



NORTH MIAMI BEACH MIXED-USE

T R A F F I C S T U D Y



Since 1978

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EXECUTIVE SUMMARY

The N Miami Mixed-Use project will be located north of NE 164th Street between NE 19th Avenue and NE 20th Street in North Miami Beach, Florida. The proposed project will replace an existing 17,751 SF of retail and a 1,773 SF restaurant with a mixed-use development consisting of 700 dwelling units, 8,817 SF of office space, and 22,545 SF of retail space. Access to the site will be through a two-way driveway located on the existing alley located north of the project site and via a two-way driveway located along NE 164th Street. The project site is located within the North Miami Beach CRA boundary which is a Traffic Concurrency Exemption Area. For the purpose of this traffic analysis, project build-out is anticipated by 2023.

An assessment of the traffic impacts associated with the N Miami Mixed-Use project was performed in accordance with the requirements of the City of North Miami Beach. The results of the roadway capacity analysis show that the NE 163rd Street and NE 164th Street roadway segments currently operate and will continue to operate within the FDOT established capacity and the City of North Miami Beach adopted level of service (LOS) standards. The results of the intersection analysis indicate that the all of the studied intersections are projected to continue to operate within the overall City's LOS standards during the AM and PM peak hours and adequate operations at the project driveways. For future without project and future with project conditions, the northbound approach of the NE 22nd Avenue / NE 163rd Street intersection experiences delays during the AM and PM peak hours and delays at the southbound approach during the PM peak hour. The Biscayne Boulevard / NE 163rd Street intersection experiences delays at the westbound approach during the PM peak hour. Signal timing improvements are recommended to improve approach delays at these intersections.

The roadway segments of NE 163rd Street from NE 19th Avenue and Biscayne Boulevard and NE 164th Street from NE 19th Avenue to NE 22nd Avenue were evaluated based on Policy 1.1.2 and Policy 1.1.3 of the Transportation Element of the North Miami Beach Comprehensive Plan. The analysis shows that this segment of NE 163rd Street meets the LOS and capacity standards established in Policy 1.1.2 at existing, future without project, and future with project conditions.

The project also meets the transit proximity requirement standard for SIS facilities established in Policy 1.1.3. Therefore, the project qualifies for a transportation concurrency exception.

The project area is currently served by the City of North Miami Beach shuttle and Miami-Dade Transit bus routes 3, 75, 93, 105, 210, and 108. The project is located in an area that is conducive for pedestrian activities providing ample sidewalks and pedestrian crosswalks. Pedestrian mobility, within and around the site, is also encouraged by providing on-site bicycle storage. The availability of transit and the existing pedestrian / bicyclist infrastructure will encourage the use of other modes of transportation and will reduce the project's vehicular impacts on the roadway network.

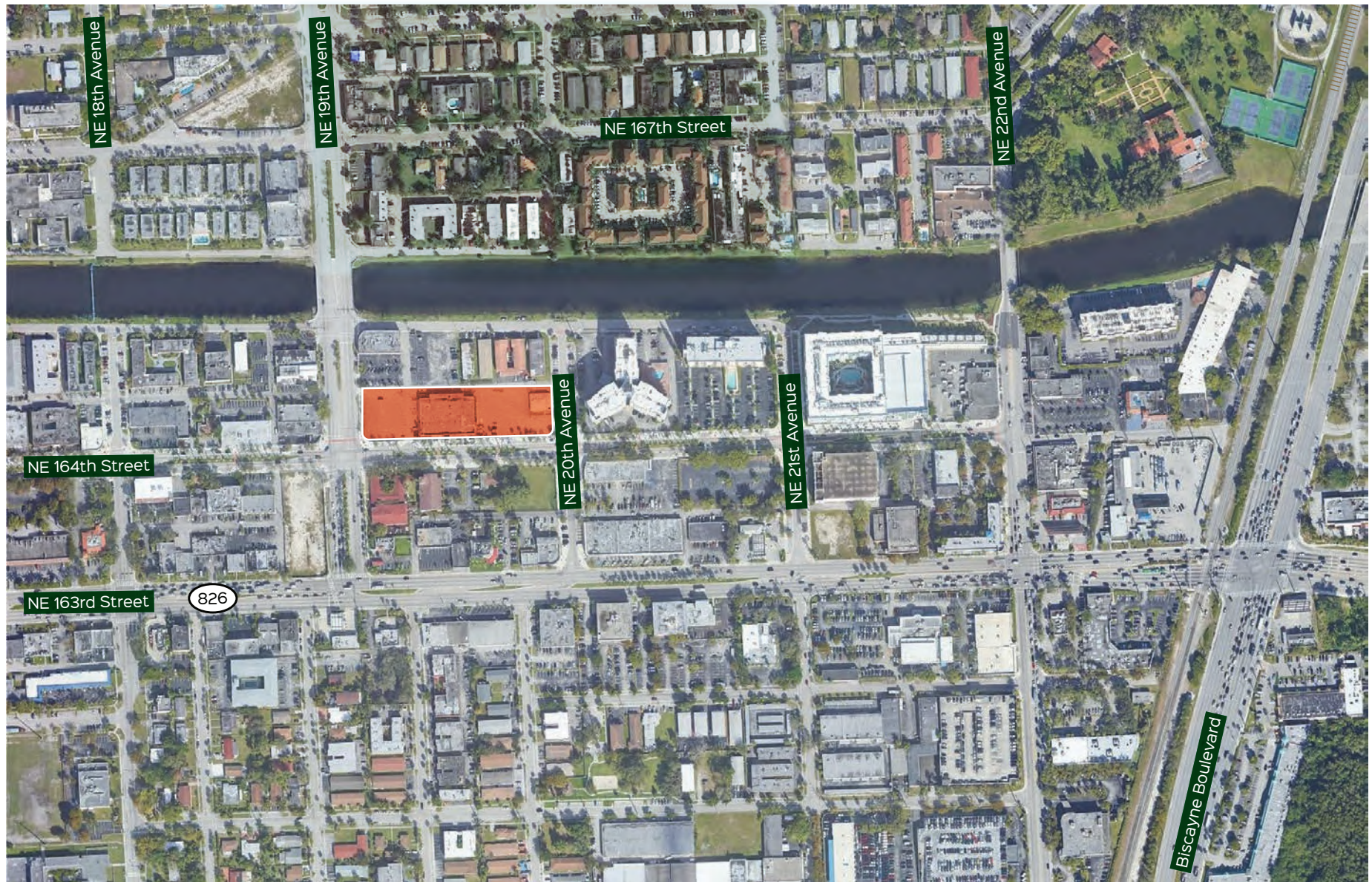
1.0 INTRODUCTION

1.1 Project Background

The N Miami Mixed-Use project will be located north of NE 164th Street between NE 19th Avenue and NE 20th Street in North Miami Beach, Florida (see Exhibit 1). The proposed project will replace an existing 17,751 SF of retail and a 1,773 SF restaurant with two connected mixed-use residential towers consisting of 700 dwelling units, 8,817 SF of office space, and 22,545 SF of retail space. Access to the site will be through a two-way driveway located on the existing alley located north of the project site and via a two-way driveway located along NE 164th Street. The project site is located within the boundaries of the North Miami Beach CRA which is a Traffic Concurrency Exemption Area. For the purpose of this traffic analysis, project build-out is anticipated by 2023. The proposed site plan is included in Appendix A.

1.2 Study Objective

A traffic study was conducted in order to assess the impacts of this project on the external roadway network. The study is based on the methodology submitted and approved by the City of North Miami Beach and consistent with the City of North Miami Beach comprehensive plan. The study addresses trip generation, access to the site, and the traffic impacts on the nearby transportation network.



 Project Location

Exhibit 1

Location Map

1.3 Study Area and Methodology

The analysis undertaken is consistent with the City of North Miami Beach comprehensive plan. The following is a brief description of the study methodology (see Appendix B for the approved methodology):

Study Area

The study area for the project includes the following intersections:

- NE 163rd Street / NE 19th Avenue
- NE 164th Street / NE 19th Avenue
- NE 164th Street / NE 20th Avenue
- NE 164th Street / NE 22nd Avenue
- NE 163rd Street / NE 22nd Avenue
- NE 163rd Street / US-1 / Biscayne Boulevard
- NE 163rd Street / NE 20th Avenue
- NE 167th Street / NE 19th Avenue
- NE 165th Street / Existing Alley
- NE 20th Avenue / Existing Alley

The study area for the project includes the following roadway segments:

- NE 164th Street between NE 19th Avenue and NE 22nd Avenue
- NE 163rd Street between NE 19th Avenue and NE 22nd Avenue

Analysis Scenarios

The analysis scenarios for this study are as follows:

- Existing year
- Project build-out year (2023) without project trips (background traffic)
- Project build-out year (2023) with project trips (total traffic)

Data Collection

- Turning movement counts (TMCs) will be collected during the morning (7 – 9 am) and afternoon (4 – 6 pm) peak hour conditions of a regular weekday at the study intersections.

- Seventy-two-hour tube counts will be collected on NE 164th Street between NE 19th Avenue and NE 22nd Avenue and on NE 163rd Street just east of NE 20th Avenue near existing FDOT permanent count station 875225.
- Collected counts will be modified for COVID-19 traffic patterns. This volume adjustment will be made comparing historical traffic data for NE 163rd Street. Existing FDOT traffic count station 875225 data will be compared against a newly collected 72 hour tube count at same location.
- Collected counts were adjusted to reflect AM and PM peak hour peak season conditions for the intersection analysis. Traffic volumes were adjusted by applying the corresponding peak season conversion factors obtained from the latest *Florida Department of Transportation (FDOT) Peak Season Factor Category Report*.
- Field reviews were performed to obtain existing physical and operating characteristics of the roadway network within the study area. Data acquired includes the number and type of traffic lanes, intersection geometrics, signal timings, speed limit information, and other appropriate physical and operating characteristics.
- Future Transportation Projects – The 2021 TIP and the 2045 LRTP were reviewed and considered in the analysis at project build-out.

Existing Conditions Intersection Capacity Analysis

- Intersection capacity analyses will be evaluated for the study area intersections using the Synchro software. Access driveways will be included as part of the LOS analysis. All input files will be provided for review purposes.

Background Traffic

- Future background traffic volumes were determined by applying a compound growth rate to existing volumes and adding committed development traffic. The growth rate was calculated based on a review of historical volumes obtained from FDOT and Miami-Dade County. If the historical growth rate was calculated to be less than 0.5 percent, a 0.5 percent annual growth rate will be used for analysis purposes.
- Committed trips for approved but unbuilt development projects were added to background traffic to obtain future without project traffic.

Project Trip Generation and trip distribution

Using information contained in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 10th Edition, trips associated with the proposed development were estimated. Pass-by capture rates and internal capture rates were established based on the ITE, *Trip Generation Manual, Users Guide and Handbook*, 3rd Edition. Net new external project traffic was assigned to the adjacent street network using the cardinal distribution from the *Miami-Dade Long Range Transportation Plan Update*, published by the *Transportation Planning Organization (TPO)*. Normal traffic patterns were also considered when assigning project trips.

Future Conditions Intersection Analysis – Total Traffic Conditions

- Future total traffic volumes were determined by summing project trips and background traffic volumes.
- Intersection capacity analyses were evaluated using the Synchro software. Access driveways were included as part of the LOS analysis.

Roadway Capacity Analysis

Using data collected, AM and PM peak hour LOS analyses were conducted for existing, future without project (2023), and future with project (2023) traffic conditions. Roadway segment volumes were compared to the Florida Department of Transportation (FDOT) published service volumes.

1.4 Project Site Information

The N Miami Mixed-Use project will be located north of NE 164th Street between NE 19th Avenue and NE 20th Street in North Miami Beach, Florida which is within the boundaries of the North Miami Beach CRA. The proposed development will consist of 700 dwelling units, 8,817 SF of office, and 22,545 SF of retail space. Access to the site will be through a two-way driveway located on the existing alley located north of the project site and a main two-way driveway located along NE 164th Street. The driveways will provide access to the site's parking garage. Bicycle storage will be provided on the ground floor of both the east and west sides of the building. The loading area for the site is located on the north side of the east tower garage. Access to the loading area is also provided by the main driveway on NE 164th Street and the existing alley-way located north of the site.

2.0 DATA COLLECTION

Data collection for this study included roadway characteristics, intersection traffic counts, signal timing, and seasonal adjustment factors. The data collection effort is described in the following sections.

2.1 Roadway Characteristics

NE 163rd Street (SR-826)

NE 163rd Street is a principle arterial roadway that provides east / west access within the project area. NE 163rd Street is a two-way, six-lane divided roadway. The speed limit is 35 mph within the study limits. FDOT has jurisdiction over NE 163rd Street.

NE 164th Street

NE 164th Street is a two-way, two lane, divided, local roadway that provides east / west access within the project area. On street parking is permitted within designated areas along the roadway. The posted speed limit is 25 mph within the study limits. The City of North Miami Beach has jurisdiction over NE 164th Street.

NE 20th Avenue

NE 20th Avenue is a two-way, two-lane, undivided, local roadway that provides north / south access within the project area. On street parking is permitted within designated areas along the roadway. No speed limit is posted within the study limits. The City of North Miami Beach has jurisdiction over NE 20th Avenue.

NE 19th Avenue

NE 19th Avenue is a two-way, six-lane, divided, collector roadway that provides north / south access between NE 163rd Street and northern N Miami Beach. The posted speed limit is 30 mph within the study limits. The City of North Miami Beach has jurisdiction over NE 19th Avenue.

NE 22nd Avenue (West Dixie Highway, SR-909)

NE 22nd Avenue is a minor arterial roadway that provides north / south access within the project area. NE 22nd Avenue is a two-way, four-lane, undivided roadway south of Snake Creek Canal

and a two-way, two-lane, undivided roadway north of Snake Creek Canal. On-street parking is available along portions of the roadway. The speed limit is 30 mph within the study limits. FDOT has jurisdiction over NE 22nd Avenue.

Biscayne Boulevard (US-1)

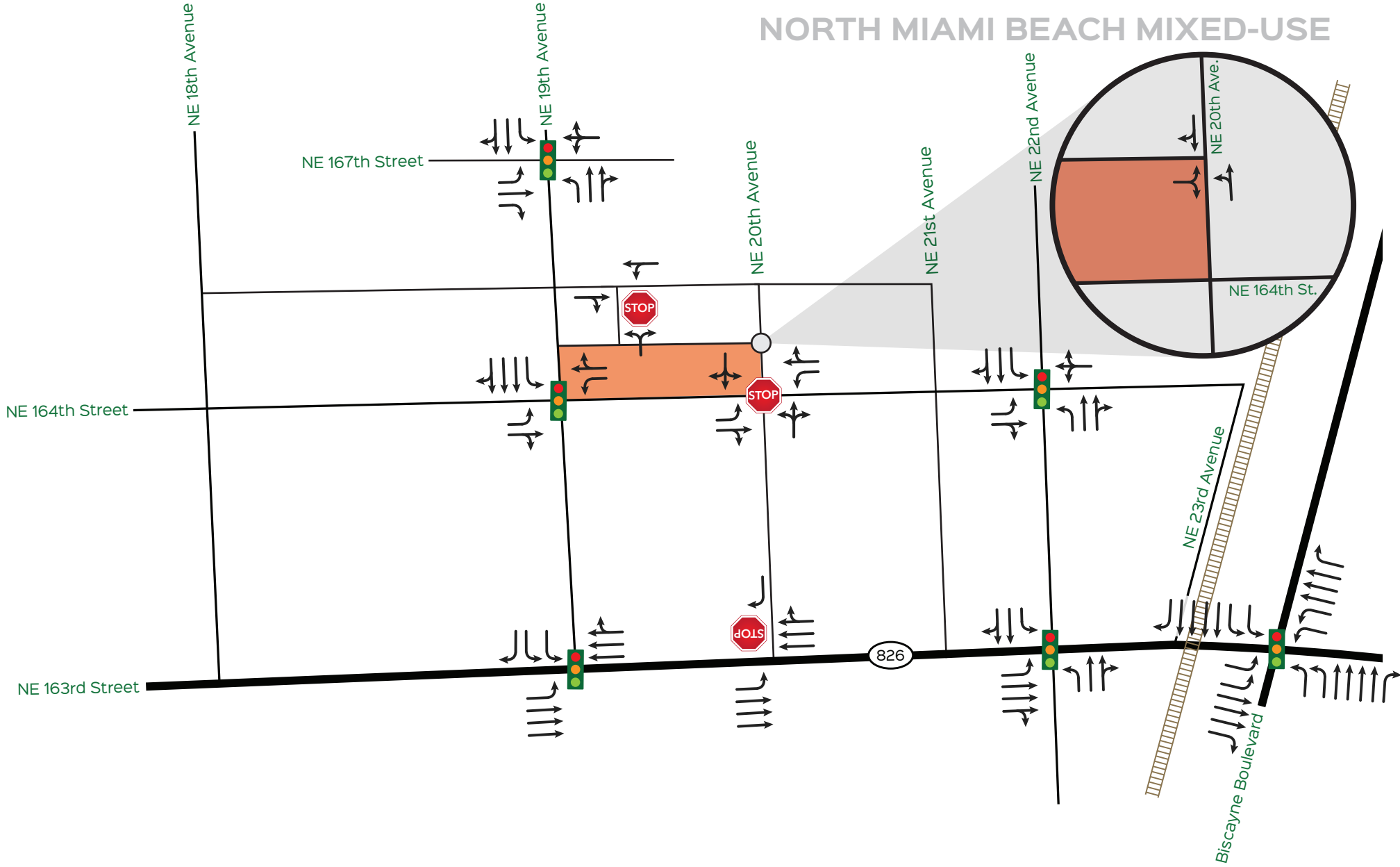
Biscayne Boulevard is a two-way, eight-lane, divided, principle arterial roadway that provides north / south access within the project area. The speed limit is 45 mph within the study limits. FDOT has jurisdiction over Biscayne Boulevard.

2.2 Traffic Counts

72-hour tube counts were collected on NE 164th Street between NE 19th Avenue and NE 22nd Avenue and on NE 163rd Street between NE 19th Avenue and NE 22nd Avenue from August 24 – August 26, 2021. A weekly volume peak season conversion factor of 1.10 (Miami-Dade County north) was used, corresponding to the dates of the counts, to adjust the raw traffic counts to peak season conditions. The 72-hour counts for NE 163rd Street were then compared to the existing 72-hour tube count data for FDOT traffic count station 875225 to obtain a Covid-19 traffic adjustment factor for the area during the AM and PM peak hours. (A weekly volume peak season conversion factor of 1.14 corresponding to the dates of the FDOT counts was also applied to adjust the raw traffic counts to peak season conditions before calculating the Covid-19 factor). The calculations resulted in a Covid-19 factor of 1.07. Vehicle turning movement counts (TMCs) for the studied intersections were collected on August 25, 2021 for the AM and PM peak hours. The counts were then modified from the Covid-19 traffic patterns using the calculated Covid-19 factor (1.07). Traffic counts and the Covid-19 factor calculations are available in Appendix C.

2.3 Intersection Data

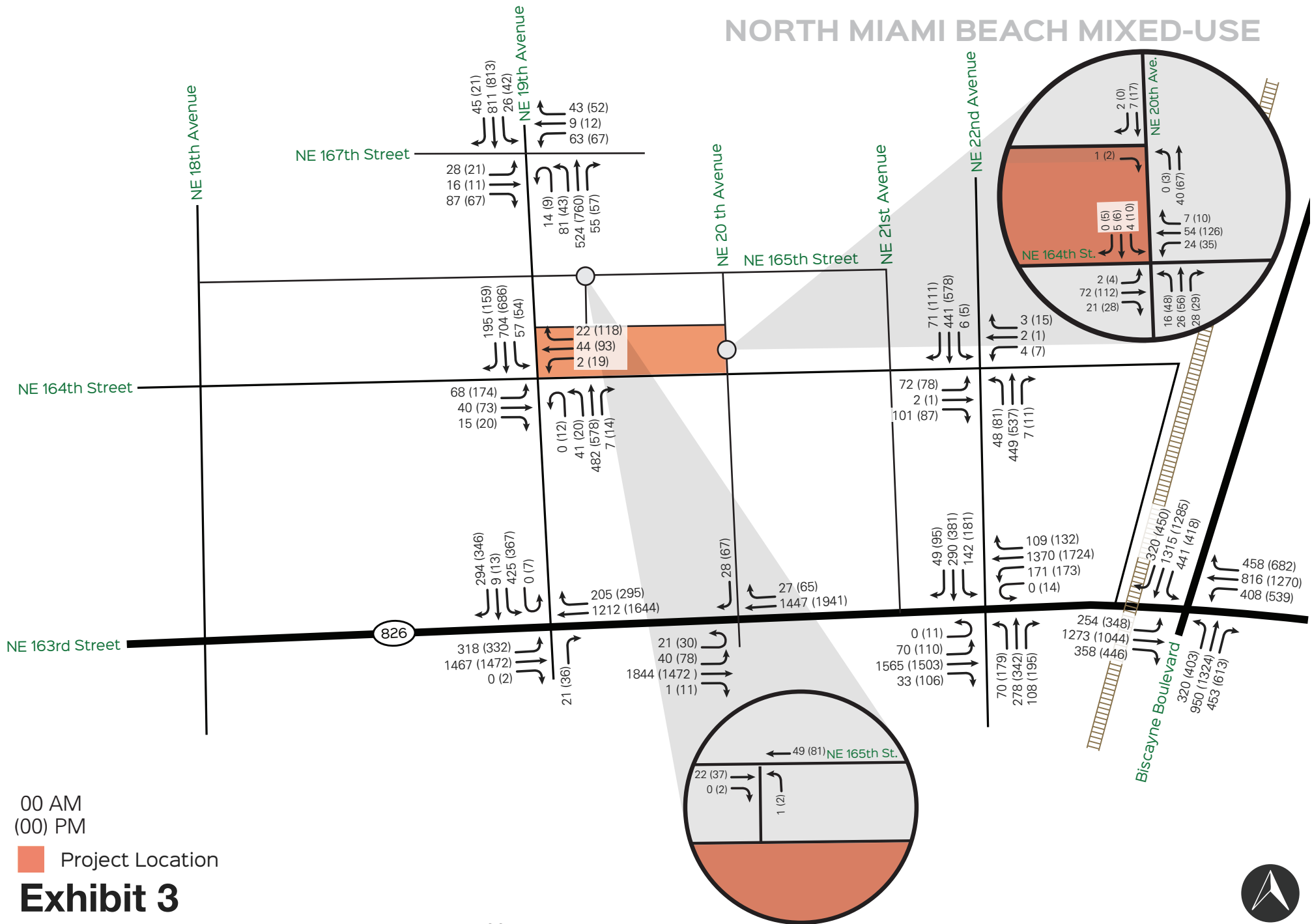
Signal timing data was obtained from Miami-Dade County for the signalized intersections analyzed in this study. This information was used for the signal phasing and timing required for the intersection capacity analysis. A field survey was also conducted to obtain the intersection lane configurations to be used in the intersection analysis. Exhibit 2 shows the existing lane configurations at the analyzed intersections. Existing volumes for the morning and afternoon peak hours at the intersections analyzed are presented in Exhibit 3. Signal timings are provided in Appendix C.



Project Location

Exhibit 2

Existing Lane Configurations



2.4 Intersection Capacity Analysis

The Synchro software was used to perform intersection capacity analysis at the analyzed intersections. Synchro is a macroscopic analysis and optimization software application that implements the Intersection Capacity Utilization method for determining intersection capacity. Synchro also supports the Highway Capacity Manual's methodology for signalized / un-signalized intersections. Exhibit 4 shows the resulting LOS for the existing weekday AM and PM peak hour conditions. The analysis indicates that all of the studied intersections currently operate within the City's overall LOS standards. Intersection capacity analysis worksheets are included in Appendix D.

**Exhibit 4: Existing Intersection Capacity Analysis
Weekday AM and PM Peak Hour Conditions**

Intersection	Signalized/ Unsignalized	Direction	AM Peak		PM Peak		LOS Std
			LOS	Delay (sec)	LOS	Delay (sec)	
NE 19 th Avenue / NE 163 rd Street	S	SB EB WB <i>Overall</i>	D A B B	48.8 4.2 18.6 17.6	E B C C	67.8 19.4 26.4 30.3	E+50 E+20 E+20 E
NE 19 th Avenue / NE 164 th Street	S	NB SB EB WB <i>Overall</i>	A A D D B	5.9 6.7 45.2 53.1 11.2	B B C D C	14.9 15.3 30.9 47.7 20.9	E+50 E+20 E+20 E+20 E
NE 20 th Avenue / NE 164 th Street	U	NB SB EB WB <i>Overall</i>	A A A A A	7.7 7.7 8.2 8.1 8.0	A A A A A	9.3 8.3 9.5 9.4 9.4	D D E+20 E+20 E
NE 22 nd Avenue / NE 164 th Street	S	NB SB EB WB <i>Overall</i>	A A C C A	4.6 9.1 27.2 22.0 9.9	A A E E B	0.5 6.2 76.5 70.4 12.5	E+50 E+50 E+20 E+20 E
NE 22 nd Avenue / NE 163 rd Street	S	NB SB EB WB <i>Overall</i>	E+12 E C A C	92.3 66.5 24.1 3.5 28.2	E+20 E+2 C C D	99.9 82.3 32.7 21.4 43.9	E+50 E+50 E+20 E+20 E
Biscayne Boulevard / NE 163 rd Street	S	NB SB EB WB <i>Overall</i>	E E D E E	60.9 73.4 48.0 61.1 61.2	E E D E E	72.9 66.4 40.9 78.5 65.2	E+50 E+50 E+20 E+20 E
NE 20 th Avenue / NE 163 rd Street	U	NB SB	A C	0 18.8	C D	20.8 33.3	D D
NE 19 th Avenue / NE 167 th Street	S	NB SB EB WB <i>Overall</i>	A A D D B	4.4 9.9 41.4 45.0 12.3	A B D D B	6.0 10.5 42.0 46.3 12.5	E+20 E+20 D D E
NE 165 th Street / Alley	U	NB	A	9.1	A	9.4	D
NE 20 th Avenue / Alley	U	EB	A	8.4	A	8.5	D

Source: David Plummer & Associates

3.0 PLANNED AND PROGRAMED ROADWAY IMPROVEMENTS

The 2021 Miami-Dade County *Transportation Improvement Program* (TIP) and the *2045 Long Range Transportation Program* (LRTP) were reviewed to identify any programmed projects within the limits of the established study area. These documents show the following projects within the study area:

TIP Improvements

DT4402811– NE 163rd Street (SR-826) from NW 2nd Avenue to NE 35th Avenue, signalized intersection lighting.

DT4442991– Snake Creek Trail Extension to Greynolds Park, Bike path/trail extension.

DT4460691- Snake Creek Trail Access and Path Improvements, Bike path/trail improvements.

PW000764– West Dixie Highway from NE 163rd Street to NE 175th Street, Widen from 2 to 4 lanes.

LRTP Improvements

North Miami Beach Station – Biscayne Boulevard (US-1 / SR-5) and NE 163rd Street (SR-826), construct a park-and-ride terminal with 100 parking spaces.

SR 5 (US 1/Dixie Hwy)/ FEC railroad – East / west grade separated Overpass over the FEC rail line.

SR 826 / NE 167th Street / Miami Beach Blvd – from I-95 to US 1, Congestion Management.

Smart Trails NE 164th Street - from Snake Creek Greenway to NE 23rd Avenue, dedicated on-road bicycle and pedestrian facility improvement.

As the section of West Dixie Highway from NE 163rd Street to the bridge north of NE 164th Street and south of NE 163rd Street within the project area has already been widened, there are no capacity improvements identified in this area. Therefore, it was not reflected in the future conditions. Roadway project documentation is included in Appendix E.

4.0 FUTURE TRAFFIC CONDITIONS

4.1 Background Traffic

Average Daily Traffic counts published by the Miami-Dade Public Works Department and the FDOT were reviewed to determine historic growth in the area. This analysis indicated that the annual growth rate in the area is 0.4% however, a 0.5% growth rate was used for a more conservative analysis. Historic growth rate documentation is included in Appendix C.

The City was consulted to determine any committed developments in the vicinity of the project site. The following projects were found in the area and were considered as committed developments: Regions Bank, Self-Storage, New North Tower Center, Uptown Biscayne Boulevard, and SkyGarden. Committed development information is included in Appendix E. Turning movement volumes for future without project conditions were obtained by applying two years of background growth and committed development traffic to existing volumes.

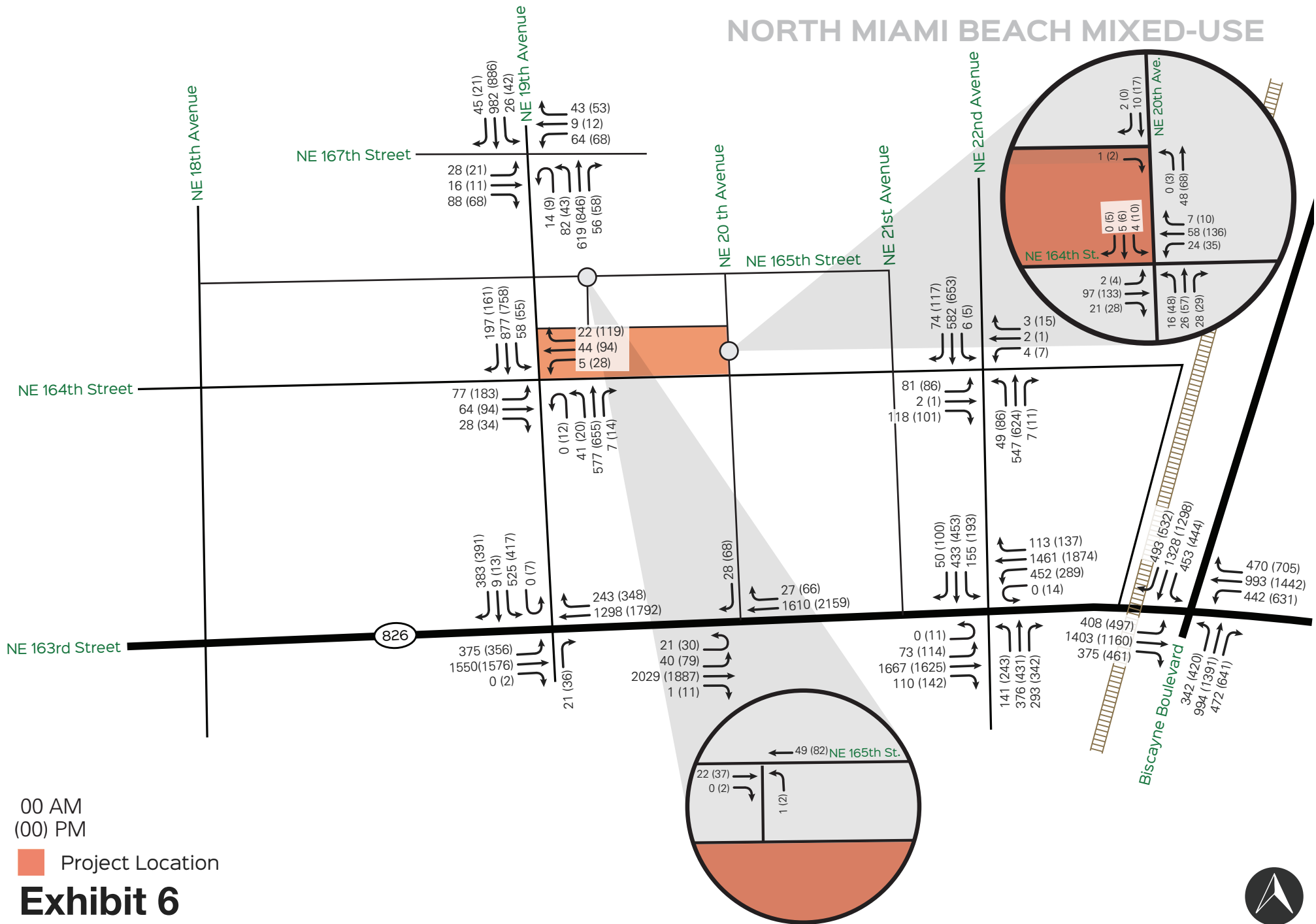
4.2 Future without Project Intersection Capacity Analysis

Future without project conditions were obtained by adding committed developments and background traffic to existing trips. Exhibit 5 shows the resulting LOS for the morning and afternoon peak hours for future without project conditions. The analysis indicates that all of the studied intersections continue to operate within the City's overall LOS standards. The NE 22nd Avenue / NE 163rd Street intersection shows delay at the northbound approach during the AM and PM peak hours and at the southbound approach during the PM peak hour. This may be due to the fact that the County gives priority to vehicles traveling east / west along NE 163rd Street, therefore accepting delays on cross streets. The Biscayne Boulevard / NE 163rd Street intersection experiences delay at the westbound approach during the PM peak hour. Exhibit 6 shows the projected turning movements for future without project traffic. Intersection capacity analysis worksheets are included in Appendix D.

**Exhibit 5: Future without Project Intersection Capacity Analysis
Weekday AM and PM Peak Hour Conditions**

Intersection	Signalized/ Unsignalized	Direction	AM Peak		PM Peak		LOS Std
			LOS	Delay (sec)	LOS	Delay (sec)	
NE 19 th Avenue / NE 163 rd Street	S	SB EB WB <i>Overall</i>	D A C C	53.4 8.6 23.3 23.1	E C C C	73.1 21.6 31.6 34.7	E+50 E+20 E+20 E
NE 19 th Avenue / NE 164 th Street	S	NB SB EB WB <i>Overall</i>	A A D D B	6.3 7.4 46.1 52.9 11.9	B B C D C	15.1 15.5 32.5 49.0 21.4	E+50 E+20 E+20 E+20 E
NE 20 th Avenue / NE 164 th Street	U	NB SB EB WB <i>Overall</i>	A A A A A	7.8 7.8 8.5 8.2 8.2	A A A A A	9.4 8.4 9.9 9.5 9.6	D D E+20 E+20 E
NE 22 nd Avenue / NE 164 th Street	S	NB SB EB WB <i>Overall</i>	A B C C B	5.3 10.6 27.2 21.6 10.8	A A E E B	0.5 7.0 76.0 69.0 12.7	E+50 E+50 E+20 E+20 E
NE 22 nd Avenue / NE 163 rd Street	S	NB SB EB WB <i>Overall</i>	F E+18 D E+6 E+14	245.7 97.7 35.9 85.5 94.1	F E+39 D D E+6	244.3 118.8 37.5 44.9 85.8	E+50 E+50 E+20 E+20 E+
Biscayne Boulevard / NE 163 rd Street	S	NB SB EB WB <i>Overall</i>	E E E E E	63.6 78.7 64.3 66.8 68.9	E+0.3 E D F E+0.8	80.2 68.1 46.4 129.6 80.6	E+50 E+50 E+20 E+20 E+
NE 20 th Avenue / NE 163 rd Street	U	NB SB	A C	0 20.9	C E	23.1 42.8	D D
NE 19 th Avenue / NE 167 th Street	S	NB SB EB WB <i>Overall</i>	A B D D B	4.7 10.8 41.3 45.0 12.3	A B D D B	6.3 10.9 41.9 46.3 12.5	E+20 E+20 D D E
NE 165 th Street / Alley	U	NB	A	9.1	A	9.4	D
NE 20 th Avenue / Alley	U	EB	A	8.4	A	8.5	D

Source: David Plummer & Associates



4.3 Project Trip Generation

Trip generation for the proposed project was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation*, 10th Edition. This manual provides gross trip generation rates and/or equations by land use type. These rates and equations estimate vehicle trip ends at a free-standing site's driveways. The proposed development plan incorporates residential, office, and retail land uses, which can satisfy the work trip and retail needs for some residents, employees, and visitors without making a trip off-site. An internalization matrix was developed to establish the appropriate number of internal project trips. Internal capture rates used are also included in Appendix F. ITE research also shows that a certain percent of retail trips are “*pass-by*” trips. These are described as trips “attracted from the traffic passing the site on an adjacent street.” These are not new trips, but trips already using the existing roadway network that stop at the proposed use and go back to their original path. Pass-by trips for this use were established based on guidelines provided in Institute of Transportation Engineers (ITE) *Trip Generation Handbook*, 3rd Edition.

Mass transit, prevalent sidewalks, pedestrian paths, and crosswalks make the study area pedestrian friendly. Data from the United States Census Bureau shows that 14% of the public within the area use other modes of transportation. The project trip generation summary is provided in Exhibit 7. ITE trip generation worksheets are provided in Appendix F.

Exhibit 7: Project Trip Generation Summary

Proposed Uses

Proposed ITE Land Use Designation ¹	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Multifamily Housing (High-Rise) <i>Land Use Code: 222</i>	700 DU	2,970	50	159	209	150	96	246
Office <i>Land Use Code: 710</i>	8,817 SF	100	30	5	35	2	10	12
Retail <i>Land Use Code: 820</i>	22,545 SF	2,184	101	62	163	87	94	181
Total Gross Trips		5,254	181	226	407	239	200	439
Internalization		AM 2.9%	-6	-6	-12	-37	-37	-74
		PM 16.9%						
Other Modes of Transportation ²		14.0%	-25	-31	-56	-29	-23	-52
Retail Passby ³ (PM)		34%	-	-	-	-21	-21	-42
Net Proposed Trips			150	189	339	152	119	271

Existing Uses

Existing ITE Land Use Designation ¹	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Retail <i>Land Use Code: 820</i>	17,751 SF	1,856	100	61	161	73	79	152
Restaurant <i>Land Use Code: 931</i>	1,773 SF	148	1	1	2	9	5	14
Total Gross Trips		2,004	101	62	163	82	84	166
Other Modes of Transportation ²		14%	-14	-9	-23	-11	-12	-23
Retail Passby ³ (PM)		34%	-	-	-	-21	-23	-44
Passby Restaurant ³ (PM)		44%	-	-	-	-3	-1	-4
Net Existing Trips			87	53	140	47	48	95

	Daily Vehicle Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Proposed	5254	150	189	339	152	119	271
Existing	2004	87	53	140	47	48	95
Difference	3250	63	136	199	105	71	176

¹Based on ITE Trip Generation, 10th Edition.

²Reduction based on US Census Data for tract 2.14.

³Based on ITE Trip Generation Handbook, 3rd Edition.

4.4 Project Trip Assignment

Project traffic was distributed and assigned to the study area using the cardinal distribution for TAZ 096 shown in Exhibit 8. The cardinal distribution gives a generalized distribution of trips from a TAZ to other parts of Miami-Dade County. The distribution can be summarized as follows: 35% to the north, 24% to the south, 9% to the east, and 32% to the west. For estimating trip distribution for the project traffic, consideration was given to conditions such as the roadway network accessed by the project traffic, roadways available to travel in the desired direction, and attractiveness of traveling on a specific roadway. The project trip distribution and trip assignments are graphically portrayed in Exhibits 9 and 10. Exhibit 11 shows the projected turning movements for future with project conditions.

Exhibit 8: Cardinal Distribution (TAZ 096)

DIRECTION	2015	2045	2023
NNE	23.1%	20.6%	22.43%
ENE	6.1%	4.5%	5.67%
ESE	4.0%	2.6%	3.63%
SSE	6.9%	7.4%	7.03%
SSW	15.4%	21.9%	17.13%
WSW	15.9%	15.7%	15.85%
WNW	15.6%	15.5%	15.57%
NNW	13.1%	11.9%	12.78%

Source: *Miami- Dade Long Range Transportation Plan*

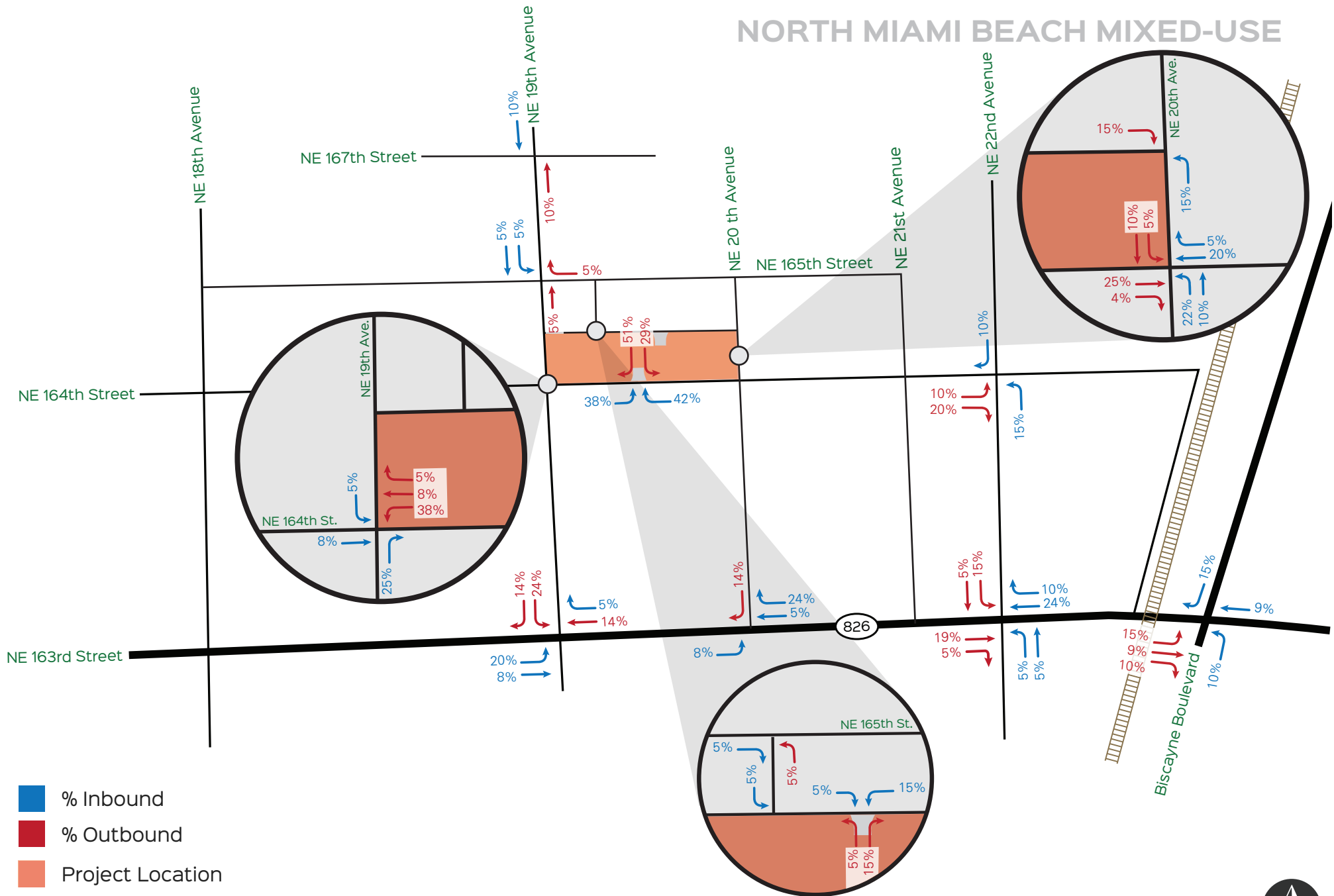
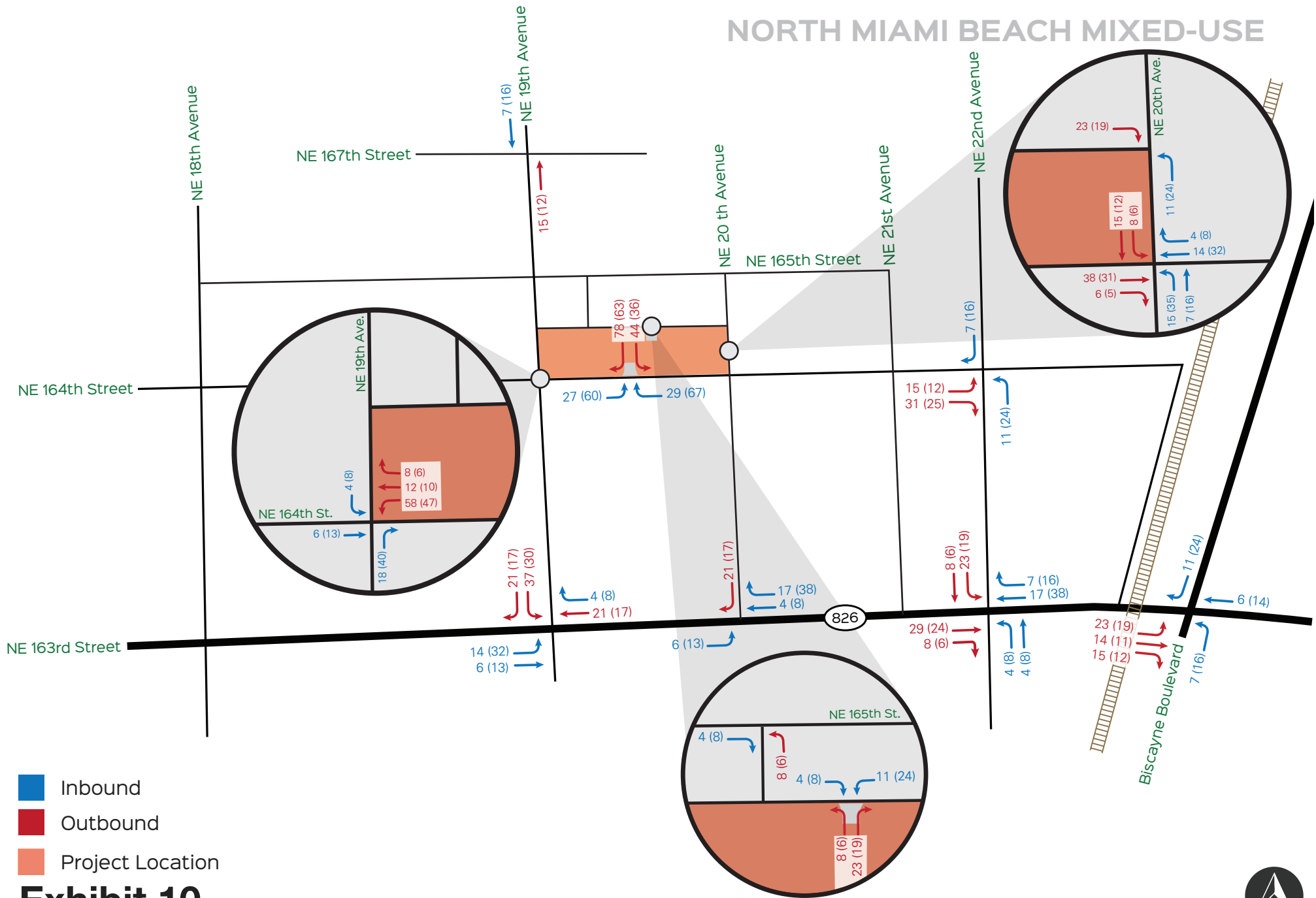
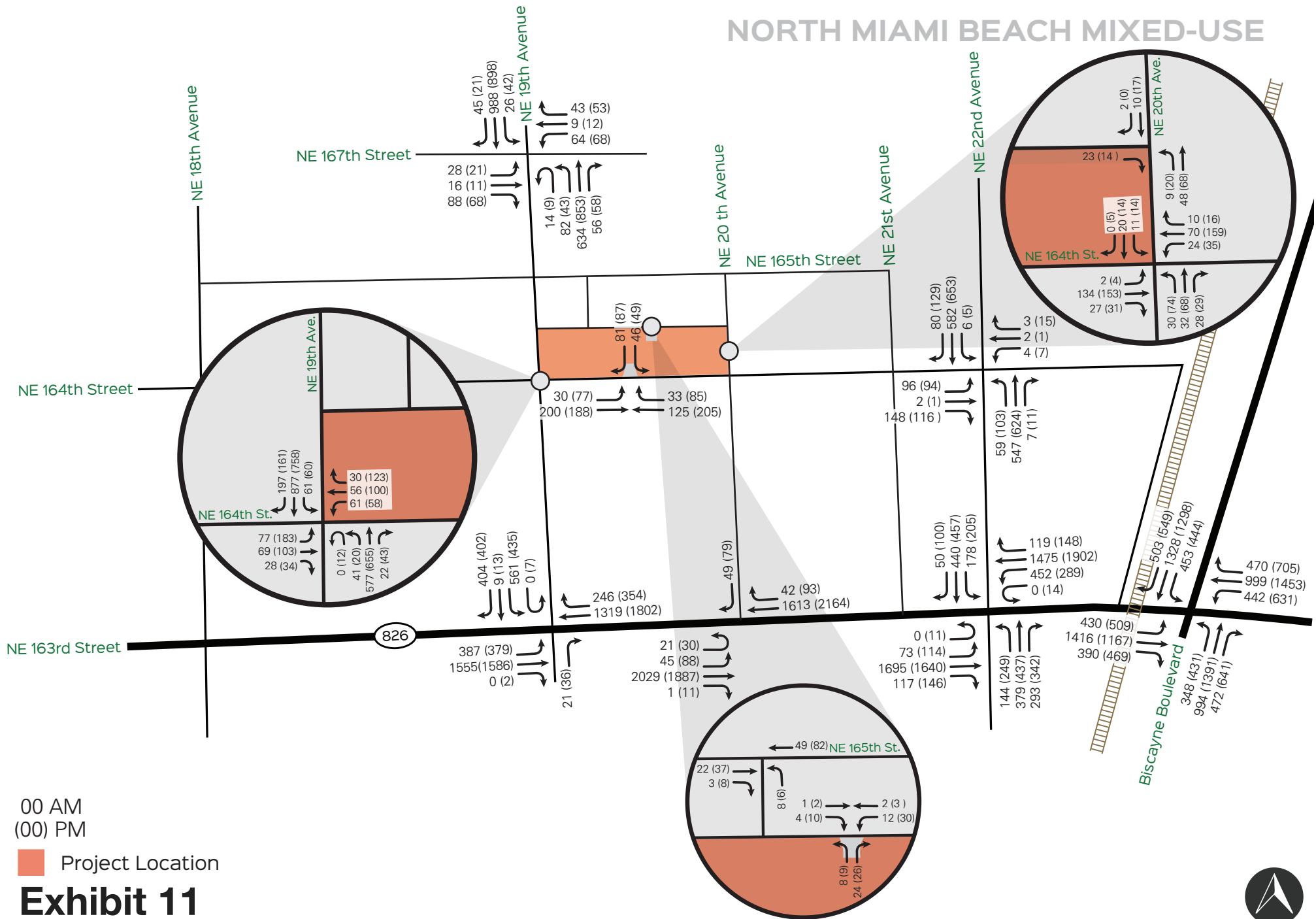


Exhibit 9

Project Trip Distribution





4.5 Future with Project Intersection Capacity Analysis

Future background traffic and traffic projections for the project were combined to obtain future with project traffic at the analyzed intersections. Exhibit 12 shows the resulting LOS for the weekday AM and PM peak hours for future with project conditions. The analysis indicates that all of the studied intersections are projected to continue to operate within the City's overall LOS standards during the AM and PM peak hours.

