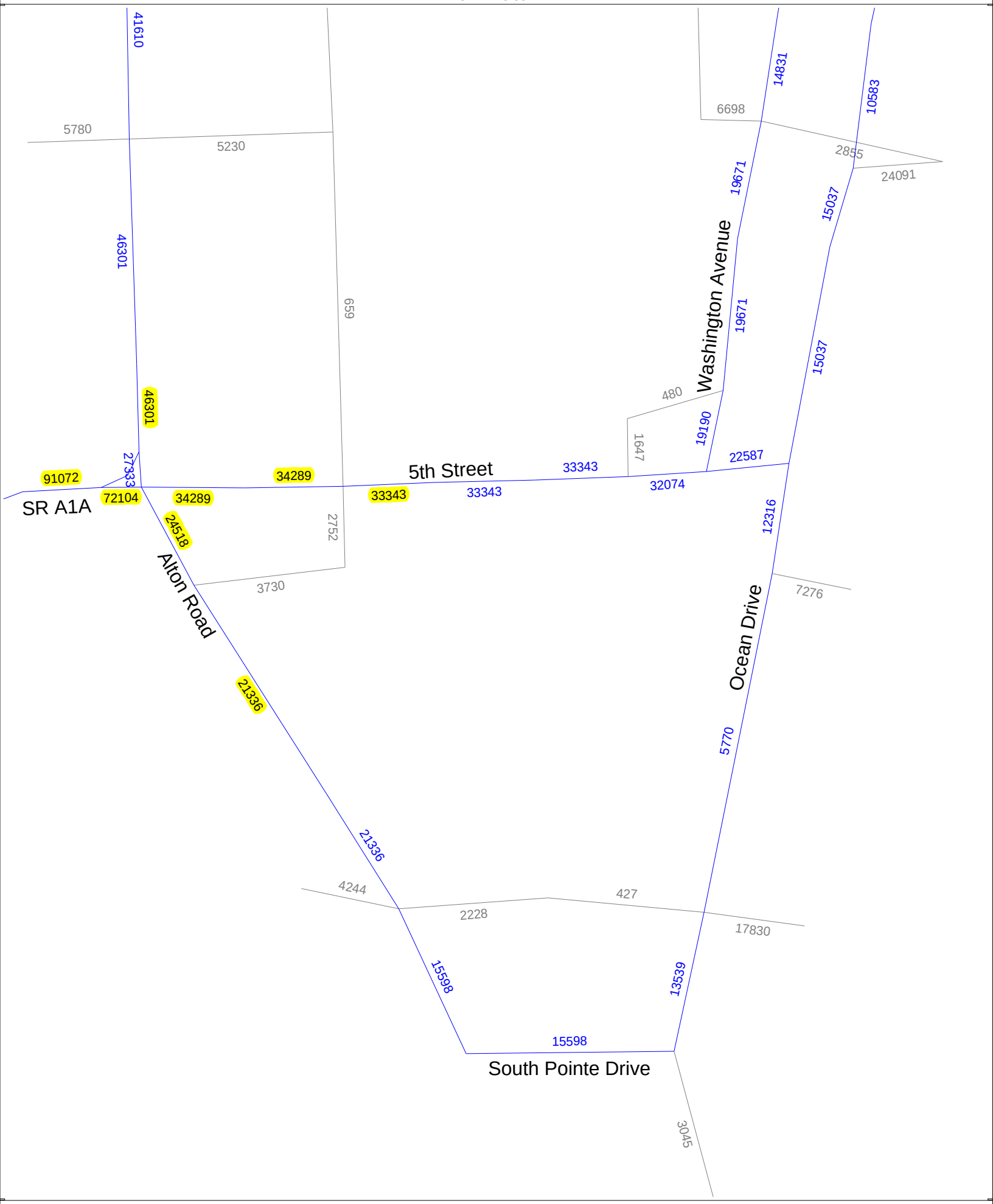
Decaying Exponential Growth Option

***Axle-Adjusted**

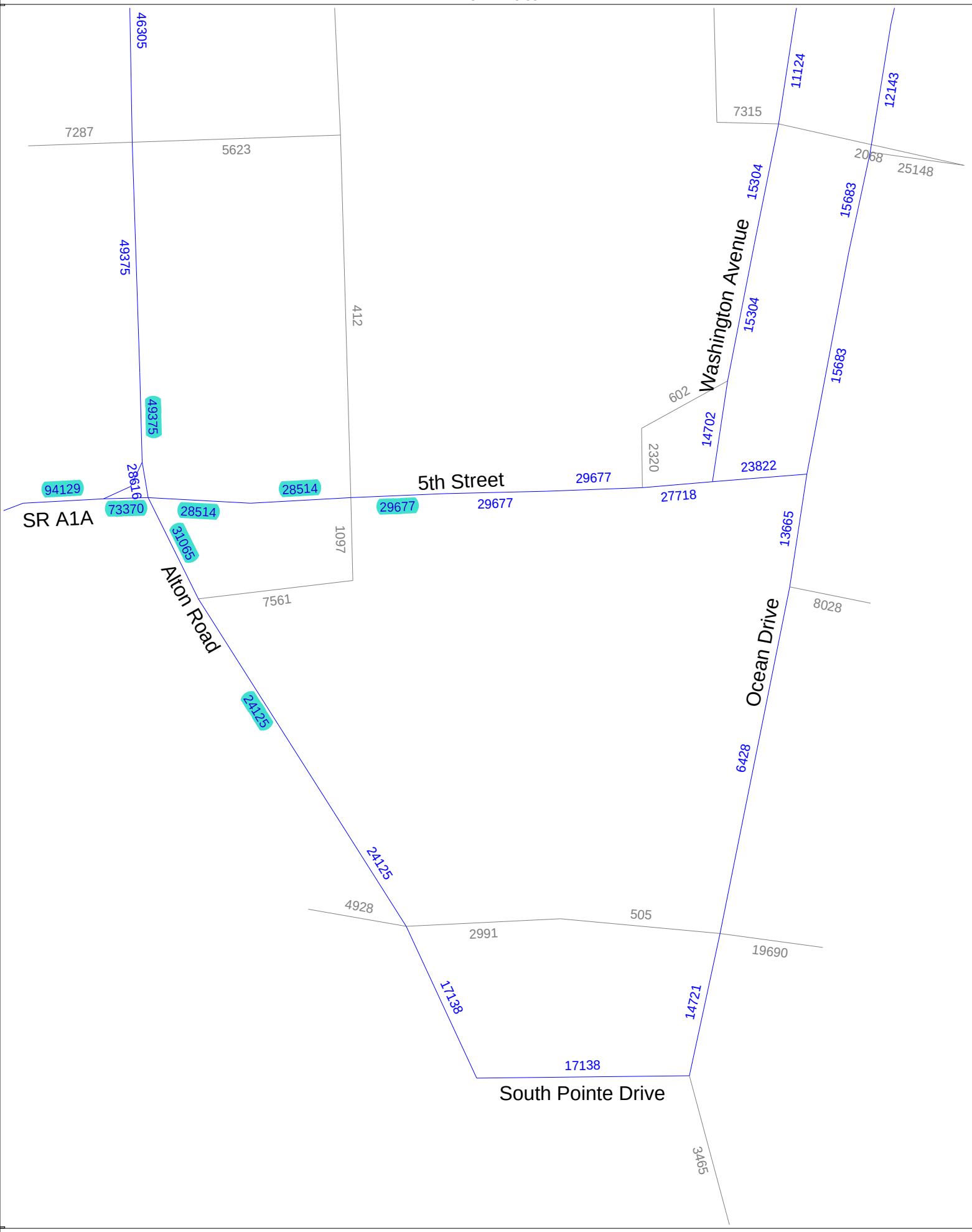
SERPM Analysis

SERPM Growth Rate Summary					
Street Name	**2015**	**2045**	**Difference**	**Growth Rate**	**Annual Growth Rate**
SR A1A/MacArthur Causeway	91,072	94,129	3,057	3.36%	0.11%
	72,104	73,370	1,266	1.76%	0.06%
5th Street	34,289	28,514	-5,775	-16.84%	-0.56%
	33,343	29,677	-3,666	-10.99%	-0.37%
Alton Road	46,301	49,375	3,074	6.64%	0.22%
	24,518	31,065	6,547	26.70%	0.89%
	21,336	24,125	2,789	13.07%	0.44%
Total	**322,963**	**330,255**	**7,292**	**2.26%**	**0.08%**

Alton Road Office
2015 Volumes
SERPM 8.531



Alton Road Office
2045 Volumes
SERPM 8.531



Appendix E

Committed Developments

TRAFFIC IMPACT ANALYSIS

411 Michigan Avenue

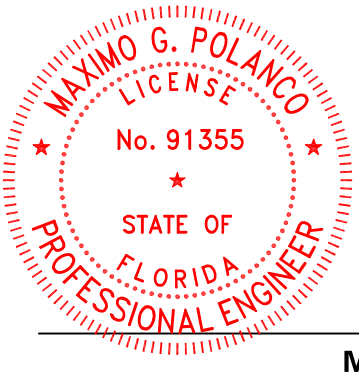
411-419 Michigan Ave
Miami Beach, FL 33139

Prepared For:

Bizzi & Partners Acquisitions, LLC
55 East 59th Street, 24th floor
New York, NY 10022

Prepared By:

Langan Engineering & Environmental Services, Inc.
15150 NW 79 Court
Miami Lakes, FL 33016
FL Certificate of Authorization No: 6601



Maximo Polanco
Digitally signed by Maximo Polanco
Date: 2022.03.11 11:04:50-05'00'

This item has been digitally signed and sealed by Maximo Polanco, PE on the date adjacent to the seal.

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

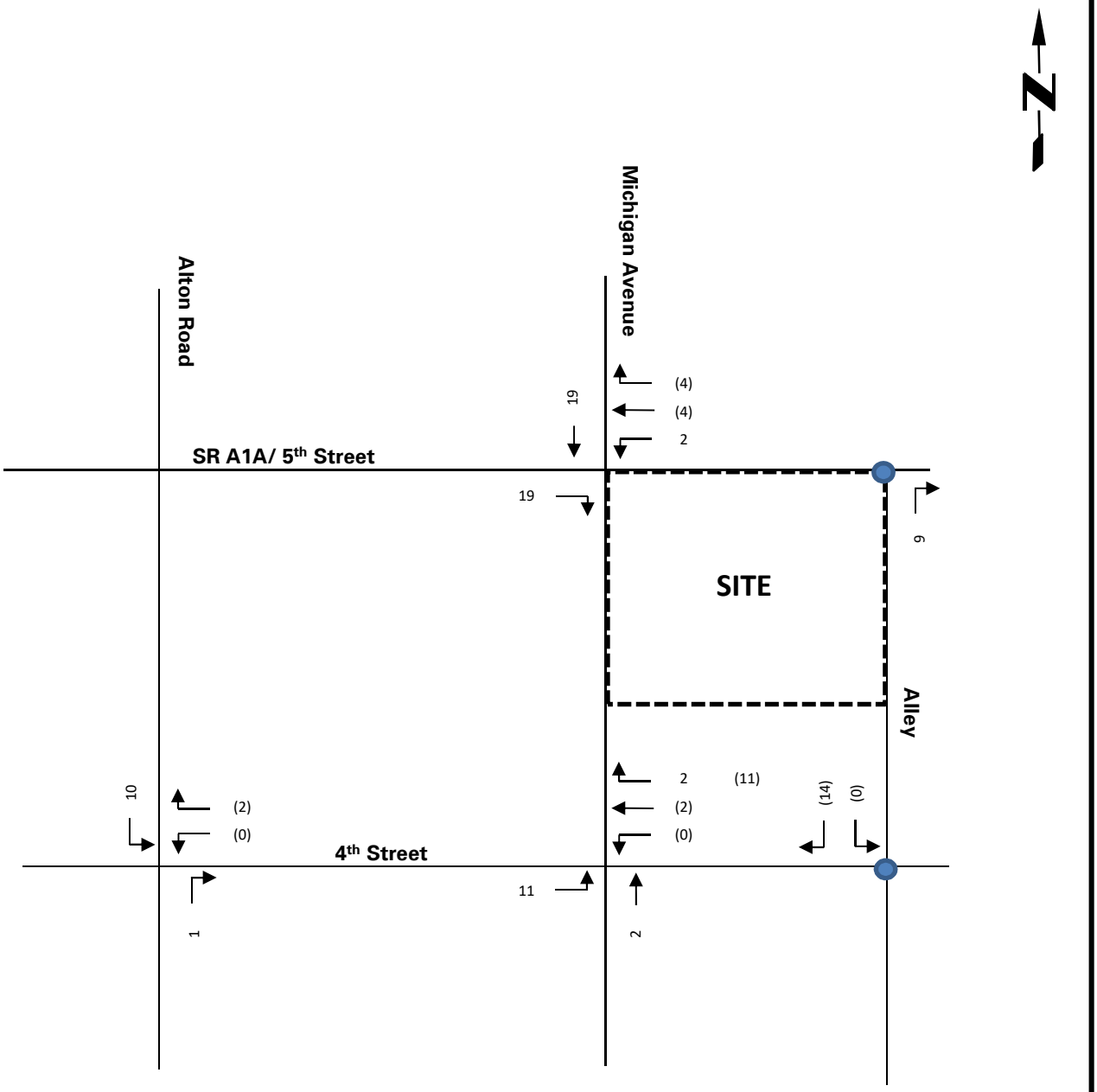
Maximo G. Polanco, P.E.
P.E. License No. 91355

Eric Schwarz, P.E., LEED AP
Principal/Vice President

9 September 2021;
11 November 2021;
3 February 2022;
Revised: 11 March 2022;

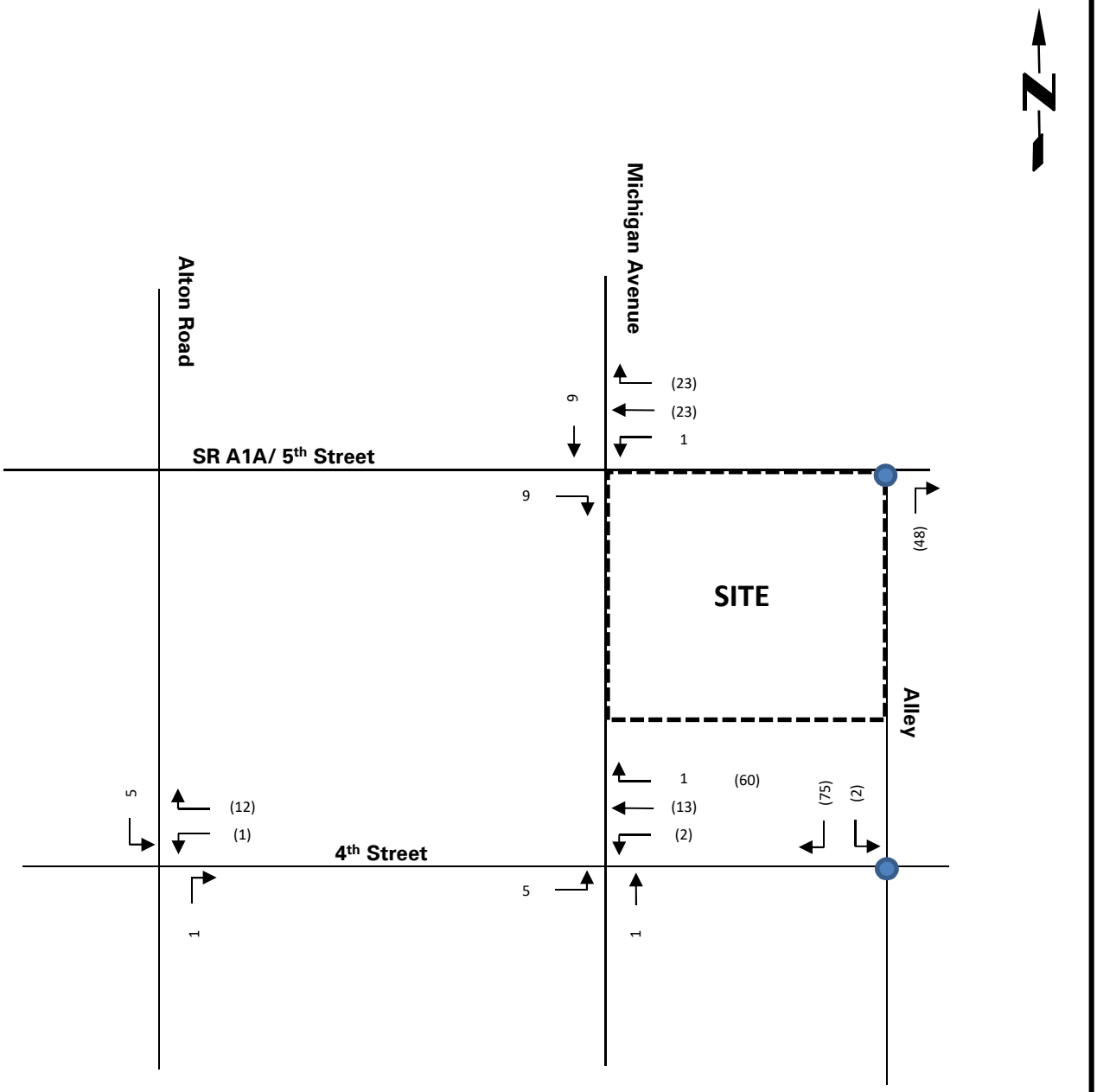
LANGAN

300277901



LEGEND
Ingress
(#) Egress
Not a study intersection

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES 15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project 411 MICHIGAN MIAMI BEACH MIAMI DADE FLORIDA	Figure Title PROJECT TRAFFIC AM	Project No. 300277901 Date 2/3/2022 Scale NTS	FIGURE 6a



LEGEND
Ingress
(#) Egress
Not a study intersection

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES 15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project 411 MICHIGAN MIAMI BEACH MIAMI DADE FLORIDA	Figure Title PROJECT TRAFFIC PM	Project No. 300277901 Date 2/3/2022 Scale NTS	FIGURE 6b

500-600-700 Alton

Miami Beach, Florida

prepared for:

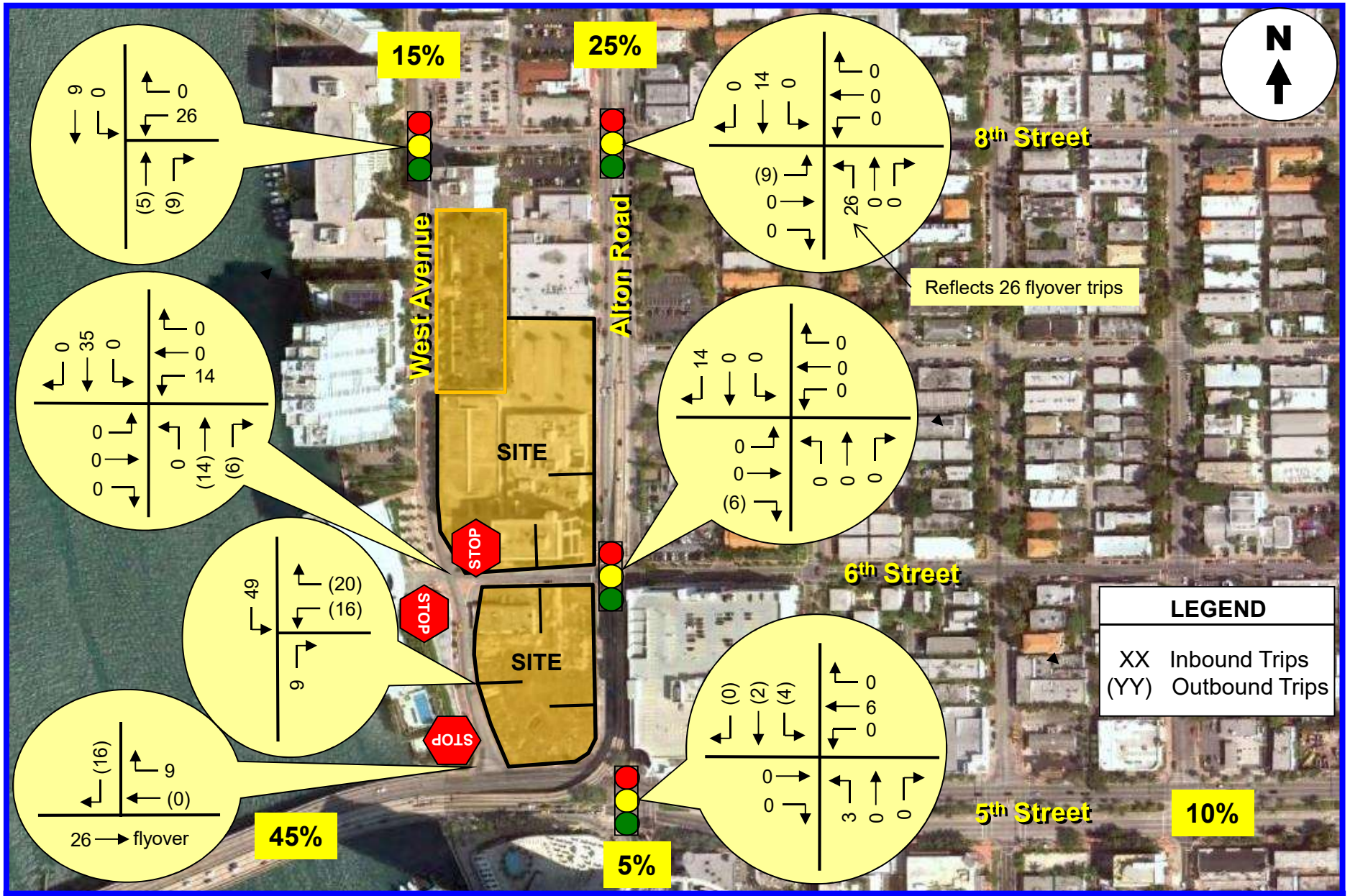
Crescent Heights

traffic study

TRAFTECH ENGINEERING, INC.

January 2019

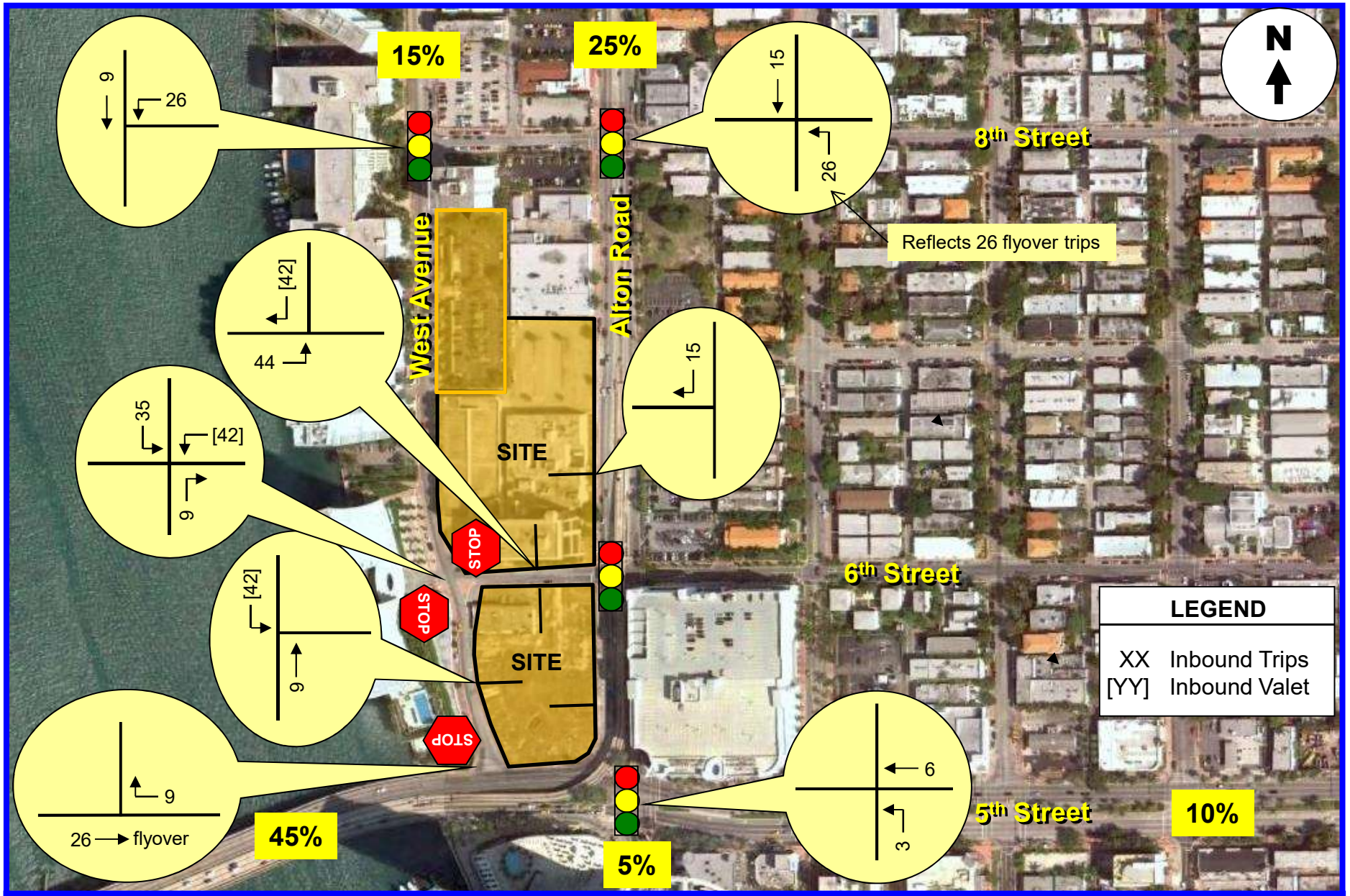
Revised February 18, 2019



Traf Tech
ENGINEERING, INC.

NEW RESIDENTIAL TRIPS TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

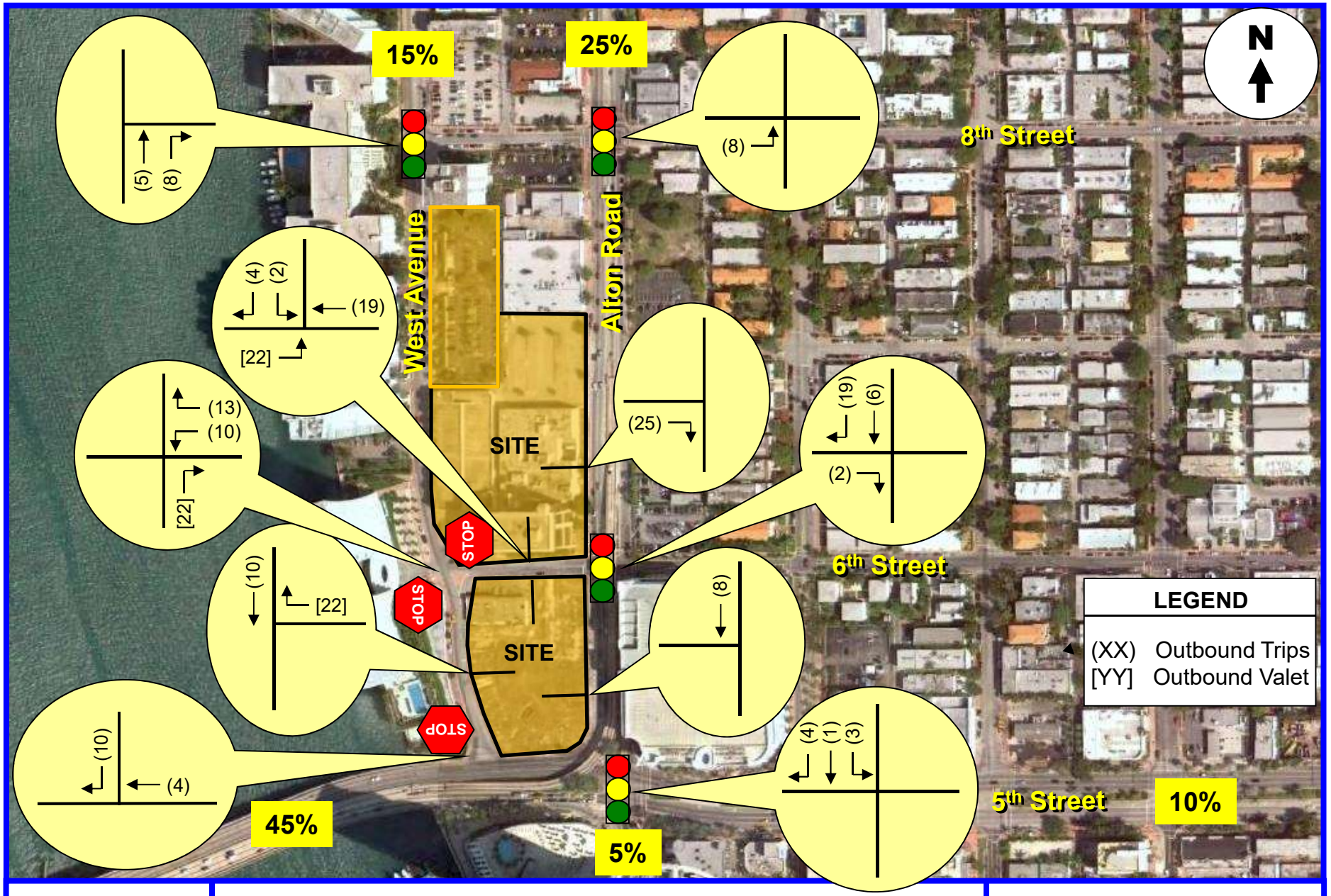
FIGURE 4a
500-600-700 Alton
Miami Beach, Florida



Traf Tech
ENGINEERING, INC.

NEW INS COMMERCIAL TRIPS TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4b
500-600-700 Alton
Miami Beach, Florida



Traf Tech
ENGINEERING, INC.

NEW OUT COMMERCIAL TRIPS TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4c
500-600-700 Alton
Miami Beach, Florida

Traf Tech
ENGINEERING, INC.

