BUSINESS OPERATIONS PLAN

DIT GLOBAL, LLC

835-855 Alton Road, Miami Beach, Florida

Planning Board: First Submittal April 18, 2016
Conditional Use Permit

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OVERVIEW - 1

The property located at 835 Alton Road is a historically contributing residential structure in the Flamingo Park Local Historic District. There are three (3) existing structures on the property: two (2) relatively narrow one-story structures aligned along the north and south sides of the property, and one (1) smaller, two-story structure located at the center of the rear of the property. Together, the structures encircle a beautiful courtyard in the interior of the property.

In April 2014, the City's Historic Preservation Board approved a Certificate of Appropriateness for renovations and restoration of the structures. The approved plans contemplated retention of the historic structures and their adaptive reuse from residential uses to restaurant uses. The interior of the structures will be used for kitchen, service area, and interior dining facilities, while the courtyard area will be used for a unique outdoor dining option. There will not be any outdoor bar counter.

The Applicant is seeking a Conditional Use permit for a restaurant with an occupant content of 300 or more persons. Specifically, the Applicant will be providing restaurant seating in both the interior and courtyard spaces.

It is the Applicant's desire to reinvent the historic structure and create an iconic new quality eating establishment serving breakfast, lunch and dinner seven (7) days per week.

HOURS OF OPERATIONS | ACCESS - 2

Operating Hours

Indoors
Sundays – Thursdays | 7:00 AM - 1:00 AM
Fridays - Saturdays | 7:00 AM - 2:00 AM

Outdoors
Sundays – Thursdays | 7:00 AM - 11:00 PM
Fridays - Saturdays | 7:00 AM - 12:00 AM

Access

Pedestrian access can be achieved through the entry gate, located directly on Alton Road at the front of the property. No other entrances will be available for patron use: all three structures and the courtyard will be accessed through the main entry gate.

Once through the main entry, patrons will approach the building or area of their choice. Employees will assist with the flow of patrons at the entry gate. Each building contains interior waiting areas, so queuing will neither occur outside, nor on the public right of way. It should be noted that each of the restaurant buildings may be operated independently or in conjunction with another structure or the courtyard area. Access to the site will not be impacted by this operational decision.

STAFFING LEVELS - 3

Staffing levels will be determined on a day-to-day basis. While the area is not small, the proposed seating areas contain approximately 362 seats. It is anticipated that approximately 50 employees will be necessary to appropriately serve the proposed number of patrons, roughly as follows:

Building #1 (north)	Kitchen – 1 Chef – 1 Sous chef – 4 food preparation Table service – 4 waiters/waitress - table clean up/dish washing – 2 Bar - 1 bartender Reception – 1 Hostess
Building #2 (south)	Kitchen – 1 Chef – 1 Sous chef – 5 food preparation Table service – 5 waiters/waitress - table clean up/dish washing – 2 Bar - 1 bartender Reception – 1 Hostess
Building #3 (east)	Bar - 1 bartender 5 waiters/waitress
Courtyard & Sidewalk Terrace	Table service – 8 waiters/waitress - table clean up/dish washing – 3

At all times, a manager will be present on-site to assist with guests services and ensure a positive experience, for the guests, as well as the neighborhood.

SECURITY - 4

Security cameras will overlook the restaurant areas. Additionally, there will be security staff present during the hours of operation. Security staff will assist with the flow of guests into and out of the property.

The number of staff and security personnel will depend on the day-to-day operations and needs of the Property. In addition to daily security, if deemed necessary, the Applicant may employ the services of off-duty police officers during specific events.

SOUND - 5

While a portion of the restaurant establishment is outdoors, the outdoor area is enclosed on 3 sides by buildings and only background music will be played. No entertainment or live music will be played at anytime. For these reason and in light of the facility's location on a main thoroughfare along a heavily trafficked commercial corridor, it is not anticipated that sound will be a nuisance to the neighborhood. Further, the proposed hours of operation are mindful of the surrounding area. Notwithstanding the measures taken by the Applicant, this facility is required to, and will, comply with the City's noise ordinance.

PARKING - 6

There are numerous nearby parking lots, garages, and metered self-parking on surrounding streets. The restaurant's patrons will avail themselves of this existing parking. The Applicant further anticipates that many patrons will arrive by foot, bus or taxi. The restaurant will also employ a valet service company.

The restaurant will be will be served by one (1) valet drop-off and pick-up area containing 3 valet spaces located on the south side of 9th Street, just east of Alton Road (along the north side of the Property). The Applicant will work with the City's Parking Department to obtain these spaces. All vehicles arriving at the restaurant will be valet parked at the Fifth & Alton parking garage located at 550 Lenox Avenue. The Traffic Analysis submitted with this application provides a graphic illustration of the proposed valet routes to and from the Fifth & Alton parking garage. Please note that the majority of the proposed valet route is along Alton Road to avoid the residential neighborhood along Lenox Avenue. Also, the valet operator will ensure adequate valet runners, especially during peak times, to efficiently use the valet area without detriment to the adjacent roadways.

EMPLOYEE BICYCLE PARKING

There will be approximately 42 bicycle parking spaces provided for employee use. Approximately 36 of these spaces will be for short-term use and located along north side of north building. Approximately 6 bicycle spaces will be for long-term use and will be located along the rear property line. Employee locker rooms for both men and women will be provided at the northeast corner of the property, in close proximity to the bicycle parking areas.

DELIVERIES - 7

Deliveries will occur for the entire facility along the northern property line on 9th Street at the northeast corner of the north building utilizing one on-street loading space. The Applicant will coordinate this on-street loading space with the City's Parking Department to ensure compatibility with the area. Notably, deliveries and collections for the previous residential uses historically took place from this location. This location provides the best access to the site and will accommodate the anticipated capacity. Most deliveries are anticipated to be made through commuter vehicles, box trucks or small vans. A goods manager will supervise all deliveries.

Deliveries will be scheduled between 7:00 AM and 5:00 PM, seven (7) days per week. Deliveries are anticipated to take place a few times daily as needed and will be staggered to ensure minimal impacts on 9th Street and the surrounding neighborhood. All deliveries are accessed through the northern service entrances, with goods transported on small carts along the rear property line to the center and south buildings as needed.

COLLECTIONS - 8

Waste and recycling will be maintained within an air-conditioned area, at the northeastern corner of the north building. As indicated in the Deliveries Section above, deliveries and collections for the previous residential uses historically took place from this location. This location provides the best access to the site and will accommodate the anticipated capacity. The waste and recycling receptacles will be wheeled out of the trash room to the waiting trucks at the on-street loading space on the supervision of the goods manager.

Refuse and recycling collection will take place between 7:00 AM and 5:00 PM. All receptacles will be walked from the back of house areas, out the rear door on the north side of the property, to the on-street loading space. The on-street loading space will be coordinated with the City's Parking Department to ensure compatibility with the area.

A goods manager will oversee collections. The frequency of collections will be coordinated with the private waste hauler, based on need, and is anticipated once daily at most.

Matthew Amster

From: JOSIELFERRER@miamibeachfl.gov
Sent: Thursday, July 14, 2016 4:54 PM
To: Adrian.Dabkowski@Kimley-horn.com; clamus@fteinc.net
Cc: cory.dorman@kimley-horn.com
Subject: RE: 835 Alton Road | Updated Traffic Analysis

Adrian,

We have no further comments. It has been recommended for approval from the traffic perspective.

Respectfully,

MIAMIBEACH

Josiel Ferrer-Diaz, E.I. *Transportation Manager*
TRANSPORTATION DEPARTMENT
1700 Convention Center Drive, Miami Beach, Florida 33139
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We are committed to providing excellent public service and safety to all who live, work and play in our vibrant, tropical, historic community.

From: Adrian.Dabkowski@Kimley-horn.com [mailto:Adrian.Dabkowski@Kimley-horn.com]
Sent: Thursday, July 14, 2016 4:43 PM
To: Ferrer, Josiel; clamus@fteinc.net
Cc: cory.dorman@kimley-horn.com
Subject: RE: 835 Alton Road | Updated Traffic Analysis

Good afternoon Josiel and Claudia:

Can you please let me know if you have any additional comments for 835 Alton Road.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 600 North Pine Island Road, Suite 450, Plantation, FL 33324
Direct: 954-535-5144 | Main: 954-535-5100

From: Dabkowski, Adrian
Sent: Monday, July 11, 2016 3:32 PM
To: 'JOSIELFERRER@miamibeachfl.gov' <JOSIELFERRER@miamibeachfl.gov>; 'clamus@fteinc.net' <clamus@fteinc.net>
Cc: Dorman, Cory <cory.dorman@kimley-horn.com>
Subject: RE: 835 Alton Road | Updated Traffic Analysis

Good afternoon Josiel and Claudia:

I wanted to follow up and see if the City had any additional comments for the redevelopment of 835 Alton Road.

Thank you
Adrian

ShareFile Attachments	
Title	**Size**
835 Alton Road TIA_rev2_withAppendix.pdf	9.5 MB
Valet Operations Analysis_rev2.pdf	2.8 MB

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Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 600 North Pine Island Road, Suite 450, Plantation, FL 33324
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From: Dabkowski, Adrian
Sent: Wednesday, July 06, 2016 5:03 PM
To: 'JOSIELFERRER@miamibeachfl.gov' <JOSIELFERRER@miamibeachfl.gov>; 'clamus@fteinc.net' <clamus@fteinc.net>
Cc: Dorman, Cory <cory.dorman@kimley-horn.com>
Subject: RE: 835 Alton Road | Updated Traffic Analysis

Good afternoon Josiel and Claudia:

Attached is the updated 835 Alton Road traffic impact study and valet analysis. As the intersection capacity results indicate, the study intersections are expected to operate at adopted levels of service (LOS D+20 or better) during the analysis peak hour under all analysis conditions with the exception of Alton Road and 5th Street which is expected to operate at LOS E under existing conditions and LOS F under future background and future total conditions. The project assigns traffic equivalent to 0.08 percent (0.08%) of the overall traffic volume to the intersection of Alton Road and 5th Street during the analysis peak hour. Please note that the project does not assign valet trips through this intersection.

Based on the valet operations analysis performed, it was determined that the 90th percentile valet queues will not extend beyond the valet service area backing onto 9th Street. Based upon the conservative assumptions applied to the typical and highest traffic demand conditions, it was estimated that between four (4) and 12 valet attendants may be required during peak periods. 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.

Please let us know if the City has any further comments.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 600 North Pine Island Road, Suite 450, Plantation, FL 33324
Direct: 954-535-5144 | Main: 954-535-5100

From: Dabkowski, Adrian
Sent: Wednesday, July 06, 2016 2:09 PM
To: JOSIELFERRER@miamibeachfl.gov; clamus@fteinc.net

Cc: Dorman, Cory <cory.dorman@kimley-horn.com>
Subject: 835 Alton Road | Updated Traffic Analysis

Good afternoon Josiel and Claudia:

We have updated the intersection capacity analysis for routing valet drop-off trips on Lenox Avenue to the parking garage rather than Alton Road as discussed this morning. As a result, the intersection of Alton Road and 8th is expected to operate at LOS D under future total conditions with the project in place. The updated intersection development calculations, valet trip distribution, valet assignment, intersection level of service, queue analysis, and Synchro files are attached.

As discussed, we will provide you with an updated valet analysis and traffic impact study by tomorrow.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
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Direct: 954-535-5144 | Main: 954-535-5100

Traffic Impact Analysis
for Submittal to the
City of Miami Beach

835 Alton Road
City of Miami Beach, Florida

Kimley»Horn

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Updated July 2016
June 2016
May 2016
March 2016
043772000

Traffic Impact Analysis
for Submittal to the
City of Miami Beach

835 Alton Road
Miami Beach, Florida

Prepared for:

DIT Global, Inc.
Miami, Florida

Prepared by:

Kimley-Horn and Associates, Inc.

Kimley»Horn

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Updated July 2016
June 2016
May 2016
March 2016
043772000

Adrian K. Dabkowski, P.E., PTOE
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600 North Pine Island Road, Suite 450
Plantation, Florida 33324
CA # 00000696

EXECUTIVE SUMMARY

DIT Global, Inc. is proposing to redevelop the site located at 835 Alton Road in Miami Beach, Florida. The site is currently occupied by 20 apartment units. The proposed redevelopment consists of two (2) restaurants with a total of 362 seats. The redevelopment is expected to be completed and opened by 2018.

A traffic impact analysis was conducted for the project. Trip generation for the project was calculated using equations contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 9th Edition. ITE Land Use Code (LUC) 220 (Apartment) was used for the existing development and LUC 931 (Quality Restaurant) was used for the proposed redevelopment. The redevelopment is expected to generate 84 net new trips during the weekend P.M. peak hour of generator.

Self-parking is not provided on-site for the proposed redevelopment. All vehicles with the exception of taxis/shared-rides will be valeted at the Fifth & Alton parking garage. The redevelopment will provide six (6) long-term (locker-type) and 36 short-term (rack-type) on-site bicycle parking. A Citibike station with 16 bike docks is located adjacent to the project site on the south side of 9th Street between Alton Road and Lenox Avenue.

Intersection capacity analyses indicate that the study intersections are expected to operate at adopted levels of service (LOS D+20 or better) during the analysis peak hour under all analysis conditions with the exception of Alton Road and 5th Street which is expected to operate at LOS E under existing conditions and LOS F under future background and future total conditions. However, with signal timing optimization the intersection of Alton Road and 5th Street is expected to operate at LOS E under future total conditions. The project assigns net new traffic equivalent to 0.08 percent (0.08%) of the overall traffic volume at this intersection during the analysis peak hour. Please note that the project does not assign valet trips through this intersection.

The results of the analysis indicate that all queues are expected to be accommodated within the existing turn lanes at all study intersections with the exception of the northbound left-turn lane at Alton Road and 8th Street under future background and future total conditions and the northbound left-turn lane at Alton Road and 5th Street under existing, future background, and future total conditions during the analysis hour. Please note that the project doesn't assign any project traffic to these movements.

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INTRODUCTION

DIT Global, Inc. is proposing to redevelop the site located at 835 Alton Road in Miami Beach, Florida. The site is currently occupied by 20 apartment units. The proposed redevelopment consists of two (2) restaurants with a total of 362 seats. The redevelopment is expected to be completed and opened by 2018.

The 835 Alton Road redevelopment will be served by one (1) valet drop-off and pick-up area located on the south side of 9th Street between Alton Road and Lenox Avenue fronting the site. Self-parking is not provided on-site for the existing development and will not be provided by the proposed redevelopment. As a result, all vehicles with the exception of taxis/shared rides will be valet parked at the Fifth & Alton parking garage as part of the proposed redevelopment. The Fifth & Alton parking garage is located between 5th Street and 6th Street along Lenox Avenue. A Citibike station with 16 bike docks is located adjacent to the project site on the south side of 9th Street between Alton Road and Lenox Avenue. A site location map is provided as Figure 1. A site plan is provided in Appendix A. The project is expected to be completed and opened by year 2018.

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 and determine if adequate capacity is available to support future traffic volumes. The study's methodology is consistent with the requirements of the City of Miami Beach. Methodology correspondence detailing the traffic study requirements is included in Appendix B. This report summarizes the data collection, project trip generation and distribution, and capacity analyses.

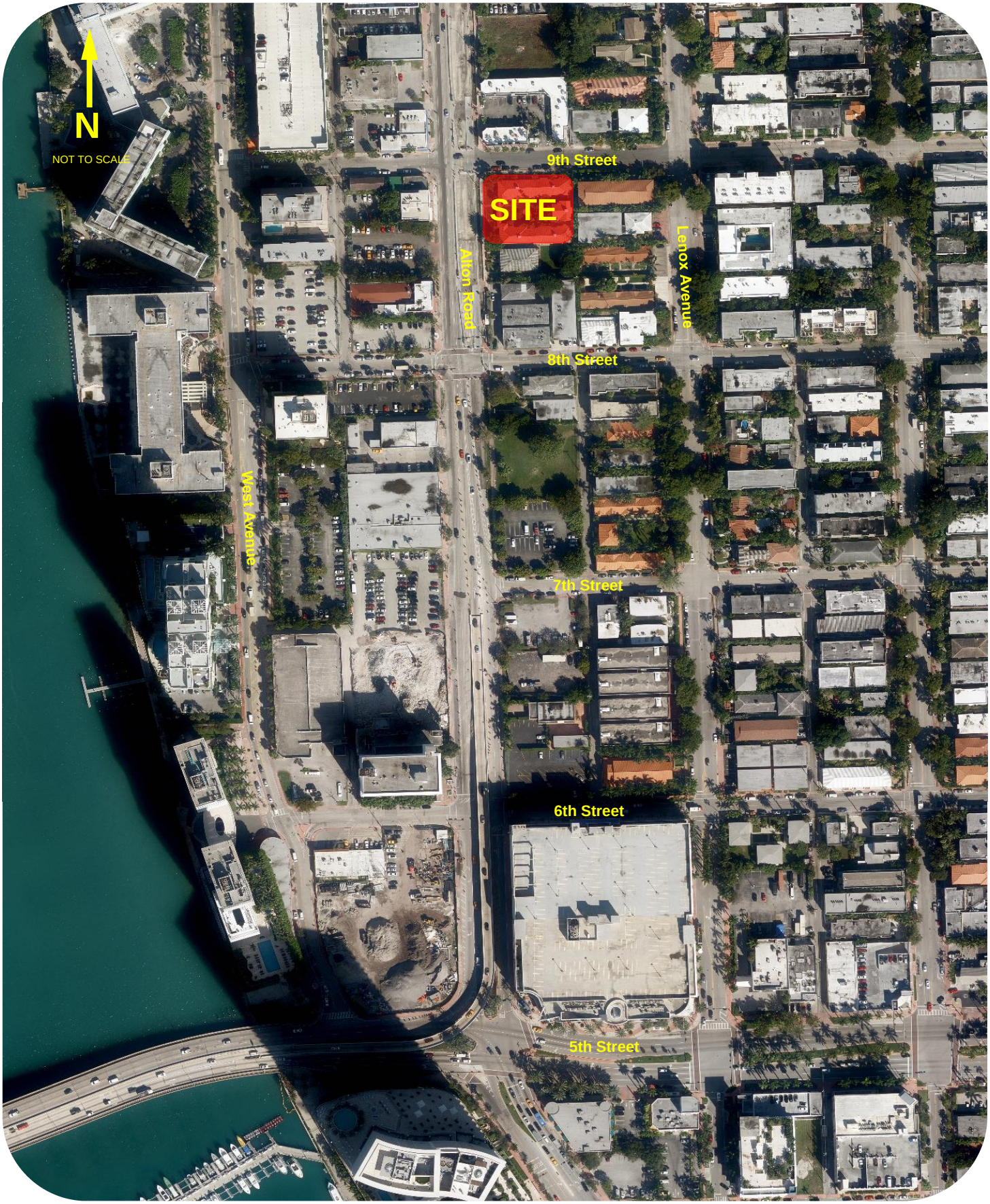

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Figure 1
Location Map
835 Alton Road
City of Miami Beach, Florida

ANALYSIS PERIOD

The project is located at 835 Alton Road in Miami Beach, Florida. Alton Road is a four-lane undivided roadway and Lenox Avenue is a two-lane undivided roadway within the study area.

The two (2) hour analysis period selected for this study was based on a 96-hour continuous traffic count on Alton Road between 8th Street and 9th Street. The 96-hour traffic count was conducted from February 18, 2016 (Thursday) through February 21, 2016 (Sunday). The traffic data indicated that the peak period occurred on Friday from 2:00 P.M. to 4:00 P.M. Consistent with this peak period, all turning movement counts were collected on Friday, February 19, 2016 during the P.M. peak period from 2:00 P.M. to 4:00 P.M. Detailed 96-hour count data is provided in Appendix C.

EXISTING TRAFFIC

P.M. peak period (2:00 P.M. to 4:00 P.M.) turning movement counts were collected on Friday, February 19, 2016 at the following study intersections:

- Alton Road and 9th Street
- Alton Road and 8th Street
- Alton Road and 7th Street
- Alton Road and 6th Street
- Alton Road and 5th Street
- Lenox Avenue and 9th Street
- Lenox Avenue and 8th Street
- Lenox Avenue and 6th Street
- Lenox Avenue and Fifth & Alton Parking Garage Driveway

The traffic volumes were collected in 15-minute intervals and the peak hour was determined for each intersection. City of Miami Beach peak season conversion factors were developed from Florida Department of Transportation (FDOT) data and were applied to the traffic counts to adjust the traffic to peak season volumes. The appropriate peak season conversion factor of 1.10 was applied to collected turning movement counts. Please note that the eastbound approach at the intersection of Alton Road and 6th Street was closed as a result of construction during the data collection period. Therefore, it is assumed to be closed under all analysis conditions.

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

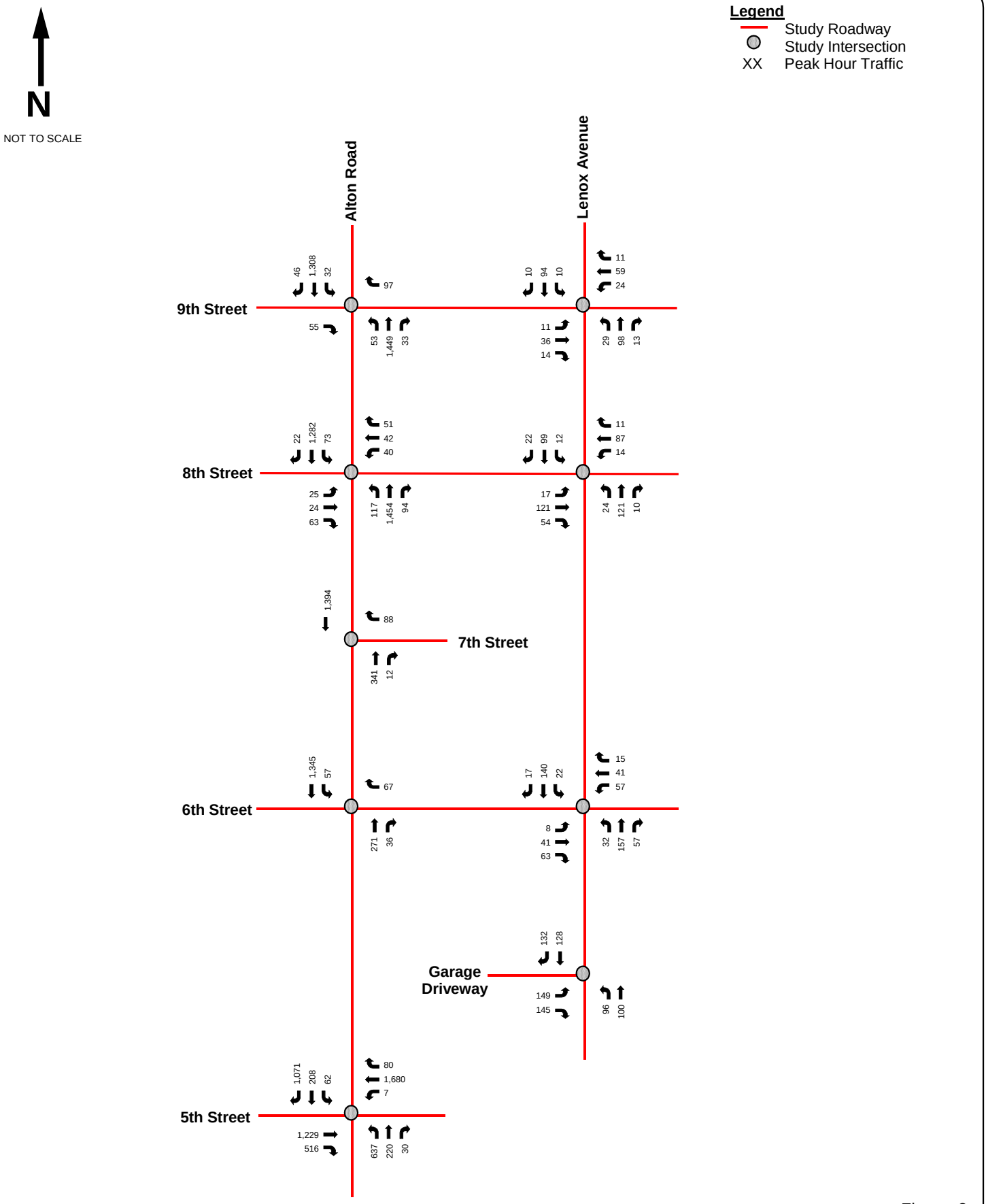

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Figure 2
Existing Peak Hour Traffic
835 Alton Road
City of Miami Beach, Florida

FUTURE BACKGROUND TRAFFIC

Future background traffic conditions are defined as expected traffic conditions on the roadway network in the year 2018 without the construction of the proposed redevelopment. Future background traffic volumes used in the analysis are the sum of the existing traffic and an additional amount of traffic generated by growth in the study area. Refer to Figure 3 for the 2018 analysis peak hour background traffic volumes.

Background Area Growth

Future traffic growth on the transportation network was determined based upon (1) historic growth trends at nearby FDOT traffic count stations and (2) traffic volume comparisons from the year 2010 and 2040 Florida Standard Urban Transportation Model Structure (FSUTMS) - Southeast Florida Regional Planning Model (SERPM) model.

FDOT count stations referenced in this analysis include:

- Count Station #2527: SR A1A/McArthur Causeway – 200 feet west of SR 907/Alton Road
- Count Station #2528: SR A1A/McArthur Causeway – 150 feet east of Meridian Avenue

The historic growth rate analysis, based on FDOT count stations determined a negative growth trend (-0.09%) over the ten (10) year period.

Based on the volume information obtained from years 2010 and 2040 FSUTMS SERPM model, an annual growth rate of 0.55 percent (0.55%) in the vicinity of the redevelopment site was calculated. In order to provide a conservative analysis, the highest growth rate of 0.55 percent (0.55%) was applied annually to the existing traffic volumes for future (2018) background conditions. The worksheets used to analyze the historic growth trends along with the FSUTMS transportation model outputs are included in Appendix D.

Committed Development

City of Miami Beach staff was contacted to determine if any projects that have been approved but not yet completed in the vicinity of the project site should be accounted for in this analysis. The following developments were identified as committed developments:

- 600 Alton Road
- Coco Bambu
- Urban Box Self Storage
- Baptist Health Urgent Care

These developments were included as future background conditions. Trip assignments for these developments are included in Appendix E.

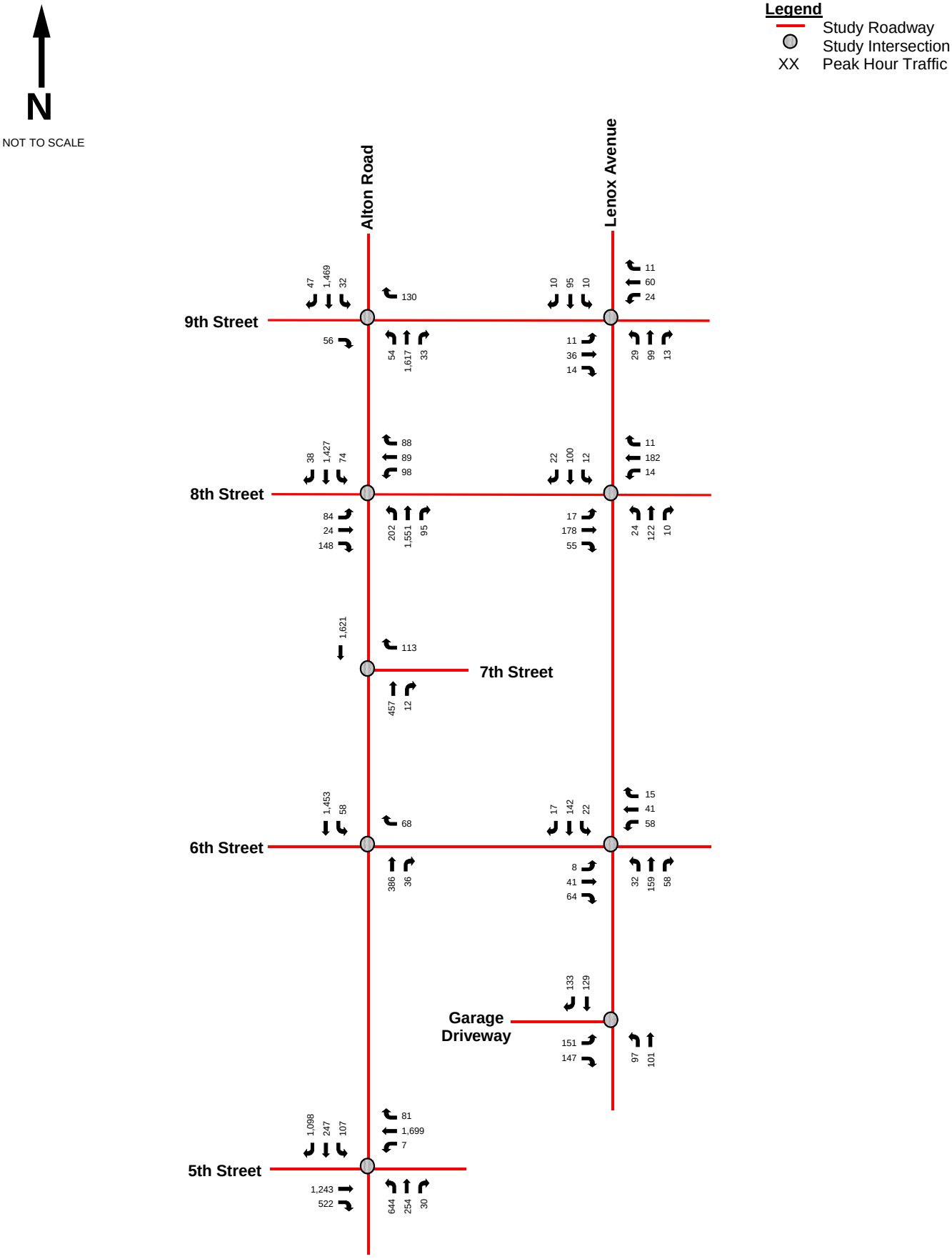

Figure 3
Future Background Peak Hour Traffic
835 Alton Road
City of Miami Beach, Florida

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PROJECT TRAFFIC

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

Existing and Proposed Land Uses

The property proposed for redevelopment is currently occupied by 20 apartment units. The proposed redevelopment consists of two (2) restaurants with a total of 362 seats. The redevelopment is expected to be completed and opened by 2018.

Project Access

Self-parking is not provided on-site for the existing development and will not be provided by the proposed redevelopment. As a result, all vehicles with the exception of taxis/shared rides will be valet parked at the Fifth & Alton parking garage as part of the proposed redevelopment. A Citibike station with 16 bike docks is located adjacent to the project site on the south side of 9th Street between Alton Road and Lenox Avenue.

Trip Generation

ITE Land Use Code (LUC) 220 (Apartment) was used for the existing development and LUC 931 (Quality Restaurant) was used for the proposed redevelopment. Please note that in order to account for the analysis period, the weekend P.M. peak hour of generator was used to conservatively determine project trips.

Multimodal Reduction

In order to account for the urban environment in which the project site is located in, a multimodal (public transit, bicycle, and pedestrian) reduction of 10.0 percent (10.0%) was applied to the site. It is expected that some employees, nearby residents, and guests will choose to walk or bike to the proposed redevelopment. It is also anticipated that patrons will walk to the adjacent retail stores, other restaurants, and local places of interest. Furthermore, it is expected that a portion of the trips including employee trips will utilize public transit. Miami-Dade County Transit (MDT) provides bus service via three (3) routes and the City of Miami Beach's Alton West trolley operate in the vicinity of the site:

- Route 113/Route M operates on SR 907/Alton Road within the vicinity of the project. This route serves the Civic Center Metrorail station, University of Miami/Jackson Memorial hospitals and clinics, Cedars Medical Center, VA Hospital, Omni Metromover Station/Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Road, and Mt. Sinai Hospital. This route operates with 60-minute headways and provides connecting service to 18 additional Miami-Dade Transit bus routes, as well as the Metrorail.

- Route 119/Route S operates on SR 907/Alton Road within the vicinity of the project. This route serves the Downtown Miami Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail station, Omni Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Road, Collins Avenue, 192 Street Causeway, City of Aventura, and Aventura Mall. This route operates with 12-minute headways and provides connecting service to 25 additional Miami-Dade Transit bus routes, as well as the Metrorail.

- Route 123/South Beach Local operates on SR 907/Alton Road and West Avenue within the vicinity of the project. This route serves Belle Isle, Collins Park, South Miami Beach, Biscayne Street, Ziff Jewish Museum, Washington Avenue, the Fillmore Miami Beach at the Jackie Gleason Theatre, 17th Street, City Hall, Meridian Avenue, Holocaust Memorial, Dade Boulevard, Bay Road/20th Street, Lincoln Road, West Avenue, Alton Road, and the Miami Beach Marina. This route operates with 13-minute headways throughout the day and provides connecting service to five (5) additional Miami-Dade Transit bus routes.

- Alton West Trolley operates on SR 907/Alton Road and West Avenue within the vicinity of the project. This route operates with 15-minute headways throughout the day.

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

Net New Project Trips

Net new project trips are equal to the gross project trips minus the multimodal reduction factor. The net new project trips represent additional vehicles on the roadway network. Table 1 summarizes the project's trip generation potential for the analysis peak hour. As shown in Table 1, the redevelopment is expected to generate 84 net new trips during the analysis peak hour. Detailed trip generation information is included in Appendix F.

Table 1: Proposed Net New Trip Generation

Future Land Use (ITE Code)	Scale	Net External Trips	Entering		Exiting	
			%	Trips	%	Trips
Existing Development						
Apartment (220)	20 dwelling units	25	50%	13	50%	12
External Trips		25		13		12
Proposed Redevelopment						
Quality Restaurant (931)	362 seats	109	59%	64	41%	45
External Trips		109		64		45
Net New Project Trips		84		51		33

Trip Distribution and Assignment

The trip distribution was determined based on an interpolated cardinal trip distribution for the project site's traffic analysis zones (TAZs) obtained from the Miami-Dade Metropolitan Planning Organization's (MPO's) *Miami-Dade 2040 Long Range Transportation Plan Directional Trip Distribution Report.* The project is located within TAZ 653. The cardinal distribution is shown in Table 2. Figure 4 presents the project's net new traffic distribution for the analysis peak hour. Detailed cardinal distribution calculations are contained in Appendix G.

Table 2: Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips
North-Northeast	21.0%
East-Northeast	2.0%
East-Southeast	4.0%
South-Southeast	4.0%
South-Southwest	2.0%
West-Southwest	22.0%
West-Northwest	25.0%
North-Northwest	20.0%
Total	100.0 %

The existing development and proposed redevelopment do not provide self-parking on-site. Restaurant patrons will drop-off and pick-up vehicles at the porte-cochere along the south side of 9th Street between Alton Road and Lenox Avenue. All vehicles with the exception of taxis/shared-rides will be valet parked at the Fifth & Alton parking garage as part of the proposed redevelopment. Based on input provided by City of Miami Beach staff, 20.0 percent (20.0%) of the vehicles arriving were assumed to be taxis/shared-rides. This percentage was applied to the net new trip assignment to develop valet trips. Data related to taxi trips is provided in Appendix F. Figure 5 provides a graphic illustration of the proposed valet routes to/from the Fifth & Alton parking garage and Figure 6 presents the project's net new valet trip distribution.

Figure 7 presents the project's net new traffic assignment for the analysis peak hour. Additionally, the anticipated trips associated with the valet operations serving the proposed parking garage were included in the project traffic assignment.