This may be due to the fact that the County gives priority to vehicles traveling east / west along NE 163rd Street, therefore accepting delays on cross streets. The Biscayne Boulevard / NE 163rd Street intersection experiences delay at the westbound approach during the PM peak hour.

As with future without project conditions, the NE 22nd Avenue / NE 163rd Street intersection continues to show delay at the northbound approach during the AM and PM peak hours and at the southbound approach during the PM peak hour. It should be noted that these are existing delays. The project is projected to add only approximately two (2) and 16 seconds of delay to the northbound approach during the respective AM and PM peak hours and less than three (3) seconds of delay to the southbound approach during the PM peak hour. As previously mentioned, these delays may be due to the fact that the County gives priority to vehicles traveling east / west along NE 163rd Street, therefore accepting delays on cross streets. The analysis also shows that the Biscayne Boulevard / NE 163rd Street intersection continues to experience delay at the westbound approach during the PM peak hour. It should be noted that the project adds less than two seconds to this approach. The un-signalized intersection capacity analysis results show adequate operations at the project driveways. Intersection capacity analysis worksheets are included in Appendix D.

**Exhibit 12: Future with Project Intersection Capacity Analysis
Weekday AM and PM Peak Hour Conditions**

Intersection	Signalized/ Unsignalized	Direction	AM Peak		PM Peak		LOS Std
			LOS	Delay (sec)	LOS	Delay (sec)	
NE 19 th Avenue / NE 163 rd Street	S	SB EB WB <i>Overall</i>	E A C C	56.3 9.3 24.8 24.9	E C C C	74.8 23.1 34.0 36.7	E+50 E+20 E+20 E
NE 19 th Avenue / NE 164 th Street	S	NB SB EB WB <i>Overall</i>	A A D D B	6.7 8.0 48.8 49.8 13.9	B B C D C	15.2 15.4 34.1 49.8 22.1	E+50 E+20 E+20 E+20 E
NE 20 th Avenue / NE 164 th Street	U	NB SB EB WB <i>Overall</i>	A A A A A	8.4 8.2 9.4 8.5 8.8	B A B B B	10.5 9.0 10.9 10.4 10.5	D D E+20 E+20 E
NE 22 nd Avenue / NE 164 th Street	S	NB SB EB WB <i>Overall</i>	A B C C B	6.2 12.2 27.5 21.2 12.3	A A E E B	0.7 7.6 76.0 67.5 13.6	E+50 E+50 E+20 E+20 E
NE 22 nd Avenue / NE 163 rd Street	S	NB SB EB WB <i>Overall</i>	F E+10.1 D E+10.2 E+15.9	247.5 90.1 38.5 90.2 95.9	F F D D E+9.2	260.8 121.5 37.8 45.4 89.2	E+50 E+50 E+20 E+20 E+
Biscayne Boulevard / NE 163 rd Street	S	NB SB EB WB <i>Overall</i>	E E E E E	63.8 78.9 66.3 67.7 69.7	E+0.4 E D F E+1.7	80.4 69.4 47.9 131.5 81.7	E+50 E+50 E+20 E+20 E+
NE 20 th Avenue / NE 163 rd Street	U	NB SB	A C	0 22.9	C E	23.1 49.3	D D
NE 19 th Avenue / NE 167 th Street	S	NB SB EB WB <i>Overall</i>	A B D D B	4.7 10.8 41.3 45.0 12.3	A B D D B	6.3 11.0 41.9 46.3 12.5	E+20 E+20 D D E
NE 165 th Street / Alley	U	NB	A	9.1	A	9.5	D
NE 20 th Avenue / Alley	U	EB	A	8.5	A	8.6	D
NE 164 th Street / Project Entrance	U	SB	B	11.1	B	13.9	D
Alley / Project Entrance	U	NB	A	8.6	A	8.7	D

Source: David Plummer & Associates

Signal timing improvements are recommended to improve approach delays at the NE 22nd Avenue / NE 163rd Street and Biscayne Boulevard / NE 163rd Street intersections. Exhibit 13 shows the resulting LOS for the weekday AM and PM peak hours for future with project conditions after signal timing improvements. At the NE 22nd Avenue / NE 163rd Street intersection, adding nine seconds to the northbound through movement and two seconds to the northbound left turning movements improves approach delays and the overall delay of the intersection during the AM peak hour. Adding three seconds to the northbound left turning movement, seven seconds to the northbound through movement, and three seconds to the northbound / southbound through movements improves approach delays and the overall delay of the intersection during the PM peak hour. Adding five seconds to the eastbound / westbound left turning movements will improve the westbound approach delays at the Biscayne Boulevard / NE 163rd Street intersection during the PM peak hour.

**Exhibit 13: Future with Project with Improvements Intersection Capacity Analysis
Weekday AM and PM Peak Hour Conditions**

Intersection	Signalized/ Unsignalized	Direction	AM Peak		PM Peak		LOS Std
			LOS	Delay (sec)	LOS	Delay (sec)	
NE 22 nd Avenue / NE 163 rd Street	S	NB	E+38.8	118.8	E+35.6	115.6	E+50
		SB	E+34.4	114.4	E+33.1	113.1	E+50
		EB	D	41.0	D	43.3	E+20
		WB	E+13.8	93.8	D	50.5	E+20
		<i>Overall</i>	<i>E+1.7</i>	<i>81.7</i>	<i>E</i>	<i>67.2</i>	<i>E+</i>
Biscayne Boulevard / NE 163 rd Street	S	NB			E+5.8	85.8	E+50
		SB			E+2.1	82.1	E+50
		EB	N/A	N/A	D	42.9	E+20
		WB			E+12.8	92.8	E+20
		<i>Overall</i>			<i>E</i>	<i>76.2</i>	<i>E+</i>

The approximate existing storage length and the projected 95th percentile back of queue (BOQ's) at the exclusive turn lanes for the studied intersections during the AM and PM peak hour conditions are displayed in Exhibit 14. The results show that the existing storage for the southbound left, southbound right, and eastbound left turn lanes at the NE 19th Avenue / NE 163rd Street intersection cannot accommodate the expected BOQ's during the AM and PM peak hours for existing, future without project, and future with project conditions. As the NE 19th Avenue / NE 163rd Street intersection is a T-intersection, the existing storage capacity noted as the storage for the

southbound left and southbound right turn lanes is the length of NE 19th Avenue between NE 163rd Street and NE 164th Street. This is an existing condition; the project adds only 6.6 feet (less than one vehicle) and 51 feet (less than three vehicles to the eastbound left turn lane queue during the AM peak hour and PM peak hours. The existing storage for the eastbound left and westbound left turn lanes at the NE 19th Avenue / NE 164th Street intersection cannot accommodate the expected BOQ's during the AM peak hour or the BOQ's for the eastbound left turn movement during the PM peak hour. It should be noted that the project adds no queue to the eastbound left turn lane.

The results show that the existing storage for the eastbound left turn lane at the NE 22nd Avenue / NE 164th Street intersection cannot accommodate the expected BOQ's during the PM peak hour for future without project and future with project conditions. This is an existing condition; the project only adds 13.4 feet (less than one vehicle) to this intersection. The northbound left, southbound left, and westbound left turn lanes at the NE 22nd Avenue / NE 163rd Street intersection cannot accommodate the expected BOQ's during the AM and PM peak hours for future without project and future with project conditions. It should be noted that the project is projected to add no queue to the northbound left turn lane during the AM peak hour or to the westbound left turn lane during the PM peak hour.

The NE 163rd Street / Biscayne Boulevard intersection currently does not have the capacity to accommodate the expected BOQs at the northbound right, southbound right, eastbound left, and eastbound right turn lanes during the AM and PM peak hours. The projected BOQ's also exceed the existing capacity of the southbound left turn lane during the AM peak hour and the westbound left turn lane during the PM peak hour. It should be noted, that the project adds no trips to the northbound right, southbound left, or westbound left turning movements. The existing capacity of the southbound left turn lane for the NE 167th Street / NE 19th Avenue intersection is not sufficient to accommodate the expected BOQ's for existing, future without, and future with project conditions during the AM and PM peak hours. It should be noted that the project adds no queue to this movement.

Exhibit 14: Projected 95th Percentile Back of Queues and Existing Storage Length

Intersection	Direction	Existing		Future without Project		Future with Project		Future with Project with Sig Imp		Existing Storage
		AM	PM	AM	AM	AM	PM	AM	PM	
NE 19 th Avenue / NE 163 rd Street	SBL*	244.2	323.0	308.0	388.0	338.8	408.0			285
	SBR*	303.6	355.0	389.4	415.0	407.0	431.0	—	—	285
	EBL	202.4	443.0	255.2	503.0	261.8	554.0			220
NE 19 th Avenue / NE 164 th Street	SBL	24.2	55.0	26.4	58.0	28.6	64.0			80
	EBL	77.0	145.0	85.8	150.0	85.8	148.0	—	—	50
	WBL	2.2	25.0	4.4	32.0	70.4	55.0			60
NE 20 th Avenue / NE 164 th Street	EBL	0.0	0.0	0.0	0.0	0.0	0.0			75
	WBL	2.2	4.4	2.2	4.4	2.2	4.4	—	—	70
NE 22 nd Avenue / NE 164 th Street	NBL	8.8	19.8	8.8	13.0	13.2	26.4			105
	SBL	2.2	2.2	2.2	6.0	2.2	2.2	—	—	75
	EBL	35.2	140.8	39.6	156.0	50.6	169.4			75
NE 22 nd Avenue / NE 163 rd Street	NBL	110.0	290.0	220.0	468.0	220.0	480.0	206.8	444.0	150
	SBL	220.0	297.0	248.6	319.0	286.0	357.0	292.6	406.0	130
	EBL	48.4	146.0	61.6	163.0	61.6	163.0	63.8	163.0	290
	WBL	136.4	185.0	1,181.4	436.0	1,203.4	431.0	1,058.2	439.0	270
Biscayne Boulevard / NE 163 rd Street	NBL	292.6	338.8	312.4	354.2	319.0	363.0		435.6	435
	NBR	576.4	913.0	616.0	1,020.8	616.0	1,020.8		941.6	420
	SBL	444.4	349.8	466.4	371.8	466.4	371.8		453.2	430
	SBR	400.4	574.2	666.6	686.4	679.8	730.4		719.4	405
	EBL	193.6	246.4	281.6	349.8	292.6	365.2	—	310.2	250
	EBR	281.6	396.0	283.8	411.4	301.4	424.6		437.8	240
	WBL	354.2	497.2	385.0	677.6	385.0	677.6		552.2	385
	WBR*	0.0	0.0	0.0	0.0	0.0	0.0		0.0	500
NE 20 th Avenue / NE 163 rd Street	EBL	22.0	127.6	28.6	171.6	35.2	204.6	—	—	85
NE 19 th Avenue / NE 167 th Street	NBL*	53.0	32.0	53.0	32.0	53.0	32.0			450
	SBL	28.0	41.0	29.0	42.0	29.0	42.0			25
	EBL	37.0	34.0	37.0	34.0	37.0	34.0	—	—	80
	EBR	36.0	30.0	37.0	31.0	37.0	31.0			80

* Entire lane is a turn lane

5.0 EVALUATION OF POLICY 1.1.2 AND 1.1.3

The roadway segments of NE 164th Street between NE 19th Avenue and NE 22nd Avenue and NE 163rd Street from NE 19th Avenue to Biscayne Boulevard were evaluated based on Policy 1.1.2 and Policy 1.1.3 as stated in the Transportation Element of the North Miami Beach Comprehensive Plan. The complete text detailing these policies are included in Appendix G. Below is an overview of both policies:

- Policy 1.1.2 states that the project must meet the City's adopted level of service standards by roadway classification.
- Policy 1.1.3 states the following *"No development shall be approved if the projected impacts of the development (including redevelopment) would reduce service levels of any roadway on the traffic circulation system below the standards in Policy 1.1.2, unless the development qualifies for a transportation concurrency exception."*

Based on the North Miami Beach Comprehensive Plan, roadways within the Urban Infill Area that are within a ½ mile distance from public mass transit service having headways of 20 minutes or less, shall operate at no greater than a LOS E+20 (20% above capacity). In the vicinity of the project, the NE 163rd Street and NE 164th Street roadways are within a ½ mile from public transit with headways of 20 minutes or less. Thus, the NE 163rd Street and NE 164th Street roadways operate at a LOS E+20.

The FDOTs generalized service volume tables (Appendix G) provide the maximum volume for a specific Level of Service (LOS). LOS is a qualitative assessment of a road's operating conditions and is represented by the letters A through F, where A is free flow (best condition) and F is the most congested condition.

Exhibit 15 shows roadway link analysis based on the FDOT 2020 Quality / Level of Service Handbook generalized peak hour directional service volume tables. The roadway capacity was evaluated for the following scenarios: existing, future without project, and future with project conditions.

Exhibit 15: Roadway Capacity Analysis Weekday AM and PM Peak Conditions Existing Conditions

Roadway	Direction	# of Lanes	AM Peak Volume	PM Peak Volume	LOS Std	SV ¹	Meet LOS Std?
NE 163 rd Street Between NE 19 th Avenue and Biscayne Boulevard	EB	3LD	1,753	1,766	E+20	3,225	Yes
	WB	3LD	1,592	1,916	E+20	3,072	Yes
NE 164 th Street Between NE 19 th Avenue and NE 22 nd Avenue	EB	1LD	134	159	E+20	907	Yes
	WB	1LD	93	137	E+20	907	Yes

¹NE 163rd Street (EB): Class II, 3 Lanes, Divided, LOS E+20, State Roadway, Exclusive Right-turn Lane ($2,560 * 1.2 * 1.05 = 3,225$ vph); NE 163rd Street (WB): Class II, 3 Lanes, Divided, LOS E+20, State Roadway ($2,560 * 1.2 = 3,072$ vph) NE 164th Street (EB, WB): Class II, 1 Lane, Divided, LOS E+20, Non-State Roadway, Exclusive Left-turn Lane ($800 * 1.2 * 0.9 * 1.05 = 907$ vph)

Future without Project

Roadway	Direction	# of Lanes	AM Peak Volume	PM Peak Volume	LOS Std	SV ¹	Meet LOS Std?
NE 163 rd Street Between NE 19 th Avenue and Biscayne Boulevard	EB	3LD	2,053	2,046	E+20	3,225	Yes
	WB	3LD	1,967	2,185	E+20	3,072	Yes
NE 164 th Street Between NE 19 th Avenue and NE 22 nd Avenue	EB	1LD	159	181	E+20	907	Yes
	WB	1LD	97	147	E+20	907	Yes

¹NE 163rd Street (EB): Class II, 3 Lanes, Divided, LOS E+20, State Roadway, Exclusive Right-turn Lane ($2,560 * 1.2 * 1.05 = 3,225$ vph); NE 163rd Street (WB): Class II, 3 Lanes, Divided, LOS E+20, State Roadway ($2,560 * 1.2 = 3,072$ vph) NE 164th Street (EB, WB): Class II, 1 Lane, Divided, LOS E+20, Non-State Roadway, Exclusive Left-turn Lane ($800 * 1.2 * 0.9 * 1.05 = 907$ vph)

Future with Project

Roadway	Direction	# of Lanes	AM Peak Volume	PM Peak Volume	LOS Std	SV ¹	Meet LOS Std?
NE 163 rd Street Between NE 19 th Avenue and Biscayne Boulevard	EB	3LD	2,103	2,072	E+20	3,225	Yes
	WB	3LD	1,988	2,224	E+20	3,072	Yes
NE 164 th Street Between NE 19 th Avenue and NE 22 nd Avenue	EB	1LD	183	224	E+20	907	Yes
	WB	1LD	172	187	E+20	907	Yes

¹NE 163rd Street (EB): Class II, 3 Lanes, Divided, LOS E+20, State Roadway, Exclusive Right-turn Lane ($2,560 * 1.2 * 1.05 = 3,225$ vph); NE 163rd Street (WB): Class II, 3 Lanes, Divided, LOS E+20, State Roadway ($2,560 * 1.2 = 3,072$ vph) NE 164th Street (EB, WB): Class II, 1 Lane, Divided, LOS E+20, Non-State Roadway, Exclusive Left-turn Lane ($800 * 1.2 * 0.9 * 1.05 = 907$ vph)

Results show that the segment of NE 163rd Street between NE 19th Avenue and Biscayne Boulevard and the segment of NE 164th Street between NE 19th Avenue and NE 22nd Street meet the LOS standards adopted by the City of North Miami Beach for all scenarios evaluated. Thus, Policy 1.1.2 is met.

Policy 1.1.3 states that “In order to qualify for a transportation concurrency exception, the development must be located within ¼ mile of either an MDTA transit center, or an MDTA or City

circulator bus stop with existing, or planned and funded, peak hour headway service of 20 minutes or less, or express bus service.” Exhibit 16 provides a summary of the existing available transit within a ¼ mile vicinity of the project. Transit routes and schedule documentation are included in Appendix H.

Exhibit 16: Existing Available Transit (within ¼ mile)

Bus Stop Location		Direction	Routes	Peak Hour Headways
1	NE 163 rd Street west of NE 22 nd Avenue	WB	MDT Route 3 MDT Route 75 MDT Route 108H	10 minutes 30 minutes 30 minutes
2	NE 163 rd Street west of NE 21 st Avenue	WB		
3	NE 163 rd Street west of NE 20 th Avenue	WB		
4	NE 163 rd Street east of NE 19 th Avenue	WB		
5	NE 163 rd Street east of NE 19 th Avenue	EB		
6	NE 163 rd Street east of NE 20 th Avenue	EB		
7	NE 163 rd Street east of NE 21 th Avenue	EB		
8	NE 163 rd Street east of NE 18 th Avenue	WB	MDT Route 3 MDT Route 75 MDT Route 108H MDT Route 210	10 minutes 30 minutes 30 minutes 30 minutes
9	NE 163 rd Street east of NE 18 th Court	EB		
10	NE 163 rd Street east of NE 22 nd Avenue	EB	MDT Route 3 MDT Route 75 MDT Route 105E MDT Route 108H	10 minutes 30 minutes 30 minutes 30 minutes
11	NE 163 rd Street west of Biscayne Boulevard	WB		
12	NE 163 rd Street east of Biscayne Boulevard	EB	MDT Route 105E MDT Route 108H	30 minutes 30 minutes
13	NE 163 rd Street east of Biscayne Boulevard	WB		
14	Biscayne Boulevard south of NE 163 rd Street	SB	MDT Route 3 MDT Route 75 MDT Route 93	10 minutes 30 minutes 15 minutes
15	Biscayne Boulevard north of NE 163 rd Street	NB	MDT Route 93	15 minutes
16	NE 22 nd Avenue north of NE 163 rd Street	NB	NMB Line Shuttle	90 minutes
17	NE 22 nd Avenue north of NE 163 rd Street	SB	NMB Line Shuttle	90 minutes
18	NE 164 th Street west of NE 22 nd Avenue	EB	MDT Route 105E	30 minutes
19	NE 164 th Street west of NE 22 nd Avenue	WB		
20	NE 164 th Street west of NE 21 st Avenue	EB	MDT Route 105E NMB Line Shuttle	30 minutes 90 minutes
21	NE 164 th Street west of NE 21 st Avenue	WB		
22	NE 164 th Street west of NE 20 th Avenue	EB	MDT Route 105E	30 minutes
23	NE 164 th Street west of NE 18 th Avenue	EB		
24	NE 164 th Street west of NE 20 th Avenue	WB		
25	NE 164 th Street west of NE 19 th Avenue	WB		
26	NE 164 th Street east of NE 17 th Avenue	WB		
27	NE 164 th Street west of NE 19 th Avenue	WB	NMB Trolley Route B	45 minutes
28	NE 19 th Avenue south of NE 167 th Street	NB	MDT Route 210	30 minutes
29	NE 19 th Avenue south of NE 167 th Street	SB		

As shown in Exhibit 16, Miami Dade Transit (MDT) provides bus stops within ¼ mile of the development with headways of 20 minutes or less. It should be noted that MDT Route 93 is the Biscayne Max and provides an express service with limited stops. In addition, the project area is also served by the North Miami Beach Shuttle route with a stop on the northwest corner of the NE 19th Avenue / NE 164th Street intersection, parallel to the southwest corner of the project.

Policy 1.1.3 also states that the development “shall also comply with one of the following alternative requirements:

- a) *The additional peak travel hour trips generated by the development do not exceed one-quarter of one percent (0.25 percent) of the peak travel hour capacity of any SIS facility, adjacent to the City, at the adopted LOS standard.*
- b) *The development shall incorporate, on or off-site, a premium transit shelter; or the development shall accommodate and provide for alternative modes of transportation, or transportation demand management, as follows, provided that the City shall determine the acceptability of alternatives proposed for any given development.”*

I-95, the FL Turnpike, and SR-826 are Strategic Intermodal System (SIS) facilities adjacent to the City and within the vicinity of the project. Based on the Miami-Dade County Comprehensive Plan the minimum LOS standard for Florida Strategic Intermodal System (SIS) limited access state highways with exclusive through lanes, is LOS E.

The FDOT’s generalized service volume tables were used to calculate the two-way peak hour service volumes for I-95, the Turnpike, and SR-826. Trip generation calculations (included in section 4.3 of this report) were used to determine additional peak hour trips generated by the proposed development. Net external trips for the PM peak hour were distributed based on the cardinal distribution. Consideration was given to conditions such as the roadway network accessed by the project traffic, roadways available to travel in the desired direction, and attractiveness of traveling on a specific roadway. Exhibit 17 provides calculations used to evaluate part “a” of the statement above.

Exhibit 17: Calculations for Policy 1.1.3 Part A

SIS Facility	Direction	# of Lanes	LOS Std	SV ¹	PM Peak Two-way Project Trips	Trips Assignment	% of peak hour capacity	Meets Criteria ?
I-95	Two-way	8 L	E	16,810	223	27	0.16%	Yes
FL Turnpike	Two-way	4 L	E	8,990	223	10	0.11%	Yes
SR-826	Two-way	6 L	E	12,900	223	62	0.48%	No

¹ **Interstate 95:** Freeway 8 Lane, +1,800 Auxiliary Ln present in both directions (15,010 vph + 1,800 = 16,810 vph)
Interstate FL Turnpike: Freeway 4 Lane, +1,800 Auxiliary Ln present in both directions (7,190 vph + 1,800 = 8,990 vph)
SR - 826: Freeway 6 Lane, +1,800 Auxiliary Ln present in both directions (11,100 vph + 1,800 = 12,900 vph)

As shown in Exhibit 17, part “a” of Policy 1.1.3 is satisfied. Part “b” of the policy can be met if the development provides a transit shelter on or off-site or if the site has a Transportation Demand Management (TDM) plan to accommodate alternative modes of transportation. A covered transit shelter is available adjacent to the site on the northwest corner of the NE 164th Street / NE 20th Avenue intersection. It should be noted that only one part is required to be satisfied by the development. Since both the transit proximity requirement and one alternative requirement (part “b”) are met, the development qualifies as a transportation concurrency exception based on Policy 1.1.3.

6.0 CIRCULATION PLAN

The N Miami Mixed-Use project will be located north of NE 164th Street between NE 19th Avenue and NE 20th Street in North Miami Beach, Florida. The proposed mixed-use development will consist of 700 dwelling units, 8,817 SF of office space, and 22,545 SF of retail space. Access to the site will be through a two-way driveway located on the existing alley located north of the project site and via a two-way driveway located along NE 164th Street. The loading area for the site is located on the ground floor of the east tower parking garage. Access to the loading area is provided via the internal motor court that is accessed via the NE 164th Street driveway and the northern driveway located along the existing alley-way on the north side of the site.

The project is located in an area that is conducive for pedestrian activities. All intersections adjacent to the site have sidewalks and clearly marked crosswalks. The signalized intersections provide pedestrian signals. The project is also providing bicycle storage on the ground floor of both the east and west sides of the building to encourage pedestrian activity. A mobility plan was prepared for the site (Exhibit 18). The plan shows the project driveway, sidewalk connections, and pedestrian crosswalks.

The area surrounding the project is served by transit. Miami-Dade transit bus routes 210, 108H, 105E, 75, 3, and 93 traverse this area of North Miami Beach. The closest bus stops to the project are the NE 164th Street / NE 19th Avenue bus stop (located on NE 19th Avenue, just west of the project) and the NE 164th Street / NE 20th Avenue bus stop (located just south of the project). Bus routes 105 and 210 are served by these bus stops. (See Exhibit 16 in Section 5.0 for additional bus stop locations). The North Miami Beach (NMB) line shuttle (route A) also traverses the project area. The closest NMB shuttle stop to the project is the Inland Tower stop located on NE 164th Street, approximately 75 feet west of NE 21st Avenue. Exhibit 19 shows the available bus routes and bus stops near the project. See Appendix H for transit information.



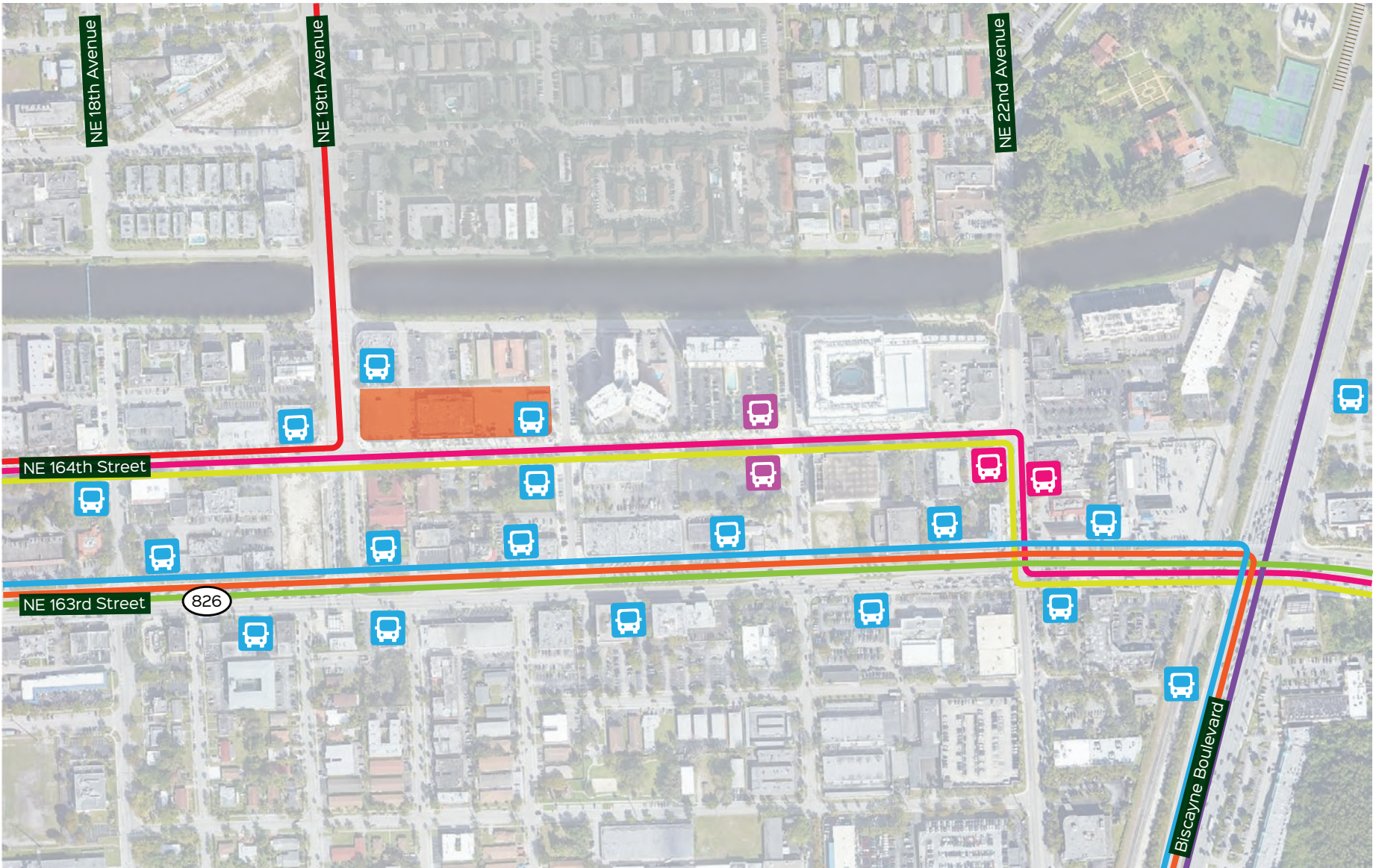
 Project Location

Exhibit 18

Mobility - Pedestrian

-  Bikeline
-  Pedestrian/Bike Path
-  Sidewalks
-  Crosswalks





Project Location

Exhibit 19

Mobility - Transit

-  Miami-Dade Transit Bus Stops
-  Bus/Shuttle Stops
-  Shuttle Stops

- North Miami Beach Line Shuttle
-  Route A

- Miami-Dade Bus Routes
-  3 (20 min Headways)
 -  105E (40 min Headways)
 -  75 (30 min Headways)
 -  93 Biscayne Max (30 min)
 -  108H (30 min Headways)
 -  210 Skylake Circular (30 min Headways)



7.0 CONCLUSIONS

An assessment of the traffic impacts associated with the N Miami Mixed-Use project was performed in accordance with the requirements of the City of North Miami Beach. The results of the roadway capacity analysis show that the NE 163rd Street and NE 164th Street roadway segments currently operate and will continue to operate within the FDOT established capacity and the City of North Miami Beach adopted level of service (LOS) standards. The results of the intersection analysis indicate that all of the studied intersections are projected to continue to operate within the overall City's LOS standards during the AM and PM peak hours and adequate operations at the project driveways. For future without project and future with project conditions, the northbound approach of the NE 22nd Avenue / NE 163rd Street intersection experiences delays during the AM and PM peak hours and delays at the southbound approach during the PM peak hour. The Biscayne Boulevard / NE 163rd Street intersection experiences delays at the westbound approach during the PM peak hour. Signal timing improvements are recommended to improve approach delays at these intersections.

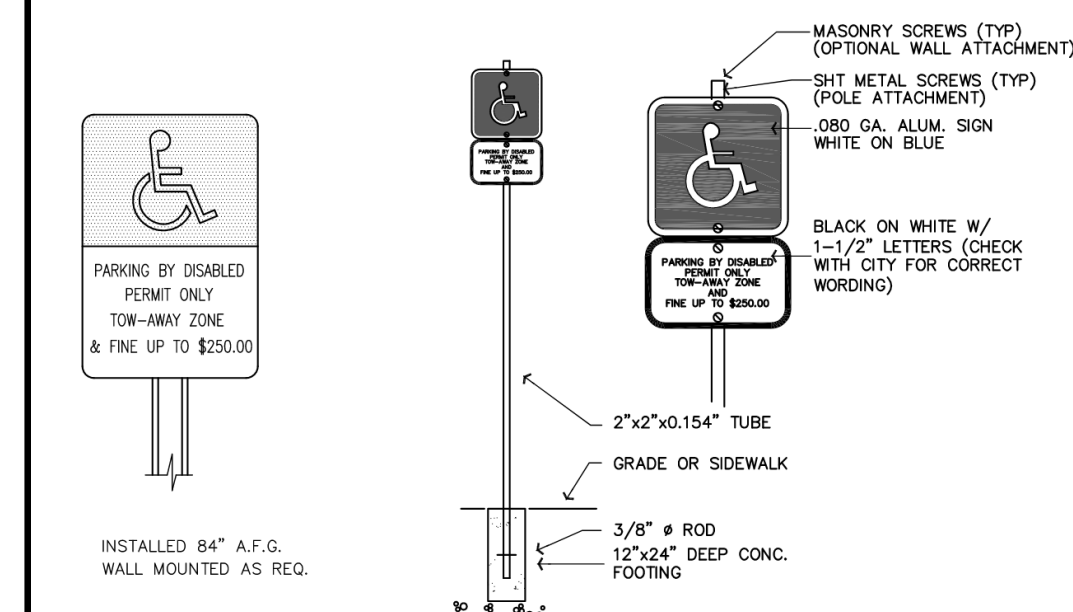
The roadway segments of NE 163rd Street from NE 19th Avenue and Biscayne Boulevard and NE 164th Street from NE 19th Avenue to NE 22nd Avenue were evaluated based on Policy 1.1.2 and Policy 1.1.3 of the Transportation Element of the North Miami Beach Comprehensive Plan. The analysis shows that this segment of NE 163rd Street meets the LOS and capacity standards established in Policy 1.1.2 at existing, future without project, and future with project conditions. The project also meets the transit proximity requirement standard for SIS facilities established in Policy 1.1.3. Therefore, the project qualifies for a transportation concurrency exception.

The project area is currently served by the City of North Miami Beach shuttle and Miami-Dade Transit bus routes 3, 75, 93, 105, 210, and 108. The project is located in an area that is conducive for pedestrian activities providing ample sidewalks and pedestrian crosswalks. Pedestrian mobility, within and around the site, is also encouraged by providing on-site bicycle storage. The availability of transit and the existing pedestrian / bicyclist infrastructure will encourage the use of other modes of transportation and will reduce the project's vehicular impacts on the roadway network.

w:\21\21133\traffic study july 2021\n miami beach mixed-use traffic study_september 2021.docx

Appendix A

Site Plan



The image contains two technical drawings of parking spaces, labeled (a) and (b).

(a) PRECAST WHEEL STOP: This drawing shows a parking space with a precast wheel stop on the left side. The total width of the parking space is 18'-0". The width of the precast wheel stop is 6'-0". The width of the painted striping on the left side is 15'-6". The width of the painted striping on the right side is 9'-0". The width of the parking space between the center of the wheel stop and the center of the painted striping is 6'-0". A circular inset shows a detail of the wheel stop and the painted striping, with a dimension of 8'-0" for the width of the painted striping.

(b) PAINTED STRIPING WHEEL STOP: This drawing shows a parking space with a painted striping wheel stop on the left side. The total width of the parking space is 20'-0". The width of the painted striping on the left side is 2'-6". The width of the painted striping on the right side is 5'-0". The width of the parking space between the center of the wheel stop and the center of the painted striping is 12'-0". The width of the parking space between the center of the wheel stop and the center of the painted striping is 17'-0". A circular inset shows a detail of the wheel stop and the painted striping, with a dimension of 8'-0" for the width of the painted striping.

18'-0"

2'-0"

1" ASPHALT OVER 6" COMP. BASE

245.0 0A

TYPE "F" CONCRETE CURB CONTINUOUS.

1'

6"

CONC. SIDEWALK SEE CIVIL DWGS.

12" H STRUCTURAL CURB TYPE "F" ASPHALT

1'

6"

245.0 0B

Diagram illustrating the construction layers for a concrete paver installation:

- LAST PAVER SET IN CONC. TO PREVENT MOVEMENT
- 8" x 8" CONCRETE PERIMETER FOOTING W/ #5 BAR CONT. @ PAVERS.
- CONC. PAVERS
- COMPACTED SAND BASE
- WELL COMPACTED SOIL

The map shows the Snake Creek Canal area in San Francisco. The canal is highlighted in cyan. Surrounding streets include Market Street, Mission Street, and various numbered streets. The map is overlaid with a grid of colored lines (pink, blue, black) and dashed lines, indicating different zones or projects. A red rectangle is also visible on the right side of the canal. The map is labeled 'Snake Creek Canal' and 'San Francisco Department of Public Works'.

Revision Schedule		
Rev. #	Revision Description	Date

A-004

Appendix B

Approved Methodology

N Miami Beach Mixed-Use Traffic Study Methodology

July 1, 2021

Revised: August 19, 2021

Revised: August 25, 2021

DPA will undertake a Traffic Impact Analysis as required by the City of North Miami Beach. This methodology will provide the details of the Traffic Impact Analysis proposed for this development. This methodology is based on the requirements from the City. Confirmation of this methodology will be requested from the City prior to performing the study. All work will be based on the final development plan to be provided by the client.

Location: The proposed project will be located north of NE 164th Street between NE 19th Avenue and NE 20th Avenue in North Miami Beach, FL. The project proposes a new mixed-use development with 700 dwelling units, 8,817 SF of office space, and 22,545 SF of ground floor retail. Access to the site will be through a two-way driveway located on the existing alley located north of the project site and via a two-way driveway located along NE 164th Street. The proposed site plan is provided in Attachment A.

Existing Site: Retail – 17,751 square feet
Restaurant – 1,773 square feet

Proposed Plan: High Rise Multifamily Housing – 700 units
Office – 8,817 square feet
Retail – 22,545 square feet

Trip Generation: Trip generation documentation is available in Attachment B. The proposed methodology is outlined below:

Proposed Uses

Proposed ITE Land Use Designation ¹	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Multifamily Housing (High-Rise) <i>Land Use Code: 222</i>	700 DU	2,970	50	159	209	150	96	246
Office <i>Land Use Code: 710</i>	8,817 SF	100	30	5	35	2	10	12
Retail ² <i>Land Use Code: 820</i>	22,545 SF	2,184	2	10	12	87	94	181
Total Gross Trips		5,254	82	174	256	239	200	439
Internalization		AM 2.9%	-4	-4	-8	-37	-37	-74
		PM 16.9%						
Other Modes of Transportation ³		10.0%	-8	-17	-25	-21	-17	-38
Retail Passby ⁴ (PM)		34%	-	-	-	-22	-22	-44
Net Proposed Trips			70	153	223	159	124	283

Existing Uses

Existing ITE Land Use Designation ¹	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Retail ² <i>Land Use Code: 820</i>	17,751 SF	1,856	10	6	16	73	79	152
Restaurant <i>Land Use Code: 931</i>	1,773 SF	148	1	1	2	9	5	14
Total Gross Trips		2,004	11	7	18	82	84	166
Internalization		AM 0.0%	-1	-1	-2	-7	-7	-14
		PM 0.0%						
Other Modes of Transportation ²		10%	-1	-1	-2	-7	-7	-14
Retail Passby ³ (PM)		34%	-	-	-	-22	-22	-44
Passby Restaurant ³ (PM)		44%	-	-	-	-2	-2	-4
Net Existing Trips			9	5	14	44	46	90

	Daily Vehicle Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Proposed	5254	70	153	223	159	124	283
Existing	2004	9	5	14	44	46	90
Difference	3250	61	148	209	115	78	193

¹Based on ITE Trip Generation, 10th Edition

²Rate was used for the AM peak hour to better reflect the size of the use.

³Reduction based on US Census Data for tract 2.14 (14%). Reduction capped at 10% by City request.

⁴Based on ITE Trip Generation Handbook, 3rd Edition.

Methodology: The proposed methodology is outlined below:

Study Area

The study area for the project will include the following intersections:

- NE 163rd Street / NE 19th Avenue
- NE 164th Street / NE 19th Avenue
- NE 164th Street / NE 20th Avenue
- NE 164th Street / NE 22nd Avenue
- NE 163rd Street / NE 22nd Avenue
- **NE 163rd Street and US-1**
- **NE 163rd Street and NE 20th Avenue**
- **NE 167th Street and NE 19th Avenue**
- **NE 165th Street and Existing Alley**
- **NE 20th Avenue and Existing Alley**

In addition, the following roadway segments will be evaluated based on Policy 1.1.2 and Policy 1.1.3 of the Transportation Element of the North Miami Beach Comprehensive Plan.

- NE 164th Street between NE 19th Avenue and NE 22nd Avenue
- NE 163rd Street between NE 19th Avenue and NE 22nd Avenue

Analysis Scenarios

The analysis scenarios for this study are as follows:

- Existing year
- Project build-out year (2023) without project trips (background traffic)
- Project build-out year (2023) with project trips (total traffic)

Data Collection

- Turning movement counts (TMCs) will be collected during the morning (7 – 9 am) and afternoon (4 – 6 pm) peak hour conditions of a regular weekday at the study intersections.

- Collected counts will be modified for COVID-19 traffic patterns. This volume adjustment will be made comparing historical traffic data for NE 163rd Street. Existing FDOT traffic count station 875225 data will be compared against a newly collected 72 hour tube count at same location.
- 72 hour tube counts will be collected on NE 164th Street between NE 19th Avenue and NE 22nd Avenue and on NE 163rd Street just east of NE 20th Avenue near existing FDOT permanent count station 875225.
- Field reviews will be performed to obtain existing physical and operating characteristics of the roadway network within the study area. Data to be acquired will include the number and type of traffic lanes, intersection geometrics, signal timings, speed limit information, and other appropriate physical and operating characteristics.
- Roadway improvements included within the first three years of the 5-year FDOT Work Program or roadway improvements identified by the City will be assumed as committed for analysis purposes.

Existing Conditions Intersection Analysis

- Intersection capacity analyses will be evaluated for the study area intersections using the Synchro software. Access driveways will be included as part of the LOS analysis. All input files will be provided for review purposes.

Future Conditions Intersection – Background Traffic Conditions

- Future background traffic volumes will be determined by applying a compound growth rate to existing volumes and adding committed development traffic (if any). The growth rate will be calculated based on a review of historical volumes obtained from FDOT and Miami-Dade County. (The data from year 2020 will be excluded in the historical analysis due to the unusual traffic patterns caused by the Covid-19 pandemic). If the historical growth rate is calculated to be less than 0.5 percent, a 0.5 percent annual growth rate will be used for analysis purposes.
- The list of committed trips to use from approved but unbuilt development projects will be provided by the City of North Miami Beach.

- Committed roadway improvements will be obtained from the 2021 *Miami-Dade County TIP* and/or FDOT's 5-year program. Any programmed improvement that increases capacity will be included in the analysis.
- Planned roadway improvements will be obtained from MDC's 2040 *Long Range Plan* for documentation purposes only.

Project Trip Generation

Using information contained in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 10th Edition, trips associated with the existing and proposed development will be estimated. Pass-by and internal capture trips will be established based on the ITE, *Trip Generation Manual, Users Guide and Handbook*, 10th Edition. A deduction for other modes of transportation will be based on local characteristics and/or modal splits near the proposed development.

Project Trip Distribution

Trip Distribution / Trip Assignment – Net new external project traffic will be assigned to the adjacent street network using the appropriate cardinal distribution from the *Miami-Dade 2040 Long Range Transportation Plan Update*, published by the *Metropolitan Planning Organization*. Normal traffic patterns will also be considered when assigning project trips.