NEW PASS-BY COMMERCIAL TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4d
500-600-700 Alton
Miami Beach, Florida

Appendix F

Trip Generation Calculations

Previous Site Plans Fine Dining Trip Generation Alternative Used in The Analysis

DAILY TRIP GENERATION COMPARISON

EXISTING DAILY 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	Fast-Food Resturant with Drive-Throu	11	934	5.143	ksf	50%	50%	1,202	1,202	2,404	20.0%	481	962	961	1,923	0.0%	0	962	961	1,923	0.0%	0	962	961	1,923
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	1,202	1,202	2,404	20.0%	481	962	961	1,923	0.0%	0	962	961	1,923	0.0%	0	962	961	1,923
		934		Y=467.48(X)																						

PROPOSED DAILY 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	General Office Building	11	710	47.967	ksf	50%	50%	306	306	612	20.0%	122	245	245	490	19.2%	94	191	205	396	0.0%	0	191	205	396
	2	Fine Dining Restaurant	11	931	320	seat	50%	50%	400	400	800	20.0%	160	320	320	640	14.7%	94	280	266	546	0.0%	0	280	266	546
	3																									
	4																									
	5																									
	6																									
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	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	706	706	1,412	20.0%	282	565	565	1,130	16.6%	188	471	471	942	0.0%	0	471	471	942
		710		LN(Y) = 0.87*LN(X)+3.05																						
		931		Y=3.9*(X)+-447.07																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-491**	**-490**	**-981**

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 1	1	Fast-Food Resturant with Drive-Through Window	11	934	5.143	ksf	51%	49%	117	112	229	20.0%	46	93	90	183	0.0%	0	93	90	183	50.0%	92	47	44	91
	2																									
	3																									
	4																									
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	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation			**Total:**		117	112	229	20.1%	46	93	90	183	0.0%	0	93	90	183	50.3%	92	47	44	91
		934		Y=44.61(X)																						

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	General Office Building	11	710	47.967	ksf	88%	12%	78	11	89	20.0%	18	62	9	71	1.4%	1	62	8	70	0.0%	0	62	8	70
	2	Fine Dining Restaurant	11	931	320	seat	80%	20%	5	1	6	20.0%	1	4	1	5	20.0%	1	3	1	4	0.0%	0	3	1	4
	3																									
	4																									
	5																									
	6																									
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	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation			**Total:**		83	12	95	20.0%	19	66	10	76	2.6%	2	65	9	74	0.0%	0	65	9	74
		710		LN(Y) = 0.86*LN(X)+1.16																						
		931		Y=0.02(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**18**	**-35**	**-17**

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 1	1	Fast-Food Resturant with Drive-Through Window	11	934	5.143	ksf	52%	48%	88	82	170	20.0%	34	70	66	136	0.0%	0	70	66	136	55.0%	75	31	30	61
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	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	88	82	170	20.0%	34	70	66	136	0.0%	0	70	66	136	55.1%	75	31	30	61
		934		Y=33.03(X)																						

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	General Office Building	11	710	47.967	ksf	17%	83%	15	75	90	20.0%	18	12	60	72	2.8%	2	11	59	70	0.0%	0	11	59	70
	2	Fine Dining Restaurant	11	931	320	seat	67%	33%	60	30	90	20.0%	18	48	24	72	2.8%	2	47	23	70	44.0%	31	26	13	39
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	75	105	180	20.0%	36	60	84	144	2.8%	4	58	82	140	22.1%	31	37	72	109
		710		LN(Y) = 0.83*LN(X)+1.29																						
		931		Y=0.28(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**6**	**42**	**48**

Internal Capture Reduction Calculations

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

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

SUMMARY (EXISTING)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	93	90	70	66
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	93	90	70	66

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	0	0	0	0

OUTPUT

Total % Reduction	***0.0%***	***0.0%***
Office		
Retail		
Restaurant	0.0%	0.0%
Cinema/Entertainment		
Residential		
Hotel		

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	93	90	70	66
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	93	90	70	66

Internal Capture Reduction Calculations

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

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

SUMMARY (PROPOSED)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	62	9	12	60
Retail	0	0	0	0
Restaurant	4	1	48	24
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	66	10	60	84

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	1	1	1
Retail	0	0	0	0
Restaurant	1	0	1	1
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	1	1	2	2

OUTPUT

Total % Reduction	***2.6%***	***2.8%***
Office	1.4%	2.8%
Retail		
Restaurant	20.0%	2.8%
Cinema/Entertainment		
Residential		
Hotel		

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	62	8	11	59
Retail	0	0	0	0
Restaurant	3	1	47	23
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	65	9	58	82

Fine Dining Trip Generation Alternative

DAILY TRIP GENERATION COMPARISON

EXISTING DAILY 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	Fast-Food Resturant with Drive-Throu	11	934	5.143	ksf	50%	50%	1,202	1,202	2,404	20.0%	481	962	961	1,923	0.0%	0	962	961	1,923	0.0%	0	962	961	1,923
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	1,202	1,202	2,404	20.0%	481	962	961	1,923	0.0%	0	962	961	1,923	0.0%	0	962	961	1,923
		934		Y=467.48(X)																						

PROPOSED DAILY 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	General Office Building	11	710	48	ksf	50%	50%	306	306	612	20.0%	122	245	245	490	9.2%	45	219	226	445	0.0%	0	219	226	445
	2	Fine Dining Restaurant	11	931	214	seat	50%	50%	194	194	388	20.0%	78	155	155	310	14.5%	45	136	129	265	0.0%	0	136	129	265
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	500	500	1,000	20.0%	200	400	400	800	11.3%	90	355	355	710	0.0%	0	355	355	710
		710		LN(Y) = 0.87*LN(X)+3.05																						
		931		Y=3.9*(X)+-447.07																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-607**	**-606**	**-1,213**

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 1	1	Fast-Food Resturant with Drive-Through Window	11	934	5.143	ksf	51%	49%	117	112	229	20.0%	46	93	90	183	0.0%	0	93	90	183	50.0%	92	47	44	91
	2																									
	3																									
	4																									
	5																									
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	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	117	112	229	20.1%	46	93	90	183	0.0%	0	93	90	183	50.3%	92	47	44	91
		934		Y=44.61(X)																						

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	General Office Building	11	710	48	ksf	88%	12%	78	11	89	20.0%	18	62	9	71	0.0%	0	62	9	71	0.0%	0	62	9	71
	2	Fine Dining Restaurant	11	931	214	seat	80%	20%	3	1	4	20.0%	1	2	1	3	0.0%	0	2	1	3	0.0%	0	2	1	3
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	81	12	93	20.4%	19	64	10	74	0.0%	0	64	10	74	0.0%	0	64	10	74
		710		LN(Y) = 0.86*LN(X)+1.16																						
		931		Y=0.02(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**17**	**-34**	**-17**

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 1	1	Fast-Food Resturant with Drive-Through Window	11	934	5.143	ksf	52%	48%	88	82	170	20.0%	34	70	66	136	0.0%	0	70	66	136	55.0%	75	31	30	61
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation			**Total:**		88	82	170	20.0%	34	70	66	136	0.0%	0	70	66	136	55.1%	75	31	30	61
		934		Y=33.03(X)																						

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	General Office Building	11	710	48	ksf	17%	83%	15	75	90	20.0%	18	12	60	72	1.4%	1	12	59	71	0.0%	0	12	59	71
	2	Fine Dining Restaurant	11	931	214	seat	67%	33%	40	20	60	20.0%	12	32	16	48	2.1%	1	31	16	47	44.0%	21	17	9	26
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation			**Total:**		55	95	150	20.0%	30	44	76	120	1.7%	2	43	75	118	17.8%	21	29	68	97
		710		LN(Y) = 0.83*LN(X)+1.29																						
		931		Y=0.28(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-2**	**38**	**36**

Internal Capture Reduction Calculations

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

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

SUMMARY (EXISTING)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	93	90	70	66
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	93	90	70	66

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	0	0	0	0

OUTPUT

Total % Reduction	***0.0%***	***0.0%***
Office		
Retail		
Restaurant	0.0%	0.0%
Cinema/Entertainment		
Residential		
Hotel		

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	93	90	70	66
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	93	90	70	66

Internal Capture Reduction Calculations

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

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

SUMMARY (PROPOSED)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	62	9	12	60
Retail	0	0	0	0
Restaurant	2	1	32	16
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	64	10	44	76

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	1
Retail	0	0	0	0
Restaurant	0	0	1	0
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	0	0	1	1

OUTPUT

Total % Reduction	***0.0%***	***1.7%***
Office	0.0%	1.4%
Retail		
Restaurant	0.0%	2.1%
Cinema/Entertainment		
Residential		
Hotel		

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	62	9	12	59
Retail	0	0	0	0
Restaurant	2	1	31	16
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	64	10	43	75

Retail Trip Generation Alternative

DAILY TRIP GENERATION COMPARISON

EXISTING DAILY 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	Fast-Food Resturant with Drive-Throu	11	934	5.143	ksf	50%	50%	1,202	1,202	2,404	20.0%	481	962	961	1,923	0.0%	0	962	961	1,923	0.0%	0	962	961	1,923
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	1,202	1,202	2,404	20.0%	481	962	961	1,923	0.0%	0	962	961	1,923	0.0%	0	962	961	1,923
		934		Y=467.48(X)																						

PROPOSED DAILY 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	General Office Building	11	710	48	ksf	50%	50%	306	306	612	20.0%	122	245	245	490	15.7%	77	211	202	413	0.0%	0	211	202	413
	2	Strip Retail Plaza	11	822	7.462	ksf	50%	50%	272	272	544	20.0%	109	217	218	435	17.7%	77	174	184	358	0.0%	0	174	184	358
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	578	578	1,156	20.0%	231	462	463	925	16.6%	154	385	386	771	0.0%	0	385	386	771
		710		LN(Y) = 0.87*LN(X)+3.05																						
		822		Y=42.2*(X)+229.68																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-577**	**-575**	**-1,152**

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 1	1	Fast-Food Resturant with Drive-Through Window	11	934	5.143	ksf	51%	49%	117	112	229	20.0%	46	93	90	183	0.0%	0	93	90	183	50.0%	92	47	44	91
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	117	112	229	20.1%	46	93	90	183	0.0%	0	93	90	183	50.3%	92	47	44	91
		934		Y=44.61(X)																						

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	General Office Building	11	710	48	ksf	88%	12%	78	11	89	20.0%	18	62	9	71	5.6%	4	61	6	67	0.0%	0	61	6	67
	2	Strip Retail Plaza	11	822	7.462	ksf	60%	40%	11	7	18	20.0%	4	9	5	14	28.6%	4	6	4	10	0.0%	0	6	4	10
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	89	18	107	20.6%	22	71	14	85	9.4%	8	67	10	77	0.0%	0	67	10	77
		710		LN(Y) = 0.86*LN(X)+1.16																						
		822		Y=2.36(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**20**	**-34**	**-14**

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 1	1	Fast-Food Resturant with Drive-Through Window	11	934	5.143	ksf	52%	48%	88	82	170	20.0%	34	70	66	136	0.0%	0	70	66	136	55.0%	75	31	30	61
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	88	82	170	20.0%	34	70	66	136	0.0%	0	70	66	136	55.1%	75	31	30	61
		934		Y=33.03(X)																						

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		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	General Office Building	11	710	48	ksf	17%	83%	15	75	90	20.0%	18	12	60	72	4.2%	3	11	58	69	0.0%	0	11	58	69
	2	Strip Retail Plaza	11	822	7.462	ksf	50%	50%	32	32	64	20.0%	13	26	25	51	5.9%	3	24	24	48	40.0%	19	15	14	29
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	47	107	154	20.1%	31	38	85	123	4.9%	6	35	82	117	16.2%	19	26	72	98
		710		LN(Y) = 0.83*LN(X)+1.29																						
		822		LN(Y) = 0.71*LN(X)+2.72																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-5**	**42**	**37**

Internal Capture Reduction Calculations

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

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

SUMMARY (EXISTING)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	93	90	70	66
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	93	90	70	66

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	0	0	0	0

OUTPUT

Total % Reduction	***0.0%***	***0.0%***
Office		
Retail		
Restaurant	0.0%	0.0%
Cinema/Entertainment		
Residential		
Hotel		

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	93	90	70	66
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	0	0
	93	90	70	66

Internal Capture Reduction Calculations

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

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

SUMMARY (PROPOSED)

GROSS TRIP GENERATION

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
INPUT	Office	62	9	12	60
	Retail	9	5	26	25
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	0	0	0	0
	Hotel	0	0	0	0
		71	14	38	85

INTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	1	3	1	2
	Retail	3	1	2	1
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	0	0	0	0
	Hotel	0	0	0	0
		4	4	3	3

	Total % Reduction	***9.4%***	***4.9%***
OUTPUT	Office	5.6%	4.2%
	Retail	28.6%	5.9%
	Restaurant		
	Cinema/Entertainment		
	Residential		
	Hotel		

EXTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	61	6	11	58
	Retail	6	4	24	24
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	0	0	0	0
	Hotel	0	0	0	0
		67	10	35	82

US Census Data

MEANS OF TRANSPORTATION TO WORK

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.

441+312+272/1965=52.2%

Census Tract 44.05, Miami-Dade County, Florida

Label	Estimate	Margin of Error
Total:	1,965	±387
Car, truck, or van:	581	±196
Drove alone	566	±199
Carpooled:	15	±23
In 2-person carpool	15	±23
In 3-person carpool	0	±14
In 4-person carpool	0	±14
In 5- or 6-person carpool	0	±14
In 7-or-more-person carpool	0	±14
Public transportation (excluding taxicab):	272	±186
Bus	272	±186
Subway or elevated rail	0	±14
Long-distance train or commuter rail	0	±14
Light rail, streetcar or trolley (carro público in Puerto Rico)	0	±14
Ferryboat	0	±14
Taxicab	20	±31
Motorcycle	0	±14
Bicycle	312	±187
Walked	441	±225
Other means	215	±191
Worked from home	124	±67

Table Notes

MEANS OF TRANSPORTATION TO WORK

Survey/Program: American Community Survey
Universe: Workers 16 years and over
Year: 2021
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.

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.

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

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.

Several means of transportation to work categories were updated in 2019. For more information, see: Change to Means of Transportation.

The 2017-2021 American Community Survey (ACS) data generally reflect the March 2020 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.

Table Notes

MEANS OF TRANSPORTATION TO WORK

Survey/Program: American Community Survey

Universe: Workers 16 years and over

Year: 2021

Estimates: 5-Year

Table ID: B08301

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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.

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

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.

Several means of transportation to work categories were updated in 2019. For more information, see: Change to Means of Transportation.

The 2017-2021 American Community Survey (ACS) data generally reflect the March 2020 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:

-

The estimate could not be computed because there were an insufficient number of sample observations. For a ratio of medians estimate, one or both of the median estimates falls in the lowest interval or highest interval of an open-ended distribution. For a 5-year median estimate, the margin of error associated with a median was larger than the median itself.

N

The estimate or margin of error cannot be displayed because there were an insufficient number of sample cases in the selected geographic area.

(X)

The estimate or margin of error is not applicable or not available.

median-

The median falls in the lowest interval of an open-ended distribution (for example "2,500-")

median+

The median falls in the highest interval of an open-ended distribution (for example "250,000+").

**

The margin of error could not be computed because there were an insufficient number of sample observations.

***

The margin of error could not be computed because the median falls in the lowest interval or highest interval of an open-ended distribution.

*****

A margin of error is not appropriate because the corresponding estimate is controlled to an independent population or housing estimate. Effectively, the corresponding estimate has no sampling error and the margin of error may be treated as zero.

ITE Land Use Excerpts

Land Use: 710
General Office Building

Description

A general office building is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building houses multiple tenants that can include, as examples, professional services, insurance companies, investment brokers, a banking institution, a restaurant, or other service retailers. A general office building with a gross floor area of 10,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), medical-dental office building (Land Use 720), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.

Additional Data

If two or more general office buildings are in close physical proximity (within a close walk) and function as a unit (perhaps with a shared parking facility and common or complementary tenants), the total gross floor area or employment of the paired office buildings can be used for calculating the site trip generation. If the individual buildings are isolated or not functionally related to one another, trip generation should be calculated for each building separately.

For study sites with reported gross floor area and employees, an average employee density of 3.3 employees per 1,000 square feet GFA (or roughly 300 square feet per employee) has been consistent through the 1980s, 1990s, and 2000s. No sites counted in the 2010s reported both GFA and employees.

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

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

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

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

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

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

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

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

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, Colorado, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New York, Ontario (CAN)Pennsylvania, Texas, Utah, Virginia, and Washington.

Source Numbers

161, 175, 183, 184, 185, 207, 212, 217, 247, 253, 257, 260, 262, 273, 279, 297, 298, 300, 301, 302, 303, 304, 321, 322, 323, 324, 327, 404, 407, 408, 419, 423, 562, 734, 850, 859, 862, 867, 869, 883, 884, 890, 891, 904, 940, 944, 946, 964, 965, 972, 1009, 1030, 1058, 1061

General Office Building
(710)

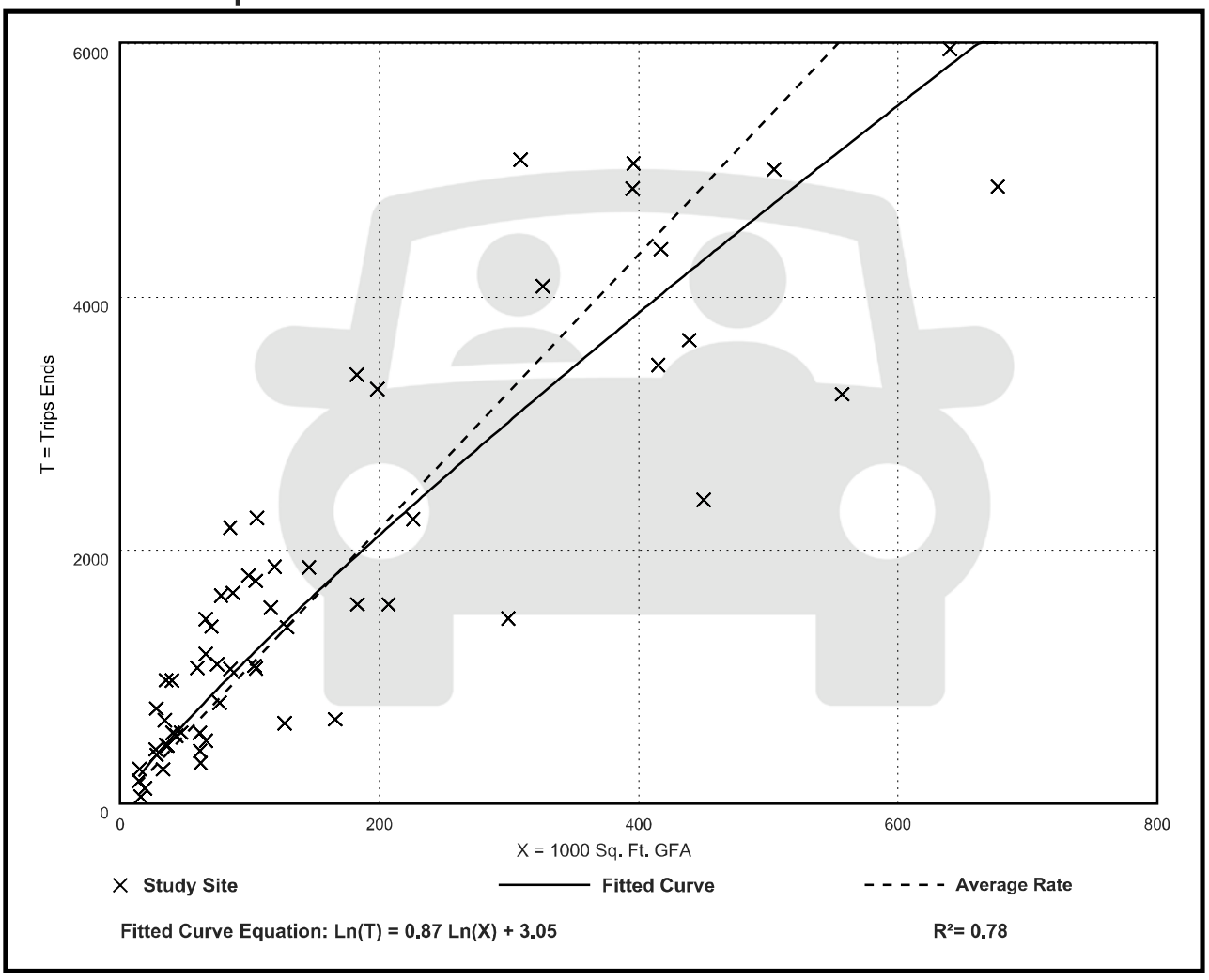
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 59
Avg. 1000 Sq. Ft. GFA: 163
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
10.84	3.27 - 27.56	4.76

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.87 Ln(X) + 3.05

R^2= 0.78

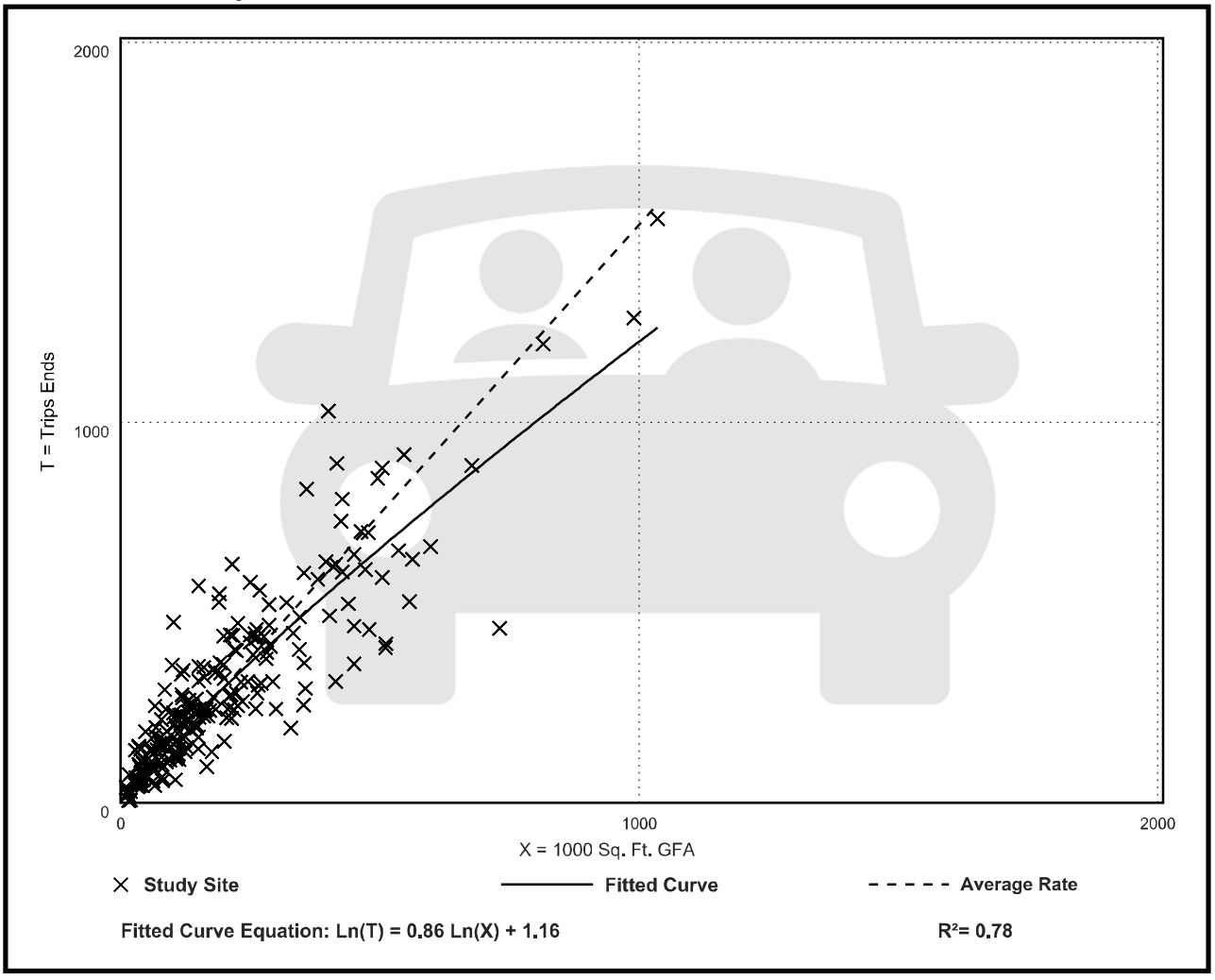
General Office Building
(710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 221
Avg. 1000 Sq. Ft. GFA: 201
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.86 Ln(X) + 1.16

R^2= 0.78

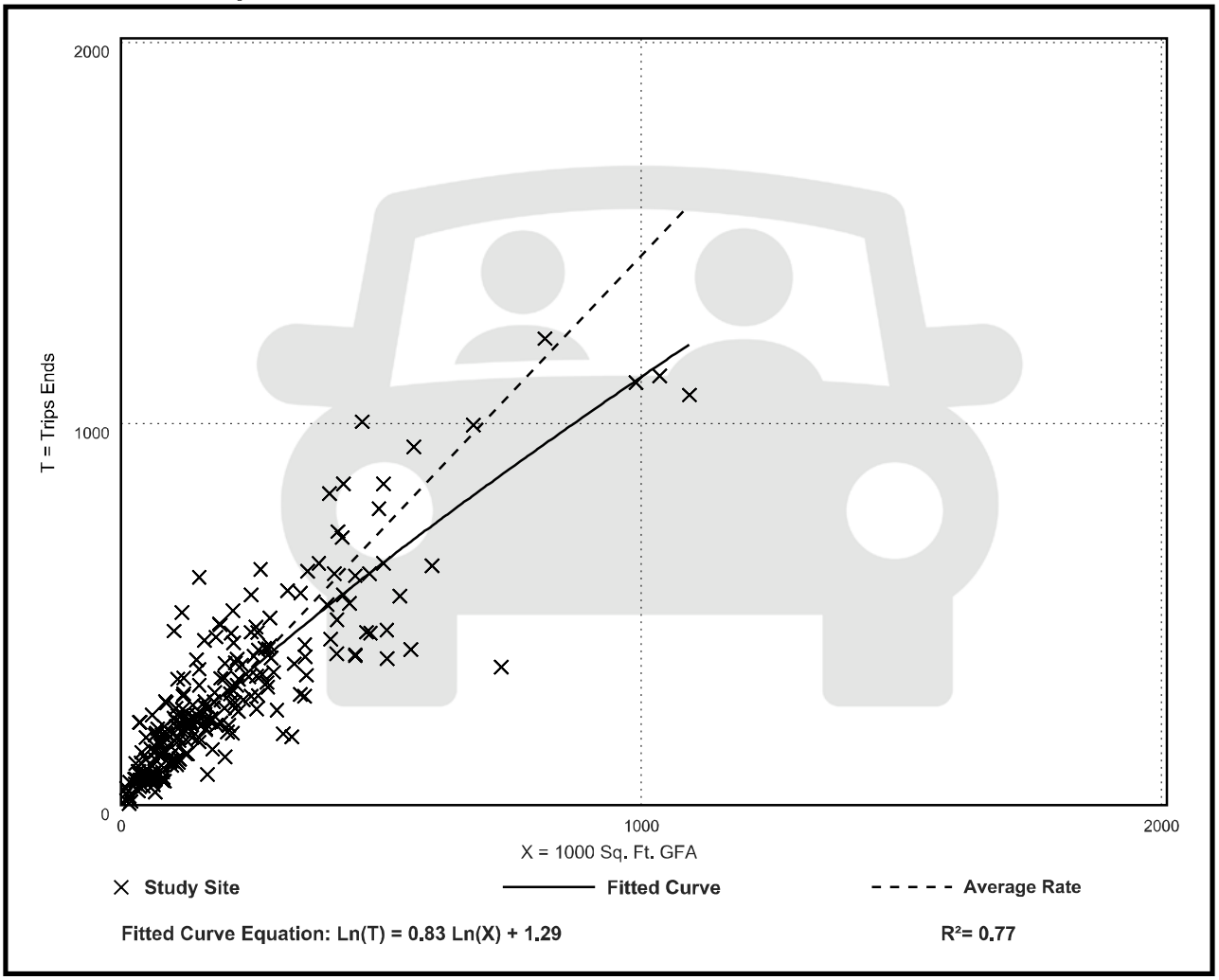
General Office Building
(710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 232
Avg. 1000 Sq. Ft. GFA: 199
Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.83 Ln(X) + 1.29

R^2= 0.77

Land Use: 822
Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k)
(822)

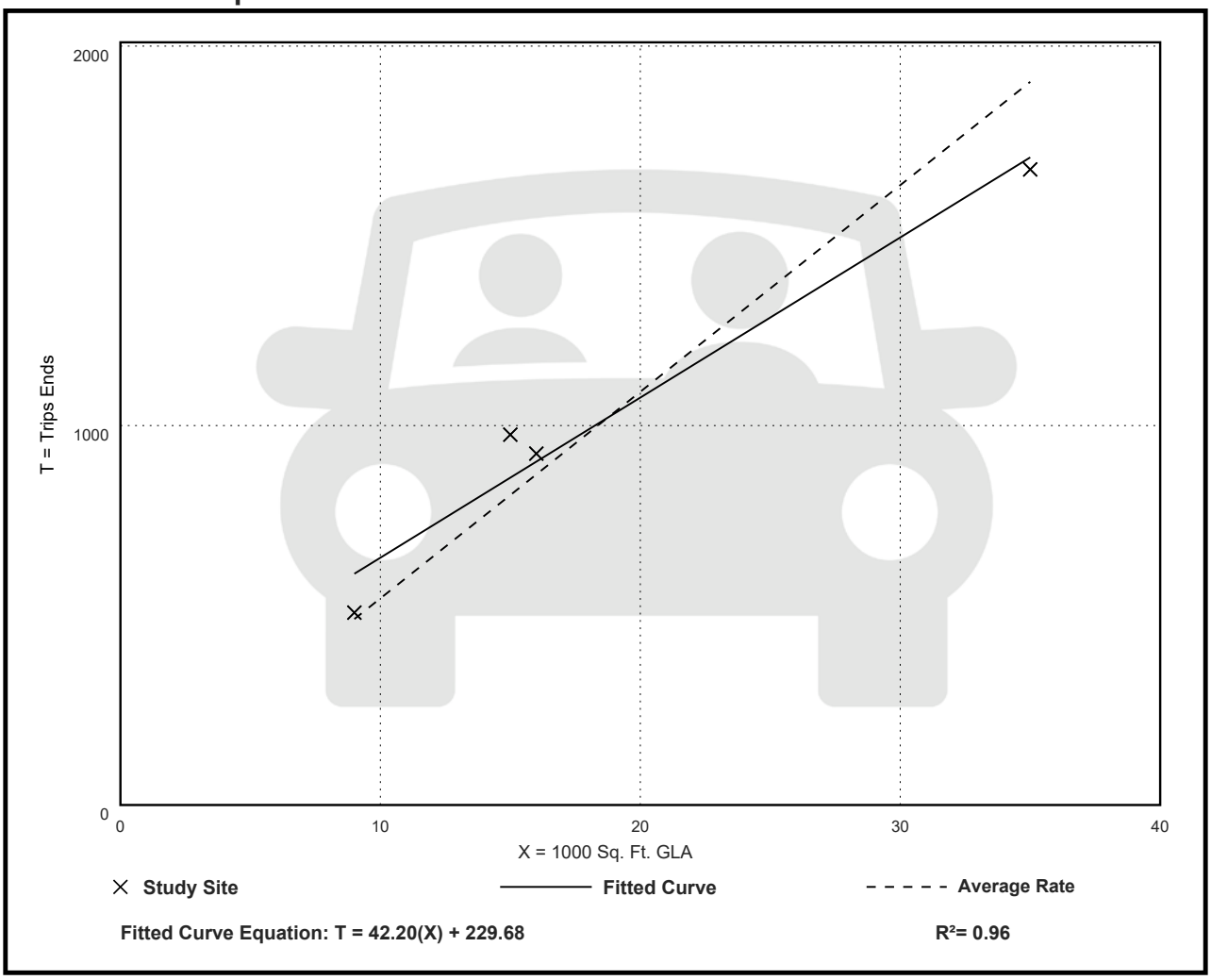
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation



Fitted Curve Equation: T = 42.20(X) + 229.68

R^2= 0.96

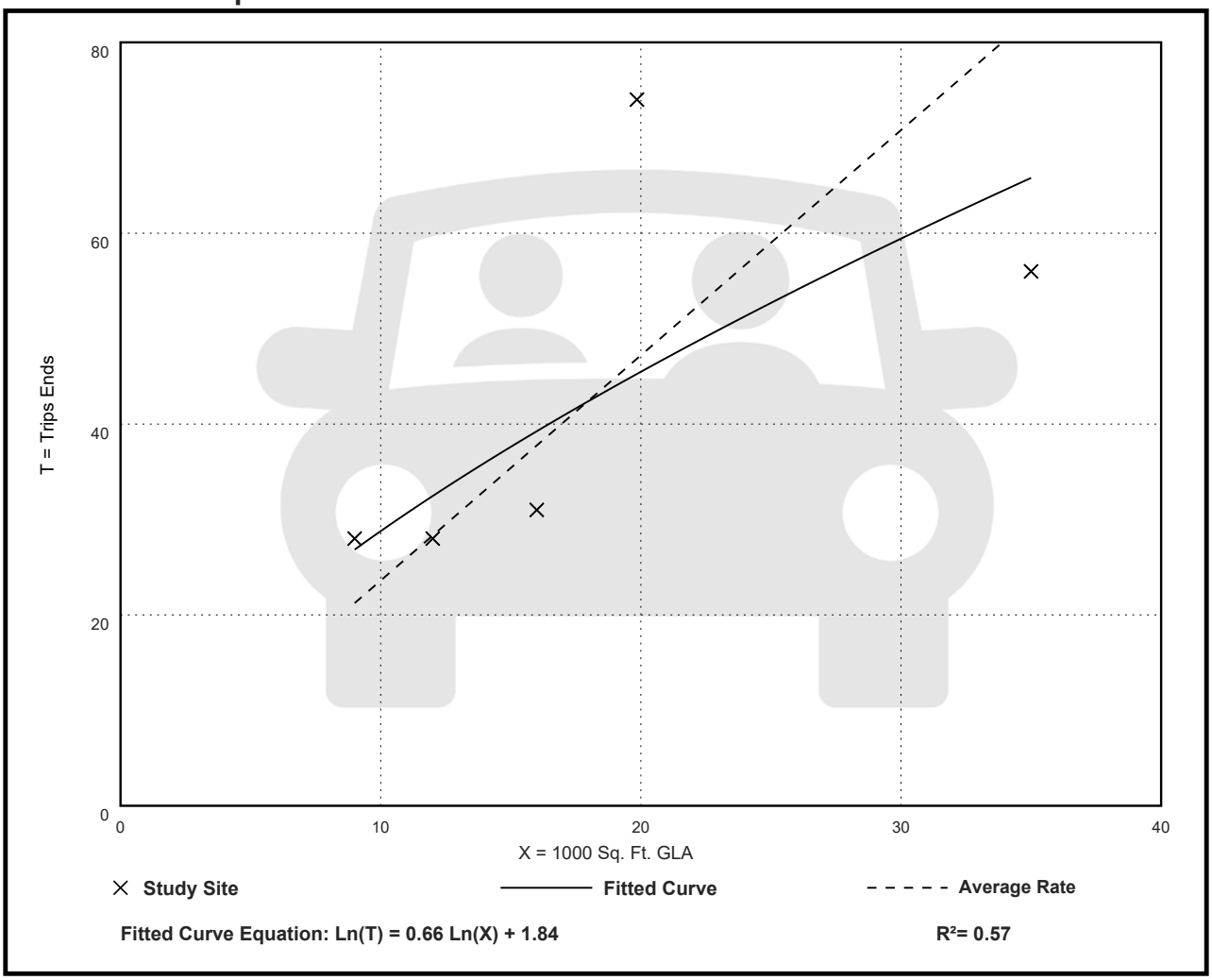
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

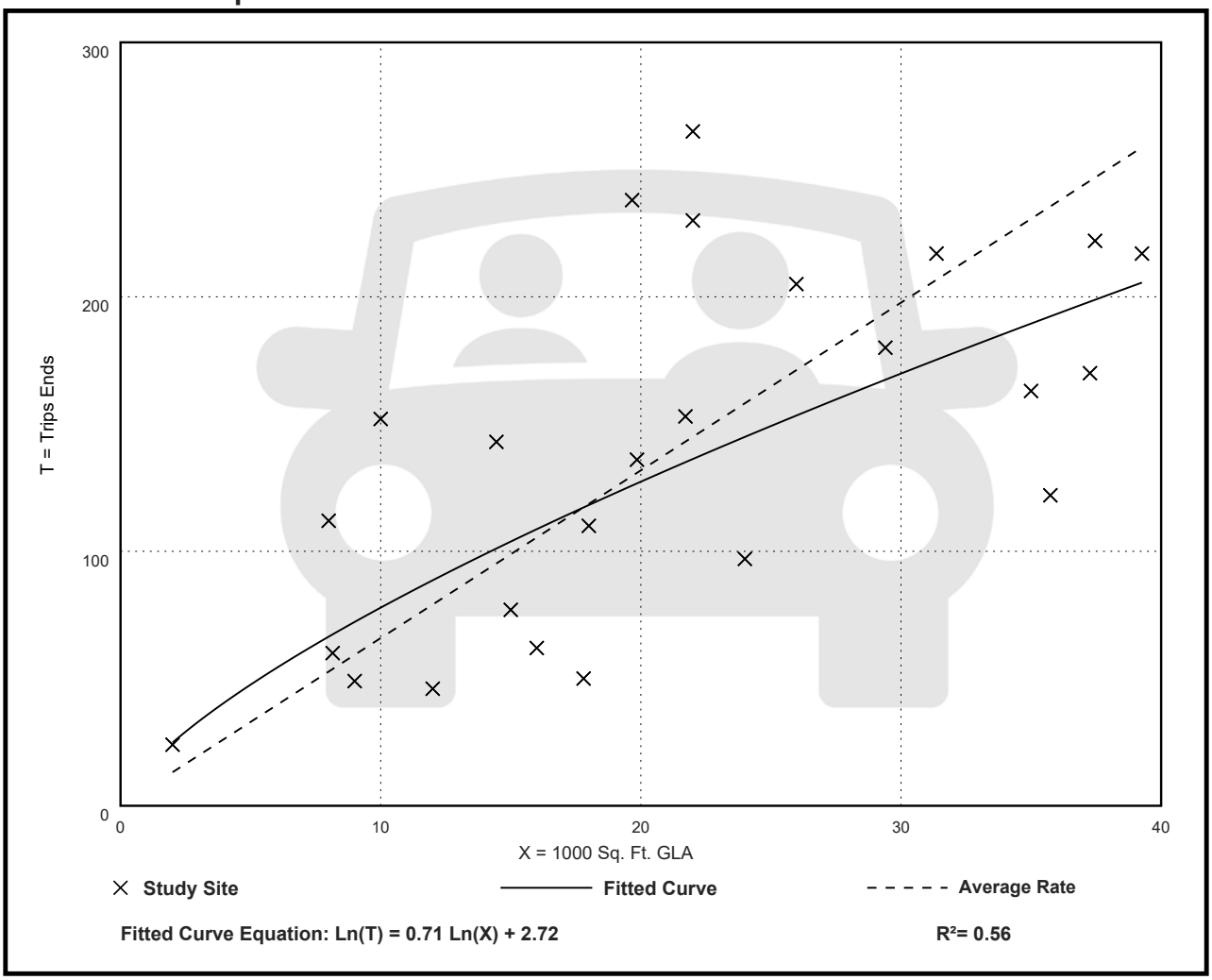
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.72

R^2= 0.56

Land Use: 931
Fine Dining Restaurant

Description

A fine dining restaurant is a full-service eating establishment with a typical duration of stay of at least 1 hour. A fine dining restaurant generally does not serve breakfast; some do not serve lunch; all serve dinner. This type of restaurant often requests and sometimes requires a reservation and is generally not part of a chain. A patron commonly waits to be seated, is served by wait staff, orders from a menu and pays after the meal. Some of the study sites have lounge or bar facilities (serving alcoholic beverages), but meal service is the primary draw to the restaurant. Fast casual restaurant (Land Use 930) and high-turnover (sit-down) restaurant (Land Use 932) are related uses.