N

NOT TO SCALE

Legend

Study Roadway

Study Intersection

XX% Entering Trip Distribution

(XX%) Exiting Trip Distribution

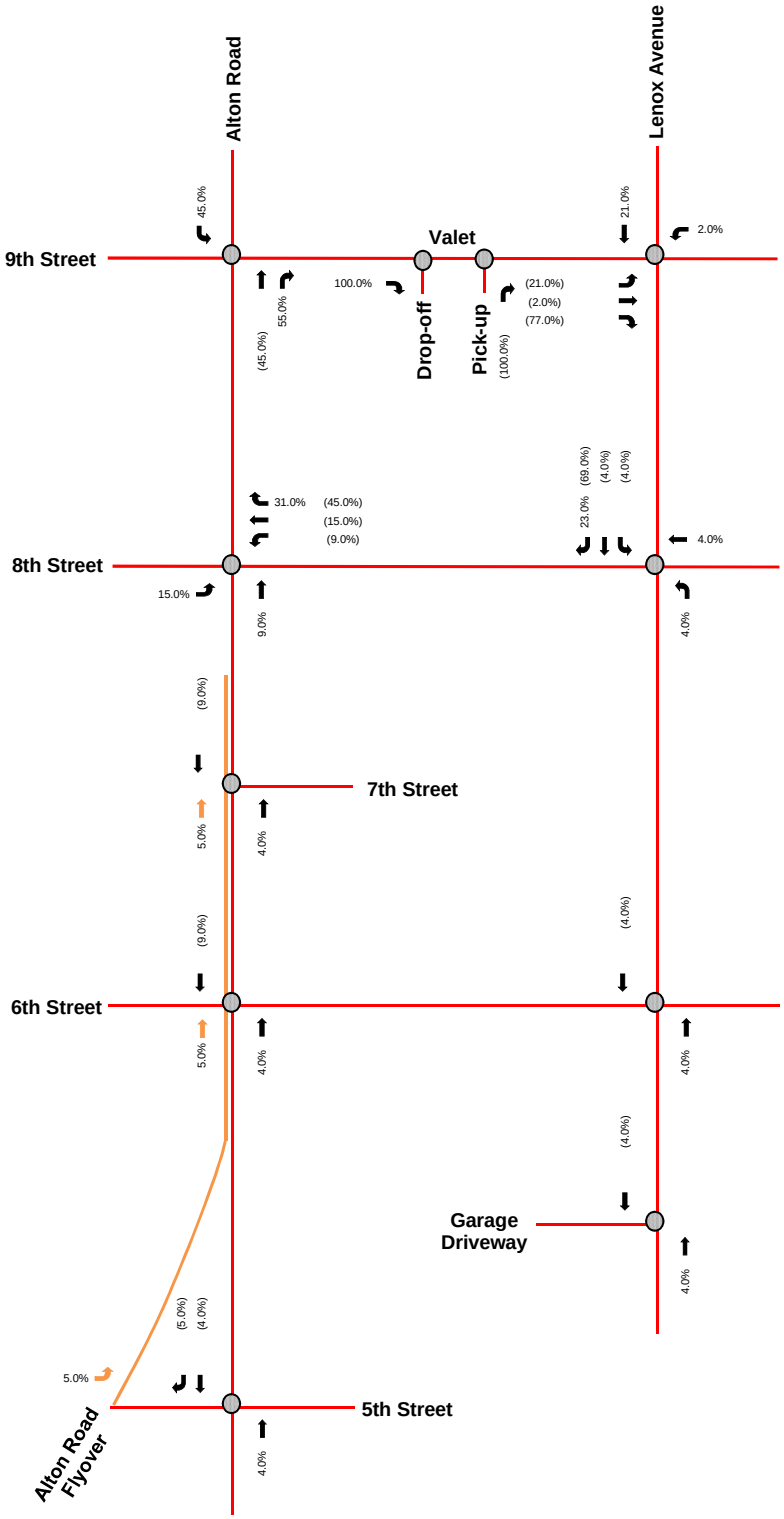

Figure 4
Peak Hour Net New Trip Distribution
835 Alton Road
City of Miami Beach, Florida

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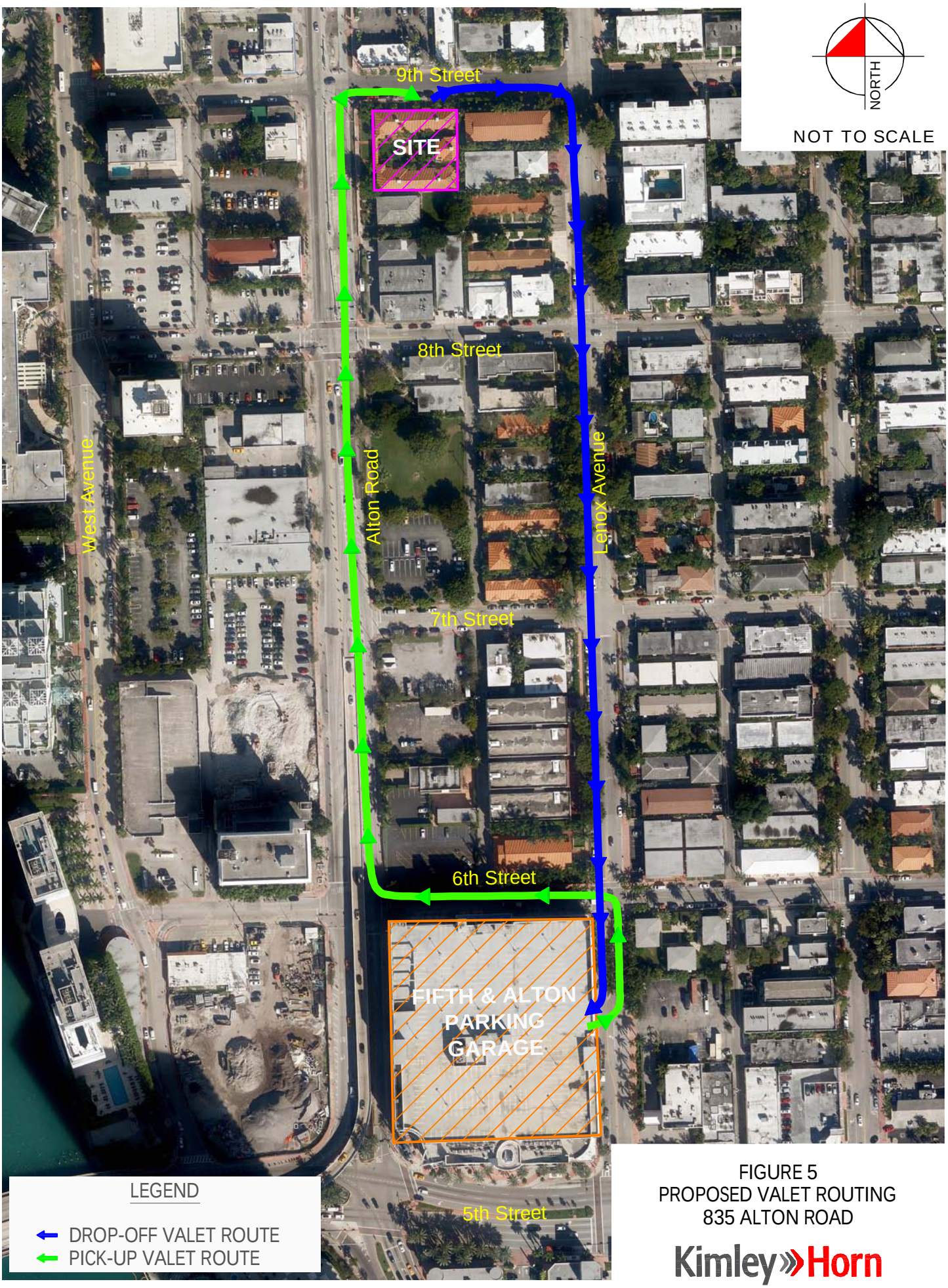

FIGURE 5
PROPOSED VALET ROUTING
835 ALTON ROAD

Kimley»Horn

Drawing name: K:\FTL_TPTO\043772000-835 Alton Road\CADD\Valet Figures_rev.dwg Figure 5 Jul 06, 2016 3:00pm by: cory.dorman

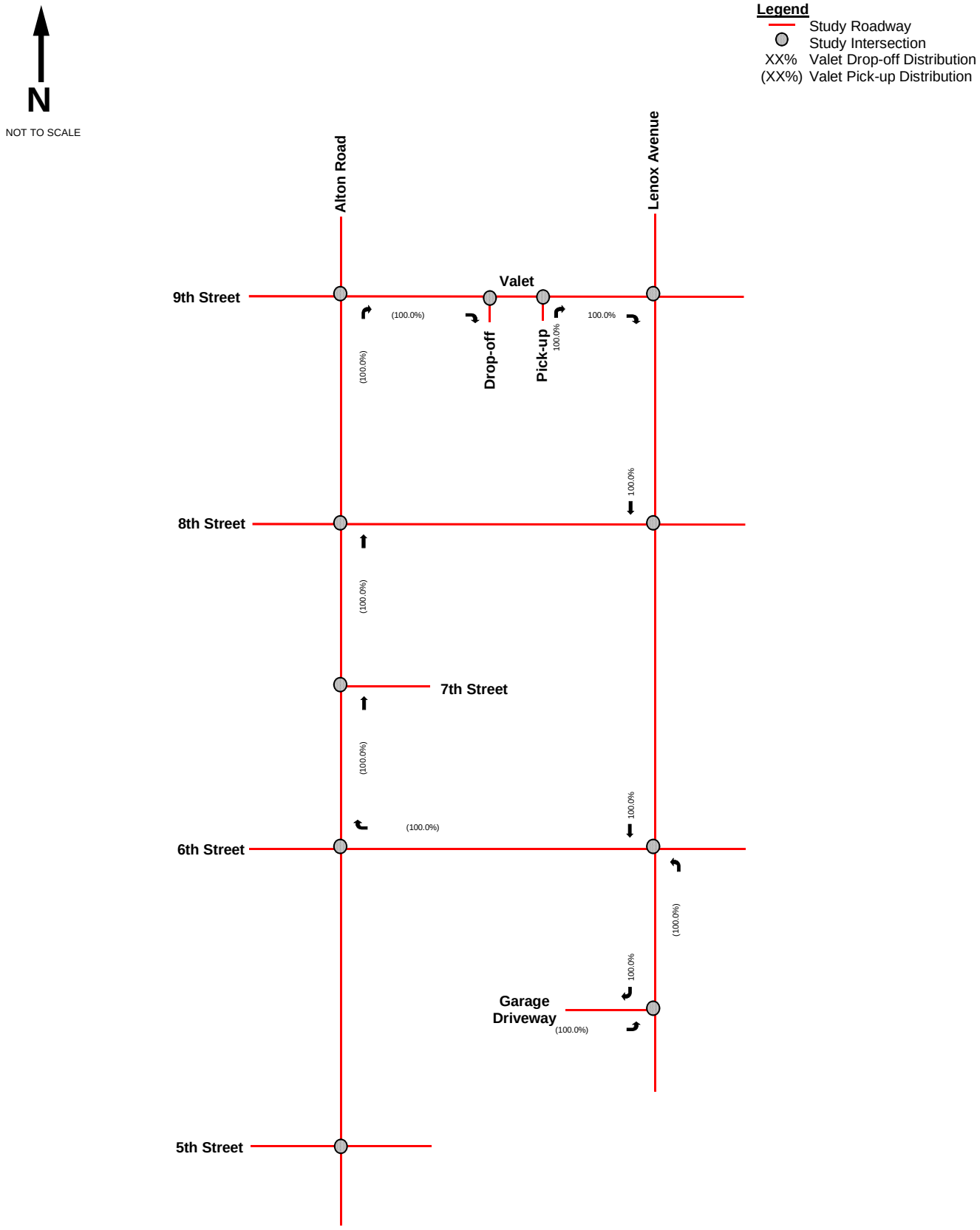

Figure 6
Peak Hour Valet Trip Distribution
835 Alton Road
City of Miami Beach, Florida

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N

NOT TO SCALE

Legend

- Study Roadway
- Study Intersection
- XX Net New Project Trip Assignment
- (XX) Net New Valet Trip Assignment

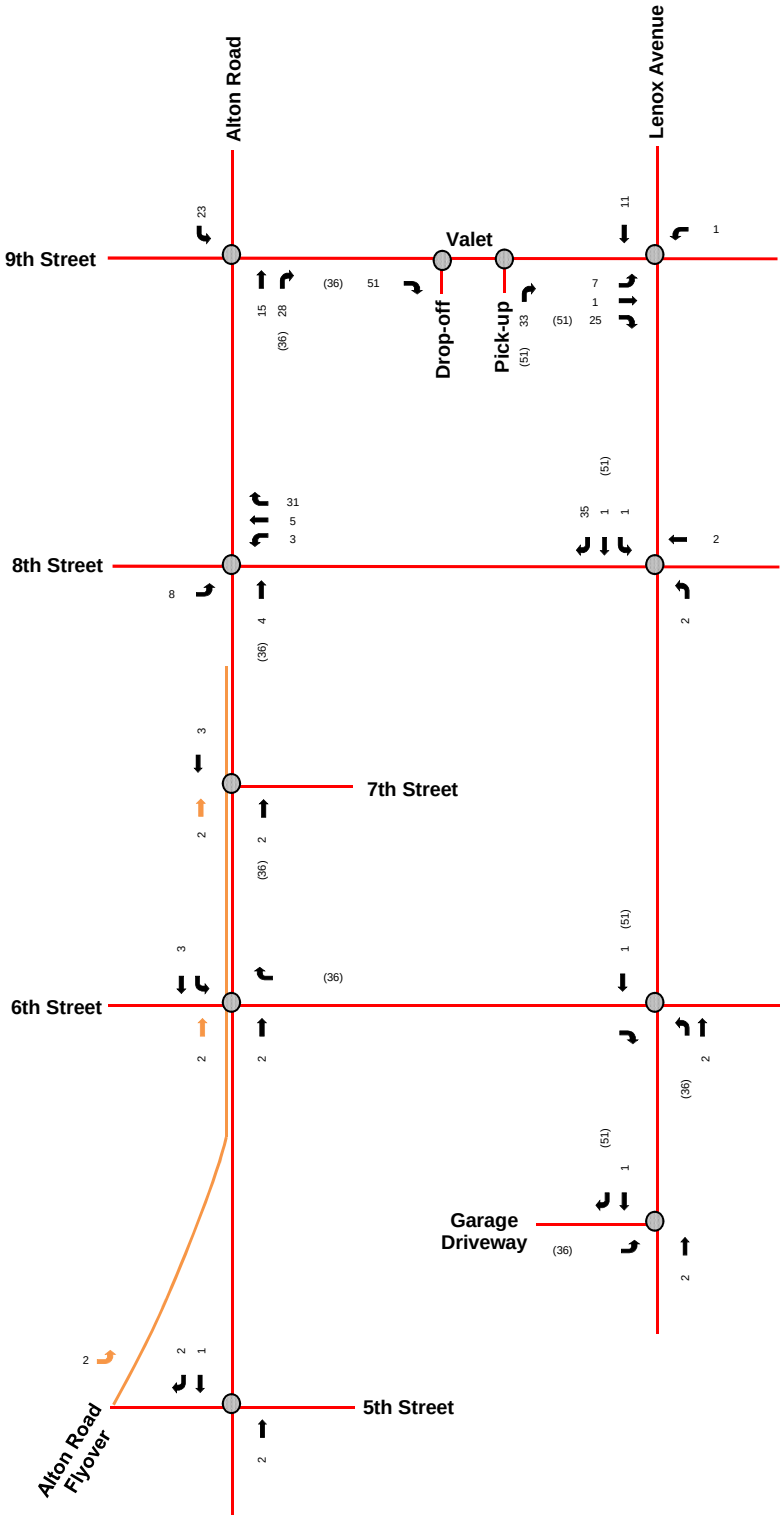

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Figure 7
Peak Hour Project Trip Assignment
835 Alton Road
City of Miami Beach, Florida

FUTURE TOTAL TRAFFIC

Future total traffic conditions are defined as the expected traffic conditions in the year 2018 after the opening of the project. Total traffic volumes considered in the analysis for this project are the sum of the background traffic volumes and the expected project traffic volumes. The analysis peak hour future traffic volumes are shown in Figure 8. Volume development worksheets for the study intersections are included in Appendix H.

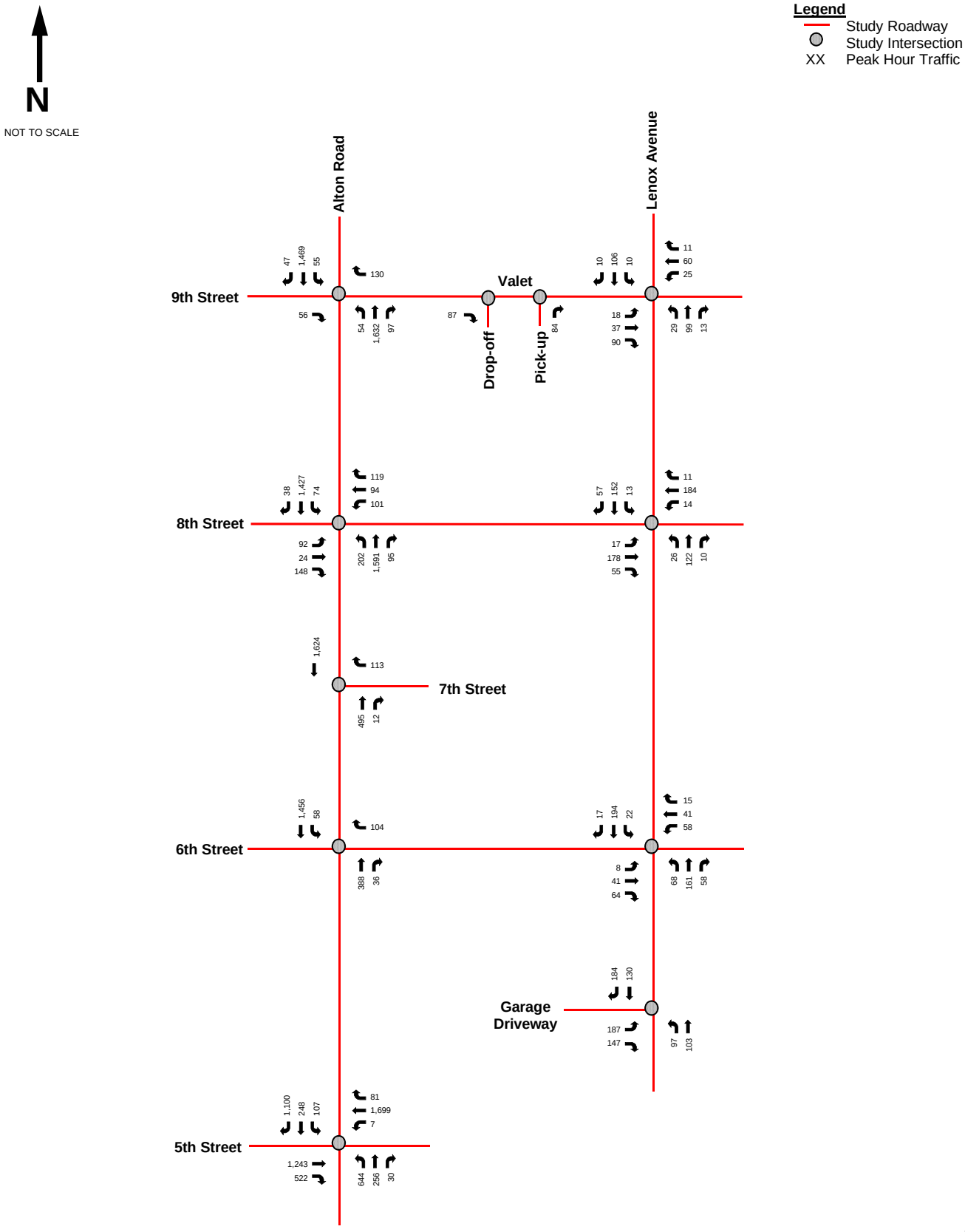

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Figure 8
Future Total Peak Hour Traffic
835 Alton Road
City of Miami Beach, Florida

INTERSECTION CAPACITY ANALYSIS

The study area intersection operating conditions were analyzed for three (3) scenarios (existing conditions, future background conditions, and future total conditions) were analyzed using Trafficware's *SYNCHRO 9.0* software, which applies methodologies outlined in the Transportation Research Board's (TRB's) *Highway Capacity Manual,* 2000 and 2010 Editions. Synchro worksheets for the study intersections are included in Appendix I.

A summary of the intersection analyses for the analysis peak hour is presented in Table 3. Please note that as mass transit service with headways of 20 minutes or less is provided within 0.25 miles of the study area, LOS D+20 was utilized as the adopted level of service standard. As this table indicates, the study intersections are expected to operate at adopted levels of service (LOS D+20 or better) during the analysis peak hour under all analysis conditions with the exception of Alton Road and 5th Street which is expected to operate at LOS E under existing conditions and LOS F under future background and future total conditions. However, with signal timing optimization the intersection of Alton Road and 5th Street is expected to operate at LOS E under future total conditions. The project assigns traffic equivalent to 0.08 percent (0.08%) of the overall traffic volume to the intersection of Alton Road and 5th Street during the analysis peak hour. Please note that the project does not assign valet trips through this intersection.

Table 3: Peak Hour Intersection Capacity Analysis						
Intersection	Traffic Control	Overall LOS/Delay	Approach LOS			
			EB	WB	NB	SB
Existing Conditions (Background Conditions) [Future Total Conditions]						
Alton Road and 9th Street	Two-Way Stop-Controlled	(1)	B (B) [B]	B (C) [C]	(2)	(2)
Alton Road and 8th Street	Signalized	B/11.7 (D/44.6) [D/54.7]	E (F) [F]	E (F) [F]	A (B) [B]	A (A) [A]
Alton Road and 7th Street	One-Way Stop-Controlled	(1)	(3)	B (B) [B]	(2)	(2)
Alton Road and 6th Street	Signalized	B/14.7 (B/17.8) [B/18.7]	(4)	E (E) [E]	A (A) [A]	B (B) [B]
Alton Road and 5th Street	Signalized	E/69.9 (F/81.5) [E/67.5](6)	C (C) [C]	D (E) [E]	F (F) [F]	C (D) [E]
Lenox Avenue and 9th Street	Two-Way Stop-Controlled	(1)	A (A) [A]	B (B) [B]	(2)	(2)
Lenox Avenue and 8th Street	All-Way Stop-Controlled	A/9.2 (B/10.5) [B/11.4]	A (B) [B]	A (B) [B]	A (B) [B]	A (A) [B]
Lenox Avenue and 6th Street	All-Way Stop-Controlled	A/9.7 (A/9.7) [B/10.7]	A (A) [A]	A (A) [A]	A (A) [B]	A (A) [B]
Lenox Avenue and Fifth & Alton Parking Garage Driveway	Two-Way Stop-Controlled	(1)	B (B) [B]	(3)	(2)	(2)

Notes:
(1) Overall intersection LOS is not defined, as intersection operates under free-flow or stop-control conditions.
(2) Approach operates under free-flow conditions. LOS is not defined.
(3) Approach does not exist.
(4) Approach under construction. Intersection traffic counts and signal timings reflect operation under construction.
(5) Signal timings optimized in order for turn-lane queues to be accommodated in existing turn-lane storage.
(6) Signal timings optimized.

TURN LANE QUEUE LENGTH ANALYSIS

A 95th percentile queue analysis was performed to determine if the existing exclusive turn lanes at study intersections can sufficiently accommodate expected vehicle queue lengths under existing, future background, and future total traffic conditions. The 95th percentile queue lengths were calculated using Trafficware's *SYNCHRO 9.0* software. The results of the queue length analysis are summarized in Table 3. The results of the analysis indicate that all queues are expected to be accommodated within the existing turn lanes at all study intersections with the exception of the northbound left-turn lane at Alton Road and 8th Street under future background and future total conditions and the northbound left-turn lane at Alton Road and 5th Street under existing, future background, and future total conditions during the analysis hour. Please note that the project doesn't assign any project traffic to these movements.

Table 4: Peak Hour Turn Lane Queuing Analysis				
Existing (Future Background) [Future Total}				
Intersection	Turn Lane	95th Percentile Queue (ft) (1)	Existing Turn Lane Length (ft)	Turn Lane Sufficient?
Alton Road and 9th Street	Northbound Left-Turn	<25 (<25) [<25]	175	Yes
	Southbound Left-Turn	<25 (<25) [<25]	175	Yes
Alton Road and 8th Street	Northbound Left-Turn	51 (#190) [#190]	180	No
	Southbound Left-Turn	34 (34) [41]	175	Yes
Alton Road and 6th Street	Southbound Left-Turn	m86 (110) [110]	300	Yes
Alton Road and 5th Street(2)	Eastbound Right-Turn(3)	<25 (<25) [<25]	260	Yes
	Westbound Left-Turn	27 (27) [27]	140	Yes
	Westbound Right-Turn	45 (46) [46]	285	Yes
	Northbound Left-Turn	#677 (#686) [#574]	245	No
	Southbound Right-Turn(3)	<25 (<25) [<25]	380	Yes
Lenox Avenue and Fifth & Alton Parking Garage	Northbound Left-Turn	<25 (<25) [<25]	50	Yes

Notes:
(1) The 95th percentile queue length is based on Synchro 9 capacity analyses. Minimum queue of 25 feet assumed.
(2) Signal timings optimized.
(3) Movement operates under free-flow conditions.
95th percentile volume exceeds capacity, queue may be longer.
m 95th percentile queue is metered by upstream signal.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. The applicant will provide six (6) long-term (locker-type) on-site bicycle parking spaces on the east side of the redevelopment for restaurant employees and staff as well as 36 short-term (rack-type) on-site bicycle parking spaces on the north side of the redevelopment for guests. Please note that a Citibike station with 16 bike docks located adjacent to the redevelopment along the south side of 9th Street between Alton Road and Lenox Avenue.

ADDITIONAL CONSIDERATIONS

On-Street Parking

Approximately two (2) on-street parking spaces along the south side of 9th Street will be removed to service site loading operations. Furthermore, three (3) parking spaces will be used for valet and taxi/shared-ride operations.

CONCLUSION

This analysis has addressed traffic-related impacts associated with the proposed redevelopment located at 835 Alton Road. The property proposed for redevelopment is currently occupied by 20 apartment units. The redevelopment program consists of two (2) restaurants with a total of 362 seats. The redevelopment is expected to be completed and opened by 2018.

Intersection capacity analyses indicate that the study intersections are expected to operate at adopted levels of service (LOS D+20 or better) during the analysis peak hour under all analysis conditions with the exception of Alton Road and 5th Street which is expected to operate at LOS E under existing conditions and LOS F under future background and future total conditions. However, with signal timing optimization the intersection of Alton Road and 5th Street is expected to operate at LOS E under future total conditions. The project assigns traffic equivalent to 0.08 percent (0.08%) of the overall traffic volume at this intersection during the analysis peak hour. Please note that the project does not assign valet trips through this intersection.

The results of the analysis indicate that all queues are expected to be accommodated within the existing turn lanes at all study intersections with the exception of the northbound left-turn lane at Alton Road and 8th Street under future background and future total conditions and the northbound left-turn lane at Alton Road and 5th Street under existing, future background, and future total conditions during the analysis hour. Please note that the project doesn't assign any project traffic to these movements.

APPENDIX A:
Site Plan

OCCUPANCY LOAD

BUILDING 1: 4,457 SQ. FT.

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
SERVICES FACILITIES	-	474 S.F.	-	-
BOUTIQUE	1 P	306 S.F.	-	-
KITCHEN	6 P	1,230 S.F.	SF/200 = 6 P	-
SEATING AREA	8 P	1,382 S.F.	SF/15 = 92 P	68 SEATS
BAR	1 P	263 S.F.	SF/15 = 18 P	11 SEATS
WAITING AREA	1 P	478 S.F.	-	-
RESTROOMS	-	324 S.F.	-	-
SUBTOTAL	17 P	4,457 S.F	116 P	79 SEATS

BUILDING 2: 4,457 SQ. FT.

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
KITCHEN	7 P	1,312 S.F.	SF/200 = 7 P	-
SEATING AREA	14 P	2,080 S.F.	SF/15 = 138 P	116 SEATS
BAR	1 P	263 S.F.	SF/15 = 18 P	11 SEATS
WAITING AREA	1 P	478 S.F.	-	-
RESTROOMS	-	324 S.F.	-	-
SUBTOTAL	23 P	4,457 S.F.	163 P	127 SEATS

BUILDING 3: 905 SQ. FT.

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
BAR	3 P	617 S.F.	SF/15 = 41 P	20 SEATS
WAITING AREA	-	236 S.F.	-	-
RESTROOMS	-	52 S.F.	-	-
SUBTOTAL	3 P	905 S.F.	41 P	20 SEATS

EXTERIOR AREA: 7,064 SQ. FT.

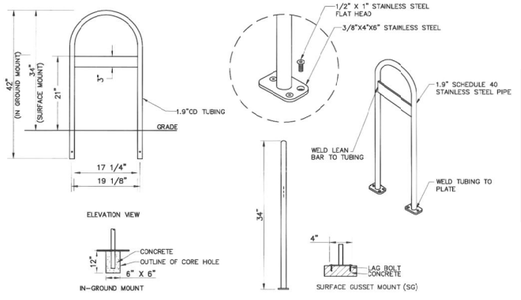
USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
COURTYARD UNDER PERGOLAS	7 P	1,874 S.F.	SF/15 = 124 P	64 SEATS
COURTYARD UNDER UMBRELLAS	4 P	4,112 S.F.	SF/15 = 274 P	40 SEATS
ENTRY	-	488 S.F.	-	-
TERRACE	2 P	590 S.F.	SF/15 = 40 P	32 SEATS
SUBTOTAL	13 P	7,064 S.F.	438 P	136 SEATS

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
TOTAL	56 P	16,883 S.F.	758 P	362 SEATS

BICYCLE PARKING LOAD		
MIN. SHORT TERM BICYCLE PARKING SPACES	1 PER 10 SEATS	36 BICYCLES
MIN. LONG TERM BICYCLE PARKING SPACES	1 PER 10% EMPLOYEES	6 BICYCLES

WALL LEGEND

- EXISTING TO REMAIN
- NEW EXTERIOR & INTERIOR C.M.U. WALL
- NEW INTERIOR PARTITION WALL



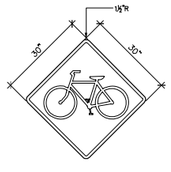
BICYCLE U RACK DETAIL
NOT TO SCALE

NOTES:

1. STAINLESS STEEL SCHEDULE 40 SATIN #4 POLISH
2. 1/2"x1" (OR LONGER AS NEEDED) STAINLES STEEL FLAT HEAD, SOCKET HEAD CAP SCREW SECURE BIKE RACK TO MOUNT.
3. FLUSH BOLTS TO BE USED WITH 1/2"x13" THREADED RECEIVERS FOR SURFACE MOUNT, OR IN-GROUND POST WITH MATCHING PLATE, WHERE NEEDED
4. WHEN USING MORE THAN ONE LOOP, SEPARATION BETWEEN EACH LOOP WILL BE A MINIMUM OF 28"
5. CONCRETE 2,500 PSI.

NOTES:

1. ALL SIGNS SHALL BE ERECTED IN ACCORDANCE WITH ALL LOCAL CODES AND SOIL CONDITIONS.
2. DESIGNS ARE PER 145 MPH WIND LOADS (VERIFY LOCAL WIND AND SOIL CONDITIONS).
3. ALL SIGNAGE WILL COMPLY WITH THE "MANUAL ON UNIFORM TRAFIC CONTROL DEVICES" BY U.S. DEPARTMENT OF TRANSPORTATION-FEDERAL HIGHWAY ADMINISTRATION



BICYCLE PARKING SIGN
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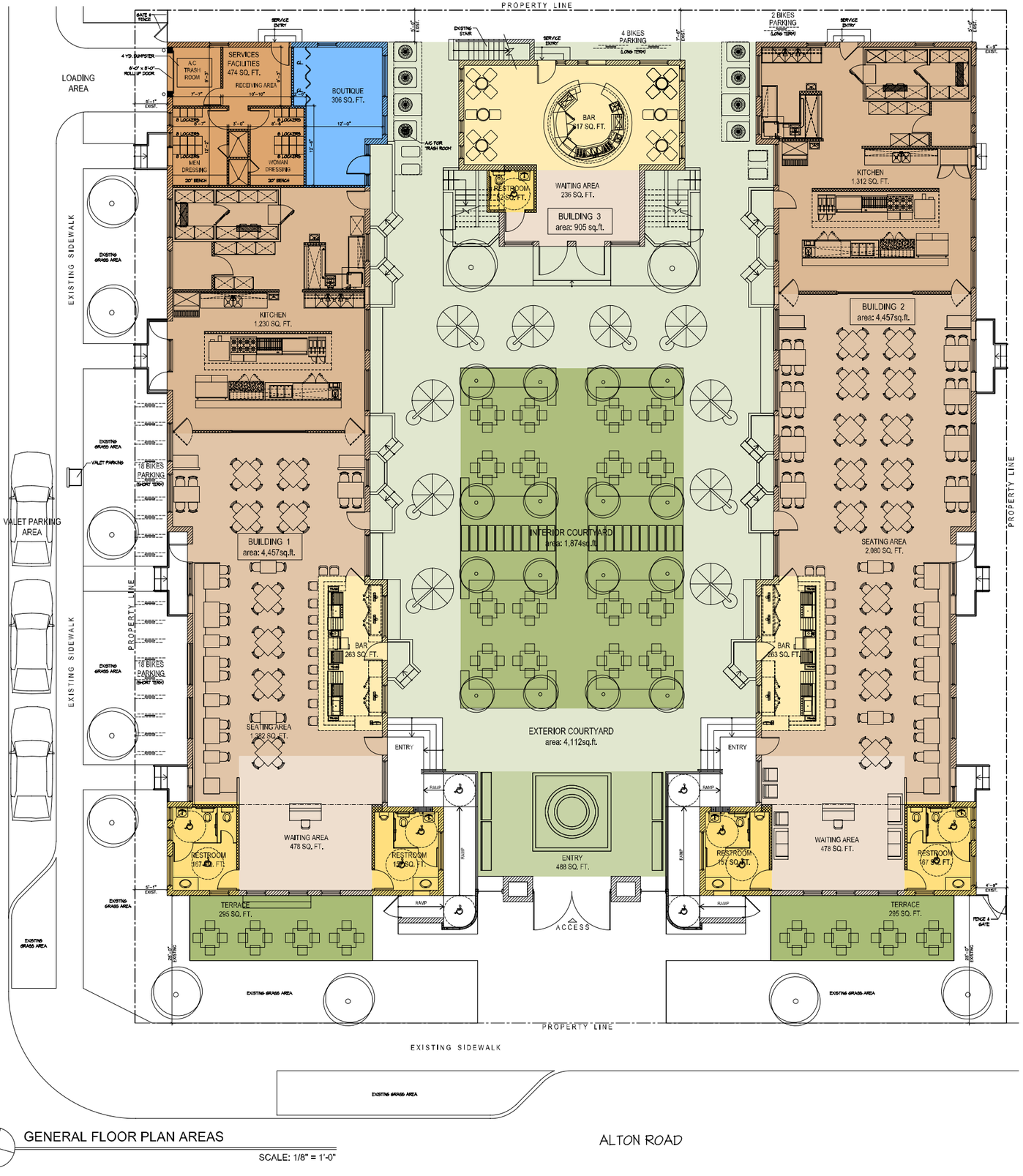


GENERAL FLOOR PLAN AREAS
SCALE: 1/8" = 1'-0"

CROSSBOWER CORP. — General Contractors

PROFESSIONAL SEAL

CHRISTIAN BALLESTEROS
▪ AR.14201 ▪ ID.4319 ▪ CGC.47236 ▪
3247 N.E. 168 STREET
NORTH MIAMI BEACH, FL.33160
PH: 786-955 8504

PROJECT NAME

ALTON ROAD RESTAURANTS & PATIO

PROJECT ADDRESS

835 ALTON ROAD
MIAMI BEACH, FL 33139

REVISION

Project No:	2014-181
Scale:	AS NOTED
Date:	11-25-2014
Drawn:	E.F.
Checked:	J.V.
CADD File:	835 ALTON RD [AREAS] 03-08-16.dwg

DRAWN

JOSE VALERO
Drafting Services Inc
PH-954-7734410
e-valerejose@att.net

DRAWING TILE

GENERAL FLOOR PLAN AREAS

SHEET NO.

A-1

APPENDIX B:
Methodology Correspondence

Dorman, Cory

From: Falconi, Xavier <XavierFalconi@miamibeachfl.gov>
Sent: Wednesday, February 10, 2016 11:19 AM
To: Dabkowski, Adrian
Cc: 'Claudia Lamus'; Majstorovic, Milos
Subject: FW: 835 Alton Road - Traffic Study Methodology

Adrian,
No additional comments at this time. Thanks.

MIAMIBEACH
Xavier R. Falconi, PE
Transportation Planner
TRANSPORTATION DEPARTMENT
1700 Convention Center Drive, Miami Beach, FL 33139
Tel: 305-673-7000 X 6129 / Fax: 305-673-7559 / www.miamibeachfl.gov

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

Please do not print this e-mail unless necessary.

From: Claudia Lamus [mailto:clamus@fteinc.net]
Sent: Wednesday, February 10, 2016 10:23 AM
To: Falconi, Xavier
Subject: RE: 835 Alton Road - Traffic Study Methodology

Xavier,
FTE's comments on the proposed methodology for the above mentioned study were satisfactorily addressed.
Regards,

Claudia Lamus, PE
FTE
Tel: 305-463-8411, Ext. 109
Cell:305-582-5938
Clamus@fteinc.net | www.fteinc.net
Please consider the environment before printing this email.

From: Adrian.Dabkowski@Kimley-horn.com [mailto:Adrian.Dabkowski@Kimley-horn.com]
Sent: Tuesday, February 9, 2016 1:52 PM
To: XavierFalconi@miamibeachfl.gov; Claudia Lamus
Cc: RogelioMadan@miamibeachfl.gov; MilosMajstorovic@miamibeachfl.gov; MichaelBelush@miamibeachfl.gov; crossbowercorp@gmail.com; dit305@gmail.com; cory.dorman@kimley-horn.com
Subject: RE: 835 Alton Road - Traffic Study Methodology

Good afternoon Xavier:

Attached is our response to the City's and Consultant's comments and the updated traffic study methodology. Please let us know if the City has any additional comments.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 600 North Pine Island Road, Suite 450, Plantation, FL 33324
Direct: 954-535-5144 | Main: 954-535-5100

From: Falconi, Xavier [mailto:XavierFalconi@miamibeachfl.gov]
Sent: Wednesday, February 03, 2016 12:07 PM
To: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>; clamus@fteinc.net
Cc: Madan, Rogelio <RogelioMadan@miamibeachfl.gov>; Majstorovic, Milos <MilosMajstorovic@miamibeachfl.gov>; Belush, Michael <MichaelBelush@miamibeachfl.gov>
Subject: FW: 835 Alton Road - Traffic Study Methodology

Adrian,
See below comments. We discussed at our meeting the importance of including the TDM Plan and the inclusion of bike racks to allow for bicycle parking mainly for employees of the restaurants. The TDM should include the name of the person designated by the applicant to be coordinating the implementation of the TDM Plan with the City. The pick up and drop off area for the valet operation should be closely coordinated with the City's Parking Department. In addition, each of the intersections proposed to be utilized for circulation of the valet operation should be analyzed as part of the traffic study. At the meeting we also raised the awareness to avoid impacting the neighborhood with additional traffic due to the valet parking operation.

Claudia,
What is the fee for the peer review work for this project?

MIAMIBEACH
Xavier R. Falconi, PE
Transportation Planner
TRANSPORTATION DEPARTMENT
1700 Convention Center Drive, Miami Beach, FL 33139
Tel: 305-673-7000 X 6129 / Fax: 305-673-7559 / www.miamibeachfl.gov

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

Please do not print this e-mail unless necessary.

From: Claudia Lamus [mailto:clamus@fteinc.net]
Sent: Wednesday, February 03, 2016 10:36 AM
To: Falconi, Xavier
Subject: RE: 835 Alton Road - Traffic Study Methodology

Xavier,
My comments for this methodology are as follows:

- In addition to the two restaurants, the site plan shows that the development will include a café and a boutique store. Please make sure that these are included within your trip generation calculations.
- Please verify for the study area to include all the intersections impacted by your proposed valet operations.
- Since 5th street will be the major access road to the study area, please include the intersection of 5th and Alton Road.

- Trip distribution- in addition to the existing counts, the trip distribution needs to consider the cardinal distribution from the Miami-Dade Long Range Transportation Plan Update, published by the MPO.
- As part of the intersection analysis please add a table summarizing the existing turn lane lengths and the projected queue lengths.
- The Traffic study needs to include a TDM plan
- Any impacts to the existing parallel parking needs to be documented and approved by the City's Parking department.
- Please add a note indicate that It is understood that the City reserves the right to request additional analyses including but not limited to, additional traffic counts and level of service analysis for any intersection City staff feels is necessary in order to complete the review process.

Let me know if you have any additional comments or questions,

Regards,

Claudia Lamus, PE
FTE
Tel: 305-463-8411, Ext. 109
Cel : 305-5825938
Clamus@fteinc.net | *www.fteinc.net*
Please consider the environment before printing this email.

From: Adrian.Dabkowski@Kimley-horn.com [mailto:Adrian.Dabkowski@Kimley-horn.com]
Sent: Friday, January 29, 2016 9:41 AM
To: XavierFalconi@miamibeachfl.gov
Cc: crossbowercorp@gmail.com; Claudia Lamus; RogelioMadan@miamibeachfl.gov; dit305@gmail.com
Subject: 835 Alton Road - Traffic Study Methodology

Good morning Xavier:

Attached is the 835 Alton Road traffic study methodology. Please let me know if the City has any comments.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 600 North Pine Island Road, Suite 450, Plantation, FL 33324
Direct: 954-535-5144 | Main: 954-535-5100

Kimley»Horn

Memorandum

To: Xavier Falconi, P.E.
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE
Cory D. Dorman, E.I.

Cc: Dmitry Trukhachev, DIT Global, Inc.
Christian Ballesteros, Crossbower Corp.
Rogelio Madan, AICP, City of Miami Beach
Claudia Lamus, P.E., FTE, Inc.

Date: February 9, 2016

Subject: 835 Alton Road
Traffic Study Methodology

The purpose of this memorandum is to summarize the traffic study methodology discussed at our January 27, 2016 meeting. The proposed redevelopment is located at 835 Alton Road in Miami Beach, Florida.

The proposed redevelopment plan consists of two (2) restaurants with a total of 339 seats. Currently, the site is occupied by 20 apartment units. Detailed development program information and a conceptual site plan is provided in Attachment A. The following sections summarize our proposed methodology.

TRIP GENERATION

Trip generation calculations for the proposed redevelopment were performed using Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 9th Edition. The trip generation for the proposed land uses was determined using ITE Land Use Code (LUC) 931 (Quality Restaurant). For the existing land use, ITE LUC 220 (Apartment) was used. Project trips were estimated for the P.M. peak hour.

A multimodal (public transit, bicycle, and pedestrian) reduction of 10 percent (10%) was applied to the site to account for the urban environment in which the project site is located. It is expected that employees, nearby residents, and visitors will choose to walk to the proposed development. It is expected that a portion of the trips including employee trips will utilize transit. Miami-Dade County Transit provides bus service via three (3) routes in the vicinity of the site. Transit route information will be documented in the report. Additionally, a portion of the trips are expected to be bicycles. A Citibike station with 16 bike docks is located adjacent to the project site on the south side of 9th street between Alton Road and Lenox Avenue.

The existing development generates 26 trips during the weekday P.M. peak hour. The trip generation calculations indicate that the proposed redevelopment will generate 79 trips during the weekday P.M. peak hour. The proposed redevelopment results in a net increase of 53 trips during the P.M. peak hour. No on-site parking will be provided as part of the redevelopment. It is assumed that valet

operations will utilize the Fifth & Alton parking garage. The trip generation calculations are provided in Attachment B. Trip generation calculations may be revised based on the results of the analysis period determination as well as any revisions to the development program or site plan modifications.

ANALYSIS PERIOD DETERMINATION

The analysis period will be based on one (1) peak period determined from a 96-hour continuous traffic count on Alton Road between 8th Street and 9th Street. The 96-hour count will include Thursday, Friday, Saturday, and Sunday. All traffic counts will be adjusted to account for seasonality using the appropriate Florida Department of Transportation (FDOT) seasonal factors for Miami Beach. Signal timing information will be obtained from Miami-Dade County Public Works and Waste Management Department – Traffic Signals and Signs Division. All background documentation collected will be provided in the Appendix of the traffic impact study.

STUDY AREA

Based on the proposed development plan, the following intersections in addition to the project driveways, are proposed to be analyzed.

1. Alton Road and 9th Street
2. Alton Road and 8th Street
3. Alton Road and 7th Street
4. Alton Road and 6th Street
5. Alton Road and 5th Street
6. Lenox Avenue and 9th Street
7. Lenox Avenue and 8th Street
8. Lenox Avenue and 6th Street
9. Lenox Avenue and Fifth & Alton Parking Garage Driveway

Turning movement counts will include pedestrians and bicyclists.

TRIP DISTRIBUTION

Trip distribution will be determined based on turning movements counts collected at the study area intersections as well as the location of parking facilities used by the proposed redevelopment. Additionally, the distribution will be based on an interpolated cardinal trip distribution for the project site's traffic analysis zones (TAZs) obtained from the Miami-Dade Metropolitan Planning Organization's 2040 Cost Feasible Plan travel demand model 2010 and 2040 data. The project is located within TAZ 653. Therefore, a cardinal distribution was developed based on this TAZ. The traffic impact study will include graphics of the project traffic assignment and off-site valet trips at the project's driveways and the study intersections. 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 Metropolitan Planning Organization's (MPO) projected 2010 and 2040 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.

At this time the City has indicated that the following committed projects are to be included as part of background conditions:

1. 700 Alton Road
2. Coco Bambu - 955 Alton Road
3. Urban Box Self Storage – 633 Alton Road
4. Baptist Health Urgent Care - 709 Alton Road

CAPACITY ANALYSIS

Capacity analyses will be conducted for the analysis period for the study intersections. Intersection analyses will be performed using *Synchro 9.0* traffic engineering analysis software which applies the Transportation Research Board's (TRB's), *Highway Capacity Manual* (HCM), 2000 and 2010 methodologies. Capacity analyses will be conducted for three (3) scenarios: existing, build-out without project, and build-out with project. The build-out year will be specified in the analysis.

The following figures will be included for the study intersections:

- Existing conditions
- Trip distribution
- Trip assignment (will outline which driveways are used for the various land uses)
- Future background traffic conditions (with growth rate and committed development traffic)
- Future total traffic conditions (with project)

QUEUEING ANALYSIS

A queueing analysis will be conducted for exclusive turn-lanes at study area intersections. The queuing analysis will utilize the 95th percentile queues reported from Trafficware's *Synchro* software. Analyses will be conducted for three (3) scenarios: existing, future background (without the project), and future total (with the project).

ON-SITE BICYCLE PARKING

Providing on-site bicycle parking will be examined and documented in the report for both short-term and long-term bicycle parking. The City of Miami Beach's *Bicycle Parking Guidelines*, March 2011 will be used in determining on-site bicycle parking feasibility.