Future Conditions Intersection – Total Traffic Conditions

- Future total traffic volumes will be determined by adding project trips to committed development and background traffic volumes.
- Intersection capacity analyses will be evaluated using the Synchro software. Signal timings may be optimized for future conditions analyses. Signal timing optimizations and modifications will be coordinated with Miami Dade County Public Works Traffic and Signs Division for approval as necessary.
- For intersections that fail to operate at an acceptable level of service, improvements will be recommended to mitigate the impacts of project trips from the proposed development. The improvements are intended to mitigate project traffic impacts, **the improvements will improve operations at the intersections**. However, the intersections may not necessarily result in the intersection operating at an acceptable level of service.

- Alternative modes of transportation in the area will be described in the report.
- Operation analysis at driveways providing access to/from the site will also be conducted.

Other Considerations:

- An Auto-turn analysis for the proposed loading area will be conducted.
- Turn Lane analysis (95th Percentile Back of Queue) will be performed.
- A queuing analysis will be performed if valet parking or a gated parking area is provided on site. The potential queue at the project entrances will be calculated based on the peak hour traffic published by ITE's Trip Generation, 10th Edition. The queuing analysis will be based on the methodology outlined in the Institute of Transportation Engineers (ITE) Transportation and Land Development. The analysis will be performed to determine if there is sufficient storage within the site to accommodate the anticipated queue at the proposed gated entrance and/or the valet station during peak hour so that the queue does not extend onto the adjacent street (95% confidence level analysis).

w:\21\21133\methodology july 2021\traffic study methodology_august 19 2021.docx

Attachment A

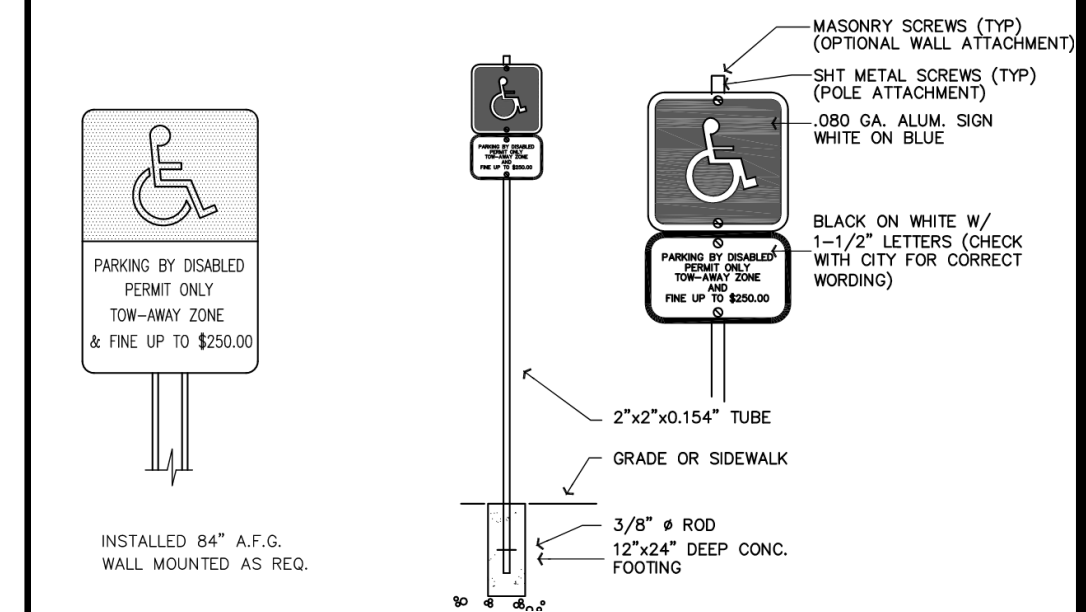
WEST TOWER		
Parking provided	495	
Parking required	417	
Surplus Parking	78	
Breakdown	Description	Parking Spaces
Retail	12,361 sf (12,361/1,000 x 2)	25
Office/ L/W (3rd Level)	2,939 sf (2,939/1,000 x 2.5)	8
Office/ L/W (5th Level)	2,939 sf (2,939/1,000 x 2.5)	8
Office/ L/W (7th Level)	2,939 sf (2,939/1,000 x 2.5)	8
Residential (9th - 28th Levels)	350 units (1 parking per unit)	350
Visitor for Residential	1 parking per 20 units	18
Total	Parking Spaces Required	417
	Parking Provided	495
EAST TOWER		
Parking provided	504	
Parking required	389	
Surplus Parking	115	
Breakdown	Description	Parking Spaces
Retail	10,184 sf (10,184/1000 x 2)	21
Residential (9th - 28th Levels)	350 units (1 parking per unit)	350
Visitor for Residential	1 parking per 20 units	18
Total	Parking Spaces Required	389
	Parking Provided	504
Parking Provided (W + E)		Surplus Parking
999		193
		1.24

Parking Provided (W + E) includes 25 on street parking spaces

Unit Mix West Tower	
Studio	96
1 bdrm	59
1 bdrm D	119
2 bdrm	19
3 bdrm	57
Total for W	350
Unit Mix East Tower	
Studio	96
1 bdrm	97
1 bdrm D	99
2 bdrm	20
3 bdrm	38
Total for E	350
Total Unit Mix	PERCENTAGE
Studio	19227.4
1 Bedroom	15622.3
1 Bedroom D	21831.1
2 Bedroom	395.6
3 Bedroom	9513.6
Total Units	700100



CLIENT:

GFS CORP.

The image contains two technical drawings of ADA-compliant spaces. The left drawing is for a wheelchair space, showing a precast wheel stop, painted striping, and a 6'-0" width. The right drawing is for a pedestrian space, showing a precast wheel stop, a 6'-0" width, and a 5'-0" depth. Both drawings include dimensions for the total width and depth of the space.

18'-0"

2'-0"

1" ASPHALT OVER 6" COMP. BASE

2.45" DIA.

TYPE "T" CONCRETE CURB CONTINUOUS TYPE

CONC. SIDEWALK SEE CIVIL DWGS.

12"H STRUCTURAL CURB TYPE T

ASPHALT

1" COMPACTED BASE

The image contains two technical drawings. The left drawing is a cross-section of a curb and sidewalk assembly. It shows a concrete curb on top of a concrete sidewalk, which is on top of an asphalt base. A label points to the curb: "12\"H STRUCTURAL CURB TYPE 12\" ASPHALT". Another label points to the sidewalk: "CONC. SIDEWALK SEE OVAL DWGS.". The right drawing is a plan view of a paver installation. It shows a square paver with a central circular hole and a grid of reinforcement bars. Labels include: "LAST PAVER SET IN CONC. TO PREVENT MOVEMENT", "8\" x 8\" CONCRETE PERIMETER FOOTING W/ 1 #5 BAR CONT. @ PAVERS.", "CONC. PAVERS", "COMPACTED SAND BASE", and "WELL COMPACTED SOIL".

Diagram illustrating the construction of a concrete paver base:

- LAST PAVES SET IN CONC. TO PREVENT MOVEMENT
- 8" x 8" CONCRETE PERIMETER FOOTING W/ 1 #5 BAR CONC. PAVERS.
- CONC. PAVERS
- COMPACTED SAND BASE
- WELL COMPACTED SOIL

**NOT FOR
CONSTRUCTION**

Revision Schedule		
Rev. #	Revision Description	Date

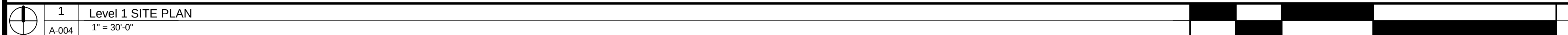
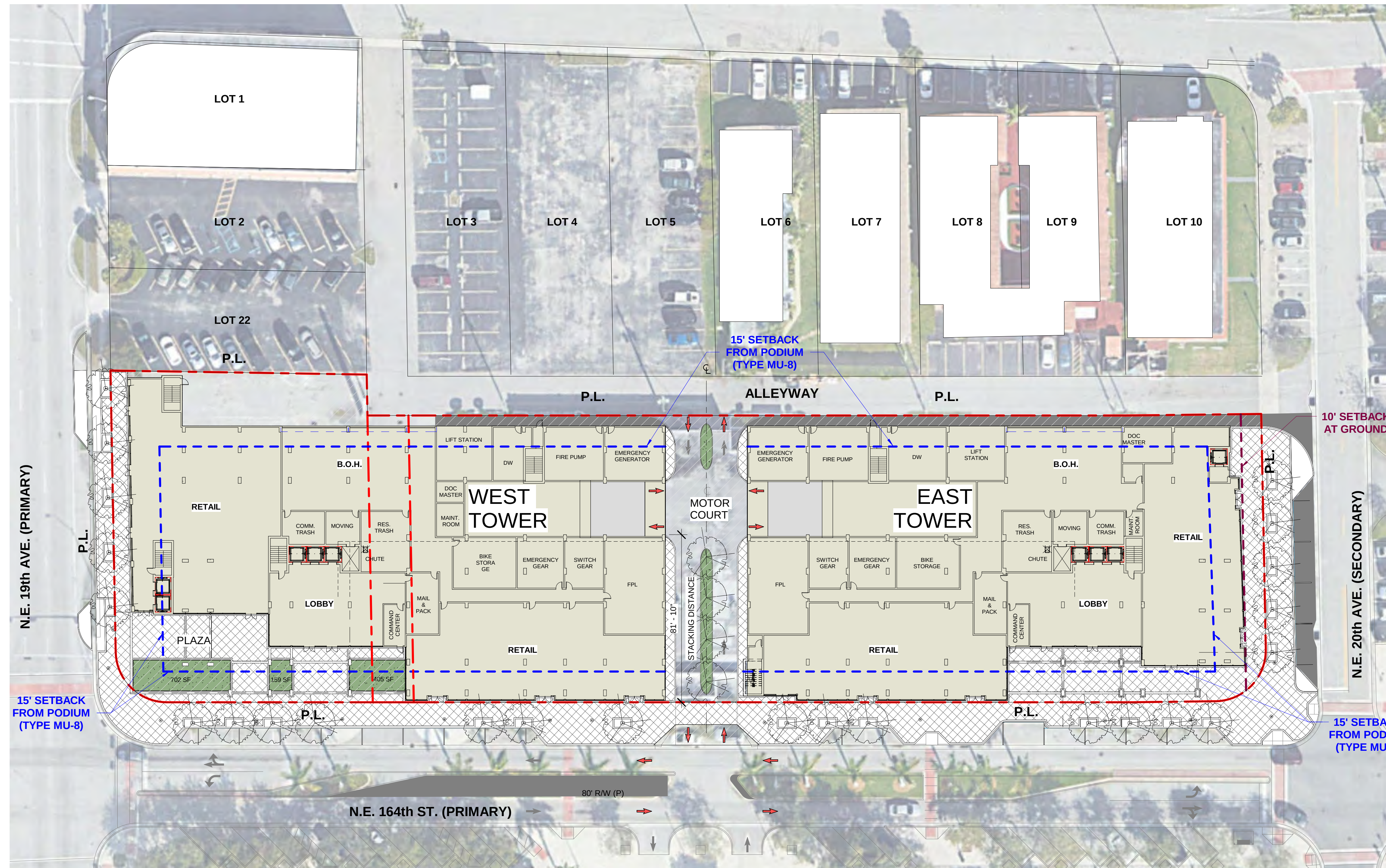


FIGURE MUTC-1:
SUB-AREAS REGULATING PLAN

CORE SUB-AREA
TRANSITION SUB-AREA
EDGE SUB-AREA
DISTRICT BOUNDARY

SITE

[illegible]

FIGURE M.U.I.C. - 2:
STREET NETWORK CONNECTIVITY
REGULATING PLAN

 EXISTING PRIMARY A STREET
NEW PRIMARY A STREET
EXISTING PRIMARY B STREET
EXISTING SECONDARY STREET
NEW SECONDARY STREET

 SITE

[illegible]

FIGURE MUTC- 3:
DESIGNATED PUBLICLY ACCESSIBLE OPEN SPACES AND GREENWAY
SYSTEMS REGULATING PLAN



- EXISTING DESIGNATED PUBLIC OPEN SPACE
- NEW DESIGNATED OPEN SPACE
- DESIGNATED URBAN GREENWAY
- DESIGNATED CANAL GREENWAY AND TRAILS
- DISTRICT BOUNDARY

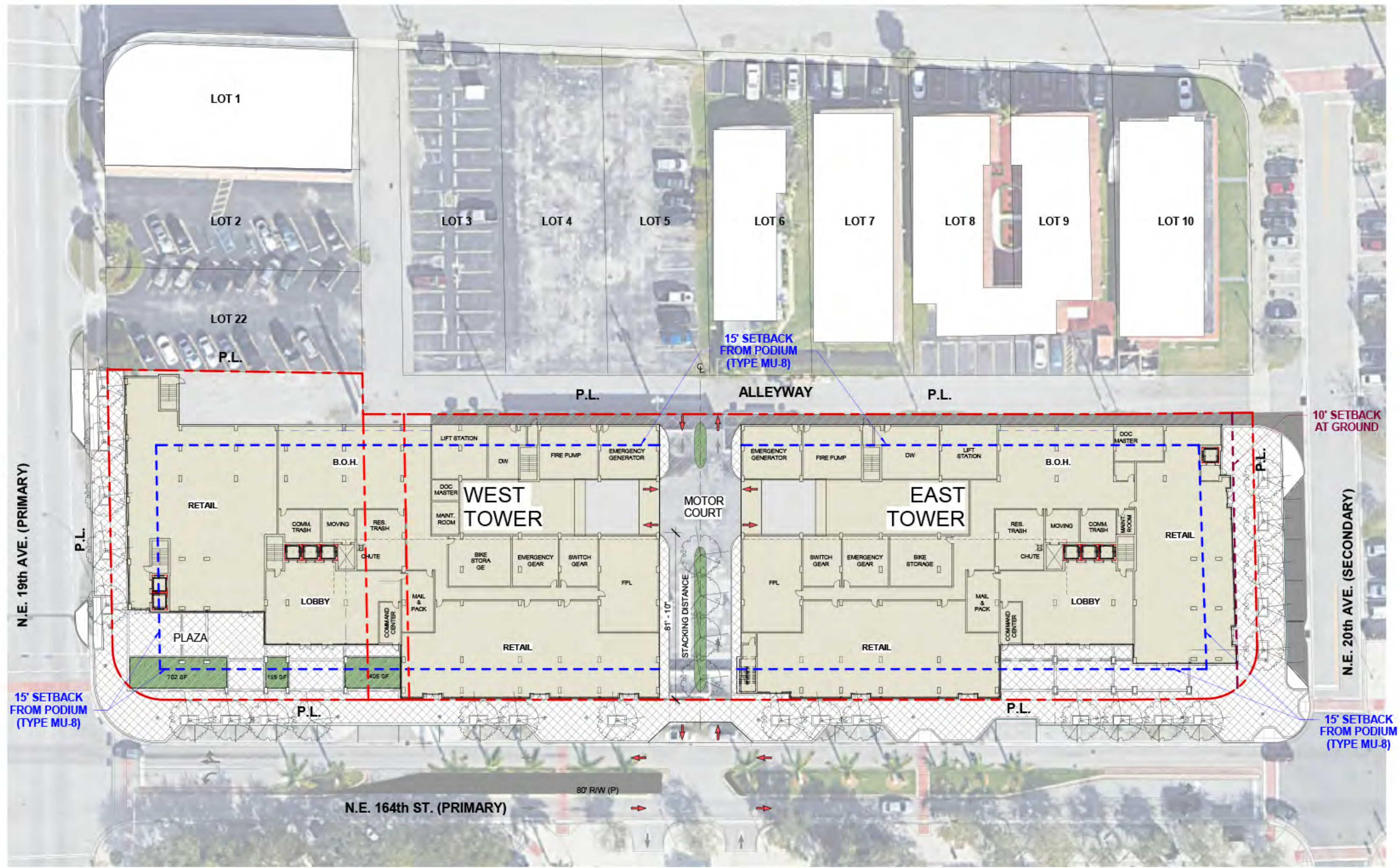
FIGURE MULTIC-4:
BUILDING HEIGHTS REGULATING PLAN

	MAXIMUM 30 STORIES/75 FEET		SITE
	MAXIMUM 23 STORIES/51 FEET		MAXIMUM 6 STORIES/85 FEET
	MAXIMUM 20 STORIES/55 FEET		MAXIMUM 3 STORIES/35 FEET
	MAXIMUM 15 STORIES/45 FEET		DISTRICT BOUNDARY
	MAXIMUM 8 STORIES/16 FEET		

**TRAD SUBMITTAL
PACKAGE**
08/05/2021

SHEET NO.

A-004



Attachment B

AM Peak Hour Trip Generation and Internalization

North Miami Beach Mixed-Use

Multi-Fam(High-Rise) Land Use 222 700 Dweling Units		Office Land Use 710 8,817 Sq Ft		Retail Land Use 820 22,545 Sq Ft		
In	Out	In	Out	In	Out	
50	159	30	5	101	62	407 ITE Trips
UNBALANCED INTERNALIZATION						
2% 3 0% 0 3% 1 1% 0 1						
1% 2 2% 1 2 17% 17 14% 9						
28% 1 4% 1 1 32% 32 29% 18						
Multi-Fam(High-Rise)		Office		Retail		
In	Out	In	Out	In	Out	
50	159	30	5	101	62	407 Vehicle Trips
BALANCED INTERNALIZATION						
-1 0 -1 0						
-2 -1 -2 -1						
-1 -1 -1 -1						
-1	-3	-2	-1	-3	-2	-12 Internal
49	156	28	4	98	60	395 External Trips
	1.9%		8.6%		3.1%	2.9% % Internal
-7	-22	-4	-1	-14	-8	-56 -14.0% Transit/Pedestrian
42	134	24	3	84	52	339
				0	0	0 0% Passby (Retail)
42	134	24	3	84	52	339 Net New External Trips

PM Peak Hour Trip Generation and Internalization

North Miami Beach Mixed-Use

Multi-Fam(High-Rise) Land Use 222 700 Dweling Units		Office Land Use 710 8,817 Sq Ft		Retail Land Use 820 22,545 Sq Ft		
In	Out	In	Out	In	Out	
150	96	2	10	87	94	439 ITE Trips
UNBALANCED INTERNALIZATION						
4% 4 4% 6 1 0 57% 1 2% 2% 0						
42% 40 46% 69 9 24 10% 9 26% 24						
20% 2 31% 1 2 1 8% 7 2% 2 2						
Multi-Fam(High-Rise)		Office		Retail		
In	Out	In	Out	In	Out	
150	96	2	10	87	94	439 Vehicle Trips
BALANCED INTERNALIZATION						
-1 0 -1 0						
-9 -24 -9 -24						
-2 -1 -2 -1						
-24	-10	-2	-2	-11	-25	-74 Internal
126	86	0	8	76	69	365 External Trips
	13.8%		33.3%		19.9%	16.9% % Internal
-18	-12	0	-1	-11	-10	-52 -14.0% Transit/Pedestrian
108	74	0	7	65	59	313
				-21	-21	-42 -34% Passby
108	74	0	7	44	38	271 Net New External Trips

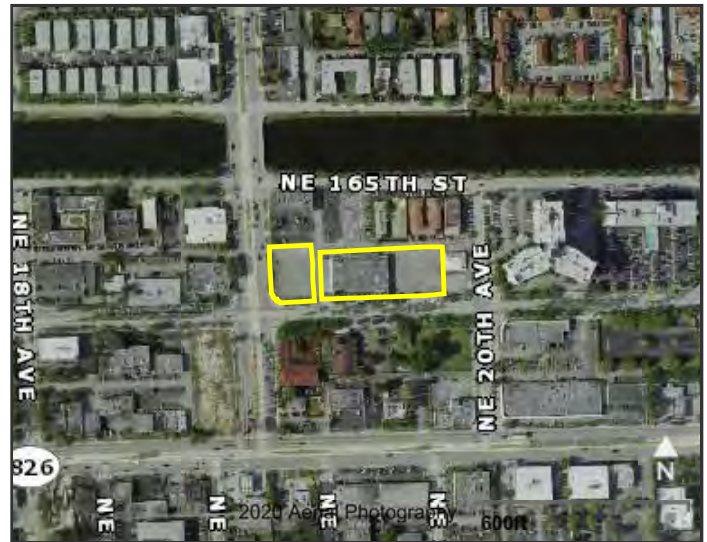


OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On : 7/1/2021

Property Information	
Folio:	07-2216-001-0370
Property Address:	1959 NE 164 ST North Miami Beach, FL 33162-4118
Owner	NMBPLACE LLC
Mailing Address	1911 NE 164 ST NORTH MIAMI BEACH, FL 33162 USA
PA Primary Zone	6400 COMMERCIAL - CENTRAL
Primary Land Use	1111 STORE : RETAIL OUTLET
Beds / Baths / Half	0 / 0 / 0
Floors	1
Living Units	0
Actual Area	Sq.Ft
Living Area	Sq.Ft
Adjusted Area	17,751 Sq.Ft
Lot Size	69,080 Sq.Ft
Year Built	1959



Assessment Information			
Year	2020	2019	2018
Land Value	\$1,657,920	\$1,657,920	\$1,657,920
Building Value	\$728,128	\$695,032	\$695,032
XF Value	\$106,471	\$107,000	\$107,529
Market Value	\$2,492,519	\$2,459,952	\$2,460,481
Assessed Value	\$2,492,519	\$2,459,952	\$2,460,481

Benefits Information				
Benefit	Type	2020	2019	2018
Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).				

Short Legal Description	
16 52 42 FULFORD BY THE SEA SEC F PB 8-64 LOTS 12 THRU 21 INC BLK 72 LOT SIZE IRREGULAR OR 15619-3180 22549-1709 0792 4	

Taxable Value Information			
	2020	2019	2018
County			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481
School Board			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481
City			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481
Regional			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481

Sales Information			
Previous Sale	Price	OR Book-Page	Qualification Description
01/28/2016	\$100	29947-2781	Corrective, tax or QCD; min consideration
01/28/2016	\$1,303,400	29947-2751	Affiliated parties
07/01/1992	\$0	00000-00000	Sales which are disqualified as a result of examination of the deed
01/01/1988	\$0	00000-00000	Sales which are disqualified as a result of examination of the deed

The Office of the Property Appraiser is continually editing and updating the tax roll. This website may not reflect the most current information on record. The Property Appraiser and Miami-Dade County assumes no liability, see full disclaimer and User Agreement at <http://www.miamidade.gov/info/disclaimer.asp>

Version:

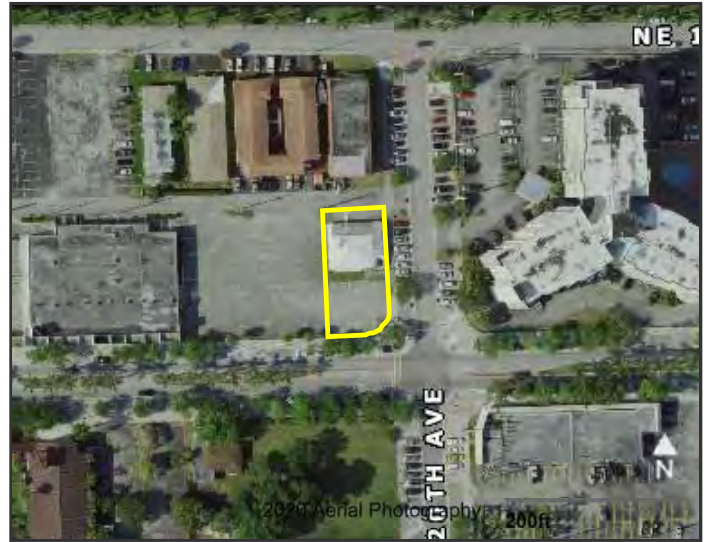


OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On : 7/1/2021

Property Information	
Folio:	07-2216-001-0360
Property Address:	1999 NE 164 ST North Miami Beach, FL 33162-4118
Owner	TFH GRP LLC
Mailing Address	1999 NE 164 ST NORTH MIAMI BEACH, FL 33162-4118
PA Primary Zone	6400 COMMERCIAL - CENTRAL
Primary Land Use	2111 RESTAURANT OR CAFETERIA : RETAIL OUTLET
Beds / Baths / Half	0 / 0 / 0
Floors	1
Living Units	0
Actual Area	Sq.Ft
Living Area	Sq.Ft
Adjusted Area	1,773 Sq.Ft
Lot Size	9,283 Sq.Ft
Year Built	Multiple (See Building Info.)



Assessment Information			
Year	2020	2019	2018
Land Value	\$222,792	\$222,792	\$222,792
Building Value	\$117,135	\$111,811	\$111,986
XF Value	\$23,867	\$24,032	\$24,198
Market Value	\$363,794	\$358,635	\$358,976
Assessed Value	\$363,794	\$358,635	\$328,410

Benefits Information				
Benefit	Type	2020	2019	2018
Non-Homestead Cap	Assessment Reduction			\$30,566
Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).				

Short Legal Description
FULFORD BY THE SEA SEC F PB 8-64 LOT 11 BLK 72 LOT SIZE 66.310 X 140 COC 26269-4290 03 2008 1

Taxable Value Information			
	2020	2019	2018
County			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$328,410
School Board			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$358,976
City			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$328,410
Regional			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$328,410

Sales Information			
Previous Sale	Price	OR Book-Page	Qualification Description
03/01/2008	\$370,000	26269-4290	Sales which are qualified

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Version:

Scenario - 1

Scenario Name: Existing

User Group:

Dev. phase: 1

No. of Years to 0

Project Traffic :

Analyst Note:

Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
820 - Shopping Center	General	1000 Sq. Ft. GLA	17.75	Weekday	Best Fit (LOG)	928	928	1856
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.68\ln(X) + 5.57$	50%	50%	
931 - Quality Restaurant	General	1000 Sq. Ft. GFA	1.77	Weekday	Average	74	74	148
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				83.84	50%	50%	
820(1) - Shopping Center	General	1000 Sq. Ft. GLA	17.75	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN)	100	61	161
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.50(X) + 151.78$	62%	38%	
931(1) - Quality Restaurant	General	1000 Sq. Ft. GFA	1.77	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average	1	1	2
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				0.73	50%	50%	
820(2) - Shopping Center	General	1000 Sq. Ft. GLA	17.75	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	73	79	152
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.74\ln(X) + 2.89$	48%	52%	
931(2) - Quality Restaurant	General	1000 Sq. Ft. GFA	1.77	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average	9	5	14
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				7.80	67%	33%	

Scenario - 2

Scenario Name: Proposed

User Group:

Dev. phase: 1

No. of Years to 0

Project Traffic :

Analyst Note:

Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
222 - Multifamily Housing (High-Rise)	General	Dwelling Units	700	Weekday	Best Fit (LIN)	1485	1485	2970
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 3.94(X) + 211.81$	50%	50%	
710 - General Office Building	General	1000 Sq. Ft. GFA	8.82	Weekday	Best Fit (LOG)	50	50	100
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.97\ln(X) + 2.50$	50%	50%	
820 - Shopping Center	General	1000 Sq. Ft. GLA	22.55	Weekday	Best Fit (LOG)	1092	1092	2184
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.68\ln(X) + 5.57$	50%	50%	
222(1) - Multifamily Housing (High-Rise)	General	Dwelling Units	700	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN)	50	159	209
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.28(X) + 12.86$	24%	76%	
710(1) - General Office Building	General	1000 Sq. Ft. GFA	8.82	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN)	30	5	35
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.94(X) + 26.49$	86%	14%	
820(1) - Shopping Center	General	1000 Sq. Ft. GLA	22.55	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN)	101	62	163
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.50(X) + 151.78$	62%	38%	
222(2) - Multifamily Housing (High-Rise)	General	Dwelling Units	700	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LIN)	150	96	246
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.34(X) + 8.56$	61%	39%	
710(2) - General Office Building	General	1000 Sq. Ft. GFA	8.82	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	2	10	12
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.95\ln(X) + 0.36$	16%	84%	
820(2) - Shopping Center	General	1000 Sq. Ft. GLA	22.55	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	87	94	181
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.74\ln(X) + 2.89$	48%	52%	

COMMUTING CHARACTERISTICS BY SEX

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

Census Tract 2.14, Miami-Dade County, Florida							
Label	Total		Male		Female		
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	
✓ Workers 16 years and over	3,207	±375	1,397	±283	1,810	±337	
✓ MEANS OF TRANSPORTATION TO WORK							
✓ Car, truck, or van	82.5%	±7.3	79.9%	±11.9	84.5%	±8.7	
Drove alone	68.3%	±6.7	68.6%	±10.3	68.1%	±9.7	
✓ Carpooled	14.2%	±7.0	11.3%	±7.5	16.5%	±8.4	
In 2-person carpool	9.8%	±5.9	9.8%	±7.3	9.8%	±6.1	
In 3-person carpool	0.0%	±1.3	0.0%	±3.0	0.0%	±2.3	
In 4-or-more person carpool	4.4%	±4.9	1.5%	±2.3	6.7%	±6.9	
Workers per car, truck, or van	1.11	±0.06	1.08	±0.05	1.13	±0.08	
Public transportation (excluding taxicab)	8.7%	±5.4	7.5%	±7.0	9.6%	±6.3	
Walked	5.3%	±5.1	8.4%	±10.1	2.8%	±3.6	
Bicycle	0.7%	±1.2	0.0%	±3.0	1.3%	±2.1	
Taxicab, motorcycle, or other means	2.4%	±2.6	3.2%	±4.8	1.8%	±2.9	
Worked from home	0.4%	±0.7	0.9%	±1.5	0.0%	±2.3	
➤ PLACE OF WORK							
➤ Workers 16 years and over who did not work from	3,194	±380	1,384	±286	1,810	±337	
➤ VEHICLES AVAILABLE							
➤ PERCENT ALLOCATED							

Table Notes

COMMUTING CHARACTERISTICS BY SEX

Survey/Program: American Community Survey
Year: 2019
Estimates: 5-Year
Table ID: S0801

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

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

When information is missing or inconsistent, the Census Bureau logically assigns an acceptable value using the response to a related question or questions. If a logical assignment is not possible, data are filled using a statistical process called allocation, which uses a similar individual or household to provide a donor value. The "Allocated" section is the number of respondents who received an allocated value for a particular subject.

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

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

The 12 selected states are Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

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

The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

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

Explanation of Symbols:

- An "***" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.

An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.

An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.

An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

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

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

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

Attachment C

N Miami Beach Mixed-Use

21133

Background Growth Rate

Station	Location	2015	2016	2017	2018	2019	2020
5225	SR 826/NE 163 ST, 100' E OF NE 20 AVE	56,000	49,000	58,000	49,500	51,000	43,500
5219	SR 5/US-1, 300' S NE 163 ST/SUNNY ISLES CSWY	60,000	63,500	63,500	59,500	61,000	49,500
5229	SR 826/NE 167 ST, 200' W NE 10 AV	57,000	59,000	54,500	61,500	61,000	53,000
0556	SR 826/NE 163 ST, 1700' E SR 5/US-1	64,000	65,500	63,500	59,500	61,500	53,500
8505	NE 159 ST, 200' WEST OF NE 14 AVE	14,500	14,300	14,100	12,600	13,900	12,400
8273	NE 19TH AVE, 200' NORTH OF 175TH STREET	15,300	18,300	18,900	19,000	21,300	20,400
8455	NE 171 ST, 200 W OF NE 20 AVE	5,600	5,500	5,500	6,900	6,700	5,900
Total		272,400	275,100	278,000	268,500	276,400	238,200
Yearly Growth			1.0%	1.1%	-3.4%	2.9%	-13.8%
Growth Trend						0.4%	-2.5%

*Growth rate of 0.5% used in Study as the 0.4% from 2019 is below 0.5% and 2020 counts reflect the impacts from the Covid-19 shutdowns

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 0556 - SR 826/NE 163 ST, 1700' E SR 5/US-1

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	53500	C	E 27000		W 26500	9.00	54.20	4.50
2019	61500	C	E 30000		W 31500	9.00	54.60	3.60
2018	59500	C	E 29500		W 30000	9.00	54.30	5.10
2017	63500	C	E 31000		W 32500	9.00	55.00	3.30
2016	65500	C	E 32000		W 33500	9.00	54.50	3.10
2015	64000	C	E 31500		W 32500	9.00	54.70	6.00
2014	56500	C	E 27500		W 29000	9.00	54.50	6.00
2013	60000	C	E 29000		W 31000	9.00	52.40	6.00
2012	61000	C	E 29500		W 31500	9.00	55.70	3.40
2011	63500	C	E 34000		W 29500	9.00	55.10	4.90
2010	55000	C	E 26500		W 28500	8.98	54.08	4.90
2009	57000	C	E 28500		W 28500	8.99	53.24	2.70
2008	53000	C	E 26500		W 26500	9.09	55.75	2.70
2007	42500	C	E 21000		W 21500	8.01	54.34	3.40
2006	66500	C	E 35500		W 31000	7.97	54.22	2.10
2005	61500	C	E 29000		W 32500	8.80	53.80	14.70

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5219 - SR 5/US-1, 300' S NE 163 ST/SUNNY ISLES CSWY

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	49500	C	N 24500		S 25000	9.00	54.20	2.50
2019	61000	C	N 30000		S 31000	9.00	54.60	2.20
2018	59500	C	N 29500		S 30000	9.00	54.30	2.40
2017	63500	C	N 31500		S 32000	9.00	55.00	2.30
2016	63500	C	N 31000		S 32500	9.00	54.50	2.00
2015	60000	C	N 29500		S 30500	9.00	54.70	2.00
2014	55000	C	N 25500		S 29500	9.00	54.50	4.90
2013	54000	C	N 25000		S 29000	9.00	52.40	3.50
2012	64000	C	N 31000		S 33000	9.00	55.70	4.80
2011	61500	C	N 30500		S 31000	9.00	55.10	3.90
2010	60000	C	N 30000		S 30000	8.98	54.08	3.90
2009	60500	C	N 29500		S 31000	8.99	53.24	3.40
2008	55000	C	N 27000		S 28000	9.09	55.75	4.70
2007	60500	C	N 29000		S 31500	8.01	54.34	5.90
2006	58000	C	N 29000		S 29000	7.97	54.22	4.20
2005	57500	C	N 28500		S 29000	8.80	53.80	7.70

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5225 - SR 826/NE 163 ST, 100' E OF NE 20 AVE

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	43500	C	E 23000		W 20500	9.00	54.20	3.10
2019	51000	C	E 27500		W 23500	9.00	54.60	3.90
2018	49500	C	E 26500		W 23000	9.00	54.30	4.20
2017	58000	C	E 29000		W 29000	9.00	55.00	9.40
2016	49000	C	E 26500		W 22500	9.00	54.50	5.30
2015	56000	C	E 29500		W 26500	9.00	54.70	4.50
2014	50000	C	E 27000		W 23000	9.00	54.50	3.70
2013	50000	C	E 27500		W 22500	9.00	52.40	3.30
2012	54000	C	E 29500		W 24500	9.00	55.70	2.80
2011	55000	C	E 27500		W 27500	9.00	55.10	2.80
2010	52500	C	E 26500		W 26000	8.98	54.08	2.80
2009	58000	C	E 29500		W 28500	8.99	53.24	4.10
2008	53500	C	E 27500		W 26000	9.09	55.75	4.20
2007	54000	C	E 27500		W 26500	8.01	54.34	3.20
2006	51000	C	E 25500		W 25500	7.97	54.22	5.10
2005	51000	C	E 26000		W 25000	8.80	53.80	5.50

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5229 - SR 826/NE 167 ST, 200' W NE 10 AV

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	53000	C	E 27500		W 25500	9.00	54.20	4.30
2019	61000	C	E 32000		W 29000	9.00	54.60	3.20
2018	61500	C	E 29500		W 32000	9.00	54.30	4.70
2017	54500	C	E 26500		W 28000	9.00	55.00	9.70
2016	59000	C	E 31000		W 28000	9.00	54.50	4.20
2015	57000	C	E 26500		W 30500	9.00	54.70	7.10
2014	58000	C	E 30000		W 28000	9.00	54.50	4.50
2013	60500	C	E 31000		W 29500	9.00	52.40	3.60
2012	62000	C	E 31500		W 30500	9.00	55.70	3.60
2011	60500	C	E 30500		W 30000	9.00	55.10	3.60
2010	59000	C	E 31000		W 28000	8.98	54.08	3.60
2009	57000	C	E 29000		W 28000	8.99	53.24	3.30
2008	56000	C	E 28500		W 27500	9.09	55.75	3.60
2007	56500	C	E 28500		W 28000	8.01	54.34	3.20
2006	57500	C	E 30000		W 27500	7.97	54.22	5.10
2005	56000	C	E 28500		W 27500	8.80	53.80	5.50

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8273 - NE 19TH AVE, 200' NORTH OF 175TH STREET

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	20400 F	N	9400	S	11000	9.00	54.20	10.40
2019	21300 C	N	9800	S	11500	9.00	54.60	11.00
2018	19000 S	N	9000	S	10000	9.00	54.30	12.10
2017	18900 F	N	8900	S	10000	9.00	55.00	12.60
2016	18300 C	N	8600	S	9700	9.00	54.50	13.50
2015	15300 T	N	6200	S	9100	9.00	54.70	13.70
2014	14800 S	N	6000	S	8800	9.00	54.50	17.40
2013	14600 F	N	5900	S	8700	9.00	52.40	16.20
2012	14900 C	N	6000	S	8900	9.00	55.70	16.00

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8455 - NE 171 ST, 200 W OF NE 20 AVE (2011 OFF SYSTEM CYCLE)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	5900 S	E	2900	W	3000	9.00	56.00	3.80
2019	6700 F	E	3300	W	3400	9.00	56.00	3.70
2018	6900 C	E	3400	W	3500	9.00	54.30	2.30
2017	5500 T	E	3000	W	2500	9.00	59.30	5.10
2016	5500 S	E	3000	W	2500	9.00	56.10	3.80
2015	5600 F	E	3100	W	2500	9.00	57.40	4.10
2014	5600 C	E	3100	W	2500	9.00	59.30	6.70
2013	850 F		0		0	9.00	58.90	16.20
2012	850 C	E	0	W	0	9.00	59.70	16.00

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8505 - NE 159 ST, 200' WEST OF NE 14 AVE (2011 OFF SYSTEM CYCLE)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
----	-----		-----		-----	-----	-----	-----	
2020	12400	F	E	6100	W	6300	9.00	56.00	3.80
2019	13900	C	E	6800	W	7100	9.00	56.00	3.70
2018	12600	T	E	6300	W	6300	9.00	54.30	2.30
2017	14100	S	E	7000	W	7100	9.00	59.30	5.10
2016	14300	F	E	7100	W	7200	9.00	56.10	3.80
2015	14500	C	E	7200	W	7300	9.00	57.40	4.10
2014	12500	S					9.00	59.30	6.70
2013	12500	F		0		0	9.00	58.90	16.20
2012	12500	C	E	0	W	0	9.00	59.70	16.00

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

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

Appendix C

Data Collection

Traffic Volumes

FDOT Count Station Traffic Volumes

Covid-19 Factor Calculations

Seasonal Factors

Signal Timings

Historic Background Growth

Traffic Volumes

VOLUME

NE 164th St Bet. NE 19th Ave and NE 22nd Ave

Day: Tuesday
Date: 8/24/2021City: North Miami Beach
Project #: FL21_140185_001

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						1,796	1,388						3,184
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							TOTAL
00:00			3	3	6		12:00			28	19	47							
00:15			2	1	3		12:15			27	12	39							
00:30			4	2	6		12:30			19	17	36							
00:45			3	12	0	6	12:45			34	108	24	72	58	180				
01:00			0	0	0		13:00			28	21	49							
01:15			0	2	2		13:15			38	34	72							
01:30			1	1	2		13:30			18	27	45							
01:45			0	1	0	3	13:45			32	116	31	113	63	229				
02:00			1	2	3		14:00			36	24	60							
02:15			0	0	0		14:15			33	19	52							
02:30			3	3	6		14:30			42	33	75							
02:45			1	5	1	6	14:45			36	147	24	100	60	247				
03:00			1	3	4		15:00			31	29	60							
03:15			2	0	2		15:15			26	31	57							
03:30			0	0	0		15:30			28	29	57							
03:45			1	4	0	3	15:45			37	122	31	120	68	242				
04:00			0	0	0		16:00			35	24	59							
04:15			0	0	0		16:15			24	26	50							
04:30			0	2	2		16:30			32	32	64							
04:45			0	2	2	4	16:45			29	120	29	111	58	231				
05:00			2	2	4		17:00			33	25	58							
05:15			0	1	1		17:15			34	31	65							
05:30			0	2	2		17:30			31	27	58							
05:45			4	6	2	7	17:45			52	150	18	101	70	251				
06:00			4	4	8		18:00			55	36	91							
06:15			7	3	10		18:15			42	35	77							
06:30			3	15	18		18:30			23	34	57							
06:45			15	29	6	28	18:45			36	156	13	118	49	274				
07:00			11	15	26		19:00			30	14	44							
07:15			18	17	35		19:15			18	17	35							
07:30			13	13	26		19:30			26	22	48							
07:45			19	61	24	69	19:45			21	95	11	64	32	159				
08:00			26	18	44		20:00			13	11	24							
08:15			26	22	48		20:15			18	9	27							
08:30			34	27	61		20:30			22	13	35							
08:45			52	138	21	88	20:45			17	70	15	48	32	118				
09:00			39	17	56		21:00			19	7	26							
09:15			35	20	55		21:15			14	9	23							
09:30			37	28	65		21:30			6	5	11							
09:45			25	136	20	85	21:45			9	48	4	25	13	73				
10:00			31	21	52		22:00			9	7	16							
10:15			30	24	54		22:15			8	13	21							
10:30			26	15	41		22:30			4	3	7							
10:45			29	116	26	86	22:45			4	25	3	26	7	51				
11:00			18	26	44		23:00			4	1	5							
11:15			35	24	59		23:15			3	7	10							
11:30			29	17	46		23:30			4	3	7							
11:45			34	116	23	90	23:45			4	15	4	15	8	30				
TOTALS			624	475	1099		TOTALS			1172	913	2085							
SPLIT %			56.8%	43.2%	34.5%		SPLIT %			56.2%	43.8%	65.5%							

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						1,796	1,388						3,184
AM Peak Hour			08:45	09:30	08:45		PM Peak Hour			17:30	17:45	17:30							
AM Pk Volume			163	93	249		PM Pk Volume			180	123	296							
Pk Hr Factor			0.784	0.830	0.853		Pk Hr Factor			0.818	0.854	0.813							
7 - 9 Volume	0	0	199	157	356		4 - 6 Volume	0	0	270	212	482							
7 - 9 Peak Hour			08:00	07:45	08:00		4 - 6 Peak Hour			17:00	16:30	17:00							
7 - 9 Pk Volume	0	0	138	91	226		4 - 6 Pk Volume	0	0	150	117	251							
Pk Hr Factor	0.000	0.000	0.663	0.843	0.774		Pk Hr Factor	0.000	0.000	0.721	0.914	0.896							

VOLUME

NE 164th St Bet. NE 19th Ave and NE 22nd Ave

Day: Wednesday

Date: 8/25/2021

City: North Miami Beach

Project #: FL21_140185_001

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						1,825	1,448						3,273
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00			0	2	2		12:00			28	19	47							
00:15			3	2	5		12:15			31	26	57							
00:30			2	0	2		12:30			31	21	52							
00:45			2	7	2	6	12:45			31	121	22	88	53	209				
01:00			1	0	1		13:00			35	19	54							
01:15			0	0	0		13:15			38	36	74							
01:30			0	1	1		13:30			34	26	60							
01:45			0	1	0	1	13:45			19	126	27	108	46	234				
02:00			0	1	1		14:00			27	30	57							
02:15			0	0	0		14:15			41	29	70							
02:30			0	1	1		14:30			34	34	68							
02:45			2	2	0	2	14:45			42	144	31	124	73	268				
03:00			1	0	1		15:00			37	33	70							
03:15			1	3	4		15:15			31	25	56							
03:30			0	0	0		15:30			29	35	64							
03:45			0	2	0	3	15:45			36	133	38	131	74	264				
04:00			2	1	3		16:00			41	27	68							
04:15			3	1	4		16:15			21	34	55							
04:30			0	0	0		16:30			41	29	70							
04:45			2	7	2	4	16:45			34	137	38	128	72	265				
05:00			5	4	9		17:00			39	37	76							
05:15			2	2	4		17:15			29	25	54							
05:30			1	2	3		17:30			37	31	68							
05:45			3	11	2	10	17:45			45	150	25	118	70	268				
06:00			3	7	10		18:00			30	17	47							
06:15			6	5	11		18:15			30	22	52							
06:30			8	19	27		18:30			22	20	42							
06:45			14	31	6	37	18:45			31	113	19	78	50	191				
07:00			11	12	23		19:00			36	19	55							
07:15			13	15	28		19:15			33	19	52							
07:30			17	10	27		19:30			31	19	50							
07:45			26	67	14	51	19:45			31	131	17	74	48	205				
08:00			22	18	40		20:00			17	18	35							
08:15			24	23	47		20:15			18	12	30							
08:30			26	18	44		20:30			20	13	33							
08:45			24	96	22	81	20:45			21	76	9	52	30	128				
09:00			25	13	38		21:00			18	13	31							
09:15			24	20	44		21:15			13	8	21							
09:30			36	31	67		21:30			11	6	17							
09:45			32	117	16	80	21:45			8	50	9	36	17	86				
10:00			34	27	61		22:00			9	11	20							
10:15			31	29	60		22:15			6	5	11							
10:30			41	13	54		22:30			3	7	10							
10:45			49	155	24	93	22:45			5	23	3	26	8	49				
11:00			26	25	51		23:00			7	5	12							
11:15			25	20	45		23:15			8	7	15							
11:30			26	31	57		23:30			4	4	8							
11:45			23	100	24	100	23:45			6	25	1	17	7	42				
TOTALS			596	468	1064		TOTALS			1229	980	2209							
SPLIT %			56.0%	44.0%	32.5%		SPLIT %			55.6%	44.4%	67.5%							

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						1,825	1,448						3,273
AM Peak Hour			10:00	09:30	10:00		PM Peak Hour			14:15	16:15	14:15							
AM Pk Volume			155	103	248		PM Pk Volume			154	138	281							
Pk Hr Factor			0.791	0.831	0.849		Pk Hr Factor			0.917	0.908	0.962							
7 - 9 Volume	0	0	163	132	295		4 - 6 Volume	0	0	287	246	533							
7 - 9 Peak Hour			07:45	08:00	08:00		4 - 6 Peak Hour			17:00	16:15	16:15							
7 - 9 Pk Volume	0	0	98	81	177		4 - 6 Pk Volume	0	0	150	138	273							
Pk Hr Factor	0.000	0.000	0.942	0.880	0.941		Pk Hr Factor	0.000	0.000	0.833	0.908	0.898							