Additional Data

If the fine dining restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The sites were surveyed in the 1980s, the 1990s, and the 2010s in Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, New Jersey, and Utah.

Source Numbers

126, 260, 291, 301, 338, 339, 368, 437, 440, 976, 1053

Fine Dining Restaurant
(931)

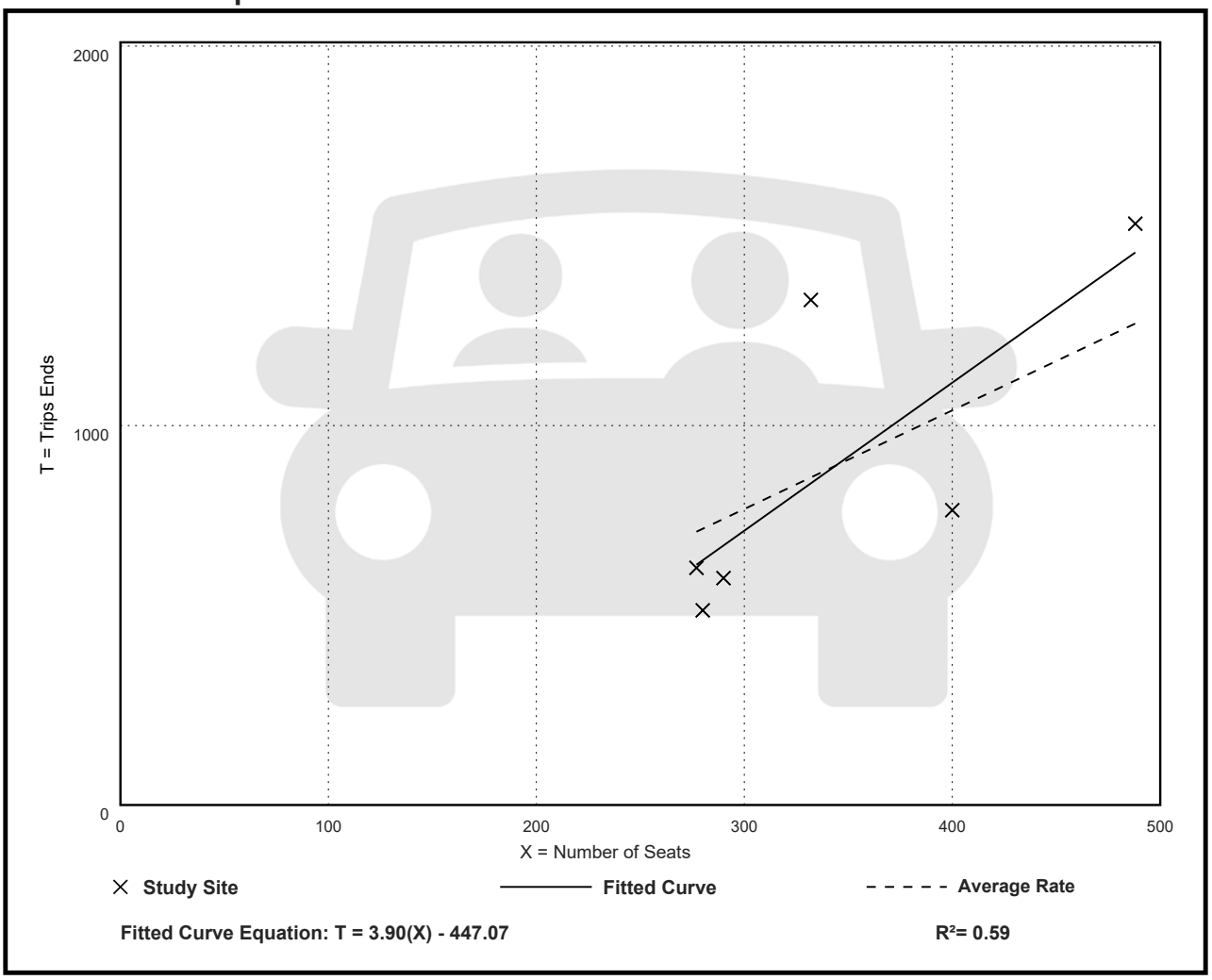
Vehicle Trip Ends vs: Seats
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. Num. of Seats: 345
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
2.60	1.83 - 4.01	0.85

Data Plot and Equation



Fitted Curve Equation: T = 3.90(X) - 447.07

R^2= 0.59

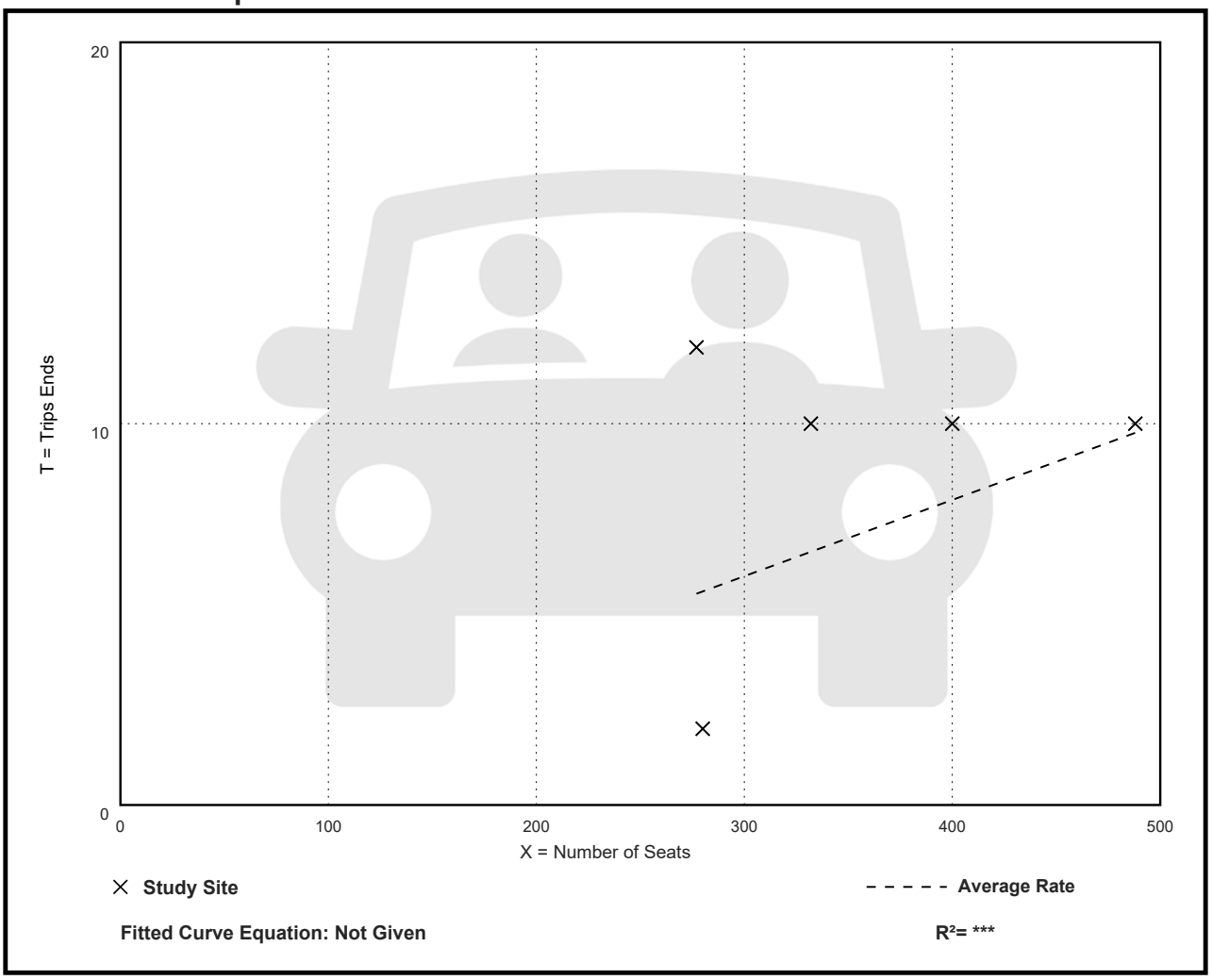
Fine Dining Restaurant
(931)

Vehicle Trip Ends vs: Seats
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. Num. of Seats: 355
Directional Distribution: Not Available

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.02	0.01 - 0.04	0.01

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ***

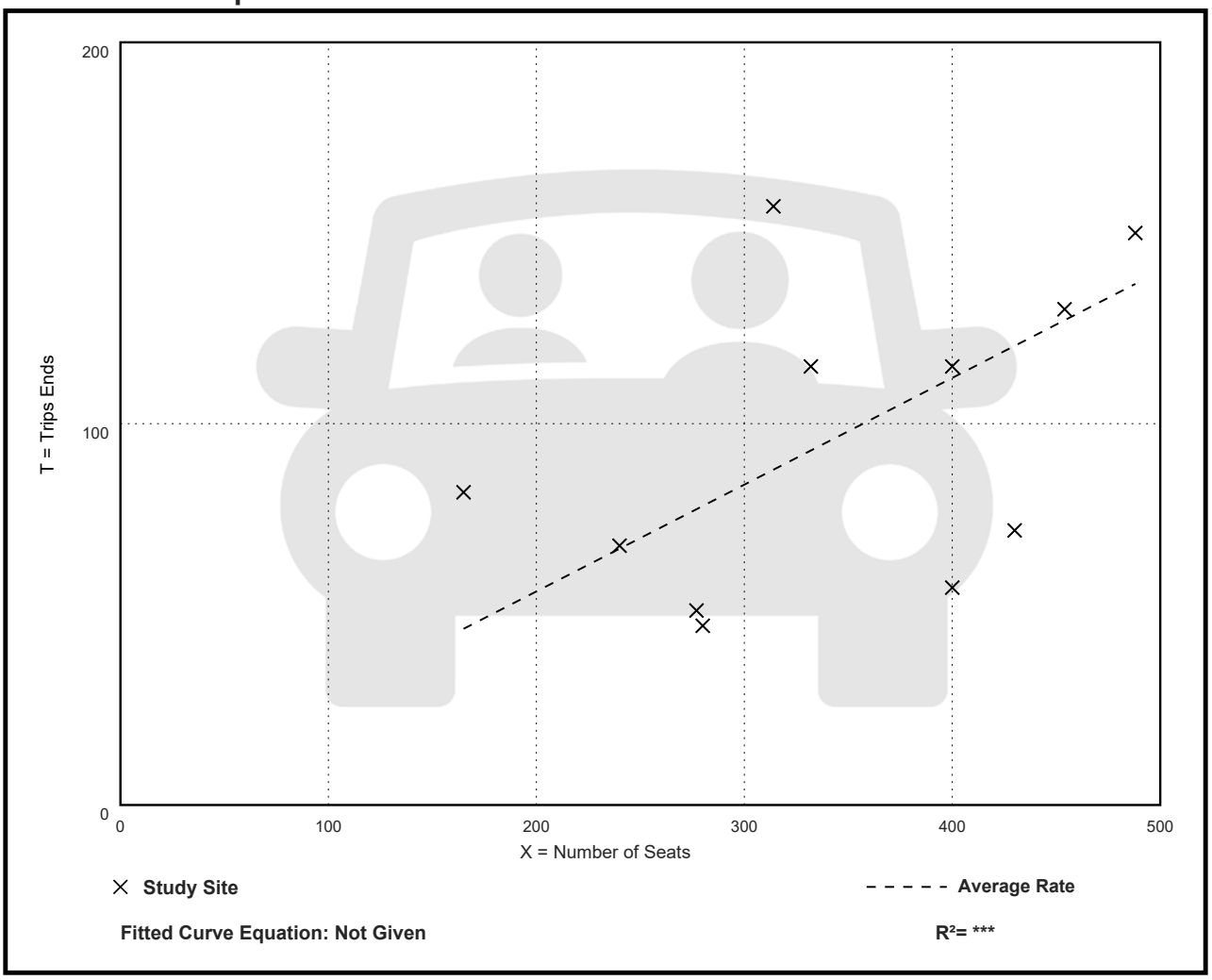
Fine Dining Restaurant
(931)

Vehicle Trip Ends vs: Seats
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Seats: 344
Directional Distribution: 67% entering, 33% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.28	0.14 - 0.50	0.11

Data Plot and Equation



Land Use: 934
Fast-Food Restaurant with Drive-Through Window

Description

This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alaska, Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

Source Numbers

163, 164, 168, 180, 181, 241, 245, 278, 294, 300, 301, 319, 338, 340, 342, 358, 389, 438, 502, 552, 577, 583, 584, 617, 640, 641, 704, 715, 728, 810, 866, 867, 869, 885, 886, 927, 935, 962, 977, 1050, 1053, 1054

Fast-Food Restaurant with Drive-Through Window (934)

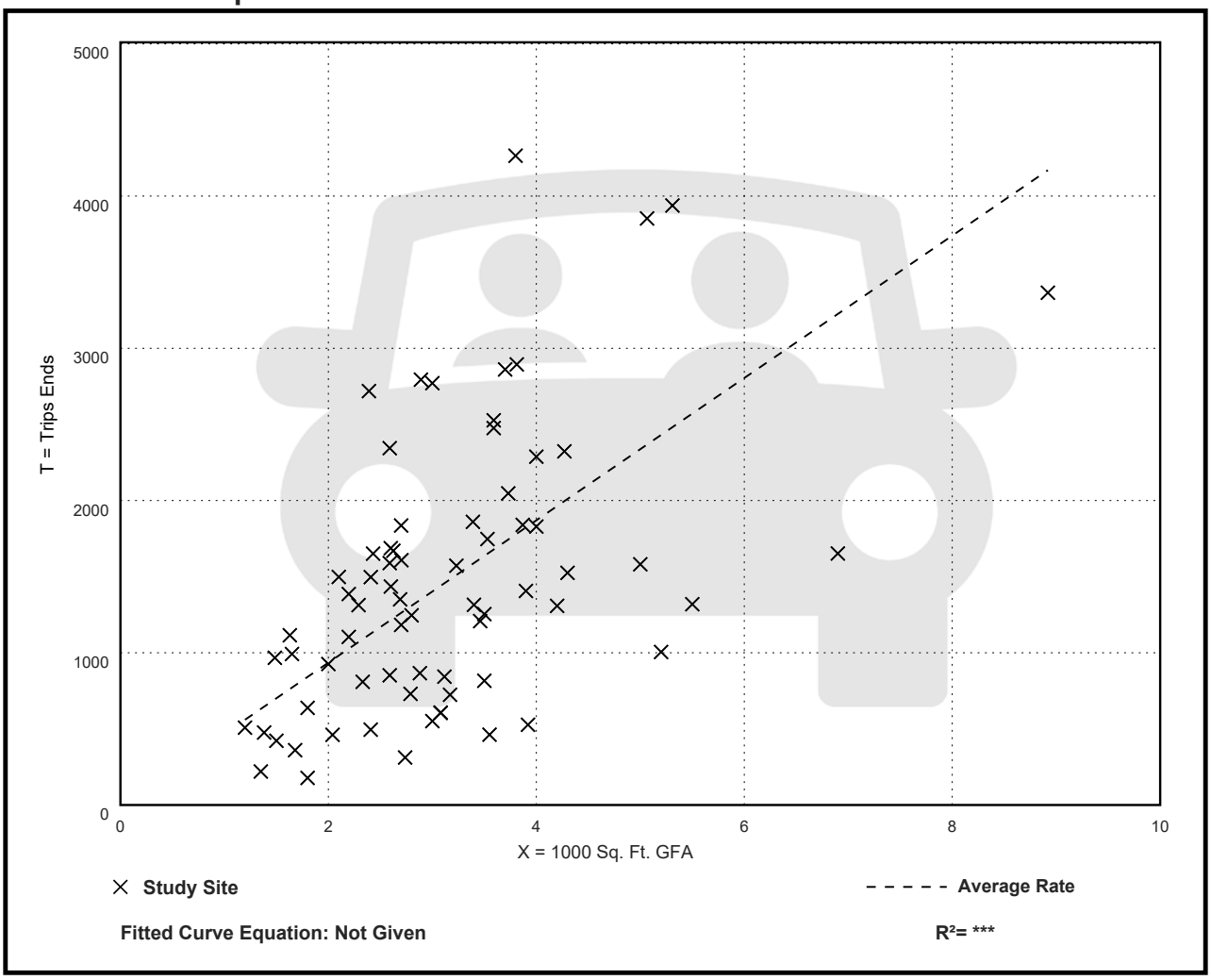
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 71
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

Data Plot and Equation



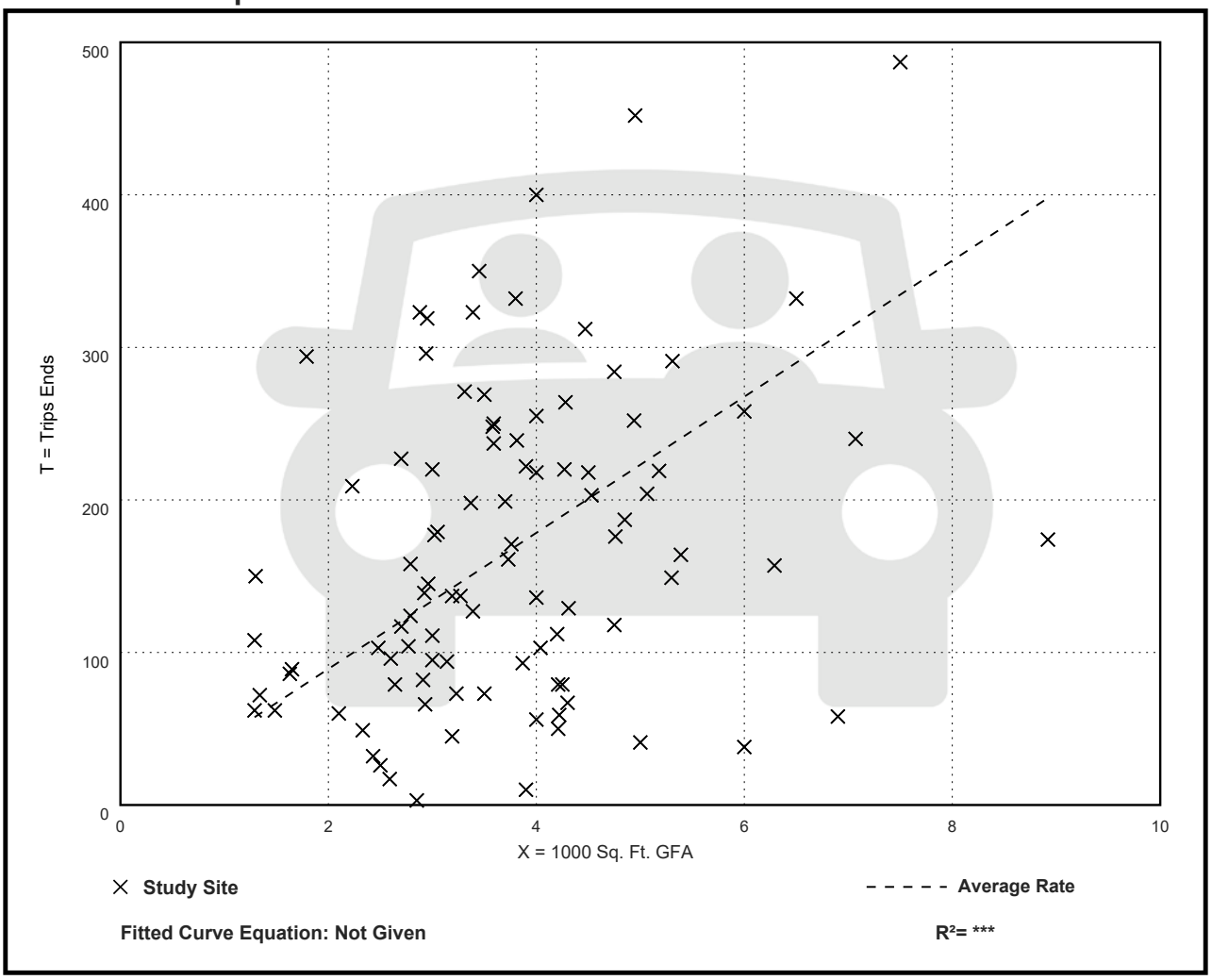
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 96
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



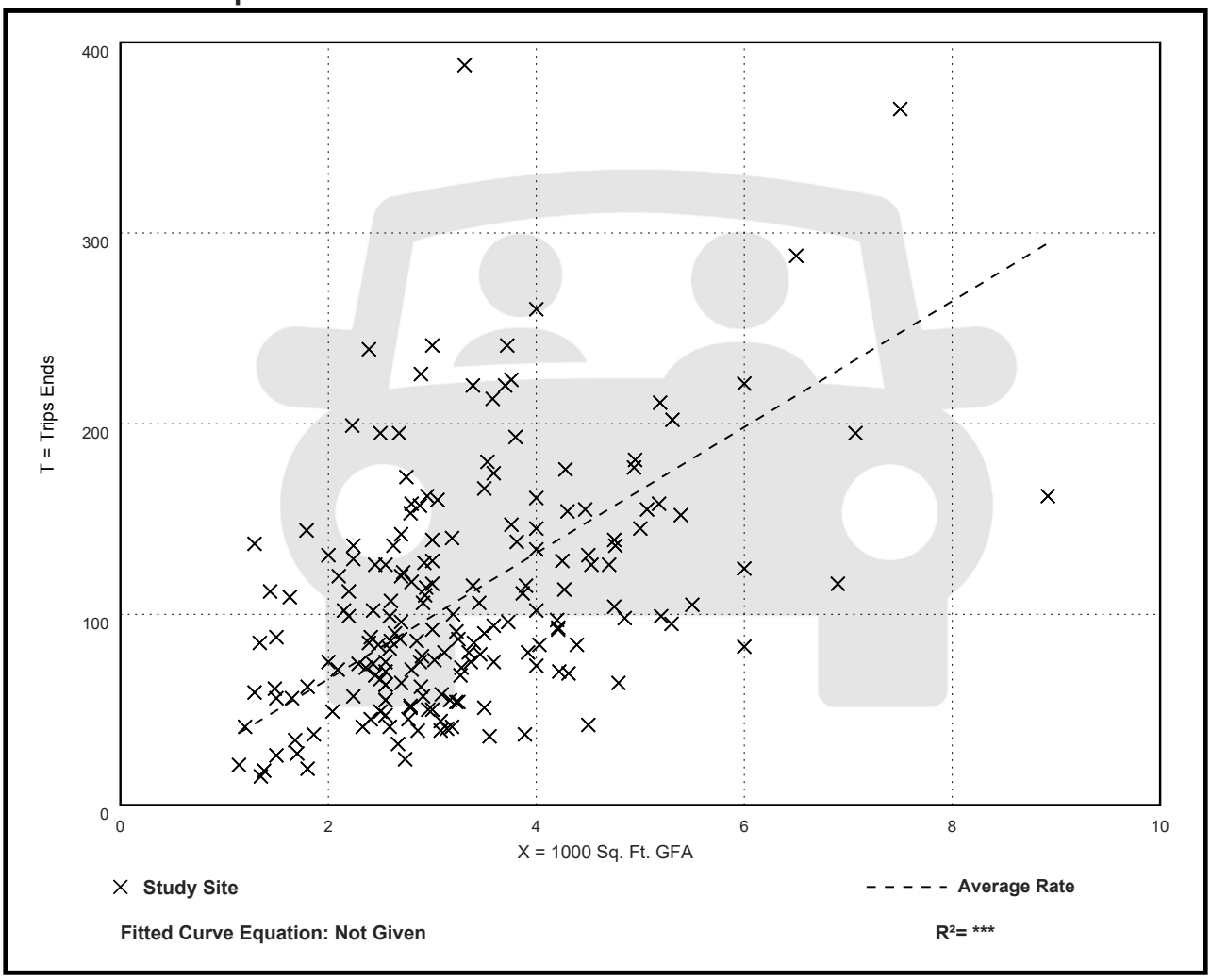
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 190
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



ITE Pass-By Excerpts

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	821
Land Use	Shopping Plaza (40 - 150k)
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	15
Average Pass-By Rate	40%

Pass-By Characteristics for Individual Sites

GLA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
45	Florida	1992	844	56	24	20	44	—	30
50	Florida	1992	555	41	41	18	59	—	30
52	Florida	1995	665	42	33	25	58	—	30
53	Florida	1993	162	59	—	—	41	—	30
57.23	Kentucky	1993	247	31	53	16	69	2659	34
60	Florida	1995	1583	40	38	22	60	—	30
69.4	Kentucky	1993	109	25	42	33	75	1559	34
77	Florida	1992	365	46	—	—	54	—	30
78	Florida	1991	702	55	23	22	45	—	30
82	Florida	1992	336	34	—	—	66	—	30
92.857	Kentucky	1993	133	22	50	28	78	3555	34
100.888	Kentucky	1993	281	28	50	22	72	2111	34
121.54	Kentucky	1993	210	53	30	17	47	2636	34
144	New Jersey	1990	176	32	44	24	68	—	24
146.8	Kentucky	1993	—	36	39	25	64	—	34

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

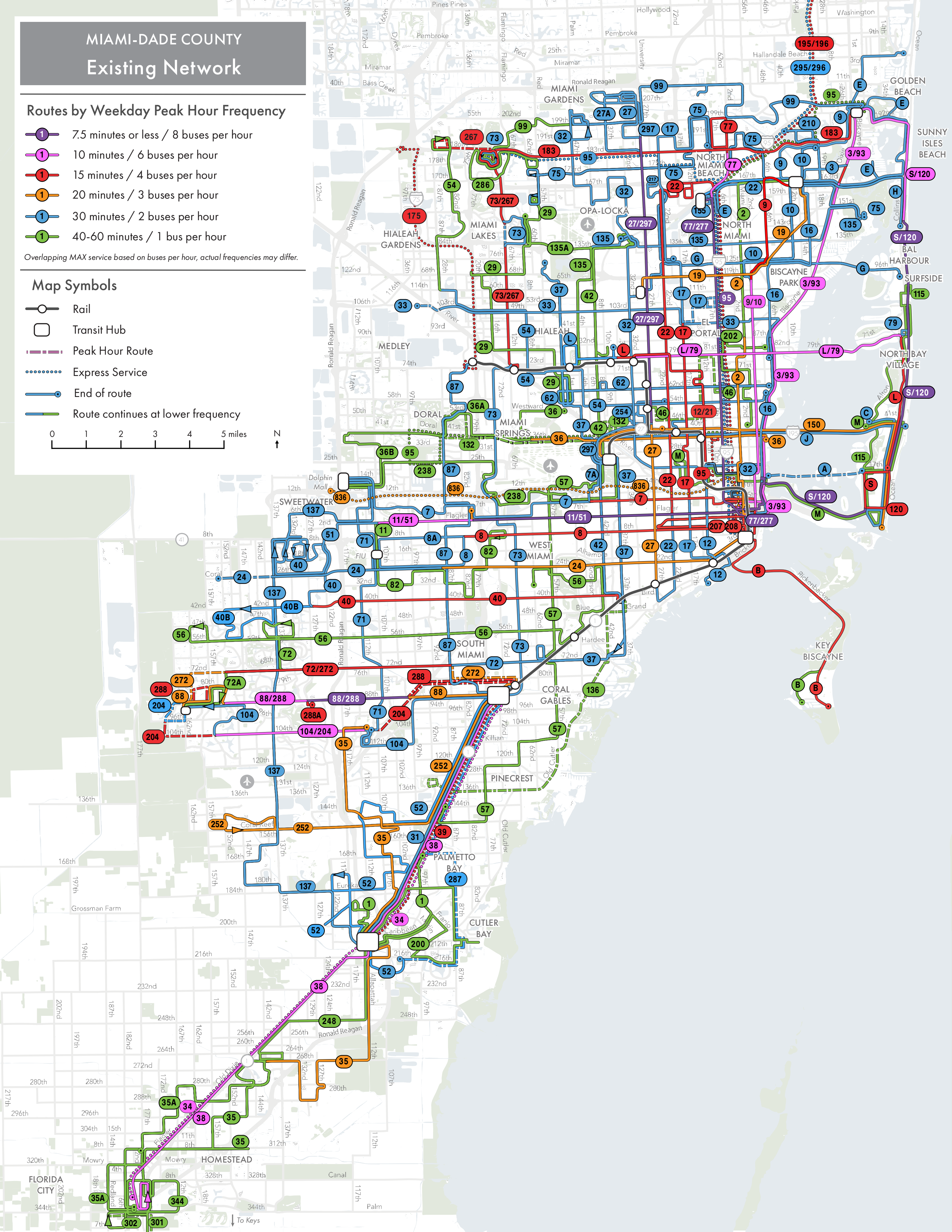
Land Use Code	931
Land Use	Fine Dining
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	4
Average Pass-By Rate	44%

Pass-By Characteristics for Individual Sites

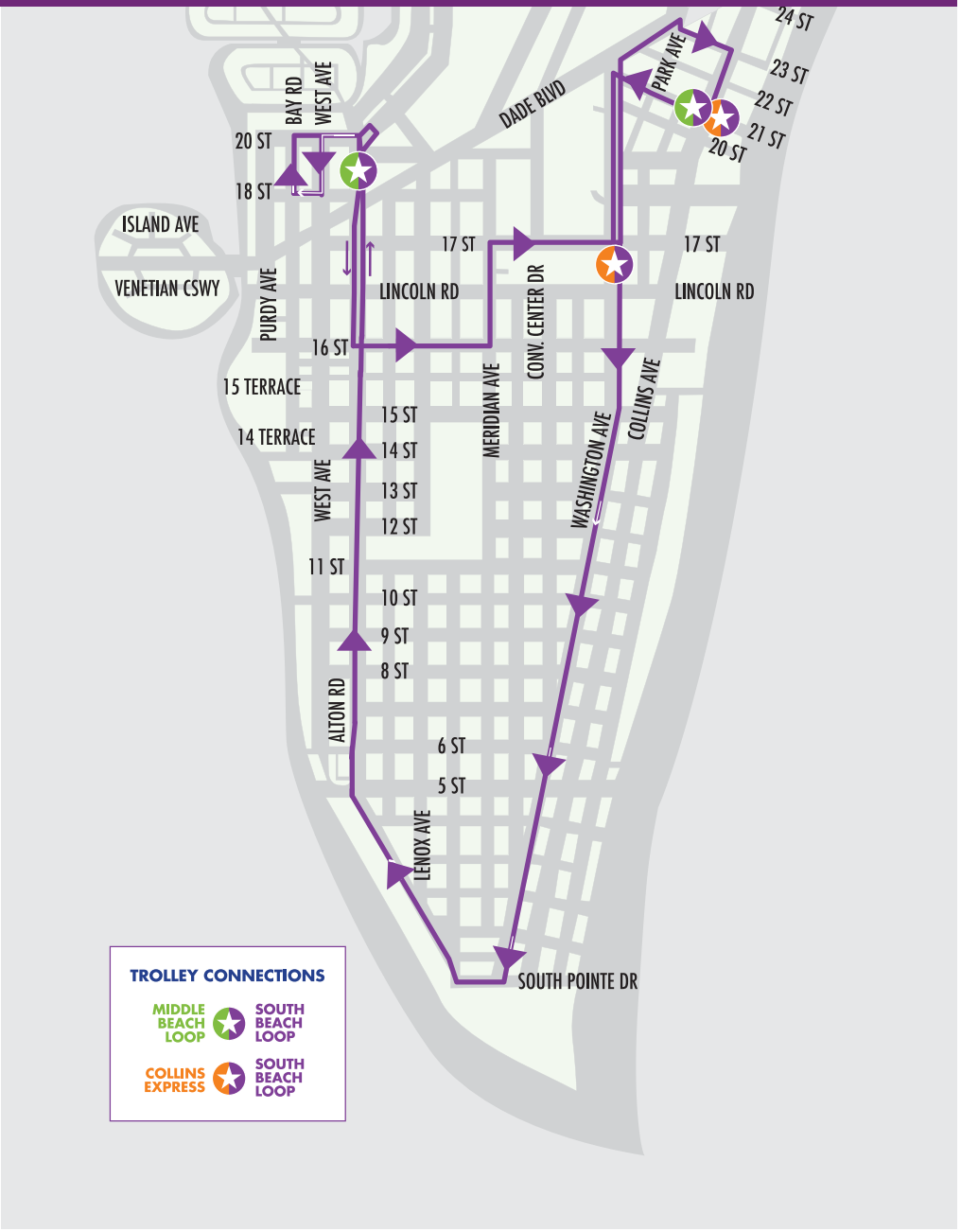
GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
6.5	Florida	1995	173	62	—	—	38	—	30
8	Florida	1992	168	45	—	—	55	—	30
8.8	Florida	1992	84	44	40	16	56	—	30
12	Kentucky	1993	38	26	36	38	74	4145	2

Appendix G

Transit Service Information


MIAMI-DADE COUNTY
Existing Network
Routes by Weekday Peak Hour Frequency
7.5 minutes or less / 8 buses per hour
10 minutes / 6 buses per hour
15 minutes / 4 buses per hour
20 minutes / 3 buses per hour
30 minutes / 2 buses per hour
40-60 minutes / 1 bus per hour
Overlapping MAX service based on buses per hour, actual frequencies may differ.
Map Symbols
Rail
Transit Hub
Peak Hour Route
Express Service
End of route
Route continues at lower frequency
0
1
2
3
4
5 miles
N
MIAMI GARDENS
GOLDEN BEACH
SUNNY ISLES BEACH
NORTH MIAMI BEACH
OPA-LOCKA
MIAMI LAKES
HIALEAH GARDENS
NORTH MIAMI
BAL HARBOUR
SURFSIDE
BISCAYNE PARK
HIALEAH
EL PORTAL
MEDLEY
NORTH BAY VILLAGE
DORAL
MIAMI SPRINGS
SWEETWATER
WEST MIAMI
KEY BISCAYNE
SOUTH MIAMI
CORAL GABLES
PINECREST
PALMETTO BAY
CUTLER BAY
HOMESTEAD
FLORIDA CITY
To Keys