ON-STREET PARKING

Any on-street parking modifications will be documented in the report. Furthermore, any proposed on-street parking modifications will be coordinated with the City of Miami Beach Parking Department. Coordination with the Parking Department will be documented in the traffic impact 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.

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.

A CD and electronic copy of the reports will be provided as part of the submittal package. Additionally, the Synchro analysis files will be provided on the CD. The submittal package will also include the latest site plan to scale.

A separate document will be prepared for the valet/queuing.

VALET 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. The vehicle drop-off/pick-up area for the valet operation will be coordinated with the City of Miami Beach Parking Department.

Trip generation estimates will be utilized to provide for two (2) scenarios including typical/average scenario and highest demand (peak hour of generator) scenario. The typical/average demand scenario will be based on half of the highest demand scenario. Taxi traffic will also be accounted for in the analysis. The valet operations queuing analysis will be conducted consistent with procedures described in ITE's *Transportation and Land Development*, 1988. A traffic circulation figure will be prepared to illustrate the valet routes to and from the vehicle drop-off/pick-up area. A technical memorandum documenting analysis assumptions and results, including the location of valet lots along with the number of parking spaces assigned for valet operations and the required number of valet attendants to service the facility under both typical and highest demand will be prepared.

K:\FTL_TPTO\043772000-835 Alton Road\Correspondence\02 09 16 Alton Road traffic study meth.docx

Attachment A

ZONING LEGEND

ZONING CLASSIFICATION: CD-2 (COMMERCIAL - MEDIUM INTENSITY)

EXISTING LAND USE: RESIDENTIAL

PROPOSED USES: RESTAURANTS & BOUTIQUE

CONSTRUCTION REQUIREMENTS

CONSTRUCTION TYPE: V-B

OCCUPANCY: ASSEMBLY (A-2) (RESTAURANTS)
MERCANTILE (M) (BOUTIQUE - STORE)

AREAS

GROSS LAND AREA: 21,864 S.F. (0.50 ACRES)

TOTAL BUILDING AREA:	9,852 S.F. (45.06%)
TOTAL OPENING AREA:	12,012 S.F. (54.94%)

SETBACKS

	ALLOWED	EXISTING
FRONT SETBACK		20'-1"
REAR SETBACK		5'-0"
SIDE STREET SETBACK		5'-1"
SIDE INTERIOR SETBACK		4'-9"

LEGAL DESCRIPTION

LOT 9 & 10, BLOCK 122 , "LENOR MANOX", ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 7, PAGE 15, OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA.

CONSTRUCTION REQUIREMENTS

CONSTRUCTION TYPE: V-B
OCCUPANCY: ASSEMBLY (A-2) & MERCANTILE (M)
LEVEL 2 ALTERATION
UNPROTECTED - UNSPRINKLED
CONSTRUCTION TYPE: V-B
STRUCTURAL FRAME:.....0
BEARING WALLS:
*EXTERIOR.....0
INTERIOR.....0
NONBEARING WALLS & PARTITIONS:
*EXTERIOR.....SEE TABLE 602.
NONBEARING WALLS & PARTITIONS:
*INTERIOR.....0
FLOOR CONSTRUCTION:
*INCLUDING SUPPORTING BEAM & JOIST.....0
ROOF CONSTRUCTION:
*INCLUDING SUPPORTING BEAM & JOIST.....0

FLAME SPREAD RATING CLASSIFICATION OF INT. FINISHES
EXITS CLASS A
ACCESS TO EXITS CLASS A OR B
OTHER SPACES CLASS B OR C
AS PER TABLE 803.9, FBC 2010

APPLICABLE CODES

- FBC 2010 BUILDING
- FBC 2010 EXISTING BUILDING
- FLORIDA FIRE PREVENTION CODE 2010 INCLUDING NFPA 2010 EDITION, NFPA 1, 2009 EDITION.

OCCUPANT LOAD CALCULATION

BUILDING 1 - ASSEMBLY (RESTAURANT 1)
SEATING AREA (TABLES & CHAIRS): 1,779 S.F. / 15 NET = 118 PERSONS
SEATING AREA PROVIDED = 88 PERSONS
KITCHEN: 1,136 S.F. / 100 GROSS = 11 PERSONS

BUILDING 1 - MERCANTILE (BOUTIQUE STORE)
AREA: 765 S.F. / 60 GROSS = 12 PERSONS

TOTAL LOAD CALCULATION BLDG. 1: 111 PERSONS

BUILDING 2 - ASSEMBLY (RESTAURANT 2)
SEATING AREA (TABLES & CHAIRS): 2,436 S.F. / 15 NET = 162 PERSONS
SEATING AREA PROVIDED = 132 PERSONS
KITCHEN: 1,136 S.F. / 100 GROSS = 11 PERSONS

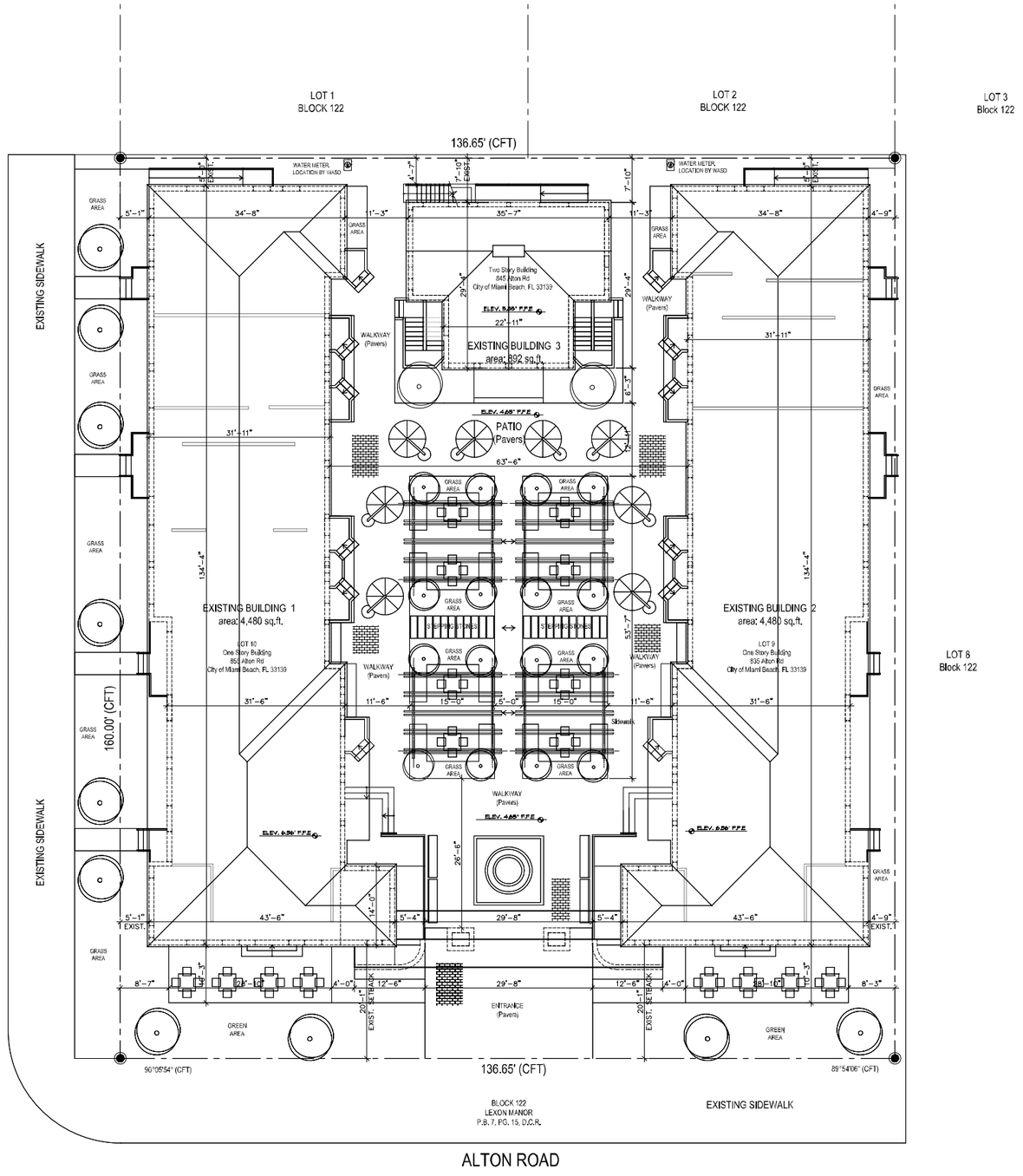
TOTAL LOAD CALCULATION BLDG. 2: 143 PERSONS

BUILDING 3 - ASSEMBLY (CAFE)
SEATING AREA (TABLES & CHAIRS): 624 S.F. / 15 NET = 41 PERSONS
SEATING AREA PROVIDED = 20 PERSONS
KITCHEN: 124 S.F. / 100 GROSS = 1 PERSON

TOTAL LOAD CALCULATION BLDG. 3: 21 PERSONS

AS PER F.B.C. 2010 TABLE 1004.1.1 & NFPA 101

USE	AREA (sq. ft.)
Building 1 (Rest. 1)	4,480
Building 2 (Rest. 2)	4,480
Building 3 (Cafe)	892
Courtyard	5,926
Outside Terraces	600



SITE PLAN

SCALE: 3/32" = 1'-0"

CROSSBOWER CORP.
GENERAL CONTRACTOR
CONSTRUCTION MANAGEMENT
ARCHITECTURE
PLANNING • INTERIOR DESIGN
ENGINEERING
3247 N.E. 168 Street
NORTH MIAMI BEACH
FLORIDA 33160
Off : (786) 955 8504
Fax : (866) 300 5184
CHRISTIAN BALLESTEROS
• AR.14201 • ID.4319 • CGC.47236 •
crossbower@crossbower.net

PROFESSIONAL SEAL

PROJECT NAME

ALTON ROAD RESTAURANTS & PATIO

PROJECT ADDRESS

835 ALTON ROAD
MIAMI BEACH, FL 33139

REVISION

Project No:	2014-181
Scale:	AS NOTED
Date:	11-25-2014
Drawn:	E.T.
Checked:	J.V.
CADD File:	835 ALTON RD SITE PLAN 11-04-15.dwg

DRAWN

JOSE VALERO
Drafting Services Inc
PH-954-7734410
e-valerojose@att.net

DRAWING TILE

SITE PLAN

SHEET NO.

SP-1

Attachment B

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			MULTIMODAL REDUCTION		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Apartment	9	220	20	du	65%	35%	19	10	29	0.0%	0	19	10	29	10.0%	3	17	9	26
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
		ITE Land Use Code		Rate or Equation				**Total:**	19	10	29	0.0%	0	19	10	29	10.0%	3	17	9	26
		220		Y=0.55*(X)+17.65																	

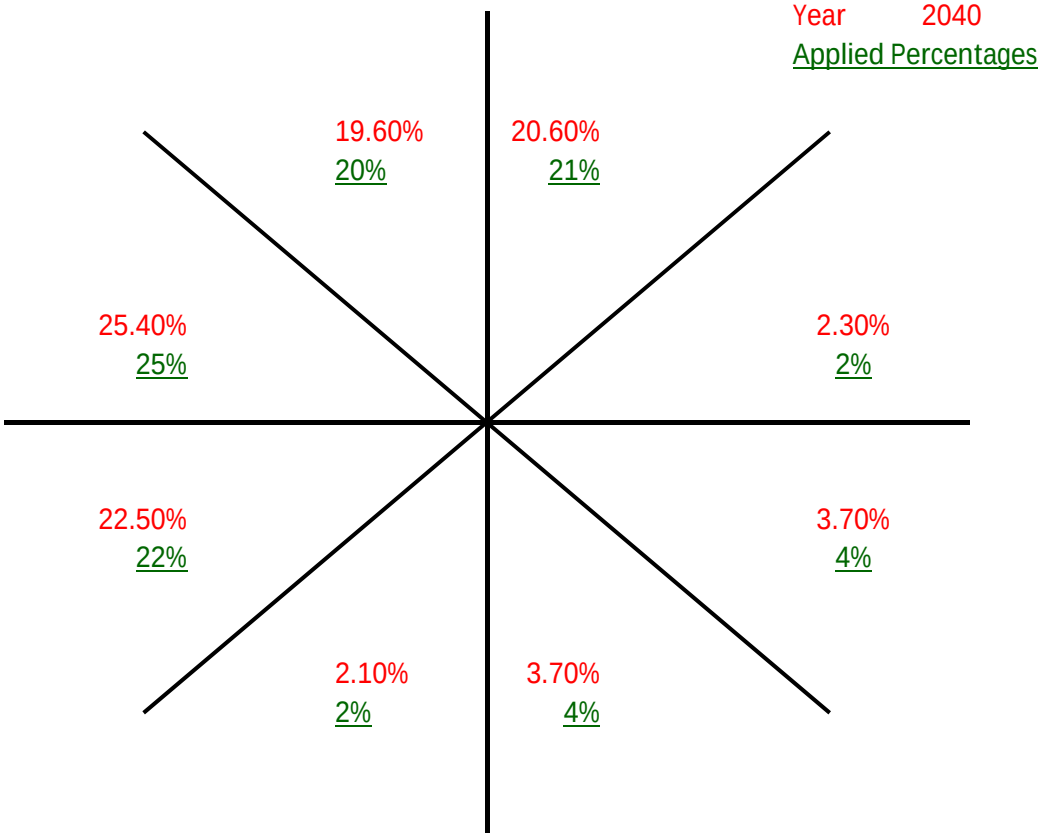
PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			MULTIMODAL REDUCTION		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Quality Restaurant	9	931	339	seat	67%	33%	59	29	88	0.0%	0	59	29	88	10.0%	9	54	25	79
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
		ITE Land Use Code		Rate or Equation				**Total:**	59	29	88	0.0%	0	59	29	88	10.0%	9	54	25	79
		931		Y=0.26(X)																	

	IN	OUT	TOTAL
NET DIFFERENCE	**37**	**16**	**53**

Attachment C

Cardinal Distribution for TAZ 653



Miami-Dade 2010 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
636	3536	PERCENT	10.7	0.0	0.0	4.4	10.0	34.0	20.8	20.1	
637	3537	TRIPS	437	39	52	212	109	449	313	207	1,818
637	3537	PERCENT	24.0	2.2	2.9	11.7	6.0	24.7	17.2	11.4	
638	3538	TRIPS	148	25	57	108	66	231	258	107	1,000
638	3538	PERCENT	14.8	2.5	5.7	10.8	6.6	23.1	25.8	10.7	
639	3539	TRIPS	694	286	232	913	139	1,445	989	693	5,391
639	3539	PERCENT	12.9	5.3	4.3	16.9	2.6	26.8	18.4	12.9	
640	3540	TRIPS	436	242	845	100	107	663	503	303	3,199
640	3540	PERCENT	13.6	7.6	26.4	3.1	3.3	20.7	15.7	9.5	
641	3541	TRIPS	1,374	1,440	228	555	352	2,014	2,014	1,124	9,101
641	3541	PERCENT	15.1	15.8	2.5	6.1	3.9	22.1	22.1	12.4	
642	3542	TRIPS	2,054	891	109	1,000	541	3,435	3,075	2,196	13,301
642	3542	PERCENT	15.4	6.7	0.8	7.5	4.1	25.8	23.1	16.5	
643	3543	TRIPS	1,551	277	0	514	462	2,180	2,043	1,648	8,675
643	3543	PERCENT	17.9	3.2	0.0	5.9	5.3	25.1	23.6	19.0	
644	3544	TRIPS	1,376	0	0	0	1,181	3,638	3,350	2,709	12,254
644	3544	PERCENT	11.2	0.0	0.0	0.0	9.6	29.7	27.3	22.1	
645	3545	TRIPS	547	0	0	0	341	1,032	1,603	1,258	4,781
645	3545	PERCENT	11.4	0.0	0.0	0.0	7.1	21.6	33.5	26.3	
646	3546	TRIPS	862	0	61	243	184	1,226	1,566	1,133	5,275
646	3546	PERCENT	16.3	0.0	1.2	4.6	3.5	23.2	29.7	21.5	
647	3547	TRIPS	454	68	83	148	89	427	406	402	2,077
647	3547	PERCENT	21.9	3.3	4.0	7.1	4.3	20.6	19.6	19.4	
648	3548	TRIPS	1,234	415	131	265	56	788	950	546	4,385
648	3548	PERCENT	28.1	9.5	3.0	6.0	1.3	18.0	21.7	12.5	
649	3549	TRIPS	846	215	84	123	15	631	680	403	2,997
649	3549	PERCENT	28.2	7.2	2.8	4.1	0.5	21.1	22.7	13.5	
650	3550	TRIPS	124	133	83	0	20	325	229	66	980
650	3550	PERCENT	12.7	13.6	8.5	0.0	2.0	33.2	23.4	6.7	
651	3551	TRIPS	612	46	55	0	11	438	656	555	2,373
651	3551	PERCENT	25.8	1.9	2.3	0.0	0.5	18.5	27.6	23.4	
652	3552	TRIPS	743	68	63	25	87	625	873	981	3,465
652	3552	PERCENT	21.4	2.0	1.8	0.7	2.5	18.0	25.2	28.3	
653	3553	TRIPS	708	34	64	143	67	703	835	753	3,307
653	3553	PERCENT	21.4	1.0	1.9	4.3	2.0	21.3	25.3	22.8	
654	3554	TRIPS	490	0	203	74	114	628	1,068	1,058	3,635
654	3554	PERCENT	13.5	0.0	5.6	2.0	3.1	17.3	29.4	29.1	
655	3555	TRIPS	1,475	0	0	0	368	1,892	2,676	2,034	8,445
655	3555	PERCENT	17.5	0.0	0.0	0.0	4.4	22.4	31.7	24.1	
656	3556	TRIPS	372	0	0	0	96	740	997	698	2,903
656	3556	PERCENT	12.8	0.0	0.0	0.0	3.3	25.5	34.3	24.0	

Miami-Dade 2040 Directional Distribution Summary

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

APPENDIX C:
Traffic Data

96-hour Continuous Count

Prepared by NDS/ATD

VOLUME

Alton Rd Bet. 9th St & 8th St

Day: Thursday
Date: 2/18/2016

M Perio	NB	SB	NB-Hr	SB-Hr	NB/SB-Hr
00:00	119	146	385	449	834
00:15	114	125	335	396	731
00:30	87	88	274	346	620
00:45	65	90	234	329	563
01:00	69	93	215	296	511
01:15	53	75	198	248	446
01:30	47	71	180	206	386
01:45	46	57	174	172	346
02:00	52	45	169	145	314
02:15	35	33	143	129	272
02:30	41	37	132	134	266
02:45	41	30	116	122	238
03:00	26	29	112	118	230
03:15	24	38	113	119	232
03:30	25	25	115	107	222
03:45	37	26	124	108	232
04:00	27	30	139	109	248
04:15	26	26	156	128	284
04:30	34	26	194	140	334
04:45	52	27	232	162	394
05:00	44	49	290	188	478
05:15	64	38	364	207	571
05:30	72	48	478	252	730
05:45	110	53	677	297	974
06:00	118	68	877	348	1225
06:15	178	83	1075	411	1486
06:30	271	93	1180	520	1700
06:45	310	104	1214	667	1881
07:00	316	131	1235	784	2019
07:15	283	192	1250	896	2146
07:30	305	240	1317	966	2283
07:45	331	221	1360	1007	2367
08:00	331	243	1394	1045	2439
08:15	350	262	1362	1069	2431
08:30	348	281	1363	1067	2430
08:45	365	259	1323	1034	2357
09:00	299	267	1272	1035	2307
09:15	351	260	1312	1008	2320
09:30	308	248	1276	979	2255
09:45	314	260	1280	952	2232
10:00	339	240	1261	932	2193
10:15	315	231	1245	930	2175
10:30	312	221	1251	919	2170
10:45	295	240	1274	947	2221
11:00	323	238	1305	954	2259
11:15	321	220	1287	972	2259
11:30	335	249	1281	987	2268
11:45	326	247	1287	946	2233
12:00	305	256	1295	963	2258
12:15	315	235	1327	965	2292
12:30	341	208	1359	968	2327
12:45	334	264	1355	1006	2361
13:00	337	258	1337	991	2328
13:15	347	238	1333	1029	2362
13:30	337	246	1318	1079	2397
13:45	316	249	1302	1155	2457
14:00	333	296	1315	1189	2504
14:15	332	288	1304	1192	2496
14:30	321	322	1310	1215	2525
14:45	329	283	1326	1188	2514
15:00	322	299	1305	1206	2511
15:15	338	311	1326	1184	2510
15:30	337	295	1345	1095	2440
15:45	308	301	1306	1060	2366
16:00	343	277	1337	972	2309
16:15	357	222	1313	880	2193
16:30	298	260	1282	870	2152
16:45	339	213	1278	817	2095
17:00	319	185	1251	804	2055
17:15	326	212	1276	866	2142
17:30	294	207	1266	910	2176
17:45	312	200	1306	998	2304
18:00	344	247	1339	1041	2380
18:15	316	256	1320	1085	2405
18:30	334	295	1350	1080	2430
18:45	345	243	1354	1054	2408
19:00	325	291	1365	1051	2416
19:15	346	251	1378	989	2367
19:30	338	269	1387	978	2365
19:45	356	240	1382	933	2315
20:00	338	229	1340	932	2272
20:15	355	240	1278	916	2194
20:30	333	224	1193	888	2081
20:45	314	239	1133	834	1967
21:00	276	213	1078	805	1883
21:15	270	212	1054	809	1863
21:30	273	170	1003	756	1759
21:45	259	210	927	755	1682
22:00	252	217	900	721	1621
22:15	219	159	817	686	1503
22:30	197	169	767	708	1475
22:45	232	176	773	705	1478
23:00	169	182	699	689	1388
23:15	169	181			
23:30	203	166			
23:45	158	160			
		Max	1394	1215	2525

Prepared by NDS/ATD

VOLUME

Alton Rd Bet. 9th St & 8th St

Day: Friday
Date: 2/19/2016

M Perio	NB	SB	NB-Hr	SB-Hr	NB/SB-Hr
00:00	191	114	574	473	1047
00:15	146	120	466	449	915
00:30	111	125	403	425	828
00:45	126	114	380	375	755
01:00	83	90	311	323	634
01:15	83	96	275	304	579
01:30	88	75	250	269	519
01:45	57	62	216	251	467
02:00	47	71	205	240	445
02:15	58	61	184	209	393
02:30	54	57	164	194	358
02:45	46	51	155	188	343
03:00	26	40	156	182	338
03:15	38	46	175	190	365
03:30	45	51	181	189	370
03:45	47	45	178	178	356
04:00	45	48	184	178	362
04:15	44	45	182	183	365
04:30	42	40	193	200	393
04:45	53	45	243	207	450
05:00	43	53	305	227	532
05:15	55	62	363	236	599
05:30	92	47	464	258	722
05:45	115	65	579	310	889
06:00	101	62	746	362	1108
06:15	156	84	921	438	1359
06:30	207	99	1057	555	1612
06:45	282	117	1175	668	1843
07:00	276	138	1226	803	2029
07:15	292	201	1289	922	2211
07:30	325	212	1334	989	2323
07:45	333	252	1362	1056	2418
08:00	339	257	1375	1067	2442
08:15	337	268	1403	1100	2503
08:30	353	279	1435	1082	2517
08:45	346	263	1427	1065	2492
09:00	367	290	1423	1032	2455
09:15	369	250	1406	1003	2409
09:30	345	262	1380	1049	2429
09:45	342	230	1369	1019	2388
10:00	350	261	1378	1064	2442
10:15	343	296	1357	1079	2436
10:30	334	232	1364	1056	2420
10:45	351	275	1367	1099	2466
11:00	329	276	1340	1103	2443
11:15	350	273	1358	1092	2450
11:30	337	275	1355	1091	2446
11:45	324	279	1354	1117	2471
12:00	347	265	1372	1121	2493
12:15	347	272	1381	1121	2502
12:30	336	301	1392	1151	2543
12:45	342	283	1389	1146	2535
13:00	356	265	1381	1154	2535
13:15	358	302	1381	1187	2568
13:30	333	296	1382	1201	2583
13:45	334	291	1397	1206	2603
14:00	356	298	1387	1208	2595
14:15	359	316	1394	1193	2587
14:30	348	301	1372	1174	2546
14:45	324	293	1359	1205	2564
15:00	363	283	1385	1240	2625
15:15	337	297	1368	1258	2626
15:30	335	332	1375	1219	2594
15:45	350	328	1308	1132	2440
16:00	346	301	1255	1034	2289
16:15	344	258	1163	954	2117
16:30	268	245	1045	925	1970
16:45	297	230	995	917	1912
17:00	254	221	909	857	1766
17:15	226	229	943	913	1856
17:30	218	237	986	913	1899
17:45	211	170	1055	953	2008
18:00	288	277	1178	1100	2278
18:15	269	229	1200	1114	2314
18:30	287	277	1286	1144	2430
18:45	334	317	1335	1124	2459
19:00	310	291	1347	1053	2400
19:15	355	259	1411	981	2392
19:30	336	257	1402	996	2398
19:45	346	246	1388	971	2359
20:00	374	219	1337	985	2322
20:15	346	274	1279	992	2271
20:30	322	232	1252	927	2179
20:45	295	260	1247	916	2163
21:00	316	226	1255	884	2139
21:15	319	209	1211	937	2148
21:30	317	221	1193	959	2152
21:45	303	228	1121	946	2067
22:00	272	279	1104	951	2055
22:15	301	231	1087	942	2029
22:30	245	208	1041	943	1984
22:45	286	233	1084	966	2050
23:00	255	270	1028	968	1996
23:15	255	232			
23:30	288	231			
23:45	230	235			
		Max	1435	1258	2626

Prepared by NDS/ATD

VOLUME

Alton Rd Bet. 9th St & 8th St

Day: Saturday
Date: 2/20/2016

M Perio	NB	SB	NB-Hr	SB-Hr	NB/SB-Hr
00:00	240	252	839	924	1763
00:15	208	240	749	857	1606
00:30	201	219	669	781	1450
00:45	190	213	608	705	1313
01:00	150	185	548	638	1186
01:15	128	164	503	597	1100
01:30	140	143	480	552	1032
01:45	130	146	446	513	959
02:00	105	144	408	473	881
02:15	105	119	379	437	816
02:30	106	104	365	429	794
02:45	92	106	372	415	787
03:00	76	108	395	409	804
03:15	91	111	396	412	808
03:30	113	90	382	403	785
03:45	115	100	354	407	761
04:00	77	111	332	392	724
04:15	77	102	350	374	724
04:30	85	94	353	395	748
04:45	93	85	356	376	732
05:00	95	93	345	347	692
05:15	80	123	323	308	631
05:30	88	75	338	252	590
05:45	82	56	384	237	621
06:00	73	54	459	264	723
06:15	95	67	505	291	796
06:30	134	60	544	314	858
06:45	157	83	583	341	924
07:00	119	81	595	370	965
07:15	134	90	667	396	1063
07:30	173	87	756	424	1180
07:45	169	112	774	460	1234
08:00	191	107	823	512	1335
08:15	223	118	863	543	1406
08:30	191	123	904	626	1530
08:45	218	164	953	705	1658
09:00	231	138	930	755	1685
09:15	264	201	895	847	1742
09:30	240	202	899	843	1742
09:45	195	214	909	885	1794
10:00	196	230	1016	914	1930
10:15	268	197	1139	938	2077
10:30	250	244	1187	975	2162
10:45	302	243	1250	1004	2254
11:00	319	254	1285	1028	2313
11:15	316	234	1295	1020	2315
11:30	313	273	1340	1059	2399
11:45	337	267	1333	1080	2413
12:00	329	246	1356	1056	2412
12:15	361	273	1358	1068	2426
12:30	306	294	1326	1065	2391
12:45	360	243	1365	1012	2377
13:00	331	258	1327	1018	2345
13:15	329	270	1339	1037	2376
13:30	345	241	1298	1043	2341
13:45	322	249	1326	1052	2378
14:00	343	277	1346	1064	2410
14:15	288	276	1339	1059	2398
14:30	373	250	1398	1060	2458
14:45	342	261	1334	1083	2417
15:00	336	272	1264	1100	2364
15:15	347	277	1185	1063	2248
15:30	309	273	1094	1080	2174
15:45	272	278	1032	1105	2137
16:00	257	235	1071	1105	2176
16:15	256	294	1178	1126	2304
16:30	247	298	1258	1112	2370
16:45	311	278	1350	1087	2437
17:00	364	256	1363	1090	2453
17:15	336	280	1349	1120	2469
17:30	339	273	1346	1129	2475
17:45	324	281	1361	1107	2468
18:00	350	286	1403	1119	2522
18:15	333	289	1416	1094	2510
18:30	354	251	1447	1052	2499
18:45	366	293	1411	1045	2456
19:00	363	261	1403	995	2398
19:15	364	247	1383	963	2346
19:30	318	244	1371	971	2342
19:45	358	243	1392	957	2349
20:00	343	229	1314	931	2245
20:15	352	255	1314	923	2237
20:30	339	230	1256	906	2162
20:45	280	217	1244	905	2149
21:00	343	221	1286	904	2190
21:15	294	238	1257	1016	2273
21:30	327	229	1271	1049	2320
21:45	322	216	1257	1130	2387
22:00	314	333	1255	1189	2444
22:15	308	271	1240	1132	2372
22:30	313	310	1218	1140	2358
22:45	320	275	1178	1080	2258
23:00	299	276	1108	1056	2164
23:15	286	279			
23:30	273	250			
23:45	250	251			
		Max	1447	1189	2522

Prepared by NDS/ATD

VOLUME

Alton Rd Bet. 9th St & 8th St

Day: Sunday
Date: 2/21/2016

M Perio	NB	SB	NB-Hr	SB-Hr	NB/SB-Hr
00:00	264	256	996	975	1971
00:15	261	254	944	955	1899
00:30	244	239	858	885	1743
00:45	227	226	771	812	1583
01:00	212	236	680	759	1439
01:15	175	184	590	696	1286
01:30	157	166	548	664	1212
01:45	136	173	522	652	1174
02:00	122	173	500	639	1139
02:15	133	152	470	576	1046
02:30	131	154	450	549	999
02:45	114	160	409	516	925
03:00	92	110	379	492	871
03:15	113	125	362	478	840
03:30	90	121	319	495	814
03:45	84	136	321	474	795
04:00	75	96	330	443	773
04:15	70	142	338	476	814
04:30	92	100	355	442	797
04:45	93	105	339	422	761
05:00	83	129	332	377	709
05:15	87	108	320	307	627
05:30	76	80	312	259	571
05:45	86	60	328	251	579
06:00	71	59	390	249	639
06:15	79	60	411	244	655
06:30	92	72	445	261	706
06:45	148	58	506	265	771
07:00	92	54	490	314	804
07:15	113	77	551	352	903
07:30	153	76	587	353	940
07:45	132	107	596	373	969
08:00	153	92	637	379	1016
08:15	149	78	657	423	1080
08:30	162	96	720	486	1206
08:45	173	113	773	523	1296
09:00	173	136	878	565	1443
09:15	212	141	949	610	1559
09:30	215	133	1000	618	1618
09:45	278	155	1069	656	1725
10:00	244	181	1096	693	1789
10:15	263	149	1127	713	1840
10:30	284	171	1170	778	1948
10:45	305	192	1255	830	2085
11:00	275	201	1278	853	2131
11:15	306	214	1325	892	2217
11:30	369	223	1370	931	2301
11:45	328	215	1335	959	2294
12:00	322	240	1341	1003	2344
12:15	351	253	1350	984	2334
12:30	334	251	1327	985	2312
12:45	334	259	1326	980	2306
13:00	331	221	1313	995	2308
13:15	328	254	1319	995	2314
13:30	333	246	1287	987	2274
13:45	321	274	1275	1014	2289
14:00	337	221	1278	1006	2284
14:15	296	246	1250	1051	2301
14:30	321	273	1289	1085	2374
14:45	324	266	1271	1077	2348
15:00	309	266	1304	1063	2367
15:15	335	280	1321	1068	2389
15:30	303	265	1300	1064	2364
15:45	357	252	1322	1088	2410
16:00	326	271	1327	1127	2454
16:15	314	276	1291	1126	2417
16:30	325	289	1300	1111	2411
16:45	362	291	1307	1117	2424
17:00	290	270	1267	1126	2393
17:15	323	261	1310	1139	2449
17:30	332	295	1326	1124	2450
17:45	322	300	1347	1131	2478
18:00	333	283	1372	1074	2446
18:15	339	246	1372	1090	2462
18:30	353	302	1367	1109	2476
18:45	347	243	1330	1065	2395
19:00	333	299	1290	1077	2367
19:15	334	265	1259	1002	2261
19:30	316	258	1201	995	2196
19:45	307	255	1176	965	2141
20:00	302	224	1112	913	2025
20:15	276	258	1054	866	1920
20:30	291	228	992	836	1828
20:45	243	203	972	821	1793
21:00	244	177	955	842	1797
21:15	214	228	932	917	1849
21:30	271	213	929	890	1819
21:45	226	224	846	864	1710
22:00	221	252	810	808	1618
22:15	211	201	748	733	1481
22:30	188	187	687	699	1386
22:45	190	168	643	687	1330
23:00	159	177	579	665	1244
23:15	150	167			
23:30	144	175			
23:45	126	146			
		Max	1372	1139	2478

Combined 2-Hour Peak Period

Day 1	Day 2	Day 3	Day 4
1345	1681	2949	3410
1177	1494	2706	3185
1006	1347	2482	2955
909	1222	2272	2757
825	1079	2067	2578
718	972	1916	2332
652	877	1826	2211
584	810	1746	2099
544	783	1685	2010
504	758	1624	1886
488	728	1579	1813
470	699	1548	1720
478	700	1528	1644
516	730	1532	1654
556	763	1533	1611
626	806	1493	1556
726	894	1416	1482
855	964	1355	1441
1064	1115	1338	1368
1368	1339	1353	1340
1703	1640	1415	1348
2057	1958	1427	1282
2430	2334	1448	1277
2855	2732	1545	1350
3244	3137	1688	1443
3632	3570	1859	1558
3983	3935	2038	1646
4248	4261	2158	1740
4458	4471	2300	1820
4577	4714	2469	1983
4713	4840	2710	2146
4724	4910	2892	2265
4746	4897	3020	2459
4751	4912	3148	2639
4685	4946	3272	2824
4589	4880	3452	3021
4500	4897	3615	3232
4495	4845	3819	3399
4425	4849	3904	3566
4453	4854	4048	3810
4452	4885	4243	3920
4434	4886	4392	4057
4438	4866	4561	4249
4454	4937	4667	4379
4517	4936	4725	4475
4551	4952	4741	4551
4595	4989	4790	4613
4594	5006	4790	4600
4586	5028	4757	4652
4654	5070	4802	4648
4724	5126	4732	4586
4818	5138	4755	4595
4832	5130	4755	4592
4858	5155	4774	4615
4922	5129	4799	4648
4971	5167	4795	4637
5015	5220	4774	4651
5006	5213	4646	4690
4965	5140	4632	4738
4880	5004	4554	4758
4820	4914	4540	4821
4703	4743	4552	4806
4592	4564	4544	4775
4461	4352	4574	4834
4364	4055	4629	4847
4335	3973	4773	4866
4328	3869	4845	4861
4399	3920	4905	4902
4435	4044	4975	4839
4547	4170	4979	4911
4606	4329	4974	4926
4712	4467	4924	4873
4796	4678	4920	4813
4772	4706	4856	4723
4795	4828	4841	4672
4723	4818	4805	4536
4688	4722	4643	4392
4561	4663	4583	4181
4446	4577	4504	4024
4282	4522	4498	3934
4155	4461	4435	3822
4057	4419	4510	3769
3840	4331	4482	3647
3649	4230	4536	3503
3504	4194	4634	3415
3366	4177	4645	3330
3234	4136	4678	3205
3160	4117	4645	3040
3009	4051	4608	2862
5015	5220	4979	4926

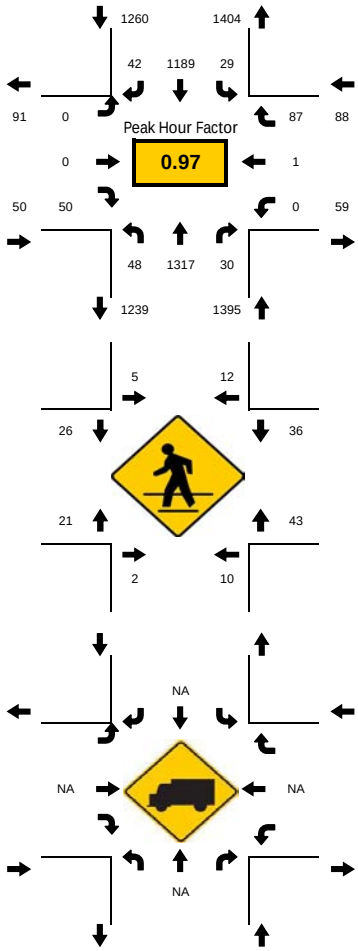
Peak Season Conversion Factor

MacArthur Causeway Peak Season Conversion Factor				
Week	Weekly Volume	PSCF	Month	Days
1	84501.5	1.24	Jan	1-4
2	96697.8	1.08		7-11
3	92890.4	1.13		14-18
4	87868.25	1.19		21-25
5	93600.75	1.12		28-31
6	93618	1.12	Feb	1-8
7	97020.8	1.08		11-15
8	95629	1.10		18-22
9	93869	1.12		25-28
10	98171.4	1.07	mar	1-8
11	103386.8	1.01		11-15
12	104828.6	1.00		18-22
13	100316.2	1.04		25-29
14	92938.8	1.13	apr	1-5
15	94095.2	1.11		8-12
16	92559.8	1.13		15-19
17	93979	1.12		22-30
18	92123.333	1.14	may	1-3
19	94034.2	1.11		6-10
20	94298.8	1.11		13-17
21	87019.2	1.20		20-24
22	83929	1.25		27-31
23	86256	1.22	june	3-7
24	82286.2	1.27		10-14
25	94499.2	1.11		17-21
26	85008.8	1.23		24-28
27			july	1-5
28	91188.2	1.15		8-12
29	79613.6	1.32		15-19
30	82289.6	1.27		22-26
31	80496	1.30		29-31
32	84339.6	1.24	aug	1-9
33	87381.6	1.20		12-16
34	88768.4	1.18		19-23
35	86854.6	1.21		26-30
36	85645.2	1.22	sept	2-6
37	85048.2	1.23		9-13
38	85223	1.23		16-20
39	87485	1.20		23-30
40	87247.75	1.20	oct	1-4
41	89149	1.18		7-11
42	91419.2	1.15		14-18
43	89443.6	1.17		21-25
44	91675.75	1.14		28-31
45	91660	1.14	Nov	1-8
46	88852	1.18		11-15
47	86189.2	1.22		18-22
48	82268.4	1.27		25-29
49	96358.8	1.09	dec	2-6
50	90945.2	1.15		9-13
51	91048.2	1.15		16-20
52	82311.2	1.27		23-31

Turning Movement Counts

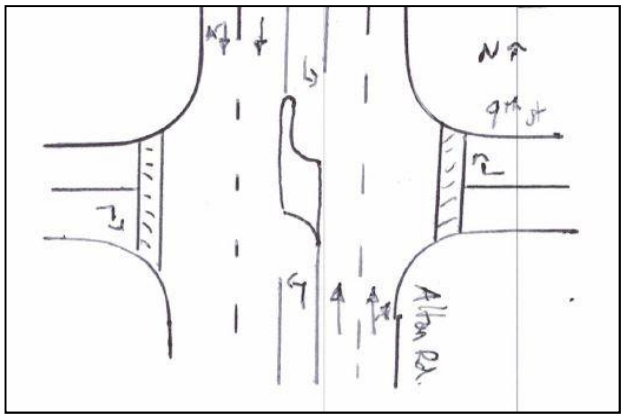
LOCATION: Alton Rd & 9th St
CITY/STATE: Miami Beach

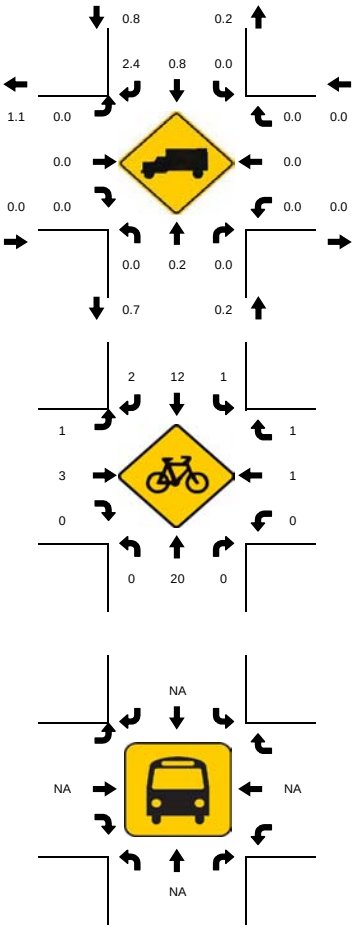
PROJECT ID: 16-3040-001
DATE: Fri, Feb 19, 2016



Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:30 PM - 03:45 PM

National Data & Surveying Services





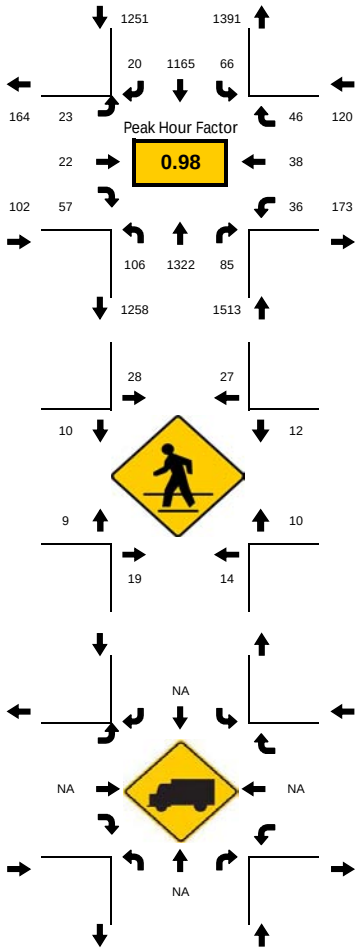
15-Min Count Period Beginning At	Alton Rd Northbound					Alton Rd Southbound					9th St Eastbound					9th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	13	332	7	0		5	285	8	0		0	0	11	0		1	0	19	0		681	2713
02:15 PM	13	327	13	1		6	284	9	1		0	0	14	0		1	0	21	0		688	2711
02:30 PM	12	329	12	0		5	290	16	0		0	0	11	0		0	0	17	0		692	2709
02:45 PM	7	312	5	0		4	283	7	0		0	0	16	0		1	1	16	0		652	2738
03:00 PM	12	354	7	0		6	267	5	1		0	0	9	0		0	0	19	0		679	2793
03:15 PM	9	317	6	0		7	297	15	0		0	0	14	0		0	0	21	0		686	2114
03:30 PM	17	320	10	0		8	312	12	0		0	0	17	0		0	1	24	0		721	1428
03:45 PM	10	326	7	0		8	313	10	0		0	0	10	0		0	0	23	0		707	707

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	68	1416	40	0		32	1252	60	4		0	0	68	0		0	4	96	0		**3036**
Heavy Trucks	0	4	0			0	12	4			0	0	0			0	0	0			**20**
Pedestrians		24					28					68					116				**236**
Bicycles	0	40	0			4	28	4			4	8	0			0	4	4			**96**
Railroad																					
Stopped Buses																					

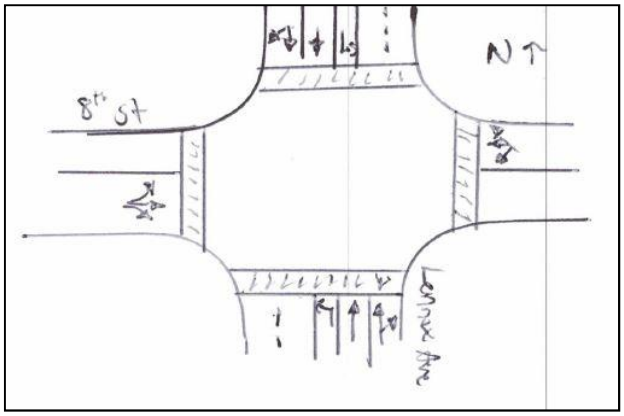
LOCATION: Alton Rd & 8th St
CITY/STATE: Miami Beach

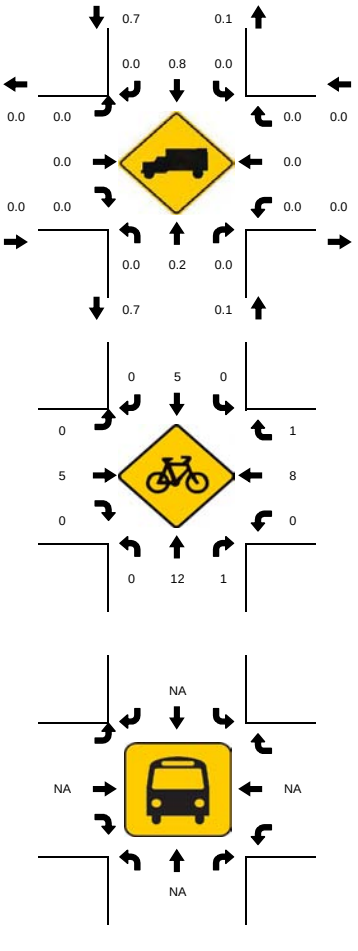
PROJECT ID: 16-3040-002
DATE: Fri, Feb 19, 2016

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:45 PM - 04:00 PM



National Data & Surveying Services



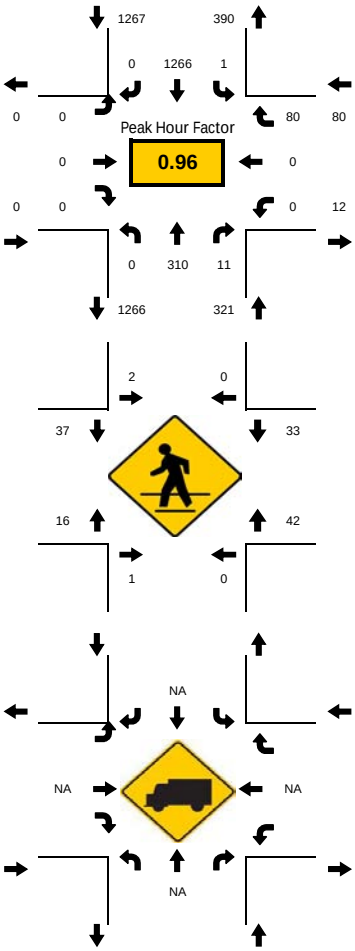


15-Min Count Period Beginning At	Alton Rd Northbound					Alton Rd Southbound					8th St Eastbound					8th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	33	325	25	0		9	294	4	0		6	13	21	0		2	4	19	0		755	2919
02:15 PM	21	337	17	0		9	295	9	0		5	5	12	0		9	7	10	0		736	2901
02:30 PM	21	342	17	0		16	286	7	0		1	6	10	0		7	7	11	0		731	2905
02:45 PM	20	318	23	0		15	263	5	0		4	10	13	0		8	8	10	0		697	2925
03:00 PM	32	349	16	0		17	265	4	0		4	6	13	0		7	9	15	0		737	2986
03:15 PM	22	326	24	0		18	299	7	0		5	2	16	0		6	11	4	0		740	2249
03:30 PM	28	316	23	1		17	292	2	0		9	7	15	0		14	13	15	0		751	1509
03:45 PM	24	331	22	1		14	309	7	0		5	7	13	0		9	5	12	0		758	758

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	128	1396	96	4		72	1236	28	0		36	28	64	0		56	52	60	0		**3252**
Heavy Trucks	0	4	0			0	12	0			0	0	0			0	0	0			**16**
Pedestrians		48					84					32					36				**200**
Bicycles	0	32	4			0	16	0			0	8	0			0	12	4			**76**
Railroad																					
Stopped Buses																					

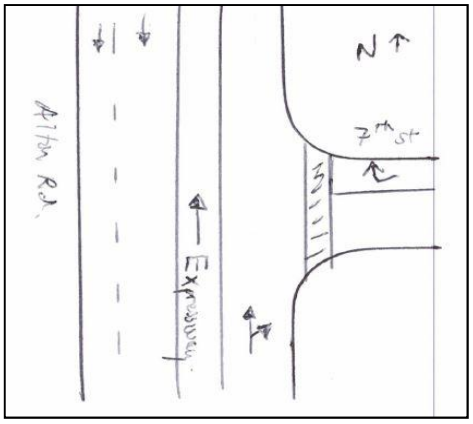
LOCATION: Alton Rd & 7th St
CITY/STATE: Miami Beach

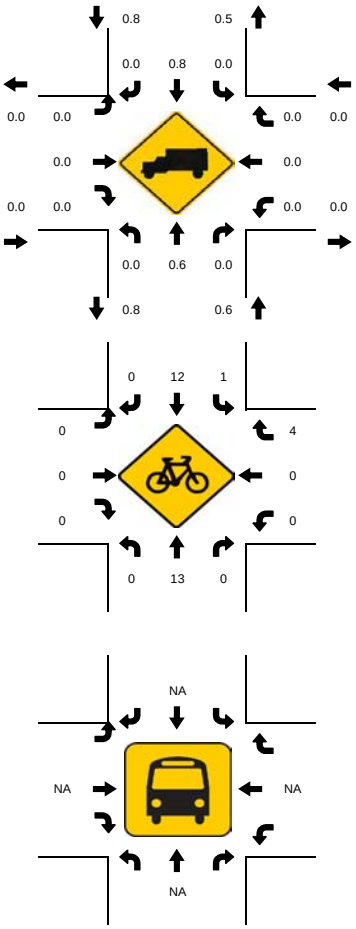
PROJECT ID: 16-3040-003
DATE: Fri, Feb 19, 2016



Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:30 PM - 03:45 PM

National Data & Surveying Services





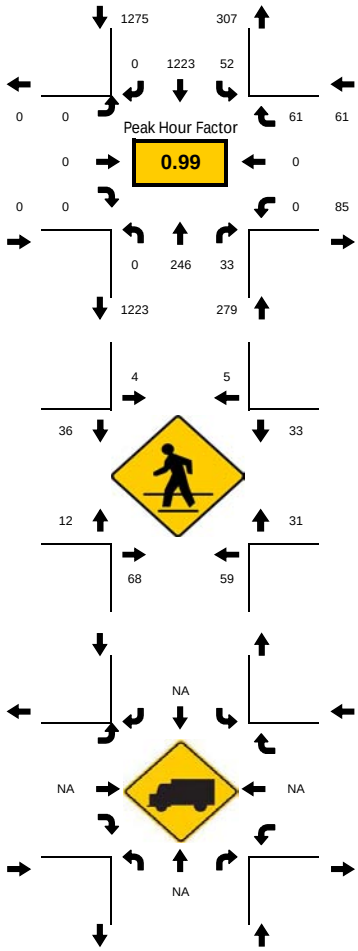
15-Min Count Period Beginning At	Alton Rd Northbound					Alton Rd Southbound					7th St Eastbound					7th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	0	78	4	0		0	303	0	0		0	0	0	0		0	0	22	0		407	1596
02:15 PM	0	78	9	0		1	307	0	1		0	0	0	0		0	0	31	0		426	1597
02:30 PM	1	71	4	1		0	319	0	0		0	0	0	0		0	0	19	0		414	1583
02:45 PM	0	59	1	0		0	274	0	0		0	0	0	0		0	0	15	0		349	1604
03:00 PM	0	82	1	0		0	298	0	0		0	0	0	0		0	0	27	0		408	1668
03:15 PM	0	80	3	0		0	311	0	0		0	0	0	0		0	0	18	0		412	1260
03:30 PM	0	81	3	0		0	334	0	0		0	0	0	0		0	0	17	0		435	848
03:45 PM	0	67	4	0		1	323	0	1		0	0	0	0		0	0	18	0		413	413

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	328	16	0		4	1336	0	4		0	0	0	0		0	0	108	0		**1792**
Heavy Trucks	0	4	0			0	12	0			0	0	0			0	0	0			**16**
Pedestrians		4					4					64					84				**156**
Bicycles	0	20	0			4	20	0			0	0	0			0	0	8			**52**
Railroad																					
Stopped Buses																					

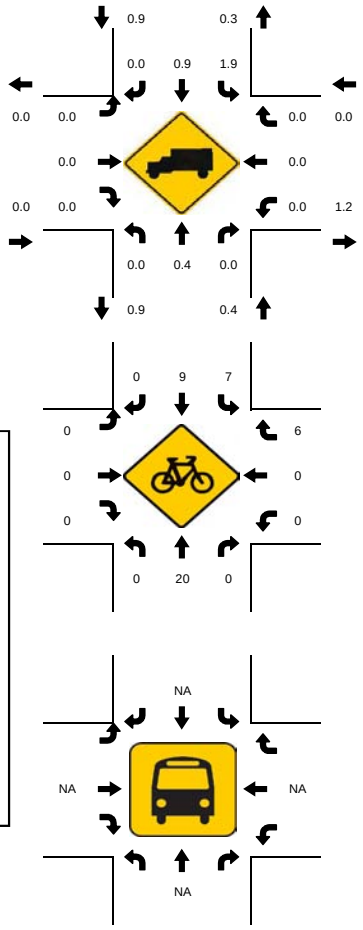
LOCATION: Alton Rd & 6th St
CITY/STATE: Miami Beach

PROJECT ID: 16-3040-004
DATE: Fri, Feb 19, 2016

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:15 PM - 03:30 PM



National Data & Surveying Services



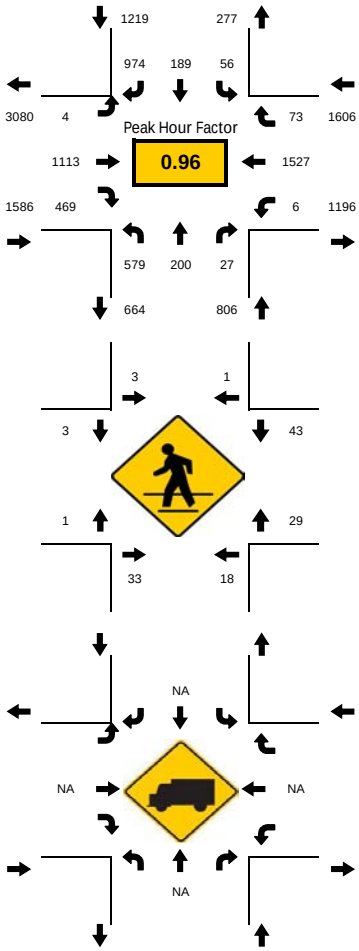
15-Min Count Period Beginning At	Alton Rd Northbound					Alton Rd Southbound					6th St Eastbound					6th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	0	69	9	0		0	295	0	0		0	0	0	0		0	0	23	0		396	1516
02:15 PM	0	75	3	0		0	312	0	0		0	0	0	0		0	1	9	0		400	1512
02:30 PM	0	66	9	0		7	296	0	2		1	0	0	0		0	0	8	0		387	1521
02:45 PM	0	37	5	0		7	270	0	1		0	0	0	0		0	0	14	0		333	1539
03:00 PM	0	72	9	0		9	289	0	4		0	0	0	0		0	0	13	0		392	1615
03:15 PM	0	73	4	0		14	307	0	4		0	0	0	0		0	0	11	0		409	1223
03:30 PM	0	49	11	0		14	315	0	1		0	0	0	0		0	0	16	0		405	814
03:45 PM	0	52	9	0		15	312	0	1		0	0	0	0		0	0	21	0		409	409

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	292	44	0		60	1260	0	16		0	0	0	0		0	0	84	0		**1740**
Heavy Trucks	0	4	0			4	16	0			0	0	0			0	0	0			**24**
Pedestrians		140					20					76					76				**312**
Bicycles	0	32	0			12	20	0			0	0	0			0	0	16			**80**
Railroad Stopped Buses																					

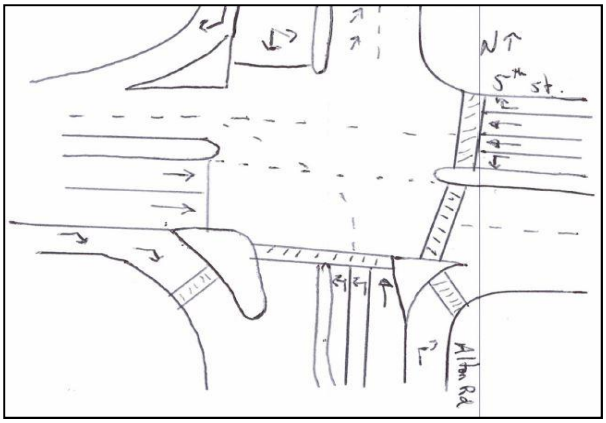
LOCATION: Alton Rd & 5th St
CITY/STATE: Miami Beach

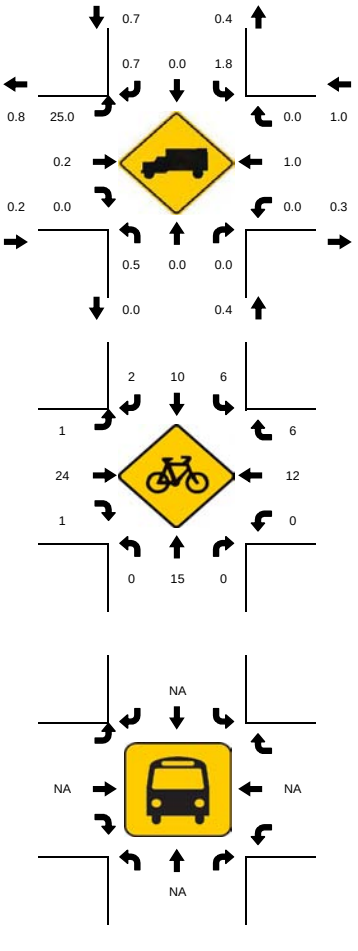
PROJECT ID: 16-3040-005
DATE: Fri, Feb 19, 2016

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:15 PM - 03:30 PM



National Data & Surveying Services





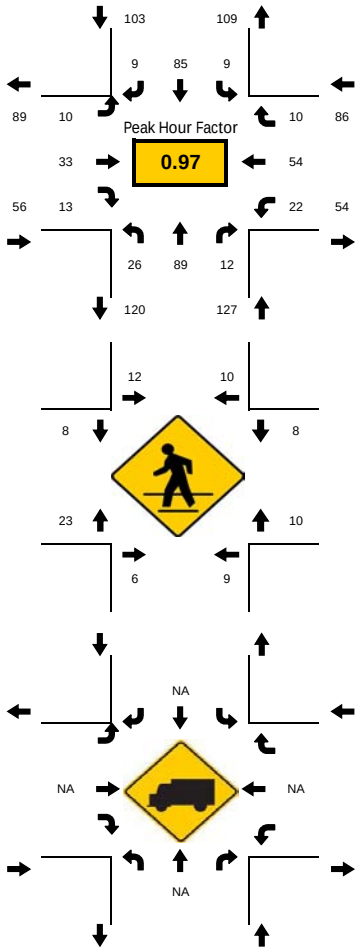
15-Min Count Period Beginning At	Alton Rd Northbound					Alton Rd Southbound					5th St Eastbound					5th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	68	54	8	0		20	51	228	3		1	311	113	0		3	374	24	0		1255	5087
02:15 PM	85	47	3	0		19	45	241	4		1	297	136	0		4	365	21	0		1264	5101
02:30 PM	151	50	7	0		13	59	231	1		0	305	126	0		6	357	26	0		1331	5191
02:45 PM	141	21	8	0		19	55	190	1		3	296	123	0		6	361	14	0		1237	5183
03:00 PM	138	61	12	0		18	62	209	0		0	262	123	0		2	356	26	0		1269	5217
03:15 PM	138	43	5	0		13	44	247	0		1	268	108	0		3	456	28	0		1354	3948
03:30 PM	153	55	5	0		14	43	250	3		2	304	121	0		1	367	8	0		1323	2594
03:45 PM	150	41	5	0		11	40	268	2		1	279	117	0		0	348	11	0		1271	1271

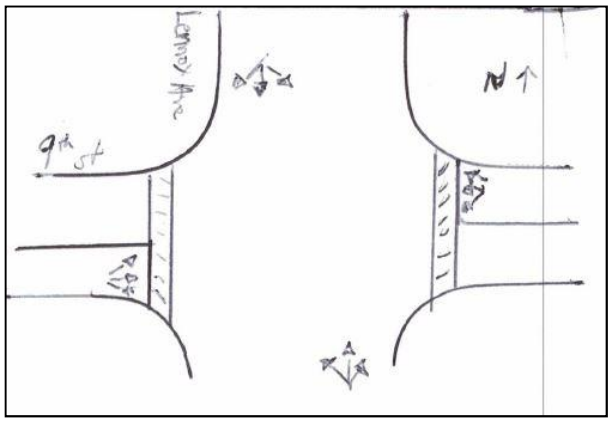
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	
All Vehicles	612	244	48	0		72	248	1072	12		8	1216	492	0		12	1824	112	0		**5960**
Heavy Trucks	8	0	0			4	0	20			4	8	0			0	20	0			**64**
Pedestrians		84					16					12					112				**224**
Bicycles	0	20	0			20	20	4			4	44	4			0	24	12			**152**
Railroad																					
Stopped Buses																					

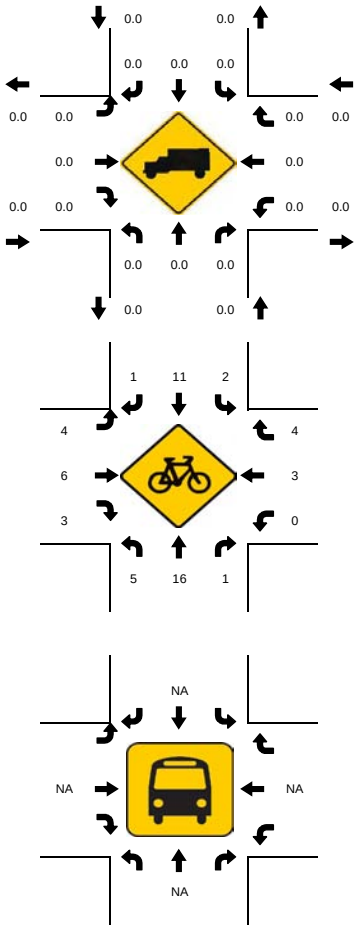
LOCATION: Lennox Ave & 9th St
CITY/STATE: Miami Beach

PROJECT ID: 16-3040-006
DATE: Fri, Feb 19, 2016

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:15 PM - 03:30 PM





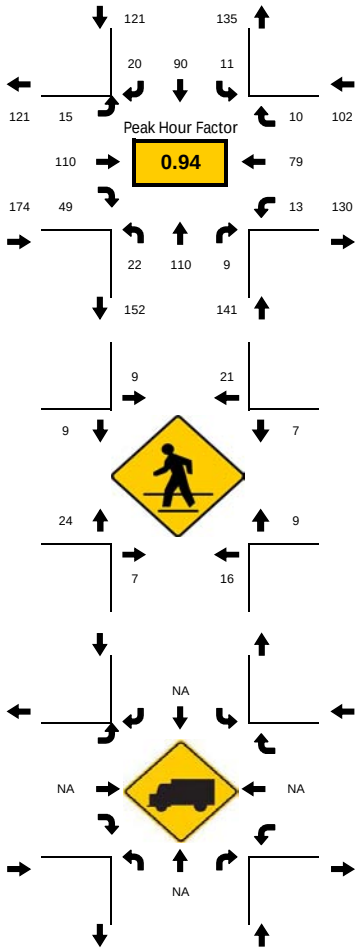


15-Min Count Period Beginning At	Lennox Ave Northbound					Lennox Ave Southbound					9th St Eastbound					9th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	7	22	2	0		3	14	2	0		2	11	2	0		2	12	2	0		81	353
02:15 PM	7	27	3	0		0	21	2	0		0	17	3	0		3	12	0	0		95	362
02:30 PM	3	27	3	0		0	17	2	0		1	17	5	0		5	13	2	0		95	363
02:45 PM	3	20	2	0		1	22	4	0		1	5	3	0		2	14	5	0		82	364
03:00 PM	6	17	3	0		3	28	3	0		2	10	3	0		3	11	1	0		90	372
03:15 PM	6	24	0	1		3	21	1	0		1	8	2	0		9	16	5	0		96	282
03:30 PM	5	20	3	0		1	21	2	0		5	9	2	0		7	17	4	0		96	186
03:45 PM	9	28	6	0		2	15	3	0		2	6	6	0		3	10	0	0		90	90

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	36	112	24	4		12	112	12	0		20	40	24	0		36	68	20	0		**516**
Heavy Trucks	0	0	0			0	0	0			0	0	0			0	0	0			**0**
Pedestrians		28					44					44					28				**144**
Bicycles	12	28	4			4	32	4			16	16	8			0	8	8			**140**
Railroad																					
Stopped Buses																					

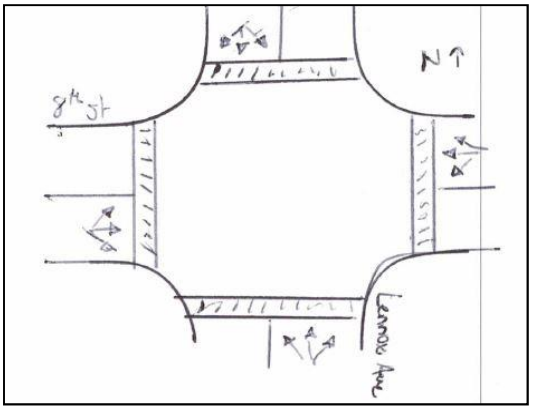
LOCATION: Lennox Ave & 8th St
CITY/STATE: Miami Beach

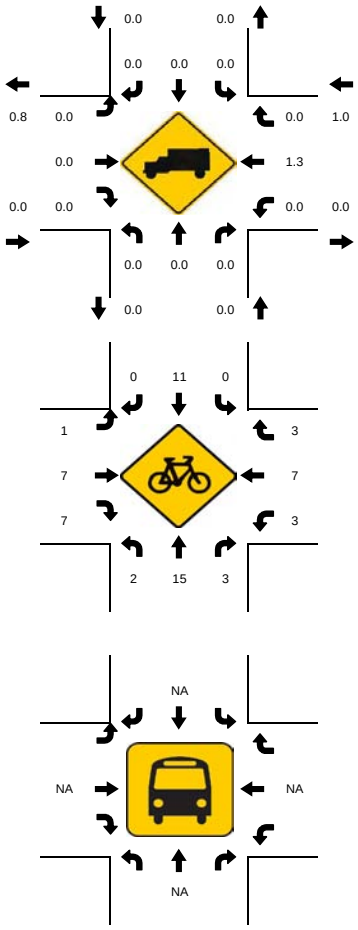
PROJECT ID: 16-3040-007
DATE: Fri, Feb 19, 2016



Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:30 PM - 03:45 PM

National Data & Surveying Services





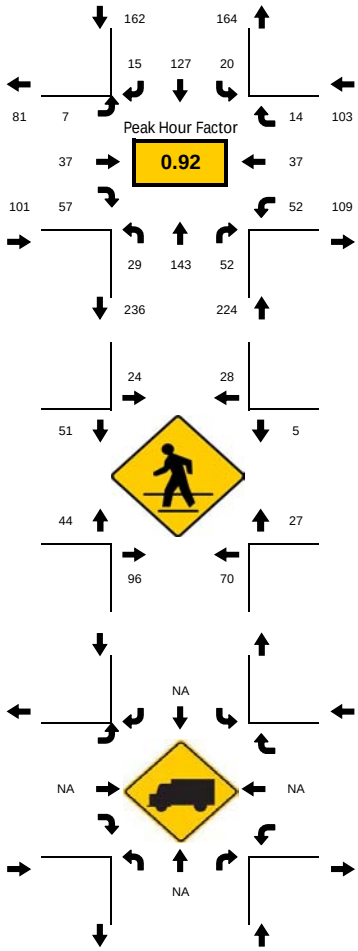
15-Min Count Period Beginning At	Lennox Ave Northbound					Lennox Ave Southbound					8th St Eastbound					8th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	8	25	0	0		0	17	1	0		4	35	10	0		2	15	2	0		119	476
02:15 PM	6	35	1	1		1	19	6	0		1	21	8	0		0	15	1	0		114	484
02:30 PM	7	24	6	0		3	17	6	0		5	30	7	0		2	15	3	0		125	504
02:45 PM	3	19	2	0		0	23	4	0		4	29	12	0		1	19	2	0		118	522
03:00 PM	6	22	2	0		5	24	6	0		3	21	14	0		2	18	4	0		127	538
03:15 PM	5	30	1	0		2	27	5	0		3	32	11	1		3	15	0	0		134	411
03:30 PM	8	25	6	1		1	24	5	1		5	29	11	0		5	23	1	0		143	277
03:45 PM	3	33	0	0		3	15	4	0		4	28	13	0		3	23	5	0		134	134

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	132	24	4		20	108	24	4		20	128	56	4		20	92	20	0		**676**
Heavy Trucks	0	0	0			0	0	0			0	0	0			0	4	0			**4**
Pedestrians		48					40					64					32				**184**
Bicycles	8	36	8			0	28	0			4	12	12			4	12	8			**132**
Railroad Stopped Buses																					

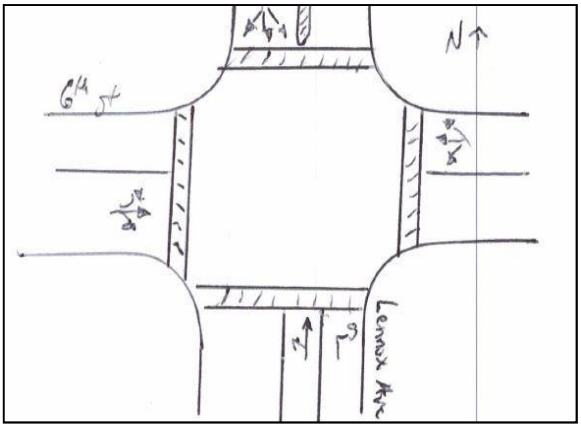
LOCATION: Lennox Ave & 6th St
CITY/STATE: Miami Beach

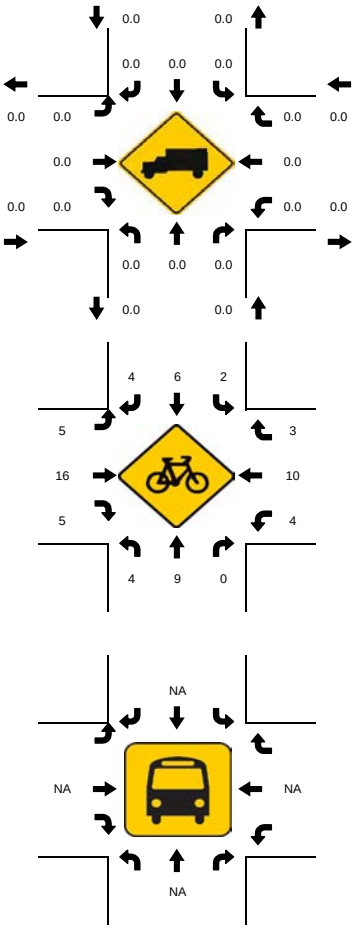
PROJECT ID: 16-3040-008
DATE: Fri, Feb 19, 2016

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:30 PM - 03:45 PM



National Data & Surveying Services





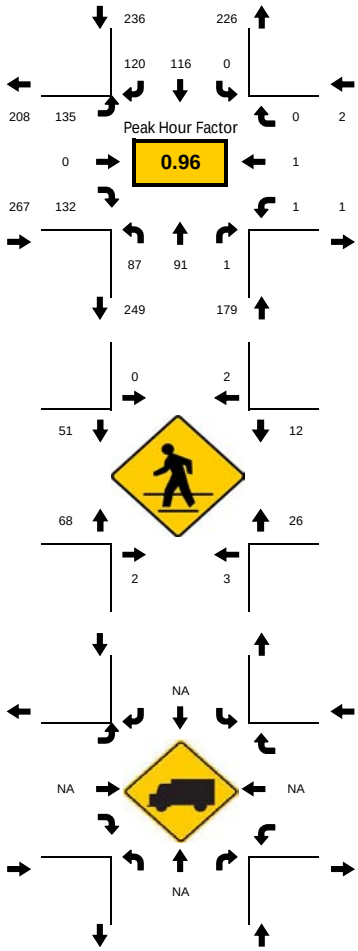
15-Min Count Period Beginning At	Lennox Ave Northbound					Lennox Ave Southbound					6th St Eastbound					6th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	13	35	22	0		1	27	6	0		5	15	19	0		16	6	2	0		167	587
02:15 PM	8	35	9	0		4	29	3	0		5	12	21	0		10	10	4	0		150	559
02:30 PM	6	39	12	0		1	22	1	0		2	13	19	0		10	8	1	0		134	552
02:45 PM	8	23	15	0		4	27	3	0		2	8	17	0		15	9	5	0		136	579
03:00 PM	4	34	14	0		3	32	4	0		4	11	15	1		8	8	2	0		139	590
03:15 PM	5	31	11	0		4	39	3	0		1	9	13	0		16	7	4	0		143	451
03:30 PM	7	39	15	0		5	33	5	0		2	11	15	0		16	11	2	0		161	308
03:45 PM	13	39	12	0		8	23	3	0		0	6	14	0		12	11	6	0		147	147

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	52	156	60	0		32	156	20	0		16	44	60	4		64	44	24	0		**728**
Heavy Trucks	0	0	0			0	0	0			0	0	0			0	0	0			**0**
Pedestrians		204					72					124					72				**472**
Bicycles	12	16	0			4	12	8			8	24	8			8	24	8			**132**
Railroad																					
Stopped Buses																					

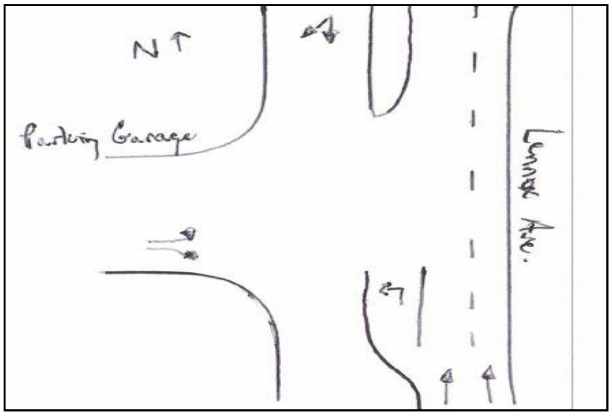
LOCATION: Lennox Ave & Garage Entrance
CITY/STATE: Miami Beach

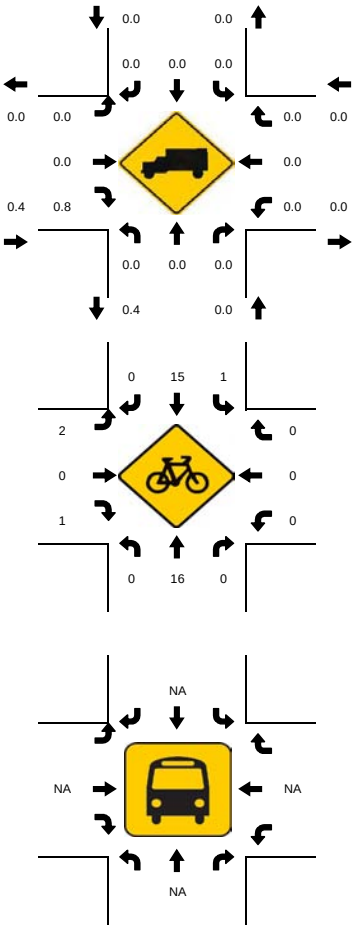
PROJECT ID: 16-3040-009
DATE: Fri, Feb 19, 2016

Peak-Hour: 03:00 PM - 04:00 PM
Peak 15-Minute: 03:00 PM - 03:15 PM



National Data & Surveying Services





15-Min Count Period Beginning At	Lennox Ave Northbound					Lennox Ave Southbound					Garage Entrance Eastbound					Garage Entrance Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	25	30	0	0		2	29	31	2		40	0	27	0		0	0	0	0		184	678
02:15 PM	27	22	0	0		5	31	23	3		32	0	28	0		0	0	0	0		168	673
02:30 PM	32	20	0	0		3	26	26	0		32	1	24	0		1	1	1	0		167	665
02:45 PM	28	25	2	0		1	23	36	0		18	0	24	0		1	0	1	0		159	676
03:00 PM	24	19	0	0		0	28	30	0		34	0	44	0		0	0	0	0		179	684
03:15 PM	18	15	0	0		0	33	35	0		32	0	27	1		0	0	0	0		160	505
03:30 PM	22	33	0	0		0	30	32	0		31	0	29	0		0	1	0	0		178	345
03:45 PM	23	24	1	0		0	25	23	0		38	0	32	0		1	0	0	0		167	167

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	96	132	4	0		0	132	140	0		152	0	176	4		4	4	0	0		**840**
Heavy Trucks	0	0	0			0	0	0			0	0	4			0	0	0			**4**
Pedestrians		16					8					144					64				**232**
Bicycles	0	28	0			4	24	0			4	0	4			0	0	0			**64**
Railroad																					
Stopped Buses																					

Signal Timing Data

TOD Schedule Report
for 2640: Alton Rd&5 St

Print Date: 1/25/2016

Print Time: 10:21 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2640	Alton Rd&5 St	DOW-2		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 Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	7 - 7 - 7	3.4	2.3
2 EBT	5 - 5 - 5	22 - 22 - 22	5 - 5 - 5	1 - 1 - 1	30 - 30 - 30	0 - 30 - 30	4	2
3 NBT	5 - 5 - 5	10 - 10 - 10	7 - 7 - 7	3 - 3 - 3	18 - 18 - 16	33 - 30 - 30	4	2
4 SBT	5 - 5 - 5	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	5 - 5 - 5	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	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 2640: Alton Rd&5 St

Print Date: 1/25/2016

Print Time: 10:21 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 WB	2 EBT	3 NBT	4 SBT	5 -	6 WBT	7 -	8 -	Ring Offset	Offset
	1	120	5	45	19	27	0	56	0	0	0	11
	2	150	5	68	30	23	0	79	0	0	0	27
	3	120	5	45	18	28	0	56	0	0	0	96
	4	150	5	80	16	25	0	91	0	0	0	109
	5	150	5	74	16	31	0	85	0	0	0	29
	6	180	5	86	27	38	0	97	0	0	0	114
	7	170	5	78	30	33	0	89	0	0	0	99
	8	160	5	68	30	33	0	79	0	0	0	57
	14	120	5	45	20	26	0	56	0	0	0	118
	15	130	5	51	27	23	0	62	0	0	0	127
	16	120	5	45	20	26	0	56	0	0	0	23
	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	65	18	28	0	76	0	0	0	60
	26	180	5	93	30	28	0	104	0	0	0	44
	27	140	5	65	18	28	0	76	0	0	0	0

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
0800	6	M T W Th F
1000	7	Su S
1130	5	M T W Th F
1300	6	M T W Th F
1615	7	M T W Th F
1845	8	M T W Th F
2000	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8----3--	SuM T W ThF S
0700	TOD OUTPUTS	--------	M T W ThF
1000	TOD OUTPUTS	------2-	SuM T W ThF
1500	TOD OUTPUTS	--------	SuM T W ThF S
1800	TOD OUTPUTS	8-----2-	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8----3--	SuM T W ThF S
0700	TOD OUTPUTS	--------	M T W ThF
0800	TOD OUTPUTS	--------	Su S
1000	TOD OUTPUTS	------2-	SuM T W ThF
1500	TOD OUTPUTS	--------	SuM T W ThF S
1800	TOD OUTPUTS	8-----2-	M T W ThF
2000	TOD OUTPUTS	8-----2-	Su 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 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 2641: Alton Rd&6 St

Print Date: 1/25/2016

Print Time: 10:22 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2641	Alton Rd&6 St	DOW-2		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
-	SBT	SL+PED	WBR	SBL	NBT	-	EBR
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	30 - 30 - 30	0 - 0 - 0	4	2
3 SL+P	4 - 4 - 4	30 - 30 - 30	5 - 5 - 5	2.5 - 2.5 - 2.5	8 - 8 - 8	34 - 34 - 34	4	2
4 WBR	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	7 - 10 - 10	10 - 20 - 20	4	2
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	22 - 8 - 8	15 - 20 - 20	4	2
6 NBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	30 - 30 - 30	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 EBR	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	7 - 10 - 10	10 - 20 - 20	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-23456--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 2641: Alton Rd&6 St

Print Date: 1/25/2016

Print Time: 10:22 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 SBT	3 SL+P	4 WBR	5 SBL	6 NBT	7 -	8 EBR	Ring Offset	Offset
	1	100	0	54	17	11	**	54	0	0	0	9
	3	120	0	74	17	11	**	74	0	0	0	16
	5	150	0	84	37	11	**	84	0	0	0	101
	10	160	0	94	37	11	**	94	0	0	0	49
	13	120	0	74	17	11	**	74	0	0	0	99
	19	120	0	74	17	11	**	74	0	0	0	114
	20	150	0	84	37	11	0	84	0	0	0	95
	21	140	0	74	37	11	0	74	0	0	0	110
	22	120	0	74	17	11	**	74	0	0	0	0
	25	140	0	74	37	11	**	74	0	0	0	7
	26	180	0	114	37	11	**	114	0	0	0	74
	27	140	0	74	37	11	**	74	0	0	0	8

Local TOD Schedule

Time	Plan	DOW
0000	1	Su M T W Th F S
0600	3	M T W Th F
0700	3	M T W Th F
0800	5	M T W Th F
0800	19	Su S
0900	5	M T W Th F
1000	20	Su S
1100	5	M T W Th F
1300	10	M T W Th F
1515	10	M T W Th F
1600	21	Su S
1900	22	Su S
1900	13	M T W Th F
2000	13	M T W Th F
2000	22	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8-------	SuM T W ThF S
0600	TOD OUTPUTS	--------	M T W ThF
2000	TOD OUTPUTS	8-------	M T W ThF

Local Time of Day Function

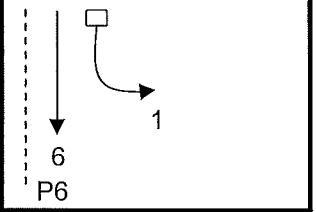
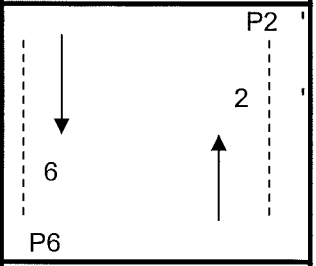
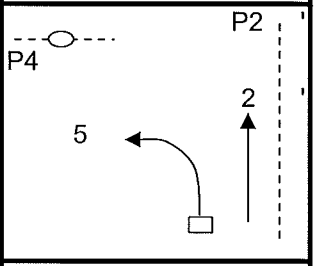
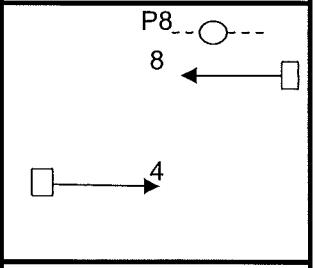
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8-------	SuM T W ThF S
0600	TOD OUTPUTS	--------	M T W ThF
0700	TOD OUTPUTS	--------	Su S
2000	TOD OUTPUTS	8-------	M T W ThF
2200	TOD OUTPUTS	8-------	Su S