VOLUME

NE 164th St Bet. NE 19th Ave and NE 22nd Ave

Day: Thursday
Date: 8/26/2021City: North Miami Beach
Project #: FL21_140185_001

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						1,847	1,381						3,228
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							TOTAL
00:00			8	2	10		12:00			33	21	54							
00:15			2	4	6		12:15			29	14	43							
00:30			4	0	4		12:30			29	29	58							
00:45			0	14	1	7	12:45			30	121	26	90	56	211				
01:00			1	0	1		13:00			37	29	66							
01:15			2	0	2		13:15			37	15	52							
01:30			0	2	2		13:30			42	38	80							
01:45			0	3	4	6	13:45			32	148	32	114	64	262				
02:00			0	2	2		14:00			34	32	66							
02:15			0	1	1		14:15			35	25	60							
02:30			0	1	1		14:30			39	25	64							
02:45			0	0	0	4	14:45			40	148	26	108	66	256				
03:00			2	0	2		15:00			33	23	56							
03:15			0	0	0		15:15			44	24	68							
03:30			0	0	0		15:30			28	29	57							
03:45			1	3	1	1	15:45			27	132	31	107	58	239				
04:00			0	0	0		16:00			31	26	57							
04:15			0	2	2		16:15			30	27	57							
04:30			2	1	3		16:30			26	31	57							
04:45			1	3	1	4	16:45			38	125	17	101	55	226				
05:00			5	1	6		17:00			35	30	65							
05:15			1	1	2		17:15			42	34	76							
05:30			0	5	5		17:30			31	27	58							
05:45			4	10	4	11	17:45			34	142	38	129	72	271				
06:00			2	6	8		18:00			27	26	53							
06:15			5	6	11		18:15			23	29	52							
06:30			7	8	15		18:30			33	23	56							
06:45			14	28	8	28	18:45			32	115	18	96	50	211				
07:00			11	13	24		19:00			27	16	43							
07:15			11	4	15		19:15			46	22	68							
07:30			22	19	41		19:30			23	24	47							
07:45			9	53	18	54	19:45			27	123	14	76	41	199				
08:00			21	23	44		20:00			12	8	20							
08:15			29	27	56		20:15			25	19	44							
08:30			39	15	54		20:30			14	14	28							
08:45			49	138	13	78	20:45			15	66	9	50	24	116				
09:00			45	19	64		21:00			20	6	26							
09:15			40	25	65		21:15			14	13	27							
09:30			41	21	62		21:30			5	11	16							
09:45			35	161	14	79	21:45			1	40	9	39	10	79				
10:00			34	18	52		22:00			0	11	11							
10:15			38	23	61		22:15			7	6	13							
10:30			24	22	46		22:30			14	1	15							
10:45			21	117	12	75	22:45			13	34	1	19	14	53				
11:00			23	29	52		23:00			7	5	12							
11:15			32	18	50		23:15			8	9	17							
11:30			29	20	49		23:30			0	5	5							
11:45			19	103	15	82	23:45			5	20	4	23	9	43				
TOTALS			633	429	1062		TOTALS			1214	952	2166							
SPLIT %			59.6%	40.4%	32.9%		SPLIT %			56.0%	44.0%	67.1%							

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						1,847	1,381						3,228
AM Peak Hour			08:45	07:30	08:45		PM Peak Hour			14:30	17:00	17:00							
AM Pk Volume			175	87	253		PM Pk Volume			156	129	271							
Pk Hr Factor			0.893	0.806	0.973		Pk Hr Factor			0.886	0.849	0.891							
7 - 9 Volume	0	0	191	132	323		4 - 6 Volume	0	0	267	230	497							
7 - 9 Peak Hour			08:00	07:30	08:00		4 - 6 Peak Hour			16:45	17:00	17:00							
7 - 9 Pk Volume	0	0	138	87	216		4 - 6 Pk Volume	0	0	146	129	271							
Pk Hr Factor	0.000	0.000	0.704	0.806	0.871		Pk Hr Factor	0.000	0.000	0.869	0.849	0.891							

VOLUME

NE 163rd St Bet. NE 19th Ave and NE 22nd Ave

Day: Tuesday
Date: 8/24/2021City: North Miami Beach
Project #: FL21_140185_002

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						24,784	23,118
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			77	99	176		12:00			416	385	801	
00:15			66	71	137		12:15			375	317	692	
00:30			50	62	112		12:30			389	400	789	
00:45			44	237	58	290	12:45			426	1606	361	1463
01:00			38	45	83		13:00			382	316	698	
01:15			36	28	64		13:15			416	421	837	
01:30			35	29	64		13:30			380	416	796	
01:45			27	136	35	137	13:45			409	1587	364	1517
02:00			27	20	47		14:00			420	377	797	
02:15			28	20	48		14:15			424	409	833	
02:30			19	19	38		14:30			429	399	828	
02:45			30	104	19	78	14:45			379	1652	388	1573
03:00			15	27	42		15:00			416	392	808	
03:15			20	17	37		15:15			426	483	909	
03:30			21	24	45		15:30			383	377	760	
03:45			24	80	24	92	15:45			408	1633	427	1679
04:00			18	28	46		16:00			417	404	821	
04:15			23	23	46		16:15			384	432	816	
04:30			36	20	56		16:30			415	406	821	
04:45			41	118	30	101	16:45			399	1615	470	1712
05:00			52	28	80		17:00			432	482	914	
05:15			72	35	107		17:15			417	384	801	
05:30			151	50	201		17:30			400	366	766	
05:45			123	398	74	187	17:45			202	1451	263	1495
06:00			172	88	260		18:00			210	316	526	
06:15			253	102	355		18:15			308	383	691	
06:30			321	148	469		18:30			368	453	821	
06:45			364	1110	162	500	18:45			358	1244	372	1524
07:00			347	224	571		19:00			331	329	660	
07:15			348	232	580		19:15			350	339	689	
07:30			400	257	657		19:30			283	297	580	
07:45			434	1529	301	1014	19:45			310	1274	309	1274
08:00			392	254	646		20:00			281	270	551	
08:15			423	346	769		20:15			275	283	558	
08:30			455	355	810		20:30			250	253	503	
08:45			346	1616	350	1305	20:45			238	1044	227	1033
09:00			225	261	486		21:00			249	247	496	
09:15			318	329	647		21:15			213	227	440	
09:30			433	350	783		21:30			209	200	409	
09:45			395	1371	322	1262	21:45			168	839	186	860
10:00			346	255	601		22:00			180	214	394	
10:15			383	376	759		22:15			182	203	385	
10:30			405	299	704		22:30			156	167	323	
10:45			340	1474	335	1265	22:45			173	691	153	737
11:00			372	387	759		23:00			116	161	277	
11:15			399	327	726		23:15			110	175	285	
11:30			374	346	720		23:30			114	153	267	
11:45			405	1550	371	1431	23:45			85	425	100	589
TOTALS			9723	7662	17385		TOTALS			15061	15456	30517	
SPLIT %			55.9%	44.1%	36.3%		SPLIT %			49.4%	50.6%	63.7%	

DAILY TOTALS			NB	SB	EB			WB		Total	
			0	0							
AM Peak Hour			07:45	11:45	11:45	PM Peak Hour			13:45	16:15	16:15
AM Pk Volume			1704	1473	3058	PM Pk Volume			1682	1790	3420
Pk Hr Factor			0.936	0.921	0.954	Pk Hr Factor			0.980	0.928	0.935
7 - 9 Volume	0	0	3145	2319	5464	4 - 6 Volume	0	0	3066	3207	6273
7 - 9 Peak Hour			07:45	08:00	07:45	4 - 6 Peak Hour			16:30	16:15	16:15
7 - 9 Pk Volume	0	0	1704	1305	2960	4 - 6 Pk Volume	0	0	1663	1790	3420
Pk Hr Factor	0.000	0.000	0.936	0.919	0.914	Pk Hr Factor	0.000	0.000	0.962	0.928	0.935

VOLUME

NE 163rd St Bet. NE 19th Ave and NE 22nd Ave

Day: Wednesday

Date: 8/25/2021

City: North Miami Beach

Project #: FL21_140185_002

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0	24,557					23,689	48,246
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			75	96	171		12:00			389	408	797	
00:15			72	89	161		12:15			386	362	748	
00:30			60	85	145		12:30			370	305	675	
00:45			49	256	67	337	12:45			380	1525	454	1529
01:00			33	56	89		13:00			371	293	664	
01:15			33	35	68		13:15			385	370	755	
01:30			33	34	67		13:30			371	447	818	
01:45			35	134	26	151	13:45			393	1520	413	1523
02:00			24	27	51		14:00			383	373	756	
02:15			30	30	60		14:15			423	386	809	
02:30			29	26	55		14:30			422	488	910	
02:45			24	107	26	109	14:45			411	1639	446	1693
03:00			15	22	37		15:00			399	432	831	
03:15			31	20	51		15:15			410	418	828	
03:30			31	19	50		15:30			383	372	755	
03:45			18	95	31	92	15:45			367	1559	442	1664
04:00			23	19	42		16:00			360	427	787	
04:15			20	26	46		16:15			397	421	818	
04:30			33	28	61		16:30			397	416	813	
04:45			48	124	19	92	16:45			392	1546	455	1719
05:00			52	25	77		17:00			395	474	869	
05:15			82	44	126		17:15			390	395	785	
05:30			132	56	188		17:30			440	452	892	
05:45			146	412	88	213	17:45			400	1625	450	1771
06:00			174	82	256		18:00			380	433	813	
06:15			235	133	368		18:15			412	373	785	
06:30			296	116	412		18:30			352	385	737	
06:45			367	1072	187	518	18:45			389	1533	367	1558
07:00			370	235	605		19:00			303	348	651	
07:15			390	263	653		19:15			316	338	654	
07:30			410	245	655		19:30			281	294	575	
07:45			384	1554	326	1069	19:45			321	1221	271	1251
08:00			404	301	705		20:00			268	277	545	
08:15			410	355	765		20:15			280	210	490	
08:30			421	370	791		20:30			239	319	558	
08:45			409	1644	305	1331	20:45			203	990	231	1037
09:00			320	297	617		21:00			266	244	510	
09:15			332	254	586		21:15			199	170	369	
09:30			303	308	611		21:30			180	226	406	
09:45			342	1297	296	1155	21:45			210	855	176	816
10:00			346	312	658		22:00			169	196	365	
10:15			323	385	708		22:15			167	207	374	
10:30			270	269	539		22:30			167	164	331	
10:45			330	1269	373	1339	22:45			164	667	167	734
11:00			357	343	700		23:00			131	180	311	
11:15			346	334	680		23:15			107	172	279	
11:30			390	393	783		23:30			92	131	223	
11:45			391	1484	317	1387	23:45			99	429	118	601
TOTALS			9448	7793	17241		TOTALS			15109	15896	31005	
SPLIT %			54.8%	45.2%	35.7%		SPLIT %			48.7%	51.3%	64.3%	

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						24,557	23,689						48,246
AM Peak Hour			08:00	11:30	11:30		PM Peak Hour			14:15	14:30	14:30							
AM Pk Volume			1644	1480	3036		PM Pk Volume			1655	1784	3426							
Pk Hr Factor			0.976	0.907	0.952		Pk Hr Factor			0.978	0.914	0.941							
7 - 9 Volume	0	0	3198	2400	5598		4 - 6 Volume	0	0	3171	3490	6661							
7 - 9 Peak Hour			08:00	07:45	08:00		4 - 6 Peak Hour			17:00	16:45	17:00							
7 - 9 Pk Volume	0	0	1644	1352	2975		4 - 6 Pk Volume	0	0	1625	1776	3396							
Pk Hr Factor	0.000	0.000	0.976	0.914	0.940		Pk Hr Factor	0.000	0.000	0.923	0.937	0.952							

VOLUME

NE 163rd St Bet. NE 19th Ave and NE 22nd Ave

Day: Thursday
Date: 8/26/2021City: North Miami Beach
Project #: FL21_140185_002

DAILY TOTALS					NB	SB	EB					WB	Total		
					0	0	24,999					23,409	48,408		
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			55	88	143		12:00			384	333	717			
00:15			76	73	149		12:15			389	370	759			
00:30			51	58	109		12:30			357	339	696			
00:45			50	232	44	263	12:45			363	1493	415	1457	778	2950
01:00			38	54	92		13:00			404	340	744			
01:15			40	34	74		13:15			383	367	750			
01:30			37	28	65		13:30			367	335	702			
01:45			30	145	25	141	13:45			377	1531	439	1481	816	3012
02:00			28	30	58		14:00			412	304	716			
02:15			25	29	54		14:15			427	456	883			
02:30			13	24	37		14:30			367	430	797			
02:45			23	89	20	103	14:45			426	1632	362	1552	788	3184
03:00			20	17	37		15:00			475	436	911			
03:15			26	29	55		15:15			453	470	923			
03:30			29	33	62		15:30			396	440	836			
03:45			25	100	21	100	15:45			382	1706	455	1801	837	3507
04:00			21	28	49		16:00			401	464	865			
04:15			25	23	48		16:15			403	450	853			
04:30			37	27	64		16:30			434	456	890			
04:45			49	132	31	109	16:45			423	1661	378	1748	801	3409
05:00			35	27	62		17:00			400	453	853			
05:15			67	36	103		17:15			385	458	843			
05:30			112	48	160		17:30			389	444	833			
05:45			154	368	69	180	17:45			437	1611	453	1808	890	3419
06:00			176	115	291		18:00			365	401	766			
06:15			241	128	369		18:15			418	353	771			
06:30			272	107	379		18:30			358	433	791			
06:45			389	1078	139	489	18:45			388	1529	334	1521	722	3050
07:00			306	196	502		19:00			331	360	691			
07:15			329	254	583		19:15			361	288	649			
07:30			393	296	689		19:30			297	351	648			
07:45			356	1384	287	1033	19:45			315	1304	275	1274	590	2578
08:00			412	276	688		20:00			278	270	548			
08:15			397	310	707		20:15			295	280	575			
08:30			400	313	713		20:30			269	300	569			
08:45			332	1541	236	1135	20:45			205	1047	248	1098	453	2145
09:00			313	269	582		21:00			273	253	526			
09:15			394	306	700		21:15			215	228	443			
09:30			379	264	643		21:30			201	180	381			
09:45			345	1431	302	1141	21:45			176	865	198	859	374	1724
10:00			327	305	632		22:00			189	203	392			
10:15			366	354	720		22:15			167	229	396			
10:30			428	317	745		22:30			156	169	325			
10:45			340	1461	335	1311	22:45			190	702	150	751	340	1453
11:00			364	382	746		23:00			136	179	315			
11:15			361	346	707		23:15			120	186	306			
11:30			363	324	687		23:30			112	140	252			
11:45			401	1489	361	1413	23:45			100	468	136	641	236	1109
TOTALS			9450	7418	16868		TOTALS			15549	15991	31540			
SPLIT %			56.0%	44.0%	34.8%		SPLIT %			49.3%	50.7%	65.2%			

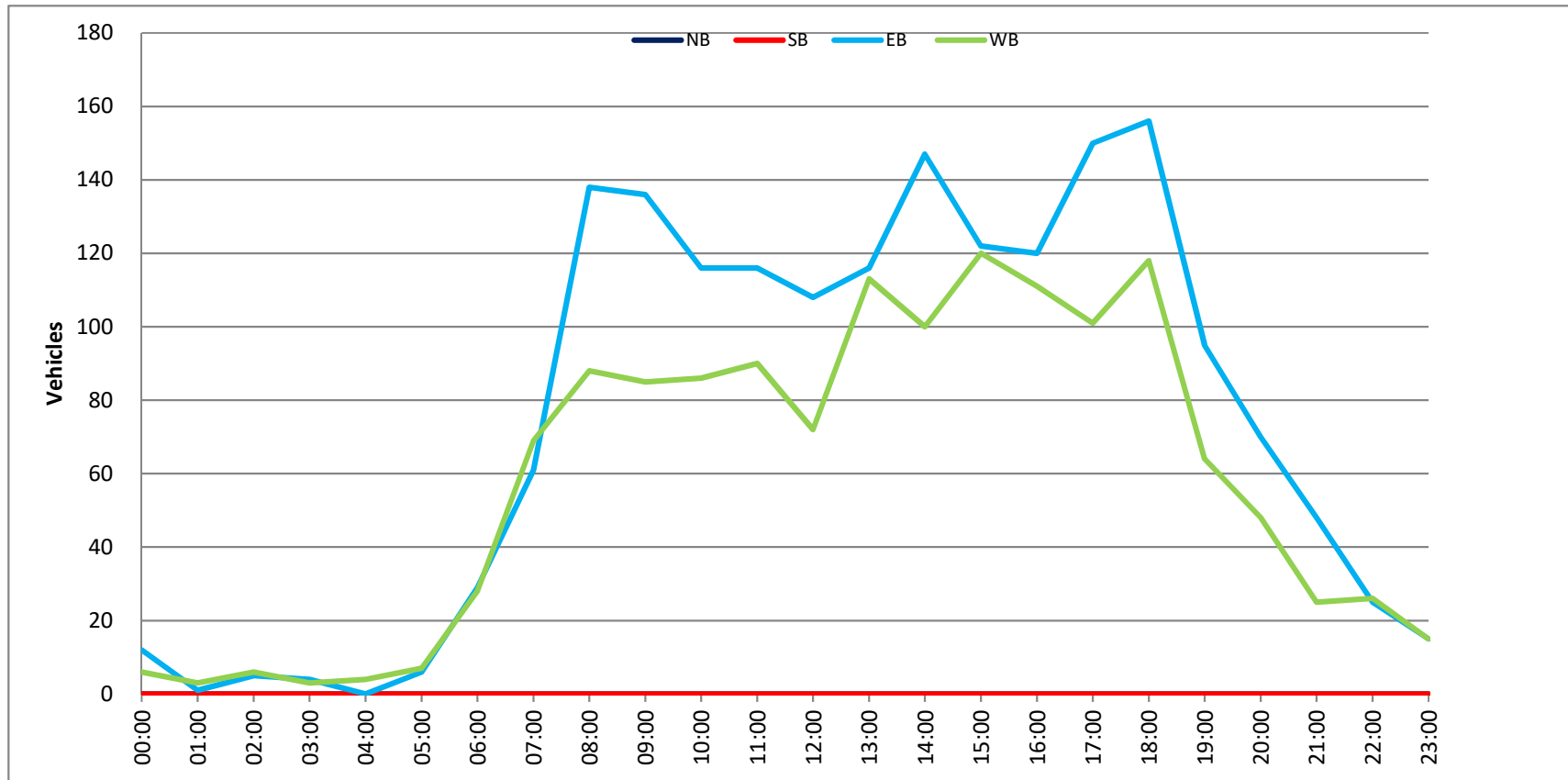
DAILY TOTALS					NB	SB	EB					WB	Total				
					0	0	24,999					23,409	48,408				
AM Peak Hour			07:45	11:00	11:45		PM Peak Hour			14:45	15:15	15:00					
AM Pk Volume			1565	1413	2934		PM Pk Volume			1750	1829	3507					
Pk Hr Factor			0.950	0.925	0.963		Pk Hr Factor			0.921	0.973	0.950					
7 - 9 Volume	0	0	2925	2168	5093		4 - 6 Volume	0	0	3272	3556	6828					
7 - 9 Peak Hour			07:45	07:45	07:45		4 - 6 Peak Hour			16:00	17:00	17:00					
7 - 9 Pk Volume	0	0	1565	1186	2751		4 - 6 Pk Volume	0	0	1661	1808	3419					
Pk Hr Factor	0.000	0.000	0.950	0.947	0.965		Pk Hr Factor	0.000	0.000	0.957	0.987	0.960					

Project #: FL21_140185_001

City: North Miami Beach

Location: NE 164th St Bet. NE 19th Ave and NE 22nd

Date: 8/24/2021

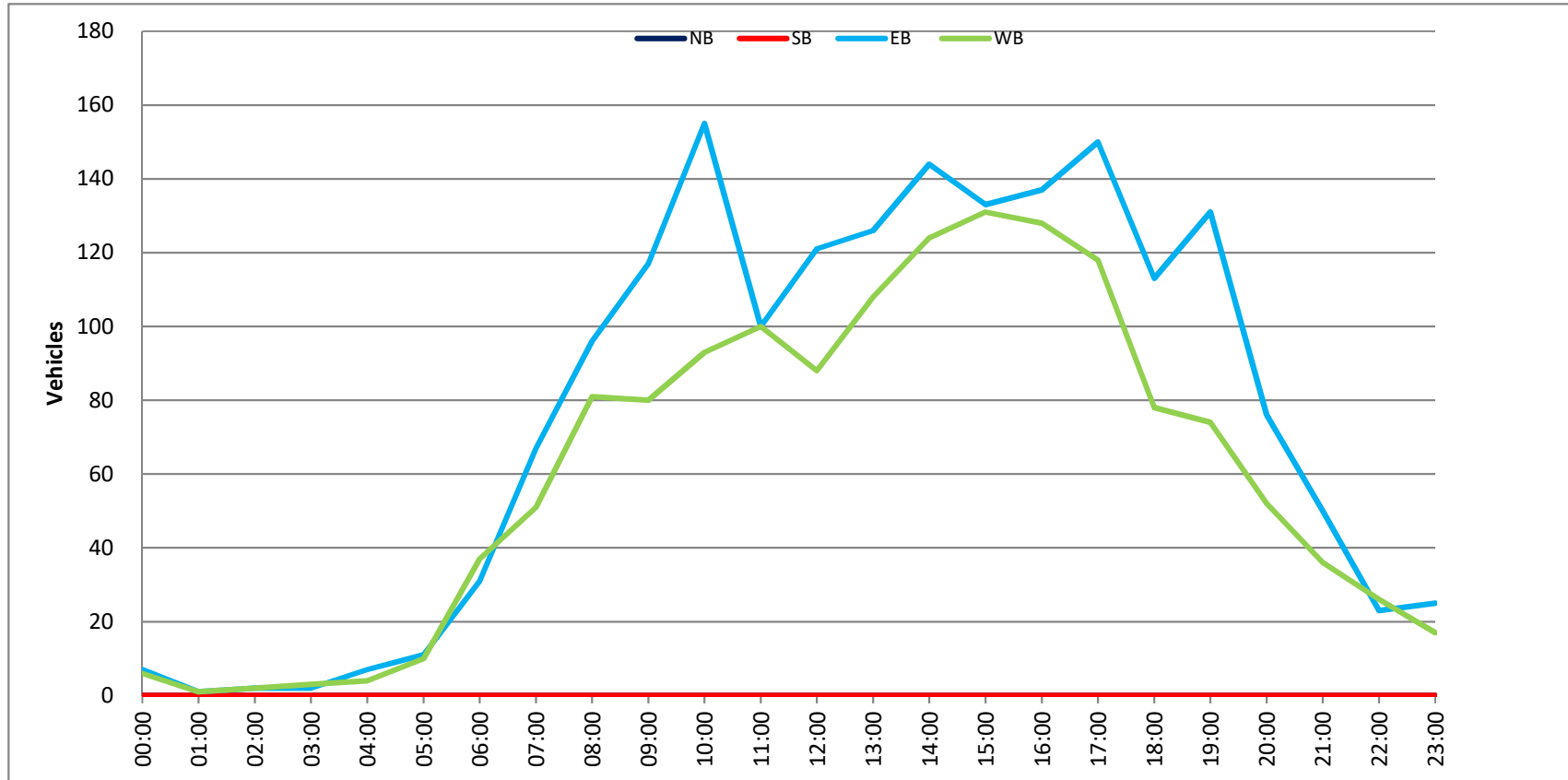


Project #: FL21_140185_001

City: North Miami Beach

Location: NE 164th St Bet. NE 19th Ave and NE 22nd

Date: 8/25/2021



Project #: FL21_140185_001

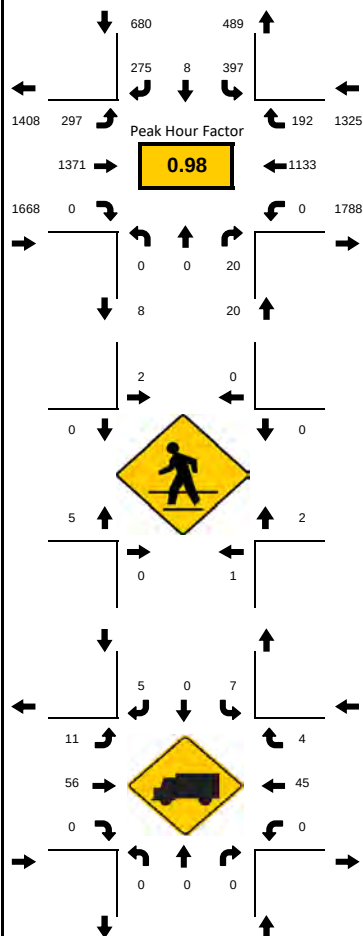
City: North Miami Beach

Location: NE 164th St Bet. NE 19th Ave and NE 22nd

Date: 8/26/2021



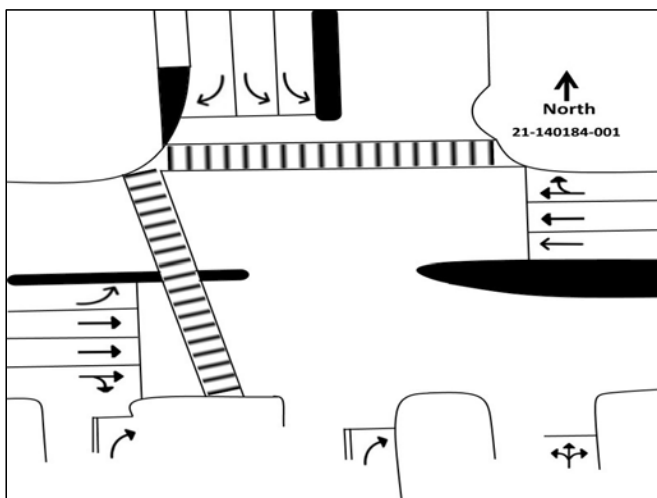
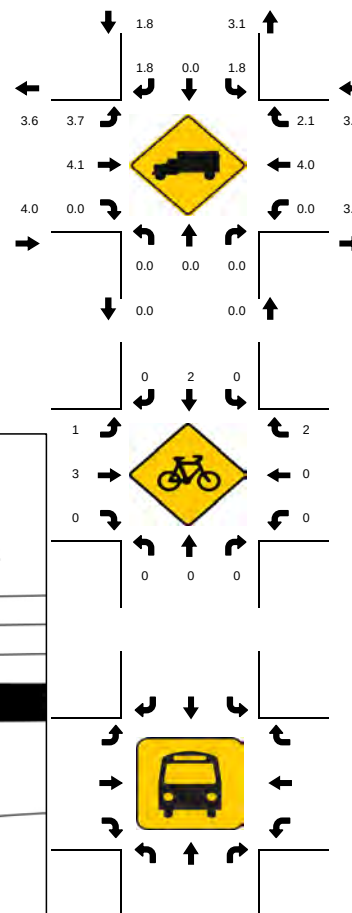
PROJECT ID: 21-140184-001
DATE: Wed, Aug 25, 2021



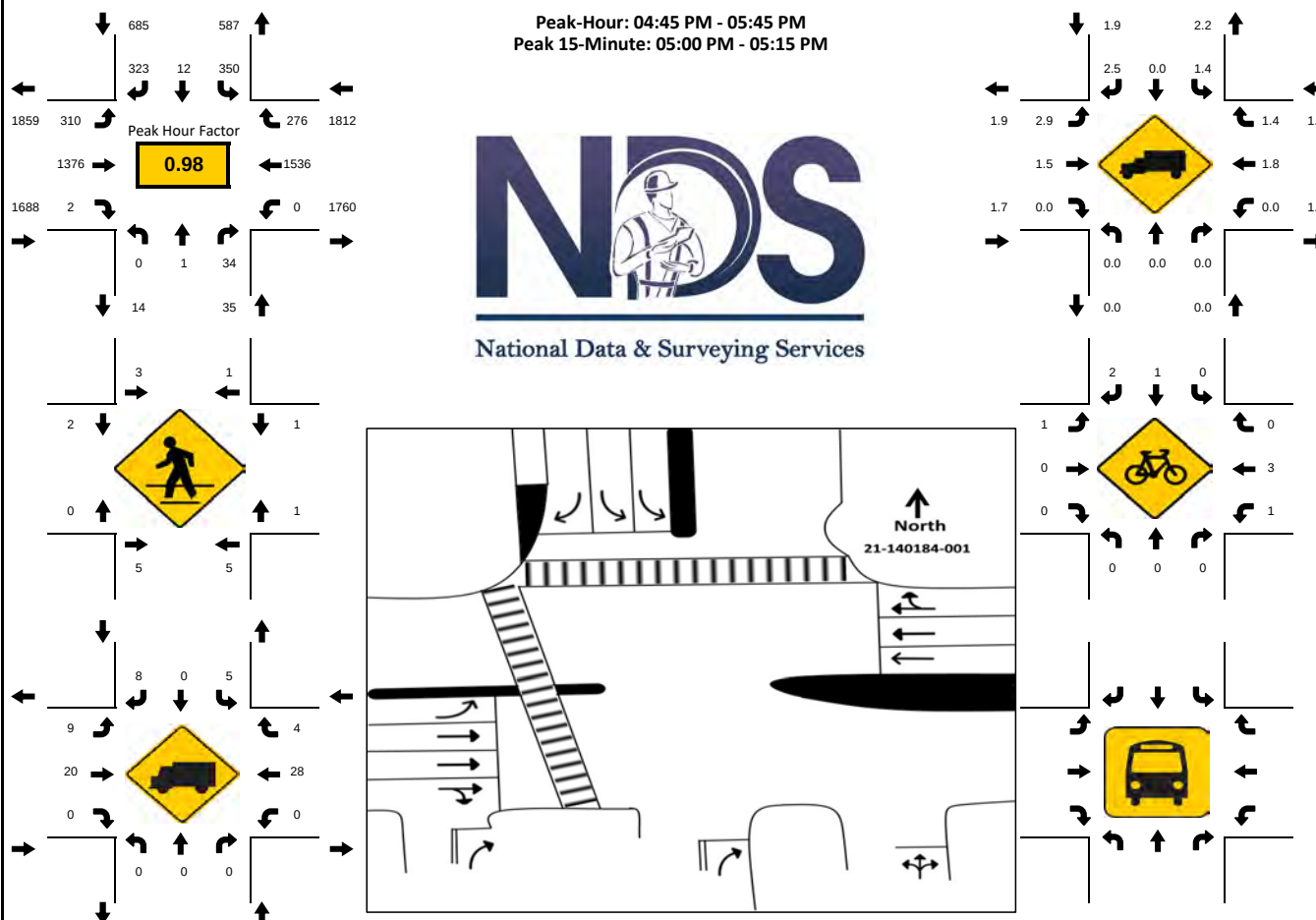
Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 08:15 AM - 08:30 AM



National Data & Surveying Services

[illegible]

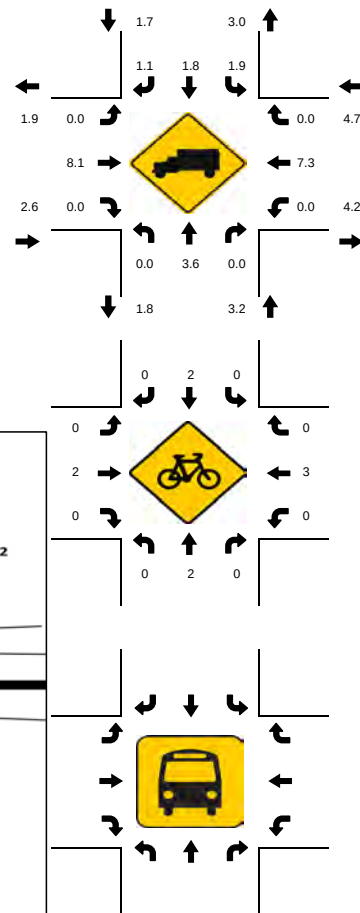
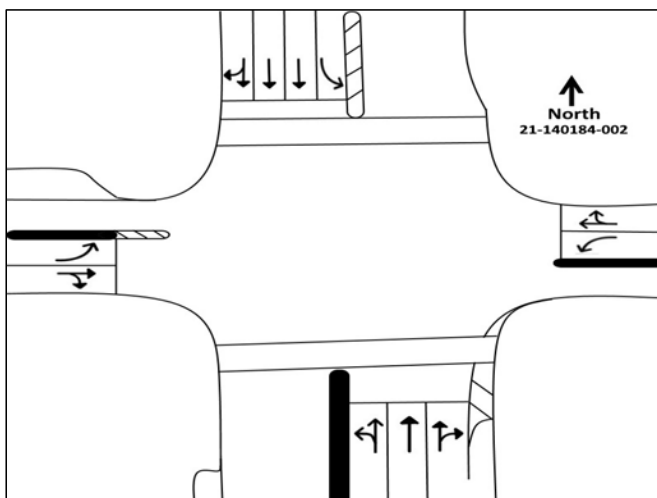
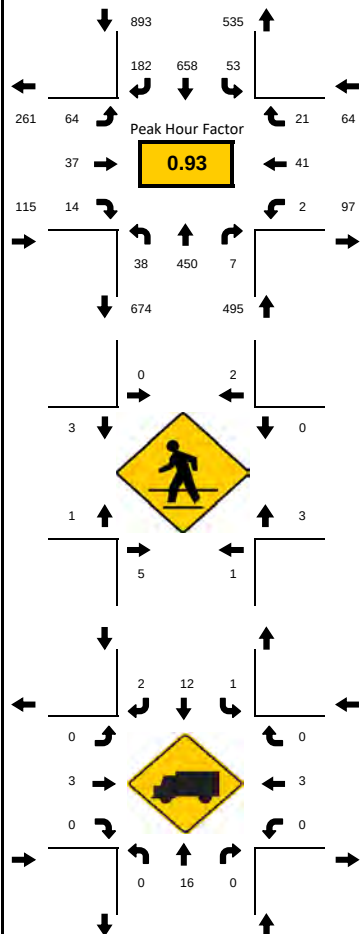
PROJECT ID: 21-140184-001
DATE: Wed, Aug 25, 2021

[illegible]

LOCATION: NE 19th Ave & NE 164th St
CITY/STATE: North Miami Beach, FL

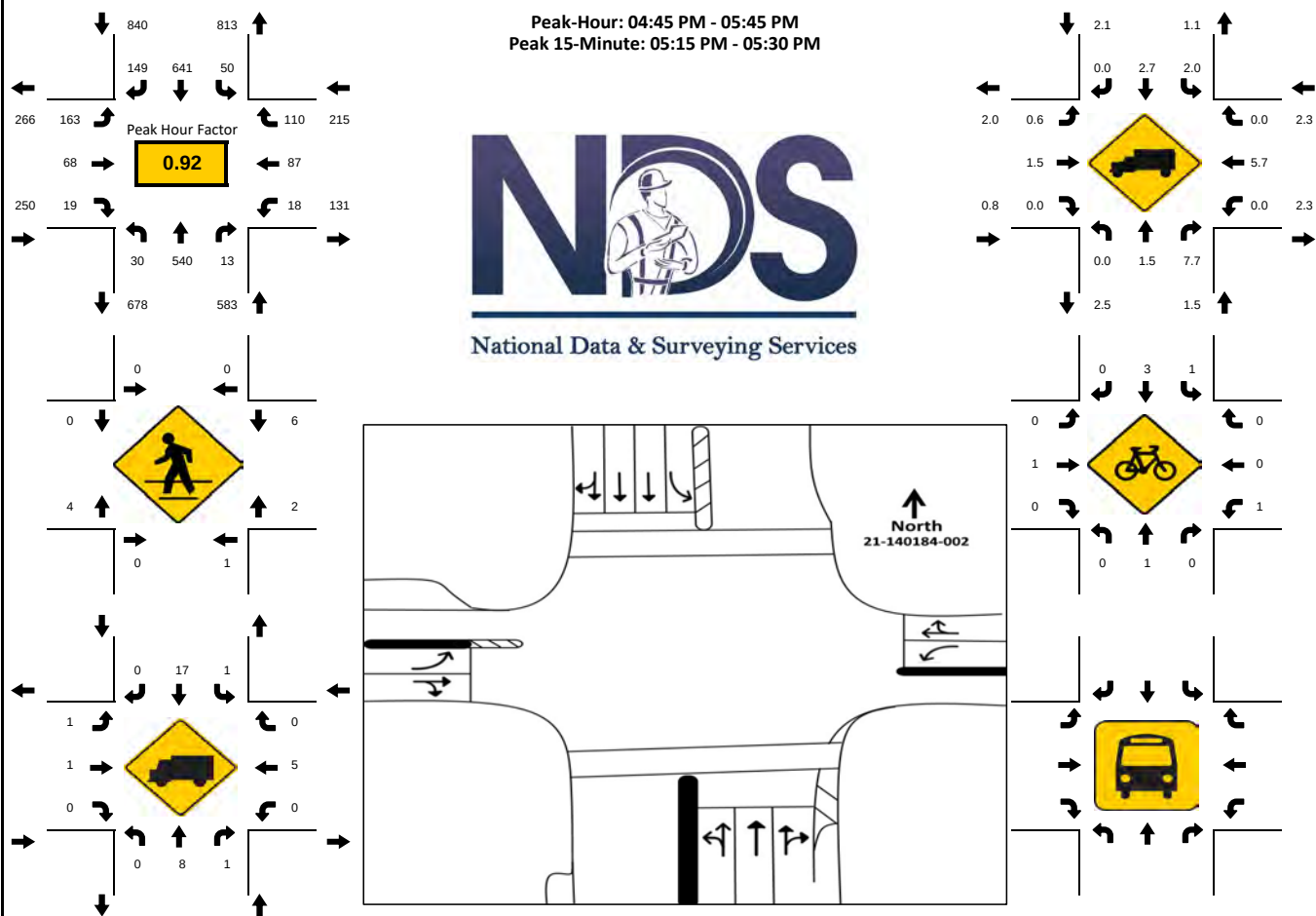
PROJECT ID: 21-140184-002
DATE: Wed, Aug 25, 2021

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

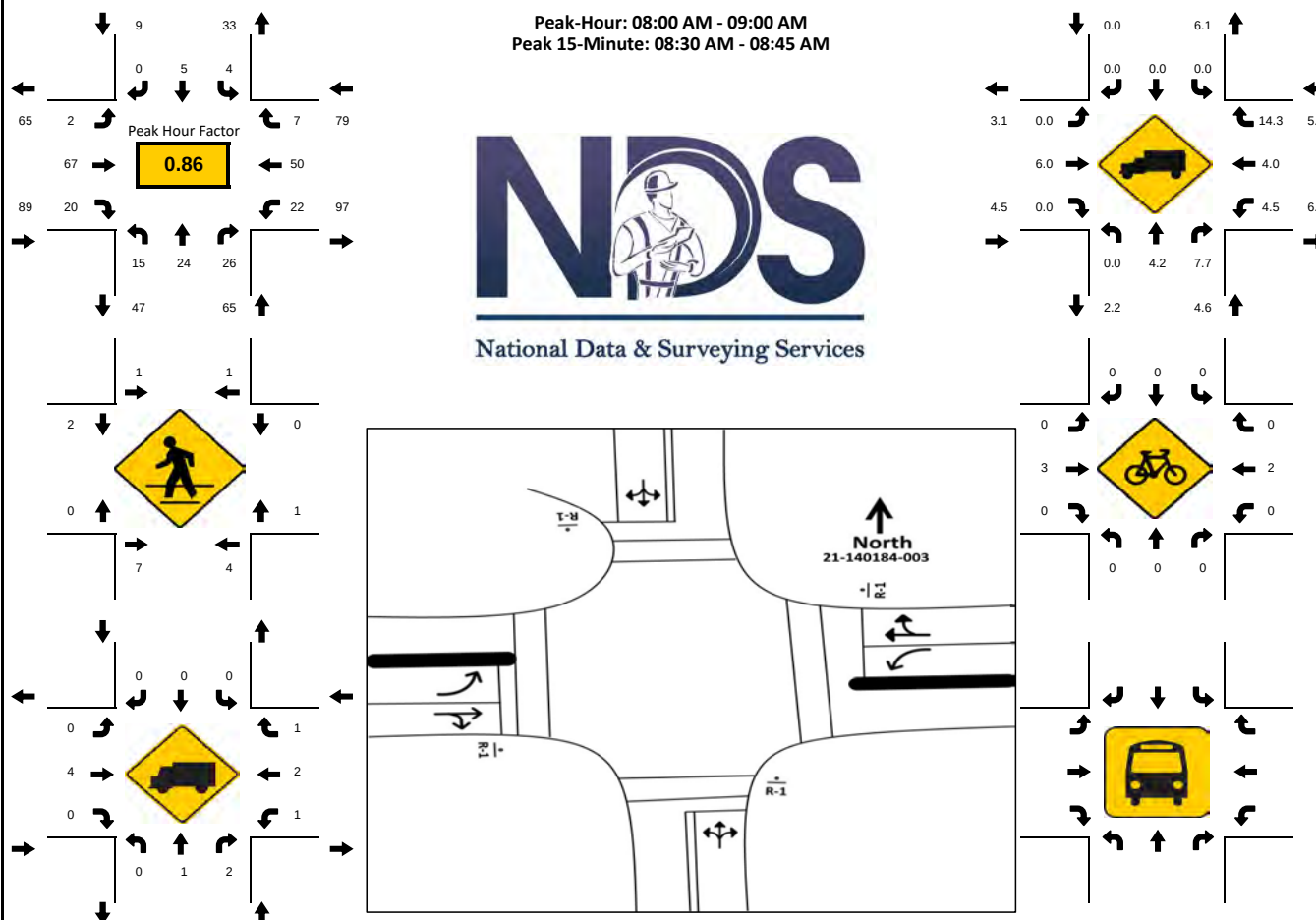


15-Min Count Beginning At	NE 19th Ave Northbound					NE 19th Ave Southbound					NE 164th St Eastbound					NE 164th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	68	2	0		8	102	30	0		12	3	0	1		1	8	5	0		240	1177
07:15 AM	1	91	0	0		7	125	29	2		4	2	0	0		2	8	4	0		275	1303
07:30 AM	0	95	0	1		7	165	25	0		10	7	1	0		0	4	4	0		319	1442
07:45 AM	5	102	0	0		4	154	43	1		11	10	0	0		2	5	6	0		343	1543
08:00 AM	9	109	2	0		8	163	40	0		9	10	4	0		0	8	4	0		366	1567
08:15 AM	13	106	1	0		10	174	47	0		25	14	4	1		0	16	3	0		414	1201
08:30 AM	10	120	2	0		17	174	49	0		15	9	5	0		0	8	11	0		420	787
08:45 AM	6	115	2	0		17	147	46	1		14	4	1	0		2	9	3	0		367	367
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	480	8	0		68	696	196	4		100	56	20	4		8	64	44	0		1800	
Heavy Trucks	0	28	0	0		4	28	4	0		0	4	0	0		0	8	0	0		76	
Pedestrians	16					4					8					4					32	
Bicycles	0	8	0	0		0	4	0	0		0	8	0	0		0	8	0	0		28	
Buses																						
Stopped Buses																						

PROJECT ID: 21-140184-002
DATE: Wed, Aug 25, 2021

[illegible]

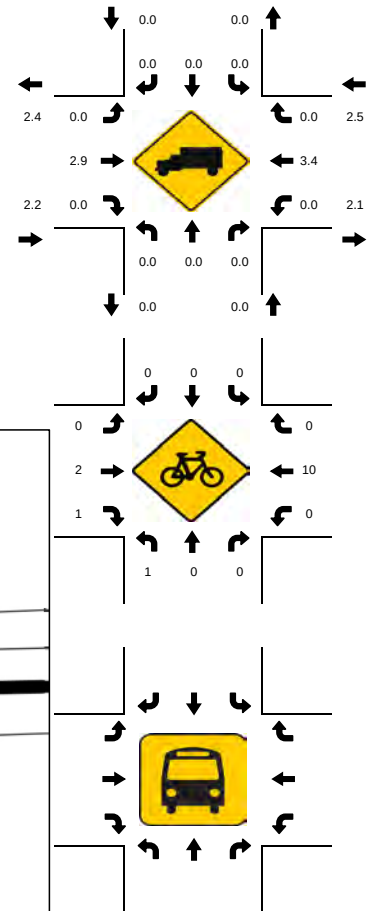
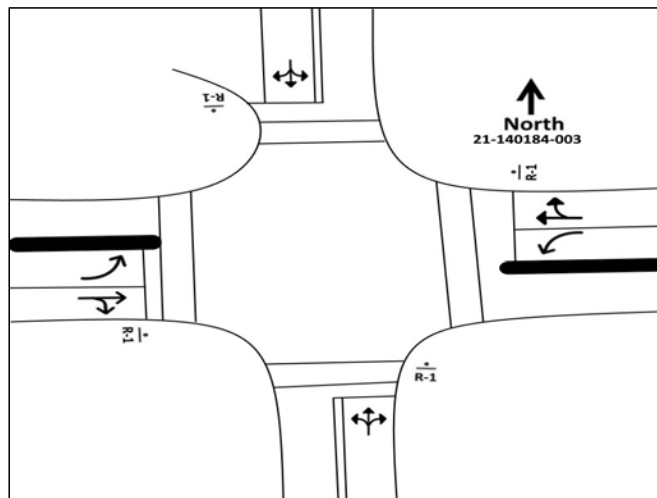
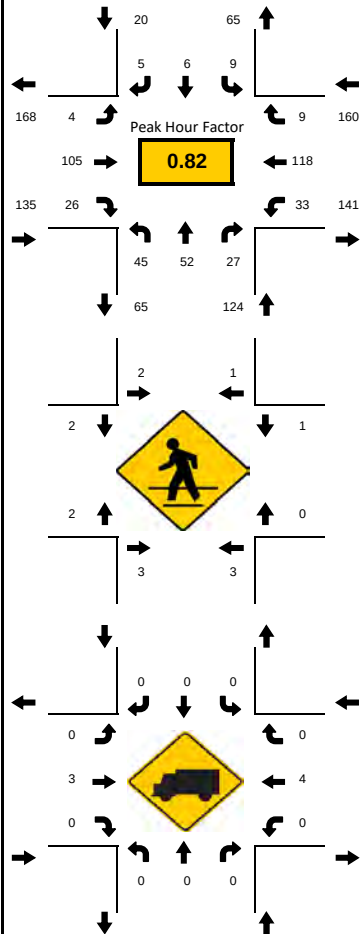
PROJECT ID: 21-140184-003
DATE: Wed, Aug 25, 2021

[illegible]