SOUTH BEACH LOOP - A
Clockwise

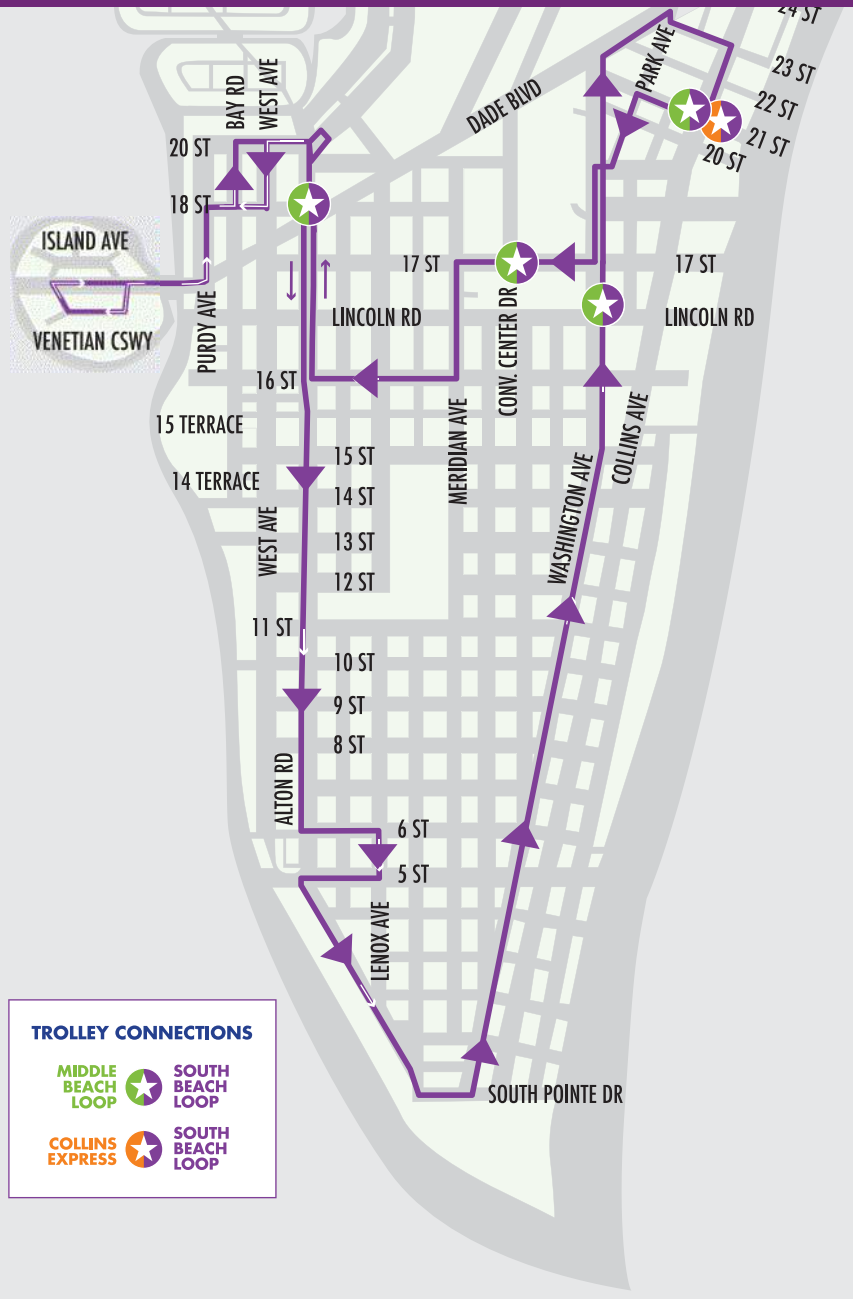


TROLLEY CONNECTIONS

MIDDLE BEACH LOOP ↔ SOUTH BEACH LOOP

COLLINS EXPRESS ↔ SOUTH BEACH LOOP

SOUTH BEACH LOOP - B
Counter Clockwise

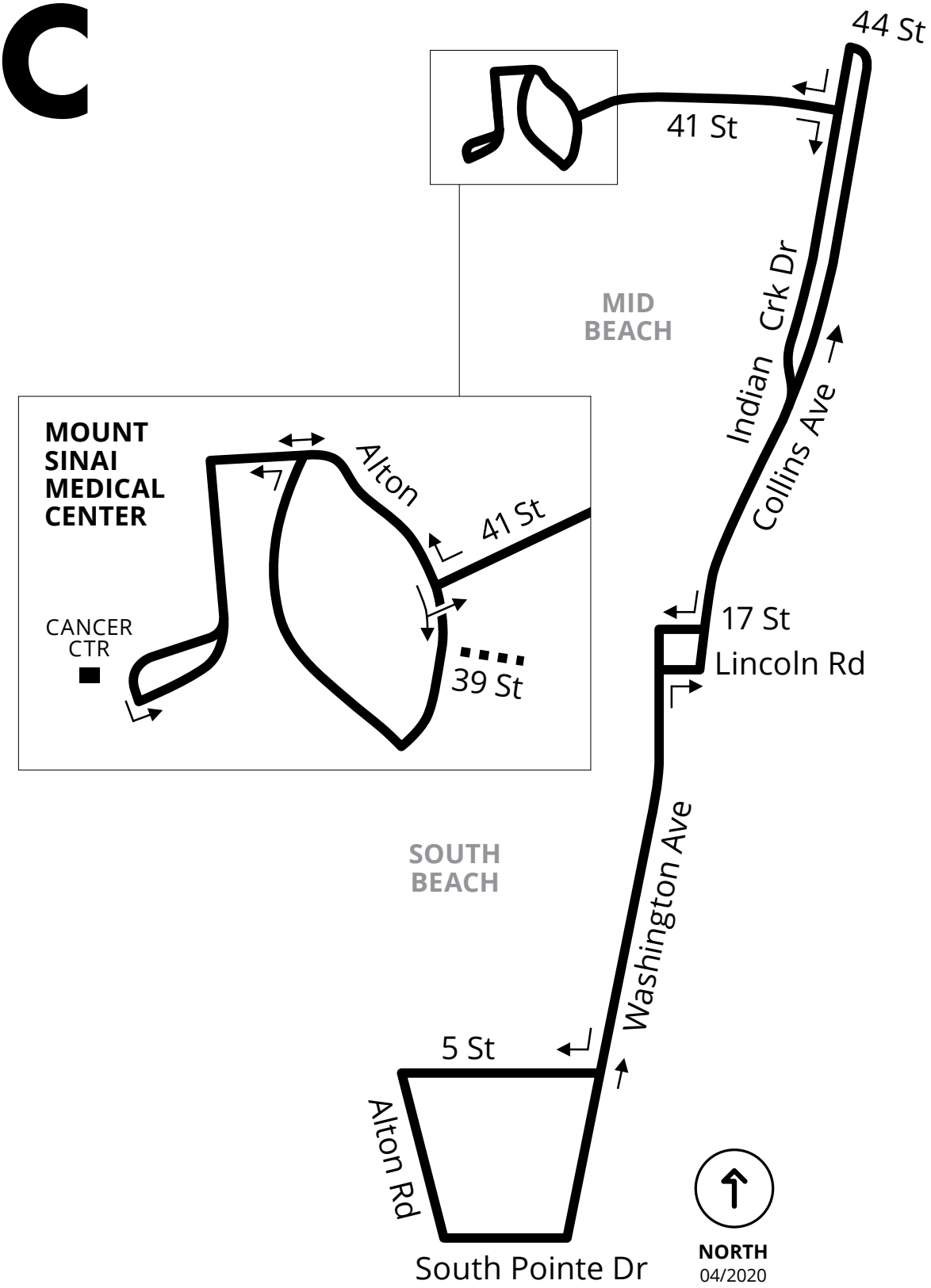


TROLLEY CONNECTIONS

MIDDLE BEACH LOOP ↔ SOUTH BEACH LOOP

COLLINS EXPRESS ↔ SOUTH BEACH LOOP

C


44 St
41 St
MID BEACH
Indian Crk Dr
Collins Ave
MOUNT SINAI MEDICAL CENTER
Alton
41 St
CANCER CTR
39 St
17 St
Lincoln Rd
SOUTH BEACH
Washington Ave
5 St
Alton Rd
South Pointe Dr
NORTH

04/2020

WEEKDAYS / DIAS LABORABLES / LASEMÈN

NORTHBOUND / RUMBO NORTE / DIREKSYON NÒ	MORNING / MAÑANA / MATEN												AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																	
Alton Rd & 2 St	6:11	6:41	7:11	7:41	8:11	8:41	9:11	9:41	10:11	10:41	11:11	11:41	12:11	12:41	1:11	1:41	2:11	2:41	3:11	3:41	4:11	4:41	5:11	5:41	6:11	6:41	7:11	7:41	8:26	9:11	9:56
Lincoln Rd & James Ave	6:28	6:58	7:29	7:59	8:29	8:59	9:31	10:01	10:31	11:01	11:31	12:01	12:31	1:01	1:31	2:01	2:31	3:01	3:31	4:01	4:31	5:01	5:31	6:01	6:31	7:01	7:29	7:59	8:44	9:29	10:14
Indian Creek Dr & 43 St	6:38	7:09	7:40	8:11	8:41	9:13	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:45	7:11	7:39	8:09	8:54	9:39	10:25
Mt Sinai Hospital	6:48	7:20	7:51	8:22	8:52	9:25	9:57	10:27	10:57	11:27	11:57	12:27	12:57	1:27	1:57	2:27	2:57	3:27	3:57	4:28	4:58	5:28	5:58	6:28	6:58	7:22	7:50	8:20	9:05	9:50	10:34
Alton Rd & 39 St	6:51	7:23	7:54	8:25	8:55	9:28	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:31	5:01	5:31	6:01	6:31	–	7:25	–	8:23	9:08	9:53	–
SOUTHBOUND / RUMBO SUR / DIREKSYON SID	**MORNING / MAÑANA / MATEN**												**AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ**																	
Alton Rd & 39 St	–	–	7:05	7:34	–	8:29	8:57	9:27	9:57	10:27	10:57	11:27	11:57	12:27	12:57	1:27	1:57	2:27	2:57	3:27	3:56	4:25	4:55	5:25	5:55	6:25	7:03	7:48	8:33	9:18	10:06
Mt Sinai Hospital	6:12	6:41	7:08	7:37	8:05	8:32	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	3:59	4:29	4:59	5:29	5:59	6:29	7:06	7:51	8:36	9:21	10:09
Indian Creek Dr & 40 St	6:20	6:49	7:18	7:47	8:16	8:43	9:12	9:42	10:12	10:42	11:12	11:42	12:12	12:42	1:12	1:42	2:12	2:42	3:12	3:42	4:11	4:41	5:11	5:41	6:11	6:41	7:16	8:01	8:46	9:31	10:18
Washington Ave & Lincoln Rd	6:28	6:57	7:27	7:56	8:26	8:53	9:23	9:53	10:23	10:53	11:23	11:53	12:23	12:53	1:23	1:53	2:23	2:53	3:23	3:53	4:23	4:53	5:23	5:53	6:23	6:53	7:26	8:11	8:56	9:41	10:27
Alton Rd & 2 St	06:40	7:10	7:40	8:10	8:40	9:10	9:40	10:10	10:40	11:10	11:40	12:10	12:40	1:10	1:40	2:10	2:40	3:10	3:40	4:10	4:40	5:10	5:40	6:10	6:40	7:10	7:40	8:25	9:10	9:55	10:40

SATURDAY / SÁBADO / SAMDI

NORTHBOUND / RUMBO NORTE / DIREKSYON NÒ	MORNING / MAÑANA / MATEN										AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																		
Alton Rd & 2 St	6:24	6:59	7:34	8:09	8:44	9:19	9:54	10:29	11:04	11:39	12:14	12:49	1:24	1:59	2:34	3:09	3:44	4:19	4:54	5:29	6:04	6:39	7:14	7:49	8:24	8:59	9:34	10:09
Lincoln Rd & James Ave	6:41	7:17	7:52	8:27	9:04	9:39	10:14	10:49	11:24	11:59	12:34	1:09	1:44	2:19	2:54	3:29	4:04	4:39	5:14	5:49	6:24	6:59	7:32	8:07	8:42	9:17	9:52	10:26
Indian Creek Dr & 43 St	6:49	7:25	8:02	8:37	9:16	9:51	10:26	11:01	11:36	12:11	12:46	1:21	1:56	2:31	3:06	3:41	4:14	4:49	5:24	5:59	6:34	7:09	7:40	8:15	8:50	9:25	10:00	10:33
Mt Sinai Hospital	6:58	7:35	8:13	8:48	9:28	10:03	10:38	11:13	11:48	12:23	12:58	1:33	2:08	2:43	3:18	3:53	4:26	5:01	5:36	6:11	6:46	7:19	7:50	8:25	9:00	9:35	10:09	10:42
Alton Rd & 39 St	7:00	7:37	8:15	8:50	9:30	10:05	10:40	11:15	11:50	12:25	1:00	1:35	2:10	2:45	3:20	3:55	4:28	5:03	5:38	6:13	6:48	7:21	7:52	8:27	9:02	9:37	–	–
SOUTHBOUND / RUMBO SUR / DIREKSYON SID	**MORNING / MAÑANA / MATEN**										**AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ**																		
Alton Rd & 39 St	–	–	–	7:32	8:06	8:38	9:11	9:46	10:21	10:56	11:31	12:06	12:41	1:16	1:51	2:26	3:01	3:36	4:11	4:46	5:21	5:56	6:31	7:11	7:46	8:21	8:56	9:31	10:09
Mt Sinai Hospital	5:55	6:30	7:00	7:35	8:09	8:41	9:14	9:49	10:24	10:59	11:34	12:09	12:44	1:19	1:54	2:29	3:04	3:39	4:14	4:49	5:24	5:59	6:34	7:14	7:49	8:24	8:59	9:34	10:12
Indian Creek Dr & 40 St	6:02	6:37	7:09	7:44	8:18	8:50	9:25	10:00	10:35	11:10	11:45	12:20	12:55	1:30	2:05	2:40	3:15	3:50	4:25	5:00	5:35	6:10	6:45	7:24	7:59	8:34	9:09	9:44	10:21
Washington Ave & Lincoln Rd	6:09	6:44	7:18	7:53	8:28	9:01	9:36	10:11	10:46	11:21	11:56	12:31	1:06	1:41	2:16	2:51	3:26	4:01	4:36	5:11	5:46	6:21	6:56	7:33	8:08	8:43	9:18	9:53	10:29
Alton Rd & 2 St	6:23	6:58	7:33	8:08	8:43	9:18	9:53	10:28	11:03	11:38	12:13	12:48	1:23	1:58	2:33	3:08	3:43	4:18	4:53	5:28	6:03	6:38	7:13	7:48	8:23	8:58	9:33	10:08	10:43

SUNDAY / DOMINGO / DIMANCH

NORTHBOUND / RUMBO NORTE / DIREKSYON NÒ	MORNING / MAÑANA / MATEN								AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ														
Alton Rd & 2 St	6:22	7:07	7:52	8:37	9:22	10:07	10:52	11:37	12:22	1:07	1:52	2:37	3:22	4:07	4:52	5:37	6:22	7:07	7:52	8:37	9:22
Lincoln Rd & James Ave	6:34	7:19	8:04	8:49	9:35	10:20	11:05	11:50	12:35	1:20	2:05	2:50	3:35	4:20	5:05	5:50	6:35	7:19	8:04	8:49	9:34
Indian Creek Dr & 43 St	6:43	7:28	8:13	8:58	9:45	10:30	11:15	12:00	12:45	1:30	2:15	3:00	3:45	4:30	5:15	6:00	6:43	7:27	8:12	8:57	9:41
Mt Sinai Hospital	6:52	7:37	8:22	9:08	9:55	10:40	11:25	12:10	12:55	1:40	2:25	3:10	3:55	4:40	5:25	6:10	6:52	7:36	8:21	9:06	9:49
Alton Rd & 39 St	6:54	7:39	8:24	9:10	9:57	10:42	11:27	12:12	12:57	1:42	2:27	3:12	3:57	4:42	5:27	6:12	6:54	7:38	8:23	9:08	–
SOUTHBOUND / RUMBO SUR / DIREKSYON SID	**MORNING / MAÑANA / MATEN**								**AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ**														
Alton Rd & 39 St	–	–	7:17	8:02	8:45	9:29	10:14	10:59	11:44	12:29	1:14	1:59	2:44	3:29	4:14	4:59	5:44	6:32	7:17	8:02	8:47	9:37
Mt Sinai Hospital	5:51	6:35	7:20	8:05	8:48	9:32	10:17	11:02	11:47	12:32	1:17	2:02	2:47	3:32	4:17	5:02	5:47	6:35	7:20	8:05	8:50	9:40
Indian Creek Dr & 40 St	5:58	6:43	7:28	8:13	8:56	9:41	10:26	11:11	11:56	12:41	1:26	2:11	2:56	3:41	4:26	5:11	5:56	6:43	7:28	8:13	8:58	9:47
Washington Ave & Lincoln Rd	6:07	6:52	7:37	8:22	9:06	9:51	10:36	11:21	12:06	12:51	1:36	2:21	3:06	3:51	4:36	5:21	6:06	6:52	7:37	8:22	9:07	9:53
Alton Rd & 2 St	6:21	7:06	7:51	8:36	9:21	10:06	10:51	11:36	12:21	1:06	1:51	2:36	3:21	4:06	4:51	5:36	6:21	7:06	7:51	8:36	9:21	10:06

Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions. Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

C

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MIAMI-DADE COUNTY

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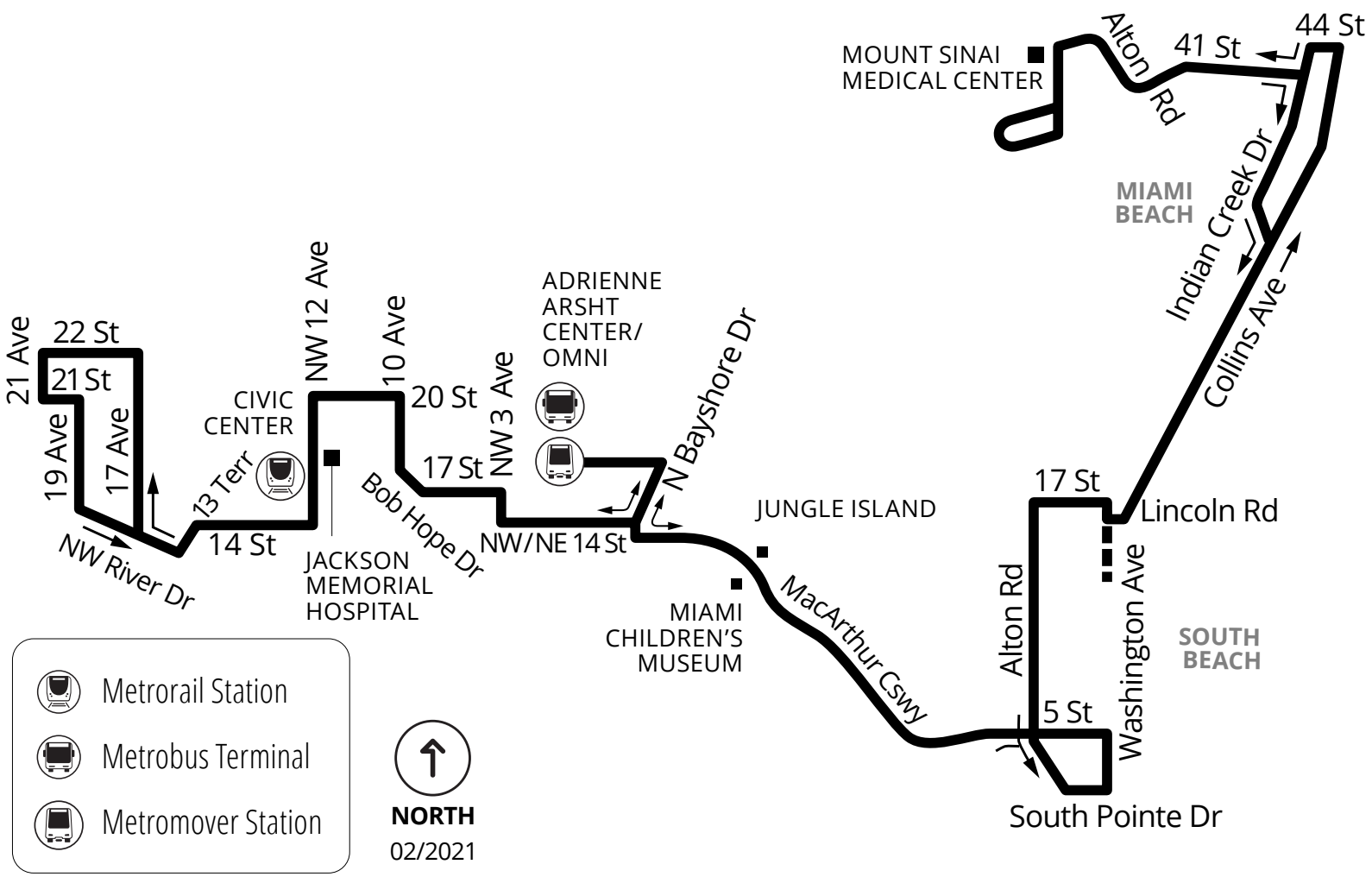

WEEKDAYS / DIAS LABORABLES / JOU LASEMÈN

EASTBOUND
RUMBO ESTE / DIREKSYON IS

	MORNING / MAÑANA / MATEN								AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ									
NW 21 Ave & 22 St	5:42	6:20	6:55	7:45	8:30	9:15	9:55	10:55	11:55	12:55	1:55	2:55	3:40	4:30	5:15	6:00	6:45	7:35	8:35	9:35
NW 12 Ave & 15 St	5:48	6:27	7:03	7:53	8:38	9:23	10:03	11:03	12:03	1:03	2:03	3:03	3:48	4:38	5:23	6:08	6:53	7:42	8:42	9:42
Omni Terminal / Arsht Metromover	5:58	6:39	7:16	8:06	8:51	9:37	10:17	11:17	12:17	1:17	2:17	3:17	4:02	4:52	5:37	6:22	7:07	7:55	8:55	9:55
Alton Rd & 2 St	6:08	6:49	7:27	8:17	9:02	9:48	10:28	11:28	12:28	1:28	2:28	3:28	4:14	5:04	5:49	6:34	7:18	8:06	9:06	10:06
5 St & Lenox Ave	6:13	6:54	7:33	8:23	9:08	9:54	10:34	11:34	12:34	1:34	2:34	3:34	4:20	5:10	5:55	6:40	7:24	8:12	9:12	10:11
17 St & Lenox Ave	6:21	7:04	7:43	8:33	9:18	10:04	10:44	11:44	12:44	1:44	2:44	3:44	4:30	5:20	6:05	6:50	7:32	8:20	9:20	10:19
Lincoln Rd & James Ave	6:26	7:10	7:49	8:39	9:25	10:11	10:51	11:51	12:51	1:51	2:51	3:51	4:37	5:27	6:12	6:57	7:38	8:26	9:26	10:24
Indian Creek Dr & 43 St	6:35	7:20	7:59	8:51	9:37	10:23	11:03	12:03	1:03	2:03	3:03	4:03	4:49	5:39	6:24	7:09	7:49	8:37	9:37	10:33
41 St & Meridian Ave	6:42	7:27	8:06	8:58	9:44	10:30	11:10	12:10	1:10	2:10	3:10	4:11	4:57	5:47	6:32	7:16	7:56	8:44	9:44	10:39
41 St & Alton Rd	6:43	7:29	8:08	9:00	9:46	10:32	11:12	12:12	1:12	2:12	3:12	4:13	4:59	5:49	6:34	7:17	7:57	8:45	9:45	10:40
Mt Sinai Hospital	6:45	7:31	8:10	9:02	9:48	10:34	11:14	12:14	1:14	2:14	3:14	4:15	5:01	5:51	6:36	7:19	7:59	8:47	9:47	10:42
Alton Rd & 39 St	6:47	7:33	8:12	9:04	9:50	–	–	–	–	–	–	4:17	5:03	5:53	6:38	–	8:01	8:49	–	–

WESTBOUND
RUMBO OESTE / DIREKSYON IWÈS

	MORNING / MAÑANA / MATEN							AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ									
Alton Rd & 39 St	–	–	7:02	7:43	8:25	9:17	10:13	–	–	–	–	–	–	4:29	5:14	6:06	7:12	8:12	8:57
Mt Sinai Hospital	5:43	6:26	7:05	7:46	8:28	9:20	10:16	11:16	12:16	1:16	2:06	2:56	3:46	4:32	5:17	6:09	7:15	8:15	9:00
41 St & Alton Rd	5:45	6:28	7:07	7:48	8:30	9:23	10:19	11:19	12:19	1:19	2:09	2:59	3:49	4:34	5:19	6:11	7:17	8:17	9:02
41 St & Meridian Ave	5:46	6:30	7:09	7:50	8:32	9:25	10:21	11:21	12:21	1:21	2:11	3:01	3:51	4:36	5:21	6:13	7:19	8:19	9:04
Indian Creek Dr & 40 St	5:50	6:34	7:14	7:55	8:38	9:31	10:27	11:27	12:27	1:27	2:17	3:07	3:57	4:42	5:27	6:19	7:25	8:25	9:10
Lincoln Rd & Washington Ave	5:56	6:42	7:24	8:06	8:49	9:43	10:39	11:39	12:39	1:39	2:29	3:19	4:09	4:54	5:39	6:31	7:36	8:36	9:21
Alton Rd & Lincoln Rd	6:01	6:47	7:29	8:11	8:54	9:49	10:45	11:45	12:45	1:45	2:35	3:25	4:15	5:00	5:45	6:37	7:41	8:41	9:26
Alton Rd & 2 St	6:08	6:54	7:38	8:21	9:05	10:00	10:56	11:56	12:56	1:56	2:46	3:36	4:26	5:11	5:56	6:48	7:50	8:50	9:35
5 St & Lenox Ave	6:13	6:59	7:44	8:27	9:11	10:06	11:02	12:02	1:02	2:02	2:52	3:42	4:32	5:17	6:02	6:54	7:56	8:56	9:41
Omni Terminal / Arsht Metromover	6:21	7:07	7:52	8:37	9:21	10:16	11:12	12:12	1:12	2:12	3:02	3:52	4:42	5:27	6:12	7:04	8:04	9:04	9:49
NW 12 Ave & 16 St	6:34	7:20	8:05	8:50	9:35	10:30	11:26	12:26	1:26	2:26	3:16	4:06	4:56	5:41	6:26	7:16	8:16	9:16	10:01
NW 21 Ave & 22 St	6:44	7:30	8:15	9:00	9:45	10:40	11:36	12:36	1:36	2:36	3:26	4:16	5:06	5:51	6:36	7:26	8:26	9:26	10:09

Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions.

Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. | Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

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MIAMI-DADE COUNTY

SATURDAY / SÁBADO / SAMDI

EASTBOUND RUMBO ESTE / DIREKSYON IS	MORNING / MAÑANA / MATEN					AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ									
NW 21 Ave & 22 St	5:53	7:25	8:25	9:25	10:25	11:25	12:25	1:25	2:25	3:25	4:25	5:25	6:25	7:25	8:15	9:15	10:15
NW 12 Ave & 15 St	5:59	7:32	8:32	9:33	10:33	11:33	12:33	1:33	2:33	3:33	4:33	5:33	6:33	7:32	8:22	9:22	10:21
Omni Terminal / Arsht Metromover	6:09	7:43	8:43	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	7:43	8:33	9:33	10:31
Alton Rd & 2 St	6:19	7:53	8:53	9:57	10:57	11:57	12:57	1:57	2:57	3:57	4:57	5:57	6:57	7:53	8:43	9:43	10:41
5 St & Lenox Ave	6:24	7:59	8:59	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	7:59	8:49	9:49	10:46
17 St & Lenox Ave	6:32	8:08	9:08	10:12	11:12	12:12	1:12	2:12	3:12	4:12	5:12	6:12	7:11	8:07	8:57	9:57	10:53
Lincoln Rd & James Ave	6:37	8:14	9:15	10:19	11:19	12:19	1:19	2:19	3:19	4:19	5:19	6:19	7:17	8:13	9:03	10:03	10:58
Indian Creek Dr & 43 St	6:45	8:24	9:27	10:31	11:31	12:31	1:31	2:31	3:31	4:30	5:30	6:30	7:27	8:23	9:13	10:11	11:06
41 St & Meridian Ave	6:51	8:31	9:35	10:39	11:39	12:39	1:39	2:39	3:39	4:37	5:37	6:37	7:34	8:30	9:20	10:17	11:12
41 St & Alton Rd	6:52	8:33	9:37	10:41	11:41	12:41	1:41	2:41	3:41	4:39	5:39	6:39	7:35	8:31	9:21	10:18	11:13
Mt Sinai Hospital	6:54	8:35	9:39	10:43	11:43	12:43	1:43	2:43	3:43	4:41	5:41	6:41	7:37	8:33	9:23	10:20	11:15
Alton Rd & 39 St	6:56	8:37	9:41	10:45	11:45	12:45	1:45	–	3:45	4:43	5:43	6:43	7:39	8:35	–	–	–

WESTBOUND RUMBO OESTE / DIREKSYON IWÈS	MORNING / MAÑANA / MATEN						AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ								
Alton Rd & 39 St	–	7:07	–	8:57	9:57	10:57	11:57	12:57	1:57	–	3:57	4:57	5:57	6:57	7:57	8:57	
Mt Sinai Hospital	6:10	7:10	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	
41 St & Alton Rd	6:12	7:12	8:02	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:02	5:02	6:02	7:02	8:02	9:02	
41 St & Meridian Ave	6:13	7:14	8:04	9:05	10:05	11:05	12:05	1:05	2:05	3:05	4:04	5:04	6:04	7:04	8:04	9:04	
Indian Creek Dr & 40 St	6:17	7:19	8:09	9:11	10:11	11:11	12:11	1:11	2:11	3:11	4:10	5:10	6:10	7:10	8:10	9:10	
Lincoln Rd & Washington Ave	6:24	7:28	8:19	9:22	10:22	11:22	12:22	1:22	2:22	3:22	4:21	5:21	6:21	7:20	8:20	9:20	
Alton Rd & Lincoln Rd	6:29	7:33	8:24	9:28	10:28	11:28	12:28	1:28	2:28	3:28	4:27	5:27	6:27	7:25	8:25	9:25	
Alton Rd & 2 St	6:36	7:41	8:33	9:38	10:38	11:38	12:38	1:38	2:38	3:38	4:37	5:37	6:37	7:34	8:34	9:34	
5 St & Lenox Ave	6:41	7:47	8:39	9:44	10:44	11:44	12:44	1:44	2:44	3:44	4:43	5:43	6:43	7:40	8:40	9:40	
Omni Terminal / Arsht Metromover	6:48	7:55	8:47	9:54	10:54	11:54	12:54	1:54	2:54	3:54	4:53	5:53	6:53	7:48	8:48	9:48	
NW 12 Ave & 16 St	6:59	8:07	8:59	10:06	11:06	12:06	1:06	2:06	3:06	4:06	5:05	6:05	7:05	7:59	8:59	9:59	
NW 21 Ave & 22 St	7:09	8:17	9:09	10:16	11:16	12:16	1:16	2:16	3:16	4:16	5:15	6:15	7:14	8:08	9:08	10:08	

Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions.

Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. | Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

SUNDAY / DOMINGO / DIMANCH

EASTBOUND RUMBO ESTE / DIREKSYON IS	MORNING / MAÑANA / MATEN					AM	PM AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ					
NW 21 Ave & 22 St	5:54	7:29	8:25	9:20	10:20	11:20	12:20	1:20	2:20	3:20	4:20	5:35
NW 12 Ave & 15 St	6:01	7:36	8:32	9:28	10:28	11:28	12:28	1:28	2:28	3:28	4:28	5:43
Omni Terminal / Arsht Metromover	6:10	7:45	8:41	9:39	10:39	11:39	12:39	1:39	2:39	3:39	4:39	5:54
Alton Rd & 2 St	6:20	7:55	8:51	9:49	10:49	11:50	12:50	1:50	2:50	3:50	4:50	6:05
5 St & Lenox Ave	6:25	8:00	8:56	9:55	10:55	11:56	12:56	1:56	2:56	3:56	4:56	6:11
17 St & Lenox Ave	6:33	8:08	9:05	10:04	11:04	12:05	1:05	2:05	3:05	4:05	5:05	6:20
Lincoln Rd & James Ave	6:38	8:13	9:11	10:10	11:10	12:11	1:11	2:11	3:11	4:11	5:11	6:26
Indian Creek Dr & 43 St	6:47	8:22	9:21	10:20	11:21	12:22	1:22	2:22	3:22	4:22	5:22	6:37
41 St & Meridian Ave	6:53	8:28	9:28	10:27	11:28	12:29	1:29	2:29	3:29	4:29	5:29	6:44
41 St & Alton Rd	6:54	8:29	9:30	10:29	11:30	12:31	1:31	2:31	3:31	4:31	5:31	6:46
Mt Sinai Hospital	6:56	8:31	9:32	10:31	11:32	12:33	1:33	2:33	3:33	4:33	5:33	6:48
Alton Rd & 39 St	6:58	8:33	9:34	10:33	11:34	12:35	1:35	2:35	3:35	4:35	5:35	–

WESTBOUND RUMBO OESTE / DIREKSYON IWÈS	MORNING / MAÑANA / MATEN						AM	PM	AFTERNOON AND EVENING TARDE Y NOCHE / APREMIDI AK ASWÈ					
Alton Rd & 39 St	–	7:07	–	8:57	9:57	10:57	11:57	12:57	1:57	2:57	3:57	4:57	5:57
Mt Sinai Hospital	6:10	7:10	8:10	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00
41 St & Alton Rd	6:12	7:12	8:12	9:02	10:02	11:02	12:02	1:02	2:02	3:02	4:02	5:02	6:02
41 St & Meridian Ave	6:13	7:13	8:13	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03
Indian Creek Dr & 40 St	6:18	7:18	8:18	9:09	10:09	11:09	12:09	1:09	2:09	3:09	4:09	5:09	6:09
Lincoln Rd & Washington Ave	6:27	7:27	8:27	9:19	10:19	11:19	12:19	1:19	2:19	3:19	4:19	5:19	6:19
Alton Rd & Lincoln Rd	6:31	7:31	8:31	9:24	10:24	11:24	12:24	1:24	2:24	3:24	4:24	5:24	6:24
Alton Rd & 2 St	6:38	7:38	8:38	9:33	10:33	11:34	12:34	1:34	2:34	3:34	4:34	5:34	6:34
5 St & Lenox Ave	6:43	7:43	8:43	9:39	10:39	11:40	12:40	1:40	2:40	3:40	4:40	5:40	6:40
Omni Terminal / Arsht Metromover	6:50	7:50	8:50	9:48	10:48	11:49	12:49	1:49	2:49	3:49	4:49	5:49	6:49
NW 12 Ave & 16 St	7:01	8:01	9:02	10:00	11:00	12:01	1:01	2:01	3:01	4:01	5:01	6:01	7:01
NW 21 Ave & 22 St	7:11	8:11	9:12	10:10	11:10	12:11	1:11	2:11	3:11	4:11	5:11	6:11	7:10

Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions.

Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. | Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

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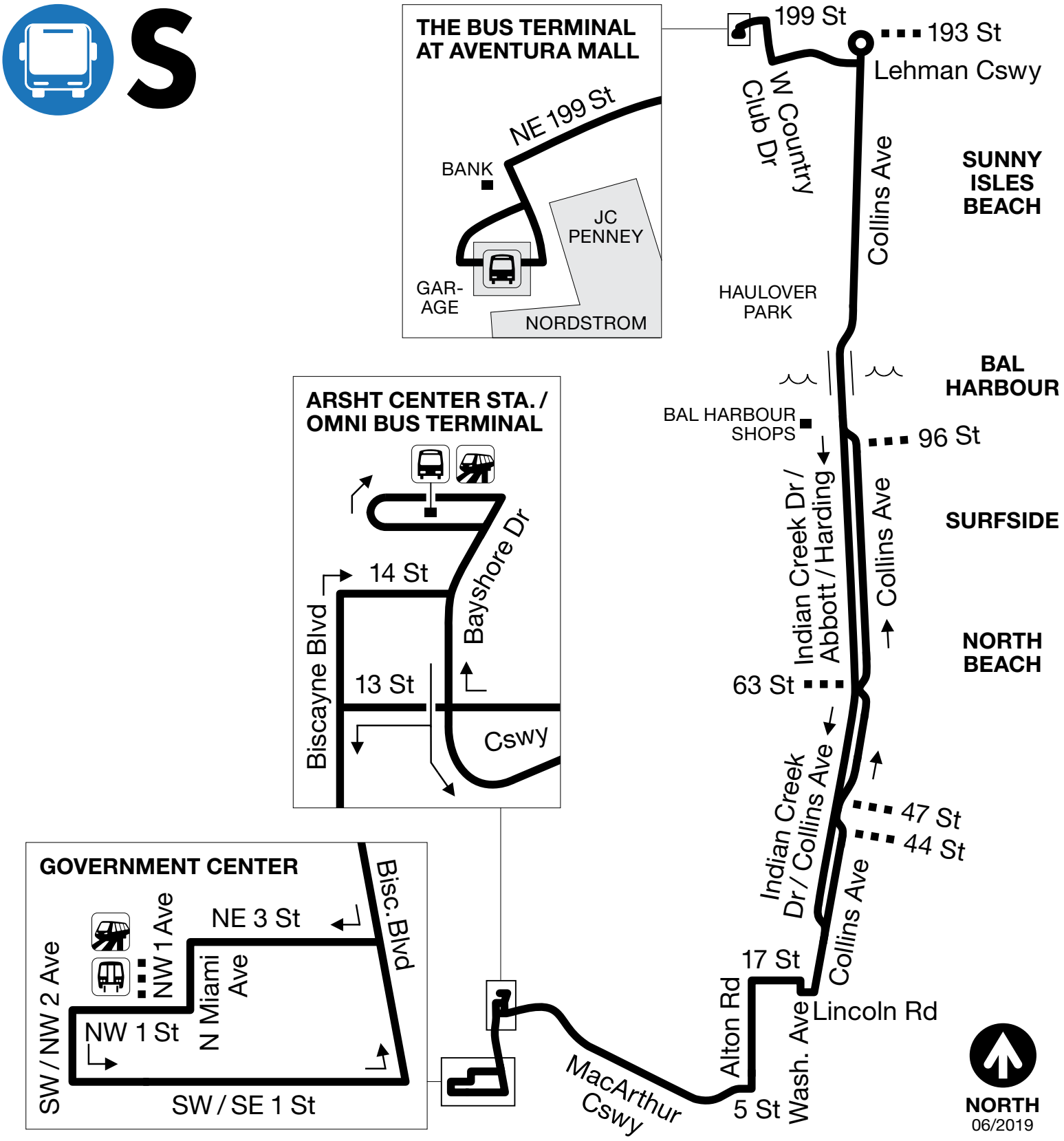
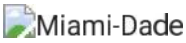


@GoMiamiDade GO Miami-Dade Transit

miamidade.gov/transit 311 or 305.468.5900 TTY/Fla Relay: 711

06.2020

Metrobus Routes Schedule



119 (Northbound) WEEKDAY

NW 1 ST & NW 1 AV	OMNI TERMINAL / ARSHT METROMOVER	ALTON RD & 6 ST	17 ST & LENOX AV	Lincoln Rd & James Ave	COLLINS AV & 43 ST	COLLINS AV & 69 ST	COLLINS AV & 96 ST	COLLINS AV AT 16900 BLK	COLLINS AV & 193 ST	BU TEI AT AVI MA
05:00AM	05:11AM	05:21AM	05:27AM	05:32AM	05:41AM	05:50AM	06:02AM	06:12AM	06:20AM	06:
05:24AM	05:35AM	05:45AM	05:51AM	05:56AM	06:05AM	06:16AM	06:28AM	06:38AM	06:46AM	06:
05:36AM	05:47AM	05:57AM	06:05AM	06:10AM	06:19AM	06:30AM	06:42AM	06:52AM	07:00AM	07:
05:48AM	05:59AM	06:13AM	06:21AM	06:26AM	06:35AM	06:46AM	06:58AM	07:08AM	07:16AM	07:
06:00AM	06:12AM	06:26AM	06:34AM	06:39AM	06:48AM	06:59AM	07:11AM	07:21AM	07:29AM	07:
06:15AM	06:27AM	06:41AM	06:49AM	06:54AM	07:03AM	07:14AM	07:26AM	07:36AM	07:44AM	07:
06:30AM	06:42AM	06:56AM	07:04AM	07:09AM	07:18AM	07:29AM	07:41AM	07:51AM	07:59AM	08:
06:45AM	06:57AM	07:11AM	07:19AM	07:24AM	07:33AM	07:44AM	07:56AM	08:06AM	08:14AM	08:
06:59AM	07:11AM	07:25AM	07:33AM	07:38AM	07:47AM	07:58AM	08:10AM	08:20AM	08:28AM	08:
07:13AM	07:25AM	07:39AM	07:47AM	07:52AM	08:01AM	08:12AM	08:24AM	08:34AM	08:42AM	08:
07:30AM	07:42AM	07:56AM	08:04AM	08:09AM	08:18AM	08:29AM	08:41AM	08:51AM	08:59AM	09:

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04:10AM	04:23AM	04:35AM	04:42AM	04:48AM	04:58AM	05:09AM	05:19AM	05:26AM	05:32AM	05:

Back to previous page

TRANSPORTATION & PUBLIC WORKS

Eulois Cleckley, Director and CEO

Overtown Transit Village North
701 NW 1st Court, Suite 1700, Miami, FL 33136
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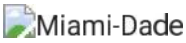
AWARDS OVERALL WINNER 2019

Metrobus Routes Schedule



119 (Southbound) WEEKDAY

BUS TERMINAL AT AVENTURA MALL	COLLINS AV & 193 ST	COLLINS AV & 163 ST	BAL HARBOUR SHOPS	ABBOTT AV & 69 ST	INDIAN CREEK DR & 40 ST	LINCOLN RD & WASHINGTON AV	ALTON RD & LINCOLN RD	ALTON RD & 6 ST	OMNI TERMINAL ARSHT METROM(
04:16AM	04:22AM	04:28AM	04:34AM	04:43AM	04:52AM	05:00AM	05:05AM	05:11AM	05:17AM
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08:58AM	09:09AM	09:20AM	09:30AM	09:43AM	09:58AM	10:10AM	10:17AM	10:25AM	10:35AM
09:11AM	09:22AM	09:33AM	09:43AM	09:56AM	10:11AM	10:23AM	10:30AM	10:38AM	10:48AM
09:26AM	09:37AM	09:48AM	09:58AM	10:11AM	10:26AM	10:38AM	10:45AM	10:53AM	11:03AM
09:41AM	09:52AM	10:03AM	10:13AM	10:26AM	10:41AM	10:53AM	11:00AM	11:08AM	11:18AM
09:56AM	10:07AM	10:18AM	10:28AM	10:41AM	10:56AM	11:08AM	11:15AM	11:23AM	11:33AM
10:11AM	10:22AM	10:33AM	10:43AM	10:56AM	11:11AM	11:23AM	11:30AM	11:38AM	11:48AM
10:26AM	10:37AM	10:48AM	10:58AM	11:11AM	11:26AM	11:38AM	11:45AM	11:53AM	12:03PM
10:41AM	10:52AM	11:03AM	11:13AM	11:26AM	11:41AM	11:53AM	12:00PM	12:08PM	12:18PM
10:56AM	11:07AM	11:18AM	11:28AM	11:41AM	11:56AM	12:08PM	12:15PM	12:23PM	12:33PM
11:11AM	11:22AM	11:33AM	11:43AM	11:56AM	12:11PM	12:23PM	12:30PM	12:38PM	12:48PM
11:26AM	11:37AM	11:48AM	11:58AM	12:11PM	12:26PM	12:38PM	12:45PM	12:53PM	01:03PM
11:41AM	11:52AM	12:03PM	12:13PM	12:26PM	12:41PM	12:53PM	01:00PM	01:08PM	01:18PM
11:56AM	12:07PM	12:18PM	12:28PM	12:41PM	12:56PM	01:08PM	01:15PM	01:23PM	01:33PM
12:10PM	12:21PM	12:32PM	12:42PM	12:55PM	01:10PM	01:22PM	01:29PM	01:37PM	01:47PM

12:25PM	12:36PM	12:47PM	12:57PM	01:10PM	01:25PM	01:37PM	01:44PM	01:52PM	02:02PM
12:39PM	12:50PM	01:01PM	01:11PM	01:24PM	01:39PM	01:51PM	01:58PM	02:06PM	02:16PM
12:54PM	01:05PM	01:16PM	01:26PM	01:39PM	01:54PM	02:06PM	02:13PM	02:21PM	02:31PM
01:08PM	01:19PM	01:30PM	01:40PM	01:53PM	02:08PM	02:20PM	02:27PM	02:35PM	02:45PM
01:18PM	01:29PM	01:40PM	01:50PM	02:03PM	02:18PM	02:30PM	02:37PM	02:45PM	02:55PM
01:33PM	01:44PM	01:55PM	02:05PM	02:18PM	02:33PM	02:45PM	02:52PM	03:00PM	03:13PM
01:45PM	01:56PM	02:07PM	02:17PM	02:30PM	02:45PM	02:57PM	03:04PM	03:10PM	03:23PM
01:57PM	02:08PM	02:19PM	02:29PM	02:42PM	02:57PM	03:09PM	03:15PM	03:21PM	03:34PM
02:09PM	02:20PM	02:31PM	02:41PM	02:54PM	03:09PM	03:20PM	03:26PM	03:32PM	03:45PM
02:20PM	02:31PM	02:42PM	02:52PM	03:06PM	03:19PM	03:30PM	03:36PM	03:42PM	03:55PM
02:32PM	02:43PM	02:54PM	03:04PM	03:18PM	03:31PM	03:42PM	03:48PM	03:54PM	04:07PM
02:45PM	02:56PM	03:08PM	03:17PM	03:31PM	03:44PM	03:55PM	04:01PM	04:07PM	04:20PM
02:57PM	03:08PM	03:20PM	03:29PM	03:43PM	03:56PM	04:07PM	04:13PM	04:19PM	04:32PM
03:09PM	03:20PM	03:32PM	03:41PM	03:55PM	04:08PM	04:19PM	04:25PM	04:31PM	04:44PM
03:22PM	03:33PM	03:45PM	03:54PM	04:08PM	04:21PM	04:32PM	04:38PM	04:44PM	04:57PM
03:39PM	03:50PM	04:02PM	04:11PM	04:25PM	04:38PM	04:49PM	04:55PM	05:01PM	05:14PM
03:48PM	03:59PM	04:11PM	04:20PM	04:34PM	04:47PM	04:58PM	05:04PM	05:10PM	05:23PM
04:00PM	04:11PM	04:23PM	04:32PM	04:46PM	04:59PM	05:10PM	05:16PM	05:22PM	05:35PM
04:12PM	04:23PM	04:35PM	04:44PM	04:58PM	05:11PM	05:22PM	05:28PM	05:34PM	05:47PM
04:24PM	04:35PM	04:47PM	04:56PM	05:10PM	05:23PM	05:34PM	05:40PM	05:46PM	05:59PM

04:36PM	04:47PM	04:59PM	05:08PM	05:22PM	05:35PM	05:46PM	05:52PM	05:58PM	06:11PM
04:48PM	04:59PM	05:11PM	05:20PM	05:34PM	05:47PM	05:58PM	06:04PM	06:11PM	06:18PM
04:59PM	05:10PM	05:22PM	05:31PM	05:45PM	05:58PM	06:09PM	06:14PM	06:21PM	06:28PM
05:10PM	05:21PM	05:33PM	05:42PM	05:56PM	06:09PM	06:19PM	06:24PM	06:31PM	06:38PM
05:30PM	05:41PM	05:53PM	06:02PM	06:14PM	06:26PM	06:36PM	06:41PM	06:48PM	06:55PM
05:45PM	05:56PM	06:08PM	06:17PM	06:29PM	06:41PM	06:51PM	06:56PM	07:03PM	07:10PM
06:01PM	06:12PM	06:23PM	06:32PM	06:44PM	06:56PM	07:06PM	07:11PM	07:18PM	07:25PM
06:16PM	06:27PM	06:38PM	06:47PM	06:59PM	07:11PM	07:21PM	07:26PM	07:33PM	07:40PM
06:30PM	06:41PM	06:52PM	07:01PM	07:13PM	07:25PM	07:35PM	07:40PM	07:47PM	07:54PM
06:45PM	06:56PM	07:07PM	07:16PM	07:28PM	07:40PM	07:50PM	07:55PM	08:02PM	08:09PM
07:01PM	07:12PM	07:23PM	07:32PM	07:44PM	07:56PM	08:06PM	08:11PM	08:18PM	08:25PM
07:15PM	07:26PM	07:37PM	07:46PM	07:58PM	08:10PM	08:20PM	08:25PM	08:32PM	08:39PM
07:29PM	07:40PM	07:51PM	08:00PM	08:12PM	08:24PM	08:34PM	08:39PM	08:46PM	08:53PM
07:44PM	07:55PM	08:06PM	08:15PM	08:27PM	08:39PM	08:49PM	08:54PM	09:01PM	09:07PM
07:59PM	08:10PM	08:21PM	08:30PM	08:42PM	08:54PM	09:04PM	09:09PM	09:14PM	09:20PM
08:14PM	08:25PM	08:36PM	08:45PM	08:57PM	09:09PM	09:19PM	09:24PM	09:29PM	09:35PM
08:29PM	08:40PM	08:51PM	09:00PM	09:11PM	09:22PM	09:32PM	09:37PM	09:42PM	09:48PM
08:44PM	08:55PM	09:06PM	09:13PM	09:24PM	09:35PM	09:45PM	09:50PM	09:55PM	10:01PM
08:59PM	09:10PM	09:18PM	09:25PM	09:36PM	09:47PM	09:57PM	10:02PM	10:07PM	10:13PM
09:15PM	09:23PM	09:31PM	09:38PM	09:49PM	10:00PM	10:10PM	10:15PM	10:20PM	10:26PM

09:32PM	09:40PM	09:48PM	09:55PM	10:06PM	10:17PM	10:27PM	10:32PM	10:37PM	10:43PM
09:54PM	10:02PM	10:10PM	10:17PM	10:28PM	10:39PM	10:49PM	10:54PM	10:59PM	11:05PM
10:22PM	10:30PM	10:38PM	10:45PM	10:56PM	11:07PM	11:17PM	11:22PM	11:27PM	11:33PM
10:47PM	10:55PM	11:03PM	11:10PM	11:21PM	11:32PM	11:42PM	11:47PM	11:52PM	11:58PM
11:12PM	11:20PM	11:28PM	11:35PM	11:46PM	11:57PM	12:07AM	12:12AM	12:17AM	12:23AM
11:42PM	11:50PM	11:58PM	12:05AM	12:16AM	12:27AM	12:37AM	12:42AM	12:47AM	12:53AM
12:13AM	12:21AM	12:29AM	12:36AM	12:47AM	12:58AM	01:08AM	01:13AM	01:18AM	01:24AM
12:43AM	12:51AM	12:59AM	01:06AM	01:17AM	01:28AM	01:38AM	01:43AM	01:48AM	01:54AM
01:43AM	01:51AM	01:59AM	02:06AM	02:17AM	02:28AM	02:38AM	02:43AM	02:48AM	02:54AM
02:43AM	02:51AM	02:59AM	03:06AM	03:17AM	03:28AM	03:38AM	03:43AM	03:48AM	03:54AM
03:43AM	03:51AM	03:59AM	04:06AM	04:17AM	04:28AM	04:38AM	04:43AM	04:48AM	04:54AM

Back to previous page

TRANSPORTATION & PUBLIC WORKS

Eulois Cleckley, Director and CEO

Overtown Transit Village North
701 NW 1st Court, Suite 1700, Miami, FL 33136
786-469-5675 |
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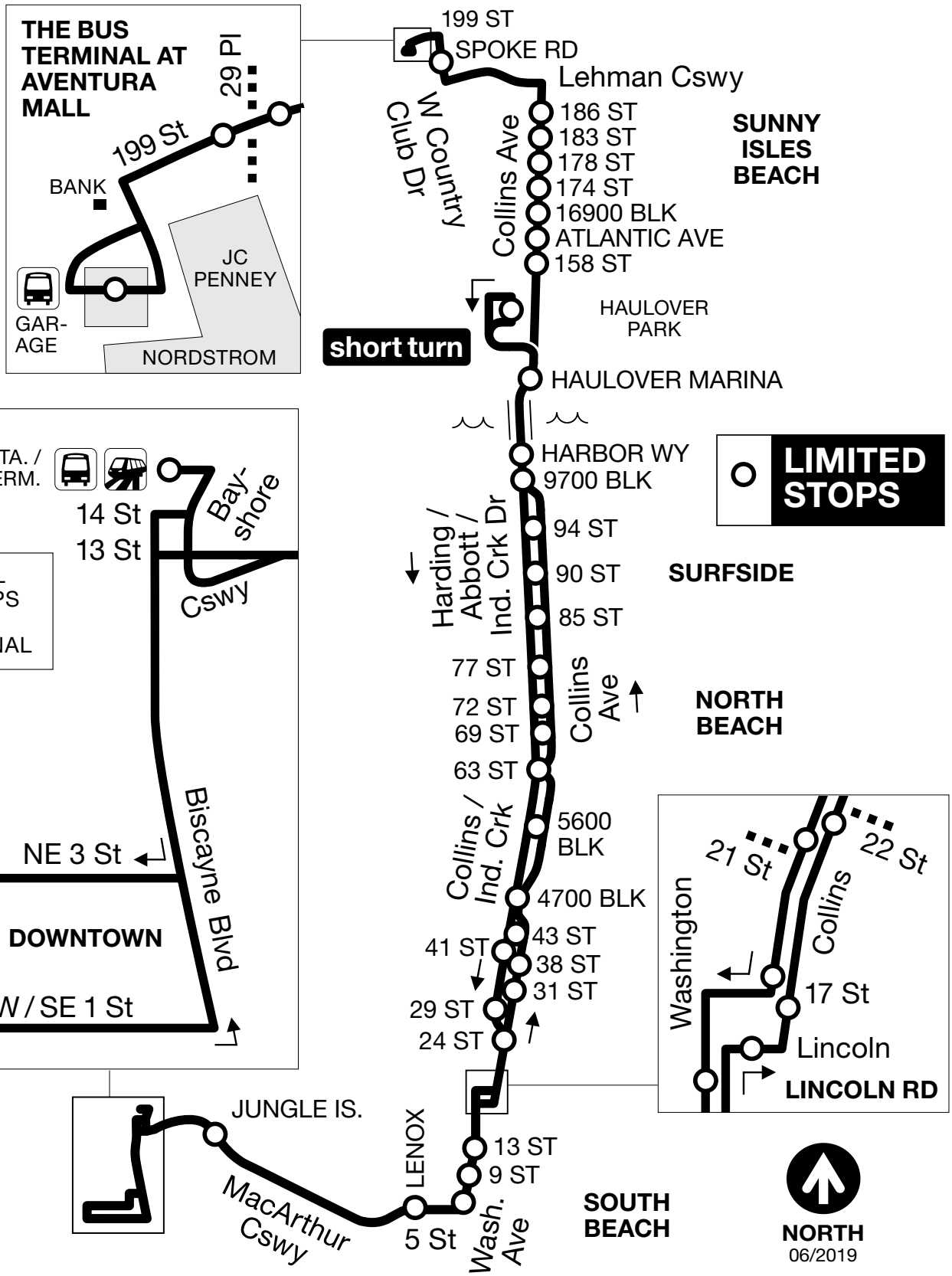
CENTER FOR DIGITAL GOVERNMENT

GOVERNMENT EXPERIENCE

AWARDS OVERALL WINNER 2019

120
BEACH MAX



WEEKDAYS / DIAS LABORABLES / LACÈMEN

NORTHBOUND
RUMBO NORTE / DIREKSYON NÒ

	MORNING MAÑANA / MATEN			EVERY / CADA / CHAK 15 min AVERAGE / PROMEDIO / MWAYÈN		EVERY / CADA / CHAK 12 min AVERAGE / PROMEDIO / MWAYÈN		EVENING / NOCHE / ASWÈ											
				FROM/DESDE/DE	TO/HASTA/A	FROM/DESDE/DE AM	PM TO/HASTA/A												
Stephen P Clark Center	5:00	5:45	6:15	6:45	10:00	10:12	5:00	5:15	5:30	5:46	6:02	6:20	6:40	7:05	7:35	8:15	8:55	9:30	
Omni Terminal Arsht Metromover	5:10	5:55	6:26	6:56	10:18	10:30	5:19	5:34	5:49	6:05	6:21	6:39	6:59	7:18	7:48	8:28	9:08	9:43	
Lincoln Rd & James Ave	5:26	6:12	6:43	7:14	10:40	10:52	5:41	5:56	6:11	6:27	6:43	7:01	7:21	7:38	8:08	8:48	9:28	10:03	
Collins Ave & 43 St	5:33	6:20	6:51	7:22	10:50	11:02	5:51	6:06	6:21	6:37	6:53	7:11	7:31	7:48	8:18	8:58	9:38	10:12	
Collins Ave & 69 St	5:40	6:28	6:59	7:31	11:00	11:12	6:02	6:17	6:32	6:48	7:04	7:20	7:40	7:57	8:27	9:07	9:47	10:20	
Collins Ave & # 9701	5:47	6:36	7:08	7:40	11:10	11:22	6:12	6:27	6:42	6:58	7:12	7:28	7:48	8:05	8:35	9:15	9:55	10:28	
Haulover Club Parking Lot	7:13	8:04	8:57	9:28	10:00	10:30	11:00	11:27	11:52	12:15	12:39	1:03	1:27	1:51	2:15	2:39	3:03	3:28	3:52	4:17	4:41	5:05	5:29	5:53	6:17	6:47	7:17
Collins Ave At 16900 Blk	5:53	6:42	7:47	8:21	8:33	8:46	9:15	9:48	10:18	10:48	11:18	11:43	12:06	12:30	12:53	1:18	1:42	2:06	2:30	2:54	3:19	3:43	4:08	4:32	4:56	5:20	5:44	6:08	6:35	7:06	7:35	7:55	8:12	8:42	9:22	10:02	10:34
Bus Terminal at Aventura Mall	5:59	6:50	7:59	8:33	8:45	8:58	9:27	10:00	10:30	11:00	11:30	11:55	12:18	12:42	1:05	1:30	1:54	2:18	2:42	3:07	3:32	3:56	4:21	4:45	5:09	5:33	5:57	6:21	6:48	7:17	7:46	8:06	8:23	8:53	9:33	10:12	10:44

SOUTHBOUND
RUMBO SUR / DIREKSYON SID

	MORNING / MAÑANA / MATEN														AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ																				
Bus Terminal at Aventura Mall	6:00	6:30	6:54	7:21	7:33	7:45	8:00	8:27	8:59	9:31	10:05	10:31	10:56	11:20	11:44	12:08	12:32	12:56	1:20	1:44	2:08	2:31	2:51	3:15	3:38	3:58	4:24	4:59	5:33	6:12	6:37	7:07	7:47	8:27	9:07	9:49	10:31
Collins Ave & # 16830	6:13	6:43	7:09	7:36	7:48	8:02	8:17	8:44	9:16	9:48	10:22	10:48	11:13	11:37	12:01	12:25	12:49	1:13	1:37	2:01	2:25	2:48	3:08	3:32	3:55	4:17	4:43	5:18	5:52	6:28	6:53	7:23	8:03	8:43	9:23	10:05	10:45
Haulover Club Parking Lot	6:00	6:30	6:55	7:23	8:29	9:02	9:32	10:00	10:11	10:35	11:01	11:25	11:49	12:13	12:37	1:01	1:25	1:49	2:13	2:37	2:56	3:20	3:44	4:07	4:31	4:59	5:34	6:06									

	EVERY / CADA / CHAK 15 min AVERAGE / PROMEDIO / MWAYÈN		EVERY / CADA / CHAK 12 min AVERAGE / PROMEDIO / MWAYÈN		EVENING / NOCHE / ASWÈ												
	FROM/DESDE/DE	TO/HASTA/A	FROM/DESDE/DE AM	PM TO/HASTA/A													
Bal Harbour Shops	6:05	10:55	11:08	4:51	5:06	5:26	5:41	6:00	6:15	6:35	7:00	7:30	8:10	8:50	9:30	10:11	10:51
Abbott Ave & 69 St	6:14	11:06	11:19	5:02	5:17	5:37	5:52	6:10	6:25	6:45	7:10	7:40	8:20	9:00	9:40	10:20	11:00
Indian Creek Dr & 40 St	6:23	11:19	11:32	5:15	5:30	5:50	6:05	6:20	6:35	6:55	7:20	7:50	8:30	9:10	9:50	10:29	11:09
Washington Ave & Lincoln Rd	6:31	11:29	11:42	5:25	5:40	6:00	6:15	6:30	6:45	7:05	7:30	8:00	8:40	9:20	10:00	10:38	11:18
Omni Terminal / Arsht Metromover	6:46	11:49	12:02	5:49	6:04	6:19	6:34	6:49	7:04	7:24	7:49	8:19	8:59	9:39	10:17	10:55	11:35
Stephen P Clark Center	6:56	12:01	12:14	6:02	6:15	6:30	6:45	7:00	7:15	7:35	8:00	8:30	9:10	9:50	10:27	11:05	11:45

Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. | Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

120 BEACH MAX

@GoMiamiDade GO Miami-Dade Transit
miamidade.gov/transit 311 or 305.468.5900 TTY/Fla Relay: 711

MIAMI-DADE COUNTY

11.2021

SATURDAY / SÁBADO / SAMDI

NORTHBOUND
RUMBO NORTE / DIREKSYON NÒ

	MORNING / MAÑANA / MATEN		EVERY / CADA / CHAK 20 min AVERAGE / PROMEDIO / MWAYÈN		EVERY / CADA / CHAK 15 min AVERAGE / PROMEDIO / MWAYÈN		EVENING / NOCHE / ASWÈ					
			FROM/DESDE/DE	TO/HASTA/A	FROM/DESDE/DE AM	PM TO/HASTA/A						
Stephen P Clark Center	6:00	6:36	**7:00**	**10:00**	**10:15**	**6:30**	7:00	7:30	8:00	8:30	9:00	9:30
Omni Terminal / Arsht Metromover	6:09	6:45	**7:09**	**10:10**	**10:25**	**6:40**	7:08	7:38	8:08	8:38	9:08	9:38
Lincoln Rd & James Ave	6:25	7:01	**7:25**	**10:28**	**10:43**	**6:59**	7:24	7:54	8:24	8:54	9:24	9:54
Collins Ave & 43 St	6:34	7:10	**7:34**	**10:39**	**10:54**	**7:10**	7:35	8:05	8:35	9:05	9:35	10:05
Collins Ave & 69 St	6:44	7:20	**7:44**	**10:49**	**11:04**	**7:19**	7:44	8:14	8:44	9:14	9:44	10:13
Collins Ave & # 9701	6:50	7:26	**7:50**	**10:56**	**11:11**	**7:25**	7:50	8:20	8:50	9:20	9:50	10:17

	MORNING / MAÑANA / MATEN AM						PM AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ																	
Haulover Club Parking Lot	8:16	9:01	9:41	10:21	11:01	11:31	12:01	12:31	1:01	1:31	2:01	2:31	3:01	3:31	4:01	4:31	5:02	5:32	6:02	6:32	7:30	8:25	9:25	
Collins Ave At 16900 Blk	6:57	7:33	7:57	8:42	9:23	10:03	10:43	11:18	11:48	12:18	12:48	1:18	1:48	2:18	2:48	3:18	3:48	4:18	4:49	5:19	5:49	6:19	6:49	7:04	7:17	7:56	8:56	9:56	10:23
Bus Terminal at Aventura Mall	7:11	7:47	8:13	8:58	9:39	10:19	10:59	11:34	12:04	12:34	1:04	1:34	2:04	2:34	3:04	3:34	4:04	4:34	5:05	5:35	6:05	6:35	7:05	7:19	7:32	8:11	9:11	10:11	10:35

SOUTHBOUND
RUMBO SUR / DIREKSYON SID

	EVENING / NOCHE / ASWÈ AM												PM AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ															
Bus Terminal at Aventura Mall	5:49	6:11	6:44	7:24	8:00	8:38	9:17	9:51	10:21	10:51	11:21	11:51	12:21	12:51	1:21	1:51	2:21	2:51	3:21	3:50	4:20	4:50	5:20	6:25	6:57	7:29	7:59	8:43	9:35	10:30
Collins Ave & # 16830	6:02	6:24	7:00	7:40	8:16	8:54	9:34	10:08	10:38	11:08	11:38	12:08	12:38	1:08	1:38	2:08	2:38	3:08	3:38	4:08	4:38	5:08	5:38	6:43	7:15	7:45	8:15	8:59	9:51	10:42
Haulover Club Parking Lot	6:41	7:20	7:59	8:35	9:14	9:53	10:23	10:53	11:23	11:53	12:23	12:53	1:23	1:53	2:23	2:53	3:23	3:53	4:23	4:53	5:23	6:10								

		EVERY / CADA / CHAK 20 min AVERAGE / PROMEDIO / MWAYÈN		EVERY / CADA / CHAK 15 min AVERAGE / PROMEDIO / MWAYÈN			EVENING / NOCHE / ASWÈ						
Bal Harbour Shops	6:10	**6:32**	**10:02**	**10:17**	AM	PM **5:47**	6:19	6:52	7:23	7:53	8:23	9:07	9:59	10:49
Abbott Ave & 69 St	6:18	**6:40**	**10:11**	**10:26**		**5:56**	6:28	7:01	7:31	8:01	8:31	9:15	10:07	10:57
Indian Creek Dr & 40 St	6:26	**6:48**	**10:20**	**10:35**		**6:05**	6:37	7:09	7:39	8:09	8:39	9:23	10:15	11:05
Washington Ave & Lincoln Rd	6:33	**6:55**	**10:30**	**10:45**		**6:15**	6:47	7:18	7:48	8:18	8:48	9:32	10:22	11:12
Omni Terminal / Arsht Metromover	6:48	**7:11**	**10:49**	**11:04**		**6:34**	7:06	7:36	8:06	8:36	9:06	9:50	10:36	11:26
Stephen P Clark Center	6:58	**7:22**	**11:01**	**11:16**		**6:46**	7:16	7:46	8:16	8:46	9:16	10:00	10:45	11:35

Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. | Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

120 BEACH MAX

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miamidade.gov/transit 311 or 305.468.5900 TTY/Fla Relay: 711

MIAMI-DADE COUNTY

11.2021

SUNDAY / DOMINGO / DIMANCH

NORTHBOUND
RUMBO NORTE / DIREKSYON NÒ

	MORNING / MAÑANA / MATEN											AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ															
Stephen P Clark Center	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	9:00
Omni Terminal / Arsht Metromover	6:06	6:36	7:06	7:36	8:08	8:38	9:08	9:38	10:10	10:40	11:10	11:40	12:10	12:40	1:10	1:40	2:10	2:40	3:10	3:40	4:10	4:40	5:10	5:40	6:08	6:38	7:08	7:38	8:06	9:06
Lincoln Rd & James Ave	6:20	6:50	7:20	7:50	8:24	8:54	9:24	9:54	10:27	10:57	11:27	11:57	12:27	12:57	1:27	1:57	2:27	2:57	3:27	3:57	4:27	4:57	5:27	5:57	6:23	6:53	7:23	7:53	8:20	9:20
Collins Ave & 43 St	6:29	6:59	7:29	7:59	8:33	9:03	9:33	10:05	10:38	11:08	11:38	12:08	12:38	1:08	1:38	2:08	2:38	3:08	3:38	4:08	4:38	5:08	5:38	6:08	6:33	7:03	7:33	8:03	8:29	9:29
Collins Ave & 69 St	6:37	7:07	7:37	8:08	8:42	9:12	9:42	10:15	10:48	11:18	11:48	12:18	12:48	1:18	1:48	2:18	2:48	3:18	3:48	4:18	4:48	5:18	5:48	6:17	6:42	7:12	7:42	8:11	8:37	9:37
Collins Ave & # 9701	6:41	7:11	7:41	8:14	8:48	9:18	9:48	10:21	10:54	11:24	11:54	12:24	12:54	1:24	1:54	2:24	2:54	3:24	3:54	4:25	4:55	5:25	5:55	6:23	6:48	7:18	7:48	8:15	8:41	9:41
Collins Ave at 16900 Blk	6:47	7:17	7:47	8:21	8:55	9:25	9:55	10:28	11:01	11:31	12:01	12:31	1:01	1:31	2:01	2:31	3:01	3:31	4:01	4:32	5:02	5:32	6:02	6:29	6:54	7:24	7:54	8:21	8:47	9:47
Bus Terminal at Aventura Mall	7:00	7:30	8:02	8:36	9:10	9:40	10:11	10:44	11:17	11:47	12:17	12:47	1:17	1:47	2:17	2:47	3:17	3:47	4:17	4:48	5:18	5:48	6:16	6:43	7:08	7:38	8:08	8:34	9:00	10:00