* 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 OPERATING PLAN

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

Miami-Dade County Public Works Department

Drawn	Date	
William Rivera-Paz	8/25/2011	Alton Rd & 6 St

Checked	Date	Placed in Service		Phasing No.	Asset Number
H. Hernandez	9/1/11	Date 8/19/11	By S.U.C.	4	2641

TOD Schedule Report
for 2642: Alton Rd&8 St

Print Date: 1/25/2016

Print Time: 10:22 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2642	Alton Rd&8 St	DOW-2		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
NBL	SBT	-	WBT	SBL	NBT	-	EBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase		Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1	NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	15 - 15 - 15	4	2
2	SBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	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	WBT	4 - 4 - 4	24 - 24 - 24	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 7 - 7	31 - 28 - 28	4	2.4
5	SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	15 - 15 - 15	4	2
6	NBT	7 - 7 - 7	10 - 10 - 10	16 - 16 - 16	1 - 1 - 1	40 - 40 - 40	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	EBT	4 - 4 - 4	24 - 24 - 24	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 7 - 7	31 - 28 - 28	4	2.4

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-456-8
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 2642: Alton Rd&8 St

Print Date: 1/25/2016

Print Time: 10:22 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 -	4 WBT	5 SBL	6 NBT	7 -	8 EBT	Ring Offset	Offset
	1	100	7	46	0	29	7	46	0	29	0	15
	3	120	8	66	0	28	8	66	0	28	0	25
	5	150	8	96	0	28	8	96	0	28	0	131
	10	160	7	106	0	29	7	106	0	29	0	65
	13	120	8	64	0	30	8	64	0	30	0	71
	19	120	6	67	0	29	6	67	0	29	0	7
	20	150	8	94	0	30	8	94	0	30	0	119
	21	140	8	84	0	30	8	84	0	30	0	0
	22	120	7	66	0	29	7	66	0	29	0	102
	25	140	8	84	0	30	8	84	0	30	0	0
	26	180	16	106	0	40	16	106	0	40	0	78
	27	140	8	84	0	30	8	84	0	30	0	14

Local TOD Schedule

Time	Plan	DOW
0000	1	Su M T W Th F S
0600	3	M T W Th F
0700	3	M T W Th F
0800	5	M T W Th F
0800	19	Su S
0900	5	M T W Th F
1000	20	Su S
1100	5	M T W Th F
1300	10	M T W Th F
1515	10	M T W Th F
1600	21	Su S
1900	22	Su S
1900	13	M T W Th F
2000	13	M T W Th F
2000	22	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8-------	SuM T W ThF S
0600	TOD OUTPUTS	--------	M T W ThF
2000	TOD OUTPUTS	8-------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8-------	SuM T W ThF S
0600	TOD OUTPUTS	--------	M T W ThF
0700	TOD OUTPUTS	--------	Su S
2000	TOD OUTPUTS	8-------	M T W ThF
2200	TOD OUTPUTS	8-------	Su S

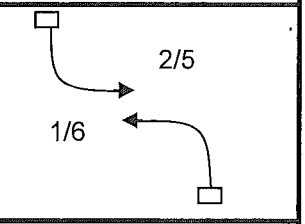
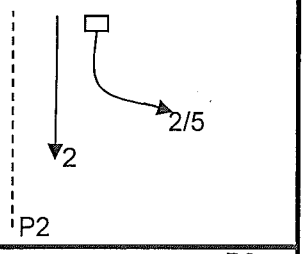
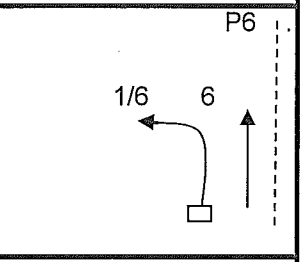
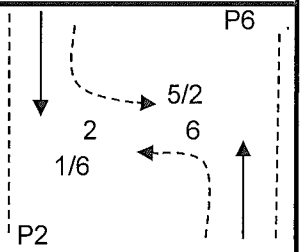
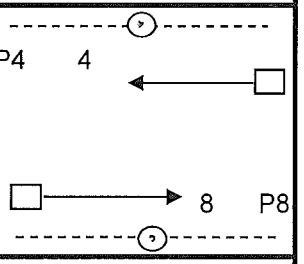
*** Settings**

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 OPERATING PLAN

N

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

Miami-Dade County Public Works Department

Drawn	Date	
WILLIAM RIVERA PAZ	12/18/2014	ALTON RD & 8 ST

Checked	Date	Placed in Service		Phasing No.	Asset Number
H. HERNANDEZ	12/23/14	Date 1/21/15	By EEC	5	2642

APPENDIX D:
Background Area Growth

Historical Growth Trend Analysis

Historic Growth Rate Comparison Table

Station No.		Historic Trend Analysis (10-year) (Linear)
2527	SR A1A/McArthur Causeway - 200 feet west of SR 907/Alton Road	0.97%
2528	SR A1A/McArthur Causeway - 150 feet east of Meridian Avenue	-1.15%
Average		-0.09%

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2014 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

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

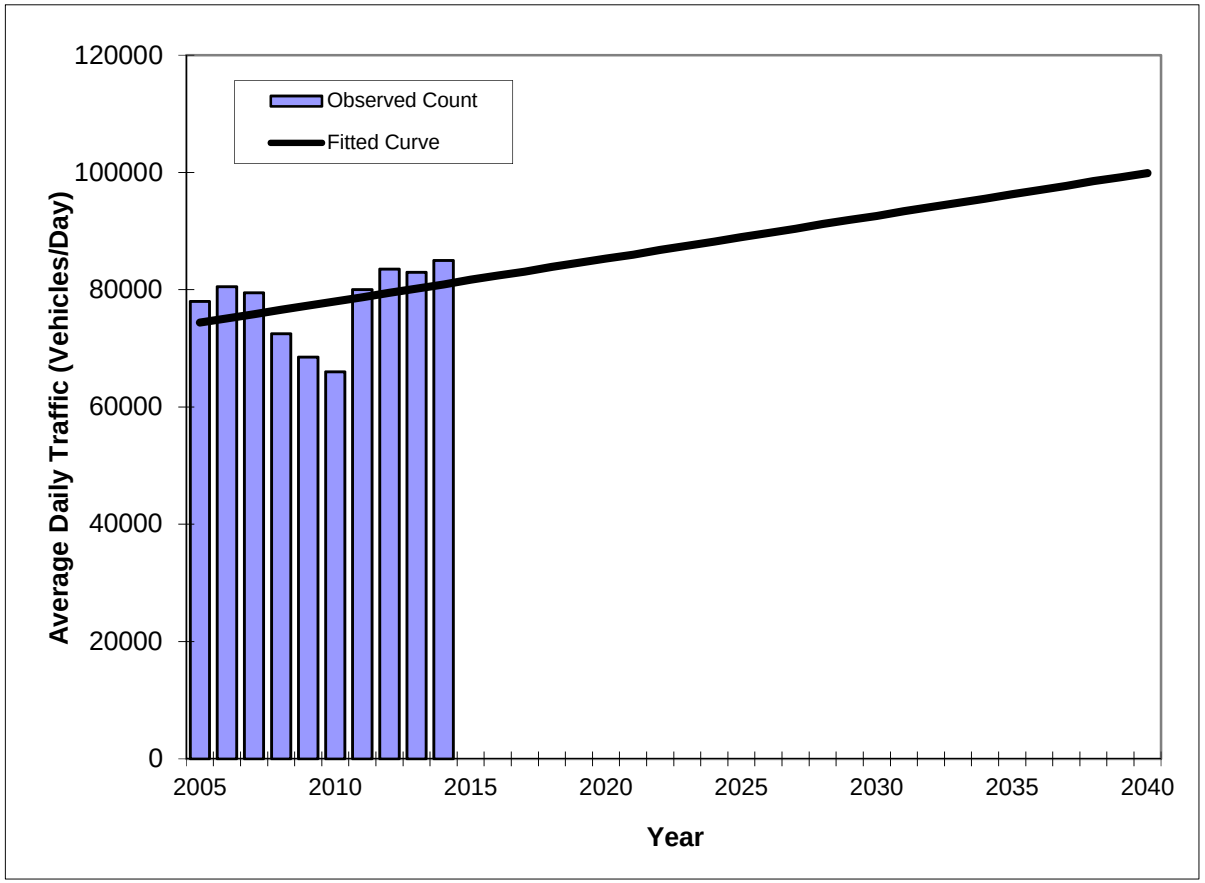
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2014	85000 C	E 42500	W 42500	9.00	54.30	5.10
2013	83000 C	E 42500	W 40500	9.00	54.10	6.10
2012	83500 C	E 41000	W 42500	9.00	53.40	8.40
2011	80000 C	E 39500	W 40500	9.00	51.90	7.50
2010	66000 C	E 36000	W 30000	7.16	52.27	8.80
2009	68500 C	E 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
2006	80500 C	E 39500	W 41000	7.18	52.50	2.20
2005	78000 C	E 40000	W 38000	7.30	52.50	5.50
2004	91500 C	E 46000	W 45500	7.40	52.00	8.20
2003	74000 C	E 36500	W 37500	7.30	54.00	4.90
2002	86000 C	E 43000	W 43000	9.20	68.00	2.60
2001	83000 C	E 41000	W 42000	8.20	53.50	3.00
2000	77500 C	E 38000	W 39500	8.20	53.10	3.50
1999	75000 C	E 42000	W 33000	9.10	52.70	3.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = 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 CSWY -- 200' West of SR 907/ALTON RD

County:	Miami-Dade
Station #:	872527
Highway:	SR A1A/MACARTHUR CSWY



Year	Traffic (ADT/AADT) Count*	Trend**
2005	78000	74400
2006	80500	75100
2007	79500	75800
2008	72500	76600
2009	68500	77300
2010	66000	78000
2011	80000	78700
2012	83500	79500
2013	83000	80200
2014	85000	80900
2020 Opening Year Trend		
2020	N/A	85300
2030 Mid-Year Trend		
2030	N/A	92600
2040 Design Year Trend		
2040	N/A	99900
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	730
Trend R-squared:	11.6%
Trend Annual Historic Growth Rate:	0.97%
Trend Growth Rate (2014 to Design Year):	0.90%
Printed:	17-Feb-16

Straight Line Growth Option

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2014 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

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

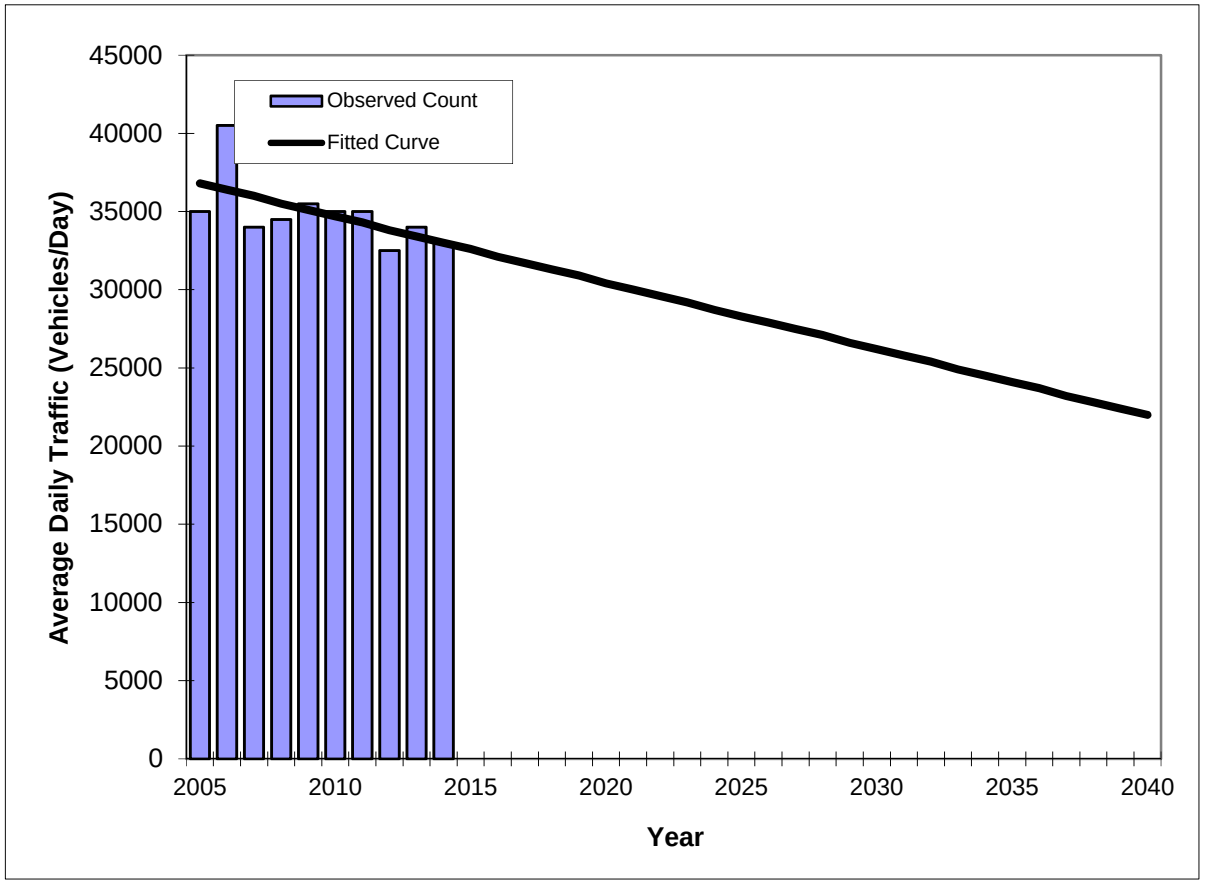
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2014	33000 C	E 17000	W 16000	9.00	54.30	5.10
2013	34000 C	E 17500	W 16500	9.00	54.10	6.10
2012	32500 C	E 14500	W 18000	9.00	53.40	8.40
2011	35000 C	E 16500	W 18500	9.00	51.90	7.50
2010	35000 C	E 16500	W 18500	7.16	52.27	8.80
2009	35500 C	E 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
2006	40500 C	E 19500	W 21000	7.18	52.50	2.20
2005	35000 C	E 16000	W 19000	7.30	52.50	5.50
2004	41500 C	E 20500	W 21000	7.40	52.00	8.20
2003	40500 C	E 18500	W 22000	7.30	54.00	4.90
2002	43500 C	E 21000	W 22500	9.20	68.00	2.60
2001	45500 C	E 22000	W 23500	8.20	53.50	3.00
2000	37000 C	E 18500	W 18500	8.20	53.10	3.50
1999	46000 C	E 24500	W 21500	9.10	52.70	3.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = 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 CSWY -- 150' North of MERIDIAN AVE

County:	Miami-Dade
Station #:	872528
Highway:	SR A1A/MACARTHUR CSWY



Year	Traffic (ADT/AADT) Count*	Trend**
2005	35000	36800
2006	40500	36400
2007	34000	36000
2008	34500	35500
2009	35500	35100
2010	35000	34700
2011	35000	34300
2012	32500	33800
2013	34000	33400
2014	33000	33000
2020 Opening Year Trend		
2020	N/A	30400
2030 Mid-Year Trend		
2030	N/A	26200
2040 Design Year Trend		
2040	N/A	22000
TRANPLAN Forecasts/Trends		

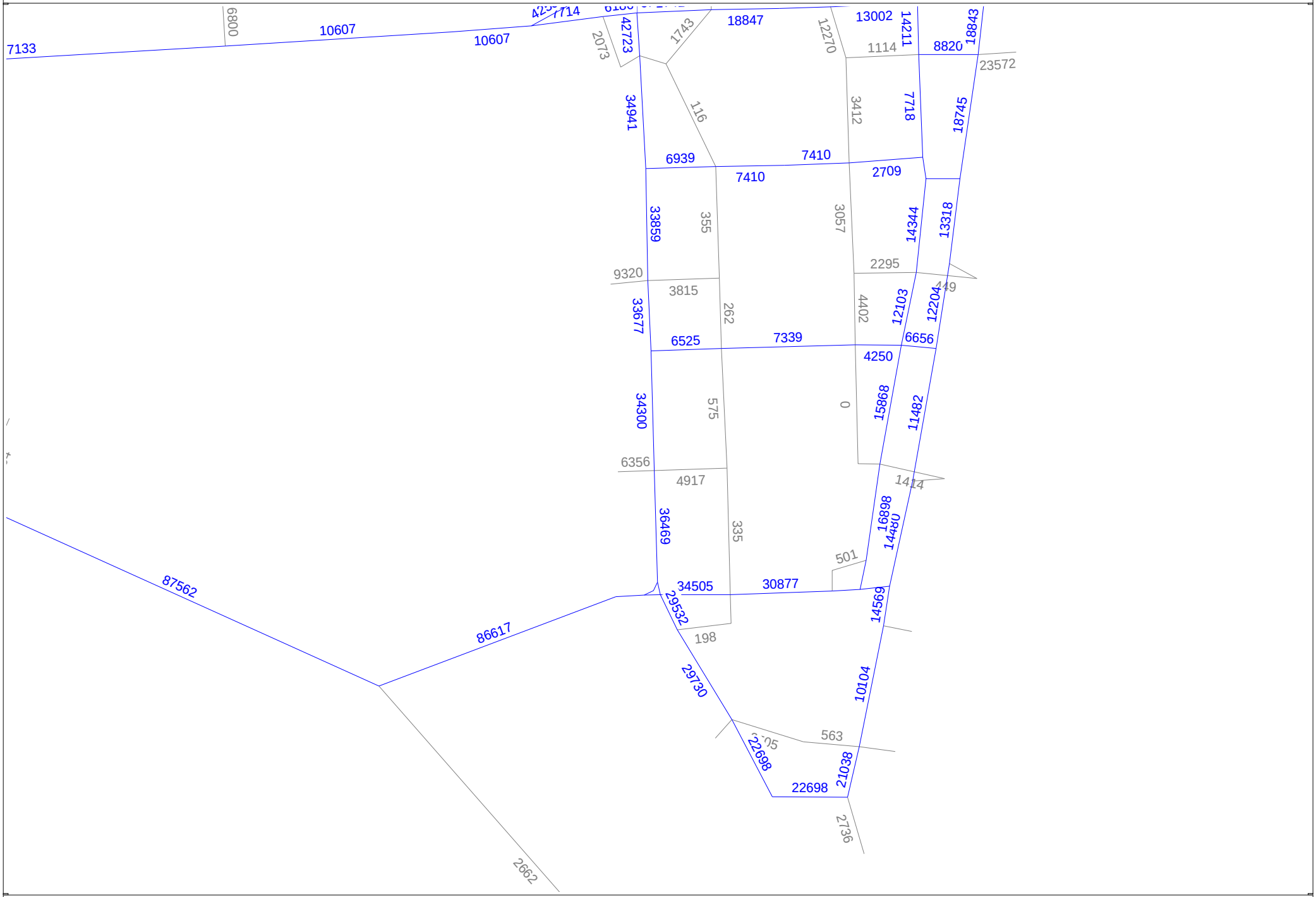
*Axle-Adjusted

** Annual Trend Increase:	-424
Trend R-squared:	34.6%
Trend Annual Historic Growth Rate:	-1.15%
Trend Growth Rate (2014 to Design Year):	-1.28%
Printed:	17-Feb-16

Straight Line Growth Option

Florida Standard Urban Transportation Model Structure (FSUTMS) Southeast Florida Regional Planning Model (SERPM) Growth Trend Analysis

Lenox and 5th Street
2010 Volumes
SERPM 7.051



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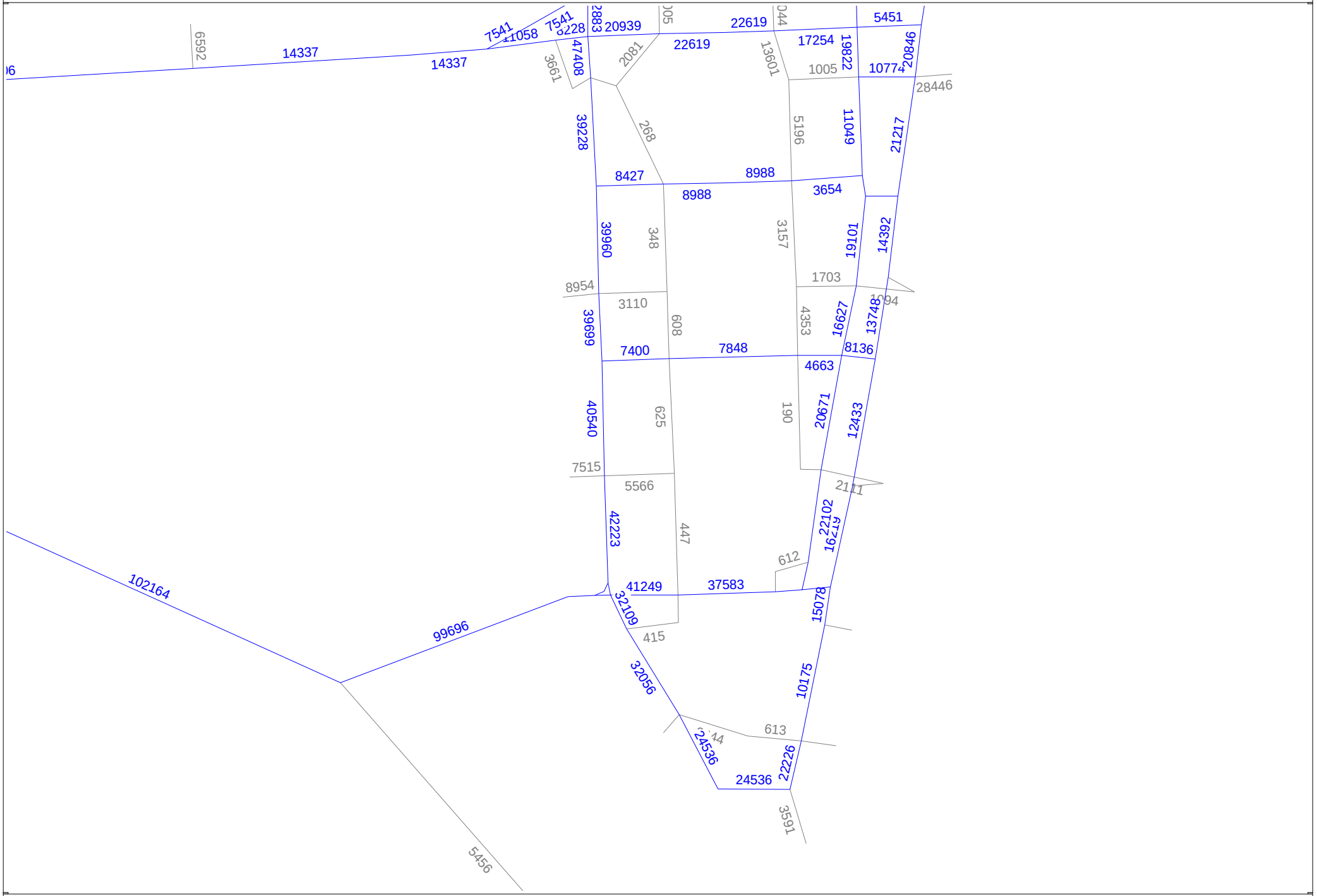
(Licensed to Kimley-Horn and Associates, Inc.)

Lenox and 5th Steet
2040 Volumes
SERPM 7.051



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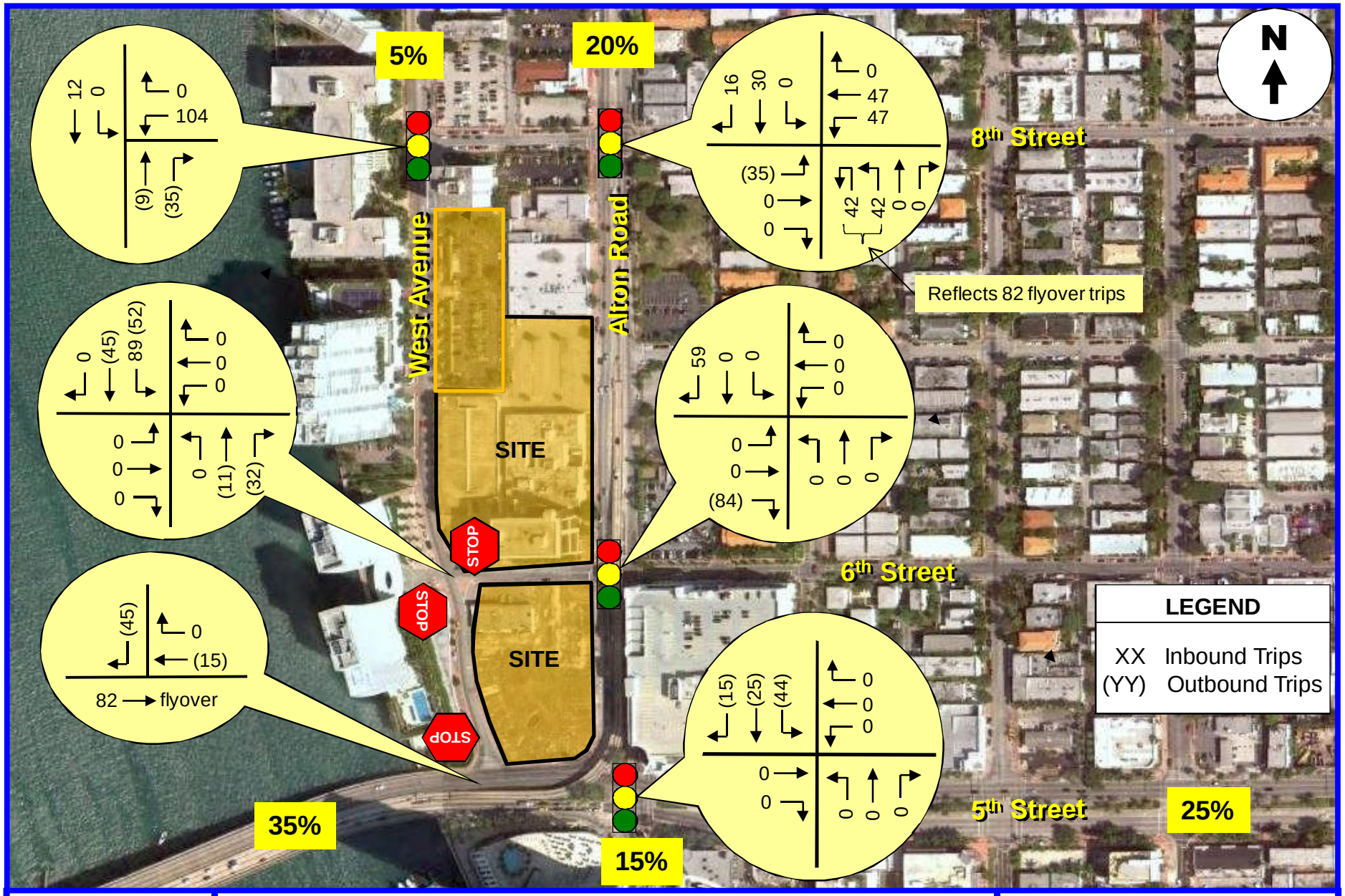
(Licensed to Kimley-Horn and Associates, Inc.)

Area-Wide Growth Rate Calculations from 2010 and 2040 M-D MPO FSUTMS Model						
	Street Name	2010	2040	Difference	Growth Rate	Annual Growth Rate
			N-S			
1	Alton Road	34,300	40,540	6,240	18.19%	0.61%
5		36,469	42,223	5,754	15.78%	0.53%
6		29,532	32,109	2,577	8.73%	0.29%
			E-W			
25	5th Street	34,505	41,249	6,744	19.54%	0.65%
26		30,877	37,583	6,706	21.72%	0.72%
31	11th Street	6,525	7,400	875	13.41%	0.45%
32		7,339	7,848	509	6.94%	0.23%
	Total	179,547	208,952	29,405		0.55%

APPENDIX E:
Committed Developments

600 Alton Road



TrafTech ENGINEERING, INC.

NEW PROJECT TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4a
600 Alton
Miami Beach, Florida

Coco Bambu

TrafTech
ENGINEERING, INC.

NEW PROJECT TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4
955 Alton
Miami Beach, Florida

Urban Box Self Storage

INTRODUCTION

DESMAN Associates has prepared the following calculations for the proposed self-storage unit development at 633 Alton Road (the project) in Miami Beach, Florida, proposed by Alton 633 Properties, LLC (owner). It is our understanding that the size of the development is about 335 units and about 22,500 square feet (SF) of gross floor area (GFA). This memorandum is simply an application of data provided by the Institute of Transportation Engineers (ITE) and does not include specific recommendations, site review and/or other studies.

The first part of this memorandum provides an evaluation of the parking supply/demand characteristics of self-storage units and the second part provides an evaluation of the traffic generation characteristics of self-storage units, specifically as they apply to the project.

Parking Supply/Demand

The Institute of Transportation Engineers (ITE) Parking Generation Manual[1] was consulted to determine the typical parking generation rate at self-storage units. ITE "Land Use 151: Mini-Warehouse" was the category that best fit the proposed development type. Mini-warehouses as defined by ITE include buildings in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as "self-storage" facilities. Each unit is physically separated from other units and access is usually provided through an overhead door or other common access point.

Excerpts from the Parking Generation Manual are attached to this memorandum for reference purposes only and are summarized below as it pertains to the proposed development. The Manual provides data on:

1. The *average parking supply ratio* at existing sites (2 sites);
2. The *average weekday peak hour parking demand* for 100 storage units with no information available on size of units (6 sites);
3. The *average weekday peak hour parking demand* for self-storage units per 1,000 SF GFA for a typical weekday (7 sites); and
4. The *average weekend peak hour parking demand* for self-storage units per 1,000 SF GFA for a typical Saturday (3 sites).

The information and calculations are summarized below for the average condition and assuming 335 storage units at 22,500 SF GFA:

- The *average parking supply ratio* was 0.2 spaces per 1,000 SF GFA, which would equate to about 5 spaces (0.2*22.5 = 4.5);
- The *average weekday peak hour parking demand* for 100 storage units would be based on the following calculation:
  - P = 0.90x + 2, where P is the number of parked vehicles and x = number of 100 storage units, so for 335 units, x = 3.35
  - For 335 units, the number of parked vehicles during the average weekday peak hour would be 6 vehicles, rounded up from 5.015 spaces calculated as P = (0.90 * 3.35) + 2.
- The *average weekday peak hour parking demand* per 1,000 SF GFA would be based on the following calculation:

[1] Institute of Transportation Engineers, Parking Generation Manual, 4th Edition, 2010.

  - P = 0.07x + 4, where P is the number of parked vehicles and x = 1,000 SF GFA, so for 22,500 SF GFA, x = 22.5
  - For 22,500 SF GFA, the number of parked vehicles during the average weekday peak hour would be 6 vehicles, rounded up from 5.575 vehicles calculated as P = (0.07 * 22.5) + 4.
- The *average weekend peak hour parking demand* per 1,000 SF GFA for a Saturday would be based on the following calculation:
  - 0.11 vehicles per 1,000 SF GFA, so the average weekend peak hour parking demand would be 3 vehicles, rounded up from 2.475 vehicles calculated as P = 0.11 * 22.5.

Table 1 provides a summary of the data studies summarized and included in the ITE Parking Generation Manual. The peak hour parking demand studies suggest a range of 2 to 6 spaces.

Table 1 - Parking Summary

Condition	Demand
1. Avg. Parking Supply Ratio[2]	5 Spaces
2. Avg. Weekday Peak Hour Parking Demand (335 Storage Units)	6 Vehicles
3. Avg. Weekday Peak Hour Parking Demand (22,500 SF GFA)	6 Vehicles
4. Avg. Saturday Peak Hour Parking Demand (22,500 SF GFA)	3 Vehicles

Traffic Generation Characteristics

The ITE Trip Generation Manual[3] was consulted to determine the typical traffic generation characteristics for self-storage units. Identical to the Parking Generation Manual, ITE "Land Use Code 151: Mini-Warehouse" was the category that best fit the proposed development type.

Excerpts from the Trip Generation Manual are attached to this memorandum for reference purposes only and are summarized below as it pertains to the proposed development. The Manual provides data on:

1. The *average weekday daily vehicle trip ends* per 1,000 SF GFA (14 studies);
2. The *average weekday vehicle trip ends* per 1,000 SF GFA for peak hour of adjacent street traffic between 7 and 9am. (11 studies);
3. The *average weekday vehicle trip ends* per 1,000 SF GFA for peak hour of adjacent street traffic between 4 and 6pm. (15 studies);
4. The *average weekday vehicle trip ends* per Storage Unit for peak hour of adjacent street traffic between 7 and 9am. (11 studies); and
5. The *average weekday vehicle trip ends* per Storage Unit for peak hour of adjacent street traffic between 4 and 6pm. (10 studies).

The information and calculations are summarized below for the average condition and assuming 335 storage units at 22,500 SF GFA:

- The *average weekday daily trip generation rate* is 2.50 vehicles per 1,000 SF GFA, which would result in 57 daily trips, 50% entering the site and 50% exiting the site;
- The *average weekday morning vehicle trip rate* is 0.14 vehicles per 1,000 SF GFA, which would result in 4 peak hour trips with 55% entering the site and 45% exiting the site;

[2] Avg. Parking Supply Ratio is the average parking supply, not parking demand for existing sites.
[3] Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, Volume 2: Data, 2012.

- The *average weekday afternoon vehicle trip rate* is 0.26 vehicles per 1,000 SF GFA, which would result in 6 peak hour trips with 50% entering the site and 50% exiting the site;
- The *average weekday morning vehicle trip rate* is 0.02 vehicles per Storage Unit, which would result in 7 peak hour trips with 50% entering the site and 50% exiting the site; and
- The *average weekday afternoon vehicle trip rate* is also 0.02 vehicles per Storage Unit, which would result in 7 peak hour trips with 48% entering the site and 52% exiting the site.

Table 2 provides a summary of the trip generation characteristics as applied to the proposed development based on the ITE Trip Generation Manual. Average Weekday Daily Trips in Table 2 represent the average number of vehicle trips generated in a 24 hour weekday period. Items 2-5 list the highest number of trips generated during one hour occurring during either the morning (between 7 and 9am) or afternoon (between 4 and 6pm) peak period.

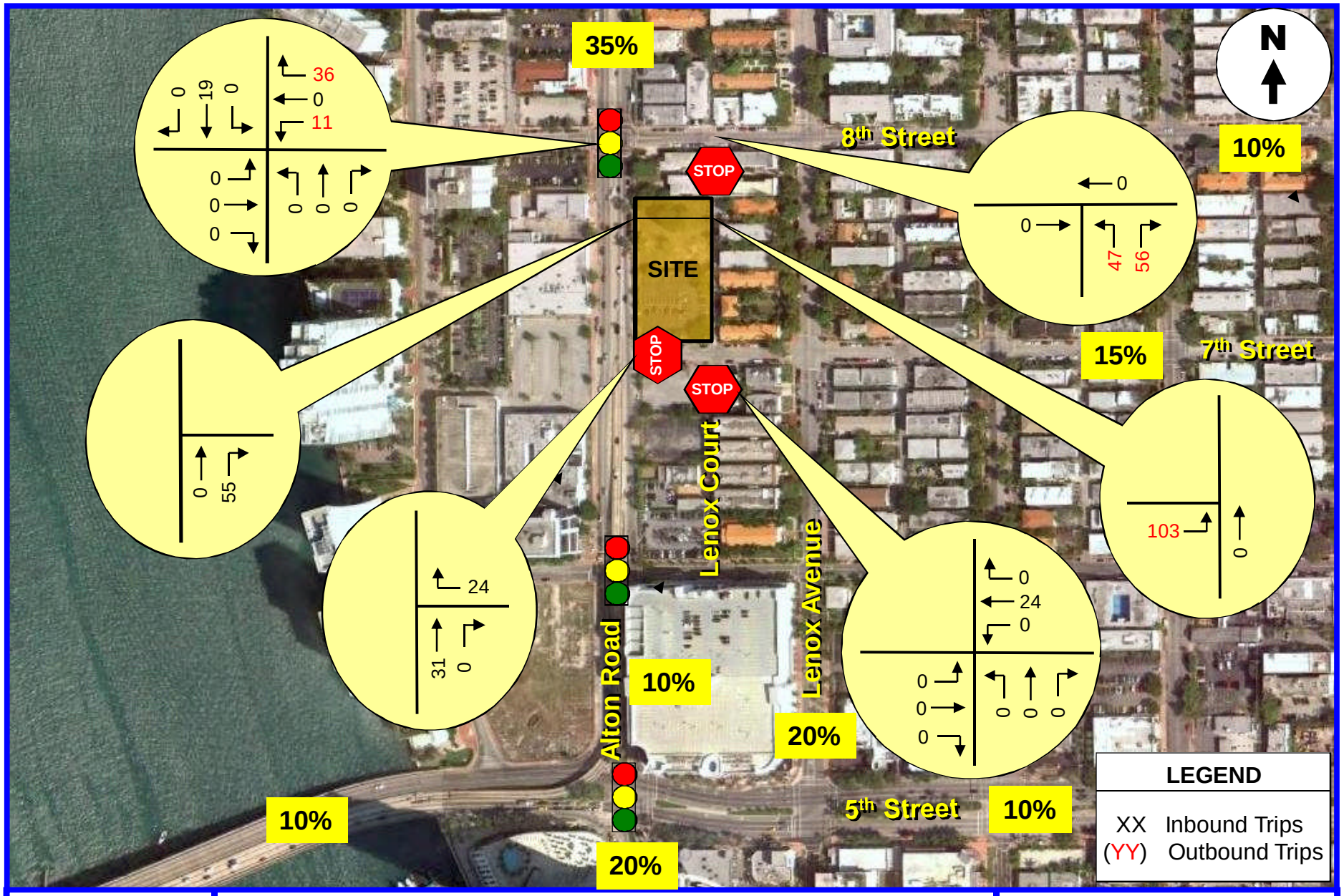
Table 2 – Trip Generation Characteristics Summary[4]

Condition	In	Out	Total
1. Avg. Weekday Daily Trips	29	28	57
2. Avg. Weekday Morning Vehicle Trips (22,500 SF GFA)	2	2	4
3. Avg. Weekday Afternoon Vehicle Trips (22,500 SF GFA)	3	3	6

The weekday daily trips are estimated at 56, the average weekday morning peak hour vehicle trips range from 4 (based on SF GFA) to 7 trips (based on units) and the weekday afternoon peak hour trips range from 6 (based on SF GFA) to 7 (based on units), depending on whether the ITE rate is used for SF GFA or the number of storage units is used.

[4] Volumes listed items 2-5 represent peak hour trips (one hour) and are rounded to the nearest whole number.

Baptist Health Urgent Care



TrafTech ENGINEERING, INC.