LOCATION: NE 20th Ave & NE 164th St
CITY/STATE: North Miami Beach, FL

PROJECT ID: 21-140184-003
DATE: Wed, Aug 25, 2021

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

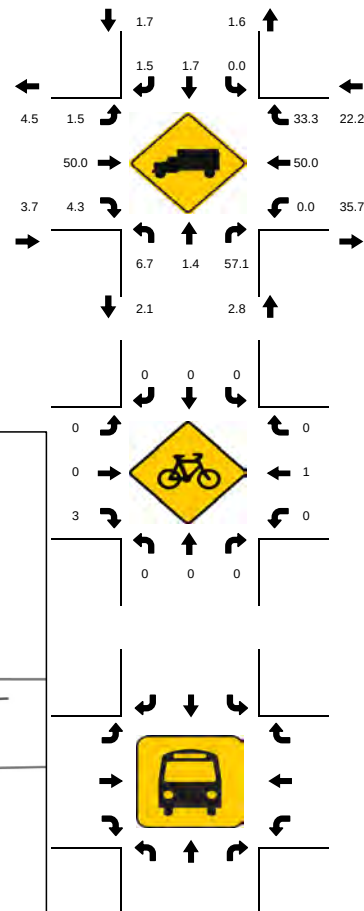
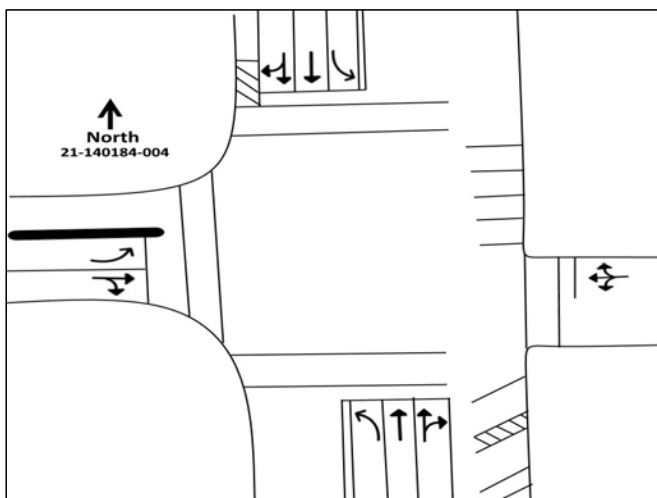
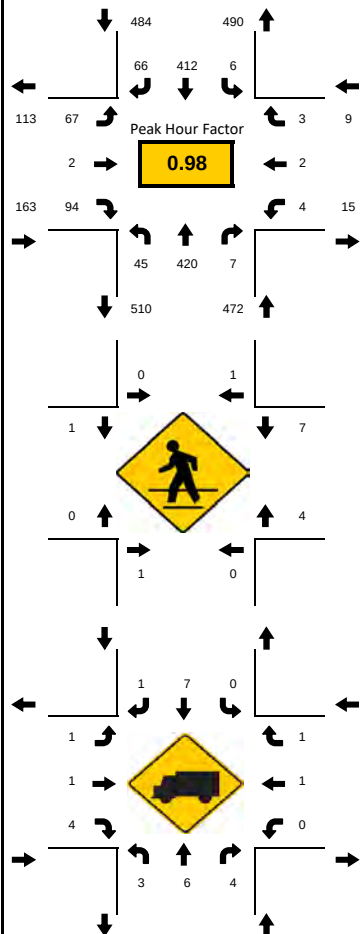


15-Min Count Beginning At	NE 20th Ave Northbound					NE 20th Ave Southbound					NE 164th St Eastbound					NE 164th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	9	6	9	0		1	1	0	0		0	26	11	0		6	16	2	0		87	370
04:15 PM	9	6	7	0		0	4	0	0		1	20	6	0		5	29	1	1		89	417
04:30 PM	8	7	9	0		5	0	1	0		2	26	9	0		3	19	3	0		92	430
04:45 PM	14	11	7	0		2	1	0	0		2	21	6	0		6	30	2	0		102	433
05:00 PM	21	15	7	0		0	1	1	0		1	27	10	0		9	34	6	2		134	439
05:15 PM	13	16	11	0		0	1	2	0		0	21	7	0		7	22	1	1		102	305
05:30 PM	3	9	4	0		6	3	2	0		3	18	4	0		7	35	1	0		95	203
05:45 PM	8	12	5	0		3	1	0	0		0	39	5	0		7	27	1	0		108	108
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	84	64	44	0		24	12	8	0		12	156	40	0		36	140	24	8		652	
Heavy Trucks	0	0	0	0		0	0	0	0		0	4	0	0		0	4	0	0		8	
Pedestrians		8					8					8					4				28	
Bicycles	4	0	0	0		0	0	0	0		0	4	4	0		0	12	0	0		24	
Buses																						
Stopped Buses																						

LOCATION: NE 22nd Ave & NE 164th St
CITY/STATE: North Miami Beach, FL

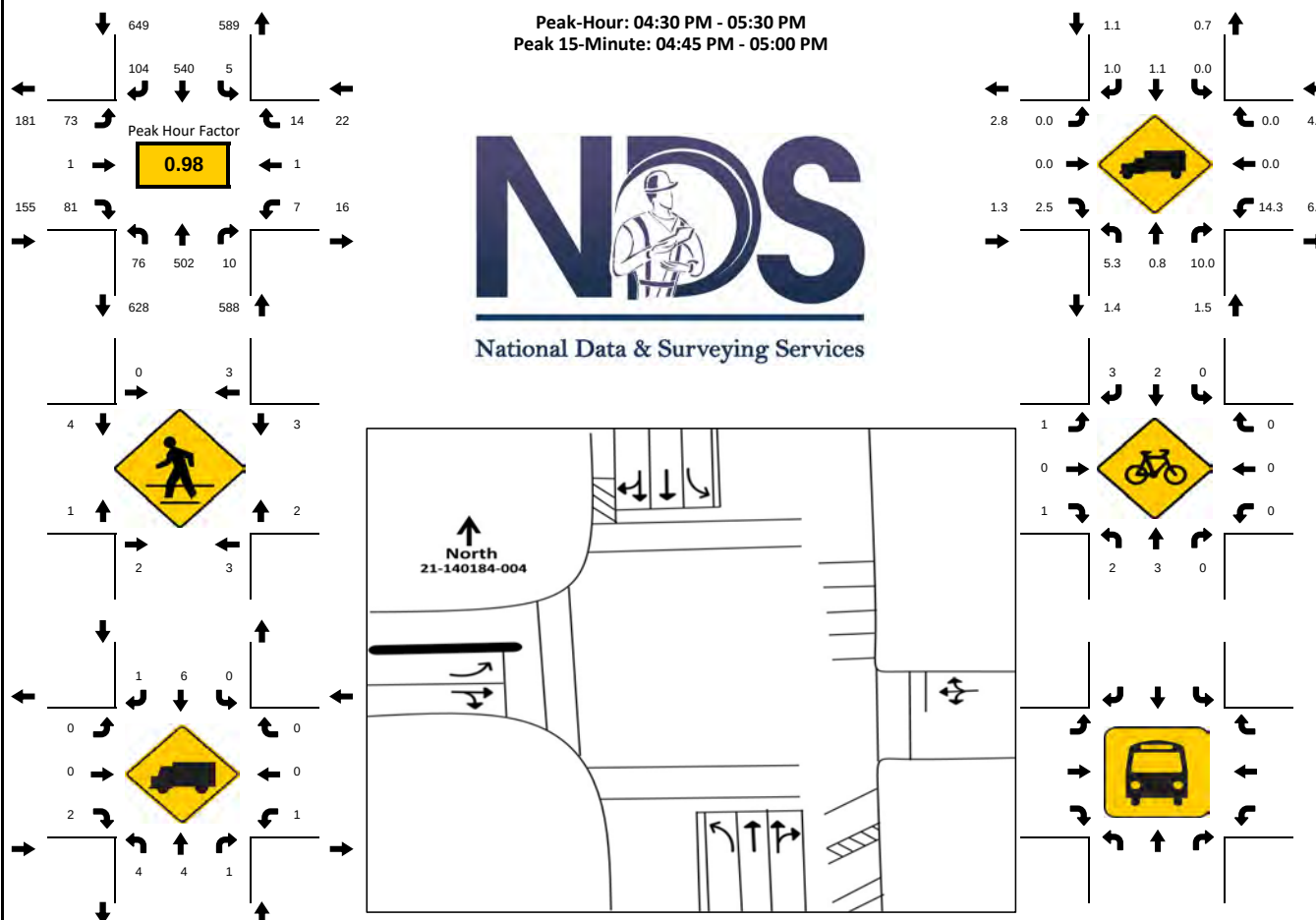
PROJECT ID: 21-140184-004
DATE: Wed, Aug 25, 2021

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

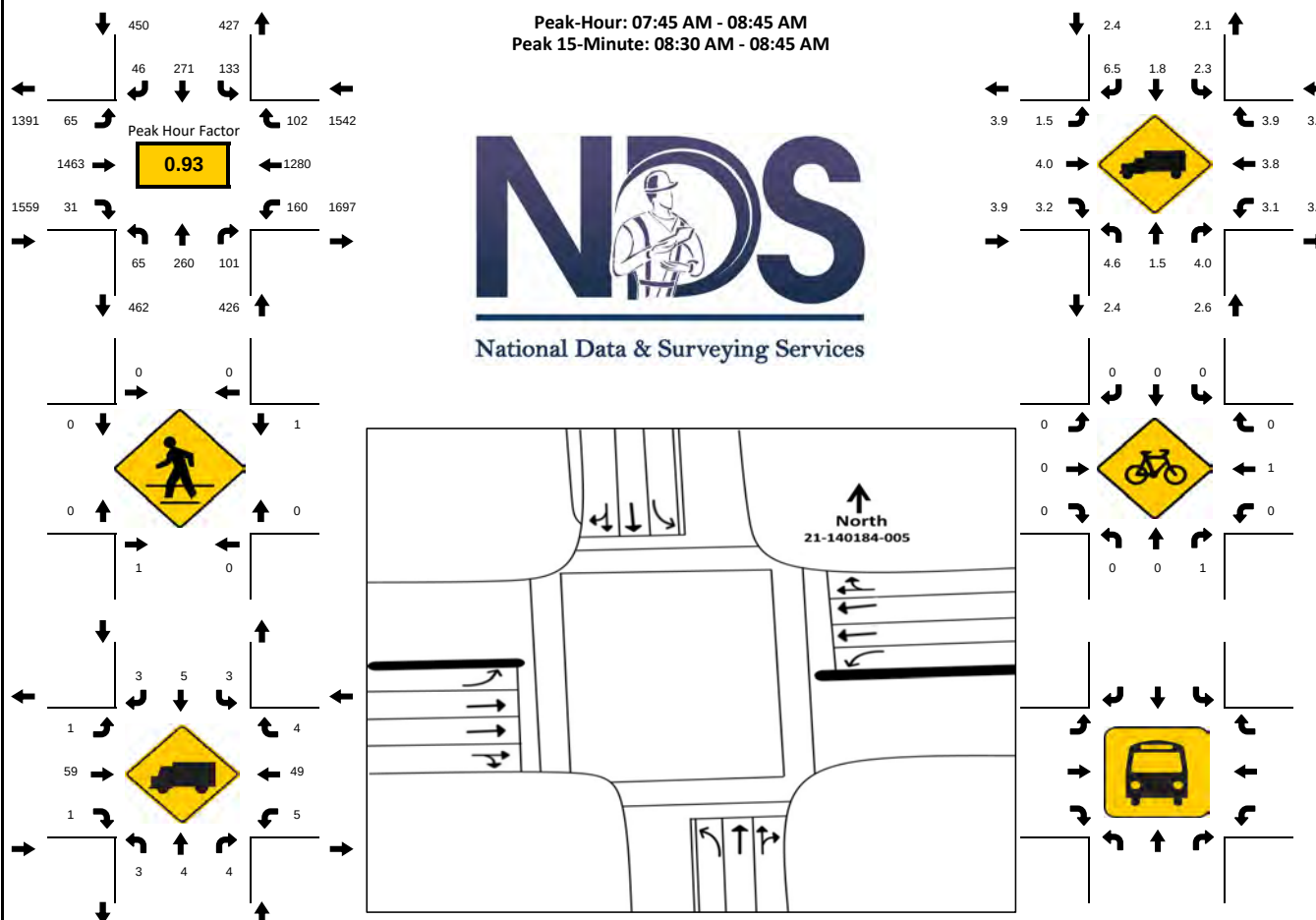


15-Min Count Beginning At	NE 22nd Ave Northbound					NE 22nd Ave Southbound					NE 164th St Eastbound					NE 164th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	10	75	1	0		0	55	7	0		8	0	13	0		0	0	0	0		169	874
07:15 AM	7	82	1	1		0	85	9	0		5	0	12	0		0	0	0	0		202	991
07:30 AM	8	106	0	0		0	79	11	0		13	0	21	0		0	0	1	0		239	1073
07:45 AM	5	108	2	0		3	101	11	0		16	1	15	0		0	0	2	0		264	1105
08:00 AM	9	126	0	0		1	99	16	0		18	1	15	0		1	0	0	0		286	1128
08:15 AM	7	123	2	0		0	93	14	1		21	1	22	0		0	0	0	0		284	842
08:30 AM	16	81	5	3		2	107	18	0		9	0	29	0		0	0	1	0		271	558
08:45 AM	10	90	0	0		2	113	18	0		19	0	28	0		3	2	2	0		287	287
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	64	504	20	12		8	452	72	4		84	4	116	0		12	8	8	0		1368	
Heavy Trucks	8	12	12	0		0	12	4	0		4	4	8	0		0	4	4	0		72	
Pedestrians	4					4					4					20					32	
Bicycles	0	0	0	0		0	0	0	0		0	0	8	0		0	4	0	0		12	
Buses																						
Stopped Buses																						

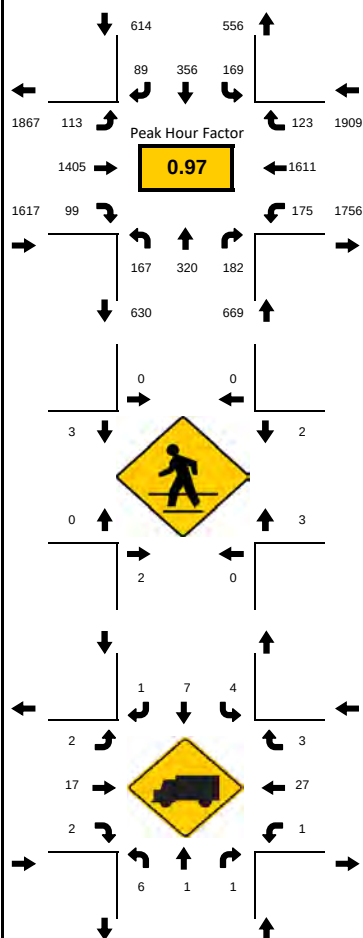
PROJECT ID: 21-140184-004
DATE: Wed, Aug 25, 2021

[illegible]

PROJECT ID: 21-140184-005
DATE: Wed, Aug 25, 2021

[illegible]

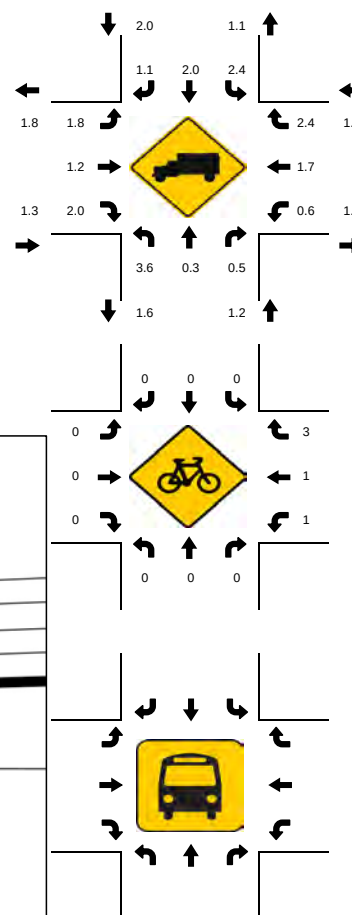
PROJECT ID: 21-140184-005
DATE: Wed, Aug 25, 2021



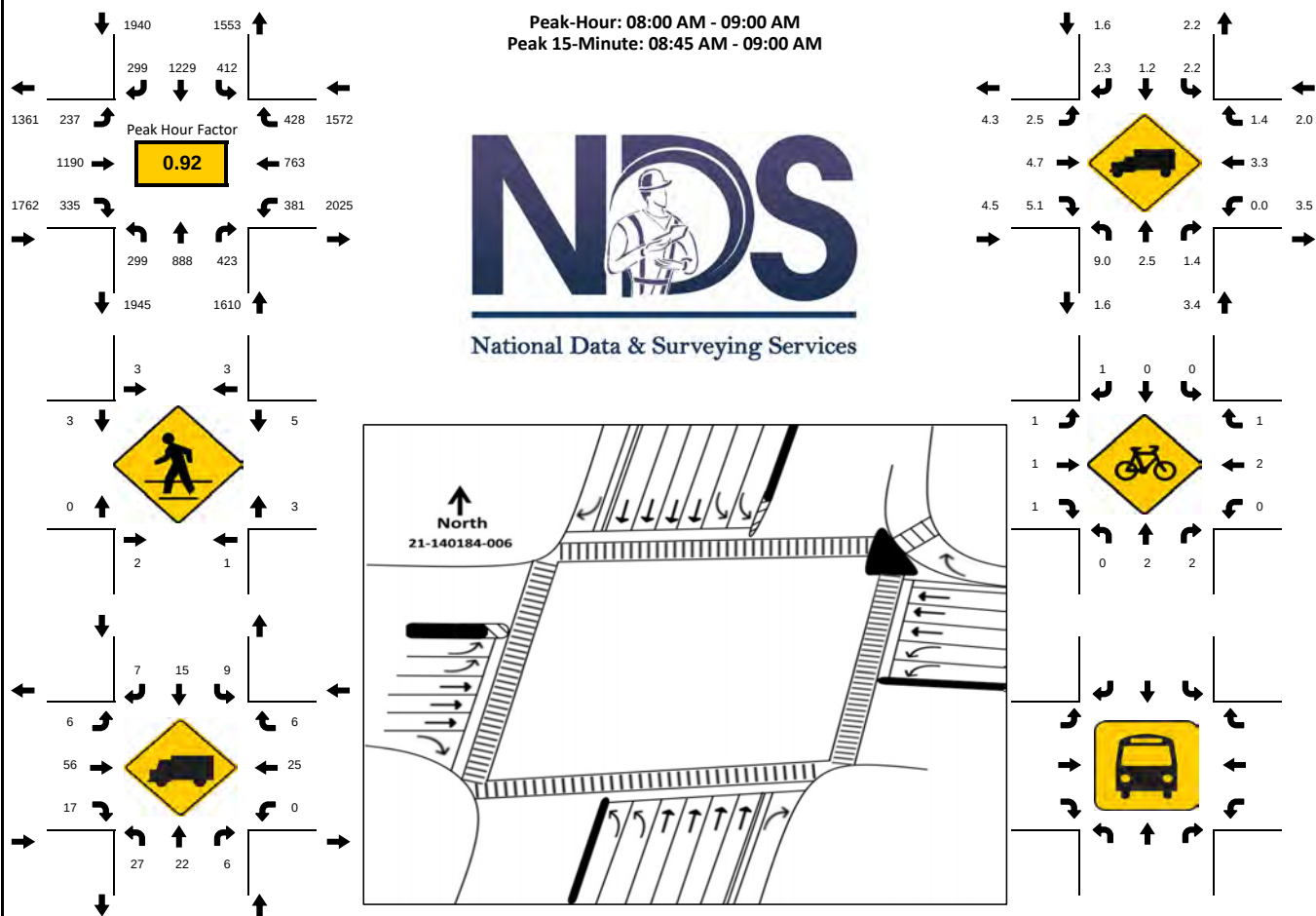
Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:00 PM - 05:15 PM



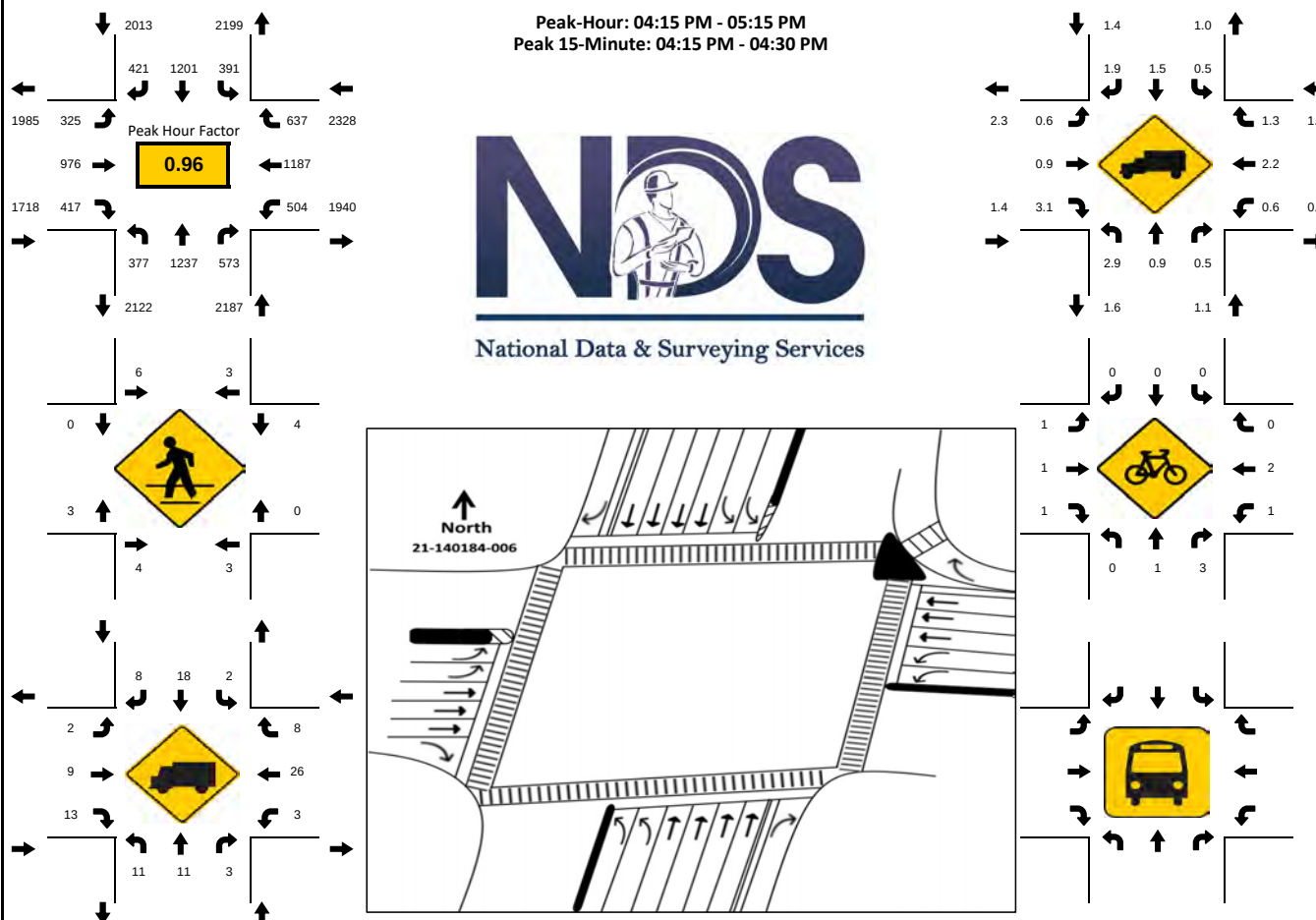
National Data & Surveying Services

[illegible]

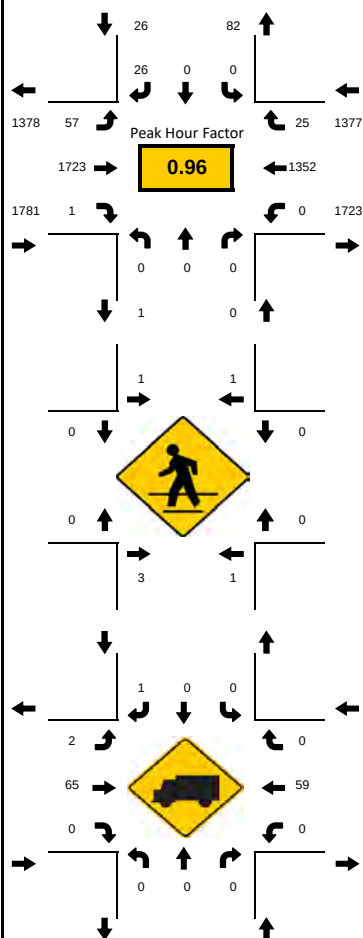
PROJECT ID: 21-140184-006
DATE: Wed, Aug 25, 2021

[illegible]

PROJECT ID: 21-140184-006
DATE: Wed, Aug 25, 2021

[illegible]

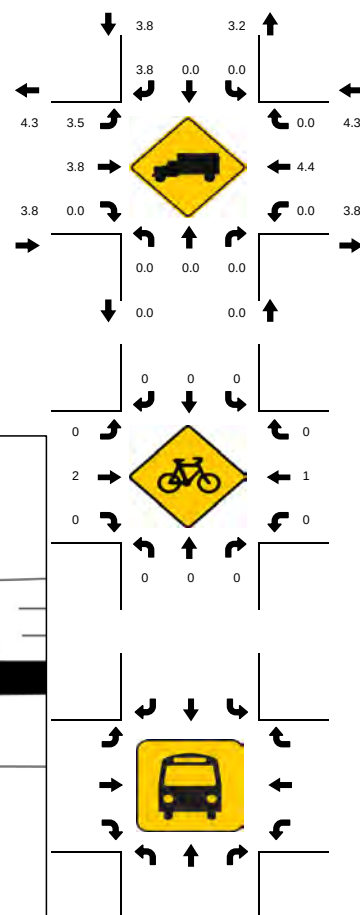
PROJECT ID: 21-140184-007
DATE: Wed, Aug 25, 2021



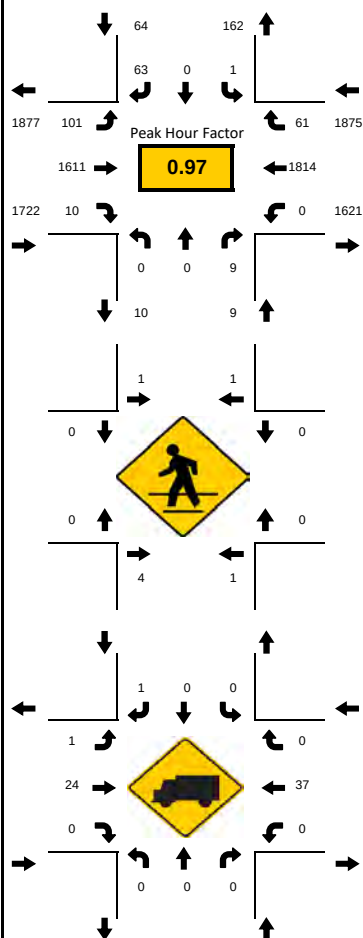
Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:30 AM - 08:45 AM



National Data & Surveying Services

[illegible]

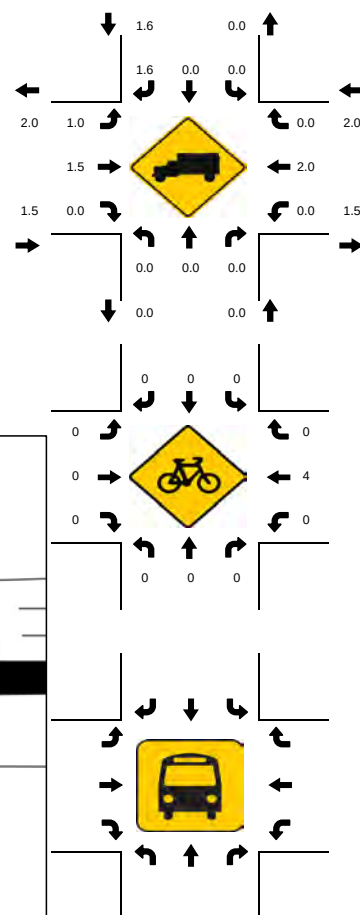
PROJECT ID: 21-140184-007
DATE: Wed, Aug 25, 2021



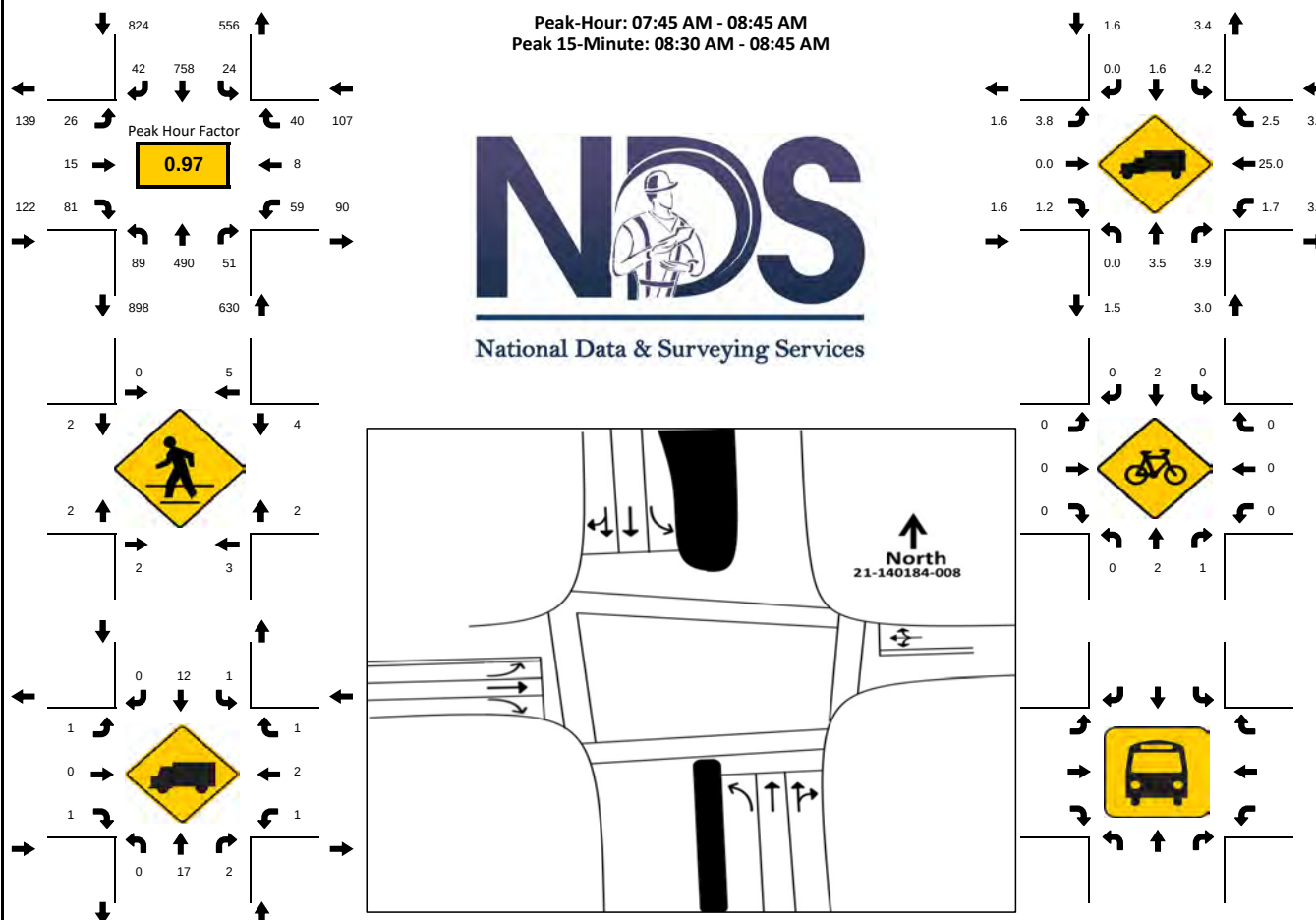
Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:30 PM - 05:45 PM



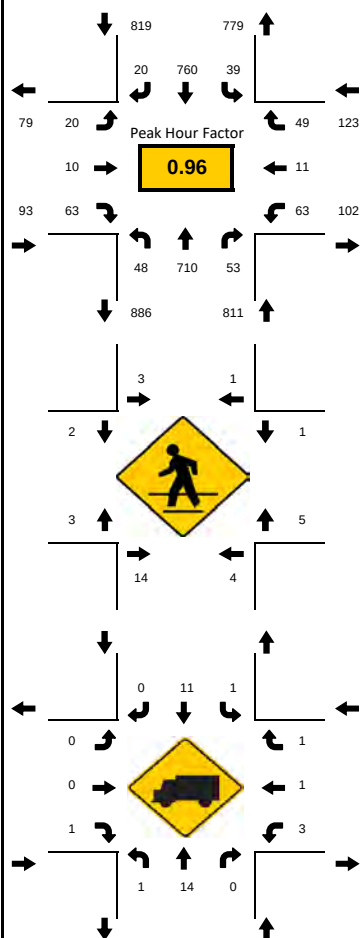
National Data & Surveying Services

[illegible]

PROJECT ID: 21-140184-008
DATE: Wed, Aug 25, 2021

[illegible]

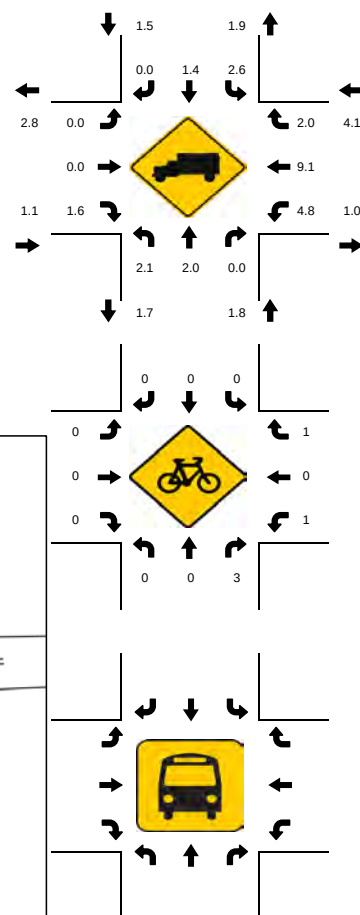
PROJECT ID: 21-140184-008
DATE: Wed, Aug 25, 2021



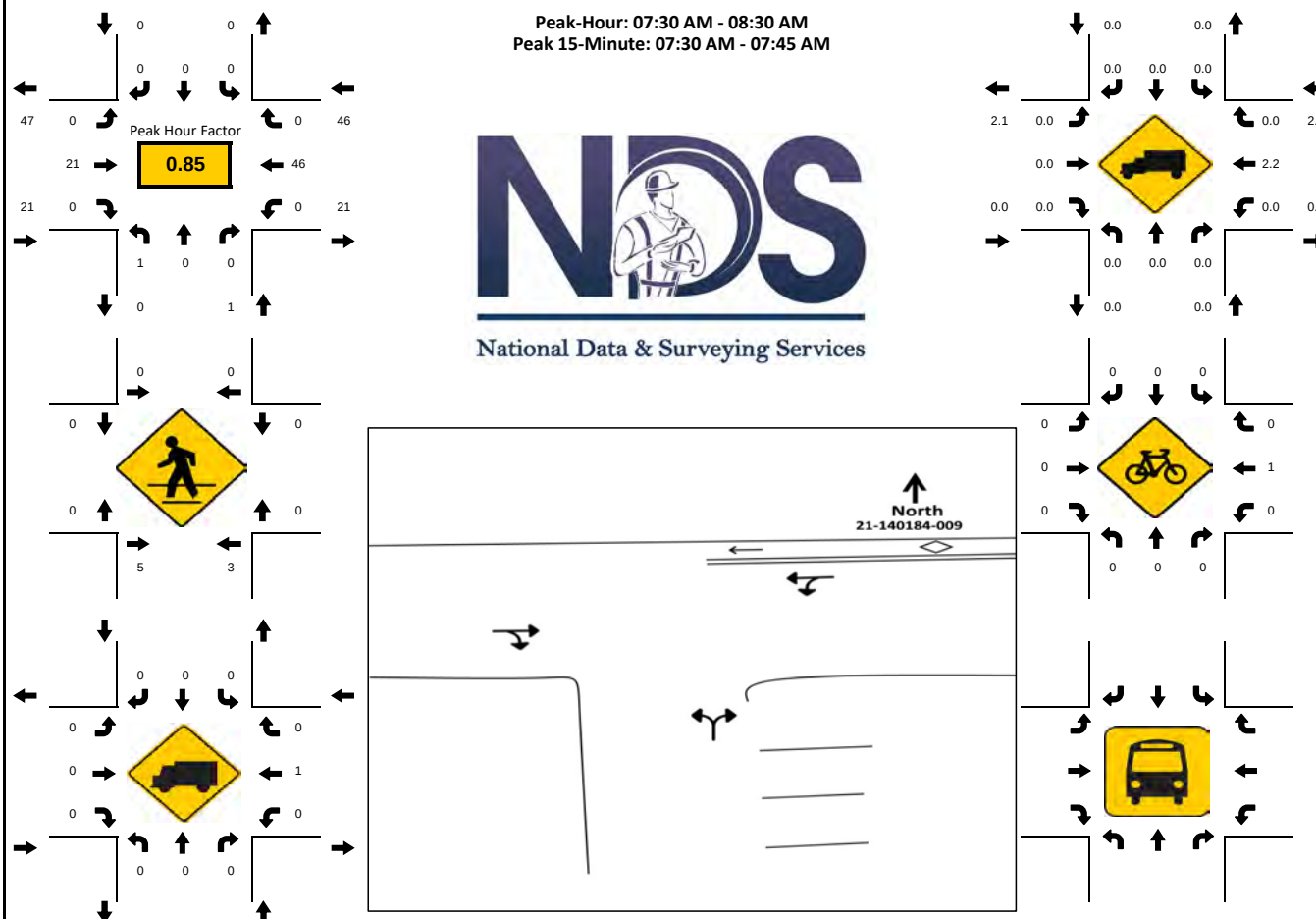
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Peak 15-Minute: 05:00 PM - 05:15 PM



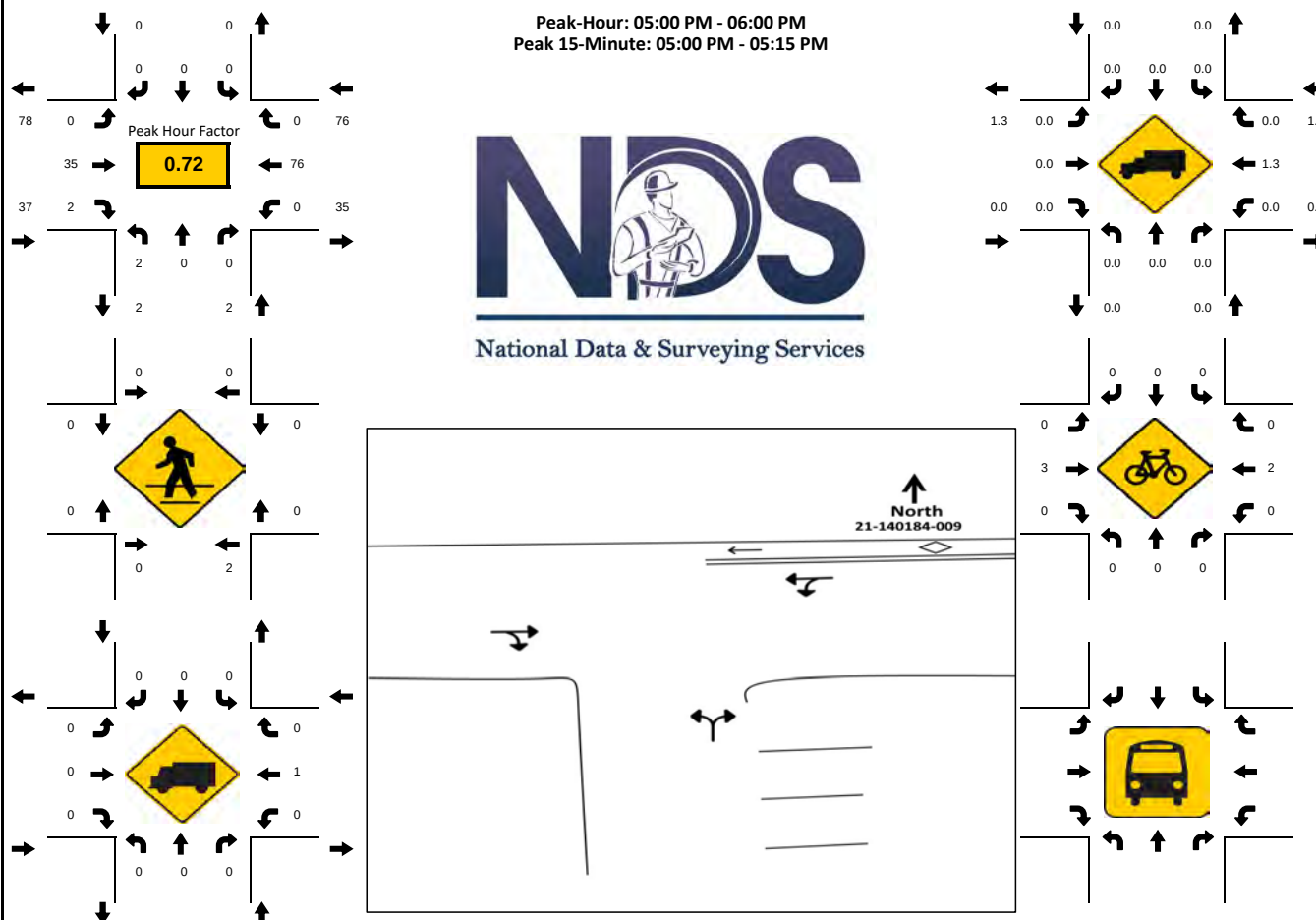
National Data & Surveying Services

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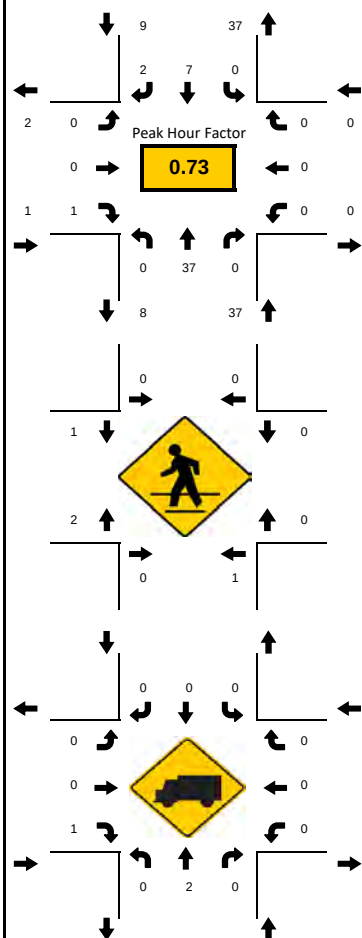
PROJECT ID: 21-140184-009
DATE: Wed, Aug 25, 2021

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PROJECT ID: 21-140184-009
DATE: Wed, Aug 25, 2021

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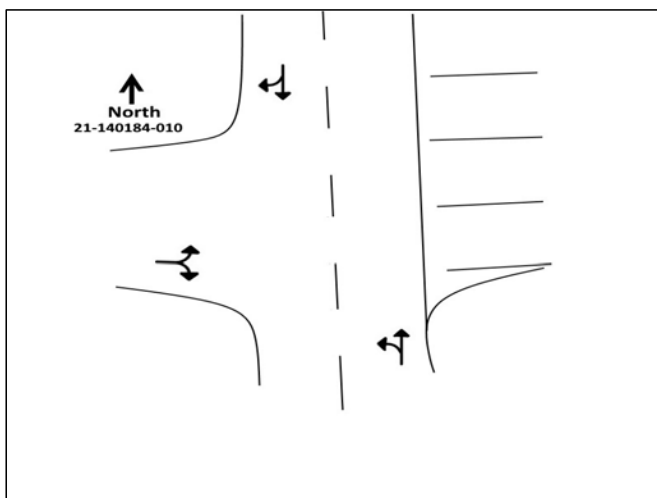
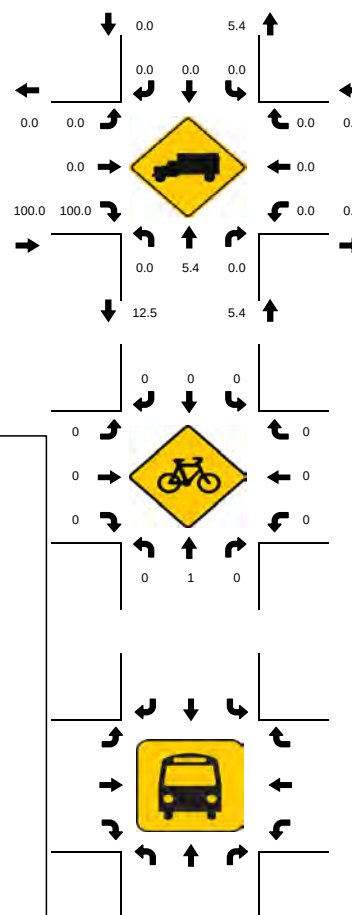
PROJECT ID: 21-140184-010
DATE: Wed, Aug 25, 2021



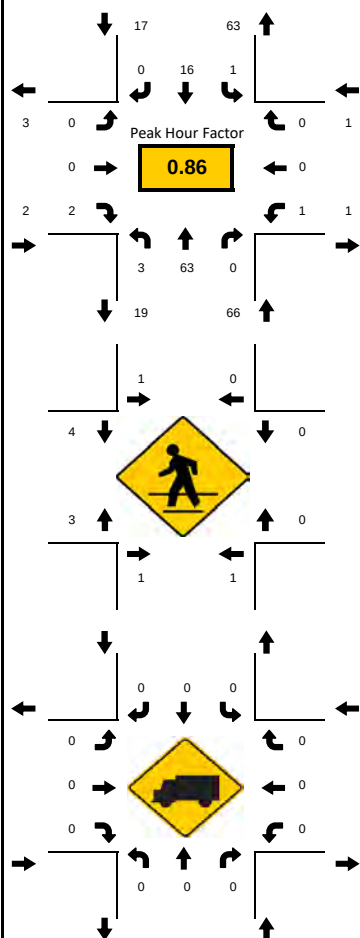
Peak-Hour: 07:00 AM - 08:00 AM
Peak 15-Minute: 07:30 AM - 07:45 AM



National Data & Surveying Services

[illegible]