SOUTHBOUND
RUMBO SUR / DIREKSYON SID

	MORNING / MAÑANA / MATEN											AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ															
Bus Terminal at Aventura Mall	6:01	6:41	7:07	7:34	8:01	8:31	9:00	9:24	9:50	10:20	10:50	11:20	11:50	12:20	12:50	1:20	1:50	2:20	2:50	3:20	3:50	4:20	4:51	5:23	5:55	6:26	6:57	7:30	8:00	8:29	8:59	9:27
Collins Avs & # 16830	6:12	6:52	7:18	7:45	8:14	8:44	9:13	9:37	10:06	10:36	11:06	11:36	12:06	12:36	1:06	1:36	2:06	2:36	3:06	3:36	4:06	4:36	5:07	5:39	6:11	6:41	7:12	7:45	8:12	8:41	9:11	9:39
Bal Harbour Shops	6:18	6:58	7:24	7:51	8:21	8:51	9:20	9:44	10:14	10:44	11:14	11:44	12:14	12:44	1:14	1:44	2:14	2:44	3:14	3:44	4:14	4:44	5:15	5:47	6:18	6:48	7:19	7:52	8:18	8:47	9:17	9:45
Abbott Ave & 69 St	6:26	7:06	7:32	8:00	8:30	9:00	9:29	9:53	10:23	10:53	11:23	11:53	12:23	12:53	1:23	1:53	2:23	2:53	3:23	3:53	4:23	4:53	5:24	5:56	6:26	6:56	7:27	8:00	8:26	8:55	9:25	9:53
Indian Creek Dr & 40 St	6:34	7:14	7:40	8:09	8:39	9:09	9:38	10:02	10:32	11:02	11:32	12:02	12:32	1:02	1:32	2:02	2:32	3:02	3:32	4:02	4:32	5:02	5:33	6:05	6:35	7:05	7:36	8:08	8:34	9:03	9:33	10:01
Washington Ave & Lincoln Rd	6:40	7:20	7:46	8:16	8:46	9:16	9:45	10:11	10:41	11:11	11:41	12:11	12:41	1:11	1:41	2:11	2:41	3:11	3:41	4:11	4:41	5:11	5:42	6:13	6:43	7:13	7:44	8:15	8:41	9:10	9:40	10:08
Omni Terminal / Arsht Metromover	6:51	7:31	8:00	8:30	9:00	9:30	9:59	10:29	10:59	11:29	11:59	12:29	12:59	1:29	1:59	2:29	2:59	3:29	3:59	4:29	4:59	5:29	6:00	6:30	7:00	7:30	8:01	8:28	8:54	9:23	9:53	10:21
Stephen P Clark Center	7:00	7:40	8:10	8:40	9:10	9:40	10:10	10:40	11:10	11:40	12:10	12:40	1:10	1:40	2:10	2:40	3:10	3:40	4:10	4:40	5:10	5:40	6:10	6:40	7:10	7:40	8:10	8:37	9:03	9:32	10:02	10:30

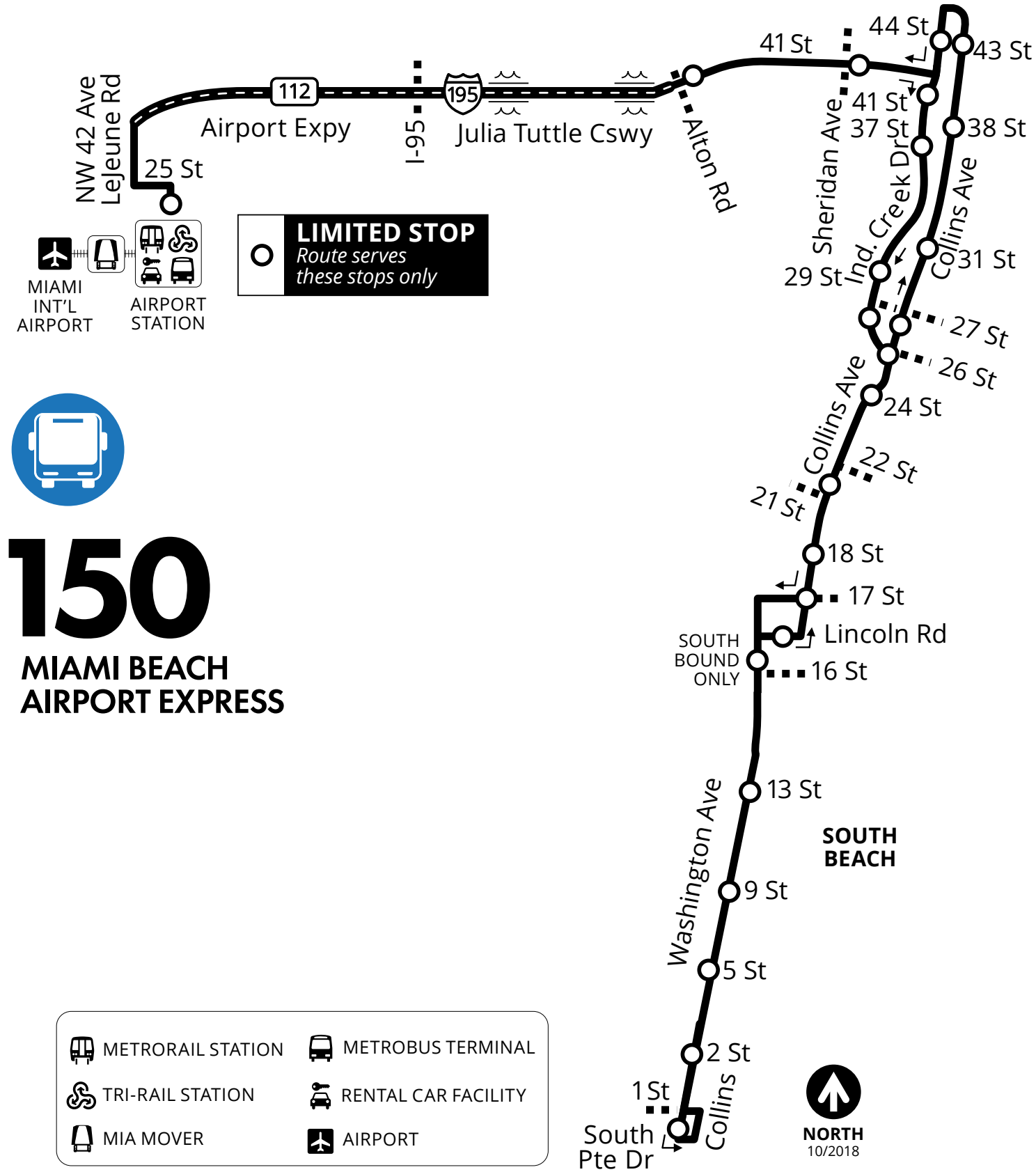
Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. | Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

120 BEACH MAX

@GoMiamiDade GO Miami-Dade Transit
miamidade.gov/transit 311 or 305.468.5900 TTY/Fla Relay: 711

MIAMI-DADE COUNTY

11.2021



150

MIAMI BEACH AIRPORT EXPRESS

@GoMiamiDade GO Miami-Dade Transit

miamidade.gov/transit 311 or 305.468.5900 TTY/Fla Relay: 711

03.2021

SEVEN DAYS A WEEK LOS SIETE DIAS SET JOU YON SEMEN	**EVERY** CADA / CHAK **20m**	
EASTBOUND RUMBO ESTE / DIREKSYON IS	**FROM** DESDE • DE	**UNTIL*** HASTA • A
MIA METRORAIL STATION	**6:00 a.m.**	**11:40 p.m.**
41 ST & ALTON RD	**6:14 a.m.**	**11:52 p.m.**
41 ST & INDIAN CREEK	**6:20 a.m.**	**11:57 p.m.**
LINCOLN RD & WASHINGTON AVE	**6:29 a.m.**	**12:06 a.m.**
SOUTH POINTE DR & WASHINGTON AVE	**6:39 a.m.**	**12:16 a.m.**
WESTBOUND RUMBO OESTE / DIREKSYON WES	**FROM** DESDE • DE	**UNTIL*** HASTA • A
SOUTH POINTE DR & WASHINGTON AVE	**5:10 a.m.**	**10:55 p.m.**
LINCOLN RD & WASHINGTON AVE	**5:20 a.m.**	**11:05 p.m.**
41 ST & INDIAN CREEK	**5:29 a.m.**	**11:14 p.m.**
41 ST & ALTON RD	**5:33 a.m.**	**11:18 p.m.**
MIA METRORAIL STATION	**5:45 a.m.**	**11:30 p.m.**

***LAST FOUR TRIPS 30 MINUTES APART**
ULTIMOS CUATRO VIAJES 30 MINUTOS APARTE/DENYE KAT SOTI 30 MINIT APA

Frequencies are approximate and may vary depending on traffic and road conditions/Frecuencias son aproximadas, pues dependen del trafico y otras condiciones de las vias/Asosye yo apwoksimatif epi yo ka varye selon kondisyon sikilasyon sou wout yo

150 MIAMI BEACH AIRPORT EXPRESS

MIAMI-DADE COUNTY

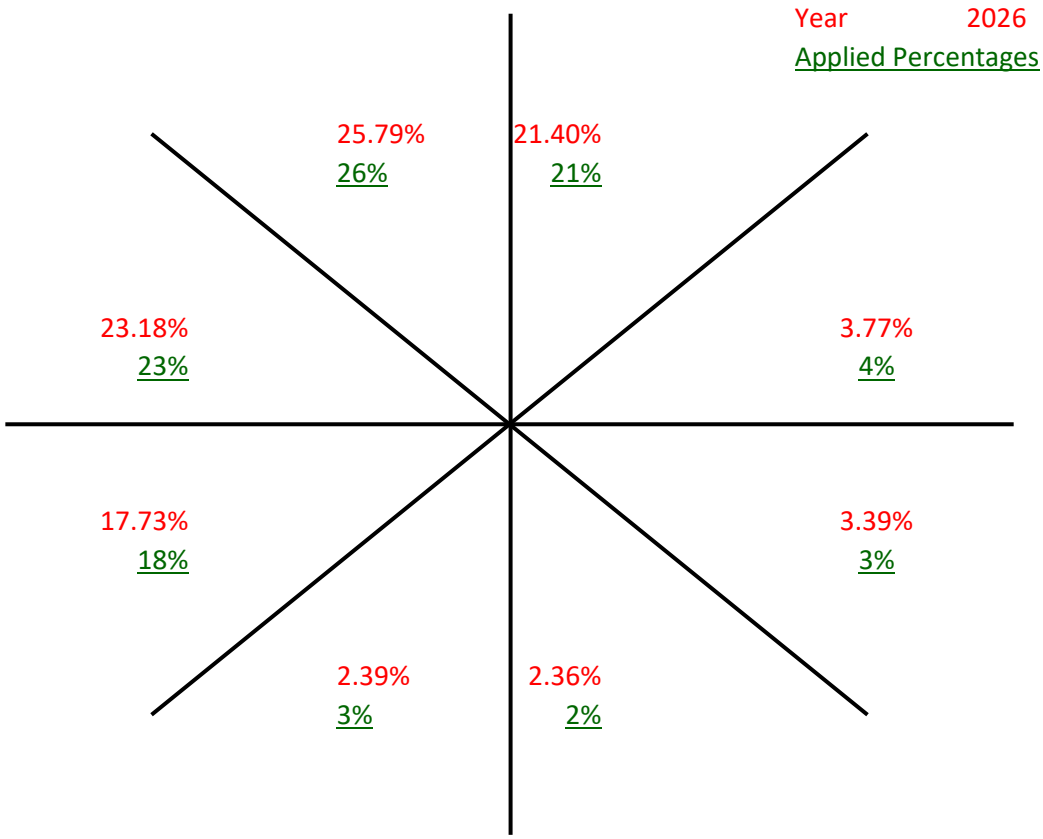
@GoMiamiDade GO Miami-Dade Transit

miamidade.gov/transit **311** or 305.468.5900 TTY/Fla Relay: 711

Appendix H

Cardinal Distribution

Cardinal Distribution for TAZ 652



Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips		2026 Interpolated	2026 Rounded
	2015	2045		
North-Northeast	22.9%	18.80%	21.40%	21.00%
East-Northeast	4.1%	3.20%	3.77%	4.00%
East-Southeast	3.5%	3.20%	3.39%	3.00%
South-Southeast	2.8%	1.60%	2.36%	2.00%
South-Southwest	2.5%	2.30%	2.39%	3.00%
West-Southwest	16.7%	19.50%	17.73%	18.00%
West-Northwest	19.4%	29.70%	23.18%	23.00%
North-Northwest	28.1%	21.80%	25.79%	26.00%
Total	**100.0%**	**100.1%**	**100.00%**	**100.00%**

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	
651	3551	Trips	601	40	126	-	25	267	541	390	2,069
651	3551	Percent	30.2	2.0	6.3	-	1.2	13.4	27.2	19.6	
652	3552	Trips	740	133	112	92	80	539	627	907	3,332
652	3552	Percent	22.9	4.1	3.5	2.8	2.5	16.7	19.4	28.1	
653	3553	Trips	597	120	187	238	48	604	488	661	2,984
653	3553	Percent	20.3	4.1	6.4	8.1	1.6	20.5	16.6	22.5	
654	3554	Trips	648	-	246	192	190	739	849	890	3,940
654	3554	Percent	17.3	-	6.6	5.1	5.1	19.7	22.6	23.7	
655	3555	Trips	2,579	-	-	-	1,029	2,523	3,354	2,903	13,375
655	3555	Percent	20.8	-	-	-	8.3	20.4	27.1	23.4	
656	3556	Trips	683	-	-	-	187	546	1,103	960	3,541
656	3556	Percent	19.6	-	-	-	5.4	15.7	31.7	27.6	
657	3557	Trips	223	26	3	49	34	152	244	154	913
657	3557	Percent	25.2	2.9	0.4	5.5	3.8	17.2	27.6	17.4	
658	3558	Trips	385	-	74	12	19	212	362	296	1,384
658	3558	Percent	28.3	-	5.4	0.9	1.4	15.6	26.6	21.8	
659	3559	Trips	1,748	-	-	-	186	1,331	2,542	2,823	9,143
659	3559	Percent	20.3	-	-	-	2.2	15.4	29.5	32.7	
660	3560	Trips	445	-	-	-	26	214	438	582	1,786
660	3560	Percent	26.1	-	-	-	1.5	12.5	25.7	34.1	
661	3561	Trips	561	-	-	-	29	307	686	550	2,237
661	3561	Percent	26.3	-	-	-	1.4	14.4	32.2	25.8	
662	3562	Trips	247	-	-	-	367	663	1,138	583	3,054
662	3562	Percent	8.2	-	-	-	12.3	22.1	38.0	19.4	
663	3563	Trips	28	-	-	-	80	28	129	132	397
663	3563	Percent	7.1	-	-	-	20.3	7.0	32.4	33.2	
664	3564	Trips	690	1,278	-	2	5	504	1,465	2,405	8,087
664	3564	Percent	10.9	20.1	-	0.0	0.1	7.9	23.1	37.9	
665	3565	Trips	1,047	-	-	16	12	2,003	2,621	4,069	11,382
665	3565	Percent	10.7	-	-	0.2	0.1	20.5	26.8	41.7	
666	3566	Trips	7	-	-	-	-	-	40	97	144
666	3566	Percent	4.6	-	-	-	-	-	27.9	67.5	
667	3567	Trips	69	191	371	354	52	-	-	11	1,049
667	3567	Percent	6.6	18.3	35.4	33.8	5.0	-	-	1.1	
668	3568	Trips	72	316	257	156	343	-	1	27	1,181
668	3568	Percent	6.2	27.0	21.9	13.3	29.2	-	0.1	2.3	
669	3569	Trips	708	1,153	1,379	1,013	424	-	6	148	4,982
669	3569	Percent	14.7	23.9	28.6	21.0	8.8	-	0.1	3.1	
670	3570	Trips	784	1,013	1,374	915	589	74	8	172	5,078
670	3570	Percent	15.9	20.6	27.9	18.6	11.9	1.5	0.2	3.5	
671	3571	Trips	868	1,044	1,129	712	718	1	40	169	4,757
671	3571	Percent	18.5	22.3	24.1	15.2	15.4	0.0	0.9	3.6	
672	3572	Trips	262	156	186	125	162	2	24	57	974
672	3572	Percent	26.9	16.0	19.1	12.8	16.7	0.3	2.4	5.8	
673	3573	Trips	172	261	359	224	207	12	36	140	1,412
673	3573	Percent	12.2	18.5	25.4	15.9	14.6	0.8	2.6	9.9	
674	3574	Trips	866	641	1,000	863	613	112	90	488	4,718
674	3574	Percent	18.5	13.7	21.4	18.5	13.1	2.4	1.9	10.4	
675	3575	Trips	904	864	749	472	371	46	31	226	3,703
675	3575	Percent	24.7	23.6	20.5	12.9	10.1	1.3	0.9	6.2	
676	3576	Trips	43	54	19	23	31	8	-	15	194
676	3576	Percent	22.4	27.9	9.7	11.7	16.2	4.3	-	7.9	

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	
651	3551	Trips	500	33	118	-	44	610	964	424	2,777
651	3551	Percent	18.6	1.2	4.4	-	1.6	22.7	35.8	15.8	
652	3552	Trips	834	141	140	71	102	864	1,319	966	4,613
652	3552	Percent	18.8	3.2	3.2	1.6	2.3	19.5	29.7	21.8	
653	3553	Trips	563	73	181	185	40	875	1,115	522	3,691
653	3553	Percent	15.8	2.1	5.1	5.2	1.1	24.6	31.4	14.7	
654	3554	Trips	527	-	154	189	209	1,276	1,357	971	4,960
654	3554	Percent	11.3	-	3.3	4.0	4.5	27.2	29.0	20.7	
655	3555	Trips	2,507	-	-	-	984	3,119	4,529	3,116	15,245
655	3555	Percent	17.6	-	-	-	6.9	21.9	31.8	21.9	
656	3556	Trips	752	-	-	-	201	872	1,503	1,028	4,509
656	3556	Percent	17.3	-	-	-	4.6	20.0	34.5	23.6	
657	3557	Trips	255	42	13	51	17	325	482	206	1,441
657	3557	Percent	18.4	3.0	1.0	3.7	1.2	23.4	34.6	14.8	
658	3558	Trips	398	-	50	10	22	302	673	339	1,860
658	3558	Percent	22.2	-	2.8	0.6	1.2	16.8	37.5	18.9	
659	3559	Trips	1,874	-	-	-	244	1,675	3,472	2,524	10,393
659	3559	Percent	19.1	-	-	-	2.5	17.1	35.5	25.8	
660	3560	Trips	386	-	-	-	28	335	726	479	2,047
660	3560	Percent	19.8	-	-	-	1.5	17.2	37.1	24.5	
661	3561	Trips	756	-	-	-	54	536	1,539	649	3,810
661	3561	Percent	21.4	-	-	-	1.5	15.2	43.6	18.4	
662	3562	Trips	292	-	-	-	279	909	1,772	764	4,053
662	3562	Percent	7.3	-	-	-	7.0	22.6	44.1	19.0	
663	3563	Trips	23	-	-	-	29	57	119	164	393
663	3563	Percent	5.9	-	-	-	7.3	14.5	30.4	41.9	
664	3564	Trips	776	1,012	-	8	8	823	2,336	4,104	11,172
664	3564	Percent	8.6	11.2	-	0.1	0.1	9.1	25.8	45.3	
665	3565	Trips	896	-	-	16	21	1,811	3,091	5,025	12,548
665	3565	Percent	8.3	-	-	0.2	0.2	16.7	28.5	46.3	
666	3566	Trips	14	-	-	-	0	4	56	145	235
666	3566	Percent	6.4	-	-	-	0.0	2.0	25.5	66.1	
667	3567	Trips	62	202	356	394	51	-	-	12	1,076
667	3567	Percent	5.8	18.8	33.0	36.6	4.7	-	-	1.1	
668	3568	Trips	190	394	278	333	392	-	1	32	1,620
668	3568	Percent	11.7	24.3	17.2	20.6	24.2	-	0.1	2.0	
669	3569	Trips	1,117	1,381	1,871	1,307	750	-	10	135	6,631
669	3569	Percent	17.0	21.0	28.5	19.9	11.4	-	0.2	2.1	
670	3570	Trips	1,284	1,233	1,894	1,616	1,059	85	15	177	7,535
670	3570	Percent	17.4	16.8	25.7	22.0	14.4	1.2	0.2	2.4	
671	3571	Trips	1,240	959	1,638	945	797	1	46	211	5,998
671	3571	Percent	21.2	16.4	28.1	16.2	13.7	0.0	0.8	3.6	
672	3572	Trips	186	161	294	189	226	24	35	120	1,234
672	3572	Percent	15.0	13.0	23.8	15.4	18.3	1.9	2.8	9.7	
673	3573	Trips	410	361	600	469	343	30	46	233	2,524
673	3573	Percent	16.5	14.5	24.1	18.8	13.8	1.2	1.8	9.4	
674	3574	Trips	1,543	1,530	2,122	1,962	1,401	177	145	1,154	10,169
674	3574	Percent	15.4	15.3	21.2	19.6	14.0	1.8	1.4	11.5	
675	3575	Trips	896	1,067	1,015	818	747	40	74	465	5,206
675	3575	Percent	17.5	20.8	19.8	16.0	14.6	0.8	1.4	9.1	
676	3576	Trips	151	160	192	100	100	18	-	45	766
676	3576	Percent	19.8	20.9	25.1	13.1	13.0	2.3	-	5.9	

Appendix I

Volume Development Worksheets

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: SR 907/Alton Road and SR A1A/5th Street
COUNT DATE: October 17, 2023
PM PEAK HOUR FACTOR: 0.94

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	728	382		27	841	113		373	210	22		51	195	530
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PM EXISTING CONDITIONS		**0**	**728**	**382**		**27**	**841**	**113**		**373**	**210**	**22**		**51**	**195**	**530**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
500-600-700 Alton Road							12			6				7	3	4
411 Michigan Avenue			9				23				12				5	
TOTAL "VESTED" TRAFFIC			9				35			6	12			7	8	4
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
PM BACKGROUND TRAFFIC GROWTH		0	11	6		0	13	2		6	3	0		1	3	8
PM NON-PROJECT TRAFFIC		**0**	**748**	**388**		**27**	**889**	**115**		**385**	**225**	**22**		**59**	**206**	**542**

"PM PROJECT DISTRIBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By Distribution	Entering							-34.0%				-22.0%					
	Exiting							34.0%				22.0%					
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering			31.0%	10.0%										11.0%		
	Exiting							31.0%	11.0%		10.0%						

"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							-4				-2					
	Valet																
	Net New			2	1			13	5		4				1		
PM TOTAL PROJECT TRAFFIC			**0**	**2**	**1**		**0**	**9**	**5**		**4**	**-2**	**0**		**1**	**0**	**0**
PM TOTAL TRAFFIC			**0**	**750**	**389**		**27**	**898**	**120**		**389**	**223**	**22**		**60**	**206**	**542**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Lenox Avenue and SR A1A/5th Street
COUNT DATE: October 17, 2023
PM PEAK HOUR FACTOR: 0.91

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		114	654	19		13	839	66		21	34	13		33	33	169
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PM EXISTING CONDITIONS		**114**	**654**	**19**		**13**	**839**	**66**		**21**	**34**	**13**		**33**	**33**	**169**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
500-600-700 Alton Road			7				12									
411 Michigan Avenue			9				23									
TOTAL "VESTED" TRAFFIC			16				35									
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
PM BACKGROUND TRAFFIC GROWTH		2	10	0		0	13	1		0	1	0		0	0	3
PM NON-PROJECT TRAFFIC		**116**	**680**	**19**		**13**	**887**	**67**		**21**	**35**	**13**		**33**	**33**	**172**

"PM PROJECT DISTRIBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By Distribution	Entering			-26.0%	26.0%		34.0%	-34.0%									
	Exiting										34.0%		26.0%				
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering				42.0%		20.0%									20.0%	
	Exiting										42.0%	20.0%	20.0%				

"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			-6	6		7	-7			3		3				
	Valet																
	Net New				3		1				18	8	8			1	
PM TOTAL PROJECT TRAFFIC			**0**	**-6**	**9**		**8**	**-7**	**0**		**21**	**8**	**11**		**0**	**1**	**0**
PM TOTAL TRAFFIC			**116**	**674**	**28**		**21**	**880**	**67**		**42**	**43**	**24**		**33**	**34**	**172**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: SR 907/Alton Road and 4th Street
COUNT DATE: October 17, 2023
PM PEAK HOUR FACTOR: 0.94

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		41	8	10		19	8	73		13	575	20		37	468	47
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PM EXISTING CONDITIONS		**41**	**8**	**10**		**19**	**8**	**73**		**13**	**575**	**20**		**37**	**468**	**47**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
500-600-700 Alton Road											6				3	
411 Michigan Avenue						1		12				1		5		
TOTAL "VESTED" TRAFFIC						1		12			6	1		5	3	
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
PM BACKGROUND TRAFFIC GROWTH		1	0	0		0	0	1		0	9	0		1	7	1
PM NON-PROJECT TRAFFIC		**42**	**8**	**10**		**20**	**8**	**86**		**13**	**590**	**21**		**43**	**478**	**48**

"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											-22.0%	22.0%		18.0%	-18.0%	
Distribution	Exiting						18.0%		22.0%								
Valet	Entering																
Distribution	Exiting																
Net New	Entering												3.0%		10.0%		
Distribution	Exiting						3.0%		10.0%								

"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						2		2			-4	4		4	-4	
	Valet																
	Net New						2		4				0		1		
PM TOTAL PROJECT TRAFFIC			**0**	**0**	**0**		**4**	**0**	**6**		**0**	**-4**	**4**		**5**	**-4**	**0**
PM TOTAL TRAFFIC			**42**	**8**	**10**		**24**	**8**	**92**		**13**	**586**	**25**		**48**	**474**	**48**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Lenox Avenue and 4th Street
COUNT DATE: October 17, 2023
PM PEAK HOUR FACTOR: 0.90

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		28	44	0		0	67	38		0	0	0		29	0	40
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PM EXISTING CONDITIONS		**28**	**44**	**0**		**0**	**67**	**38**		**0**	**0**	**0**		**29**	**0**	**40**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
500-600-700 Alton Road																
411 Michigan Avenue			6				13									
TOTAL "VESTED" TRAFFIC			6				13									
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
PM BACKGROUND TRAFFIC GROWTH		0	1	0		0	1	1		0	0	0		0	0	1
PM NON-PROJECT TRAFFIC		**28**	**51**	**0**		**0**	**81**	**39**		**0**	**0**	**0**		**29**	**0**	**41**

"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		40.0%														
Distribution	Exiting																40.0%
Valet	Entering																
Distribution	Exiting																
Net New	Entering		13.0%						5.0%								
Distribution	Exiting														5.0%		13.0%

"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	Pass - By		8														4
Trips	Valet																
	Net New		1						0						2		6
PM TOTAL PROJECT TRAFFIC			**9**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**2**	**0**	**10**
PM TOTAL TRAFFIC			**37**	**51**	**0**		**0**	**81**	**39**		**0**	**0**	**0**		**31**	**0**	**51**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Project Driveway and Lenox Avenue
COUNT DATE: October 17, 2023
PM PEAK HOUR FACTOR: 0.92

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	0	0		0	0	0		0	67	0		0	67	0
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PM EXISTING CONDITIONS		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**67**	**0**		**0**	**67**	**0**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
500-600-700 Alton Road																
411 Michigan Avenue																
TOTAL "VESTED" TRAFFIC																
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
PM BACKGROUND TRAFFIC GROWTH		0	0	0		0	0	0		0	1	0		0	1	0
PM NON-PROJECT TRAFFIC		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**68**	**0**		**0**	**68**	**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 Distribution	Entering										40.0%						60.0%
	Exiting		60.0%		40.0%												
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering										18.0%						82.0%
	Exiting		82.0%		18.0%												

"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		6		4						8						13
	Valet																
	Net New		59		13						7						30
PM TOTAL PROJECT TRAFFIC			**65**	**0**	**17**		**0**	**0**	**0**		**15**	**0**	**0**		**0**	**0**	**43**
PM TOTAL TRAFFIC			**65**	**0**	**17**		**0**	**0**	**0**		**15**	**68**	**0**		**0**	**68**	**43**

Appendix J

Intersection Capacity Analysis Worksheets

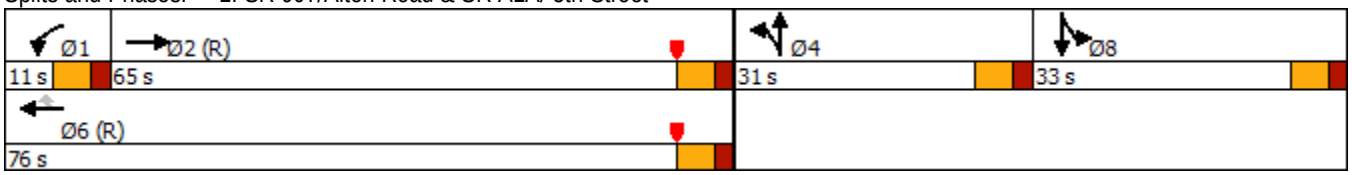
Existing P.M.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	728	382	27	841	113	373	210	195	530
Future Volume (vph)	728	382	27	841	113	373	210	195	530
Turn Type	NA	Free	Prot	NA	Perm	Split	NA	NA	Free
Protected Phases	2		1	6		4	4	8	
Permitted Phases		Free			6				Free
Detector Phase	2		1	6	6	4	4	8	
Switch Phase									
Minimum Initial (s)	5.0		5.0	5.0	5.0	7.0	7.0	7.0	
Minimum Split (s)	35.0		11.0	35.0	35.0	23.0	23.0	31.0	
Total Split (s)	65.0		11.0	76.0	76.0	31.0	31.0	33.0	
Total Split (%)	46.4%		7.9%	54.3%	54.3%	22.1%	22.1%	23.6%	
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	C-Max		None	C-Max	C-Max	None	None	None	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 57 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: SR 907/Alton Road & SR A1A/ 5th Street



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	774	406	29	895	120	397	246	261	564
v/c Ratio	0.45	0.27	0.43	0.48	0.14	0.72	0.84	0.83	0.36
Control Delay	26.6	0.4	98.8	16.3	1.0	77.3	94.3	77.8	0.7
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	0.4	98.8	16.5	1.0	77.3	94.3	77.8	0.7
Queue Length 50th (ft)	272	0	22	312	3	196	235	229	0
Queue Length 95th (ft)	334	0	m#59	382	7	253	#344	#333	0
Internal Link Dist (ft)	509			338			326	359	
Turn Bay Length (ft)		260	150						
Base Capacity (vph)	1707	1515	67	1878	879	607	320	352	1547
Starvation Cap Reductn	0	0	0	301	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.27	0.43	0.57	0.14	0.65	0.77	0.74	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
1: SR 907/Alton Road & SR A1A/ 5th Street

P.M. Peak Hour
Existing Condition

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	728	382	27	841	113	373	210	22	51	195	530
Future Volume (veh/h)	0	728	382	27	841	113	373	210	22	51	195	530
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	774	0	29	895	120	397	223	0	54	207	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1716		43	1952	825	490	265		66	255	
Arrive On Green	0.00	0.65	0.00	0.03	0.74	0.74	0.14	0.14	0.00	0.17	0.17	0.00
Sat Flow, veh/h	0	3618	1572	1767	3526	1490	3428	1856	0	380	1457	1572
Grp Volume(v), veh/h	0	774	0	29	895	120	397	223	0	261	0	0
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	1490	1714	1856	0	1837	0	1572
Q Serve(g_s), s	0.0	15.3	0.0	2.3	14.1	3.3	15.7	16.4	0.0	19.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	15.3	0.0	2.3	14.1	3.3	15.7	16.4	0.0	19.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.00	0.21		1.00
Lane Grp Cap(c), veh/h	0	1716		43	1952	825	490	265		321	0	
V/C Ratio(X)	0.00	0.45		0.68	0.46	0.15	0.81	0.84		0.81	0.00	
Avail Cap(c_a), veh/h	0	1716		63	1952	825	612	331		354	0	
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.94	0.94	0.94	0.97	0.97	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.4	0.0	67.2	10.1	8.7	58.2	58.5	0.0	55.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	6.5	0.7	0.3	6.4	14.2	0.0	12.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.6	0.0	1.1	4.7	1.2	7.3	8.8	0.0	10.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.2	0.0	73.7	10.8	9.0	64.5	72.6	0.0	68.5	0.0	0.0
LnGrp LOS	A	B		E	B	A	E	E		E	A	
Approach Vol, veh/h		774			1044			620			261	
Approach Delay, s/veh		16.2			12.4			67.4			68.5	
Approach LOS		B			B			E			E	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.4	74.1		26.0		83.5		30.5				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	5.0	59.0		25.0		70.0		27.0				
Max Q Clear Time (g_c+I1), s	4.3	17.3		18.4		16.1		21.1				
Green Ext Time (p_c), s	0.0	2.2		1.6		2.7		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Notes

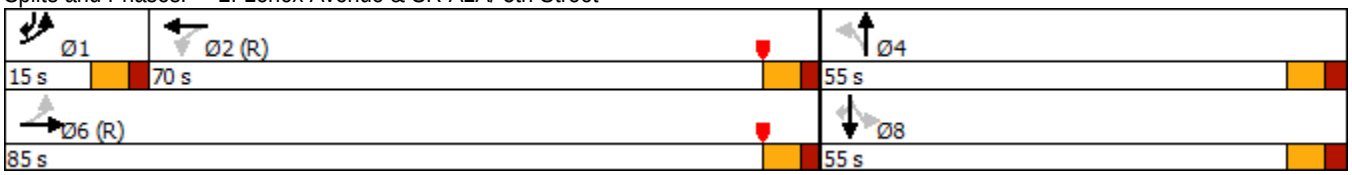
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	114	654	13	839	21	34	33	33	169
Future Volume (vph)	114	654	13	839	21	34	33	33	169
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	1	6		2		4		8	1
Permitted Phases	6		2		4		8		8
Detector Phase	1	6	2	2	4	4	8	8	1
Switch Phase									
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	23.0	23.0	23.0	38.5	38.5	38.5	38.5	11.0
Total Split (s)	15.0	85.0	70.0	70.0	55.0	55.0	55.0	55.0	15.0
Total Split (%)	10.7%	60.7%	50.0%	50.0%	39.3%	39.3%	39.3%	39.3%	10.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.5		6.5	6.0
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 56 (40%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 2: Lenox Avenue & SR A1A/ 5th Street



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	125	740	14	995	74	72	186
v/c Ratio	0.32	0.21	0.04	0.34	0.24	0.26	0.48
Control Delay	9.3	3.0	13.5	14.2	44.8	47.7	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	3.0	13.5	14.2	44.8	47.7	35.5
Queue Length 50th (ft)	12	25	5	165	50	54	106
Queue Length 95th (ft)	m39	29	17	203	97	100	170
Internal Link Dist (ft)		338		300	238	348	
Turn Bay Length (ft)	240		165				
Base Capacity (vph)	399	3580	383	2969	540	502	405
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	85	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.21	0.04	0.35	0.14	0.14	0.46

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
2: Lenox Avenue & SR A1A/ 5th Street