NEW PROJECT TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4
709 Alton
Miami Beach, Florida

APPENDIX F:
Trip Generation, Taxi Trip Data, and Transit Service Information

WEEKEND PEAK HOUR OF GENERATOR TRIP GENERATION COMPARISON

EXISTING WEEKEND PEAK HOUR OF GENERATOR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			MULTIMODAL REDUCTION		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 1	1	Apartment	9	220	20	du	50%	50%	14	14	28	0.0%	0	14	14	28	10.0%	3	13	12	25
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
		ITE Land Use Code		Rate or Equation				**Total:**	14	14	28	0.0%	0	14	14	28	10.0%	3	13	12	25
		220		Y=0.41*(X)+19.23																	

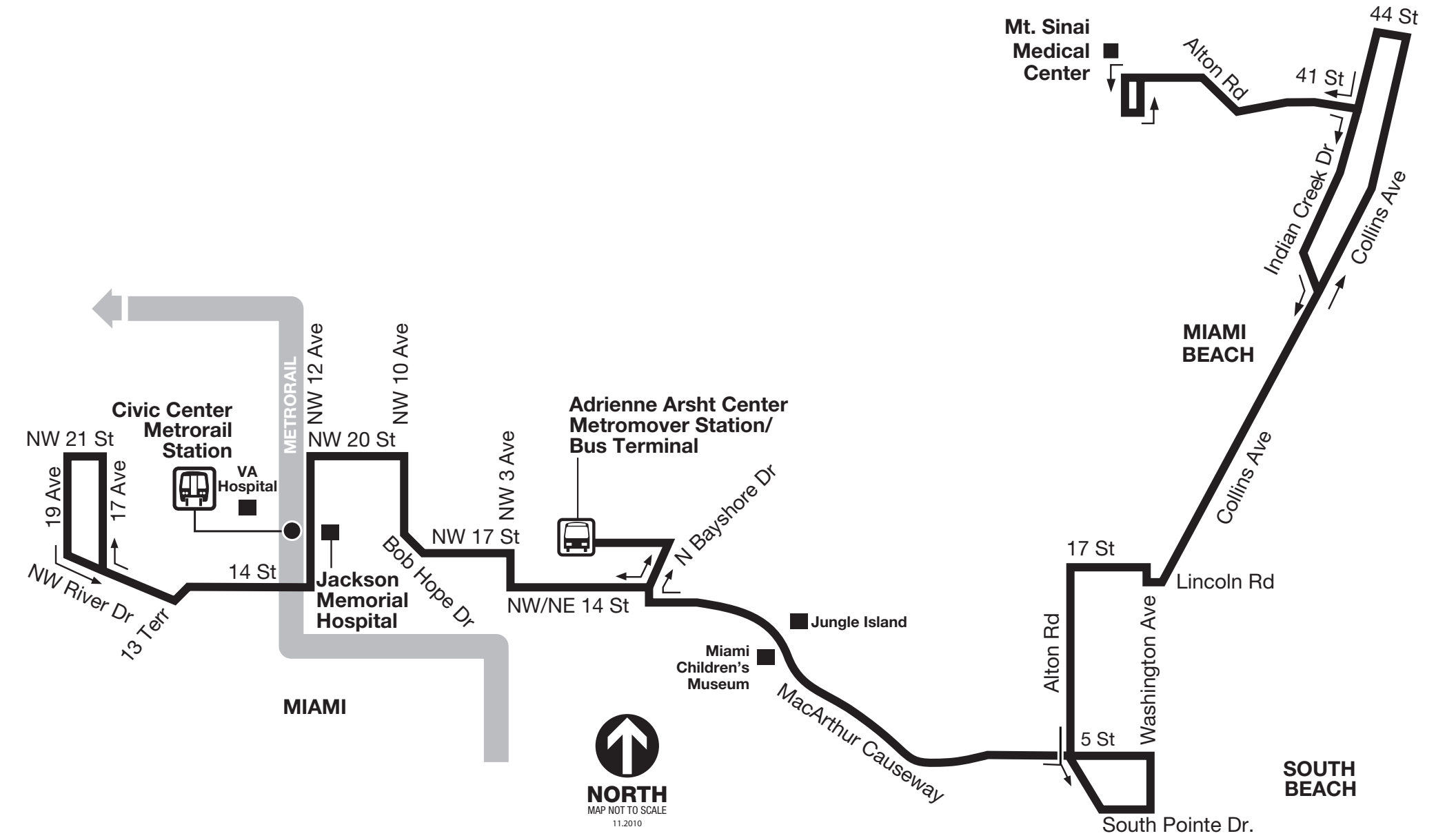
PROPOSED WEEKEND PEAK HOUR OF GENERATOR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			MULTIMODAL REDUCTION		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	Quality Restaurant	9	931	362	seat	59%	41%	71	50	121	0.0%	0	71	50	121	10.0%	12	64	45	109
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
		ITE Land Use Code		Rate or Equation				**Total:**	71	50	121	0.0%	0	71	50	121	10.0%	12	64	45	109
		931		Y=0.38*(X)+-16.72																	

	IN	OUT	TOTAL
NET DIFFERENCE	**51**	**33**	**84**

Total Proposed Redevelopment Trips	64	45	109
Taxi/Shared Ride Reduction (20.0%)	13	9	22
Valet Trips	51	36	87

Route M


Mt. Sinai Medical Center
Alton Rd
44 St
41 St
Indian Creek Dr
Collins Ave
MIAMI BEACH
Collins Ave
METRORAIL
NW 12 Ave
NW 10 Ave
NW 3 Ave
Civic Center Metrorail Station
NW 21 St
19 Ave
17 Ave
VA Hospital
NW 20 St
Adrienne Arsht Center Metromover Station/ Bus Terminal
NW 17 St
N Bayshore Dr
17 St
Lincoln Rd
14 St
NW River Dr
13 Terr
Jackson Memorial Hospital
Bob Hope Dr
NW/NE 14 St
Jungle Island
Miami Children's Museum
MacArthur Causeway
Alton Rd
Washington Ave
5 St
MIAMI
NORTH
MAP NOT TO SCALE
11.2010
SOUTH BEACH
South Pointe Dr.

]

Miami-Dade County Transportation and Public Works

Routes Schedule

(https://www.facebook.c

)

(https://twitter.com/IRide

)

113 (Eastbound) WEEKDAY

NW 21 ST & 19 AVE	NW 12 AVE & 15 ST	OMNI TERMINAL / ARSHT METROMOVER	ALTON RD & 2 ST MIAMI BEACH	5 ST & LENOX AVE MIAMI BEACH	ALTON RD & LINCOLN RD MALL	Lincoln Rd & James Ave	INDIAN CREEK DR & 43 ST	41 ST & MERIDIAN AVE MIAMI BEACH	41 ST & ALTON RD MIAMI BEACH	MT SINAI HOSPITAL	ALTON RD & 39 ST MIAMI BEACH
05:42AM	05:48AM	05:58AM	06:08AM	06:13AM	06:21AM	06:26AM	06:35AM	06:42AM	06:43AM	06:45AM	06:47AM
06:20AM	06:27AM	06:39AM	06:49AM	06:54AM	07:04AM	07:10AM	07:20AM	07:27AM	07:29AM	07:31AM	07:33AM
06:55AM	07:03AM	07:16AM	07:27AM	07:33AM	07:43AM	07:49AM	07:59AM	08:06AM	08:08AM	08:10AM	08:12AM
07:45AM	07:53AM	08:06AM	08:17AM	08:23AM	08:33AM	08:39AM	08:51AM	08:58AM	09:00AM	09:02AM	09:04AM
08:30AM	08:38AM	08:51AM	09:02AM	09:08AM	09:18AM	09:25AM	09:37AM	09:44AM	09:46AM	09:48AM	09:50AM
09:15AM	09:23AM	09:37AM	09:48AM	09:54AM	10:04AM	10:11AM	10:23AM	10:30AM	10:32AM	10:34AM	-
09:55AM	10:03AM	10:17AM	10:28AM	10:34AM	10:44AM	10:51AM	11:03AM	11:10AM	11:12AM	11:14AM	-
10:55AM	11:03AM	11:17AM	11:28AM	11:34AM	11:44AM	11:51AM	12:03PM	12:10PM	12:12PM	12:14PM	-
11:55AM	12:03PM	12:17PM	12:28PM	12:34PM	12:44PM	12:51PM	01:03PM	01:10PM	01:12PM	01:14PM	-
12:55PM	01:03PM	01:17PM	01:28PM	01:34PM	01:44PM	01:51PM	02:03PM	02:10PM	02:12PM	02:14PM	-
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09:35PM	09:42PM	09:55PM	10:06PM	10:11PM	10:19PM	10:24PM	10:33PM	10:39PM	10:40PM	10:42PM	-

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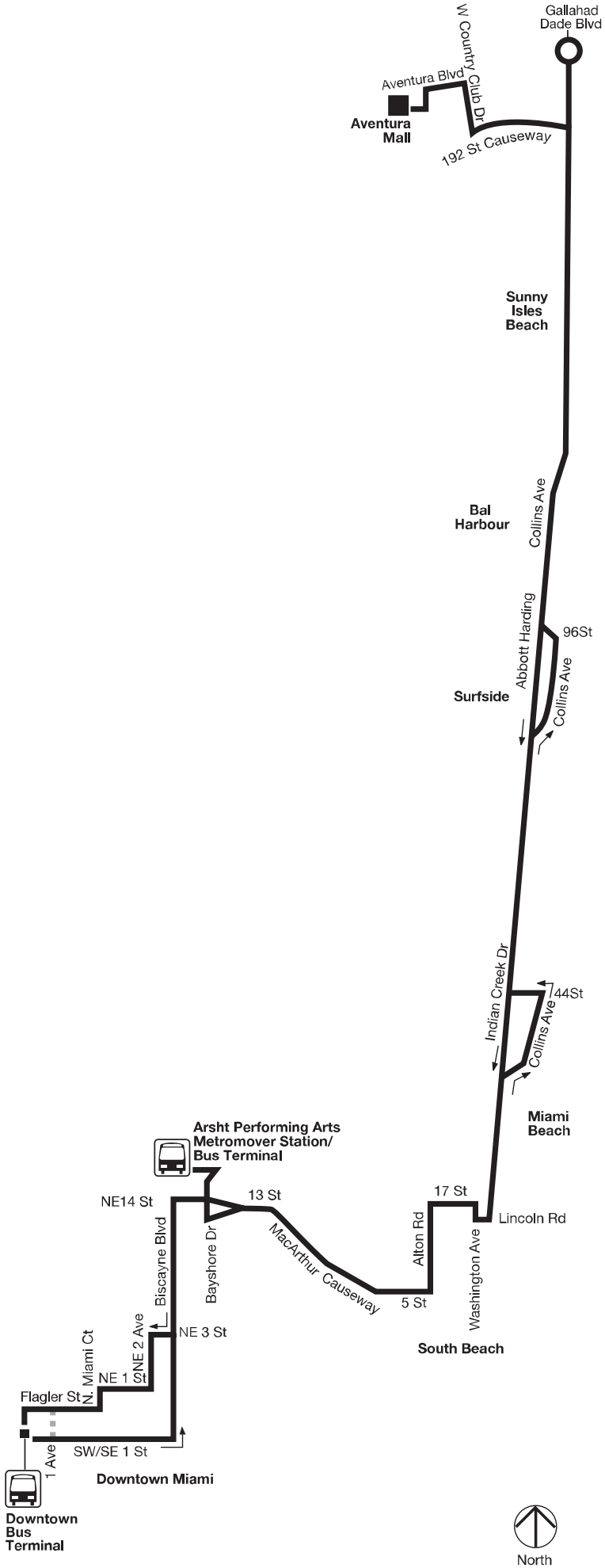
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Bus Terminal
NE14 St
13 St
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Lincoln Rd
Biscayne Blvd
Bayshore Dr
MacArthur Causeway
Alton Rd
Washington Ave
5 St
NE 3 St
NE 2 Ave
N. Miami Ct
NE 1 St
Flagler St
South Beach
1 Ave
SW/SE 1 St
Downtown Miami
Downtown
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Terminal
North
Map not to scale
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Miami-Dade County Transportation and Public Works

Routes Schedule

(https://www.facebook.c

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(https://twitter.com/IRide

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119 (Northbound) WEEKDAY

DOWNTOWN METROBUS TERMINAL	OMNI TERMINAL / ARSHT METROMOVER	ALTON RD & 6 ST MIAMI BEACH	17 ST & LENOX AV	Lincoln Rd & James Ave	COLLINS AVE & 41 ST	COLLINS AVE & 69 ST	COLLINS AVE & 96 ST MIAMI BEACH	COLLINS AVE & SUNNY ISLES BLVD	COLLINS AVE & 193 ST	AVENTURA MALL
05:00AM	05:09AM	05:16AM	05:22AM	05:27AM	05:33AM	05:41AM	05:49AM	05:55AM	06:03AM	06:10AM
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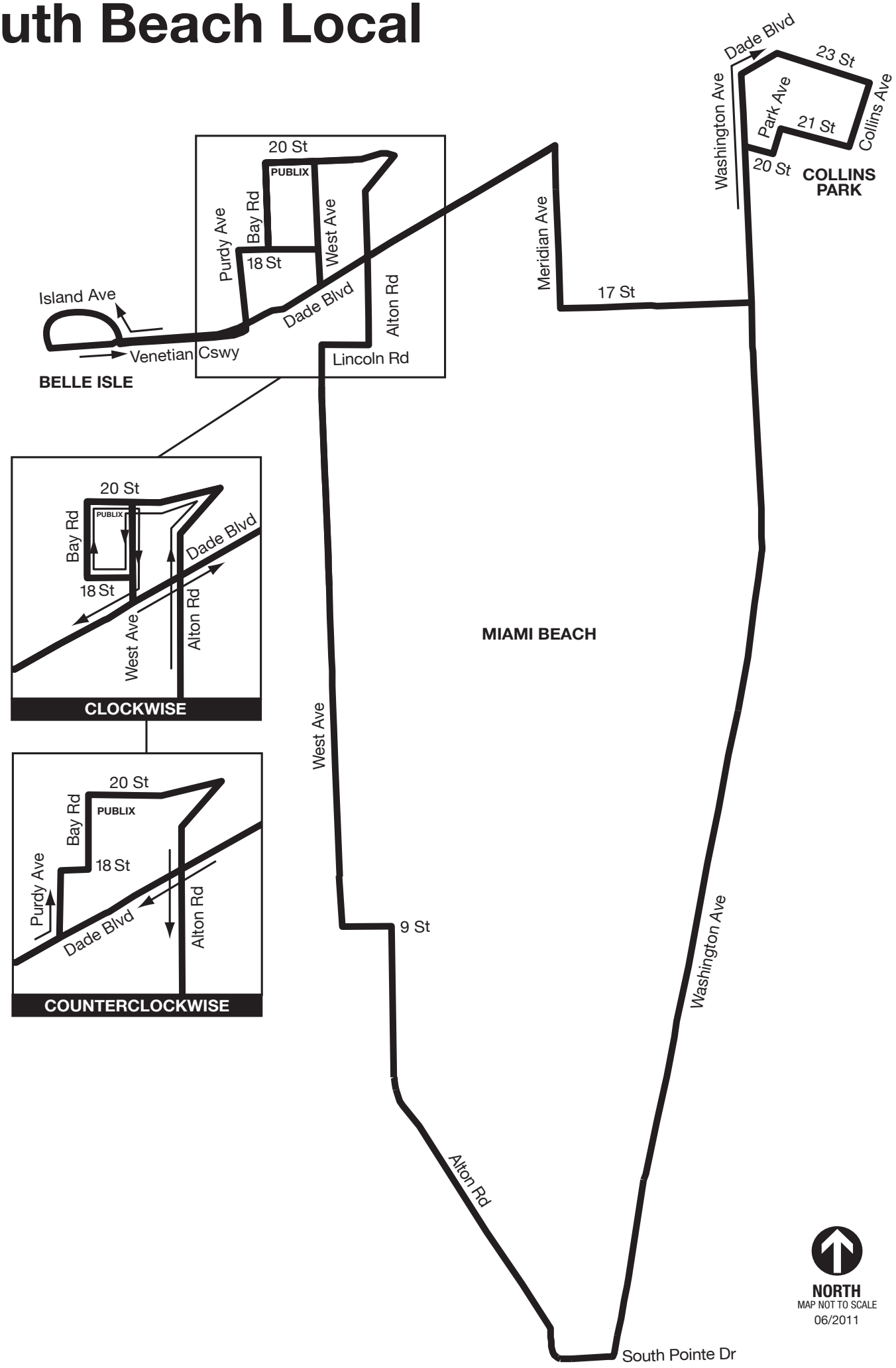
Page Last Edited: Mon Dec 21, 2015 11:21:25 PM

South Beach Local



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Miami-Dade County Transportation and Public Works

Routes Schedule

(https://www.facebook.c

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(https://twitter.com/IRide

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miamidade.GOV METROBUS

123 (Clockwise) WEEKDAY

WEST AVE & 20 ST MIAMI BEACH	VENETIAN WAY & E ISLAND AVE	23 ST & LIBERTY AVE	WASHINGTON AVE & LINCOLN RD	WASHINGTON AVE & 5 ST	ALTON RD & 2 ST	WEST AVE & 15 TERR	WEST AVE & 20 ST MIAMI BEACH
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01:15PM	01:19PM	01:33PM	01:40PM	01:50PM	01:54PM	02:03PM	02:10PM
01:28PM	01:32PM	01:46PM	01:53PM	02:03PM	02:07PM	02:16PM	02:23PM
01:41PM	01:45PM	01:59PM	02:06PM	02:16PM	02:20PM	02:29PM	02:36PM
01:59PM	02:03PM	02:17PM	02:24PM	02:34PM	02:38PM	02:47PM	02:54PM

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

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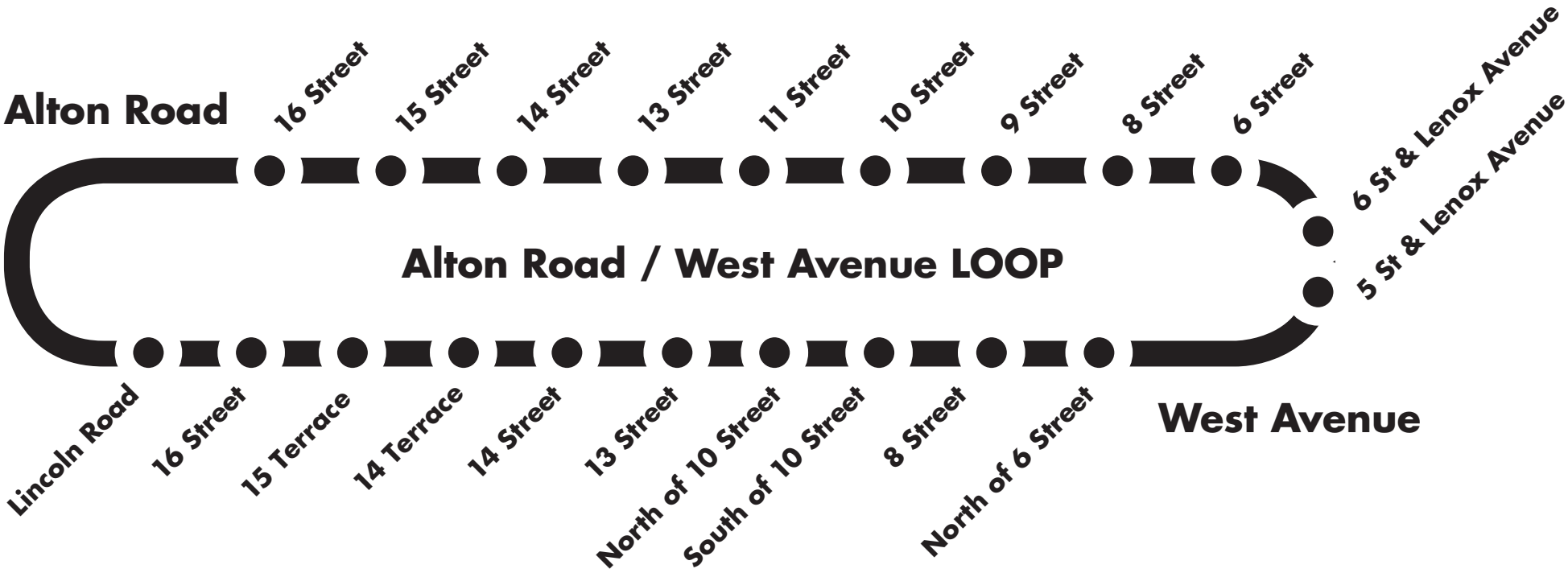
Alton/West Loop
TROLLEY ROUTE



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APPENDIX G:
Trip Distribution and Assignment

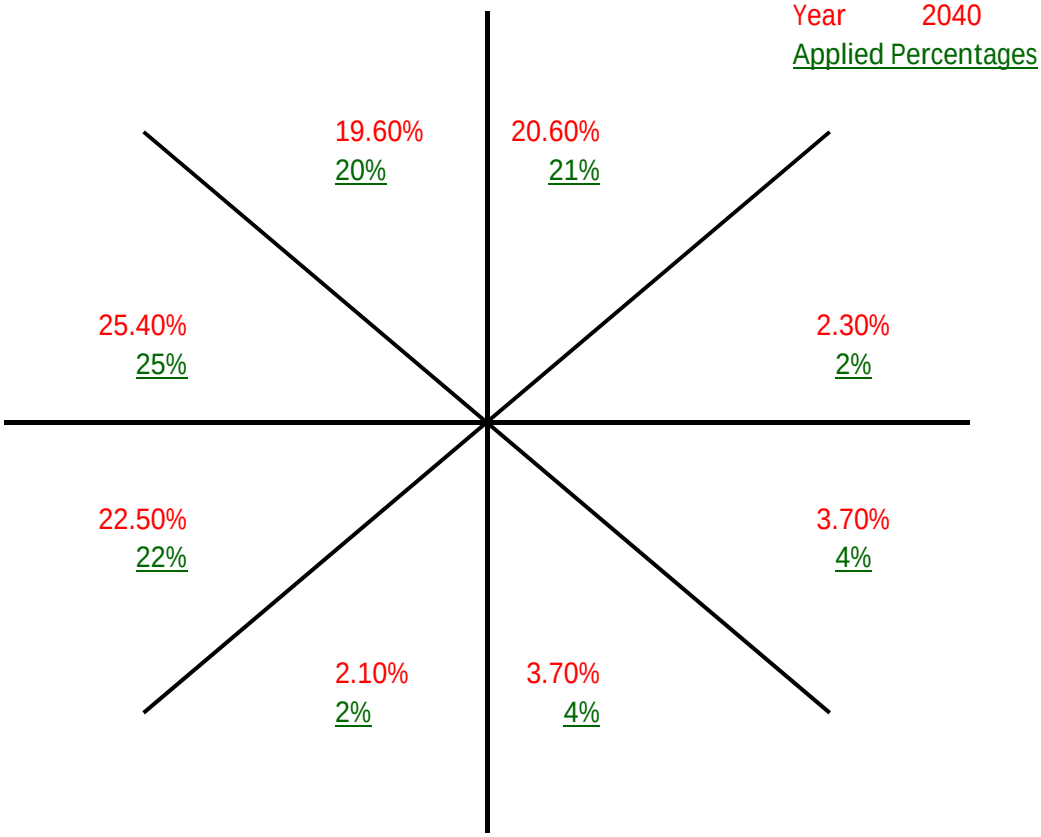
Miami-Dade 2010 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
636	3536	PERCENT	10.7	0.0	0.0	4.4	10.0	34.0	20.8	20.1	
637	3537	TRIPS	437	39	52	212	109	449	313	207	1,818
637	3537	PERCENT	24.0	2.2	2.9	11.7	6.0	24.7	17.2	11.4	
638	3538	TRIPS	148	25	57	108	66	231	258	107	1,000
638	3538	PERCENT	14.8	2.5	5.7	10.8	6.6	23.1	25.8	10.7	
639	3539	TRIPS	694	286	232	913	139	1,445	989	693	5,391
639	3539	PERCENT	12.9	5.3	4.3	16.9	2.6	26.8	18.4	12.9	
640	3540	TRIPS	436	242	845	100	107	663	503	303	3,199
640	3540	PERCENT	13.6	7.6	26.4	3.1	3.3	20.7	15.7	9.5	
641	3541	TRIPS	1,374	1,440	228	555	352	2,014	2,014	1,124	9,101
641	3541	PERCENT	15.1	15.8	2.5	6.1	3.9	22.1	22.1	12.4	
642	3542	TRIPS	2,054	891	109	1,000	541	3,435	3,075	2,196	13,301
642	3542	PERCENT	15.4	6.7	0.8	7.5	4.1	25.8	23.1	16.5	
643	3543	TRIPS	1,551	277	0	514	462	2,180	2,043	1,648	8,675
643	3543	PERCENT	17.9	3.2	0.0	5.9	5.3	25.1	23.6	19.0	
644	3544	TRIPS	1,376	0	0	0	1,181	3,638	3,350	2,709	12,254
644	3544	PERCENT	11.2	0.0	0.0	0.0	9.6	29.7	27.3	22.1	
645	3545	TRIPS	547	0	0	0	341	1,032	1,603	1,258	4,781
645	3545	PERCENT	11.4	0.0	0.0	0.0	7.1	21.6	33.5	26.3	
646	3546	TRIPS	862	0	61	243	184	1,226	1,566	1,133	5,275
646	3546	PERCENT	16.3	0.0	1.2	4.6	3.5	23.2	29.7	21.5	
647	3547	TRIPS	454	68	83	148	89	427	406	402	2,077
647	3547	PERCENT	21.9	3.3	4.0	7.1	4.3	20.6	19.6	19.4	
648	3548	TRIPS	1,234	415	131	265	56	788	950	546	4,385
648	3548	PERCENT	28.1	9.5	3.0	6.0	1.3	18.0	21.7	12.5	
649	3549	TRIPS	846	215	84	123	15	631	680	403	2,997
649	3549	PERCENT	28.2	7.2	2.8	4.1	0.5	21.1	22.7	13.5	
650	3550	TRIPS	124	133	83	0	20	325	229	66	980
650	3550	PERCENT	12.7	13.6	8.5	0.0	2.0	33.2	23.4	6.7	
651	3551	TRIPS	612	46	55	0	11	438	656	555	2,373
651	3551	PERCENT	25.8	1.9	2.3	0.0	0.5	18.5	27.6	23.4	
652	3552	TRIPS	743	68	63	25	87	625	873	981	3,465
652	3552	PERCENT	21.4	2.0	1.8	0.7	2.5	18.0	25.2	28.3	
653	3553	TRIPS	708	34	64	143	67	703	835	753	3,307
653	3553	PERCENT	21.4	1.0	1.9	4.3	2.0	21.3	25.3	22.8	
654	3554	TRIPS	490	0	203	74	114	628	1,068	1,058	3,635
654	3554	PERCENT	13.5	0.0	5.6	2.0	3.1	17.3	29.4	29.1	
655	3555	TRIPS	1,475	0	0	0	368	1,892	2,676	2,034	8,445
655	3555	PERCENT	17.5	0.0	0.0	0.0	4.4	22.4	31.7	24.1	
656	3556	TRIPS	372	0	0	0	96	740	997	698	2,903
656	3556	PERCENT	12.8	0.0	0.0	0.0	3.3	25.5	34.3	24.0	

Miami-Dade 2040 Directional Distribution Summary

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

Cardinal Distribution for TAZ 653



APPENDIX H:
Volume Development Worksheets

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Alton Road and 9th Street
COUNT DATE: February 19, 2016
PM PEAK HOUR FACTOR: 0.97

"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	50		0	0	88		48	1,317	30		29	1,189	42
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**0**	**0**	**55**		**0**	**0**	**97**		**53**	**1,449**	**33**		**32**	**1,308**	**46**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road											35				46	
Coco Bambu - 955 Alton Road								32			79				80	
Urban Box Self Storage - 633 Alton Road											2				2	
Baptist Health Urgent Care - 709 Alton Road											36				19	
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	32		0	152	0		0	147	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	0	1		0	0	1		1	16	0		0	14	1
PM NON-PROJECT TRAFFIC		**0**	**0**	**56**		**0**	**0**	**130**		**54**	**1,617**	**33**		**32**	**1,469**	**47**

"PROJECT DISTRUBUTION" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering																
Distribution	Exiting												100.0%				
Net New	Entering												55.0%		45.0%		
Distribution	Exiting											45.0%					

"PM PROJECT TRAFFIC" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet												36				
Trips	Net New											15	28		23		
PM TOTAL PROJECT TRAFFIC												**15**	**64**		**23**	**0**	
PM TOTAL TRAFFIC			**0**	**0**	**56**		**0**	**0**	**130**		**54**	**1,632**	**97**		**55**	**1,469**	**47**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Alton Road and 8th Street
COUNT DATE: February 19, 2016
PM PEAK HOUR FACTOR: 0.98

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		23	22	57		36	38	46		106	1,322	85		66	1,165	20
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**25**	**24**	**63**		**40**	**42**	**51**		**117**	**1,454**	**94**		**73**	**1,282**	**22**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road		35		84		47	47			84					30	16
Coco Bambu - 955 Alton Road		24									79				80	
Urban Box Self Storage - 633 Alton Road											2				2	
Baptist Health Urgent Care - 709 Alton Road						11		36							19	
TOTAL "VESTED" TRAFFIC		59	0	84		58	47	36		84	81	0		0	131	16
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	0	1		0	0	1		1	16	1		1	14	0
PM NON-PROJECT TRAFFIC		**84**	**24**	**148**		**98**	**89**	**88**		**202**	**1,551**	**95**		**74**	**1,427**	**38**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering																
Distribution	Exiting											100.0%					
Net New	Entering		15.0%						31.0%			9.0%					
Distribution	Exiting						9.0%	15.0%	45.0%								

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet											36					
Trips	Net New		8				3	5	31			4					
PM TOTAL PROJECT TRAFFIC			**8**				**3**	**5**	**31**			**40**				**0**	
PM TOTAL TRAFFIC			**92**	**24**	**148**		**101**	**94**	**119**		**202**	**1,591**	**95**		**74**	**1,427**	**38**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Alton Road and 7th Street
COUNT DATE: February 19, 2016
PM PEAK HOUR FACTOR: 0.96

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	0	0		0	0	80		0	310	11		0	1,267	0
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**0**	**0**	**0**		**0**	**0**	**88**		**0**	**341**	**12**		**0**	**1,394**	**0**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road															119	
Coco Bambu - 955 Alton Road											79				80	
Urban Box Self Storage - 633 Alton Road											2				2	
Baptist Health Urgent Care - 709 Alton Road								24			31				11	
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	24		0	112	0		0	212	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	0	0		0	0	1		0	4	0		0	15	0
PM NON-PROJECT TRAFFIC		**0**	**0**	**0**		**0**	**0**	**113**		**0**	**457**	**12**		**0**	**1,621**	**0**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering																
Distribution	Exiting											100.0%					
Net New	Entering											4.0%					
Distribution	Exiting															9.0%	

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet											36					
Trips	Net New											2				3	
PM TOTAL PROJECT TRAFFIC									**0**			**38**				**3**	
PM TOTAL TRAFFIC			**0**	**0**	**0**		**0**	**0**	**113**		**0**	**495**	**12**		**0**	**1,624**	**0**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Alton Road and 6th Street
COUNT DATE: February 19, 2016
PM PEAK HOUR FACTOR: 0.99

"PM EXISTING TRAFFIC"	EBU[1]	EBL[1]	EBT[1]	EBR[1]	WBU	WBL	WBT[1]	WBR	NBU	NBL[1]	NBT	NBR	SBU	SBL	SBT	SBR[1]
PM Raw Turning Movements		0	0	0		0	0	61		0	246	33		52	1,223	0
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**0**	**0**	**0**		**0**	**0**	**67**		**0**	**271**	**36**		**57**	**1,345**	**0**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road																
Coco Bambu - 955 Alton Road											79				80	
Urban Box Self Storage - 633 Alton Road											2				2	
Baptist Health Urgent Care - 709 Alton Road											31				11	
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	112	0		0	93	0

Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	0	0		0	0	1		0	3	0		1	15	0
PM NON-PROJECT TRAFFIC		**0**	**0**	**0**		**0**	**0**	**68**		**0**	**386**	**36**		**58**	**1,453**	**0**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet Distribution	Entering																
	Exiting								100.0%								
Net New Distribution	Entering											4.0%					
	Exiting															9.0%	

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Valet								36								
	Net New											2				3	
PM TOTAL PROJECT TRAFFIC									**36**			**2**				**3**	

PM TOTAL TRAFFIC		**0**	**0**	**0**		**0**	**0**	**104**		**0**	**388**	**36**		**58**	**1,456**	**0**

Note: [1] Approach closed due to construction. Therefore, not included in analysis.

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Alton Road and 5th Street
COUNT DATE: February 19, 2016
PM PEAK HOUR FACTOR: 0.96

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		0	1,117	469		6	1,527	73		579	200	27		56	189	974
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**0**	**1,229**	**516**		**7**	**1,680**	**80**		**637**	**220**	**30**		**62**	**208**	**1,071**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road														44	25	15
Coco Bambu - 955 Alton Road																
Urban Box Self Storage - 633 Alton Road											1				1	
Baptist Health Urgent Care - 709 Alton Road											31				11	
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	32	0		44	37	15
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	14	6		0	19	1		7	2	0		1	2	12
PM NON-PROJECT TRAFFIC		**0**	**1,243**	**522**		**7**	**1,699**	**81**		**644**	**254**	**30**		**107**	**247**	**1,098**

"PROJECT DISTRUBUTION" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering																
Distribution	Exiting																
Net New	Entering											4.0%					
Distribution	Exiting															4.0%	5.0%

"PM PROJECT TRAFFIC" LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet																
Trips	Net New											2				1	2
PM TOTAL PROJECT TRAFFIC												**2**				**1**	**2**
PM TOTAL TRAFFIC			**0**	**1,243**	**522**		**7**	**1,699**	**81**		**644**	**256**	**30**		**107**	**248**	**1,100**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Lenox Avenue and 9th Street
COUNT DATE: February 19, 2016
PM PEAK HOUR FACTOR: 0.97

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		10	33	13		22	54	10		26	89	12		9	85	9
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**11**	**36**	**14**		**24**	**59**	**11**		**29**	**98**	**13**		**10**	**94**	**10**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road																
Coco Bambu - 955 Alton Road																
Urban Box Self Storage - 633 Alton Road																
Baptist Health Urgent Care - 709 Alton Road																
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	0	0		0	1	0		0	1	0		0	1	0
PM NON-PROJECT TRAFFIC		**11**	**36**	**14**		**24**	**60**	**11**		**29**	**99**	**13**		**10**	**95**	**10**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering				100.0%												
Distribution	Exiting																
Net New	Entering						2.0%									21.0%	
Distribution	Exiting		21.0%	2.0%	77.0%												

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet				51												
Trips	Net New		7	1	25		1									11	
PM TOTAL PROJECT TRAFFIC			**7**	**1**	**76**		**1**									**11**	
PM TOTAL TRAFFIC			**18**	**37**	**90**		**25**	**60**	**11**		**29**	**99**	**13**		**10**	**106**	**10**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Lenox Avenue and 8th Street
COUNT DATE: February 19, 2016
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		15	110	49		13	79	10		22	110	9		11	90	20
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**17**	**121**	**54**		**14**	**87**	**11**		**24**	**121**	**10**		**12**	**99**	**22**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road							94									
Coco Bambu - 955 Alton Road																
Urban Box Self Storage - 633 Alton Road																
Baptist Health Urgent Care - 709 Alton Road			56													
TOTAL "VESTED" TRAFFIC		0	56	0		0	94	0		0	0	0		0	0	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	1	1		0	1	0		0	1	0		0	1	0
PM NON-PROJECT TRAFFIC		**17**	**178**	**55**		**14**	**182**	**11**		**24**	**122**	**10**		**12**	**100**	**22**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering															100.0%	
Distribution	Exiting																
Net New	Entering							4.0%			4.0%						23.0%
Distribution	Exiting														4.0%	4.0%	69.0%

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet															51	
Trips	Net New							2			2				1	1	35
PM TOTAL PROJECT TRAFFIC				**0**				**2**			**2**				**1**	**52**	**35**
PM TOTAL TRAFFIC			**17**	**178**	**55**		**14**	**184**	**11**		**26**	**122**	**10**		**13**	**152**	**57**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Lenox Avenue and 6th Street
COUNT DATE: February 19, 2016
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		7	37	57		52	37	14		29	143	52		20	127	15
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**8**	**41**	**63**		**57**	**41**	**15**		**32**	**157**	**57**		**22**	**140**	**17**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road																
Coco Bambu - 955 Alton Road																
Urban Box Self Storage - 633 Alton Road																
Baptist Health Urgent Care - 709 Alton Road																
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		0	0	1		1	0	0		0	2	1		0	2	0
PM NON-PROJECT TRAFFIC		**8**	**41**	**64**		**58**	**41**	**15**		**32**	**159**	**58**		**22**	**142**	**17**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering															100.0%	
Distribution	Exiting										100.0%						
Net New	Entering											4.0%					
Distribution	Exiting															4.0%	

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet										36					51	
Trips	Net New											2				1	
PM TOTAL PROJECT TRAFFIC											**36**	**2**				**52**	
PM TOTAL TRAFFIC			**8**	**41**	**64**		**58**	**41**	**15**		**68**	**161**	**58**		**22**	**194**	**17**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Lenox Avenue and Fifth & Alton Parking Garage Driveway
COUNT DATE: February 19, 2016
PM PEAK HOUR FACTOR: 0.96

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements		135	0	132		1	1	0		87	91	1		0	116	120
Peak Season Correction Factor	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
PM EXISTING CONDITIONS		**149**	**0**	**145**		**1**	**1**	**0**		**96**	**100**	**1**		**0**	**128**	**132**

"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
600 Alton Road																
Coco Bambu - 955 Alton Road																
Urban Box Self Storage - 633 Alton Road																
Baptist Health Urgent Care - 709 Alton Road																
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
PM BACKGROUND TRAFFIC GROWTH		2	0	2		0	0	0		1	1	0		0	1	1
PM NON-PROJECT TRAFFIC		**151**	**0**	**147**		**1**	**1**	**0**		**97**	**101**	**1**		**0**	**129**	**133**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering																100.0%
Distribution	Exiting		100.0%														
Net New	Entering											4.0%					
Distribution	Exiting															4.0%	

"PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet		36														51
Trips	Net New											2				1	
PM TOTAL PROJECT TRAFFIC			**36**									**2**				**1**	**51**
PM TOTAL TRAFFIC			**187**	**0**	**147**		**1**	**1**	**0**		**97**	**103**	**1**		**0**	**130**	**184**

APPENDIX I:
Intersection Capacity Analyses

Existing Conditions

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	55	0	0	97	53	1449	33	32	1308	46
Future Vol, veh/h	0	0	55	0	0	97	53	1449	33	32	1308	46
Conflicting Peds, #/hr	17	0	12	12	0	17	47	0	79	79	0	47
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	165	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	57	0	0	100	55	1494	34	33	1348	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2328	3109	794	2394	3116	860	1413	0	0	1545	0	0
Stage 1	1455	1455	-	1637	1637	-	-	-	-	-	-	-
Stage 2	873	1654	-	757	1479	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	107	45	545	100	44	509	478	-	-	426	-	-
Stage 1	147	221	-	112	177	-	-	-	-	-	-	-
Stage 2	346	173	-	409	214	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	65	35	496	68	34	463	442	-	-	394	-	-
Mov Cap-2 Maneuver	65	35	-	68	34	-	-	-	-	-	-	-
Stage 1	127	199	-	96	152	-	-	-	-	-	-	-
Stage 2	220	149	-	307	193	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	14.9	0.5	0.3
HCM LOS	B	B		

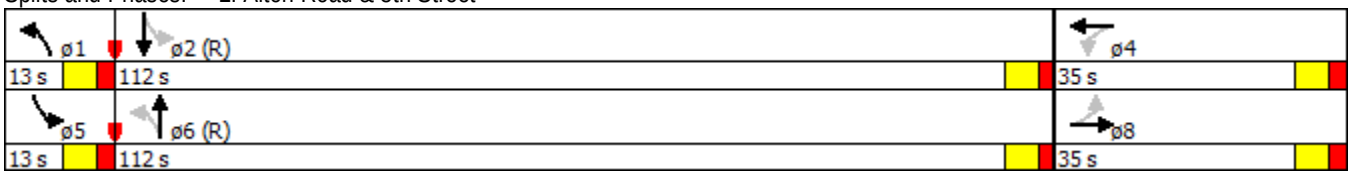
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	442	-	-	496	463	394	-	-
HCM Lane V/C Ratio	0.124	-	-	0.114	0.216	0.084	-	-
HCM Control Delay (s)	14.3	-	-	13.2	14.9	15	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.4	0.8	0.3	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	25	24	40	42	117	1454	73	1282
Future Volume (vph)	25	24	40	42	117	1454	73	1282
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	16.0	5.0	7.0
Minimum Split (s)	34.4	34.4	34.4	34.4	13.0	24.0	11.5	24.0
Total Split (s)	35.0	35.0	35.0	35.0	13.0	112.0	13.0	112.0
Total Split (%)	21.9%	21.9%	21.9%	21.9%	8.1%	70.0%	8.1%	70.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.0	6.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 65 (41%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 2: Alton Road & 8th Street



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	136	119	1580	74	1330
v/c Ratio	0.55	0.74	0.47	0.77	0.40	0.64
Control Delay	52.1	79.2	12.5	22.1	11.9	16.8
Queue Delay	0.0	0.0	0.0	1.3	0.0	0.0
Total Delay	52.1	79.2	12.5	23.4	11.9	16.8
Queue Length 50th (ft)	75	118	35	627	19	417
Queue Length 95th (ft)	145	200	51	685	34	492
Internal Link Dist (ft)	282	333		377		340
Turn Bay Length (ft)			180		175	
Base Capacity (vph)	233	208	255	2057	193	2069
Starvation Cap Reductn	0	0	0	261	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.65	0.47	0.88	0.38	0.64

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	24	63	40	42	51	117	1454	94	73	1282	22
Future Volume (veh/h)	25	24	63	40	42	51	117	1454	94	73	1282	22
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.89	0.94		0.88	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1710	1676	1710	1710	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	26	24	64	41	43	52	119	1484	96	74	1308	22
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	55	114	78	75	77	316	1966	126	248	2061	35
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.05	0.91	0.91	0.04	0.90	0.90
Sat Flow, veh/h	201	320	667	287	440	450	1597	2874	185	1597	3039	51
Grp Volume(v), veh/h	114	0	0	136	0	0	119	818	762	74	685	645
Grp Sat Flow(s),veh/h/ln	1188	0	0	1176	0	0	1597	1593	1467	1597	1593	1497
Q Serve(g_s), s	0.0	0.0	0.0	3.6	0.0	0.0	3.7	23.4	24.3	2.3	15.8	15.8
Cycle Q Clear(g_c), s	13.7	0.0	0.0	17.3	0.0	0.0	3.7	23.4	24.3	2.3	15.8	15.8
Prop In Lane	0.23		0.56	0.30		0.38	1.00		0.13	1.00		0.03
Lane Grp Cap(c), veh/h	231	0	0	230	0	0	316	1089	1003	248	1080	1016
V/C Ratio(X)	0.49	0.00	0.00	0.59	0.00	0.00	0.38	0.75	0.76	0.30	0.63	0.63
Avail Cap(c_a), veh/h	240	0	0	239	0	0	329	1089	1003	269	1080	1016
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.5	0.0	0.0	61.9	0.0	0.0	8.1	3.3	3.4	9.3	3.3	3.3
Incr Delay (d2), s/veh	1.2	0.0	0.0	3.0	0.0	0.0	0.3	4.8	5.4	0.2	2.8	3.0
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	4.7	0.0	0.0	5.8	0.0	0.0	1.6	10.9	10.6	1.0	7.3	6.9
LnGrp Delay(d),s/veh	61.7	0.0	0.0	65.0	0.0	0.0	8.4	8.1	8.8	9.6	6.1	6.3
LnGrp LOS	E			E			A	A	A	A	A	A
Approach Vol, veh/h		114			136			1699			1404	
Approach Delay, s/veh		61.7			65.0			8.4			6.4	
Approach LOS		E			E			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.7	114.5		33.8	10.8	115.4		33.8
Change Period (Y+Rc), s	6.0	6.0		6.4	6.0	6.0		6.4
Max Green Setting (Gmax), s	7.0	106.0		28.6	7.0	106.0		28.6
Max Q Clear Time (g_c+I1), s	5.7	17.8		19.3	4.3	26.3		15.7
Green Ext Time (p_c), s	0.0	11.7		0.8	0.0	11.7		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	88	341	12	0	1394
Future Vol, veh/h	0	88	341	12	0	1394
Conflicting Peds, #/hr	1	2	0	75	75	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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	92	355	13	0	1452