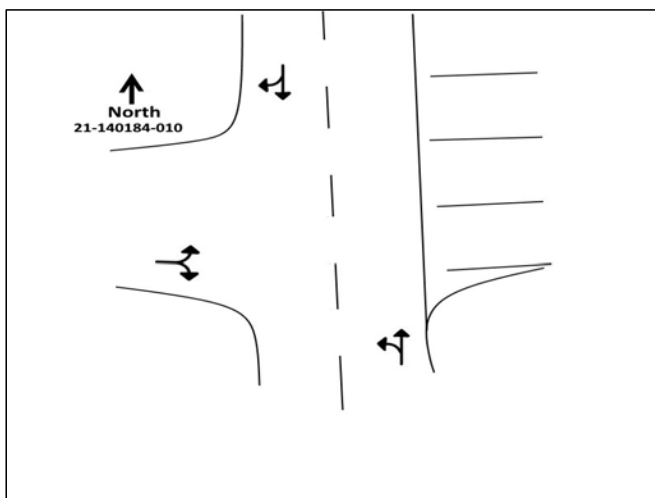
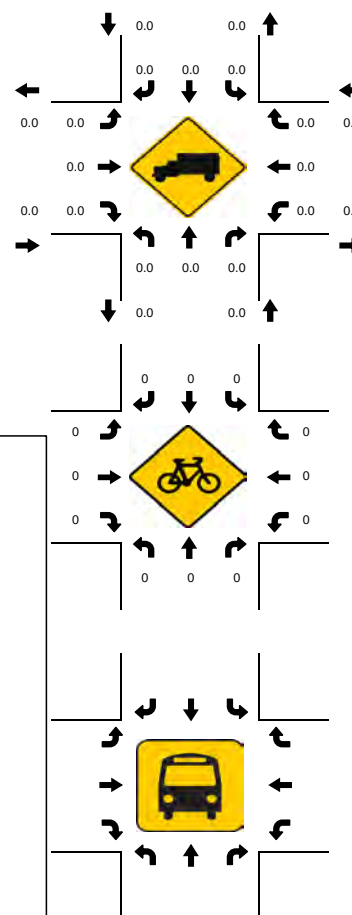
PROJECT ID: 21-140184-010
DATE: Wed, Aug 25, 2021



Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:00 PM - 05:15 PM



National Data & Surveying Services

[illegible]

FDOT Count Station Traffic Volumes

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 0556 - SR 826/NE 163 ST, 1700' E SR 5/US-1

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	53500	C	E 27000		W 26500	9.00	54.20	4.50
2019	61500	C	E 30000		W 31500	9.00	54.60	3.60
2018	59500	C	E 29500		W 30000	9.00	54.30	5.10
2017	63500	C	E 31000		W 32500	9.00	55.00	3.30
2016	65500	C	E 32000		W 33500	9.00	54.50	3.10
2015	64000	C	E 31500		W 32500	9.00	54.70	6.00
2014	56500	C	E 27500		W 29000	9.00	54.50	6.00
2013	60000	C	E 29000		W 31000	9.00	52.40	6.00
2012	61000	C	E 29500		W 31500	9.00	55.70	3.40
2011	63500	C	E 34000		W 29500	9.00	55.10	4.90
2010	55000	C	E 26500		W 28500	8.98	54.08	4.90
2009	57000	C	E 28500		W 28500	8.99	53.24	2.70
2008	53000	C	E 26500		W 26500	9.09	55.75	2.70
2007	42500	C	E 21000		W 21500	8.01	54.34	3.40
2006	66500	C	E 35500		W 31000	7.97	54.22	2.10
2005	61500	C	E 29000		W 32500	8.80	53.80	14.70

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5219 - SR 5/US-1, 300' S NE 163 ST/SUNNY ISLES CSWY

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	49500	C	N 24500		S 25000	9.00	54.20	2.50
2019	61000	C	N 30000		S 31000	9.00	54.60	2.20
2018	59500	C	N 29500		S 30000	9.00	54.30	2.40
2017	63500	C	N 31500		S 32000	9.00	55.00	2.30
2016	63500	C	N 31000		S 32500	9.00	54.50	2.00
2015	60000	C	N 29500		S 30500	9.00	54.70	2.00
2014	55000	C	N 25500		S 29500	9.00	54.50	4.90
2013	54000	C	N 25000		S 29000	9.00	52.40	3.50
2012	64000	C	N 31000		S 33000	9.00	55.70	4.80
2011	61500	C	N 30500		S 31000	9.00	55.10	3.90
2010	60000	C	N 30000		S 30000	8.98	54.08	3.90
2009	60500	C	N 29500		S 31000	8.99	53.24	3.40
2008	55000	C	N 27000		S 28000	9.09	55.75	4.70
2007	60500	C	N 29000		S 31500	8.01	54.34	5.90
2006	58000	C	N 29000		S 29000	7.97	54.22	4.20
2005	57500	C	N 28500		S 29000	8.80	53.80	7.70

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5225 - SR 826/NE 163 ST, 100' E OF NE 20 AVE

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	43500	C	E 23000		W 20500	9.00	54.20	3.10
2019	51000	C	E 27500		W 23500	9.00	54.60	3.90
2018	49500	C	E 26500		W 23000	9.00	54.30	4.20
2017	58000	C	E 29000		W 29000	9.00	55.00	9.40
2016	49000	C	E 26500		W 22500	9.00	54.50	5.30
2015	56000	C	E 29500		W 26500	9.00	54.70	4.50
2014	50000	C	E 27000		W 23000	9.00	54.50	3.70
2013	50000	C	E 27500		W 22500	9.00	52.40	3.30
2012	54000	C	E 29500		W 24500	9.00	55.70	2.80
2011	55000	C	E 27500		W 27500	9.00	55.10	2.80
2010	52500	C	E 26500		W 26000	8.98	54.08	2.80
2009	58000	C	E 29500		W 28500	8.99	53.24	4.10
2008	53500	C	E 27500		W 26000	9.09	55.75	4.20
2007	54000	C	E 27500		W 26500	8.01	54.34	3.20
2006	51000	C	E 25500		W 25500	7.97	54.22	5.10
2005	51000	C	E 26000		W 25000	8.80	53.80	5.50

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5229 - SR 826/NE 167 ST, 200' W NE 10 AV

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	53000	C	E 27500		W 25500	9.00	54.20	4.30
2019	61000	C	E 32000		W 29000	9.00	54.60	3.20
2018	61500	C	E 29500		W 32000	9.00	54.30	4.70
2017	54500	C	E 26500		W 28000	9.00	55.00	9.70
2016	59000	C	E 31000		W 28000	9.00	54.50	4.20
2015	57000	C	E 26500		W 30500	9.00	54.70	7.10
2014	58000	C	E 30000		W 28000	9.00	54.50	4.50
2013	60500	C	E 31000		W 29500	9.00	52.40	3.60
2012	62000	C	E 31500		W 30500	9.00	55.70	3.60
2011	60500	C	E 30500		W 30000	9.00	55.10	3.60
2010	59000	C	E 31000		W 28000	8.98	54.08	3.60
2009	57000	C	E 29000		W 28000	8.99	53.24	3.30
2008	56000	C	E 28500		W 27500	9.09	55.75	3.60
2007	56500	C	E 28500		W 28000	8.01	54.34	3.20
2006	57500	C	E 30000		W 27500	7.97	54.22	5.10
2005	56000	C	E 28500		W 27500	8.80	53.80	5.50

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8273 - NE 19TH AVE, 200' NORTH OF 175TH STREET

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	20400	F	N 9400		S 11000	9.00	54.20	10.40
2019	21300	C	N 9800		S 11500	9.00	54.60	11.00
2018	19000	S	N 9000		S 10000	9.00	54.30	12.10
2017	18900	F	N 8900		S 10000	9.00	55.00	12.60
2016	18300	C	N 8600		S 9700	9.00	54.50	13.50
2015	15300	T	N 6200		S 9100	9.00	54.70	13.70
2014	14800	S	N 6000		S 8800	9.00	54.50	17.40
2013	14600	F	N 5900		S 8700	9.00	52.40	16.20
2012	14900	C	N 6000		S 8900	9.00	55.70	16.00

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

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8455 - NE 171 ST, 200 W OFNE 20 AVE (2011 OFF SYSTEM CYCLE)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	5900 S	E	2900	W	3000	9.00	56.00	3.80
2019	6700 F	E	3300	W	3400	9.00	56.00	3.70
2018	6900 C	E	3400	W	3500	9.00	54.30	2.30
2017	5500 T	E	3000	W	2500	9.00	59.30	5.10
2016	5500 S	E	3000	W	2500	9.00	56.10	3.80
2015	5600 F	E	3100	W	2500	9.00	57.40	4.10
2014	5600 C	E	3100	W	2500	9.00	59.30	6.70
2013	850 F		0		0	9.00	58.90	16.20
2012	850 C	E	0	W	0	9.00	59.70	16.00

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8505 - NE 159 ST, 200' WEST OF NE 14 AVE (2011 OFF SYSTEM CYCLE)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
----	-----		-----		-----	-----	-----	-----	
2020	12400	F	E	6100	W	6300	9.00	56.00	3.80
2019	13900	C	E	6800	W	7100	9.00	56.00	3.70
2018	12600	T	E	6300	W	6300	9.00	54.30	2.30
2017	14100	S	E	7000	W	7100	9.00	59.30	5.10
2016	14300	F	E	7100	W	7200	9.00	56.10	3.80
2015	14500	C	E	7200	W	7300	9.00	57.40	4.10
2014	12500	S					9.00	59.30	6.70
2013	12500	F		0		0	9.00	58.90	16.20
2012	12500	C	E	0	W	0	9.00	59.70	16.00

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

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

COUNTY: 87
STATION: 5225
DESCRIPTION: SR 826/NE 163 ST, 100' E OF NE 20 AVE
START DATE: 07/16/2019
START TIME: 0000

TIME	DIRECTION: E					DIRECTION: W					COMBINED	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL	TOTAL
0000	108	109	90	69	376	141	100	102	96	439		815
0100	56	44	33	33	166	61	54	58	43	216		382
0200	35	32	25	22	114	34	27	36	22	119		233
0300	23	23	27	19	92	26	28	29	19	102		194
0400	36	33	32	43	144	25	30	28	26	109		253
0500	65	78	128	219	490	39	48	88	81	256		746
0600	239	366	388	370	1363	103	124	114	129	470		1833
0700	331	363	450	399	1543	219	225	270	200	914		2457
0800	421	363	353	344	1481	299	241	305	264	1109		2590
0900	404	329	390	415	1538	352	283	320	315	1270		2808
1000	386	385	377	329	1477	310	299	321	338	1268		2745
1100	391	394	351	419	1555	314	265	332	298	1209		2764
1200	373	405	385	400	1563	328	325	320	316	1289		2852
1300	414	398	415	387	1614	373	354	335	397	1459		3073
1400	427	412	423	473	1735	349	371	377	343	1440		3175
1500	417	434	368	399	1618	381	376	390	429	1576		3194
1600	374	386	400	341	1501	460	437	324	396	1617		3118
1700	394	392	400	377	1563	356	429	399	375	1559		3122
1800	393	398	432	417	1640	393	370	374	312	1449		3089
1900	399	367	337	341	1444	326	341	310	293	1270		2714
2000	289	290	253	272	1104	277	323	250	279	1129		2233
2100	275	231	220	239	965	268	251	226	203	948		1913
2200	228	170	217	167	782	206	194	168	171	739		1521
2300	147	136	113	106	502	161	194	146	153	654		1156
24-HOUR TOTALS:					26370						22610	48980

PEAK VOLUME INFORMATION						
DIRECTION: E			DIRECTION: W		COMBINED DIRECTIONS	
A.M.	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
	715	1633	845	1219	845	2686
P.M.	1430	1747	1530	1716	1530	3243
DAILY	1430	1747	1530	1716	1530	3243

TRUCK PERCENTAGE 3.69 3.93 3.80

CLASSIFICATION SUMMARY DATABASE																
DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK TOTVOL
E	145	22071	3180	158	400	87	37	202	83	5	0	0	0	0	2	972 26370
W	54	19400	2125	202	521	33	3	54	44	14	0	0	17	0	143	888 22610

COUNTY: 87
STATION: 5225
DESCRIPTION: SR 826/NE 163 ST, 100' E OF NE 20 AVE
START DATE: 07/17/2019
START TIME: 0000

TIME	DIRECTION: E					DIRECTION: W					COMBINED	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL	TOTAL
0000	98	63	79	74	314	117	126	87	71	401		715
0100	46	43	41	24	154	70	43	39	39	191		345
0200	25	30	22	25	102	33	20	19	16	88		190
0300	15	25	27	27	94	33	25	28	24	110		204
0400	20	32	36	54	142	29	31	32	38	130		272
0500	43	80	144	203	470	27	45	72	92	236		706
0600	267	341	403	343	1354	97	128	130	155	510		1864
0700	314	395	406	407	1522	209	248	215	274	946		2468
0800	414	450	373	407	1644	284	279	295	349	1207		2851
0900	331	391	393	413	1528	278	288	339	330	1235		2763
1000	435	364	422	391	1612	303	321	296	352	1272		2884
1100	384	365	357	425	1531	309	321	349	315	1294		2825
1200	377	406	383	420	1586	303	331	329	325	1288		2874
1300	382	420	439	429	1670	352	366	277	288	1283		2953
1400	438	366	447	401	1652	412	357	306	429	1504		3156
1500	420	379	434	401	1634	388	354	443	395	1580		3214
1600	376	382	430	404	1592	413	387	410	428	1638		3230
1700	390	397	416	408	1611	410	456	375	404	1645		3256
1800	364	399	417	419	1599	400	311	410	350	1471		3070
1900	349	400	381	366	1496	329	304	295	296	1224		2720
2000	309	275	273	268	1125	286	265	295	237	1083		2208
2100	242	242	253	224	961	269	247	229	185	930		1891
2200	241	210	218	178	847	219	205	218	169	811		1658
2300	186	154	135	102	577	221	193	177	154	745		1322
24-HOUR TOTALS:					26817						22822	49639

PEAK VOLUME INFORMATION						
DIRECTION: E			DIRECTION: W		COMBINED DIRECTIONS	
A.M.	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
	730	1677	845	1254	800	2851
P.M.	1315	1726	1630	1704	1630	3325
DAILY	1315	1726	1630	1704	1630	3325

TRUCK PERCENTAGE 3.71 3.90 3.80

CLASSIFICATION SUMMARY DATABASE																
DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK TOTVOL
E	179	22492	3151	172	436	95	42	191	51	7	0	0	1	0	0	995 26817
W	67	19363	1985	191	503	39	10	75	37	21	0	0	14	0	517	890 22822

COUNTY: 87
STATION: 5225
DESCRIPTION: SR 826/NE 163 ST, 100' E OF NE 20 AVE
START DATE: 07/18/2019
START TIME: 0000

TIME	DIRECTION: E					DIRECTION: W					COMBINED	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL	TOTAL
0000	111	72	79	67	329	139	119	101	78	437	766	
0100	53	41	25	29	148	69	57	44	47	217	365	
0200	36	37	35	24	132	45	46	29	29	149	281	
0300	23	13	20	27	83	28	22	41	27	118	201	
0400	23	31	43	53	150	24	32	29	35	120	270	
0500	46	75	175	209	505	41	44	47	95	227	732	
0600	271	342	394	343	1350	95	111	145	193	544	1894	
0700	291	367	394	418	1470	231	290	214	298	1033	2503	
0800	425	396	315	393	1529	314	290	307	310	1221	2750	
0900	366	401	365	402	1534	332	282	317	309	1240	2774	
1000	401	341	391	349	1482	319	289	334	316	1258	2740	
1100	396	381	360	424	1561	297	243	376	329	1245	2806	
1200	362	373	391	393	1519	344	316	373	310	1343	2862	
1300	397	419	433	361	1610	369	363	332	317	1381	2991	
1400	461	437	440	386	1724	394	345	377	369	1485	3209	
1500	367	413	408	407	1595	424	369	425	409	1627	3222	
1600	346	372	421	388	1527	403	384	437	430	1654	3181	
1700	447	361	413	389	1610	313	447	373	400	1533	3143	
1800	390	393	413	402	1598	395	375	385	320	1475	3073	
1900	407	382	346	340	1475	328	301	267	321	1217	2692	
2000	306	282	294	239	1121	303	276	271	264	1114	2235	
2100	269	264	251	204	988	255	292	218	240	1005	1993	
2200	214	205	220	190	829	219	235	208	178	840	1669	
2300	151	154	122	111	538	223	202	173	137	735	1273	
24-HOUR TOTALS:					26407						23218	49625

PEAK VOLUME INFORMATION					
DIRECTION: E			DIRECTION: W		
A.M.	HOUR	VOLUME	HOUR	VOLUME	COMBINED DIRECTIONS
	730	1633	845	1241	
P.M.	1400	1724	1600	1654	
DAILY	1400	1724	1600	1654	

TRUCK PERCENTAGE 3.90 4.70 4.28

CLASSIFICATION SUMMARY DATABASE																
DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK TOTVOL
E	352	22075	2949	158	426	144	27	179	89	6	0	0	1	0	1	1030 26407
W	65	19681	2209	223	676	35	5	94	40	8	0	0	11	0	171	1092 23218

Covid-19 Factor Calculations

Covid Factor Calculations

STA 5225 SR 826/NE 163 ST, 100' E OF NE 20 AVE							
AADT		2015	2016	2017	2018	2019	
		56,000	49,000	5,800	49,500	51,000	
STA 5225	7/16/2019	7/17/2019	7/18/2019	Average	PSCF	w PSCF	Grown to 2021
Daily	48,980	49,639	49,625	49,415	1.14	56,333	56,784
E	26,370	26,817	26,407	26,531	1.14	30,246	30,488
W	22,610	22,822	23,218	22,883	1.14	26,087	26,296

NE 163rd St Bet. NE 19th Ave and NE 22nd Ave							COVID FACTOR
Counted	8/24/2021	8/25/2021	8/26/2021	Average	PSCF	w PSCF	
Daily	47,902	48,246	48,408	48,185	1.10	53,004	1.07
E	24,784	24,557	24,999	24,780	1.10	27,258	1.12
W	23,118	23,689	23,409	23,405	1.10	25,746	1.02
Average:							1.07

Seasonal Factors

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 8700 MIAMI-DADE NORTH

WEEK	DATES	SF	MOCF: 0.92 PSCF
* 1	01/01/2020 - 01/04/2020	0.99	1.08
* 2	01/05/2020 - 01/11/2020	0.94	1.02
* 3	01/12/2020 - 01/18/2020	0.88	0.96
* 4	01/19/2020 - 01/25/2020	0.88	0.96
* 5	01/26/2020 - 02/01/2020	0.87	0.95
* 6	02/02/2020 - 02/08/2020	0.86	0.93
* 7	02/09/2020 - 02/15/2020	0.85	0.92
* 8	02/16/2020 - 02/22/2020	0.88	0.96
* 9	02/23/2020 - 02/29/2020	0.90	0.98
*10	03/01/2020 - 03/07/2020	0.93	1.01
*11	03/08/2020 - 03/14/2020	0.95	1.03
*12	03/15/2020 - 03/21/2020	0.98	1.07
*13	03/22/2020 - 03/28/2020	1.06	1.15
14	03/29/2020 - 04/04/2020	1.13	1.23
15	04/05/2020 - 04/11/2020	1.21	1.32
16	04/12/2020 - 04/18/2020	1.28	1.39
17	04/19/2020 - 04/25/2020	1.24	1.35
18	04/26/2020 - 05/02/2020	1.19	1.29
19	05/03/2020 - 05/09/2020	1.15	1.25
20	05/10/2020 - 05/16/2020	1.11	1.21
21	05/17/2020 - 05/23/2020	1.09	1.18
22	05/24/2020 - 05/30/2020	1.07	1.16
23	05/31/2020 - 06/06/2020	1.05	1.14
24	06/07/2020 - 06/13/2020	1.04	1.13
25	06/14/2020 - 06/20/2020	1.02	1.11
26	06/21/2020 - 06/27/2020	1.03	1.12
27	06/28/2020 - 07/04/2020	1.04	1.13
28	07/05/2020 - 07/11/2020	1.05	1.14
29	07/12/2020 - 07/18/2020	1.05	1.14
30	07/19/2020 - 07/25/2020	1.04	1.13
31	07/26/2020 - 08/01/2020	1.03	1.12
32	08/02/2020 - 08/08/2020	1.02	1.11
33	08/09/2020 - 08/15/2020	1.01	1.10
34	08/16/2020 - 08/22/2020	1.01	1.10
35	08/23/2020 - 08/29/2020	1.01	1.10
36	08/30/2020 - 09/05/2020	1.01	1.10
37	09/06/2020 - 09/12/2020	1.01	1.10
38	09/13/2020 - 09/19/2020	1.01	1.10
39	09/20/2020 - 09/26/2020	1.00	1.09
40	09/27/2020 - 10/03/2020	0.99	1.08
41	10/04/2020 - 10/10/2020	0.98	1.07
42	10/11/2020 - 10/17/2020	0.97	1.05
43	10/18/2020 - 10/24/2020	0.97	1.05
44	10/25/2020 - 10/31/2020	0.98	1.07
45	11/01/2020 - 11/07/2020	0.98	1.07
46	11/08/2020 - 11/14/2020	0.99	1.08
47	11/15/2020 - 11/21/2020	0.99	1.08
48	11/22/2020 - 11/28/2020	0.99	1.08
49	11/29/2020 - 12/05/2020	0.99	1.08
50	12/06/2020 - 12/12/2020	0.99	1.08
51	12/13/2020 - 12/19/2020	0.99	1.08
52	12/20/2020 - 12/26/2020	0.94	1.02
53	12/27/2020 - 12/31/2020	0.88	0.96

* PEAK SEASON

27-FEB-2021 10:30:06

830UPD

6_8700_PKSEASON.TXT

Signal Timings

Miami-Dade, FL



TOD Schedule Report

2013 - NE 163rd St. & NE 19th Ave.

2070-1C-Econolite Type-Cobalt

3/30/2020, 2:28 PM

Phase Data

Phase	Direction	Split	Timing Plan	Walk	Ped Clear	Min Green	Max Green	Vehicle Ext	MAX 2	MAX 3	Yellow	Red Clear
1	E - L	35	1	0	0	5	15	2	35	0	4	2
			2	0	0	5	7	2	7	0	4	2
			3	0	0	5	15	2	0	0	4	2
			4	0	0	0	0	0	0	0	0	0
2	W - T	65	1	7	31	7	40	1	0	0	4	2.5
			2	7	31	7	37	1	40	0	4	2.5
			3	7	31	7	40	1	0	0	4	2.5
			4	0	0	0	0	0	0	0	0	0
6	E - T	100	1	7	31	7	40	1	0	0	4	2.5
			2	7	31	7	37	1	40	0	4	2.5
			3	7	31	7	40	1	0	0	4	2.5
			4	0	0	0	0	0	0	0	0	0
8	S - T	30	1	7	26	7	20	2.5	45	0	4	3
			2	7	26	7	25	2.5	30	0	4	3
			3	7	26	7	26	2.5	0	0	4	3
			4	0	0	0	0	0	0	0	0	0

Schedule (MM) 5-4**Schedule Number - 1**

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X		X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
					X		

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 3

Day Plan No.: 3

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
							X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Miami-Dade, FL



2013 - NE 163rd St. & NE 19th Ave. - 2070-1C - Econolite Type - Cobalt

Time Base Day Plan/Schedule
Day Plan (MM) 5-3
Day Plan #1 - "1"

Event	Action Plan	Start Time
1	23	00:00
2	64	01:00
3	7	05:00
4	8	06:00
5	17	07:00
6	14	09:00
7	13	10:00
8	18	14:00
9	11	16:15
10	6	19:00
11	9	20:30
12	23	23:00

Day Plan #2 - "2"

Event	Action Plan	Start Time
1	23	00:00
2	64	01:00
3	7	05:00
4	8	06:00
5	17	07:00
6	14	09:00
7	13	10:00
8	18	14:00
9	11	16:15
10	10	19:00
11	9	20:30
12	23	23:00

Day Plan #3 - "3"

Event	Action Plan	Start Time
1	23	00:00
2	64	01:00
3	1	06:00
4	11	10:00
5	16	20:00
6	6	22:15
7	23	23:00

Day Plan #4 - "4"

Event	Action Plan	Start Time
1	23	00:00
2	64	01:00
3	1	06:00
4	11	10:00
5	16	20:00
6	23	23:00

Action Plan - 17 - "17"

Pattern 17 Override Sys No
 Timing Plan 1 Sequence 1
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 2 Ped Det Diag 0
 Plan Plan
 Dimming Enable No Pmt Veh Priority No
 Ret Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 18 - "18"

Pattern 18 Override Sys No
 Timing Plan 1 Sequence 1
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 2 Ped Det Diag 0
 Plan Plan
 Dimming Enable No Pmt Veh Priority No
 Ret Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Coordinator Pattern # 17

Split Pattern	17	TS2 (Pat-Off)	5-2	Splits In	Seconds
Cycle	130	Std (COS)	209	Offsets In	Seconds
Offset Value	92s	Dwell/Add Time	0		
Actuated Coord No	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	1		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	E-L	W-T	N	N	N	E-T	N	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 17)	30	69	0	0	0	99	0	31	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	130s	99s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 18

Split Pattern	18	TS2 (Pat-Off)	5-3	Splits In	Seconds
Cycle	130	Std (COS)	217	Offsets In	Seconds
Offset Value	16s	Dwell/Add Time	0		
Actuated Coord No	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	1		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	E-L	W-T	N	N	N	E-T	N	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 18)	35	65	0	0	0	100	0	30	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	130s	100s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Action Plan - 11 - "11"

Pattern 11 Override Sys No
 Timing Plan 1 Sequence 1
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 2 Ped Det Diag 0
 Plan Plan
 Dimming Enable No Pmt Veh Priority No
 Ret Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 12 - "12"

Pattern 12 Override Sys No
 Timing Plan 1 Sequence 0
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 0 Ped Det Diag 0
 Plan Plan
 Dimming Enable No Pmt Veh Priority No
 Ret Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Coordinator Pattern # 11

Split Pattern	11	TS2 (Pat-Off)	3-2	Splits In	Seconds
Cycle	150	Std (COS)	137	Offsets In	Seconds
Offset Value	25s	Dwell/Add Time	0		
Actuated Coord No		Timing Plan	1		
Actuated Walk Rest	No	Sequence	1		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	E-L	W-T	N	N	N	E-T	N	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 11)	35	85	0	0	0	120	0	30	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	150s	120s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 12

Split Pattern	12	TS2 (Pat-Off)	3-3	Splits In	Seconds
Cycle	130	Std (COS)	145	Offsets In	Seconds
Offset Value	97s	Dwell/Add Time	0		
Actuated Coord No		Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	E-L	W-T	N	N	N	E-T	N	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 12)	30	69	0	0	0	99	0	31	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	130s	99s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Miami-Dade, FL

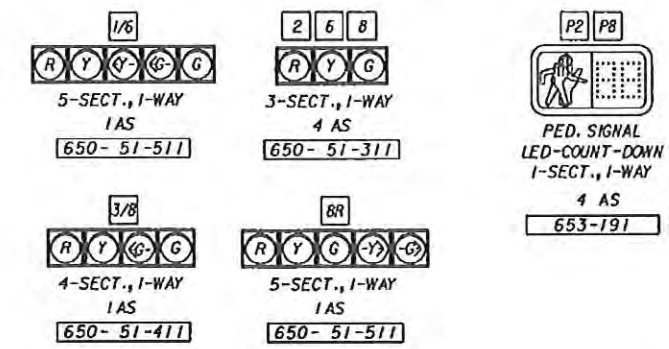


2013 - NE 163rd St. & NE 19th Ave. - 2070-1C - Econolite Type - Cobalt

Controller Timing Plan (MM) 2-1**Plan 1 - "Phase Bank 1"**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	E-L	W-T	N	N	N	E-T	N	S-T	N	N	N	N	N	N	N	N
Min Green	5	7	0	0	0	7	0	7	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	0	0	7	0	7	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	31	0	0	0	31	0	26	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	2.0	1.0	0.0	0.0	0.0	1.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	15	40	0	0	0	40	0	20	0	0	0	0	0	0	0	0
Max2	35	0	0	0	0	0	0	45	0	0	0	0	0	0	0	0
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	4.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	2.0	2.5	0.0	0.0	0.0	2.5	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	2.0	1.0	0.0	0.0	0.0	1.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SIGNAL HEAD & SIGN DETAILS



NE 163 ST
N Miami Beach Blvd

D3-1
72" X 24"
1 EA
699-1-1
LED INTERNALLY
ILLUMINATED SIGN

NE 19 AV

D3-1
72" X 24"
2 EA
699-1-1
LED INTERNALLY
ILLUMINATED SIGN

NOTES

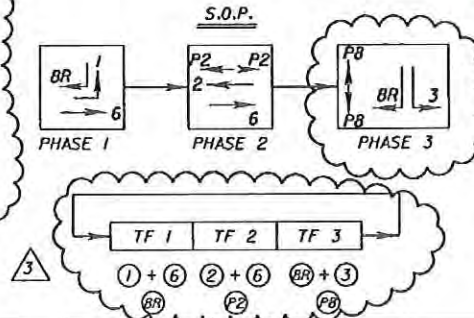
1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. PAY ITEM 690-100 INCLUDES THE REMOVAL OF EXISTING SIGNAL PULL BOXES AND EXISTING SERVICE POINT AT THE INTERSECTION.
3. FOR VVH (VERIFIED UTILITY LOCATIONS), SEE SHEET UTV-1.
4. PROPOSED PEDESTRIAN SIGNAL HEADS SHOULD BE ALIGNED WITH THE CENTER OF FAR-SIDED (OPPOSITE) CROSSWALK END.

CONTROLLER OPERATIONS

1. MAJOR STREET: SR-826 / N.E. 163rd ST
MINOR STREET: N.E. 19th AV
2. FLASHING OPERATION: 2 & 6 - YELLOW
3 & 8R - RED
3. SOP: AS SHOWN BELOW.
4. PHASE 1 & 3 ACTUATED
PHASE 2 RECALL
5. PED. SIGNALS UPON ACTUATION ONLY.
P2 IS ON RECALL.



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



RIO-3E (MODIFIED)
9" X 15"
2 EA
COST TO BE INCLUDED
IN PAY ITEM 665-II



R3-4
24" X 24"
1 EA
700-48-18



R3-18
24" X 24"
1 EA
700-48-18

PROP. FPL SERVICE POINT
120 V, 1-PHASE
PRIMARY FEEDER
AT NE 18TH AV
1st POLE N/O NE 163 ST
(SEE SHEET T-7)

SERVICE POINT ITEMS

- 639-1-23 1 AS
- 639-2-1 1225 LF

REMOVAL ITEMS

- 690-10 7 EA
- 690-20 4 EA
- 690-32-1 4 EA
- 690-50 1 EA
- 690-70 2 EA
- 690-80 1 EA
- 690-90 1 PI
- 690-100 1 PI
- 700-48-60 2 EA

NEW CONTROLLER LOCATION
STA. 873+66.00 (71.50' LT)
CONTROLLER ITEMS

- 632-7-1 1 PI
- 635-1-11 5 EA
- 660-1-109 3 EA
- 670-5-120 1 AS

EXIST. CONC. POLE
(TO BE REMOVED)

EL 7.50
STA 873+69.50 (59.50' LT)
ARM LENGTH= 46.00'
ARM BEARING= S 1° 37' 57" E

- 635-1-11 2 EA
- 665-11 1 EA
- 649-31-202 1 EA

EXIST. CONTROLLER
(TO BE REMOVED)

- 635-1-11 3 EA

EXIST. 5' SIDEWALK

EXIST. GUARDRAIL
(TO BE REMOVED)

- 635-1-11 1 EA
- 660-2-101 1 AS

2 CONDUITS

EXIST. AT&T FLORIDA
SERVICE POINT-M.H.
(TO REMAIN)
INSTALL A PULL BOX
DESIGNATED FOR TELEPHONE
SERVICE

- 635-1-13 1 EA

EXIST. 40.00' X 5.00'
SIGNAL EASEMENT

EL 8.00
STA. 873+78.50 (52.00' RT)
ARM LENGTH= 36.00'
ARM BEARING= N 87° 21' 26" E

- 635-1-11 1 EA
- 649-31-201 1 EA

- 630-1-13 1275 LF

715-14-12 1 EA
REPLACE EXIST.
STREET LIGHT
PULL BOX

- 660-2-101 3 AS

EXIST. CONC. POLE
(TO BE REMOVED)

CORE BORING B-20
(SEE SHEET GT-3)

EXIST. SIGNAL SPIN WIRE
(TO BE REMOVED) (TYP.)

SR 826 / N.E. 163rd ST

874

EXIST. CONC. POLE
(TO BE REMOVED)
CORE BORING B-19
(SEE SHEET GT-3)

EXIST. CONC. POLE
AND EXIST. FPL
SERVICE POINT
(TO BE REMOVED)

EXIST. 6.66' X 5.00'
SIGNAL EASEMENT

EL 8.00
STA 874+52.00 (53.00' RT)
ARM LENGTH= 52.00'
ARM BEARING= N 1° 37' 57" W

- 635-1-11 1 EA
- 649-31-203 1 EA



EXIST. SIGNS
(TO REMAIN)

SR 826 / N.E. 163rd ST AND N.E. 19th AV

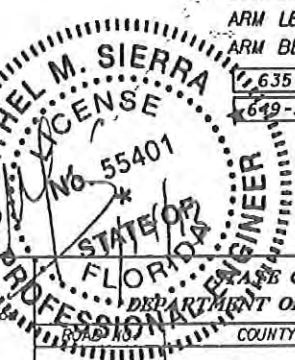
ID No.: 2013

REVISIONS		DESCRIPTION	
DATE		DESCRIPTION	
1-14-13	3	AS REQUESTED BY MD COUNTY, SOUTHBOUND DUAL RIGHT-LEFT TURN ARROWS WERE REMOVED. EXCLUSIVE PEDESTRIAN CROSSING WAS REMOVED.	

ENGINEER OF RECORD:



A&P Consulting Transportation
Engineers Corporation
10305 N.W. 41 Street, Suite 115
Miami, FL 33178
(305) 593-7283 / Fax: (305) 593-1594
CA No.: EB-0007797
Ethel M. Sierra, P.E. No. 55401



COUNTY		FINANCIAL PROJECT ID	
826	MIAMI-DADE	412637-4-52-01	

SIGNALIZATION PLAN

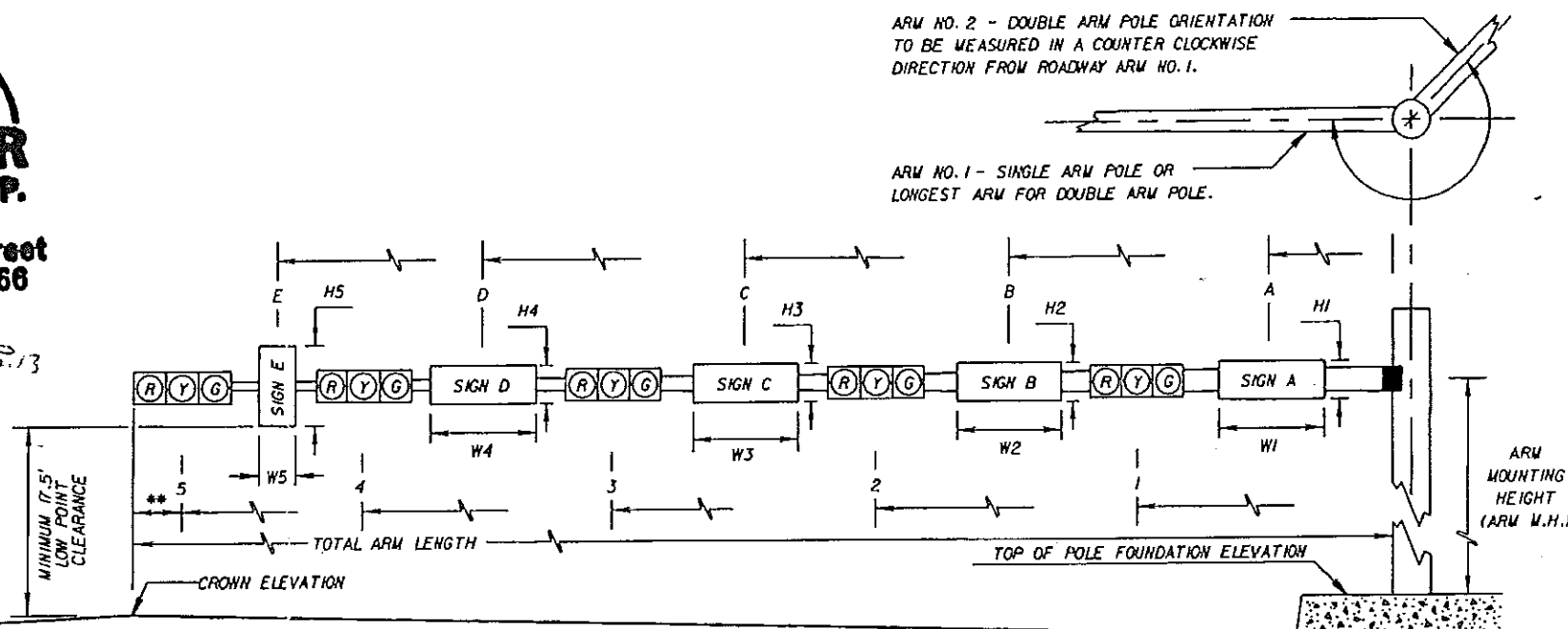
SHEET NO.
T-8

SPECIAL INSTRUCTIONS				
ID NO.	LOCATION BY STATION	PED. BUTTON	PED. SIGNALS	HANDHOLE LOCATION
A-1	744+22 (57' LT)	0°	270°	0°
B-1	744+88 (59' LT)			0°
C-1	744+84 (56' RT)	270°	0° 270°	0°
A-2	758+28 (53' LT)	0°	0°	0°
B-2	758+06 (65' LT)		0°	0°
C-2	758+02 (58' RT)		270°	0°
A-3	767+53.55 (52.15' LT)			0°
B-3	768+40 (52' RT)	270°	270°	0°
A-4	797+03 (60' LT)		0°	0°
B-4	797+84 (53' RT)		0°	0°
A-5	812+81 (52' LT)		270°	0°
B-5	812+82 (58' RT)	270°	325°	0°
C-5	812+69 (52' RT)			0°



*** FIVE SECTION SIGNAL HEAD 3'-0"
FOUR SECTION SIGNAL HEAD 2'-6"
THREE SECTION SIGNAL HEAD 2'-0"

*** SIGNAL HEAD TO BE MOUNTED
ON BACK SIDE OF MAST ARM



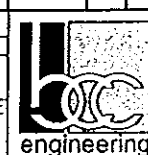
(1) ELEVATION DIFFERENCE = TOP OF POLE FOUNDATION - CROWN ELEVATION
(ELEVATION DIFFERENCE TO BE MEASURED ALONG THE LENGTH OF MAST ARM)

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

										* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY																				SIGN DATA														
ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUNDATION ELEVATION	RDY ARM NO.	CROWN ELEV.	SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	SIGNAL DATA										TOTAL ARM LENGTH	ARM V.H.	L BETWEEN DUAL ARMS 90/270	DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN																						
									DISTANCE FROM POLE																																			
									1	*	2	*	3	*	4***	*	5	*	A	H1	W1	B	H2	W2	C	H3	W3	D	H4	W4	E	H5	W5											
A-1	T-4	744+22 (57' LT)	10.50'	1	10.30'	H	Y	Y	24.0'	3	35.0'	3	43.0'	5				46'	20'		6.0'	2.0'	6.0'																					
B-1	T-4	744+88.00 (59' LT)	10.50'	1	10.00'	H	Y	Y	20.0'	3	32.0'	5						36'	20'		6.0'	2.0'	6.0'																					
C-1	T-4	744+84 (56' RT)	10.70'	1	10.45'	H	Y	Y	34.0'	5	46.0'	3						55'	20'	270	6.0'	2.0'	6.0'																					
				2					23.0'	3	35.0'	3	47.0'	5				52'	20'		6.0'	2.0'	6.0'																					
A-2	T-5	757+28 (53' LT)	9.50'	1	9.35'	H	Y	Y	25.0'	3	36.0'	3	48.0'	5				53'	20'		6.0'	2.0'	6.0'																					
B-2	T-5	758+06 (65' LT)	9.50'	1	9.22'	H	Y	Y	19.0'	3	30.0'	3						36'	20'		6.0'	2.0'	6.0'																					
C-2	T-5	758+02 (58' RT)	9.50'	1	9.52'	H	Y	Y	24.0'	3	36.0'	3	48.0'	5				63'	20'	90	6.0'	2.0'	6.0'																					
				2					29.0'	3	41.0'	3						44'	20'		6.0'	2.0'	6.0'																					
A-3	T-6	767+53.55(52.15' LT)	8.50'	1	8.35'	H	Y	N	21.0'	3	33.0'	3						38'	20'		6.0'	2.0'	6.0'	36.0'	2.0'	2.0'																		
B-3	T-6	768+40 (52' RT)	8.60'	1	8.38'	H	Y	Y	47.0'	3	57.0'	3						62'	20'	270	6.0'	2.0'	6.0'																					
				2					20.0'	3	32.0'	3	43.0'	5				48'	20'		6.0'	2.0'	6.0'																					
A-4	T-7	797+03 (60' LT)	12.00'	1	12.10'	H	Y	Y	43.0'	5	55.0'	3						60'	20'	267	6.0'	2.0'	6.0'	47.0'	1.5'	2.75'																		
				2					24.0'	3	34.0'	3	44.0'	5				50'	20'		6.0'	2.0'	6.0'																					
B-4	T-7	797+84 (53' RT)	12.11'	1	12.36'	H	Y	Y	48.0'	5	59.0'	3						64'	20'	270	6.0'	2.0'	6.0'	46.0'	1.5'	2.75'																		
				2					18.0'	3	30.0'	3	42.0'	5				46'	20'		6.0'	2.0'	6.0'																					
A-5	T-8	812+81 (52' LT)	12.50'	1	12.68'	H	Y		21.0'	3	33.0'	3	45.0'	5	45.0'	3		50'	20'		6.0'	2.0'	6.0'																					
B-5	T-8	812+82 (58' RT)	13.50'	1	12.04'	H	Y	Y	21.0	3	31.0'	3	34.0'	3	44.0'	3		50'	19'		6.0'	2.0'	6.0'	26.0'	2.0'	6.0'																		
C-5	T-8	812+69 (52' RT)	12.50'	1	19.0'	H	Y	N	19.0'	3	31.0'	3	43.0'	5	43.0'	3		48'	22.5'		6.0'	2.0'	6.0'																					

JOSE ANTONIO MORALES
LICENSED PROFESSIONAL ENGINEER
No. 88714
12/3/13
STATE OF FLORIDA

REVISIONS		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION
6/5/12	RELOCATED MAST ARMS A-1, A-3 AND ADJUSTED SIGNAL HEAD LOCATIONS	12/12/12	REVISED ANGLE BETWEEN DUAL ARMS
8/13/12	RELOCATED MAST ARM C-2 AND REVISED SIGNAL HEAD LOCATIONS	5/29/13	RELOCATED PED. SIGNAL TO A PED. POLE
12/3/12	REVISED MAST ARM A-3 LOCATION	12/5/13	REVISED SIGN DIMENSIONS

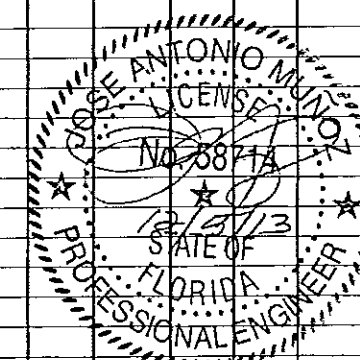


JOSE A. MUÑOZ, P.E.
P.E. License No. 58714
7300 N. Kendall Drive, Suite 400
Miami, Florida 33156
Phone: (305) 670-2350
Fax: (305) 670-2351
Certificate of Authorization No. 7184

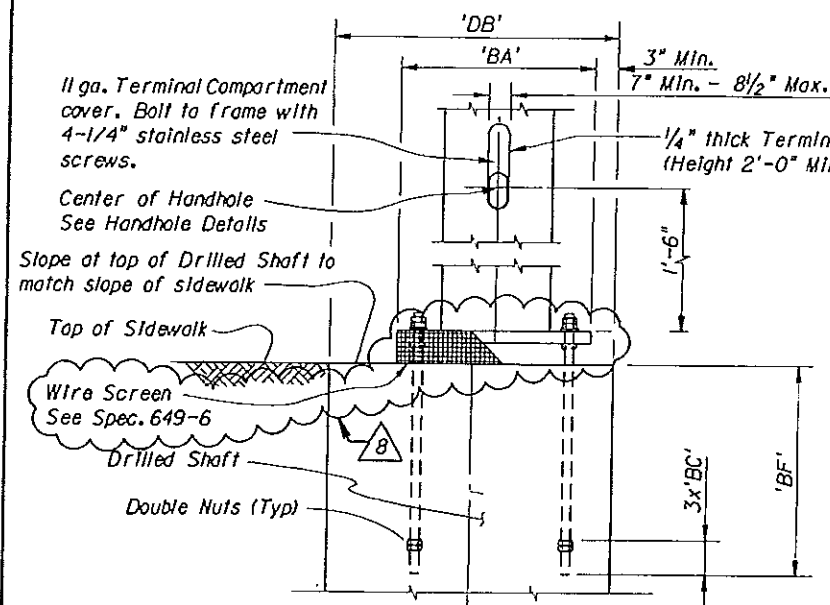
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826	MIAMI-DADE	412637-3-52-01

MAST ARM TABULATION

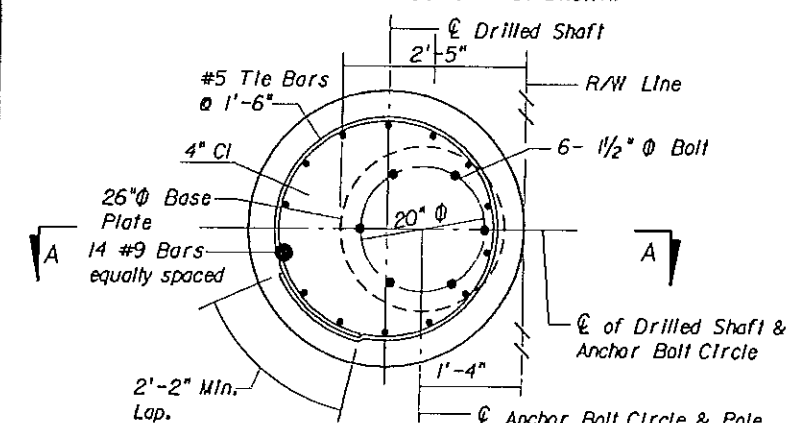
SHEET NO.
T-12



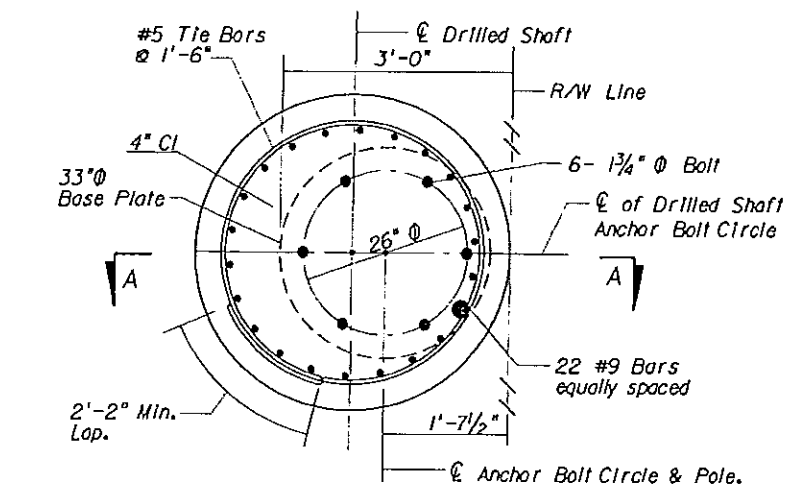
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 6G05-23.003, F.A.C.