P.M. Peak Hour
Existing Condition

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	654	19	13	839	66	21	34	13	33	33	169
Future Volume (veh/h)	114	654	19	13	839	66	21	34	13	33	33	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.88	0.96		0.87	0.93		0.88	0.91		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	125	719	21	14	922	73	23	37	14	36	36	186
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	429	3457	101	465	2850	225	111	164	56	197	185	374
Arrive On Green	0.05	0.91	0.91	0.80	0.80	0.80	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	5037	146	686	4728	372	343	731	251	706	824	1384
Grp Volume(v), veh/h	125	481	259	14	657	338	74	0	0	72	0	186
Grp Sat Flow(s),veh/h/ln	1767	1689	1807	686	1689	1723	1325	0	0	1529	0	1384
Q Serve(g_s), s	3.7	2.1	2.2	0.6	7.3	7.4	1.2	0.0	0.0	0.0	0.0	16.0
Cycle Q Clear(g_c), s	3.7	2.1	2.2	0.6	7.3	7.4	5.7	0.0	0.0	4.6	0.0	16.0
Prop In Lane	1.00		0.08	1.00		0.22	0.31		0.19	0.50		1.00
Lane Grp Cap(c), veh/h	429	2318	1240	465	2036	1039	331	0	0	382	0	374
V/C Ratio(X)	0.29	0.21	0.21	0.03	0.32	0.33	0.22	0.00	0.00	0.19	0.00	0.50
Avail Cap(c_a), veh/h	471	2318	1240	465	2036	1039	489	0	0	562	0	543
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.1	2.0	2.0	5.6	6.2	6.2	44.2	0.0	0.0	43.9	0.0	43.7
Incr Delay (d2), s/veh	0.1	0.2	0.3	0.1	0.4	0.8	0.3	0.0	0.0	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.8	0.1	2.4	2.6	2.1	0.0	0.0	2.1	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.2	2.2	2.3	5.7	6.7	7.1	44.5	0.0	0.0	44.0	0.0	44.5
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	D
Approach Vol, veh/h		865			1009			74			258	
Approach Delay, s/veh		3.3			6.8			44.5			44.3	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.7	90.4		37.9		102.1		37.9				
Change Period (Y+Rc), s	6.0	6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s	9.0	64.0		48.5		79.0		48.5				
Max Q Clear Time (g_c+I1), s	5.7	9.4		7.7		4.2		18.0				
Green Ext Time (p_c), s	0.0	2.8		0.4		1.9		0.9				

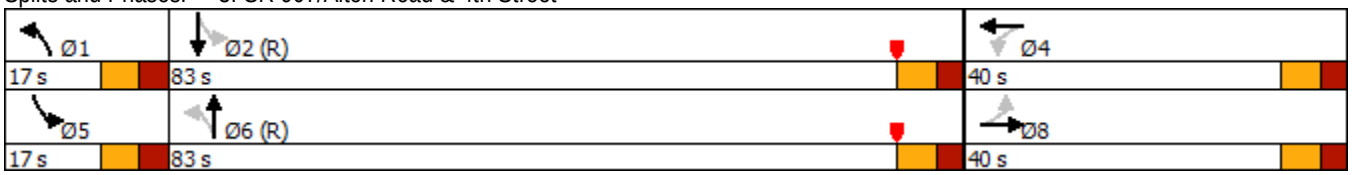
Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	41	8	19	8	13	575	37	468
Future Volume (vph)	41	8	19	8	13	575	37	468
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		8		4	1	6	5	2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	33.0	33.0	14.0	14.0	12.0	32.0	12.0	32.0
Total Split (s)	40.0	40.0	40.0	40.0	17.0	83.0	17.0	83.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	12.1%	59.3%	12.1%	59.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0		2.6	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		9.6	7.0	7.0	7.0	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 37 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 907/Alton Road & 4th Street



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	107	14	633	39	548
v/c Ratio	0.36	0.44	0.02	0.26	0.07	0.22
Control Delay	51.5	23.2	5.9	10.2	3.7	4.7
Queue Delay	0.1	0.1	0.0	0.0	0.0	0.2
Total Delay	51.6	23.3	5.9	10.2	3.7	4.9
Queue Length 50th (ft)	45	23	3	133	6	46
Queue Length 95th (ft)	91	80	10	171	m11	80
Internal Link Dist (ft)	10	167		233		326
Turn Bay Length (ft)			70		125	
Base Capacity (vph)	310	389	670	2390	592	2505
Starvation Cap Reductn	0	0	0	0	0	1119
Spillback Cap Reductn	25	26	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.29	0.02	0.26	0.07	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	8	10	19	8	73	13	575	20	37	468	47
Future Volume (veh/h)	41	8	10	19	8	73	13	575	20	37	468	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.93	0.94		0.92	0.99		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	44	9	11	20	9	78	14	612	21	39	498	50
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	35	33	52	28	135	630	2305	79	597	2179	218
Arrive On Green	0.16	0.16	0.16	0.16	0.14	0.16	0.02	0.88	0.88	0.04	0.90	0.90
Sat Flow, veh/h	781	220	208	157	203	969	1767	3469	119	1767	3217	322
Grp Volume(v), veh/h	64	0	0	107	0	0	14	311	322	39	272	276
Grp Sat Flow(s),veh/h/ln	1209	0	0	1329	0	0	1767	1763	1826	1767	1763	1776
Q Serve(g_s), s	0.0	0.0	0.0	2.2	0.0	0.0	0.4	3.7	3.8	1.0	2.7	2.7
Cycle Q Clear(g_c), s	7.4	0.0	0.0	10.0	0.0	0.0	0.4	3.7	3.8	1.0	2.7	2.7
Prop In Lane	0.69		0.17	0.19		0.73	1.00		0.07	1.00		0.18
Lane Grp Cap(c), veh/h	234	0	0	240	0	0	630	1171	1213	597	1194	1203
V/C Ratio(X)	0.27	0.00	0.00	0.45	0.00	0.00	0.02	0.27	0.27	0.07	0.23	0.23
Avail Cap(c_a), veh/h	338	0	0	342	0	0	730	1171	1213	674	1194	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	52.5	0.0	0.0	55.0	0.0	0.0	7.2	3.0	3.0	6.8	2.4	2.4
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.0	0.0	0.0	0.0	0.6	0.5	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	3.5	0.0	0.0	0.1	1.3	1.4	0.4	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	0.0	0.0	56.0	0.0	0.0	7.2	3.5	3.5	6.8	2.8	2.8
LnGrp LOS	D	A	A	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		64			107			647			587	
Approach Delay, s/veh		53.0			56.0			3.6			3.0	
Approach LOS		D			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	101.8		29.1	10.9	100.0		29.1				
Change Period (Y+Rc), s	7.0	7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	76.0		33.0	10.0	76.0		33.0				
Max Q Clear Time (g_c+I1), s	2.4	4.7		12.0	3.0	5.8		9.4				
Green Ext Time (p_c), s	0.0	1.2		0.5	0.0	1.4		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	44	67	38	29	40
Future Vol, veh/h	28	44	67	38	29	40
Conflicting Peds, #/hr	22	0	0	22	40	12
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	31	49	74	42	32	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	138	0	-	0	268	129
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	151	-
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	1440	-	-	-	784	830
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1414	-	-	-	739	807
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	837	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1414	-	-	-	777
HCM Lane V/C Ratio	0.022	-	-	-	0.099
HCM Control Delay (s)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

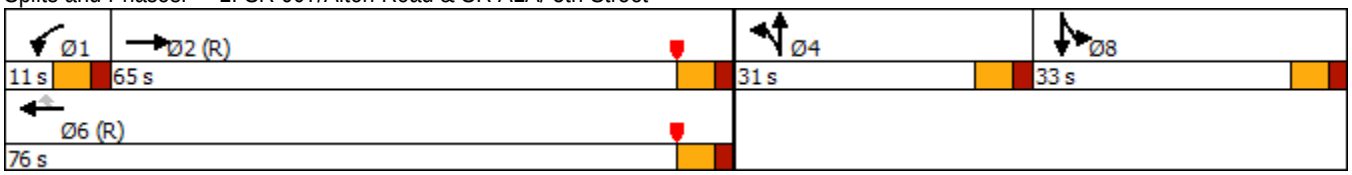
Future Background P.M.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	748	388	27	889	115	385	225	206	542
Future Volume (vph)	748	388	27	889	115	385	225	206	542
Turn Type	NA	Free	Prot	NA	Perm	Split	NA	NA	Free
Protected Phases	2		1	6		4	4	8	
Permitted Phases		Free			6				Free
Detector Phase	2		1	6	6	4	4	8	
Switch Phase									
Minimum Initial (s)	5.0		5.0	5.0	5.0	7.0	7.0	7.0	
Minimum Split (s)	35.0		11.0	35.0	35.0	23.0	23.0	31.0	
Total Split (s)	65.0		11.0	76.0	76.0	31.0	31.0	33.0	
Total Split (%)	46.4%		7.9%	54.3%	54.3%	22.1%	22.1%	23.6%	
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	C-Max		None	C-Max	C-Max	None	None	None	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 57 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: SR 907/Alton Road & SR A1A/ 5th Street



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	796	413	29	946	122	410	262	282	577
v/c Ratio	0.48	0.27	0.45	0.51	0.14	0.72	0.87	0.87	0.37
Control Delay	27.5	0.4	102.3	17.5	1.0	76.1	96.1	80.8	0.7
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	0.4	102.3	17.7	1.0	76.1	96.1	80.8	0.7
Queue Length 50th (ft)	282	0	22	338	3	203	251	248	0
Queue Length 95th (ft)	346	0	m#59	408	7	260	#379	#386	0
Internal Link Dist (ft)	509			338			326	359	
Turn Bay Length (ft)		260	150						
Base Capacity (vph)	1675	1515	64	1840	864	607	321	351	1547
Starvation Cap Reductn	0	0	0	245	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.27	0.45	0.59	0.14	0.68	0.82	0.80	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
1: SR 907/Alton Road & SR A1A/ 5th Street

P.M. Peak Hour
Future Background Condition

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	748	388	27	889	115	385	225	22	59	206	542
Future Volume (veh/h)	0	748	388	27	889	115	385	225	22	59	206	542
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	796	0	29	946	122	410	239	0	63	219	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1682		43	1918	810	516	279		72	252	
Arrive On Green	0.00	0.63	0.00	0.03	0.72	0.72	0.15	0.15	0.00	0.18	0.18	0.00
Sat Flow, veh/h	0	3618	1572	1767	3526	1489	3428	1856	0	410	1425	1572
Grp Volume(v), veh/h	0	796	0	29	946	122	410	239	0	282	0	0
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	1489	1714	1856	0	1835	0	1572
Q Serve(g_s), s	0.0	16.5	0.0	2.3	16.1	3.6	16.2	17.6	0.0	20.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	16.5	0.0	2.3	16.1	3.6	16.2	17.6	0.0	20.9	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.00	0.22		1.00
Lane Grp Cap(c), veh/h	0	1682		43	1918	810	516	279		324	0	
V/C Ratio(X)	0.00	0.47		0.68	0.49	0.15	0.79	0.86		0.87	0.00	
Avail Cap(c_a), veh/h	0	1682		63	1918	810	612	331		354	0	
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.93	0.93	0.93	0.97	0.97	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	16.4	0.0	67.2	11.0	9.3	57.4	58.0	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	6.4	0.8	0.4	5.9	16.6	0.0	19.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.1	0.0	1.1	5.3	1.2	7.4	9.6	0.0	11.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.3	0.0	73.6	11.9	9.7	63.3	74.6	0.0	75.4	0.0	0.0
LnGrp LOS	A	B		E	B	A	E	E		E	A	
Approach Vol, veh/h		796			1097			649			282	
Approach Delay, s/veh		17.3			13.3			67.5			75.4	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.4	72.8		27.1		82.2		30.8				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	5.0	59.0		25.0		70.0		27.0				
Max Q Clear Time (g_c+I1), s	4.3	18.5		19.6		18.1		22.9				
Green Ext Time (p_c), s	0.0	2.3		1.5		2.9		0.7				

Intersection Summary

HCM 6th Ctrl Delay	33.1	
HCM 6th LOS	C	

Notes

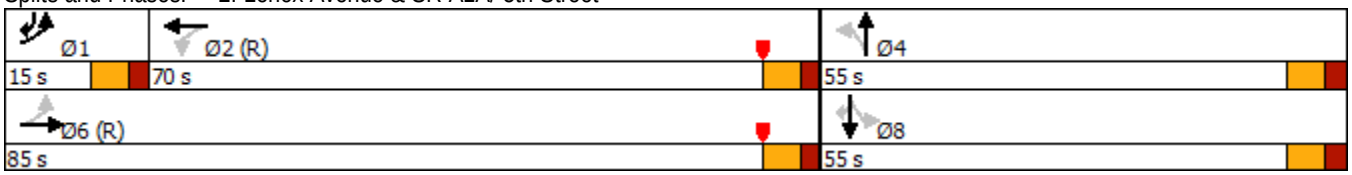
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	116	680	13	887	21	35	33	33	172
Future Volume (vph)	116	680	13	887	21	35	33	33	172
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	1	6		2		4		8	1
Permitted Phases	6		2		4		8		8
Detector Phase	1	6	2	2	4	4	8	8	1
Switch Phase									
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	23.0	23.0	23.0	38.5	38.5	38.5	38.5	11.0
Total Split (s)	15.0	85.0	70.0	70.0	55.0	55.0	55.0	55.0	15.0
Total Split (%)	10.7%	60.7%	50.0%	50.0%	39.3%	39.3%	39.3%	39.3%	10.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.5		6.5	6.0
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 56 (40%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 2: Lenox Avenue & SR A1A/ 5th Street



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	127	768	14	1049	75	72	189
v/c Ratio	0.35	0.21	0.04	0.35	0.25	0.26	0.49
Control Delay	10.9	3.0	13.5	14.5	45.3	47.7	37.1
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	3.1	13.5	14.5	45.3	47.7	37.1
Queue Length 50th (ft)	12	26	5	176	51	54	112
Queue Length 95th (ft)	m44	30	17	217	98	100	178
Internal Link Dist (ft)		338		300	238	348	
Turn Bay Length (ft)	240		165				
Base Capacity (vph)	380	3581	373	2971	541	502	402
Starvation Cap Reductn	0	1343	0	0	0	0	0
Spillback Cap Reductn	0	0	0	166	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.34	0.04	0.37	0.14	0.14	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

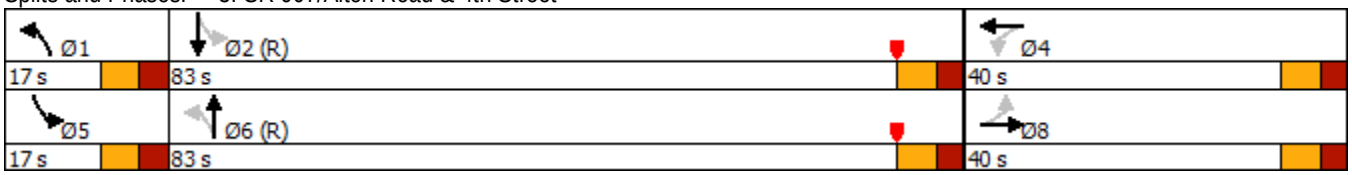
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	680	19	13	887	67	21	35	13	33	33	172
Future Volume (veh/h)	116	680	19	13	887	67	21	35	13	33	33	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.88	0.96		0.87	0.93		0.88	0.91		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	127	747	21	14	975	74	23	38	14	36	36	189
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	413	3462	97	455	2859	216	110	167	56	197	185	375
Arrive On Green	0.05	0.91	0.91	0.80	0.80	0.80	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	5044	141	670	4746	359	339	744	249	705	823	1384
Grp Volume(v), veh/h	127	499	269	14	693	356	75	0	0	72	0	189
Grp Sat Flow(s),veh/h/ln	1767	1689	1808	670	1689	1728	1332	0	0	1528	0	1384
Q Serve(g_s), s	3.8	2.2	2.3	0.6	7.9	7.9	1.1	0.0	0.0	0.0	0.0	16.3
Cycle Q Clear(g_c), s	3.8	2.2	2.3	0.6	7.9	7.9	5.7	0.0	0.0	4.6	0.0	16.3
Prop In Lane	1.00		0.08	1.00		0.21	0.31		0.19	0.50		1.00
Lane Grp Cap(c), veh/h	413	2318	1241	455	2034	1041	333	0	0	382	0	375
V/C Ratio(X)	0.31	0.22	0.22	0.03	0.34	0.34	0.23	0.00	0.00	0.19	0.00	0.50
Avail Cap(c_a), veh/h	454	2318	1241	455	2034	1041	491	0	0	562	0	544
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	2.0	2.0	5.6	6.3	6.3	44.2	0.0	0.0	43.8	0.0	43.7
Incr Delay (d2), s/veh	0.1	0.2	0.4	0.1	0.5	0.9	0.3	0.0	0.0	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.8	0.1	2.6	2.8	2.2	0.0	0.0	2.1	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	2.2	2.4	5.7	6.8	7.2	44.5	0.0	0.0	44.0	0.0	44.5
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	D
Approach Vol, veh/h		895			1063			75			261	
Approach Delay, s/veh		3.3			6.9			44.5			44.4	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.8	90.3		37.9		102.1		37.9				
Change Period (Y+Rc), s	6.0	6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s	9.0	64.0		48.5		79.0		48.5				
Max Q Clear Time (g_c+I1), s	5.8	9.9		7.7		4.3		18.3				
Green Ext Time (p_c), s	0.0	3.0		0.4		2.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			11.0									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	42	8	20	8	13	590	43	478
Future Volume (vph)	42	8	20	8	13	590	43	478
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		8		4	1	6	5	2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	33.0	33.0	14.0	14.0	12.0	32.0	12.0	32.0
Total Split (s)	40.0	40.0	40.0	40.0	17.0	83.0	17.0	83.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	12.1%	59.3%	12.1%	59.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0		2.6	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		9.6	7.0	7.0	7.0	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 37 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 907/Alton Road & 4th Street



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	121	14	650	46	560
v/c Ratio	0.38	0.48	0.02	0.27	0.08	0.22
Control Delay	52.9	22.6	5.9	10.4	3.7	4.6
Queue Delay	0.1	0.1	0.0	0.0	0.0	0.2
Total Delay	53.0	22.7	5.9	10.4	3.7	4.8
Queue Length 50th (ft)	46	24	3	137	7	46
Queue Length 95th (ft)	93	85	10	176	m12	81
Internal Link Dist (ft)	10	167		233		326
Turn Bay Length (ft)			70		125	
Base Capacity (vph)	292	399	663	2387	583	2505
Starvation Cap Reductn	0	0	0	0	0	1114
Spillback Cap Reductn	27	31	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.33	0.02	0.27	0.08	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	8	10	20	8	86	13	590	21	43	478	48
Future Volume (veh/h)	42	8	10	20	8	86	13	590	21	43	478	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.93	0.95		0.92	0.99		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	45	9	11	21	9	91	14	628	22	46	509	51
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	161	33	31	50	27	141	622	2291	80	589	2174	217
Arrive On Green	0.16	0.16	0.16	0.16	0.14	0.16	0.02	0.88	0.88	0.04	0.90	0.90
Sat Flow, veh/h	735	206	192	141	189	1000	1767	3466	121	1767	3218	321
Grp Volume(v), veh/h	65	0	0	121	0	0	14	319	331	46	278	282
Grp Sat Flow(s),veh/h/ln	1132	0	0	1329	0	0	1767	1763	1825	1767	1763	1776
Q Serve(g_s), s	0.0	0.0	0.0	3.1	0.0	0.0	0.4	4.0	4.0	1.2	2.8	2.9
Cycle Q Clear(g_c), s	8.4	0.0	0.0	11.5	0.0	0.0	0.4	4.0	4.0	1.2	2.8	2.9
Prop In Lane	0.69		0.17	0.17		0.75	1.00		0.07	1.00		0.18
Lane Grp Cap(c), veh/h	224	0	0	242	0	0	622	1165	1206	589	1191	1200
V/C Ratio(X)	0.29	0.00	0.00	0.50	0.00	0.00	0.02	0.27	0.27	0.08	0.23	0.24
Avail Cap(c_a), veh/h	325	0	0	341	0	0	722	1165	1206	662	1191	1200
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	52.7	0.0	0.0	55.4	0.0	0.0	7.4	3.1	3.1	6.9	2.4	2.4
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.2	0.0	0.0	0.0	0.6	0.6	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	3.9	0.0	0.0	0.1	1.4	1.5	0.4	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	0.0	0.0	56.6	0.0	0.0	7.4	3.7	3.7	6.9	2.8	2.8
LnGrp LOS	D	A	A	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		65			121			664			606	
Approach Delay, s/veh		53.2			56.6			3.8			3.1	
Approach LOS		D			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	101.6		29.3	11.2	99.5		29.3				
Change Period (Y+Rc), s	7.0	7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	76.0		33.0	10.0	76.0		33.0				
Max Q Clear Time (g_c+I1), s	2.4	4.9		13.5	3.2	6.0		10.4				
Green Ext Time (p_c), s	0.0	1.2		0.5	0.0	1.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	51	81	39	29	41
Future Vol, veh/h	28	51	81	39	29	41
Conflicting Peds, #/hr	22	0	0	22	40	12
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	31	57	90	43	32	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	155	0	-	0	293	146
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	159	-
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	1419	-	-	-	770	818
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	847	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1393	-	-	-	725	795
Mov Cap-2 Maneuver	-	-	-	-	725	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	832	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	764
HCM Lane V/C Ratio	0.022	-	-	-	0.102
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

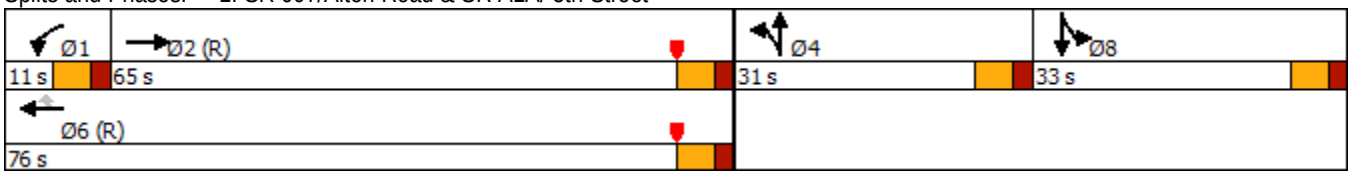
Future Total P.M.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	750	389	27	898	120	389	223	206	542
Future Volume (vph)	750	389	27	898	120	389	223	206	542
Turn Type	NA	Free	Prot	NA	Perm	Split	NA	NA	Free
Protected Phases	2		1	6		4	4	8	
Permitted Phases		Free			6				Free
Detector Phase	2		1	6	6	4	4	8	
Switch Phase									
Minimum Initial (s)	5.0		5.0	5.0	5.0	7.0	7.0	7.0	
Minimum Split (s)	35.0		11.0	35.0	35.0	23.0	23.0	31.0	
Total Split (s)	65.0		11.0	76.0	76.0	31.0	31.0	33.0	
Total Split (%)	46.4%		7.9%	54.3%	54.3%	22.1%	22.1%	23.6%	
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	C-Max		None	C-Max	C-Max	None	None	None	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 57 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: SR 907/Alton Road & SR A1A/ 5th Street



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	798	414	29	955	128	414	260	283	577
v/c Ratio	0.48	0.27	0.45	0.52	0.15	0.73	0.87	0.87	0.37
Control Delay	27.5	0.4	101.1	18.4	1.2	76.1	95.2	81.1	0.7
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	0.4	101.1	18.6	1.2	76.1	95.2	81.1	0.7
Queue Length 50th (ft)	283	0	22	347	4	205	249	249	0
Queue Length 95th (ft)	347	0	m#64	416	10	262	#379	#388	0
Internal Link Dist (ft)	509			338			326	359	
Turn Bay Length (ft)		260	150						
Base Capacity (vph)	1676	1515	64	1841	868	607	321	351	1547
Starvation Cap Reductn	0	0	0	255	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.27	0.45	0.60	0.15	0.68	0.81	0.81	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
1: SR 907/Alton Road & SR A1A/ 5th Street

P.M. Peak Hour
Future Total Condition

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	750	389	27	898	120	389	223	22	60	206	542
Future Volume (veh/h)	0	750	389	27	898	120	389	223	22	60	206	542
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	798	0	29	955	128	414	237	0	64	219	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1685		43	1921	811	513	278		73	251	
Arrive On Green	0.00	0.64	0.00	0.03	0.72	0.72	0.15	0.15	0.00	0.18	0.18	0.00
Sat Flow, veh/h	0	3618	1572	1767	3526	1489	3428	1856	0	415	1420	1572
Grp Volume(v), veh/h	0	798	0	29	955	128	414	237	0	283	0	0
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1767	1763	1489	1714	1856	0	1835	0	1572
Q Serve(g_s), s	0.0	16.5	0.0	2.3	16.3	3.7	16.4	17.4	0.0	21.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	16.5	0.0	2.3	16.3	3.7	16.4	17.4	0.0	21.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.00	0.23		1.00
Lane Grp Cap(c), veh/h	0	1685		43	1921	811	513	278		325	0	
V/C Ratio(X)	0.00	0.47		0.68	0.50	0.16	0.81	0.85		0.87	0.00	
Avail Cap(c_a), veh/h	0	1685		63	1921	811	612	331		354	0	
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.94	0.94	0.94	0.97	0.97	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	16.3	0.0	67.2	11.0	9.3	57.6	58.0	0.0	56.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	6.5	0.9	0.4	6.5	16.3	0.0	19.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.1	0.0	1.1	5.4	1.3	7.6	9.5	0.0	11.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.3	0.0	73.7	11.9	9.7	64.1	74.3	0.0	75.8	0.0	0.0
LnGrp LOS	A	B		E	B	A	E	E		E	A	
Approach Vol, veh/h		798			1112			651			283	
Approach Delay, s/veh		17.3			13.2			67.8			75.8	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.4	72.9		26.9		82.3		30.8				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	5.0	59.0		25.0		70.0		27.0				
Max Q Clear Time (g_c+I1), s	4.3	18.5		19.4		18.3		23.0				
Green Ext Time (p_c), s	0.0	2.3		1.5		2.9		0.7				

Intersection Summary

HCM 6th Ctrl Delay	33.1	
HCM 6th LOS	C	

Notes

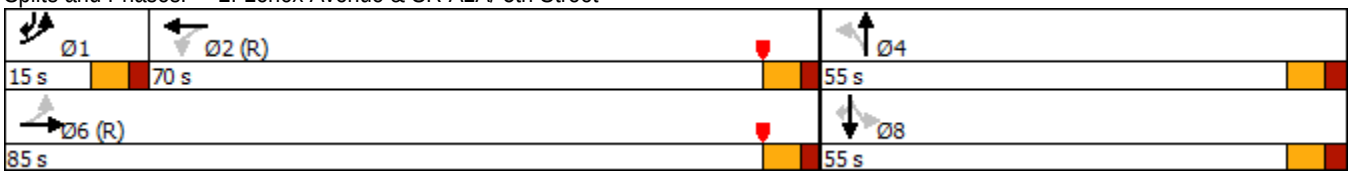
Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	116	674	21	880	42	43	33	34	172
Future Volume (vph)	116	674	21	880	42	43	33	34	172
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	1	6		2		4		8	1
Permitted Phases	6		2		4		8		8
Detector Phase	1	6	2	2	4	4	8	8	1
Switch Phase									
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	23.0	23.0	23.0	38.5	38.5	38.5	38.5	11.0
Total Split (s)	15.0	85.0	70.0	70.0	55.0	55.0	55.0	55.0	15.0
Total Split (%)	10.7%	60.7%	50.0%	50.0%	39.3%	39.3%	39.3%	39.3%	10.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.5		6.5	6.0
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 56 (40%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

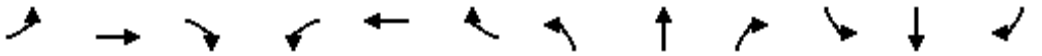
Splits and Phases: 2: Lenox Avenue & SR A1A/ 5th Street



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	127	772	23	1041	119	73	189
v/c Ratio	0.35	0.22	0.06	0.35	0.41	0.26	0.48
Control Delay	10.6	3.0	13.9	14.5	49.5	47.7	36.6
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	3.1	13.9	14.5	49.5	47.7	36.6
Queue Length 50th (ft)	12	26	9	175	85	55	112
Queue Length 95th (ft)	m43	30	24	215	147	101	177
Internal Link Dist (ft)		338		300	108	348	
Turn Bay Length (ft)	240		165				
Base Capacity (vph)	381	3554	370	2960	508	498	406
Starvation Cap Reductn	0	1327	0	0	0	0	0
Spillback Cap Reductn	0	0	0	203	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.35	0.06	0.38	0.23	0.15	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	674	28	21	880	67	42	43	24	33	34	172
Future Volume (veh/h)	116	674	28	21	880	67	42	43	24	33	34	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.88	0.96		0.87	0.93		0.89	0.93		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	127	741	31	23	967	74	46	47	26	36	37	189
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	415	3402	142	453	2856	218	122	116	56	178	171	375
Arrive On Green	0.05	0.91	0.91	0.80	0.80	0.80	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	4957	206	667	4743	361	385	516	252	621	760	1384
Grp Volume(v), veh/h	127	503	269	23	687	354	119	0	0	73	0	189
Grp Sat Flow(s),veh/h/ln	1767	1689	1787	667	1689	1727	1152	0	0	1381	0	1384
Q Serve(g_s), s	3.8	2.3	2.3	1.0	7.8	7.8	7.8	0.0	0.0	0.0	0.0	16.3
Cycle Q Clear(g_c), s	3.8	2.3	2.3	1.0	7.8	7.8	13.8	0.0	0.0	6.0	0.0	16.3
Prop In Lane	1.00		0.12	1.00		0.21	0.39		0.22	0.49		1.00
Lane Grp Cap(c), veh/h	415	2318	1226	453	2034	1040	294	0	0	348	0	375
V/C Ratio(X)	0.31	0.22	0.22	0.05	0.34	0.34	0.40	0.00	0.00	0.21	0.00	0.50
Avail Cap(c_a), veh/h	456	2318	1226	453	2034	1040	444	0	0	528	0	544
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	2.0	2.0	5.6	6.3	6.3	47.6	0.0	0.0	44.2	0.0	43.7
Incr Delay (d2), s/veh	0.1	0.2	0.4	0.2	0.5	0.9	0.7	0.0	0.0	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.8	0.2	2.5	2.7	3.7	0.0	0.0	2.1	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	2.2	2.4	5.9	6.8	7.2	48.3	0.0	0.0	44.4	0.0	44.5
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	D
Approach Vol, veh/h		899			1064			119			262	
Approach Delay, s/veh		3.3			6.9			48.3			44.5	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.8	90.3		37.9		102.1		37.9				
Change Period (Y+Rc), s	6.0	6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s	9.0	64.0		48.5		79.0		48.5				
Max Q Clear Time (g_c+I1), s	5.8	9.8		15.8		4.3		18.3				
Green Ext Time (p_c), s	0.0	3.0		0.6		2.0		0.9				

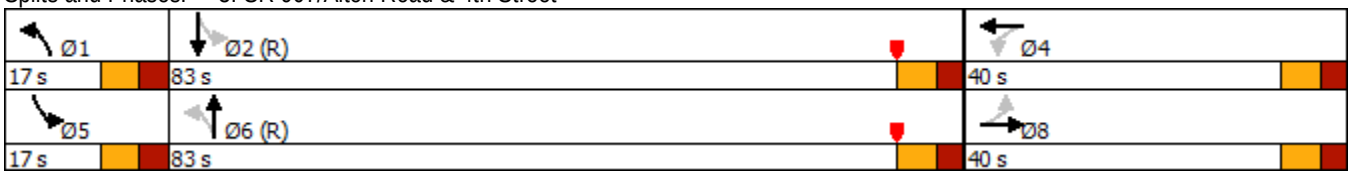
Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	42	8	24	8	13	586	48	474
Future Volume (vph)	42	8	24	8	13	586	48	474
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		8		4	1	6	5	2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	33.0	33.0	14.0	14.0	12.0	32.0	12.0	32.0
Total Split (s)	40.0	40.0	40.0	40.0	17.0	83.0	17.0	83.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	12.1%	59.3%	12.1%	59.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0		2.6	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0		9.6	7.0	7.0	7.0	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 37 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 907/Alton Road & 4th Street



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	133	14	650	51	555
v/c Ratio	0.40	0.52	0.02	0.27	0.09	0.22
Control Delay	53.9	26.3	5.9	10.4	3.7	4.6
Queue Delay	0.1	0.1	0.0	0.0	0.0	0.2
Total Delay	54.0	26.4	5.9	10.4	3.7	4.8
Queue Length 50th (ft)	46	32	3	137	8	46
Queue Length 95th (ft)	93	97	10	177	m13	80
Internal Link Dist (ft)	10	167		233		326
Turn Bay Length (ft)			70		125	
Base Capacity (vph)	279	398	666	2380	581	2504
Starvation Cap Reductn	0	0	0	0	0	1118
Spillback Cap Reductn	25	29	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.36	0.02	0.27	0.09	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	8	10	24	8	92	13	586	25	48	474	48
Future Volume (veh/h)	42	8	10	24	8	92	13	586	25	48	474	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.93	0.95		0.92	0.99		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	45	9	11	26	9	98	14	623	27	51	504	51
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	157	32	30	55	25	140	624	2263	98	589	2170	219
Arrive On Green	0.16	0.16	0.16	0.16	0.14	0.16	0.02	0.88	0.88	0.04	0.90	0.90
Sat Flow, veh/h	710	201	185	173	180	990	1767	3432	149	1767	3214	324
Grp Volume(v), veh/h	65	0	0	133	0	0	14	320	330	51	275	280
Grp Sat Flow(s),veh/h/ln	1096	0	0	1343	0	0	1767	1763	1818	1767	1763	1775
Q Serve(g_s), s	0.0	0.0	0.0	3.9	0.0	0.0	0.4	4.1	4.1	1.3	2.8	2.8
Cycle Q Clear(g_c), s	8.7	0.0	0.0	12.5	0.0	0.0	0.4	4.1	4.1	1.3	2.8	2.8
Prop In Lane	0.69		0.17	0.20		0.74	1.00		0.08	1.00		0.18
Lane Grp Cap(c), veh/h	219	0	0	245	0	0	624	1162	1199	589	1190	1199
V/C Ratio(X)	0.30	0.00	0.00	0.54	0.00	0.00	0.02	0.27	0.28	0.09	0.23	0.23
Avail Cap(c_a), veh/h	319	0	0	344	0	0	724	1162	1199	661	1190	1199
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	52.7	0.0	0.0	55.8	0.0	0.0	7.4	3.2	3.2	6.9	2.5	2.5
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.4	0.0	0.0	0.0	0.6	0.6	0.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	4.4	0.0	0.0	0.1	1.5	1.5	0.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	0.0	0.0	57.2	0.0	0.0	7.5	3.8	3.8	7.0	2.9	2.9
LnGrp LOS	D	A	A	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		65			133			664			606	
Approach Delay, s/veh		53.3			57.2			3.8			3.2	
Approach LOS		D			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	101.5		29.4	11.3	99.3		29.4				
Change Period (Y+Rc), s	7.0	7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	76.0		33.0	10.0	76.0		33.0				
Max Q Clear Time (g_c+I1), s	2.4	4.8		14.5	3.3	6.1		10.7				
Green Ext Time (p_c), s	0.0	1.2		0.6	0.0	1.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	37	51	81	39	31	51
Future Vol, veh/h	37	51	81	39	31	51
Conflicting Peds, #/hr	22	0	0	22	40	12
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	41	57	90	43	34	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	155	0	-	0	313	146
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	179	-
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	1419	-	-	-	759	818
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	835	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1393	-	-	-	710	795
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	761
HCM Lane V/C Ratio	0.03	-	-	-	0.12
HCM Control Delay (s)	7.7	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	17	15	68	68	43
Future Vol, veh/h	65	17	15	68	68	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	71	18	16	74	74	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	204	98	121	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Critical Hdwy	4.4	4.9	4.4	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.8	-	-	-
Pot Cap-1 Maneuver	821	851	870	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	851	870	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	844	-	-	-	-	-
Stage 2	853	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	1.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	870	-	814	-	-
HCM Lane V/C Ratio	0.019	-	0.109	-	-
HCM Control Delay (s)	9.2	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Appendix K