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1089	438	0	0	370	0
Stage 1	363	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Critical Hdwy	5	5	-	-	4.12	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3	3	-	-	2.218	-
Pot Cap-1 Maneuver	402	780	-	-	1189	-
Stage 1	804	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	373	723	-	-	1104	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	459	-	-	-	-	-

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

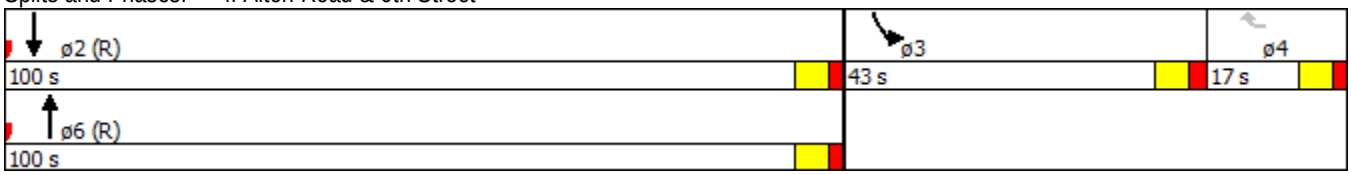
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	723	1104	-
HCM Lane V/C Ratio	-	-	0.127	-	-
HCM Control Delay (s)	-	-	10.7	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Lane Group	WBR	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	67	271	57	1345
Future Volume (vph)	67	271	57	1345
Turn Type	Perm	NA	Prot	NA
Protected Phases		6	3	2
Permitted Phases	4			
Detector Phase	4	6	3	2
Switch Phase				
Minimum Initial (s)	7.0	7.0	5.0	7.0
Minimum Split (s)	13.0	27.0	11.0	27.0
Total Split (s)	17.0	100.0	43.0	100.0
Total Split (%)	10.6%	62.5%	26.9%	62.5%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 49 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 4: Alton Road & 6th Street



Lane Group	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	68	310	58	1359
v/c Ratio	0.10	0.13	0.55	0.54
Control Delay	0.3	4.3	79.0	12.9
Queue Delay	0.0	0.0	0.0	0.3
Total Delay	0.3	4.3	79.0	13.2
Queue Length 50th (ft)	0	35	60	300
Queue Length 95th (ft)	0	55	m86	680
Internal Link Dist (ft)		384		251
Turn Bay Length (ft)			300	
Base Capacity (vph)	673	2406	368	2522
Starvation Cap Reductn	0	0	0	482
Spillback Cap Reductn	1	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.13	0.16	0.67

Intersection Summary

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	67	271	36	57	1345
Future Volume (vph)	0	67	271	36	57	1345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0
Lane Util. Factor		1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.93	0.97		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00
Frt		0.86	0.98		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1211	3033		1593	3185
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1211	3033		1593	3185
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	68	274	36	58	1359
RTOR Reduction (vph)	0	65	3	0	0	0
Lane Group Flow (vph)	0	3	307	0	58	1359
Confl. Peds. (#/hr)	127	9		64	64	
Confl. Bikes (#/hr)				20		
Parking (#/hr)		0				
Turn Type		Perm	NA		Prot	NA
Protected Phases			6		3	2
Permitted Phases		4				
Actuated Green, G (s)		7.0	125.5		9.5	125.5
Effective Green, g (s)		7.0	125.5		9.5	125.5
Actuated g/C Ratio		0.04	0.78		0.06	0.78
Clearance Time (s)		6.0	6.0		6.0	6.0
Vehicle Extension (s)		2.0	1.0		2.5	1.0
Lane Grp Cap (vph)		52	2379		94	2498
v/s Ratio Prot			0.10		c0.04	c0.43
v/s Ratio Perm		c0.00				
v/c Ratio		0.06	0.13		0.62	0.54
Uniform Delay, d1		73.3	4.1		73.5	6.5
Progression Factor		1.00	1.00		0.90	1.78
Incremental Delay, d2		0.2	0.1		7.8	0.7
Delay (s)		73.5	4.3		73.7	12.2
Level of Service		E	A		E	B
Approach Delay (s)	73.5		4.3			14.7
Approach LOS	E		A			B

Intersection Summary

HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

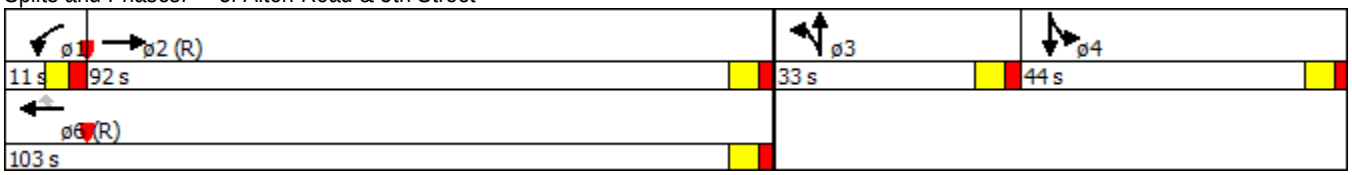
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1229	516	7	1680	80	637	220	208	1071
Future Volume (vph)	1229	516	7	1680	80	637	220	208	1071
Turn Type	NA	Free	Prot	NA	Perm	Split	NA	NA	Free
Protected Phases	2		1	6		3	3	4	
Permitted Phases		Free			6				Free
Detector Phase	2		1	6	6	3	3	4	
Switch Phase									
Minimum Initial (s)	5.0		5.0	5.0	5.0	7.0	7.0	7.0	
Minimum Split (s)	33.0		10.7	33.0	33.0	22.5	22.5	29.0	
Total Split (s)	92.0		11.0	103.0	103.0	33.0	33.0	44.0	
Total Split (%)	51.1%		6.1%	57.2%	57.2%	18.3%	18.3%	24.4%	
Yellow Time (s)	4.0		3.4	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.3	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		5.7	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead			Lead	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes			Yes	Yes	Yes	
Recall Mode	C-Min		Min	C-Min	C-Min	None	None	None	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 114 (63%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton Road & 5th Street



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1280	538	7	1750	83	664	260	282	1116
v/c Ratio	0.81	0.39	0.16	0.98	0.10	1.43	1.08	0.89	0.80
Control Delay	43.6	0.8	92.9	56.3	8.1	257.3	147.7	99.2	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0
Total Delay	43.6	0.8	92.9	56.3	8.1	257.3	147.7	104.7	4.7
Queue Length 50th (ft)	677	0	8	~1094	15	~544	~338	324	0
Queue Length 95th (ft)	792	0	27	#1278	45	#677	#538	#465	0
Internal Link Dist (ft)	430			326			383	384	
Turn Bay Length (ft)			140						
Base Capacity (vph)	1586	1379	46	1779	800	463	241	350	1403
Starvation Cap Reductn	0	0	0	0	0	0	0	34	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	0.81	0.39	0.15	0.98	0.10	1.43	1.08	0.89	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1229	516	7	1680	80	637	220	30	62	208	1071
Future Volume (vph)	0	1229	516	7	1680	80	637	220	30	62	208	1071
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	5.7	6.0	6.0	6.0	6.0			6.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	0.97	1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.97	1.00	1.00	0.98	1.00	0.97			1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)		3185	1379	1593	3185	1390	3090	1592			1657	1403
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)		3185	1379	1593	3185	1390	3090	1592			1657	1403
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1280	538	7	1750	83	664	229	31	65	217	1116
RTOR Reduction (vph)	0	0	0	0	0	24	0	3	0	0	0	0
Lane Group Flow (vph)	0	1280	538	7	1750	59	664	257	0	0	282	1116
Confl. Peds. (#/hr)	4		51	51		4	4		72	72		4
Confl. Bikes (#/hr)			24			12			15			10
Turn Type		NA	Free	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2		1	6		3	3		4	4	
Permitted Phases			Free			6						Free
Actuated Green, G (s)		89.7	180.0	5.2	100.6	100.6	27.0	27.0			34.4	180.0
Effective Green, g (s)		89.7	180.0	5.2	100.6	100.6	27.0	27.0			34.4	180.0
Actuated g/C Ratio		0.50	1.00	0.03	0.56	0.56	0.15	0.15			0.19	1.00
Clearance Time (s)		6.0		5.7	6.0	6.0	6.0	6.0			6.0	
Vehicle Extension (s)		1.0		2.0	1.0	1.0	3.0	3.0			3.5	
Lane Grp Cap (vph)		1587	1379	46	1780	776	463	238			316	1403
v/s Ratio Prot		0.40		0.00	c0.55		c0.21	0.16			0.17	
v/s Ratio Perm			0.39			0.04						c0.80
v/c Ratio		0.81	0.39	0.15	0.98	0.08	1.43	1.08			0.89	0.80
Uniform Delay, d1		37.9	0.0	85.2	38.9	18.3	76.5	76.5			71.0	0.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2		4.5	0.8	0.6	17.7	0.2	207.5	81.8			26.0	4.7
Delay (s)		42.4	0.8	85.8	56.6	18.5	284.0	158.3			97.0	4.7
Level of Service		D	A	F	E	B	F	F			F	A
Approach Delay (s)		30.1			55.0			248.6			23.3	
Approach LOS		C			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	69.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.7
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	11	36	14	24	59	11	29	98	13	10	94	10
Future Vol, veh/h	11	36	14	24	59	11	29	98	13	10	94	10
Conflicting Peds, #/hr	22	0	15	15	0	22	31	0	18	18	0	31
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	37	14	25	61	11	30	101	13	10	97	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	371	341	155	360	340	161	129	0	0	136	0	0
Stage 1	145	145	-	190	190	-	-	-	-	-	-	-
Stage 2	226	196	-	170	150	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	833	859	1031	842	859	1025	1457	-	-	1448	-	-
Stage 1	996	1020	-	939	970	-	-	-	-	-	-	-
Stage 2	897	963	-	964	1014	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	720	798	980	742	798	974	1414	-	-	1405	-	-
Mov Cap-2 Maneuver	720	798	-	742	798	-	-	-	-	-	-	-
Stage 1	953	991	-	898	928	-	-	-	-	-	-	-
Stage 2	785	921	-	880	985	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	10.1	1.6	0.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	817	799	1405	-	-
HCM Lane V/C Ratio	0.021	-	-	0.077	0.121	0.007	-	-
HCM Control Delay (s)	7.6	0	-	9.8	10.1	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	17	121	54	0	14	87	11	0	24	121	10
Future Vol, veh/h	0	17	121	54	0	14	87	11	0	24	121	10
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	129	57	0	15	93	12	0	26	129	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.4	8.9	9.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	9%	12%	9%
Vol Thru, %	78%	63%	78%	74%
Vol Right, %	6%	28%	10%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	192	112	133
LT Vol	24	17	14	12
Through Vol	121	121	87	99
RT Vol	10	54	11	22
Lane Flow Rate	165	204	119	141
Geometry Grp	1	1	1	1
Degree of Util (X)	0.223	0.265	0.162	0.19
Departure Headway (Hd)	4.875	4.678	4.898	4.834
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	764	728	737
Service Time	2.935	2.733	2.959	2.896
HCM Lane V/C Ratio	0.225	0.267	0.163	0.191
HCM Control Delay	9.3	9.4	8.9	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	1.1	0.6	0.7

Intersection

Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	99	22
Future Vol, veh/h	0	12	99	22
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	13	105	23
Number of Lanes	0	0	1	0

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

Lane

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	8	41	63	0	57	41	15	0	32	157	57
Future Vol, veh/h	0	8	41	63	0	57	41	15	0	32	157	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	45	68	0	62	45	16	0	35	171	62
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	9	9.5	10
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	7%	50%	12%
Vol Thru, %	83%	0%	37%	36%	78%
Vol Right, %	0%	100%	56%	13%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	57	112	113	179
LT Vol	32	0	8	57	22
Through Vol	157	0	41	41	140
RT Vol	0	57	63	15	17
Lane Flow Rate	205	62	122	123	195
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.309	0.08	0.166	0.179	0.267
Departure Headway (Hd)	5.417	4.626	4.902	5.234	4.949
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	659	767	724	679	718
Service Time	3.192	2.4	2.984	3.316	3.028
HCM Lane V/C Ratio	0.311	0.081	0.169	0.181	0.272
HCM Control Delay	10.6	7.8	9	9.5	9.8
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	1.3	0.3	0.6	0.6	1.1

Intersection

Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	22	140	17
Future Vol, veh/h	0	22	140	17
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	24	152	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.8
HCM LOS	A

Lane

Intersection

Int Delay, s/veh 5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	149	145	96	100	128	132
Future Vol, veh/h	149	145	96	100	128	132
Conflicting Peds, #/hr	2	5	119	0	0	119
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	151	100	104	133	138

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	459	326	276	0	-	0
Stage 1	207	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Critical Hdwy	5	5	4.12	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3	3	2.218	-	-	-
Pot Cap-1 Maneuver	763	871	1287	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	690	769	1141	-	-	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1141	-	690	769	-	-
HCM Lane V/C Ratio	0.088	-	0.225	0.196	-	-
HCM Control Delay (s)	8.5	-	11.7	10.8	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.9	0.7	-	-

Future Background Conditions

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	56	0	0	130	54	1617	33	32	1469	47
Future Vol, veh/h	0	0	56	0	0	130	54	1617	33	32	1469	47
Conflicting Peds, #/hr	17	0	12	12	0	17	47	0	79	79	0	47
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	165	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	58	0	0	134	56	1667	34	33	1514	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2584	3451	877	2652	3458	947	1580	0	0	1718	0	0
Stage 1	1622	1622	-	1812	1812	-	-	-	-	-	-	-
Stage 2	962	1829	-	840	1646	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	81	30	500	75	30	466	412	-	-	365	-	-
Stage 1	115	180	-	86	143	-	-	-	-	-	-	-
Stage 2	304	140	-	363	175	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	41	22	455	49	22	424	381	-	-	338	-	-
Mov Cap-2 Maneuver	41	22	-	49	22	-	-	-	-	-	-	-
Stage 1	97	160	-	72	120	-	-	-	-	-	-	-
Stage 2	164	117	-	264	155	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	17.4	0.5	0.3
HCM LOS	B	C		

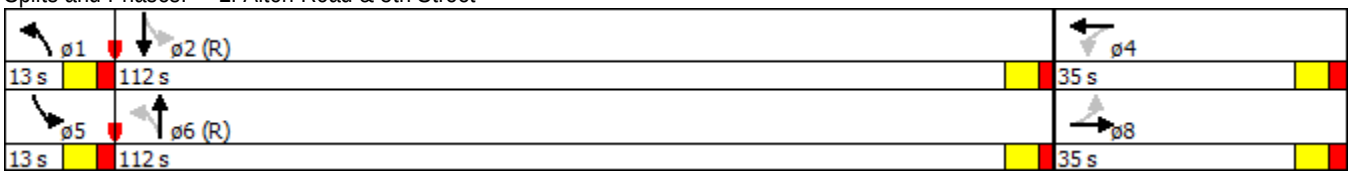
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	381	-	-	455	424	338	-	-
HCM Lane V/C Ratio	0.146	-	-	0.127	0.316	0.098	-	-
HCM Control Delay (s)	16.1	-	-	14.1	17.4	16.8	-	-
HCM Lane LOS	C	-	-	B	C	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.4	1.3	0.3	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	84	24	98	89	202	1551	74	1427
Future Volume (vph)	84	24	98	89	202	1551	74	1427
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	16.0	5.0	7.0
Minimum Split (s)	34.4	34.4	34.4	34.4	11.0	24.0	11.0	24.0
Total Split (s)	35.0	35.0	35.0	35.0	13.0	112.0	13.0	112.0
Total Split (%)	21.9%	21.9%	21.9%	21.9%	8.1%	70.0%	8.1%	70.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.0	6.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 65 (41%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 2: Alton Road & 8th Street



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	261	281	206	1680	76	1495
v/c Ratio	1.39	1.65	1.05	0.85	0.49	0.75
Control Delay	243.1	355.1	94.6	26.4	17.2	21.2
Queue Delay	0.0	0.0	0.0	1.8	0.0	0.0
Total Delay	243.1	355.1	94.6	28.1	17.2	21.2
Queue Length 50th (ft)	~329	~416	~67	640	19	521
Queue Length 95th (ft)	#519	#613	#214	835	34	613
Internal Link Dist (ft)	282	333		377		340
Turn Bay Length (ft)			180		175	
Base Capacity (vph)	188	170	197	1987	161	1991
Starvation Cap Reductn	0	0	0	166	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.65	1.05	0.92	0.47	0.75

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	24	148	98	89	88	202	1551	95	74	1427	38
Future Volume (veh/h)	84	24	148	98	89	88	202	1551	95	74	1427	38
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.89	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1710	1676	1710	1710	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	86	24	151	100	91	90	206	1583	97	76	1456	39
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	21	102	86	57	53	272	1951	119	216	1990	53
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.90	0.90	0.04	0.88	0.88
Sat Flow, veh/h	298	118	571	308	318	295	1597	2886	175	1597	3003	80
Grp Volume(v), veh/h	261	0	0	281	0	0	206	868	812	76	771	724
Grp Sat Flow(s),veh/h/ln	987	0	0	921	0	0	1597	1593	1469	1597	1593	1491
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	7.0	32.0	33.7	2.5	25.8	26.1
Cycle Q Clear(g_c), s	28.6	0.0	0.0	28.6	0.0	0.0	7.0	32.0	33.7	2.5	25.8	26.1
Prop In Lane	0.33		0.58	0.36		0.32	1.00		0.12	1.00		0.05
Lane Grp Cap(c), veh/h	206	0	0	195	0	0	272	1077	993	216	1055	988
V/C Ratio(X)	1.27	0.00	0.00	1.44	0.00	0.00	0.76	0.81	0.82	0.35	0.73	0.73
Avail Cap(c_a), veh/h	206	0	0	195	0	0	272	1077	993	238	1055	988
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.5	0.0	0.0	67.7	0.0	0.0	14.4	4.2	4.3	12.2	4.7	4.8
Incr Delay (d2), s/veh	152.0	0.0	0.0	224.5	0.0	0.0	10.4	6.5	7.5	0.4	4.5	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	0.0	0.0	20.8	0.0	0.0	5.0	15.2	14.7	1.1	12.2	11.6
LnGrp Delay(d),s/veh	219.6	0.0	0.0	292.2	0.0	0.0	24.7	10.7	11.8	12.5	9.2	9.6
LnGrp LOS	F			F			C	B	B	B	A	A
Approach Vol, veh/h		261			281			1886			1571	
Approach Delay, s/veh		219.6			292.2			12.7			9.5	
Approach LOS		F			F			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	112.0		35.0	10.8	114.2		35.0
Change Period (Y+Rc), s	6.0	6.0		6.4	6.0	6.0		6.4
Max Green Setting (Gmax), s	7.0	106.0		28.6	7.0	106.0		28.6
Max Q Clear Time (g_c+I1), s	9.0	28.1		30.6	4.5	35.7		30.6
Green Ext Time (p_c), s	0.0	14.5		0.0	0.0	14.5		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		44.6
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	113	457	12	0	1621
Future Vol, veh/h	0	113	457	12	0	1621
Conflicting Peds, #/hr	1	2	0	75	75	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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	118	476	13	0	1689

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1328	559	0	0	491	0
Stage 1	484	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Critical Hdwy	5	5	-	-	4.12	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3	3	-	-	2.218	-
Pot Cap-1 Maneuver	314	691	-	-	1072	-
Stage 1	703	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	291	640	-	-	995	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

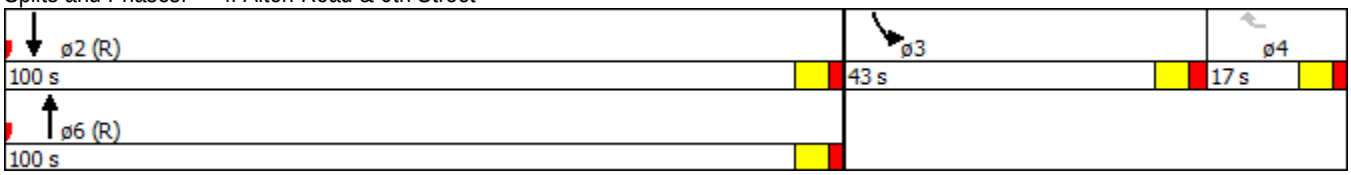
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	640	995	-
HCM Lane V/C Ratio	-	-	0.184	-	-
HCM Control Delay (s)	-	-	11.9	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Lane Group	WBR	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	68	386	58	1453
Future Volume (vph)	68	386	58	1453
Turn Type	Perm	NA	Prot	NA
Protected Phases		6	3	2
Permitted Phases	4			
Detector Phase	4	6	3	2
Switch Phase				
Minimum Initial (s)	7.0	7.0	5.0	7.0
Minimum Split (s)	13.0	27.0	11.0	27.0
Total Split (s)	17.0	100.0	43.0	100.0
Total Split (%)	10.6%	62.5%	26.9%	62.5%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 49 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 4: Alton Road & 6th Street



Lane Group	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	69	426	59	1468
v/c Ratio	0.12	0.18	0.55	0.58
Control Delay	0.4	4.7	90.3	8.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	0.4	4.7	90.3	8.4
Queue Length 50th (ft)	0	52	61	296
Queue Length 95th (ft)	0	78	110	400
Internal Link Dist (ft)		384		251
Turn Bay Length (ft)			300	
Base Capacity (vph)	604	2434	368	2520
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.18	0.16	0.58

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	68	386	36	58	1453
Future Volume (vph)	0	68	386	36	58	1453
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0
Lane Util. Factor		1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.93	0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00
Frt		0.86	0.99		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1211	3074		1593	3185
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1211	3074		1593	3185
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	69	390	36	59	1468
RTOR Reduction (vph)	0	66	2	0	0	0
Lane Group Flow (vph)	0	3	424	0	59	1468
Confl. Peds. (#/hr)	127	9		64	64	
Confl. Bikes (#/hr)				20		
Parking (#/hr)		0				
Turn Type		Perm	NA		Prot	NA
Protected Phases			6		3	2
Permitted Phases		4				
Actuated Green, G (s)		7.0	125.4		9.6	125.4
Effective Green, g (s)		7.0	125.4		9.6	125.4
Actuated g/C Ratio		0.04	0.78		0.06	0.78
Clearance Time (s)		6.0	6.0		6.0	6.0
Vehicle Extension (s)		2.0	1.0		2.5	1.0
Lane Grp Cap (vph)		52	2409		95	2496
v/s Ratio Prot			0.14		c0.04	c0.46
v/s Ratio Perm		c0.00				
v/c Ratio		0.06	0.18		0.62	0.59
Uniform Delay, d1		73.3	4.3		73.4	6.9
Progression Factor		1.00	1.00		1.11	2.25
Incremental Delay, d2		0.2	0.2		5.2	0.5
Delay (s)		73.5	4.5		87.0	16.1
Level of Service		E	A		F	B
Approach Delay (s)	73.5		4.5			18.8
Approach LOS	E		A			B

Intersection Summary

HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

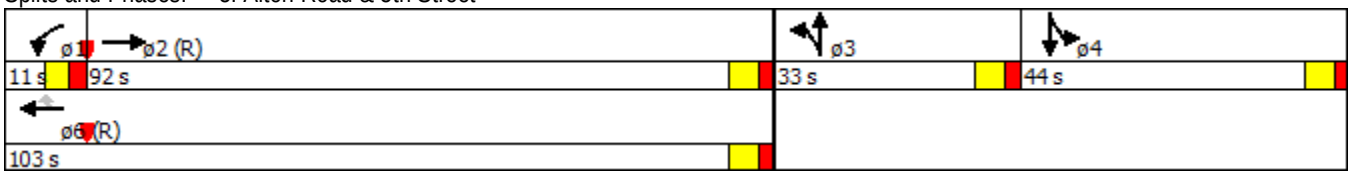
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1243	522	7	1699	81	644	254	247	1098
Future Volume (vph)	1243	522	7	1699	81	644	254	247	1098
Turn Type	NA	Free	Prot	NA	Perm	Split	NA	NA	Free
Protected Phases	2		1	6		3	3	4	
Permitted Phases		Free			6				Free
Detector Phase	2		1	6	6	3	3	4	
Switch Phase									
Minimum Initial (s)	5.0		5.0	5.0	5.0	7.0	7.0	7.0	
Minimum Split (s)	33.0		10.7	33.0	33.0	22.5	22.5	29.0	
Total Split (s)	92.0		11.0	103.0	103.0	33.0	33.0	44.0	
Total Split (%)	51.1%		6.1%	57.2%	57.2%	18.3%	18.3%	24.4%	
Yellow Time (s)	4.0		3.4	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.3	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		5.7	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead			Lead	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes			Yes	Yes	Yes	
Recall Mode	C-Min		Min	C-Min	C-Min	None	None	None	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 114 (63%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton Road & 5th Street



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1295	544	7	1770	84	671	296	368	1144
v/c Ratio	0.85	0.39	0.16	1.03	0.11	1.45	1.22	1.06	0.82
Control Delay	47.9	0.8	92.9	70.5	8.3	263.2	190.3	129.3	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	0.0
Total Delay	47.9	0.8	92.9	70.5	8.3	263.2	190.3	145.7	5.3
Queue Length 50th (ft)	701	0	8	~1173	16	~553	~425	~474	0
Queue Length 95th (ft)	807	0	27	#1304	46	#686	#635	#694	0
Internal Link Dist (ft)	430			326			383	384	
Turn Bay Length (ft)			140						
Base Capacity (vph)	1524	1379	46	1716	774	463	242	348	1403
Starvation Cap Reductn	0	0	0	0	0	0	0	36	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	0.85	0.39	0.15	1.03	0.11	1.45	1.22	1.18	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1243	522	7	1699	81	644	254	30	107	247	1098
Future Volume (vph)	0	1243	522	7	1699	81	644	254	30	107	247	1098
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	5.7	6.0	6.0	6.0	6.0			6.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	0.97	1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.97	1.00	1.00	0.98	1.00	0.97			1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)		3185	1379	1593	3185	1390	3090	1602			1652	1403
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)		3185	1379	1593	3185	1390	3090	1602			1652	1403
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1295	544	7	1770	84	671	265	31	111	257	1144
RTOR Reduction (vph)	0	0	0	0	0	25	0	3	0	0	0	0
Lane Group Flow (vph)	0	1295	544	7	1770	59	671	293	0	0	368	1144
Confl. Peds. (#/hr)	4		51	51		4	4		72	72		4
Confl. Bikes (#/hr)			24			12			15			10
Turn Type		NA	Free	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2		1	6		3	3		4	4	
Permitted Phases			Free			6						Free
Actuated Green, G (s)		86.1	180.0	5.2	97.0	97.0	27.0	27.0			38.0	180.0
Effective Green, g (s)		86.1	180.0	5.2	97.0	97.0	27.0	27.0			38.0	180.0
Actuated g/C Ratio		0.48	1.00	0.03	0.54	0.54	0.15	0.15			0.21	1.00
Clearance Time (s)		6.0		5.7	6.0	6.0	6.0	6.0			6.0	
Vehicle Extension (s)		1.0		2.0	1.0	1.0	3.0	3.0			3.5	
Lane Grp Cap (vph)		1523	1379	46	1716	749	463	240			348	1403
v/s Ratio Prot		0.41		0.00	c0.56		c0.22	0.18			c0.22	
v/s Ratio Perm			0.39			0.04						c0.82
v/c Ratio		0.85	0.39	0.15	1.03	0.08	1.45	1.22			1.06	0.82
Uniform Delay, d1		41.3	0.0	85.2	41.5	20.0	76.5	76.5			71.0	0.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2		6.2	0.8	0.6	30.3	0.2	214.0	131.6			64.2	5.3
Delay (s)		47.4	0.8	85.8	71.8	20.2	290.5	208.1			135.2	5.3
Level of Service		D	A	F	E	C	F	F			F	A
Approach Delay (s)		33.7			69.5			265.3			36.9	
Approach LOS		C			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	81.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.7
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	11	36	14	24	60	11	29	99	13	10	95	10
Future Vol, veh/h	11	36	14	24	60	11	29	99	13	10	95	10
Conflicting Peds, #/hr	22	0	15	15	0	22	31	0	18	18	0	31
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	37	14	25	62	11	30	102	13	10	98	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	373	343	156	362	342	162	130	0	0	137	0	0
Stage 1	146	146	-	191	191	-	-	-	-	-	-	-
Stage 2	227	197	-	171	151	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	832	857	1030	841	858	1024	1455	-	-	1447	-	-
Stage 1	994	1019	-	938	968	-	-	-	-	-	-	-
Stage 2	895	962	-	963	1013	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	718	796	979	742	797	973	1412	-	-	1404	-	-
Mov Cap-2 Maneuver	718	796	-	742	797	-	-	-	-	-	-	-
Stage 1	951	990	-	897	926	-	-	-	-	-	-	-
Stage 2	783	920	-	879	984	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	10.1	1.6	0.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1412	-	-	815	799	1404	-	-
HCM Lane V/C Ratio	0.021	-	-	0.077	0.123	0.007	-	-
HCM Control Delay (s)	7.6	0	-	9.8	10.1	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	17	178	55	0	14	182	11	0	24	122	10
Future Vol, veh/h	0	17	178	55	0	14	182	11	0	24	122	10
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	189	59	0	15	194	12	0	26	130	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11	10.6	10.3
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	7%	7%	9%
Vol Thru, %	78%	71%	88%	75%
Vol Right, %	6%	22%	5%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	250	207	134
LT Vol	24	17	14	12
Through Vol	122	178	182	100
RT Vol	10	55	11	22
Lane Flow Rate	166	266	220	143
Geometry Grp	1	1	1	1
Degree of Util (X)	0.25	0.37	0.316	0.214
Departure Headway (Hd)	5.422	5.003	5.161	5.393
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	662	721	696	666
Service Time	3.457	3.03	3.19	3.428
HCM Lane V/C Ratio	0.251	0.369	0.316	0.215
HCM Control Delay	10.3	11	10.6	9.9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1	1.7	1.4	0.8

Intersection

Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	12	100	22
Future Vol, veh/h	0	12	100	22
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	13	106	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.9
HCM LOS	A

Lane

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	8	41	64	0	58	41	15	0	32	159	58
Future Vol, veh/h	0	8	41	64	0	58	41	15	0	32	159	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	45	70	0	63	45	16	0	35	173	63
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	9	9.5	10
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	7%	51%	12%
Vol Thru, %	83%	0%	36%	36%	78%
Vol Right, %	0%	100%	57%	13%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	191	58	113	114	181
LT Vol	32	0	8	58	22
Through Vol	159	0	41	41	142
RT Vol	0	58	64	15	17
Lane Flow Rate	208	63	123	124	197
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.313	0.081	0.168	0.181	0.271
Departure Headway (Hd)	5.427	4.637	4.919	5.255	4.962
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	658	765	722	677	716
Service Time	3.202	2.412	2.999	3.336	3.041
HCM Lane V/C Ratio	0.316	0.082	0.17	0.183	0.275
HCM Control Delay	10.7	7.8	9	9.5	9.9
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	1.3	0.3	0.6	0.7	1.1

Intersection

Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	22	142	17
Future Vol, veh/h	0	22	142	17
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	24	154	18
Number of Lanes	0	0	1	0

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

Lane

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	151	147	97	101	129	133
Future Vol, veh/h	151	147	97	101	129	133
Conflicting Peds, #/hr	2	5	119	0	0	119
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	153	101	105	134	139

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	464	328	278	0	-	0
Stage 1	209	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	5	5	4.12	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3	3	2.218	-	-	-
Pot Cap-1 Maneuver	760	870	1285	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	686	768	1139	-	-	-
Mov Cap-2 Maneuver	686	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1139	-	686	768	-	-
HCM Lane V/C Ratio	0.089	-	0.229	0.199	-	-
HCM Control Delay (s)	8.5	-	11.8	10.9	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.9	0.7	-	-

Future Total Conditions

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	56	0	0	130	54	1632	97	55	1469	47
Future Vol, veh/h	0	0	56	0	0	130	54	1632	97	55	1469	47
Conflicting Peds, #/hr	17	0	12	12	0	17	47	0	79	79	0	47
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	165	-	-	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	58	0	0	134	56	1682	100	57	1514	48

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2639	3580	877	2749	3554	987	1580	0	0	1799	0	0
Stage 1	1669	1669	-	1861	1861	-	-	-	-	-	-	-
Stage 2	970	1911	-	888	1693	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	76	26	500	67	27	447	412	-	-	339	-	-
Stage 1	107	170	-	80	135	-	-	-	-	-	-	-
Stage 2	300	127	-	338	165	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	36	18	455	41	18	407	381	-	-	313	-	-
Mov Cap-2 Maneuver	36	18	-	41	18	-	-	-	-	-	-	-
Stage 1	90	137	-	67	113	-	-	-	-	-	-	-
Stage 2	159	107	-	223	133	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	18.1	0.5	0.7
HCM LOS	B	C		

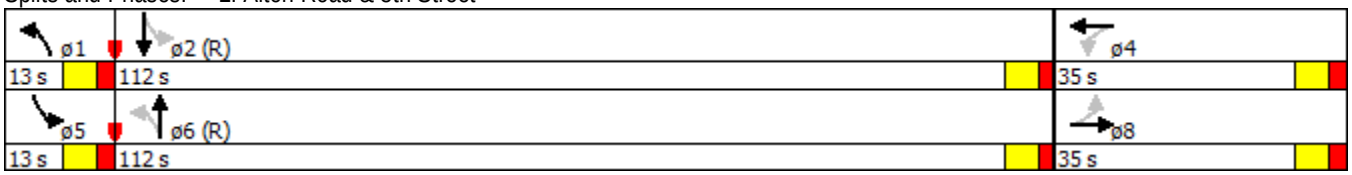
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	381	-	-	455	407	313	-	-
HCM Lane V/C Ratio	0.146	-	-	0.127	0.329	0.181	-	-
HCM Control Delay (s)	16.1	-	-	14.1	18.1	19	-	-
HCM Lane LOS	C	-	-	B	C	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.4	1.4	0.7	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	92	24	101	94	202	1591	74	1427
Future Volume (vph)	92	24	101	94	202	1591	74	1427
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	16.0	5.0	7.0
Minimum Split (s)	34.4	34.4	34.4	34.4	11.0	24.0	11.0	24.0
Total Split (s)	35.0	35.0	35.0	35.0	13.0	112.0	13.0	112.0
Total Split (%)	21.9%	21.9%	21.9%	21.9%	8.1%	70.0%	8.1%	70.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.4		6.4	6.0	6.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 65 (41%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 2: Alton Road & 8th Street



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	269	320	206	1720	76	1495
v/c Ratio	1.56	1.80	1.05	0.86	0.51	0.75
Control Delay	315.3	413.7	94.6	27.2	19.9	21.2
Queue Delay	0.0	0.0	0.0	1.9	0.0	0.0
Total Delay	315.3	413.7	94.6	29.1	19.9	21.2
Queue Length 50th (ft)	~367	~488	~68	662	19	521
Queue Length 95th (ft)	#560	#695	#190	833	41	613
Internal Link Dist (ft)	282	333		377		340
Turn Bay Length (ft)			180		175	
Base Capacity (vph)	172	178	197	1989	155	1991
Starvation Cap Reductn	0	0	0	143	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.56	1.80	1.05	0.93	0.49	0.75

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	24	148	101	94	119	202	1591	95	74	1427	38
Future Volume (veh/h)	92	24	148	101	94	119	202	1591	95	74	1427	38
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.89	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1710	1676	1710	1710	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	94	24	151	103	96	121	206	1623	97	76	1456	39
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	19	92	83	55	66	272	1954	116	206	1990	53
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.90	0.90	0.04	0.88	0.88
Sat Flow, veh/h	298	105	516	299	309	370	1597	2891	171	1597	3003	80
Grp Volume(v), veh/h	269	0	0	320	0	0	206	888	832	76	771	724
Grp Sat Flow(s),veh/h/ln	918	0	0	978	0	0	1597	1593	1470	1597	1593	1491
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	7.0	34.8	37.0	2.5	25.8	26.1
Cycle Q Clear(g_c), s	28.6	0.0	0.0	28.6	0.0	0.0	7.0	34.8	37.0	2.5	25.8	26.1
Prop In Lane	0.35		0.56	0.32		0.38	1.00		0.12	1.00		0.05
Lane Grp Cap(c), veh/h	195	0	0	205	0	0	272	1077	994	206	1055	988
V/C Ratio(X)	1.38	0.00	0.00	1.56	0.00	0.00	0.76	0.82	0.84	0.37	0.73	0.73
Avail Cap(c_a), veh/h	195	0	0	205	0	0	272	1077	994	228	1055	988
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	0.0	0.0	67.6	0.0	0.0	14.4	4.4	4.5	13.2	4.7	4.8
Incr Delay (d2), s/veh	200.9	0.0	0.0	276.3	0.0	0.0	10.4	7.2	8.4	0.4	4.5	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	0.0	0.0	24.7	0.0	0.0	5.0	16.3	16.2	1.1	12.2	11.6
LnGrp Delay(d),s/veh	268.6	0.0	0.0	343.9	0.0	0.0	24.7	11.6	12.9	13.6	9.2	9.6
LnGrp LOS	F			F			C	B	B	B	A	A
Approach Vol, veh/h		269			320			1926			1571	
Approach Delay, s/veh		268.6			343.9			13.5			9.6	
Approach LOS		F			F			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	112.0		35.0	10.8	114.2		35.0
Change Period (Y+Rc), s	6.0	6.0		6.4	6.0	6.0		6.4
Max Green Setting (Gmax), s	7.0	106.0		28.6	7.0	106.0		28.6
Max Q Clear Time (g_c+I1), s	9.0	28.1		30.6	4.5	39.0		30.6
Green Ext Time (p_c), s	0.0	12.9		0.0	0.0	12.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.7
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	113	495	12	0	1624
Future Vol, veh/h	0	113	495	12	0	1624
Conflicting Peds, #/hr	1	2	0	75	75	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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	118	516	13	0	1692

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1370	599	0	0	530	0
Stage 1	524	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Critical Hdwy	5	5	-	-	4.12	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3	3	-	-	2.218	-
Pot Cap-1 Maneuver	300	663	-	-	1037	-
Stage 1	672	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	278	614	-	-	963	-
Mov Cap-2 Maneuver	278	-	-	-	-	-
Stage 1	671	-	-	-	-	-
Stage 2	395	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0
HCM LOS	B		

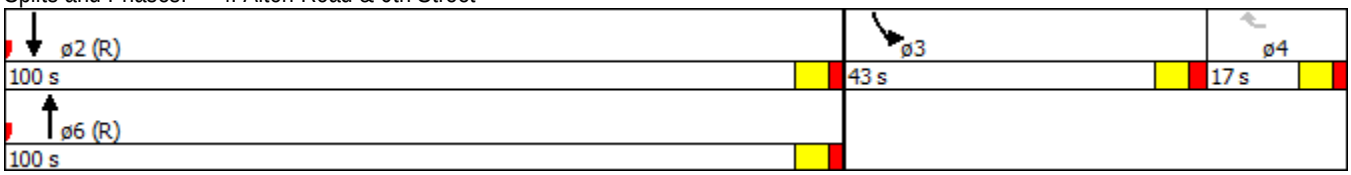
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	614	963	-
HCM Lane V/C Ratio	-	-	0.192	-	-
HCM Control Delay (s)	-	-	12.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Lane Group	WBR	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	104	388	58	1456
Future Volume (vph)	104	388	58	1456
Turn Type	Perm	NA	Prot	NA
Protected Phases		6	3	2
Permitted Phases	4			
Detector Phase	4	6	3	2
Switch Phase				
Minimum Initial (s)	7.0	7.0	5.0	7.0
Minimum Split (s)	13.0	27.0	11.0	27.0
Total Split (s)	17.0	100.0	43.0	100.0
Total Split (%)	10.6%	62.5%	26.9%	62.5%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 49 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 4: Alton Road & 6th Street



Lane Group	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	105	428	59	1471
v/c Ratio	0.18	0.18	0.55	0.58
Control Delay	0.7	4.7	90.3	8.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	0.7	4.7	90.3	8.4
Queue Length 50th (ft)	0	52	61	297
Queue Length 95th (ft)	0	78	110	402
Internal Link Dist (ft)		384		251
Turn Bay Length (ft)			300	
Base Capacity (vph)	603	2434	368	2520
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.18	0.16	0.58