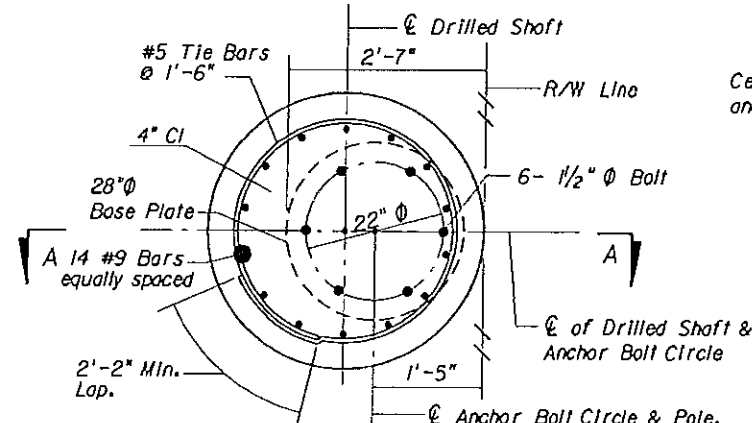
BASE PLATE AND ANCHORAGE ELEVATION
(Reinforcement Not Shown)



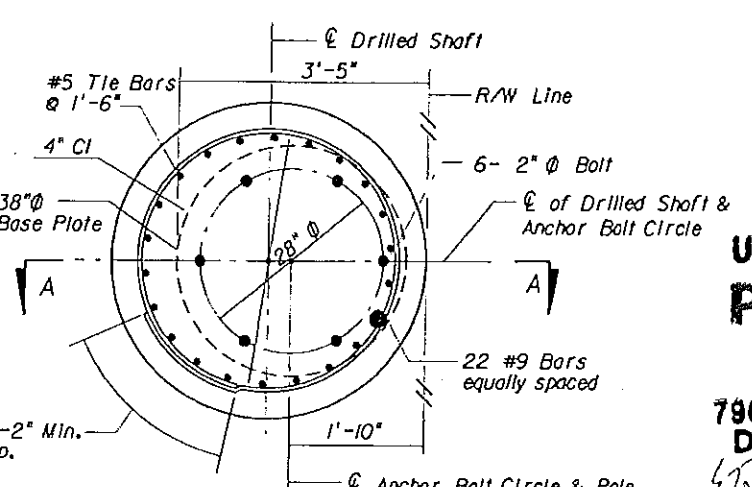
FOUNDATION PLAN FOR POLE TYPE T1
42\"/>



FOUNDATION PLAN FOR POLE TYPE T3
48\"/>

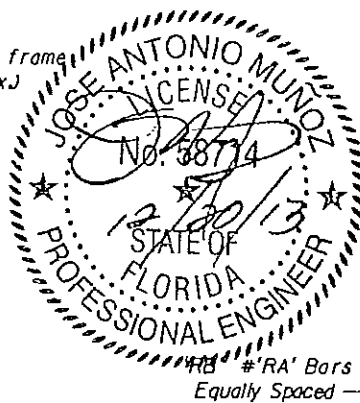


FOUNDATION PLAN FOR POLE TYPE T2
42\"/>

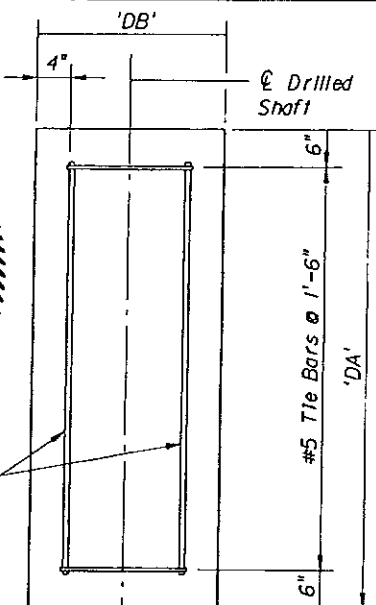


FOUNDATION PLAN FOR POLE TYPE T4
48\"/>

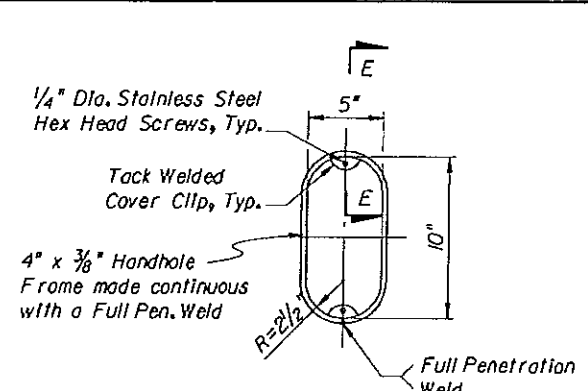
FOUNDATION & BASE PLATE DETAILS



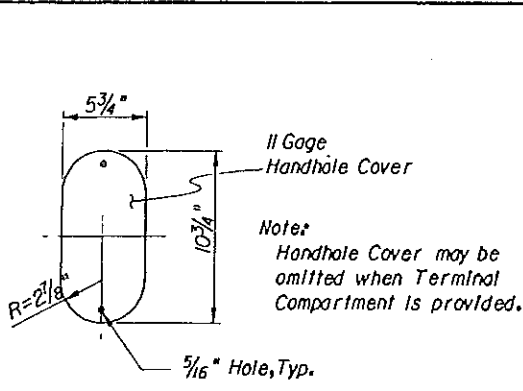
NOTE:
Spacers shall be provided along
reinforcing bars cage to insure the
required concrete cover.



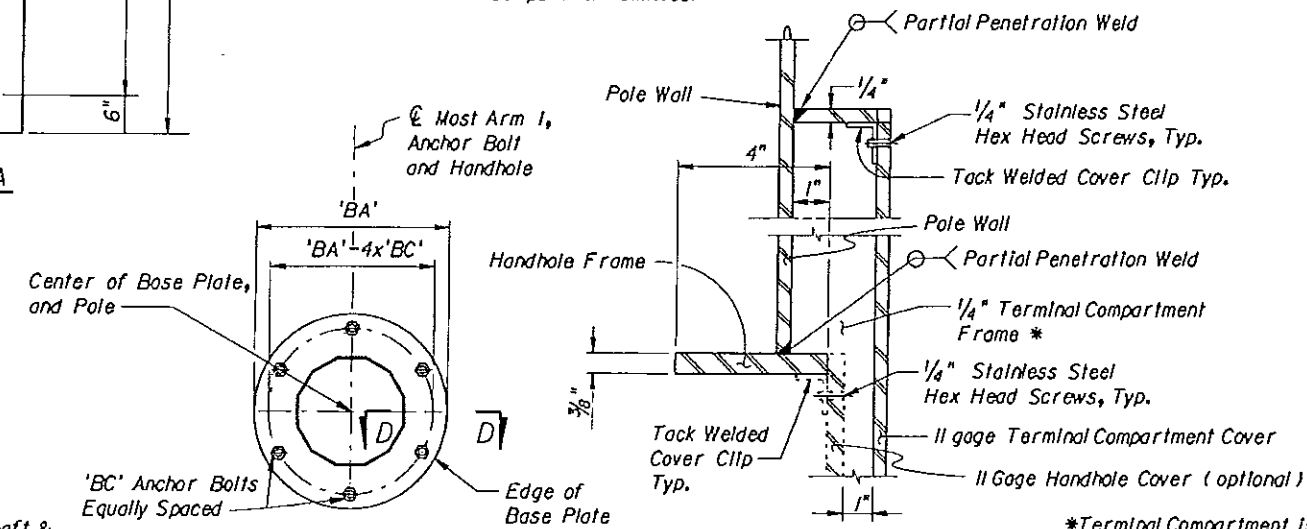
SECTION A-A



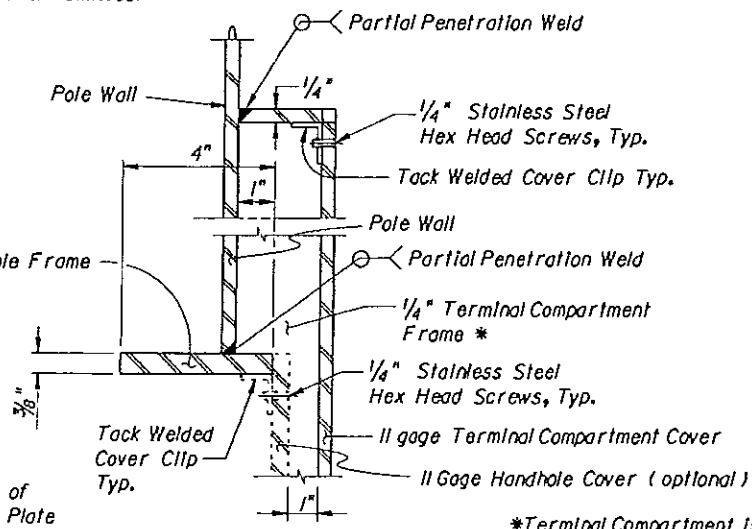
HANDHOLE FRAME
(w/Terminal Compartment Omitted)



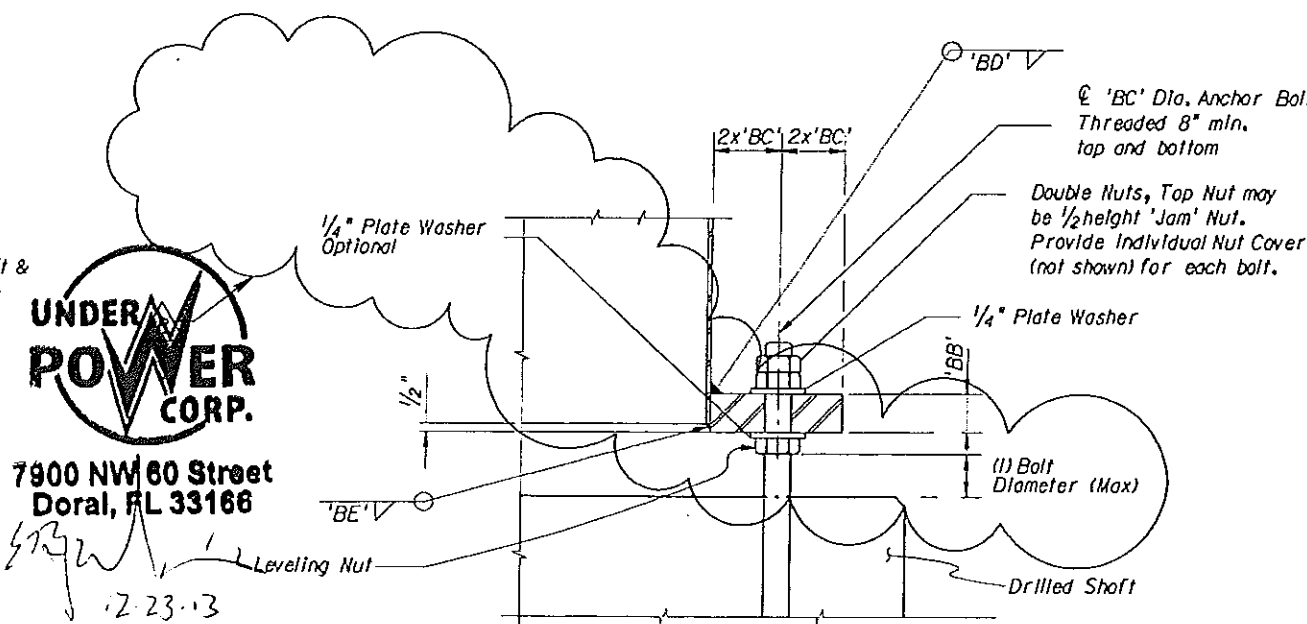
HANDHOLE COVER



BASE PLATE DETAIL
(6 Anchor Bolts)



SECTION E-E
(thru Handhole & Terminal Compartment)



SECTION D-D

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
12/12/13	REPLACED GROUT PAD WITH WIRE SCREEN, ADDED OPTIONAL WASHERS AND REVISED SPACING BETWEEN TOP OF DRILLED SHAFT AND LEVELING NUT		



JOSE A. MUÑOZ, P.E.
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Certificate of Authorization No. 7184

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826	MIAMI-DADE	412637-3-52-01

POLES THAT ARE OFF-CENTERED TO DRILLED SHAFT	
SHEET NO.	
T-14	

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G5-23.003, F.A.C.

SIGNAL OPERATING PLAN



		Direction		E		W		S		Ped Heads		
Timing Phases	Head No.	1	6	2	8	8R				P2	P8	Movements/Display/Actuation
(1+6) EBLT (Actuated)	Dwell	<E/G	G	R	R	R/G				DW	DW	
	(2+6)	<Y/G	G	R	R	R/Y				DW	DW	
	C											
	l											
	e											
(2+6) E-W (Recall)	Dwell	G	G	G	R	R			W/F	DW		
	(8)	Y	Y	Y	R	R			DW	DW		
	C											
	l											
	e											
(8) S'END (Actuated)	Dwell	R	R	R	<E/G	G			DW	W/F		
	(1+6)	R	R	R	Y	Y			DW	DW		
	(2+6)	R	R	R	Y	Y			DW	DW		
	C											
	l											

Flashing Operation

FY FY

FY FR FR

Page 1 of 1

Miami-Dade County Public Works Department

 Drawn **F. PRATS**

 Date **1/22/13**
SR 826 & NE 19 AV

 Checked **H. HERNANDEZ**

 Date **1/24/13**

Placed in Service

Phasing No.

Asset Number

 Date **3/5/13** By **CONTRALOR**
6
2013

TOD Schedule Report
for 2016: NE 19 Av&NE 164 St

Print Date:
9/24/2019

Print Time:
3:13 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2016	NE 19 Av&NE 164 St	DOW-3		[04] HEAVY AM PEAK	120	31	N/A	1	Max 2

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	SBT	EBL	WBT	-	NBT	WBL	EBT
0	33	38	32	0	33	38	32
↓	↗	←	↑			→	

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	<u>Phase Bank</u>																			
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	0
2 SBT	7	-	7 - 7	22	-	22 - 22	7	-	7 - 7	1	-	1 - 1	40	-	40 - 40	0	-	0 - 0	4	2
3 EBL	0	-	0 - 0	0	-	0 - 0	5	-	5 - 5	2	-	2 - 2	7	-	7 - 7	17	-	17 - 17	3.4	2
4 WBT	5	-	5 - 5	27	-	27 - 27	7	-	7 - 7	3.5	-	2.5 - 2.5	20	-	20 - 20	32	-	32 - 32	4	2
5 -	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	-	0 - 0	0	0
6 NBT	7	-	7 - 7	22	-	22 - 22	7	-	7 - 7	1	-	1 - 1	40	-	40 - 40	0	-	0 - 0	4	2
7 WBL	0	-	0 - 0	0	-	0 - 0	5	-	5 - 5	2	-	2 - 2	7	-	7 - 7	17	-	17 - 17	3.4	2
8 EBT	5	-	5 - 5	27	-	27 - 27	7	-	7 - 7	3.5	-	2.5 - 2.5	20	-	20 - 20	32	-	32 - 32	4	2

Last In Service Date: unknown

Permitted Phases

12345678

Default -234-678
External Permit 0 -----
External Permit 1 -2-4-6-8
External Permit 2 -2-4-6-8

		<u>Green Time</u>											
<u>Current TOD Schedule</u>	<u>Plan</u>	<u>Cycle</u>	1	2	3	4	5	6	7	8		<u>Ring Offset</u>	<u>Offset</u>
			-	SBT	EBL	WBT	-	NBT	WBL	EBT			
1		90	0	11	30	32	0	11	30	32		0	1
2		120	0	43	28	32	0	43	28	32		0	28
3		110	0	28	33	32	0	28	33	32		0	26
4		120	0	33	38	32	0	33	38	32		0	31

Local TOD Schedule

<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	1	Su M T W Th F S
0630	2	Su M T W Th F S
1000	3	Su M T W Th F S
1330	4	Su M T W Th F S
2000	3	Su M T W Th F S

TOD Schedule Report
for 2016: NE 19 Av&NE 164 St

Print Date:
9/24/2019

Print Time:
3:13 PM

Current Time of Day Function				Local Time of Day Function				* Settings
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>	<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>	
0000	TOD OUTPUTS	-----	SuM T W ThF S	0000	TOD OUTPUTS	-----	SuM T W ThF S	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

SCALE: 1" = 20'

STA. 15+10, 39' LT.
620-1-1 (20 LF)
632-7-1
635-1-11
647-11-52
665-11

INSTALL INTERCONNECT CONDUIT 2-2" PVC
WITH PULL BOXES AT 250' INTERVALS TO
THE CONTROLLER AT NE 19 AV & S. GLADES DR

EXIST. F.P.L. SERVICE POINT
620-1-1 (20 LF)
630-1-13A
635-1-11
639-1-13
639-2-1

STA. 14+03, 41' LT.
620-1-1 (20 LF)
632-7-1
635-1-11
647-11-50
665-11

STA. 13+60, 37' LT.
620-1-1 (50 LF)
632-7-1
635-1-11 (4 EA)
660-1-109 (4 EA)
672-1-1
685-320
685-324

INSTALL INTERCONNECT CONDUIT 2-2" PVC
WITH PULL BOXES AT 250' INTERVALS TO
THE CONTROLLER AT NE 19 AV & NE 163 ST.

635-1-111

EXIST. BELL SOUTH PICK-UP POINT

630-1-13
630-1-16
632-7-1
660-4-4

STA. 14+06, 92' RT.
620-1-1 (20 LF)
632-7-1
635-1-11
647-11-46
665-11

STA. 15+07, 88' RT.
620-1-1 (20 LF)
632-7-1
635-1-11 (2 EA)
647-11-48
665-11

NE 164 ST

NE 19 AV

2016

137

INTERSECTION ID NO. 2016

SIGNALIZATION

NE 19 AV & NE 164 ST

NF-053

TAP

TRANSPORT ANALYSIS PROFESSIONALS
INC.
A Transportation Consultant Group
9300 S. DADELAND BLVD. SUITE 501
MIAMI, FLORIDA 33156-2704
TEL: 305/670-0007 FAX: 305/670-9997

REV. DATE DESCRIPTION BY DESIGN DRAWN DATE

SIGNAL HEAD & SIGNS DETAILS

2 4 6 8

R Y G

ITEM NO. 650-1-131
6 - REQ'D

3 7

R Y G G

ITEM NO. 650-1-151
2 - REQ'D

X

NE 19 AV

Y

HANFORD BLVD
NE 164 ST

33-1S
ITEM NO. 700-48-18
2 - REQ'D

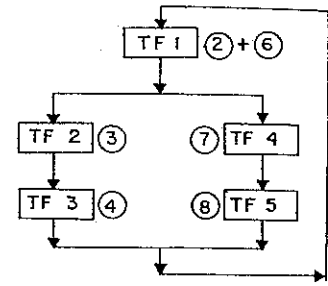
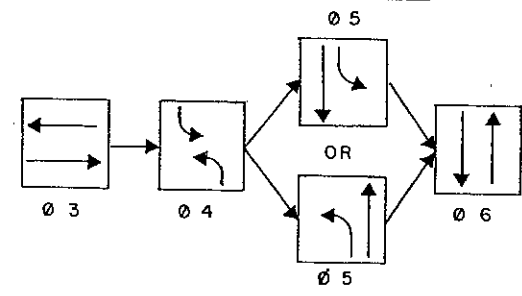
03-1S
ITEM NO. 700-48-18
2 - REQ'D

P2 P4
P6 P8



ITEM NO. 653-171
8 - REQ'D

SIGNAL OPERATING PLAN



NOTES

DEMAND WATTAGE FOR THIS INTERSECTION IS 1265 WATTS.
F.P.L. REPRESENTATIVE MR. TOM HODGDON TEL. 770-7934
S.B.T. REPRESENTATIVE TEL.
SIGNAL TIMING SHALL BE PROVIDED BY DADE COUNTY P.W.D.
SIGNALS & SIGNS DIVISION.

CONTROLLER TIMINGS								
INTERVAL	TIMING FUNCTION							
	1	2	3	4	5	6	7	8
GREEN (INITIAL)								
GREEN (PASSAGE)								
GREEN 1								
GREEN 2								
OW								
RED								
IN "WALK"								
IN CLEAR								

DETECTORS FOR LOOPS		
MVMT NO.	NO. OF LOOPS	NO. OF DETS.
3	1	1
4	2	1
7	1	1
8	3	1

CONTROLLER OPERATIONS

- MAJOR STREET IS NE 19 AV, MINOR STREET IS NE 164 ST
- STD. SIGNAL OPERATING PLAN → or (SOP AS SHOWN)
- PHASE(S) 4, 5, 6 ACTUATED, PHASE 3 RECALL
- MOVEMENT(S) 3, 7 IS(ARE) PROTECTED/PERMISSIVE
- SIGNAL COORDINATION PHASE IS 3
- FLASHING OPERATION: 2 + 6 YELLOW; 3+4+7+8 RED
- WIRE/PROGRAM CONTROLLER TO SKIP MOVEMENT(S) 3, 7

SIGNAL OPERATING PLAN

PHASE		SIGNAL HEAD NUMBER												PEDESTRIAN HEAD NUMBER					
		INT	1	2	3	4	5	6	7	8	9	10	11	12	P2	P4	P6		P8
Ø 2+6 NE 19 AVE	R/W		G	R	R		G	R	R						Y	DW	W	DW	
	PED CLEAR		G	R	R		G	R	R						FDW	DW	FDW	DW	
	TO Ø 3+7		Y	R	R		Y	R	R						DW	DW	DW	DW	
	Ø 3+8		Y	R	R		Y	R	R						DW	DW	DW	DW	
	Ø 4+7		Y	R	R		Y	R	R						DW	DW	DW	DW	
(RECALL)	Ø 4+8		Y	R	R		Y	R	R						DW	DW	DW	DW	
	R/W		R	R	R		R	R	R						DW	DW	DW	DW	
	Ø 3+8		R	R	R		R	R	R					DW	DW	DW	DW		
	Ø 4+7		R	R	R		R	R	R					DW	DW	DW	DW		
	Ø 4+8		R	R	R		R	R	R					DW	DW	DW	DW		
Ø 2+6		R	R	R		R	R	R					DW	DW	DW	DW			
(ACTUATED)																			
	R/W		R	R	R		R	R	R		G				DW	DW	DW	DW	
	Ø 4+8		R	R	R		R	R	R		G			DW	DW	DW	DW		
	Ø 2+6		R	R	R		R	R	R		Y			DW	DW	DW	DW		
(ACTUATED)																			
	R/W		R	R	G		R	R	R						DW	DW	DW	DW	
	Ø 4+8		R	R	G		R	R	R					DW	DW	DW	DW		
	Ø 2+6		R	R	Y		R	R	R					DW	DW	DW	DW		
(ACTUATED)																			
	R/W		R	G	G		R	G	G						DW	W	DW	W	
	PED CLEAR		R	G	G		R	G	G					DW	FDW	DW	FDW		
	TO Ø 2+6		R	Y	Y		R	Y	Y					DW	DW	DW	DW		
(ACTUATED)																			
	FLASHING OPERATION		Y	R	R		Y	R	R										

RECEIPT OF THE SHIP PULSE FROM THE TRAFFIC CONTROL SYSTEM WILL CAUSE PHASES 3+7 TO BE OMITTED.

*PEDESTRIAN SEQUENCE SHALL BE DISPLAYED UPON ACTUATION ONLY.

Drawn	Date	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS	
F. PRATS	1/16/98		
Check	Date	ASSET NO: 32016	
H. HERNANDEZ	1/20/98		
Division Engineer	Date	NE 19 AVENUE & NE 164 STREET	
		Placed in Service	Phasing Number
		Date: 2/25/98 By: CONTHUR	5

TOD Schedule Report
for 3647: W Dixie Hwy&NE 164 St

Print Date:
9/24/2019

Print Time:
7:02 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3647	W Dixie Hwy&NE 164 St	DOW-3		[03] AM PEAK	170	106	N/A	1	Max 2

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
NBL	SBT	-	WBT	-	NBT	-	EBT
9	118	0	25	0	133	0	25
							

Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red		
	Phase Bank																					
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3				
1 NBL	0	-	0	0	0	0	5	-	5	5	2	-	2	6	-	8	21	-	10	21	3.7	2
2 SBT	5	-	5	19	-	19	5	-	5	5	1	-	1	30	-	34	0	-	40	0	4	2
3 -	0	-	0	0	0	0	0	-	0	0	0	-	0	0	-	0	0	-	0	0	0	0
4 WBT	4	-	4	19	-	19	7	-	7	7	2.5	-	2.5	16	-	18	45	-	33	45	4	2
5 -	0	-	0	0	0	0	0	-	0	0	0	-	0	0	-	0	0	-	0	0	0	0
6 NBT	5	-	5	19	-	19	5	-	5	5	1	-	1	30	-	34	0	-	40	0	4	2
7 -	0	-	0	0	0	0	0	-	0	0	0	-	0	0	-	0	0	-	0	0	0	0
8 EBT	4	-	4	19	-	19	7	-	7	7	2.5	-	2.5	16	-	18	45	-	33	45	4	2

Last In Service Date: unknown

Permitted Phases

12345678

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

TOD Schedule Report

for 3647: W Dixie Hwy&NE 164 St

Print Date:

9/24/2019

Print Time:

7:02 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 NBL	2 SBT	3 -	4 WBT	5 -	6 NBT	7 -	8 EBT		
1		140	14	78	0	30	0	98	0	30	0	77
2		125	13	59	0	35	0	78	0	35	0	16
3		170	9	118	0	25	0	133	0	25	0	106
5		130	17	60	0	35	0	83	0	35	0	43
6		105	6	62	0	19	0	74	0	19	0	103
10		125	13	59	0	35	0	78	0	35	0	16
12		115	14	53	0	30	0	73	0	30	0	100
13		130	17	60	0	35	0	83	0	35	0	82
14		130	17	60	0	35	0	83	0	35	0	90
15		150	19	70	0	43	0	95	0	43	0	123
16		115	14	53	0	30	0	73	0	30	0	77
25		120	14	64	0	24	0	84	0	24	0	64
26		135	14	79	0	24	0	99	0	24	0	57
27		80	9	39	0	14	0	54	0	14	0	44
28		100	14	44	0	24	0	64	0	24	0	88

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0100	Flash	Su M T W Th F S
0500	Free	M T W Th F
0600	1	Su S
1000	3	M T W Th F
1000	3	Su S
2100	6	M T W Th F
2100	16	Su
2100	Free	S
2300	Free	Su M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	SuM T W ThF S
0500	TOD OUTPUTS	-----	M T W ThF
0530	TOD OUTPUTS	-----1	M T W ThF
0700	TOD OUTPUTS	-----	M T W ThF
2300	TOD OUTPUTS	-----	SuM T W ThF S

Local Time of Day Function

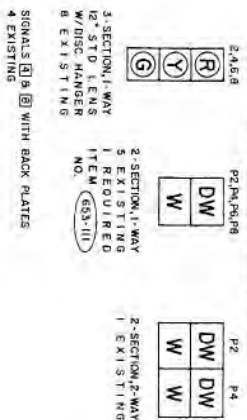
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	SuM T W ThF S
0500	TOD OUTPUTS	-----	M T W ThF
0530	TOD OUTPUTS	-----1	M T W ThF
0600	TOD OUTPUTS	-----	Su S
0700	TOD OUTPUTS	-----	M T W ThF
2100	TOD OUTPUTS	-----2-	S
2300	TOD OUTPUTS	-----	SuM T W ThF S

* Settings

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

No Calendar Defined/Enabled

DETAIL OF SIGNAL HEADS

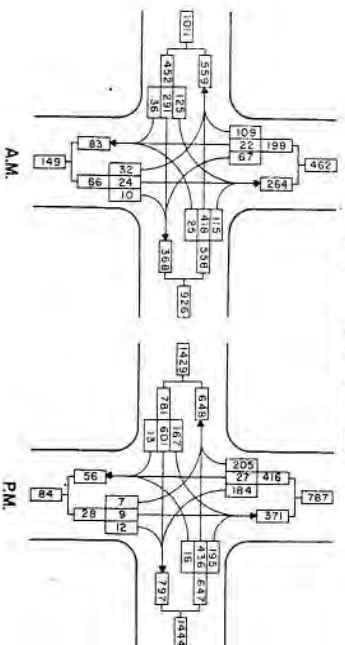


SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	RD-4A * RD-4B *	RD-4A * (12) RD-4B * (12)
SOUTH	RD-4A * RD-4B *	RD-4A * (12) RD-4B * (12)
EAST	RD-4A * RD-4B *	RD-4A * (12) RD-4B * (12)
WEST	RD-4A * (12) RD-4B * (12)	RD-4A * (12) RD-4B * (12)

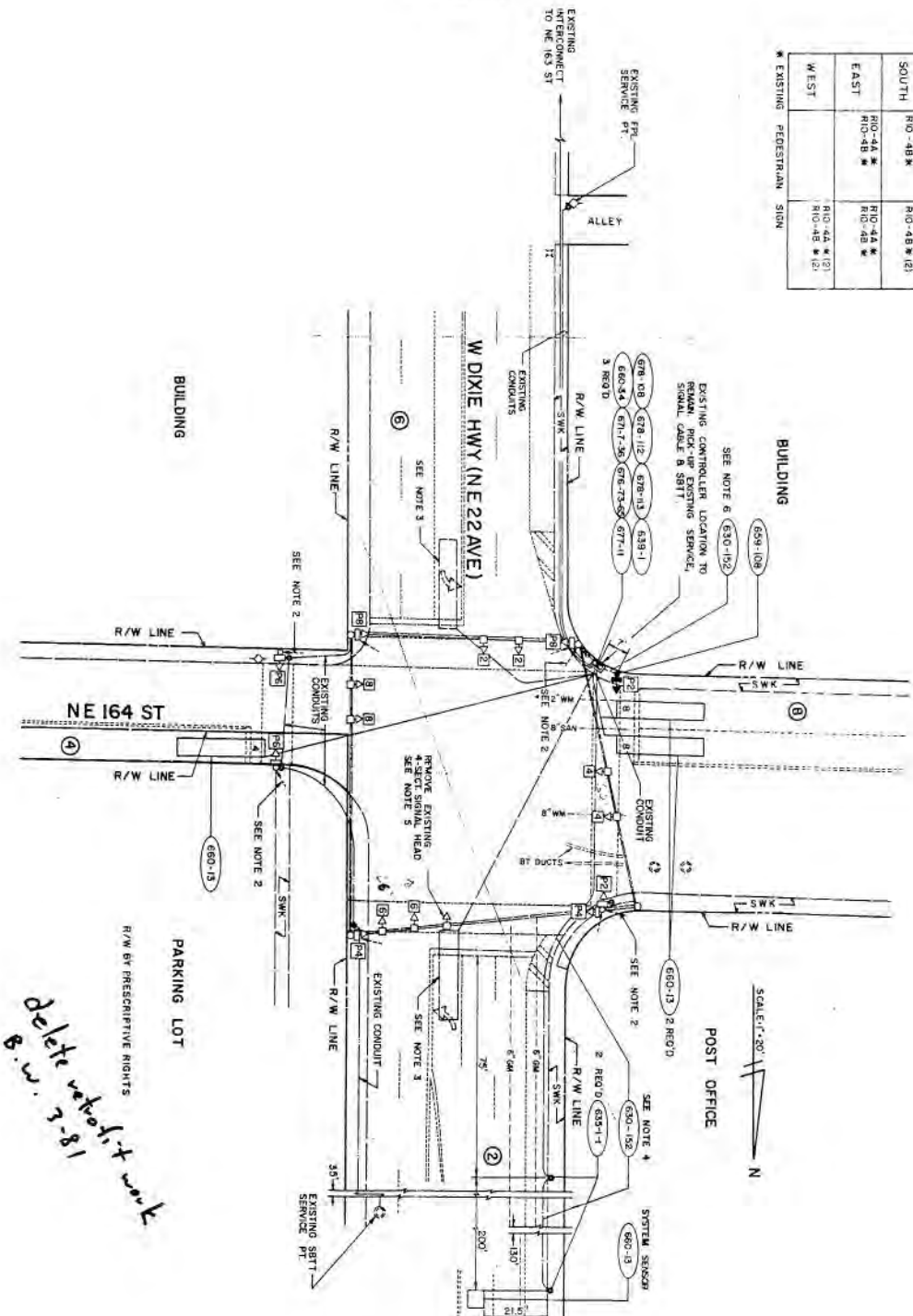
* EXISTING PEDESTRIAN SIGN

1978 PEAK HOUR VOLUMES



NOTES:

1. CONTRACTOR TO MAINTAIN INTERCONNECTED OPERATION UNTIL INTERSECTION IS UNDER COMPUTER CONTROL.
2. REMOVE PEDESTRIAN DETECTORS FOR RECALL PHASE AT NE, NW, SE & SW CORNERS.
3. DISCONNECT EXISTING ARTERIAL LEFT TURN LOOPS AT CONTROLLER.
4. SHIELDED LOOP WIRE NO. 14 IS TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NUMBER (600-13).
5. ADDITIONAL SIGNAL CABLE REQUIRED TO BE INCLUDED AS PART OF THE SIGNAL HEAD REMOVAL ITEM.
6. ADDITIONAL SIGNAL CABLE REQUIRED TO BE INCLUDED AS PART OF THE PEDESTRIAN SIGNAL HEAD INSTALLATION ITEM.



W DIXIE HWY (NE 22 AVE) & NE 164 ST
INTERSECTION IDENTIFICATION NO. 33647
CATEGORY III

delete not to work
8.11.12-8.11.12

SIGNAL OPERATING PLAN

PHASE		INT	SIGNAL HEAD NUMBER												
			1	2	3	4	5	6	7	8	9	10	11	12	
$\phi 1$ (1+6) NBND. LEAD WEST DIXIE HWY.	R/W	←	R	G	R	R	DW	DW	DW	DW					
	PED. CL.														
	TO	2+6	Y	R	G	R	R	DW	DW	DW	DW				
	CLEAR														
$\phi 2$ (2+6) NORTH/SOUTH WEST DIXIE HWY.	R/W		G	G	G	R	R	FW	FW	DW	DW				
	PED. CL.		G	G	G	R	R	FW	FW	DW	DW				
	TO	4+8	Y	Y	Y	R	R	DW	DW	DW	DW				
	CLEAR														
$\phi 4$ (4+8) NE 164 ST EAST/WEST	R/W		R	R	R	G	G	DW	DW	FW	FW				
	PED. CL.		R	R	R	G	G	DW	DW	FW	FW				
	TO	4+6	R	R	R	Y	Y	DW	DW	DW	DW				
	CLEAR	2+6	R	R	R	Y	Y	DW	DW	DW	DW				
	R/W														
	PED. CL.														
	TO														
	CLEAR														
5-SECTION BETWEEN		N	NBLT HEAD ADDED BY CONTRACTOR 2/15/93 - 5/20/94 F. PRATS												

Drawn R. Cuz A	Date 9/5/80	METROPOLITAN DADE COUNTY DEPARTMENT OF TRAFFIC AND TRANSPORTATION
		ASSET NO. 33647
Check C. L. ROQUE	Date 9/18/80	WEST DIXIE HWY & NE 164 ST.
Division Engineer	Date	
		Placed In Service date: 9/23/80 By: ASZOR WHITE Timing Number _____ Phasing Number 4

TOD Schedule Report
for 2019: SR- 826&W Dixie Hwy

Print Date:
9/24/2019

Print Time:
3:14 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2019	SR- 826&W Dixie Hwy	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
EBL	WBT	SBL	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0
							

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	<u>Phase Bank</u>																			
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 EBL	0	0	0	0	0	0	5	5	5	2	2	2	12	12	12	25	25	25	4	2
2 WBT	7	7	7	19	19	19	7	7	7	1	1	1	45	45	45	0	0	0	4	2
3 SBL	0	0	0	0	0	0	5	5	5	2	2	2	12	12	12	23	23	23	4.4	2
4 NBT	4	4	4	20	20	20	7	7	7	2.5	2.5	2.5	25	25	25	40	40	40	4.4	2
5 WBL	0	0	0	0	0	0	5	5	5	3	3	3	12	12	12	30	30	30	4	2
6 EBT	7	7	7	19	19	19	7	7	7	1	1	1	45	45	45	0	0	0	4	2
7 NBL	0	0	0	0	0	0	5	5	5	2	2	2	12	12	12	26	26	26	4.4	2
8 SBT	4	4	4	20	20	20	7	7	7	2.5	2.5	2.5	25	25	25	40	40	40	4.4	2

Last In Service Date: unknown

Permitted Phases

12345678

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

TOD Schedule Report
for 2019: SR- 826&W Dixie Hwy

Print Date:
9/24/2019

Print Time:
3:14 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT		
1		140	12	66	12	26	12	66	12	26	0	12
2		125	12	51	16	22	12	51	16	22	0	64
3		170	18	84	18	26	18	84	18	26	0	27
4		170	18	84	18	26	18	84	18	26	0	27
5		130	12	56	16	22	12	56	16	22	0	88
6		150	15	75	10	26	15	75	10	26	0	19
7		150	15	75	10	26	15	75	10	26	0	19
8		105	13	45	6	17	13	45	6	17	0	19
9		150	0	144	0	0	0	144	0	0	0	0
10		125	14	51	14	22	14	51	14	22	0	64
11		170	18	84	18	26	18	84	18	26	0	27
12		115	12	45	12	22	12	45	12	22	0	25
13		130	12	56	16	22	12	56	16	22	0	127
14		130	12	56	16	22	12	56	16	22	0	5
15		150	13	66	18	29	13	66	18	29	0	28
16		115	12	45	12	22	12	45	12	22	0	12
22		145	14	71	10	26	14	71	10	26	0	19
23		140	14	66	10	26	14	66	10	26	0	19
25		120	8	52	10	26	14	46	10	26	0	8
26		135	14	59	14	24	19	54	14	24	0	98
27		160	19	69	14	34	24	64	19	29	0	137
28		100	14	31	12	19	14	31	12	19	0	37

Local TOD Schedule

Time	Plan	DOW
0000	23	Su M T W Th F S
0100	22	Su M T W Th F S
0500	7	M T W Th F
0530	4	M T W Th F
0600	1	Su S
1000	3	M T W Th F
1000	11	Su S
1500	11	M T W Th F
2100	6	M T W Th F
2100	6	Su S
2300	23	M T W Th F

Current Time of Day Function

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

Local Time of Day Function

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

*** Settings**

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

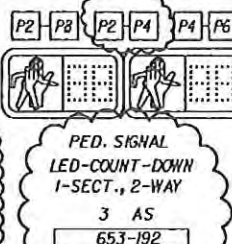
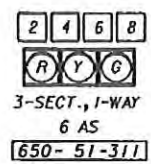
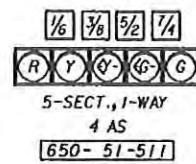
TOD Schedule Report
for 2019: SR- 826&W Dixie Hwy

Print Date:
9/24/2019

Print Time:
3:14 PM

<i>No Calendar Defined/Enabled</i>

SIGNAL HEAD & SIGN DETAILS



NE 163 ST
N Miami Beach Blvd

D3-1
72" X 24"
2 EA
699-1-1
LED INTERNALLY ILLUMINATED SIGN

NE 22 AV
W Dixie Hwy →

D3-1
72" X 24"
1 EA
699-1-1
LED INTERNALLY ILLUMINATED SIGN

NE 22 AV
← W Dixie Hwy

D3-1
72" X 24"
1 EA
699-1-1
LED INTERNALLY ILLUMINATED SIGN

NOTES

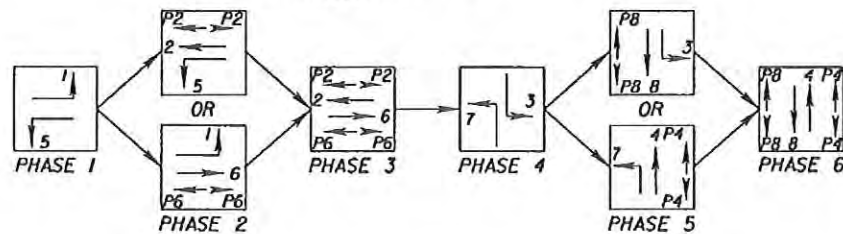
- SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
- PAY ITEM 690-100 INCLUDES THE REMOVAL OF EXISTING SIGNAL PULL BOXES AT THE INTERSECTION.
- FOR VU (VERIFIED UTILITY LOCATIONS), SEE SHEET UTV-1.
- PROPOSED PEDESTRIAN SIGNAL HEADS SHOULD BE ALIGNED WITH THE CENTER OF FAR-SIDED (OPPOSITE) CROSSWALK END.



7900 NW 60 Street
Doral, FL 33166

CONTROLLER OPERATIONS

- MAJOR STREET: SR-826 / N.E. 163rd ST
MINOR STREET: N.E. 22nd AV / W. DIXIE HWY.
- FLASHING OPERATION: 2 & 6 - YELLOW
3, 4, 7, & 8 - RED
- SOP: 10 (AS SHOWN BELOW).
- PHASES: 1, 2, 4, 5 & 6 ACTUATED
3 RECALL
- PED. SIGNALS UPON ACTUATION ONLY.
P2 & P6 ARE ON RECALL.