Valet Operations Analysis

Valet Routing

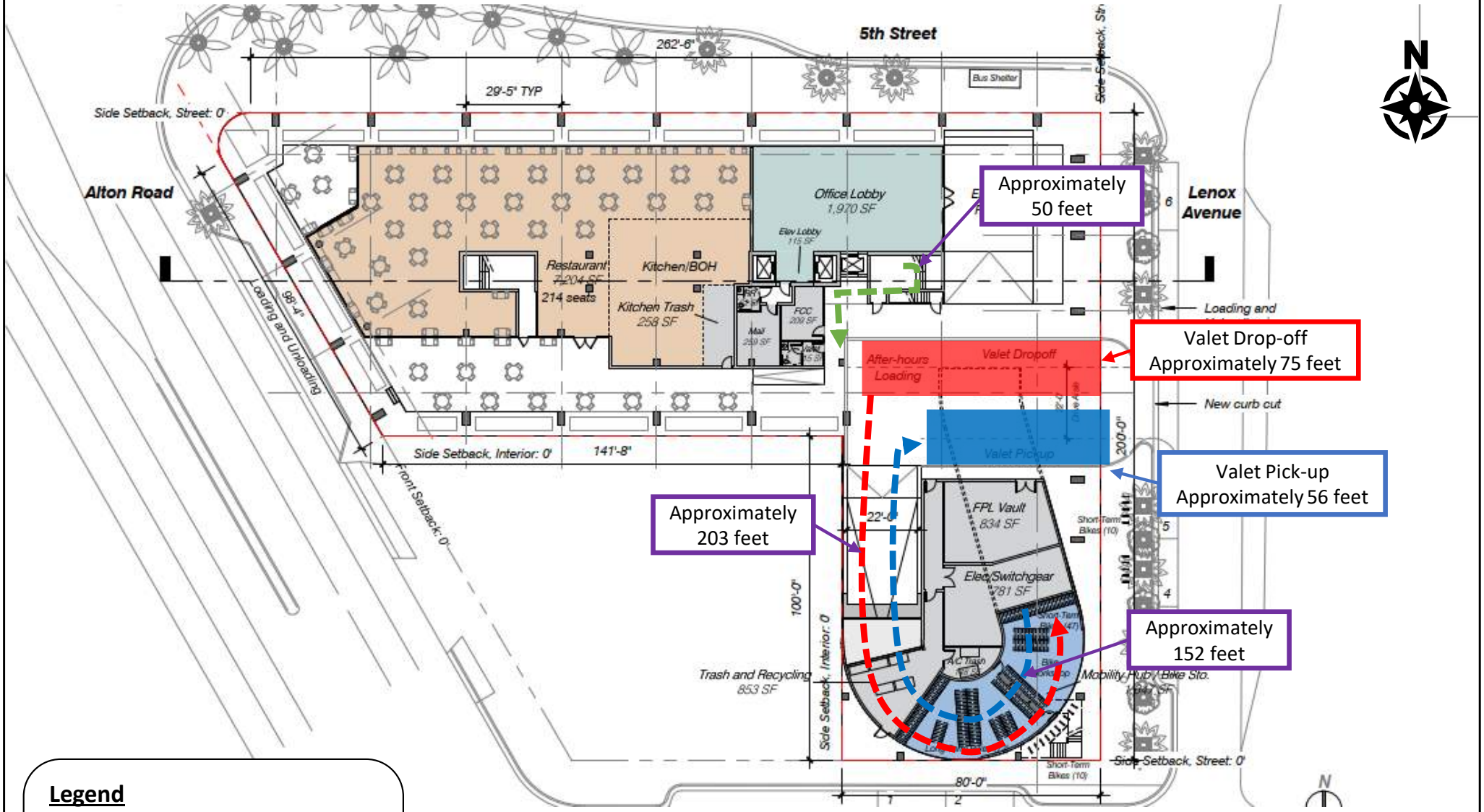
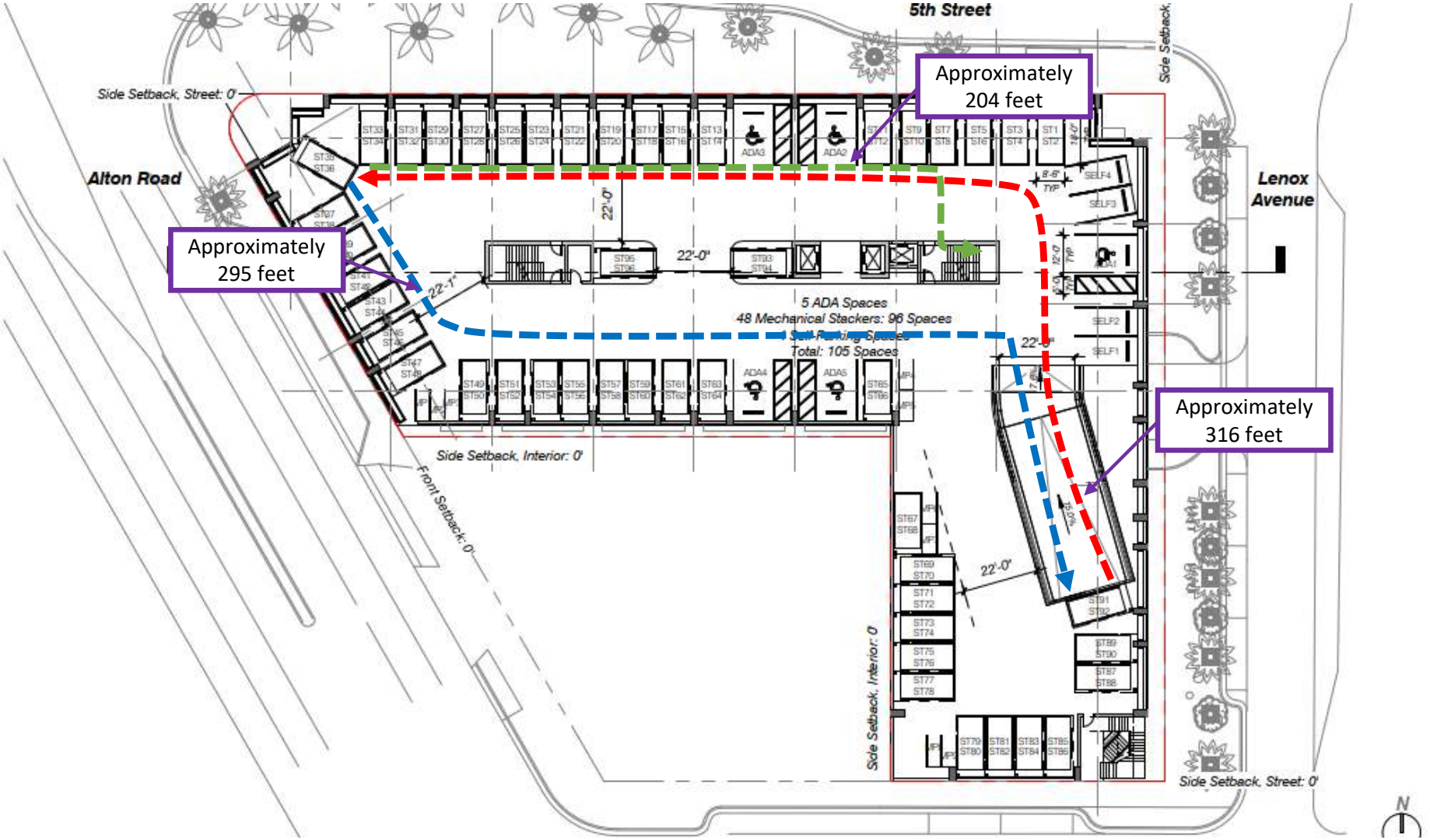


Figure 1
Ground Floor Valet Routing
Alton Road Office
Miami Beach, Florida

Kimley»Horn



Legend

- Valet Drop-off Route
- Valet Pick-up Route
- Valet Attendant Route

Kimley»Horn

Figure 2
Level 2 Valet Routing
Alton Road Office
Miami Beach, Florida

Valet Processing Time

Valet Drop-off/Pick-Up Calculated Travel Time - Valet Drop-off/Pick-up

Parking Garage Calculated Travel Time

VALET DROP-OFF

VEHICLE TRAVEL TIME

Travel Times (Assume 15 mph speed)

To Valet Garage (In vehicle)

Distance		Travel Time	
0.10	miles	0.4	minutes

Controlled Delay	0.5	Minutes
Mechanical Lift	1.6	Minutes
Total Time	3.3	Minutes

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume 5 ft/s speed)

Return from Valet Garage (Walk/Run) to Ground Level

Distance		Travel Time	
0.048	miles	0.8	minutes

Parking Garage Calculated Travel Time

VALET PICK-UP

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume 5 ft/s speed)

To Valet Garage (Walk/Run) from 2nd Floor

Distance		Travel Time	
0.048	miles	0.8	minutes

Controlled Delay	0.5	Minutes
Mechanical Lift	1.0	Minutes
Total Time	2.6	Minutes

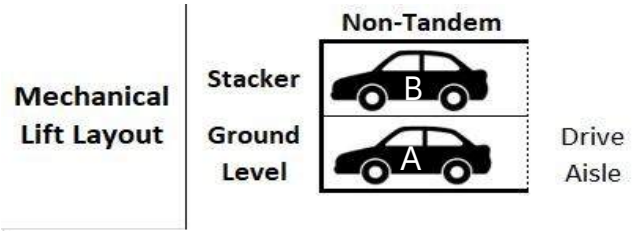
VEHICLE TRAVEL TIME

Travel Times (Assume 15 mph speed)

Return from Valet Garage (In Vehicle) to Valet Area

Distance		Travel Time	
0.085	miles	0.3	minutes

Vehicle Processing Scenarios



Vehicle A (non-tandem) - Drop-Off

1.	Attendant drives onto stacker	20
		20 sec

Vehicle B (non-tandem): No Vehicle A, Stacker Lowered- Drop-Off

1.	Attendant maneuvers onto stacker	20
5.	Attendant exits vehicle	10
6.	Attendant raises stacker	30
		60 sec

Vehicle B (non-tandem): No Vehicle A, Stacker Raised - Drop-Off

1.	Attendant maneuvers in front of stacker	10
2.	Attendant exits vehicle to lower stacker	10
3.	Attendant lowers stacker	30
4.	Attendant re-enters vehicle and drives onto stacker	30
5.	Attendant exits vehicle	10
6.	Attendant raises stacker	30
		120 sec

Vehicle B (non-tandem): Vehicle A Parked - Drop-Off

1.	Attendant exits Vehicle B	10
2.	Attendant enters Vehicle A	10
3.	Attendant moves Vehicle A to drive aisle	15
4.	Attendant exits Vehicle A	10
5.	Attendant lowers stacker	30
6.	Attendant re-enters Vehicle B and drives onto stacker	30
7.	Attendant exits Vehicle B	10
8.	Attendant raises stacker	30
9.	Attendant re-enters Vehicle A and drives into parking space	30
10.	Attendant exits Vehicle A	10
		185 sec

Vehicle A (non-tandem) - Pick-up

1.	Attendant drives off stacker	20
		20 sec

Vehicle B (non-tandem): No Vehicle A, Stacker Lowered- Pick-up

1.	Attendant drives off stacker	20
		20 sec

Vehicle B (non-tandem): No Vehicle A, Stacker Raised - Pick-up

1.	Attendant lowers stacker	30
2.	Attendant enters vehicle	10
3.	Attendant drives off stacker	20
		60 sec

Vehicle B (non-tandem): Vehicle A Parked - Pick-up

2.	Attendant enters Vehicle A	10

Vehicle Processing Scenarios

3.	Attendant moves Vehicle A to drive aisle	20	
4.	Attendant exits Vehicle A	10	
8.	Attendant lowers stacker	30	
6.	Attendant enters Vehicle B and drives off stacker	30	
1.	Attendant exits Vehicle B	10	
9.	Attendant re-enters Vehicle A and drives onto stacker	30	
		140	sec

Average Drop-off Processing Time	96	sec
Average Pick-up Processing Time	60	sec

Valet Analysis

Valet Analysis Drop-off - A.M. Peak Hour

Arrival Rate

Drop-off
65

veh/hr

Service Rate

Drop-off
3.30

mins/veh

Control Delay = min

Service Time = mins/veh

Number of Valet Attendants (N) =	6	
Level of Confidence =	0.95	
Storage Provided On-Site =	3	vehicles
Total Entering Vehicles(q) =	65	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	18.18	veh/hr/pos
Average Service Rate (t) =	3.30	mins/veh
rho (t/Q) =	0.596	

Expected (avg.) number of vehicles in the system	E(m)=	0.28	
Expected (avg.) number of vehicles waiting in queue	E(n)=	3.86	
Mean time in the queue	E(w)=	0.26	mins
Mean time in system	E(t)=	3.56	mins

Proportion of customers who wait (P) (E(w) > 0)=	19.17%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 1.6 vehicles

Valet Analysis Pick-up - A.M. Peak Hour

Arrival Rate

Pick-up
8 veh/hr

Service Rate

Pick-up
2.60 mins/veh

Control Delay = min

Service Time = mins/veh

Number of Valet Attendants (N) =	1	
Level of Confidence =	0.95	
Storage Provided On-Site =	2	vehicles
Total Exiting Vehicles(q) =	8	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	23.08	veh/hr/pos
Average Service Rate (t) =	2.60	mins/veh
rho (t/Q) =	0.347	

Expected (avg.) number of vehicles in the system	E(m)=	0.18	
Expected (avg.) number of vehicles waiting in queue	E(n)=	0.53	
Mean time in the queue	E(w)=	1.38	mins
Mean time in system	E(t)=	3.98	mins

Proportion of customers who wait (P)	(E(w) > 0)=	34.67%
Probability of a queue exceeding a length (M)	P(x > M)=	5.00%

Queue length which is exceeded 5.00% of the times is equal to 0.8 vehicles

Valet Analysis Drop-off - P.M. Peak Hour

Arrival Rate

Drop-off
37

veh/hr

Service Rate

Drop-off
3.30

mins/veh

Control Delay = min

Service Time = mins/veh

Number of Valet Attendants (N) =	4	
Level of Confidence =	0.95	
Storage Provided On-Site =	3	vehicles
Total Entering Vehicles(q) =	37	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	18.18	veh/hr/pos
Average Service Rate (t) =	3.30	mins/veh
rho (t/Q) =	0.509	

Expected (avg.) number of vehicles in the system	E(m)=	0.19	
Expected (avg.) number of vehicles waiting in queue	E(n)=	2.22	
Mean time in the queue	E(w)=	0.31	mins
Mean time in system	E(t)=	3.61	mins

Proportion of customers who wait (P) (E(w) > 0)=	18.26%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 0.9 vehicles

Valet Analysis Pick-up - P.M. Peak Hour

Arrival Rate

Pick-up
71

veh/hr

Service Rate

Pick-up
2.60

mins/veh

Control Delay = min

Service Time = mins/veh

Number of Valet Attendants (N) =	6	
Level of Confidence =	0.95	
Storage Provided On-Site =	2	vehicles
Total Exiting Vehicles(q) =	71	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	23.08	veh/hr/pos
Average Service Rate (t) =	2.60	mins/veh
rho (t/Q) =	0.513	

Expected (avg.) number of vehicles in the system	E(m)=	0.12	
Expected (avg.) number of vehicles waiting in queue	E(n)=	3.19	
Mean time in the queue	E(w)=	0.10	mins
Mean time in system	E(t)=	2.70	mins

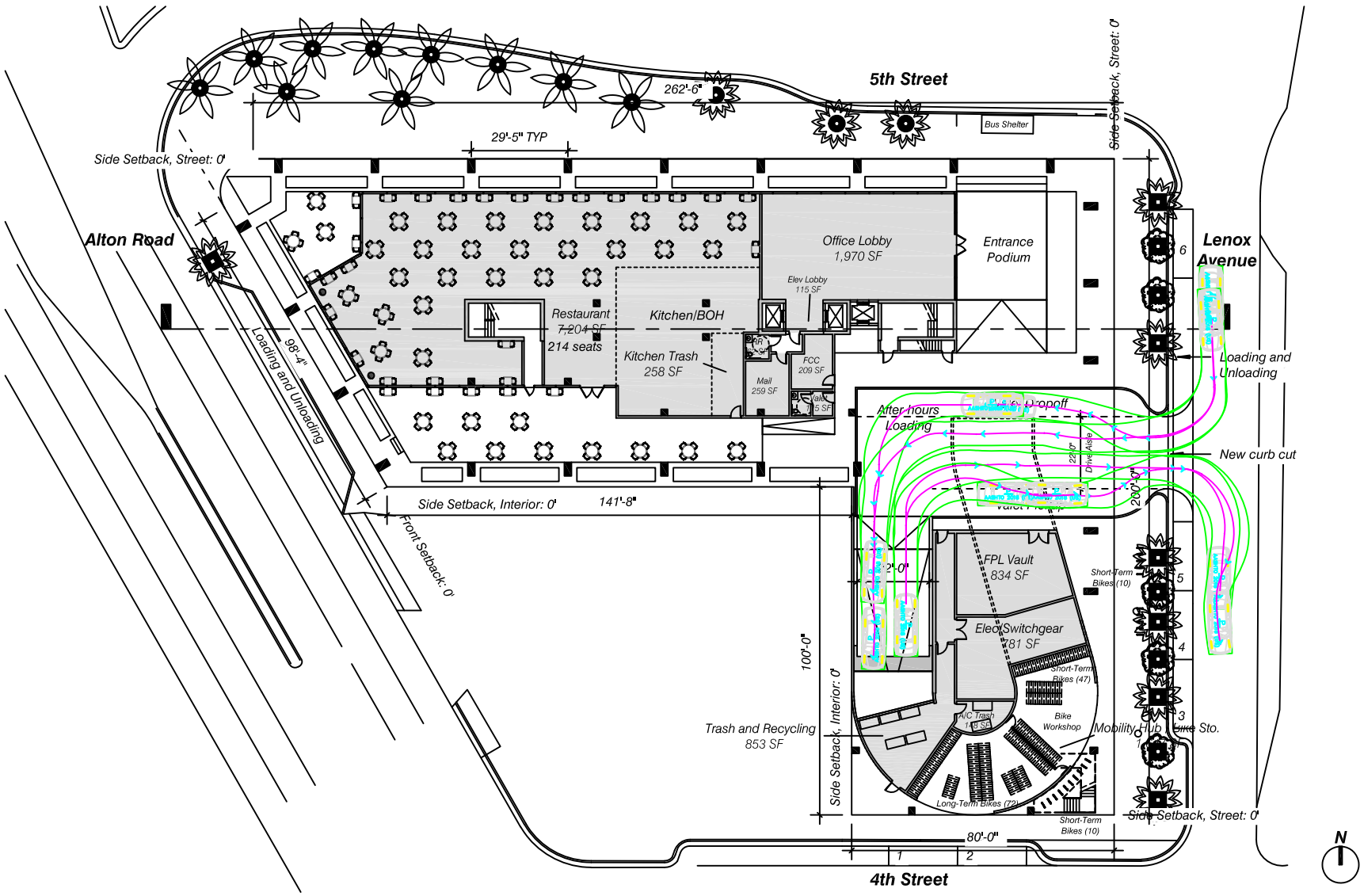
Proportion of customers who wait (P)	(E(w) > 0)=	10.93%
Probability of a queue exceeding a length (M)	P(x > M)=	5.00%

Queue length which is exceeded 5.00% of the times is equal to 0.2 vehicles

Appendix L

Maneuverability Analysis

Ground



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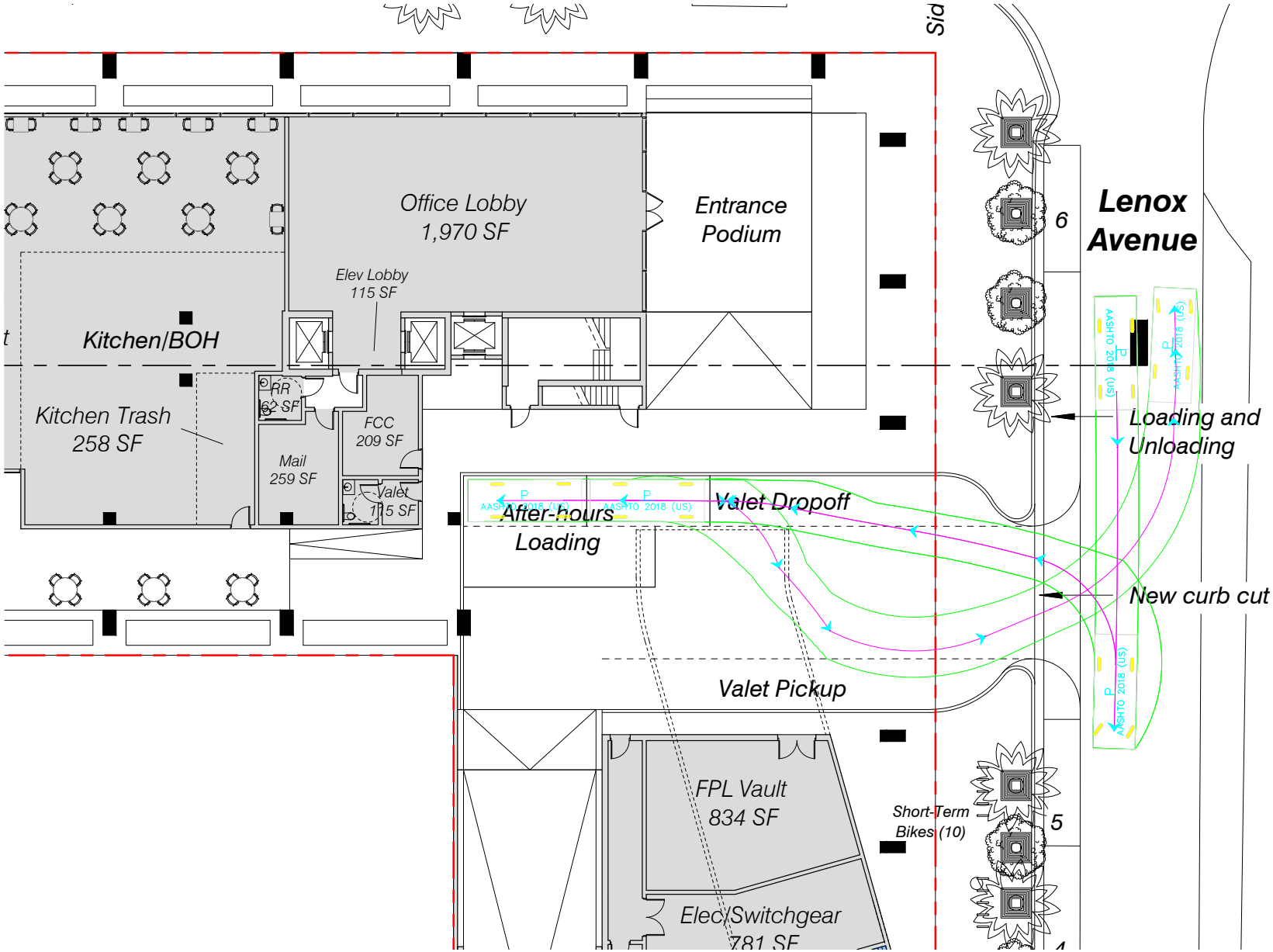
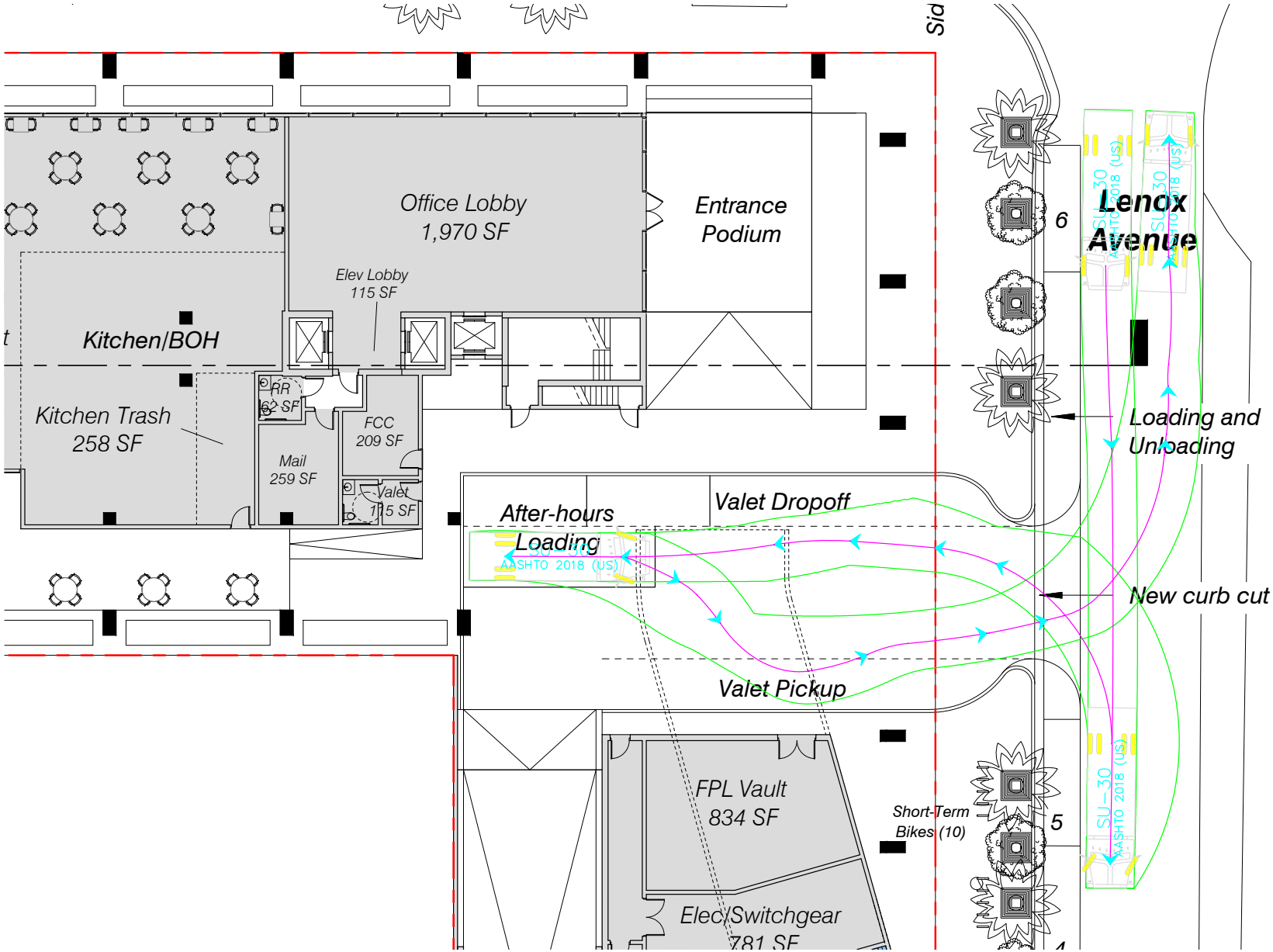
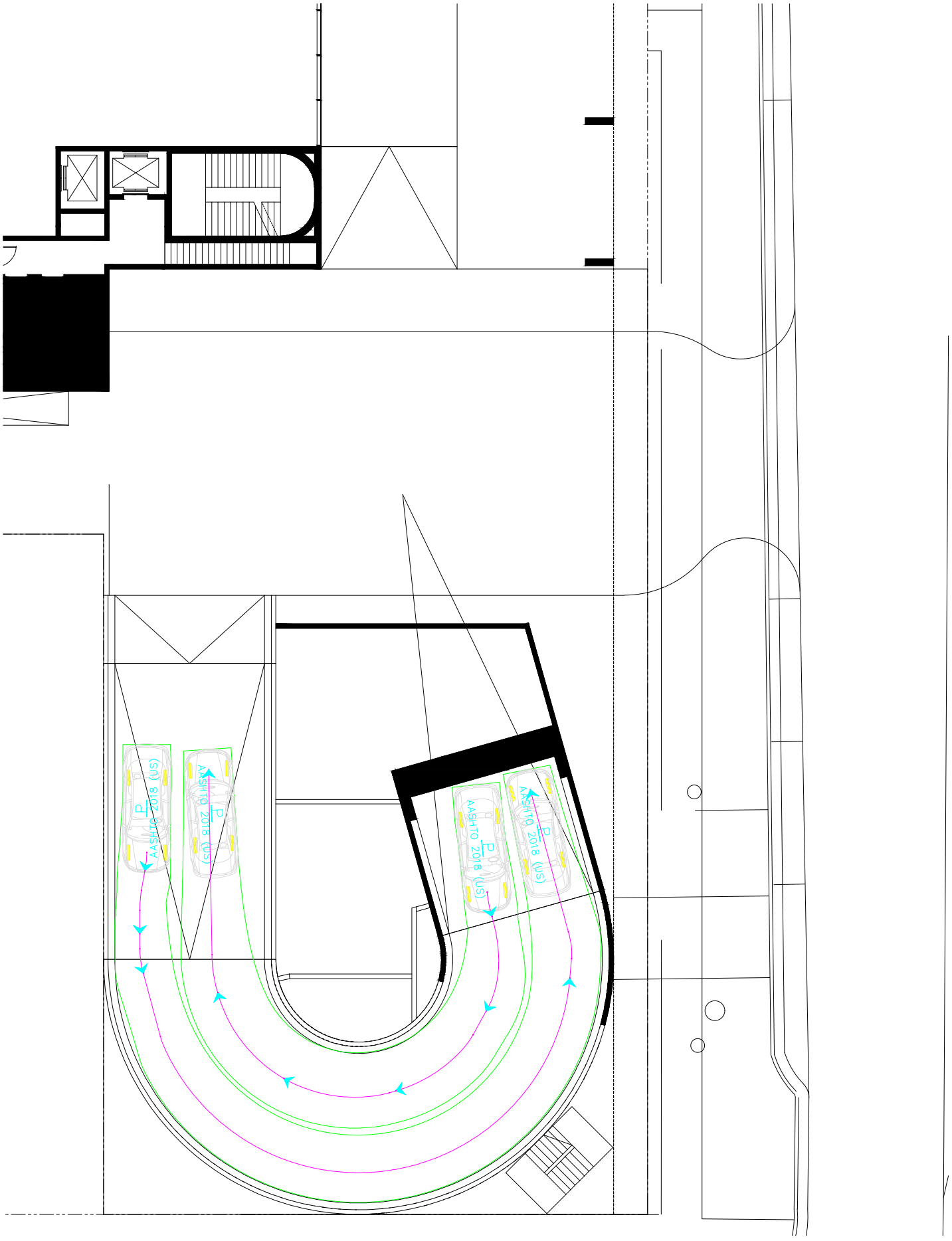
Ground Floor - Passenger Loading Vehicle (Back-In)



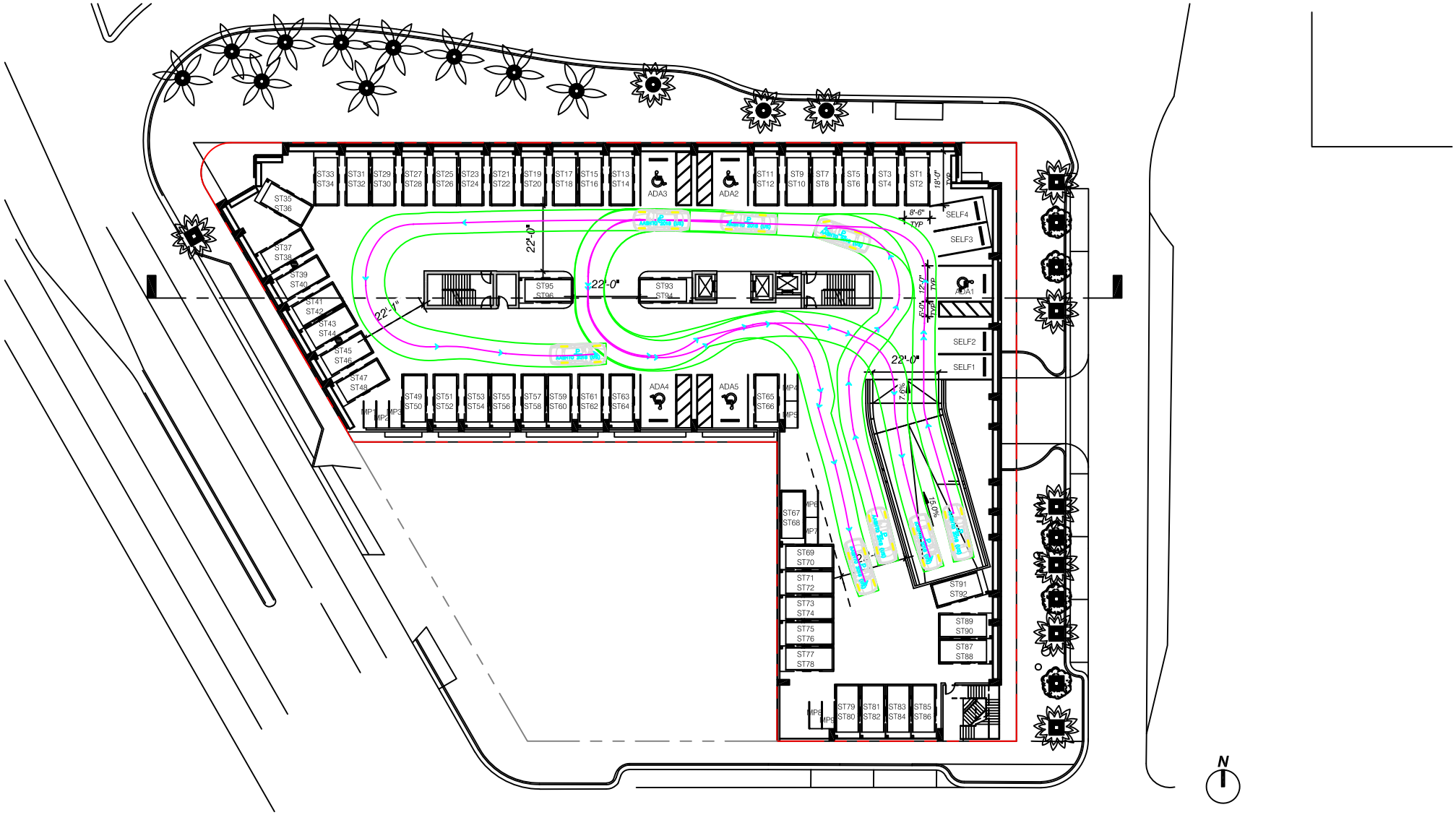
Ground Floor - SU 30 Vehicle (Back-In)



Mezzanine Ramp



Level 2



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