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	104	388	36	58	1456
Future Volume (vph)	0	104	388	36	58	1456
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0
Lane Util. Factor		1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.93	0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00
Frt		0.86	0.99		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1211	3075		1593	3185
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1211	3075		1593	3185
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	105	392	36	59	1471
RTOR Reduction (vph)	0	100	2	0	0	0
Lane Group Flow (vph)	0	5	426	0	59	1471
Confl. Peds. (#/hr)	127	9		64	64	
Confl. Bikes (#/hr)				20		
Parking (#/hr)		0				
Turn Type		Perm	NA		Prot	NA
Protected Phases			6		3	2
Permitted Phases		4				
Actuated Green, G (s)		7.0	125.4		9.6	125.4
Effective Green, g (s)		7.0	125.4		9.6	125.4
Actuated g/C Ratio		0.04	0.78		0.06	0.78
Clearance Time (s)		6.0	6.0		6.0	6.0
Vehicle Extension (s)		2.0	1.0		2.5	1.0
Lane Grp Cap (vph)		52	2410		95	2496
v/s Ratio Prot			0.14		c0.04	c0.46
v/s Ratio Perm		c0.00				
v/c Ratio		0.09	0.18		0.62	0.59
Uniform Delay, d1		73.4	4.3		73.4	7.0
Progression Factor		1.00	1.00		1.10	2.26
Incremental Delay, d2		0.3	0.2		4.7	0.5
Delay (s)		73.7	4.5		85.5	16.2
Level of Service		E	A		F	B
Approach Delay (s)	73.7		4.5			18.9
Approach LOS	E		A			B

Intersection Summary

HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

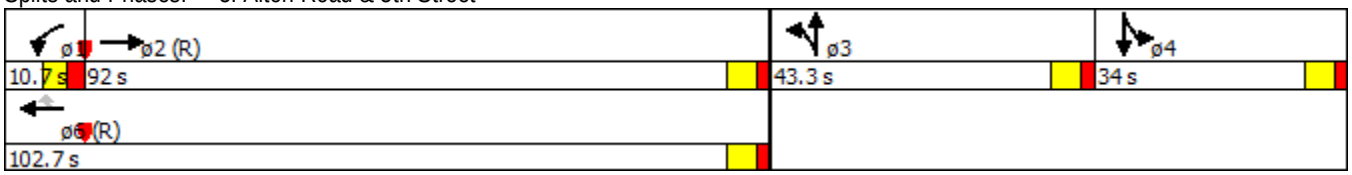
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1243	522	7	1699	81	644	256	248	1100
Future Volume (vph)	1243	522	7	1699	81	644	256	248	1100
Turn Type	NA	Free	Prot	NA	Perm	Split	NA	NA	Free
Protected Phases	2		1	6		3	3	4	
Permitted Phases		Free			6				Free
Detector Phase	2		1	6	6	3	3	4	
Switch Phase									
Minimum Initial (s)	5.0		5.0	5.0	5.0	7.0	7.0	7.0	
Minimum Split (s)	33.0		10.7	33.0	33.0	22.5	22.5	29.0	
Total Split (s)	92.0		10.7	102.7	102.7	43.3	43.3	34.0	
Total Split (%)	51.1%		5.9%	57.1%	57.1%	24.1%	24.1%	18.9%	
Yellow Time (s)	4.0		3.4	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.3	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		5.7	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead			Lead	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes			Yes	Yes	Yes	
Recall Mode	C-Min		Min	C-Min	C-Min	None	None	None	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 114 (63%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton Road & 5th Street



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1295	544	7	1770	84	671	298	369	1146
v/c Ratio	0.85	0.39	0.16	1.03	0.11	1.05	0.89	1.44	0.82
Control Delay	48.1	0.8	93.6	71.5	8.4	115.3	96.3	268.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	0.8	93.6	71.5	8.4	115.3	96.3	268.7	5.4
Queue Length 50th (ft)	702	0	8	~1176	16	~442	344	~588	0
Queue Length 95th (ft)	807	0	27	#1307	46	#574	#526	#808	0
Internal Link Dist (ft)	430			326			383	384	
Turn Bay Length (ft)			140						
Base Capacity (vph)	1521	1379	44	1711	772	640	334	256	1403
Starvation Cap Reductn	0	0	0	0	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	0.85	0.39	0.16	1.03	0.11	1.05	0.89	1.44	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1243	522	7	1699	81	644	256	30	107	248	1100
Future Volume (vph)	0	1243	522	7	1699	81	644	256	30	107	248	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	5.7	6.0	6.0	6.0	6.0			6.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	0.97	1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.97	1.00	1.00	0.98	1.00	0.97			1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)		3185	1379	1593	3185	1390	3090	1603			1652	1403
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)		3185	1379	1593	3185	1390	3090	1603			1652	1403
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1295	544	7	1770	84	671	267	31	111	258	1146
RTOR Reduction (vph)	0	0	0	0	0	25	0	2	0	0	0	0
Lane Group Flow (vph)	0	1295	544	7	1770	59	671	296	0	0	369	1146
Confl. Peds. (#/hr)	4		51	51		4	4		72	72		4
Confl. Bikes (#/hr)			24			12			15			10
Turn Type		NA	Free	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2		1	6		3	3		4	4	
Permitted Phases			Free			6						Free
Actuated Green, G (s)		86.0	180.0	5.0	96.7	96.7	37.3	37.3			28.0	180.0
Effective Green, g (s)		86.0	180.0	5.0	96.7	96.7	37.3	37.3			28.0	180.0
Actuated g/C Ratio		0.48	1.00	0.03	0.54	0.54	0.21	0.21			0.16	1.00
Clearance Time (s)		6.0		5.7	6.0	6.0	6.0	6.0			6.0	
Vehicle Extension (s)		1.0		2.0	1.0	1.0	3.0	3.0			3.5	
Lane Grp Cap (vph)		1521	1379	44	1711	746	640	332			256	1403
v/s Ratio Prot		0.41		0.00	c0.56		c0.22	0.18			c0.22	
v/s Ratio Perm			0.39			0.04						c0.82
v/c Ratio		0.85	0.39	0.16	1.03	0.08	1.05	0.89			1.44	0.82
Uniform Delay, d1		41.4	0.0	85.4	41.6	20.1	71.3	69.4			76.0	0.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2		6.2	0.8	0.6	31.2	0.2	48.9	24.3			219.4	5.4
Delay (s)		47.6	0.8	86.1	72.9	20.3	120.3	93.7			295.4	5.4
Level of Service		D	A	F	E	C	F	F			F	A
Approach Delay (s)		33.8			70.5			112.1			76.0	
Approach LOS		C			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	67.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.7
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		

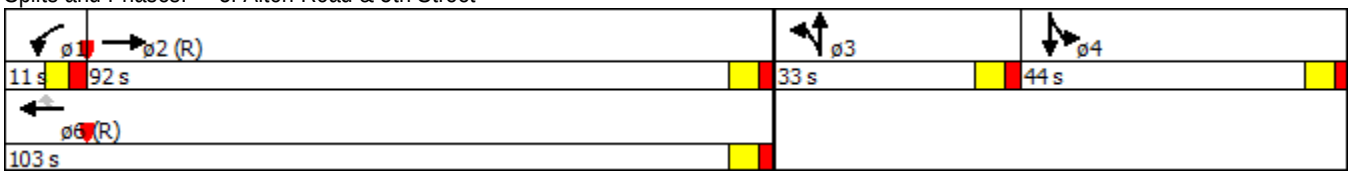
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1243	522	7	1699	81	644	256	248	1100
Future Volume (vph)	1243	522	7	1699	81	644	256	248	1100
Turn Type	NA	Free	Prot	NA	Perm	Split	NA	NA	Free
Protected Phases	2		1	6		3	3	4	
Permitted Phases		Free			6				Free
Detector Phase	2		1	6	6	3	3	4	
Switch Phase									
Minimum Initial (s)	5.0		5.0	5.0	5.0	7.0	7.0	7.0	
Minimum Split (s)	33.0		10.7	33.0	33.0	22.5	22.5	29.0	
Total Split (s)	92.0		11.0	103.0	103.0	33.0	33.0	44.0	
Total Split (%)	51.1%		6.1%	57.2%	57.2%	18.3%	18.3%	24.4%	
Yellow Time (s)	4.0		3.4	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.3	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		5.7	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead			Lead	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes			Yes	Yes	Yes	
Recall Mode	C-Min		Min	C-Min	C-Min	None	None	None	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 114 (63%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton Road & 5th Street



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1295	544	7	1770	84	671	298	369	1146
v/c Ratio	0.85	0.39	0.16	1.03	0.11	1.45	1.23	1.06	0.82
Control Delay	47.9	0.8	92.9	70.5	8.3	263.2	193.0	130.0	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0
Total Delay	47.9	0.8	92.9	70.5	8.3	263.2	193.0	145.4	5.4
Queue Length 50th (ft)	701	0	8	~1173	16	~553	~430	~476	0
Queue Length 95th (ft)	807	0	27	#1304	46	#686	#640	#696	0
Internal Link Dist (ft)	430			326			383	384	
Turn Bay Length (ft)			140						
Base Capacity (vph)	1524	1379	46	1716	774	463	242	348	1403
Starvation Cap Reductn	0	0	0	0	0	0	0	36	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	0.85	0.39	0.15	1.03	0.11	1.45	1.23	1.18	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1243	522	7	1699	81	644	256	30	107	248	1100
Future Volume (vph)	0	1243	522	7	1699	81	644	256	30	107	248	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	5.7	6.0	6.0	6.0	6.0			6.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	0.97	1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.97	1.00	1.00	0.98	1.00	0.97			1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)		3185	1379	1593	3185	1390	3090	1602			1652	1403
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)		3185	1379	1593	3185	1390	3090	1602			1652	1403
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1295	544	7	1770	84	671	267	31	111	258	1146
RTOR Reduction (vph)	0	0	0	0	0	25	0	3	0	0	0	0
Lane Group Flow (vph)	0	1295	544	7	1770	59	671	295	0	0	369	1146
Confl. Peds. (#/hr)	4		51	51		4	4		72	72		4
Confl. Bikes (#/hr)			24			12			15			10
Turn Type		NA	Free	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2		1	6		3	3		4	4	
Permitted Phases			Free			6						Free
Actuated Green, G (s)		86.1	180.0	5.2	97.0	97.0	27.0	27.0			38.0	180.0
Effective Green, g (s)		86.1	180.0	5.2	97.0	97.0	27.0	27.0			38.0	180.0
Actuated g/C Ratio		0.48	1.00	0.03	0.54	0.54	0.15	0.15			0.21	1.00
Clearance Time (s)		6.0		5.7	6.0	6.0	6.0	6.0			6.0	
Vehicle Extension (s)		1.0		2.0	1.0	1.0	3.0	3.0			3.5	
Lane Grp Cap (vph)		1523	1379	46	1716	749	463	240			348	1403
v/s Ratio Prot		0.41		0.00	c0.56		c0.22	0.18			c0.22	
v/s Ratio Perm			0.39			0.04						c0.82
v/c Ratio		0.85	0.39	0.15	1.03	0.08	1.45	1.23			1.06	0.82
Uniform Delay, d1		41.3	0.0	85.2	41.5	20.0	76.5	76.5			71.0	0.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2		6.2	0.8	0.6	30.3	0.2	214.0	134.8			65.1	5.4
Delay (s)		47.4	0.8	85.8	71.8	20.2	290.5	211.3			136.1	5.4
Level of Service		D	A	F	E	C	F	F			F	A
Approach Delay (s)		33.7			69.5			266.1			37.2	
Approach LOS		C			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	81.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.7
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Int Delay, s/veh 5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	18	37	90	25	60	11	29	99	13	10	106	10
Future Vol, veh/h	18	37	90	25	60	11	29	99	13	10	106	10
Conflicting Peds, #/hr	22	0	15	15	0	22	31	0	18	18	0	31
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	38	93	26	62	11	30	102	13	10	109	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	384	354	167	414	353	162	142	0	0	137	0	0
Stage 1	157	157	-	191	191	-	-	-	-	-	-	-
Stage 2	227	197	-	223	162	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	823	847	1019	798	848	1024	1441	-	-	1447	-	-
Stage 1	980	1006	-	938	968	-	-	-	-	-	-	-
Stage 2	895	962	-	900	1001	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	710	787	968	645	788	973	1398	-	-	1404	-	-
Mov Cap-2 Maneuver	710	787	-	645	788	-	-	-	-	-	-	-
Stage 1	937	977	-	897	926	-	-	-	-	-	-	-
Stage 2	783	920	-	753	972	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10.4	1.6	0.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	877	761	1404	-	-
HCM Lane V/C Ratio	0.021	-	-	0.17	0.13	0.007	-	-
HCM Control Delay (s)	7.6	0	-	9.9	10.4	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	17	178	55	0	14	184	11	0	26	122	10
Future Vol, veh/h	0	17	178	55	0	14	184	11	0	26	122	10
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	189	59	0	15	196	12	0	28	130	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.8	11.4	10.8
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	7%	7%	6%
Vol Thru, %	77%	71%	88%	68%
Vol Right, %	6%	22%	5%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	158	250	209	222
LT Vol	26	17	14	13
Through Vol	122	178	184	152
RT Vol	10	55	11	57
Lane Flow Rate	168	266	222	236
Geometry Grp	1	1	1	1
Degree of Util (X)	0.265	0.393	0.339	0.356
Departure Headway (Hd)	5.672	5.321	5.486	5.422
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	676	654	661
Service Time	3.728	3.371	3.537	3.472
HCM Lane V/C Ratio	0.267	0.393	0.339	0.357
HCM Control Delay	10.8	11.8	11.4	11.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	1.9	1.5	1.6

Intersection

Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	13	152	57
Future Vol, veh/h	0	13	152	57
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	14	162	61
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.5
HCM LOS	B

Lane

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	8	41	64	0	58	41	15	0	68	161	58
Future Vol, veh/h	0	8	41	64	0	58	41	15	0	68	161	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	45	70	0	63	45	16	0	74	175	63
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	9.5	10	11.1
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	0%	7%	51%	9%
Vol Thru, %	70%	0%	36%	36%	83%
Vol Right, %	0%	100%	57%	13%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	58	113	114	233
LT Vol	68	0	8	58	22
Through Vol	161	0	41	41	194
RT Vol	0	58	64	15	17
Lane Flow Rate	249	63	123	124	253
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.385	0.083	0.18	0.194	0.363
Departure Headway (Hd)	5.695	4.837	5.29	5.626	5.155
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	635	745	679	639	699
Service Time	3.395	2.537	3.31	3.644	3.169
HCM Lane V/C Ratio	0.392	0.085	0.181	0.194	0.362
HCM Control Delay	11.9	8	9.5	10	11.1
HCM Lane LOS	B	A	A	A	B
HCM 95th-tile Q	1.8	0.3	0.7	0.7	1.7

Intersection

Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	22	194	17
Future Vol, veh/h	0	22	194	17
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	24	211	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.1
HCM LOS	B

Lane

Intersection

Int Delay, s/veh 5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	187	147	97	103	130	184
Future Vol, veh/h	187	147	97	103	130	184
Conflicting Peds, #/hr	2	5	119	0	0	119
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	195	153	101	107	135	192

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	492	355	332	0	-	0
Stage 1	236	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Critical Hdwy	5	5	4.12	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3	3	2.218	-	-	-
Pot Cap-1 Maneuver	739	847	1227	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	664	747	1088	-	-	-
Mov Cap-2 Maneuver	664	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	795	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	4.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1088	-	664	747	-	-
HCM Lane V/C Ratio	0.093	-	0.293	0.205	-	-
HCM Control Delay (s)	8.6	-	12.7	11.1	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.2	0.8	-	-

Kimley»Horn

Memorandum

To: Josiel Ferrer-Diaz, E.I.
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE
Cory D. Dorman, E.I.

Date: July 6, 2016

Subject: 835 Alton Road
Valet Operations Analysis

Kimley-Horn and Associates, Inc. has prepared a valet operations analysis for the proposed redevelopment located at 835 Alton Road. The site is currently occupied by 20 apartment units. The proposed redevelopment program consists of two (2) restaurants with a total of 362 seats. Refer to Figure 1 in Attachment A for a location map. The following sections summarize our analysis.

VALET SERVICE AND OPERATIONS

The 835 Alton Road redevelopment will be served by one (1) valet drop-off and pick-up area located on the south side of 9th Street just east of Alton Road.

Self-parking is not provided on-site for the existing development and will not be provided by the proposed redevelopment. All vehicles arriving to the redevelopment will be valet parked at the Fifth & Alton parking garage. Figure 2 contained in Attachment A, provides a graphic illustration of the proposed valet routes to and from the Fifth & Alton parking garage located at 550 Lenox Avenue. A conceptual site plan is provided in Attachment A as Figure 3.

TRIP GENERATION

Trip generation for the proposed redevelopment was calculated using rates contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 9th Edition.

A 10 percent (10%) multimodal (public transit, bicycle, and pedestrian) reduction factor was applied to the trip generation to account for the urban area in which the redevelopment is located. Trip generation rates were examined for the weekday P.M. peak hour of generator and the weekend (Saturday) peak hour of generator. Please note that all trips are assumed to be valet trips as self-parking is not provided. All vehicles are valeted and parked at the Fifth & Alton parking garage. Additionally, a 20.0 percent (20.0%) taxi/shared-ride trip reduction factor was applied to the trip generation to account for patrons arriving via taxi/shared-ride to the site.

The trip generation calculations indicate that the proposed redevelopment will generate 78 valet trips during the weekday P.M. peak hour of generator and 87 valet trips during the weekend (Saturday) peak hour of generator. The valet analysis was prepared for the highest trip generation scenario. Detailed trip generation calculations are included in Attachment B.

Highest Demand Condition

A highest demand condition was examined for the redevelopment which is assumed to be equal to the highest trip generation scenario. The project is expected to generate 87 new valet trips of which 51 enter the site and 36 exit the site during the weekend (Saturday) peak hour of generator.

Typical Demand Condition

An average demand condition was also examined which is assumed to be equal to 25 percent (25%) of the highest demand scenario which accounts for more typical traffic conditions outside of the highest demand condition. The project is expected to generate 22 new valet trips, of which 13 enter the site and 9 exit the site during typical demand conditions.

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 travel lanes on 9th Street. Valet operations were analyzed for the number of valet attendants and required vehicle stacking for the redevelopment total traffic as no valet service is provided at the existing development.

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 project site and will be dispatched to and from the Fifth & Alton parking garage. 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 at the Fifth & Alton 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 project site for pick-up.

The calculated average service time for vehicles valeted at the Fifth & Alton parking garage is 5.2 minutes for valet drop-off and 5.5 minutes for valet pick-up. To provide a conservative analysis 6.0 minutes was used for the valet drop-off and pick-up service times. Detailed trip length calculations are included in Attachment C.

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

The analysis determined the required queue storage, *M*, which is exceeded *P* percent of the time. Since this analysis seeks to ensure that the queue length does not exceed the storage provided, at a level of confidence of 90 percent (90%). Three (3) vehicle drop-off/pick-up spaces are provided based

on the attached site plan with two (2) valet vehicle drop-off/pick-up spaces and one (1) taxi drop-off/pick-up space.

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 90th percentile valet queue does not extend beyond the designated valet service area. Detailed valet analysis worksheets are provided in Attachment D.

Results of the highest demand condition valet operations analysis demonstrate that 12 valet attendants would be required so that the vehicle drop-off/pick-up storage of two (2) vehicles would not be exceeded, backing onto 9th Street. Results of the typical demand conditions valet operations analysis demonstrate that four (4) valet attendants would be required so that the vehicle drop-off/pick-up storage would not be exceeded.

Valet Conclusion

Based on the valet operations analysis performed, it was determined that the 90th percentile valet queues will not extend beyond the valet service area backing onto 9th Street. Based upon the conservative assumptions applied to the typical and highest traffic demand conditions, it was estimated that between four (4) and 12 valet attendants may be required during peak periods. It should be noted that projected vehicular volumes and estimated valet processing times were conservatively assumed in the analysis. 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.

K:\FTL_TPTO\043772000-835 Alton Road\Correspondence\Valet Analysis\Valet Operations Analysis_rev2.docx

Attachment A

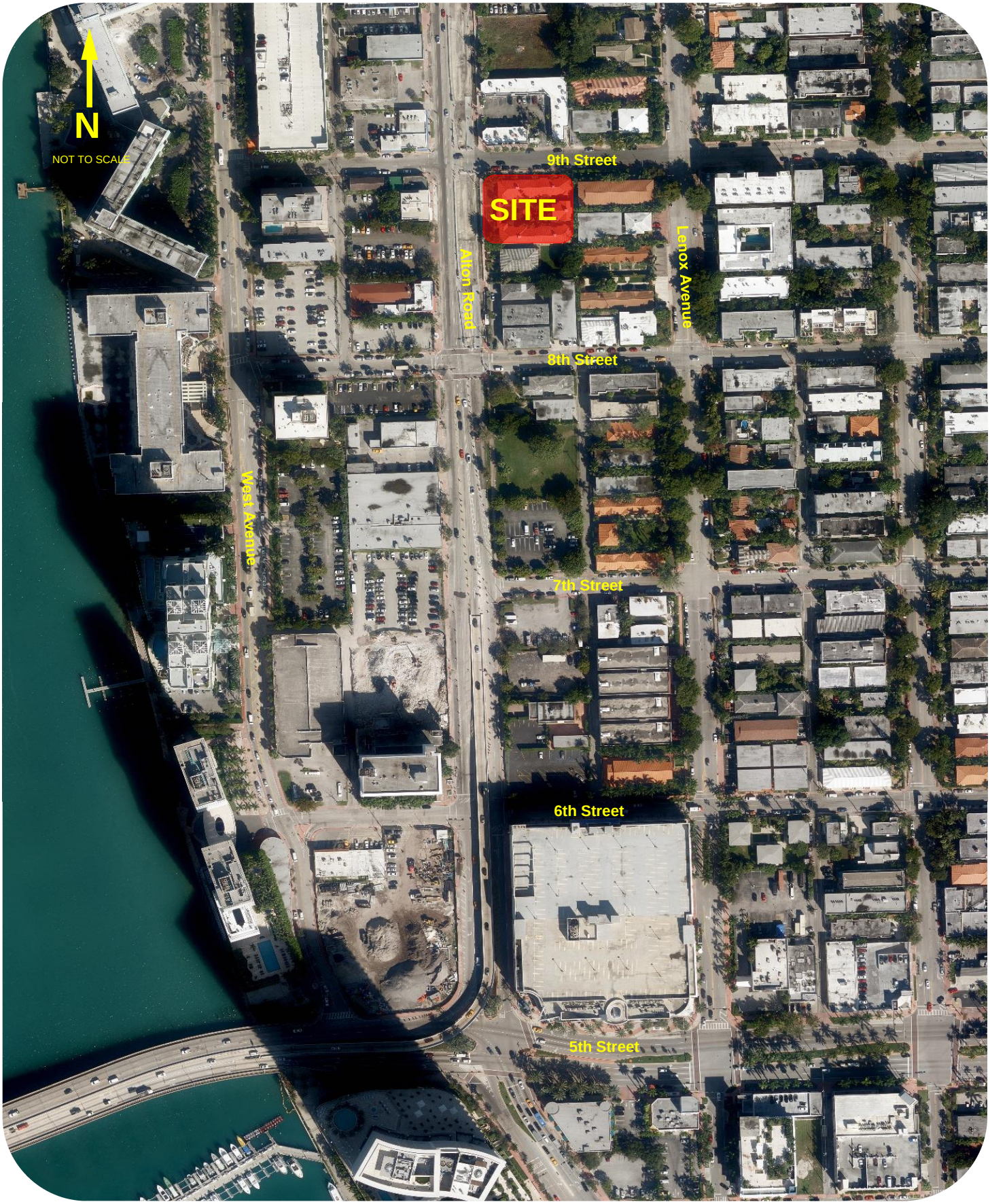


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Figure 1
Location Map
835 Alton Road
City of Miami Beach, Florida

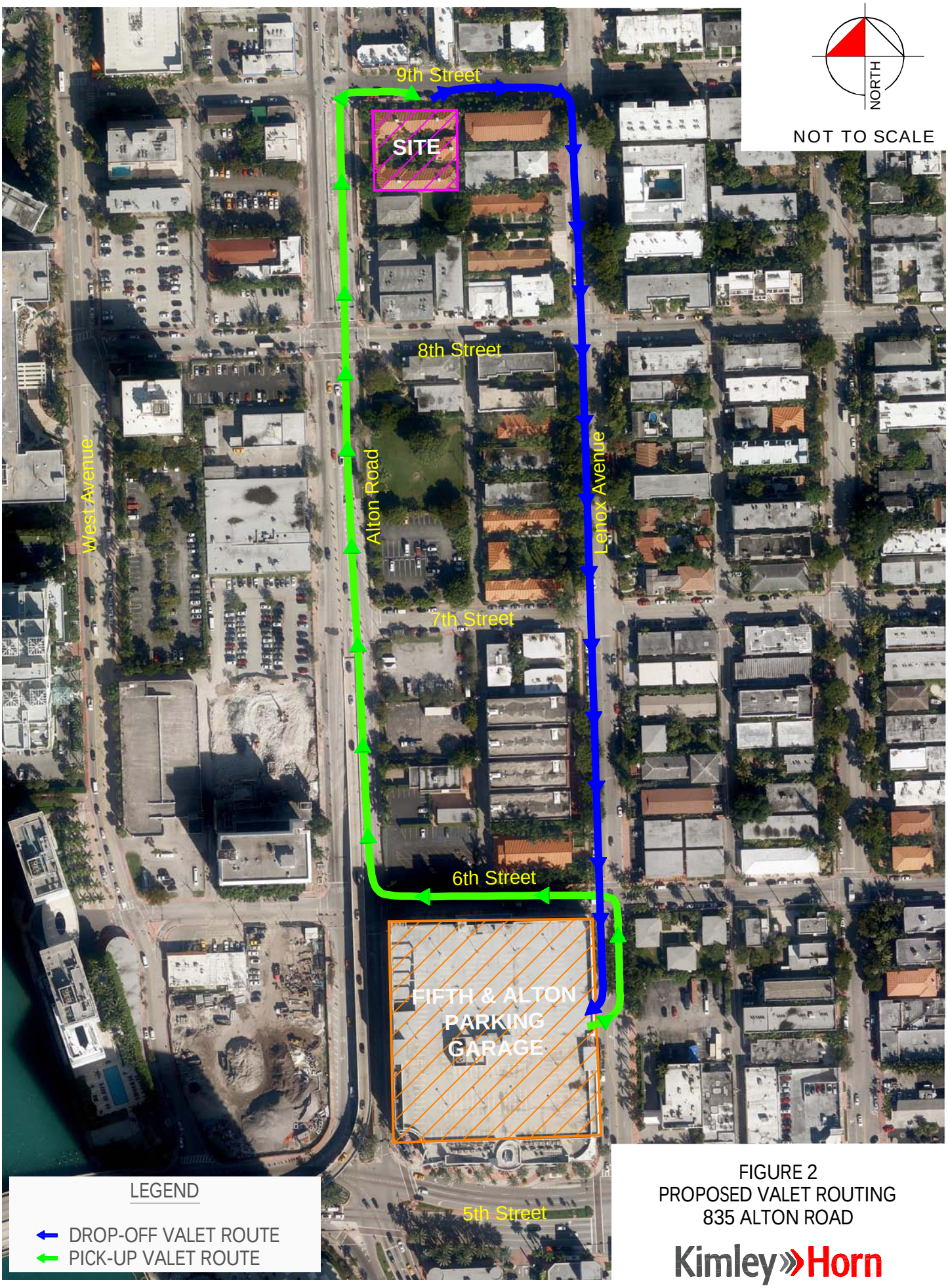


FIGURE 2
PROPOSED VALET ROUTING
835 ALTON ROAD

Kimley»Horn

Drawing name: K:\FTL_TPTO\043772000-835 Alton Road\CADD\Valet Figures_rev.dwg Figure 2 Jul 06, 2016 3:55pm by: cory.dorman

OCCUPANCY LOAD

BUILDING 1: 4,457 SQ. FT.

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
SERVICES FACILITIES	-	474 S.F.	-	-
BOUTIQUE	1 P	306 S.F.	-	-
KITCHEN	6 P	1,230 S.F.	SF/200 = 6 P	-
SEATING AREA	8 P	1,382 S.F.	SF/15 = 92 P	68 SEATS
BAR	1 P	263 S.F.	SF/15 = 18 P	11 SEATS
WAITING AREA	1 P	478 S.F.	-	-
RESTROOMS	-	324 S.F.	-	-
SUBTOTAL	17 P	4,457 S.F	116 P	79 SEATS

BUILDING 2: 4,457 SQ. FT.

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
KITCHEN	7 P	1,312 S.F.	SF/200 = 7 P	-
SEATING AREA	14 P	2,080 S.F.	SF/15 = 138 P	116 SEATS
BAR	1 P	263 S.F.	SF/15 = 18 P	11 SEATS
WAITING AREA	1 P	478 S.F.	-	-
RESTROOMS	-	324 S.F.	-	-
SUBTOTAL	23 P	4,457 S.F.	163 P	127 SEATS

BUILDING 3: 905 SQ. FT.

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
BAR	3 P	617 S.F.	SF/15 = 41 P	20 SEATS
WAITING AREA	-	236 S.F.	-	-
RESTROOMS	-	52 S.F.	-	-
SUBTOTAL	3 P	905 S.F.	41 P	20 SEATS

EXTERIOR AREA: 7,064 SQ. FT.

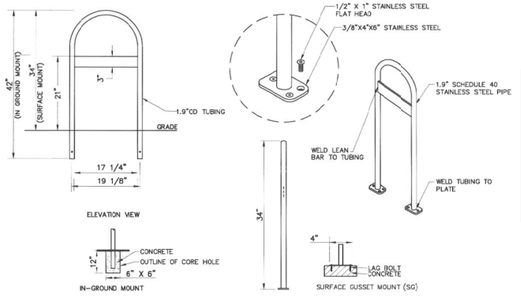
USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
COURTYARD UNDER PERGOLAS	7 P	1,874 S.F.	SF/15 = 124 P	64 SEATS
COURTYARD UNDER UMBRELLAS	4 P	4,112 S.F.	SF/15 = 274 P	40 SEATS
ENTRY	-	488 S.F.	-	-
TERRACE	2 P	590 S.F.	SF/15 = 40 P	32 SEATS
SUBTOTAL	13 P	7,064 S.F.	438 P	136 SEATS

USE	EMPLOYEES	AREA (S.F.)	REQUIRED MAX.	PROPOSED SEATS
TOTAL	56 P	16,883 S.F.	758 P	362 SEATS

BICYCLE PARKING LOAD		
MIN. SHORT TERM BICYCLE PARKING SPACES	1 PER 10 SEATS	36 BICYCLES
MIN. LONG TERM BICYCLE PARKING SPACES	1 PER 10% EMPLOYEES	6 BICYCLES

WALL LEGEND

- EXISTING TO REMAIN
- NEW EXTERIOR & INTERIOR C.M.U. WALL
- NEW INTERIOR PARTITION WALL



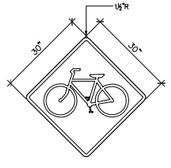
BICYCLE U RACK DETAIL
NOT TO SCALE

NOTES:

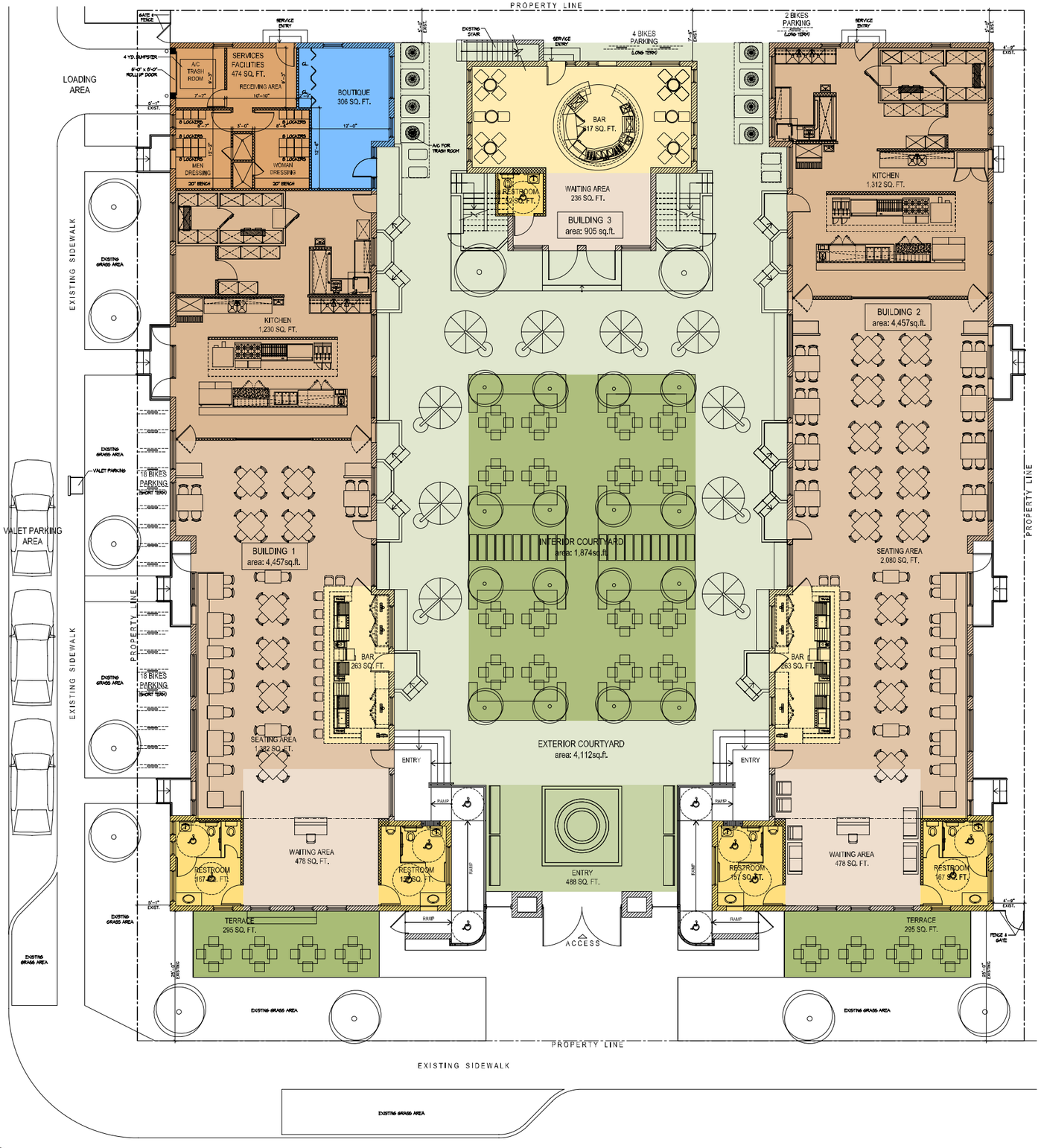
1. STAINLESS STEEL SCHEDULE 40 SATIN #4 POLISH
2. 1/2"x1" (OR LONGER AS NEEDED) STAINLES STEEL FLAT HEAD, SOCKET HEAD CAP SCREW SECURE BIKE RACK TO MOUNT.
3. FLUSH BOLTS TO BE USED WITH 1/2"x13" THREADED RECEIVERS FOR SURFACE MOUNT, OR IN-GROUND POST WITH MATCHING PLATE, WHERE NEEDED
4. WHEN USING MORE THAN ONE LOOP, SEPARATION BETWEEN EACH LOOP WILL BE A MINIMUM OF 28"
5. CONCRETE 2,500 PSI.

NOTES:

1. ALL SIGNS SHALL BE ERECTED IN ACCORDANCE WITH ALL LOCAL CODES AND SOIL CONDITIONS.
2. DESIGNS ARE PER 145 MPH WIND LOADS (VERIFY LOCAL WIND AND SOIL CONDITIONS).
3. ALL SIGNAGE WILL COMPLY WITH THE "MANUAL ON UNIFORM TRAFIC CONTROL DEVICES" BY U.S. DEPARTMENT OF TRANSPORTATION-FEDERAL HIGHWAY ADMINISTRATION



BICYCLE PARKING SIGN
NOT TO SCALE



GENERAL FLOOR PLAN AREAS
SCALE: 1/8" = 1'-0"

FIGURE 3

ALTON ROAD

CROSSBOWER CORP. — General Contractors

PROFESSIONAL SEAL

CHRISTIAN BALLESTEROS
■ AR.14201 ■ ID.4319 ■ CGC.47236 ■
3247 N.E. 168 STREET
NORTH MIAMI BEACH, FL.33160
PH: 786-955 8504

PROJECT NAME

ALTON ROAD RESTAURANTS & PATIO

PROJECT ADDRESS

835 ALTON ROAD
MIAMI BEACH, FL 33139

REVISION

Project No:	2014-181
Scale:	AS NOTED
Date:	11-25-2014
Drawn:	E.F.
Checked:	J.V.
CADD File:	835 ALTON RD [AREAS] 03-08-16.dwg

DRAWN

JOSE VALERO
Drafting Services Inc
PH-954-7734410
e-valerejose@att.net

DRAWING TILE

GENERAL FLOOR PLAN AREAS

SHEET NO.

A-1

Attachment B

PROPOSED WEEKDAY PM PEAK HOUR OF GENERATOR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			MULTIMODAL REDUCTION		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	Quality Restaurant	9	931	362	seat	62%	38%	68	41	109	0.0%	0	68	41	109	10.0%	11	61	37	98
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
		ITE Land Use Code		Rate or Equation			**Total:**		68	41	109	0.0%	0	68	41	109	10.0%	11	61	37	98
		931		Y=0.3(X)										**Taxi/Shared Ride Reduction (20.0%)**					12	8	20
														Valet Trips					49	29	78

PROPOSED WEEKEND PEAK HOUR OF GENERATOR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			MULTIMODAL REDUCTION		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	Quality Restaurant	9	931	362	seat	59%	41%	71	50	121	0.0%	0	71	50	121	10.0%	12	64	45	109
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
		ITE Land Use Code		Rate or Equation				**Total:**	71	50	121	0.0%	0	71	50	121	10.0%	12	64	45	109
		931		Y=0.38*(X)+-16.72										**Taxi/Shared Ride Reduction (20.0%)**					13	9	22
														Valet Trips					51	36	87

Attachment C

Valet Drop-off/Pick-Up Calculated Travel Time

Fifth & Alton Parking Garage Calculated Travel Time

VALET DROP-OFF	
VEHICLE TRAVEL TIME	VALET ATTENDANT TRAVEL TIME
Travel Times (Assume 15 mph speed)	Travel Times (Assume 5 ft/s speed)
To Valet Garage (In vehicle) →	Return from Valet Garage (Walk/Run) to Valet Area
Distance: 1.06 miles	Travel Time: 4.2 minutes
Distance: miles	Travel Time: 0 minutes
Controlled Delay: 1.0 Minutes	
Total Time: 5.2 Minutes	

Fifth & Alton Parking Garage Calculated Travel Time

VALET PICK-UP	
VALET ATTENDANT TRAVEL TIME	VALET ATTENDANT TRAVEL TIME
Travel Times (Assume 5 ft/s speed)	Travel Times (Assume 15 mph speed)
To Valet Garage (Walk/Run) →	Return from Valet Garage (In Vehicle) to Valet Area
Distance: miles	Travel Time: 0 minutes
Distance: 1.12 miles	Travel Time: 4.5 minutes
Controlled Delay: 1.0 Minutes	
Total Time: 5.5 Minutes	

Attachment D

Weekend (Highest Demand Condition) Peak Hour of Generator

Arrival Rate

IN	OUT	
51	36	veh/hr

Service Rate

IN	OUT	
6.00	6.00	mins/veh

Control Delay = min

Service Time = 6.00 mins/veh

Number of Valet Attendants (N) = 12

Level of Confidence = 0.90

Storage Provided On-Site = 2 vehicles

Total Entering and Exiting Vehicles(q) = 87 veh/hr

Service Capacity per N (60 mins/Service Rate) (Q) = 10.00 veh/hr/pos

Average Service Rate (t) = 6.00 mins/veh

rho (t/Q) = 0.725

Expected (avg.) number of vehicles in the system	E(m)=	0.59	
Expected (avg.) number of vehicles waiting in queue	E(n)=	9.29	
Mean time in the queue	E(w)=	0.40	mins
Mean time in system	E(t)=	6.40	mins

Proportion of customers who wait (P) (E(w) > 0)=		22.25%
Probability of a queue exceeding a length (M) P(x > M)=		10.00%

Queue length which is exceeded 10.00% of the times is equal to 1.3 vehicles

Average (Typical Demand Condition) Peak Hour of Generator

Arrival Rate

IN	OUT	
13	9	veh/hr

Service Rate

IN	OUT	
6.00	6.00	mins/veh

Control Delay = min

Service Time = 6.00 mins/veh

Number of Valet Attendants (N) = 4

Level of Confidence = 0.90

Storage Provided On-Site = 2 vehicles

Total Entering and Exiting Vehicles(q) = 22 veh/hr

Service Capacity per N (60 mins/Service Rate) (Q) = 10.00 veh/hr/pos

Average Service Rate (t) = 6.00 mins/veh

rho (t/Q) = 0.550

Expected (avg.) number of vehicles in the system	E(m)=	0.28	
Expected (avg.) number of vehicles waiting in queue	E(n)=	2.48	
Mean time in the queue	E(w)=	0.76	mins
Mean time in system	E(t)=	6.76	mins

Proportion of customers who wait (P) (E(w) > 0)= 22.68%

Probability of a queue exceeding a length (M) P(x > M)= 10.00%

Queue length which is exceeded 10.00% of the times is equal to 0.2 vehicles