DETECTORS FOR LOOPS

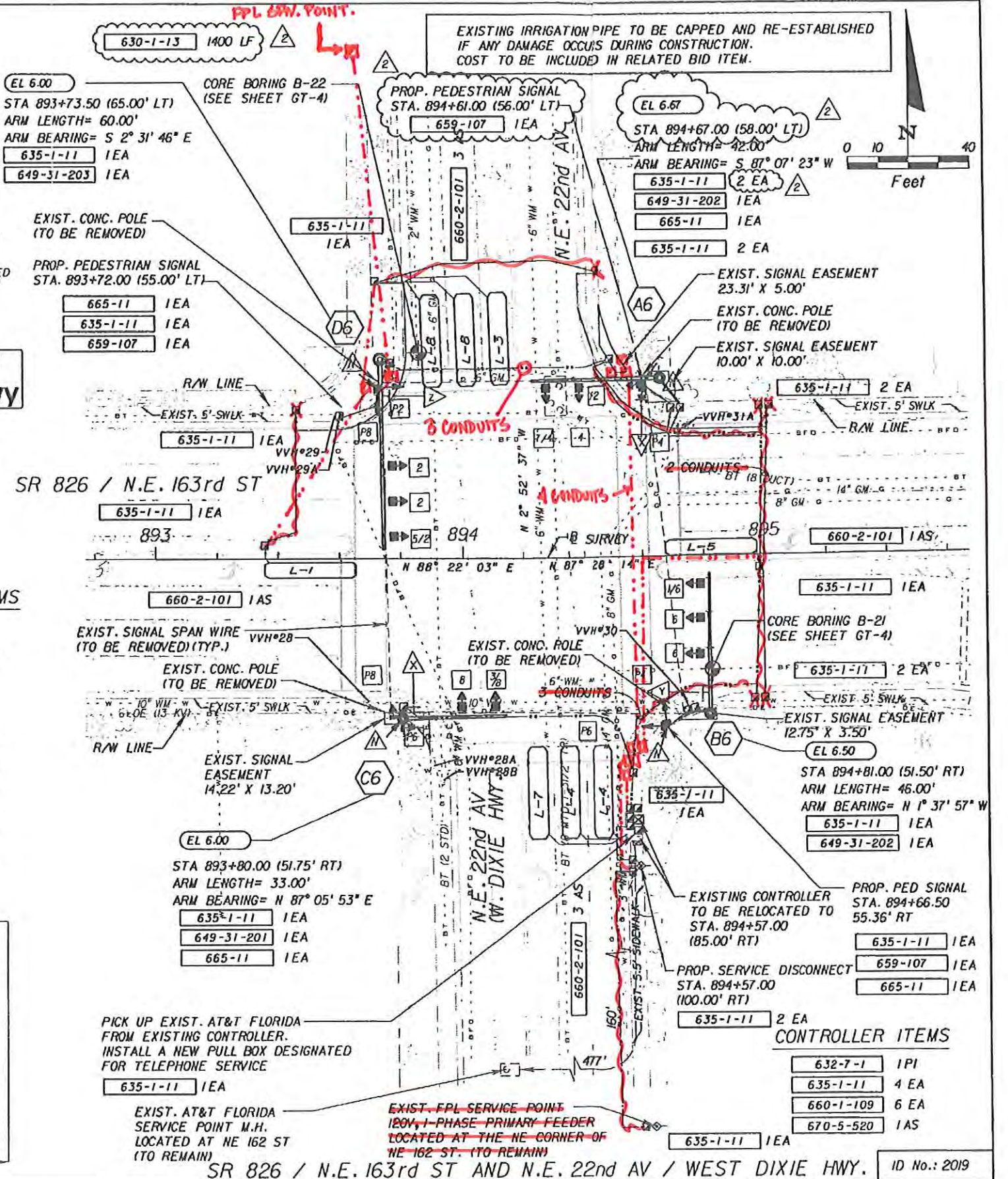
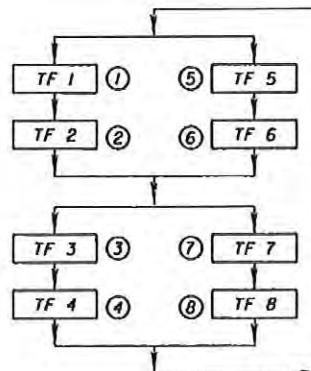
LOOP	NO. OF LOOPS	NO. OF NEW DETS.
L-1	1	1
L-3	1	1
L-4	2	1
L-5	1	1
L-7	1	1
L-8	2	1

SERVICE POINT ITEMS

639-1-23	1 AS
639-2-1	160 LF

REMOVAL ITEMS

690-10	10 EA
690-20	8 EA
690-32-1	4 EA
690-70	4 EA
690-80	1 EA
690-90	1 PI
690-100	1 PI
700-48-60	2 EA



REVISIONS		ENGINEER OF RECORD:		STATE OF FLORIDA		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	
1-8-13	RELOCATED WEST ARM A6, ADDED PEDESTRIAN POLE AND REVISED QUANTITIES			826	MIAMI-DADE	T-9

APCT ENGINEERS
A&P Consulting Transportation Engineers Corporation
10305 NW 41 Street, Suite 116
Miami, FL 33178
(305) 692-7283 / fax: (305) 693-1594
CA No.: EB-0007797
Ethel M. Sierra, P.E. No. 65401

FINANCIAL PROJECT ID		
826	MIAMI-DADE	412637-4-52-01

SIGNALIZATION PLAN

ensterra

1/8/2013

5:47:40 PM

X:\Post Design Projects\4126374520\signals\PLAN5005.DGN

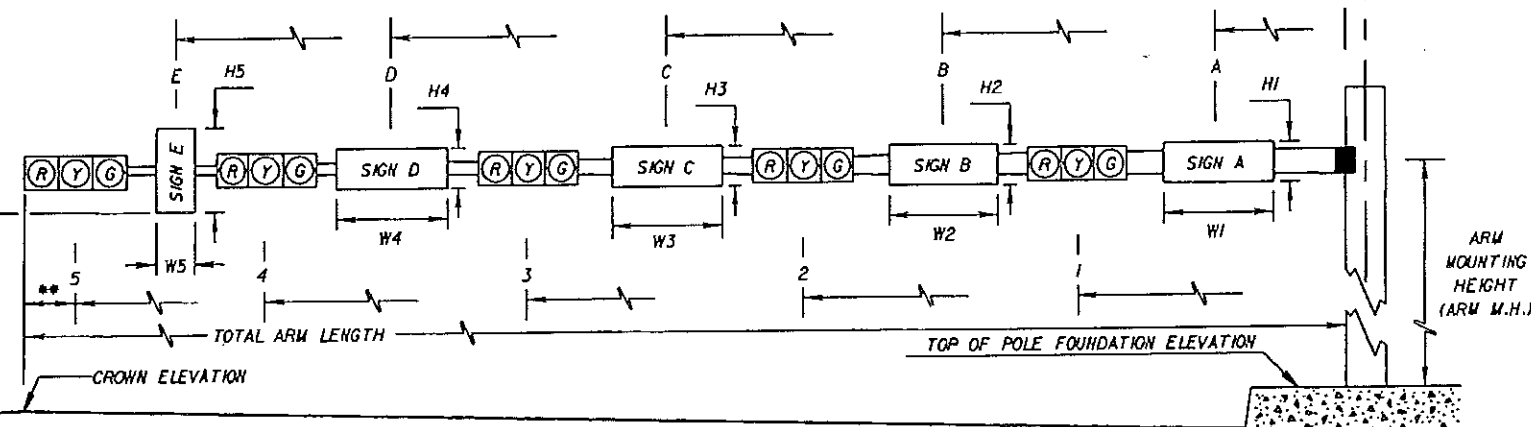
SPECIAL INSTRUCTIONS				
ID NO.	LOCATION BY STATION	PED. BUTTON	PED. SIGNALS	HANDHOLE LOCATION
A-1	744+22 (57' LT)	0°	270°	0°
B-1	744+88 (59' LT)			0°
C-1	744+84 (56' RT)	270°	0°	270°
A-2	758+28 (53' LT)	0°	0°	0°
B-2	758+06 (65' LT)		0°	0°
C-2	758+02 (58' RT)	270°		0°
A-3	767+53.55 (52.15' LT)	270°		0°
B-3	768+40 (52' RT)	270°	270°	0°
A-4	797+03 (60' LT)	0°	0°	0°
B-4	797+84 (53' RT)	0°	0°	0°
A-5	812+81 (52' LT)		270°	0°
B-5	812+82 (58' RT)	270°	325°	0°
C-5	812+69 (52' RT)			0°



7900 NW 60 Street
Doral, FL 33166

** FIVE SECTION SIGNAL HEAD 3'-0"
FOUR SECTION SIGNAL HEAD 2'-6"
THREE SECTION SIGNAL HEAD 2'-0"

*** SIGNAL HEAD TO BE MOUNTED
ON BACK SIDE OF MAST ARM

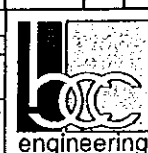


(1) ELEVATION DIFFERENCE = TOP OF POLE FOUNDATION - CROWN ELEVATION
(ELEVATION DIFFERENCE TO BE MEASURED ALONG THE LENGTH OF MAST ARM)

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

										* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY																				SIGN DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUNDATION ELEVATION	ROWY ARM NO.	CROWN ELEV.	SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE										TOTAL ARM LENGTH	ARM W.H.	L BETWEEN DUAL ARMS 90/270	DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
									1	*	2	*	3	*	4***	*	5	*				A	H1	W1	B	H2	W2	C	H3	W3	D	H4	W4	E	H5	W5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
A-1	T-4	744+22 (57' LT)	10.50'	1	10.30'	H	Y	Y	24.0'	3	35.0'	3	43.0'	5		46'	20'		6.0'	2.0'	6.0'																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
6/5/12	RELOCATED MAST ARMS A-1, A-3 AND ADJUSTED SIGNAL HEAD LOCATIONS	12/12/12	REVISED ANGLE BETWEEN DUAL ARMS
8/13/12	RELOCATED MAST ARM C-2 AND REVISED SIGNAL HEAD LOCATIONS	5/29/13	RELOCATED PED. SIGNAL TO A PED. POLE
12/3/12	REVISED MAST ARM A-3 LOCATION	12/5/13	REVISED SIGN DIMENSIONS



JOSE A. MUÑOZ, P.E.
P.E. License No. 58714
7300 N. Kendall Drive, Suite 400
Miami, Florida 33156
Phone: (305) 670-2350
Fax: (305) 670-2351
Certificate of Authorization No. 7184

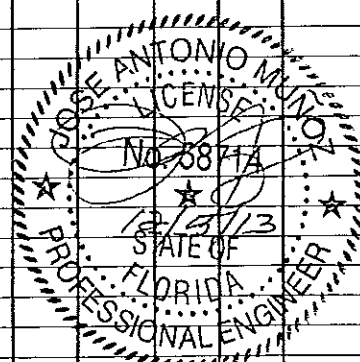
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826	MIAMI-DADE	412637-3-52-01

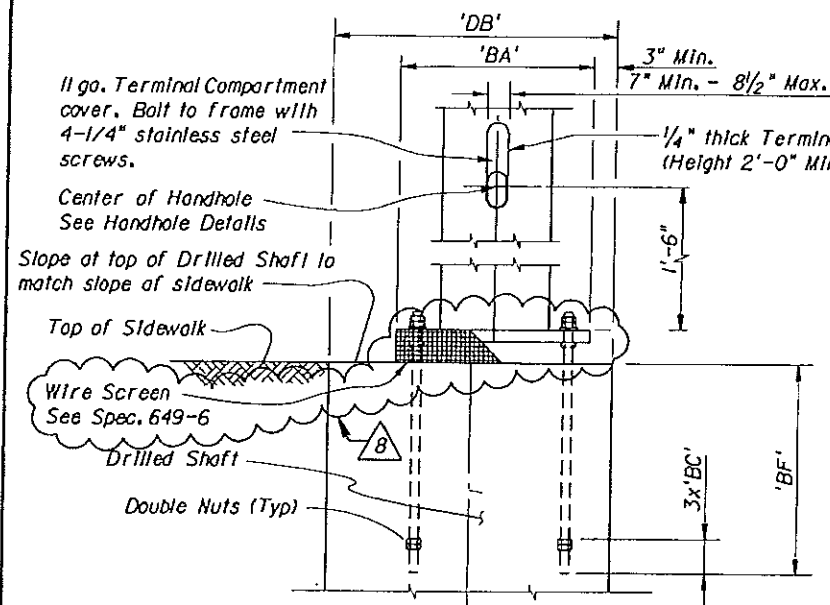
MAST ARM TABULATION

SHEET NO.

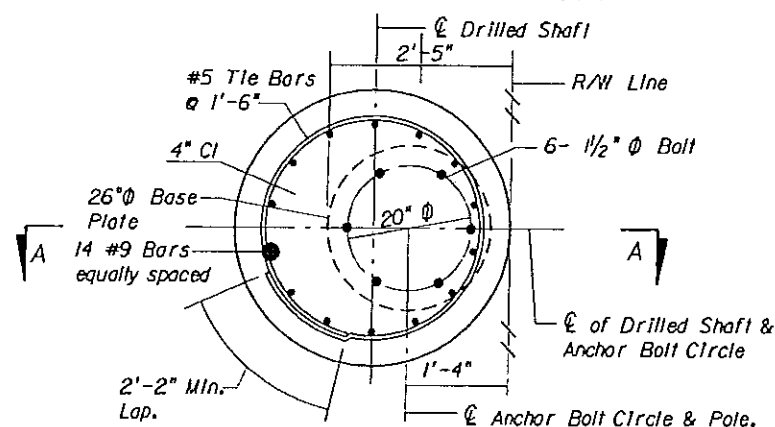
T-12

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G05-23.003, F.A.C.

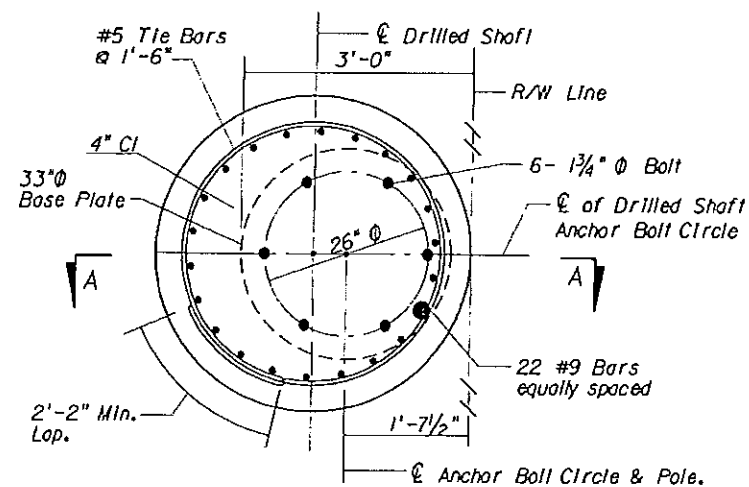




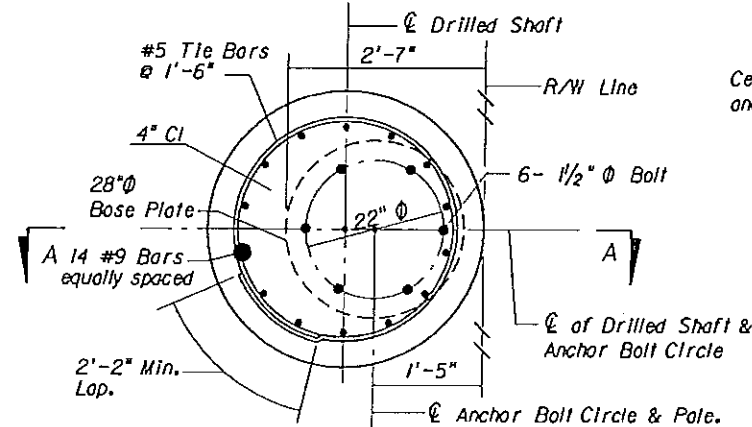
BASE PLATE AND ANCHORAGE ELEVATION
(Reinforcement Not Shown)



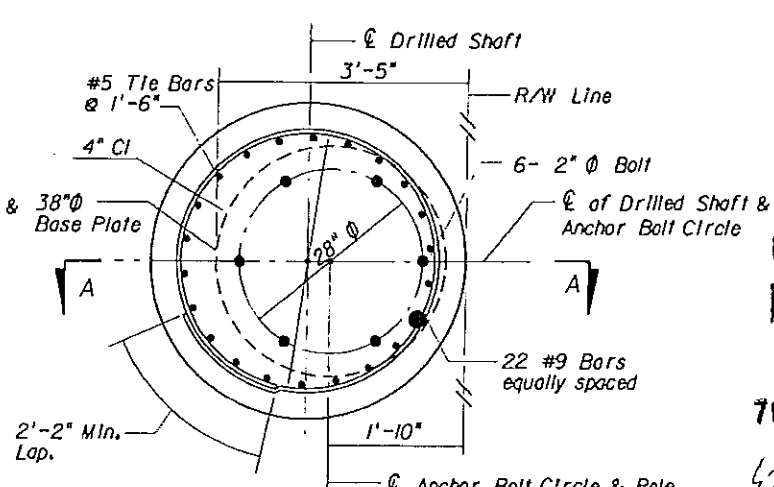
FOUNDATION PLAN FOR POLE TYPE T1
42\"/>



FOUNDATION PLAN FOR POLE TYPE T3
48\"/>

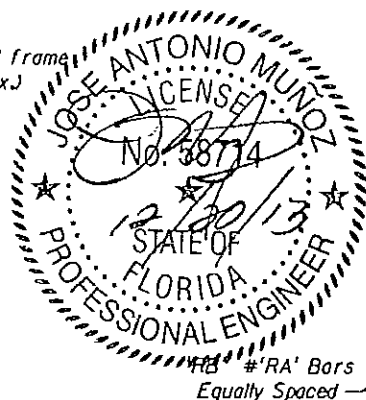


FOUNDATION PLAN FOR POLE TYPE T2
42\"/>

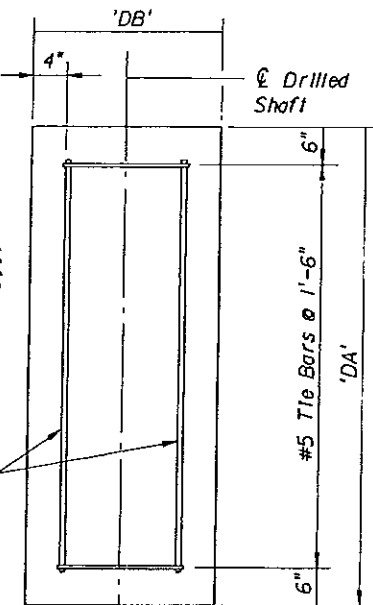


FOUNDATION PLAN FOR POLE TYPE T4
48\"/>

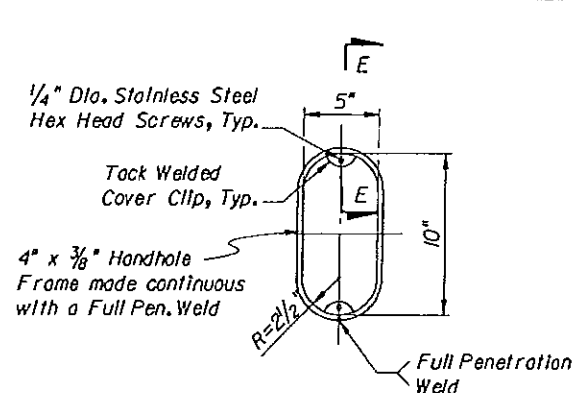
FOUNDATION & BASE PLATE DETAILS



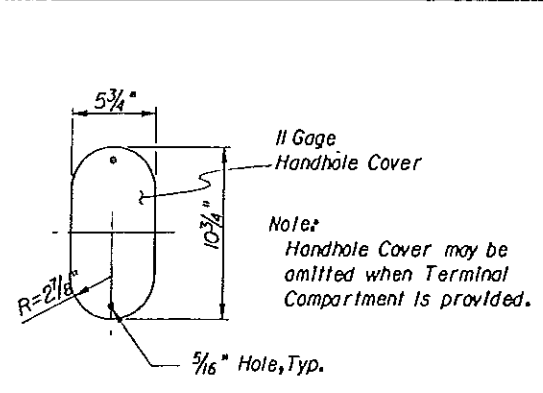
NOTE:
Spacers shall be provided along reinforcing bars cage to insure the required concrete cover.



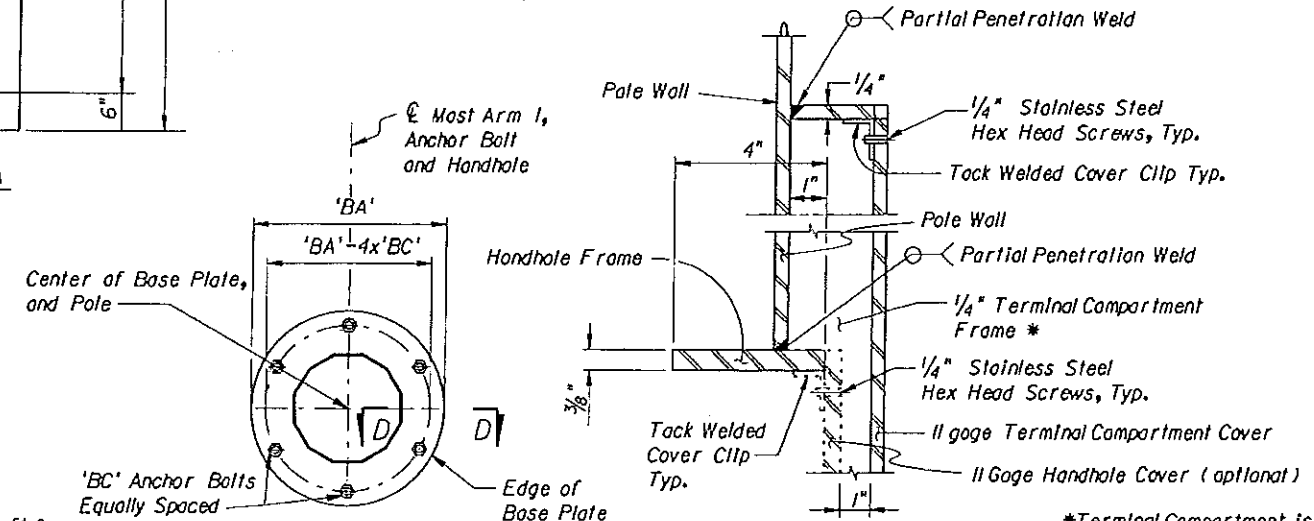
SECTION A-A



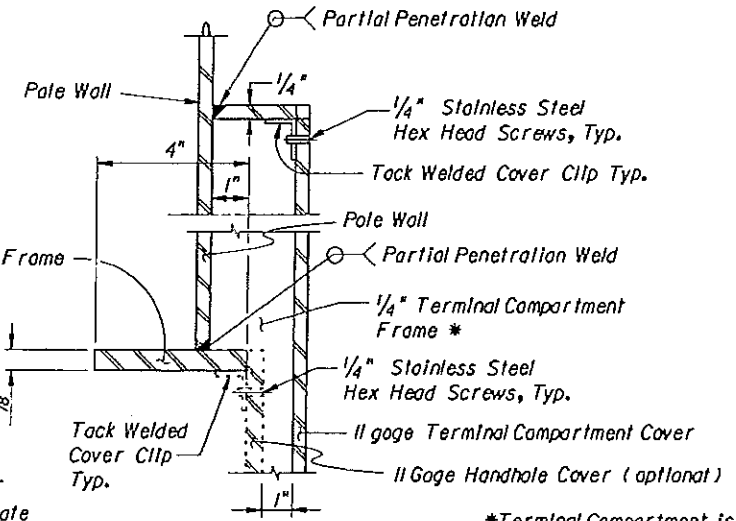
HANDHOLE FRAME
(w/Terminal Compartment Omitted)



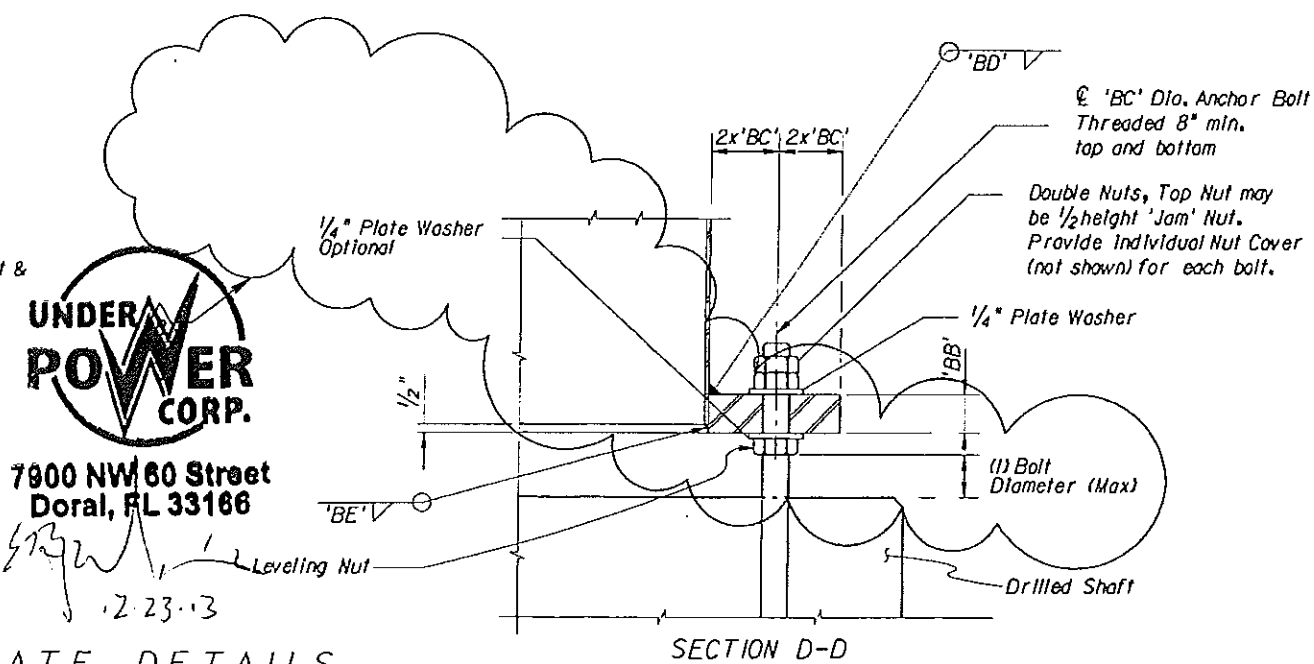
HANDHOLE COVER



BASE PLATE DETAIL
(6 Anchor Bolts)



SECTION E-E
(thru Handhole & Terminal Compartment)



SECTION D-D

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
12/12/13	REPLACED GROUT PAD WITH WIRE SCREEN, ADDED OPTIONAL WASHERS AND REVISED SPACING BETWEEN TOP OF DRILLED SHAFT AND LEVELING NUT		

UNDER POWER CORP.
7900 NW 60 Street
Doral, FL 33166
Phone: (305) 670-2350
Fax: (305) 670-2351
Certificate of Authorization No. 7184

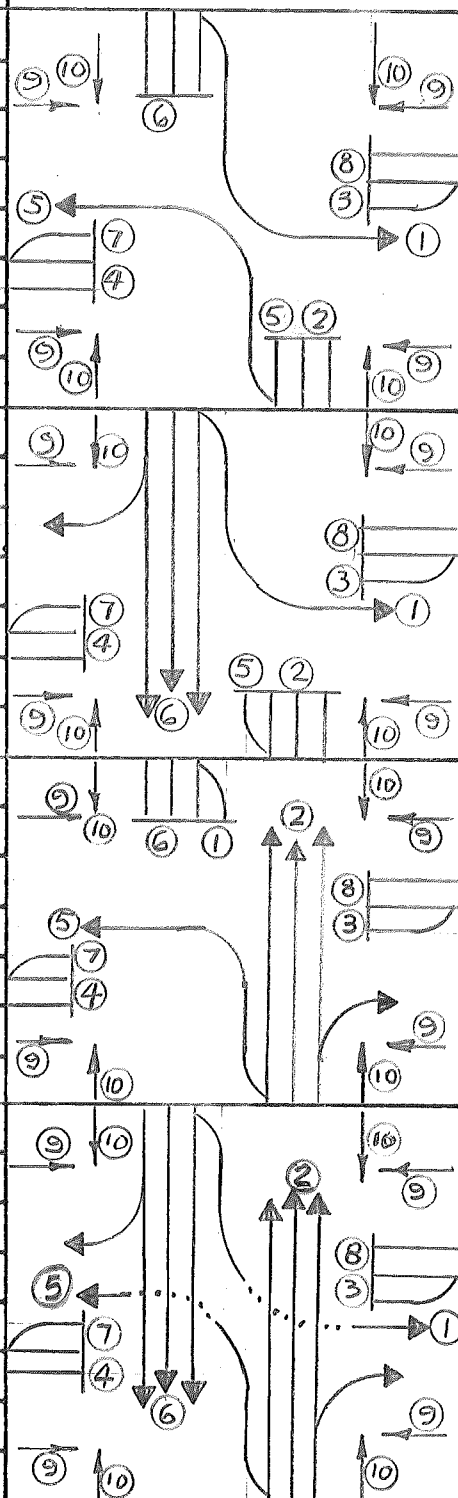
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826	MIAMI-DADE	412637-3-52-01

POLES THAT ARE OFF-CENTERED TO DRILLED SHAFT		SHEET NO.
		T-14

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G5-23.003, F.A.C.

SIGNAL OPERATING PLAN

		SIGNAL HEAD NUMBER											
PHASE	INT	1	2	3	4	5	6	7	8	9	10	11	12
$\phi(1+5)$ SR 826 EBLT/WBLT.	R/W	←	R	R	R	←	R	R	R	DW	DW		
	PED. CL.												
	TO	146	←	R	R	R	Y	R	R	R	DW	DW	
	TO	245	Y	R	R	R	←	R	R	R	DW	DW	
	TO	246	Y	R	R	R	Y	R	R	R	DW	DW	
	CLEAR												
$\phi(1+6)$ SR 826 EBND. LEAD	R/W	←	R	R	R	R	G	R	R	DW	DW		
	PED. CL.												
	TO	246	Y	R	R	R	R	G	R	R	DW	DW	
	TO												
	TO												
	CLEAR												
$\phi(2+5)$ SR 826 WBND. LEAD	R/W		R	G	R	R	←	R	R	R	DW	DW	
	PED. CL.												
	TO	246	R	G	R	G	Y	R	R	R	DW	DW	
	TO												
	TO												
	CLEAR												
$\phi(2+6)$ SR 826 EAST/WEST	R/W		G	G	R	R	G	G	R	R	DW	FW	
	PED. CL.		G	G	R	R	R	R	R	R	DW	FW	
	TO	347	Y	Y	R	R	Y	Y	R	R	DW	DW	
	TO	447	Y	Y	R	R	Y	Y	R	R	DW	DW	
	TO	348	Y	Y	R	R	Y	Y	R	R	DW	DW	
	CLEAR												
	TO	448	Y	Y	R	R	Y	Y	R	R	DW	DW	
	TO												
	TO												
	TO												



Drawn
R. CUZA

Date
9/16/80

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

Check
C.L. ROQUE

Date
9/18/80

ASSET NO. 32019

SR 826 & WEST DIXIE HWY

Division Engineer

Date

SHEET 1 OF 2

Placed In Service	Timing Number	Phasing Number
Date: 9/24/80	By: ASTOR WHITE	4

SIGNAL OPERATING PLAN

PHASE		INT	SIGNAL HEAD NUMBER												
			1	2	3	4	5	6	7	8	9	10	11	12	
$\phi(3+7)$ WEST DIXIE HWY NBLT/SBLT	R/W		R	R	←	R	R	R	←	R	DW	DW			
	4+7	R	R	Y	R	R	R	←	R	DW	DW				
	3+8	R	R	←	R	R	R	Y	R	DW	DW				
	4+8	R	R	Y	R	R	R	Y	R	DW	DW				
	4+5	R	R	Y	R	R	R	Y	R	DW	DW				
	4+6	R	R	Y	R	R	R	Y	R	DW	DW				
	2+5	R	R	Y	R	R	R	Y	R	DW	DW				
	2+6	R	R	Y	R	R	R	Y	R	DW	DW				
$\phi(4+7)$ WEST DIXIE HWY NBND. LEAD	R/W		R	R	R	G	R	R	←	R	DW	DW			
	PED. CL.														
	4+8	R	R	R	G	R	R	Y	R	DW	DW				
	4+5	R	R	R	Y	R	R	Y	R	DW	DW				
	4+6	R	R	R	Y	R	R	Y	R	DW	DW				
	2+5	R	R	R	Y	R	R	Y	R	DW	DW				
	2+6	R	R	R	Y	R	R	Y	R	DW	DW				
	$\phi(3+8)$ WEST DIXIE HWY SBND. LEAD	R/W		R	R	←	R	R	R	R	G	DW	DW		
PED. CL.															
4+8		R	R	Y	R	R	R	R	G	DW	DW				
4+5		R	R	Y	R	R	R	Y	DW	DW					
4+6		R	R	Y	R	R	R	Y	DW	DW					
2+5		R	R	Y	R	R	R	Y	DW	DW					
2+6		R	R	Y	R	R	R	Y	DW	DW					
$\phi(4+8)$ WEST DIXIE HWY NBLT/SBLT		R/W		R	R	G	G	R	R	G	G	FW	DW		
	PED. CL.	R	R	G	G	R	R	G	G	FW	DW				
	4+5	R	R	Y	Y	R	R	Y	Y	DW	DW				
	4+6	R	R	Y	Y	R	R	Y	Y	DW	DW				
	2+5	R	R	Y	Y	R	R	Y	Y	DW	DW				
	2+6	R	R	Y	Y	R	R	Y	Y	DW	DW				
	5-SEC HEADS FOR LT'S INSTALLED BETWEEN 8/27/92 & 7/25/94 F.P.														
	Drawn	Date	METROPOLITAN DADE COUNTY DEPARTMENT OF TRAFFIC AND TRANSPORTATION ASSET NO. 32019 SR 826 & WEST DIXIE HWY SHEET 2 OF 2												
R. CUZA	9/16/80														
Check	Date														
C.L. ROQUE	9/18/80	Placed In Service	Timing Number	Phasing Number											
Division Engineer	Date	Date: 9/24/80	By: ASFOR WHITE	4											

TOD Schedule Report
for 2010: SR- 826&US 1

Print Date:
9/24/2019

Print Time:
3:13 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2010	SR- 826&US 1	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
0	0	0	0	0	0	0	0
							

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	<u>Phase Bank</u>																			
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 NBL	0	-	0 - 0	0	-	0 - 0	5	-	5 - 5	3	-	3 - 3	24	-	24 - 24	27	-	27 - 27	4.8	2
2 SBT	4	-	4 - 4	38	-	38 - 38	7	-	7 - 7	1	-	1 - 1	50	-	50 - 50	50	-	50 - 50	4.8	2.4
3 EBL	0	-	0 - 0	0	-	0 - 0	5	-	5 - 5	3	-	3 - 3	25	-	25 - 25	34	-	34 - 34	4.8	2
4 WBT	4	-	4 - 4	47	-	47 - 47	7	-	7 - 7	2.5	-	2.5 - 2.5	55	-	55 - 55	55	-	55 - 55	4.8	2.9
5 SBL	0	-	0 - 0	0	-	0 - 0	5	-	5 - 5	3	-	3 - 3	24	-	24 - 24	27	-	27 - 27	4.8	2
6 NBT	4	-	4 - 4	38	-	38 - 38	7	-	7 - 7	1	-	1 - 1	50	-	50 - 50	50	-	50 - 50	4.8	2.4
7 WBL	0	-	0 - 0	0	-	0 - 0	5	-	5 - 5	3	-	3 - 3	25	-	25 - 25	34	-	34 - 34	4.8	2
8 EBT	4	-	4 - 4	47	-	47 - 47	7	-	7 - 7	2.5	-	2.5 - 2.5	55	-	55 - 55	55	-	55 - 55	4.8	2.9

Last In Service Date: unknown

Permitted Phases

12345678

Default 12345678

External Permit 0 -----

External Permit 1 -----

External Permit 2 -----

TOD Schedule Report

for 2010: SR- 826&US 1

Print Date:

9/24/2019

Print Time:

3:13 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT		
1		140	13	57	14	27	13	57	14	27	0	56
2		125	15	32	17	32	15	32	17	32	0	107
3		170	25	43	26	47	25	43	26	47	0	77
4		170	22	44	26	49	22	44	26	49	0	77
5		130	14	32	17	38	14	32	17	38	0	18
6		150	19	48	19	35	19	48	19	35	0	60
7		150	19	48	19	35	19	48	19	35	0	60
8		105	10	32	13	21	10	32	13	21	0	60
9		150	24	33	25	39	24	33	25	39	0	71
10		125	16	32	17	31	16	32	17	31	0	107
11		170	25	43	26	47	25	43	26	47	0	77
12		115	12	32	14	28	12	32	14	28	0	79
13		130	14	32	20	35	14	32	20	35	0	54
14		130	14	32	17	38	14	32	17	38	0	62
15		150	15	45	22	39	15	45	22	39	0	81
16		115	10	34	12	30	10	34	12	30	0	56
22		145	14	53	14	35	14	53	14	35	0	60
23		140	14	48	14	35	14	48	14	35	0	60
25		120	13	33	12	32	14	32	19	26	0	52
26		135	23	32	17	33	22	33	23	28	0	5
27		160	23	42	17	48	27	38	28	38	0	34
28		100	13	31	12	14	12	32	13	14	0	83

Local TOD Schedule

Time	Plan	DOW
0000	23	M T W Th F
0000	23	Su S
0100	22	Su S
0100	22	M T W Th F
0500	7	M T W Th F
0530	4	M T W Th F
0600	1	Su S
1000	11	Su S
1000	3	M T W Th F
1500	11	M T W Th F
2100	6	M T W Th F
2100	6	Su S
2300	23	M T W Th F

Current Time of Day Function

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

Local Time of Day Function

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

* Settings

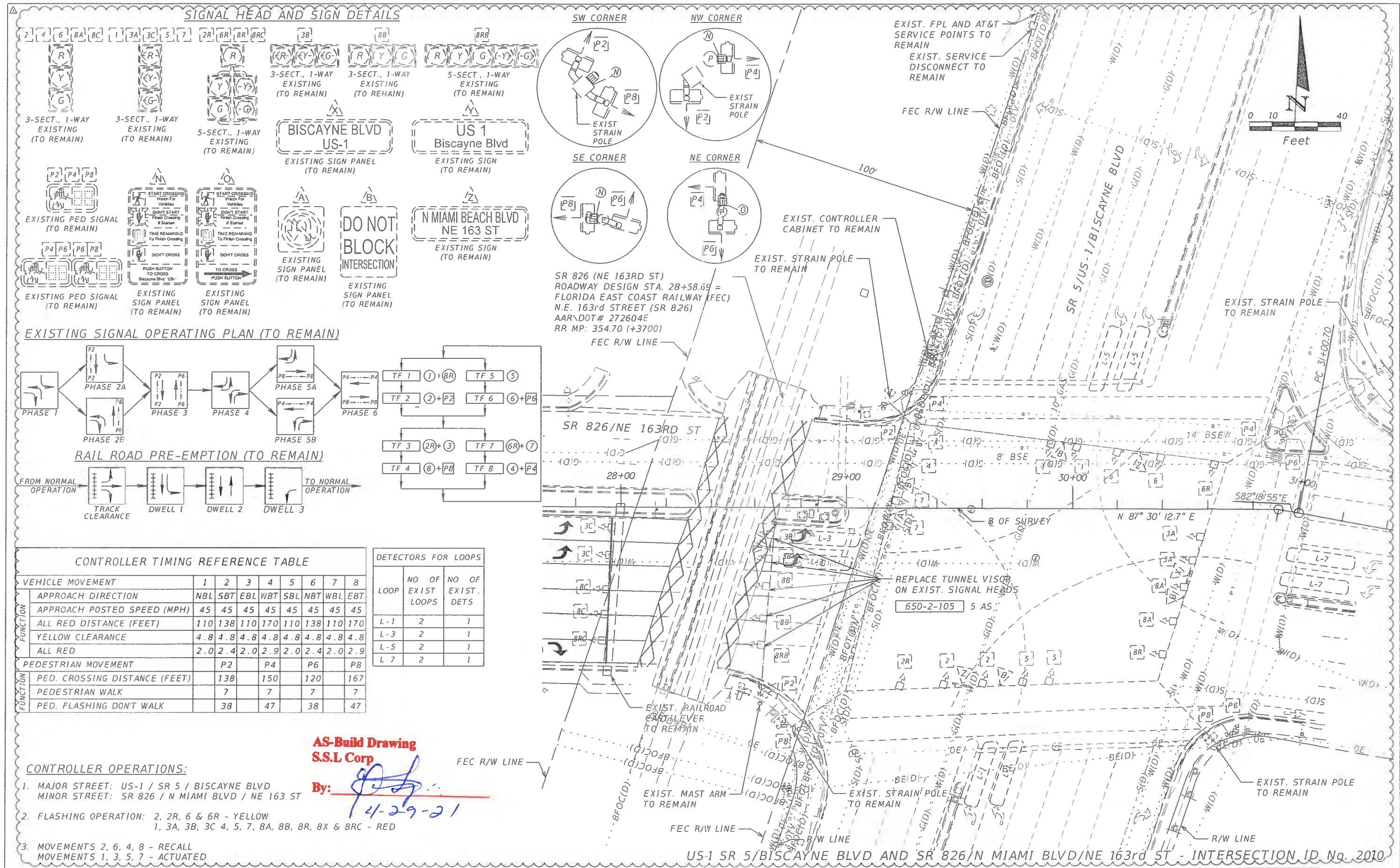
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report
for 2010: SR- 826&US 1

Print Date:
9/24/2019

Print Time:
3:13 PM

<i>No Calendar Defined/Enabled</i>



REVISIONS				STEPHEN ALLEN HUGHES, P.E. P.E. NO.: 64740 CTS ENGINEERING, INC. 3230 W. COMMERCIAL BLVD, SUITE 220 FORT LAUDERDALE, FL 33309	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO 6
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
03/19/21	Δ UPDATED QUANTITIES AND PAY ITEMS.				SR 826	MIAMI-DADE	431433-2-52-01	

SIGNALIZATION PLAN

SIGNAL OPERATING PLAN

		SIGNAL HEAD NUMBER																
PHASE	INT	1	2	2R	3	4	5	6	6R	7	8	8R	P2	P4	P6	P8		
$\phi 1+5$ NBLT-SBLT ACTUATED	R/W		R	R	R	R		R	R	R	R		DW	DW	DW	DW		
	1+6		R	R	R	R		R	R	R	R		DW	DW	DW	DW		
	2+5		R	R	R	R		R	R	R	R		DW	DW	DW	DW		
	2+6		R	R	R	R		R	R	R	R		DW	DW	DW	DW		
	TRACK CL		R	R	R	R		R	R	R	R		DW	DW	DW	DW		
	CLEAR																	
$\phi 1+6$ NBLT ACTUATED	R/W		R	R	R	R	R		R	R		DW	DW	DW	DW			
	2+6		R	R	R	R	R		R		DW	DW	DW	DW				
	TRACK CL		R	R	R	R	R		R		DW	DW	DW	DW				
	CLEAR																	
$\phi 2+5$ SBLT ACTUATED	R/W	R			R	R		R	R	R	R	R	DW	DW	DW	DW		
	2+6	R			R	R		R	R	R	R	R	DW	DW	DW	DW		
	TRACK CL	R	Y	Y	R	R		R	R	R	R	R	DW	DW	DW	DW		
	CLEAR																	
$\phi 2+6$ N-S RECALL	R/W	R			R	R	R			R	R	R	W	DW	W	DW		
	RED CL	R			R	R	R			R	R	R	F	DW	F	DW		
	3+7	R	Y	Y	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW		
	3+8	R	Y	Y	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW		
	4+7	R	Y	Y	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW		
	4+8	R	Y	Y	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW		
	TRACK CL	R	Y	Y	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW		
	CLEAR																	

Drawn
F. Potts

Check
E. Hu

Division Engineer

Date
5/8/98

Date
5/8/97

Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF PUBLIC WORKS

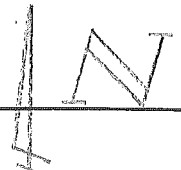
ASSET NO: 32010

SR 826 & US 1
SHEET 1 of 3

Placed in Service
Date: *10/20/98* By: *CONTRACTOR*

Phasing Number
10

SIGNAL OPERATING PLAN



				SIGNAL HEAD NUMBER															
PHASE	INT	1	2	2R	3	4	5	6	6R	7	8	8R	P2	P4	P6	P8			
$\phi 3+7$ EBLT-WBLT Activated	R/W	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW			
	3+8	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW			
	4+7	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW			
	4+8	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW			
	Track CL	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW			
TO																			
CLEAR																			
$\phi 3+8$ EBLT Activated	R/W	R	R	R	R	R	R	R	R	R	E	G	DW	DW	DW	DW			
	4+8	R	R	R	R	R	R	R	R	R	E	G	DW	DW	DW	DW			
	Track CL	R	R	R	R	R	R	R	R	R	E	G	DW	DW	DW	DW			
	TO																		
	CLEAR																		
$\phi 4+7$ WBLT Activated	R/W	R	R	R	R	E	R	R	R	R	R	R	DW	DW	DW	DW			
	4+8	R	R	R	R	E	R	R	R	R	R	R	DW	DW	DW	DW			
	Track CL	R	R	R	R	Y	R	R	R	R	R	R	DW	DW	DW	DW			
	TO																		
	CLEAR																		
$\phi 4+8$ E=W Activated	R/W	R	R	R	R	E	R	R	R	R	E	G	DW	W	DW	W			
	P8 CL	R	R	R	R	E	R	R	R	R	E	G	DW	F	DW	F			
	1+5	R	R	R	R	Y	R	R	R	R	Y	Y	DW	DW	DW	DW			
	1+6	R	R	R	R	Y	R	R	R	R	Y	Y	DW	DW	DW	DW			
	2+5	R	R	R	R	Y	R	R	R	R	Y	Y	DW	DW	DW	DW			
	2+6	R	R	R	R	Y	R	R	R	R	Y	Y	DW	DW	DW	DW			
	Track CL	R	R	R	R	Y	R	R	R	R	E	G	DW	DW	DW	DW			
TO																			
CLEAR																			

Drawn <i>F. Prats</i>	Date 5/8/97	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS
		ASSET NO: 32010
Check <i>E Lu</i>	Date 5/8/97	SR 826 & LISI SHEET 2 of 3
Division Engineer	Date	
		Placed in Service
Date: 10/20/98	By: CONTRACTOR	Phasing Number 10

SIGNAL OPERATING PLAN

		SIGNAL HEAD NUMBER																	
PHASE	INT	1	2	2R	3	4	5	6	6R	7	8	8R	P2	P4	P6	P8			
TRACK CLEARANCE R.R.	R/W	R	R	R	R	R	R	R	R	R	E	E	DW	DW	DW	DW			
	TRAIN PASSAGE	R	R	R	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW			
	TO																		
	CLEAR																		
TRAIN PASSAGE R.R.	R/W	R	E	R	R	R	R	E	E	R	R	R	DW	DW	DW	DW			
	3+8	R	Y	R	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW			
	TO																		
	CLEAR	MAY CYCLE TO ϕ 2+5 OR ϕ 7 DURING TRAIN PASSAGE																	
	R/W																		
	TO																		
	CLEAR																		
	R/W																		
	TO																		
	CLEAR																		
FLASHING DP		R	Y	R	R	R	R	Y	R	R	R								
Drawn <i>F. PRATS</i>		Date 5/8/97		METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS															
Check <i>E Lu</i>		Date 5/8/97		ASSET NO: 32010															
Division Engineer		Date		SR 826 & LIS 1 sheet 3 of 3															
				Placed in Service Date: 10/20/98 By: Contractor								Phasing Number 10							

SIGNAL OPERATING PLAN



Timing Phases	Direction	Head No.	WB	Ped Heads	Movements/Display/Actuation
(2) WB NE 163 ST (Recall)	Dwell		2RV	2R	P8
			G>	G>	W/F
	clear	XPED	Y>	Y>	DW
X PED P8 (Actuated)	Dwell		R>	R>	W/F
		(2)	R>	R>	DW
	clear				
	Dwell				
	clear				
	Dwell				
	clear				
	Dwell				
	clear				
	Dwell				
	clear				
Flashing Operation			FY>	FY>	Page 1 of 1
Miami-Dade County Public Works Department					
Drawn Erick Zapata	Date 7/23/2020	US-1 / NE 163 ST / NE 16400 BLK			
Checked Hugo Harris	Date	Placed in Service	Phasing No.	Asset Number	
		Date	By	1	7658

2RV, 2R

P8

TOD Schedule Report
for 4835: NE 19 Av&NE 167 St

Print Date:
9/24/2019

Print Time:
9:40 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
4835	NE 19 Av&NE 167 St	DOW-3		[03] AM PEAK	90	88	N/A	1	Max 2

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
NBL	SBT	-	WBT	-	NBT	-	EBT
6	40	0	26	0	52	0	26
							

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>	<u>Veh Ext</u>	<u>Max Limit</u>	<u>Max 2</u>	<u>Yellow</u>	<u>Red</u>
<u>Phase Bank</u>								
	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
1 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 7 - 10	10 - 7 - 0	3.7	2
2 SBT	7 - 7 - 7	19 - 19 - 19	7 - 7 - 7	1 - 1 - 1	40 - 30 - 40	0 - 30 - 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	30 - 30 - 30	7 - 7 - 7	2.5 - 2.5 - 2.5	30 - 25 - 30	37 - 25 - 0	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NBT	7 - 7 - 7	19 - 19 - 19	7 - 7 - 7	1 - 1 - 1	40 - 30 - 40	0 - 30 - 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	30 - 30 - 30	7 - 7 - 7	2.5 - 2.5 - 2.5	30 - 25 - 30	37 - 25 - 0	4	2

Last In Service Date: unknown

Permitted Phases

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

<u>Current</u>		<u>Green Time</u>										
<u>TOD Schedule</u>	<u>Plan</u>	<u>Cycle</u>	1	2	3	4	5	6	7	8	<u>Ring Offset</u>	<u>Offset</u>
			NBL	SBT	-	WBT	-	NBT	-	EBT		
1		110	9	47	0	36	0	62	0	36	0	28
2		110	6	52	0	34	0	64	0	34	0	43
3		90	6	40	0	26	0	52	0	26	0	88
4		120	9	59	0	34	0	74	0	34	0	54

Local TOD Schedule

<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	Free	Su M T W Th F S
0530	3	Su M T W Th F S
0700	1	M T W Th F
0900	3	M T W Th F
1000	2	Su S
1130	2	M T W Th F
1330	3	M T W Th F
1600	3	Su S
1600	4	M T W Th F
1900	3	M T W Th F

TOD Schedule Report
for 4835: NE 19 Av&NE 167 St

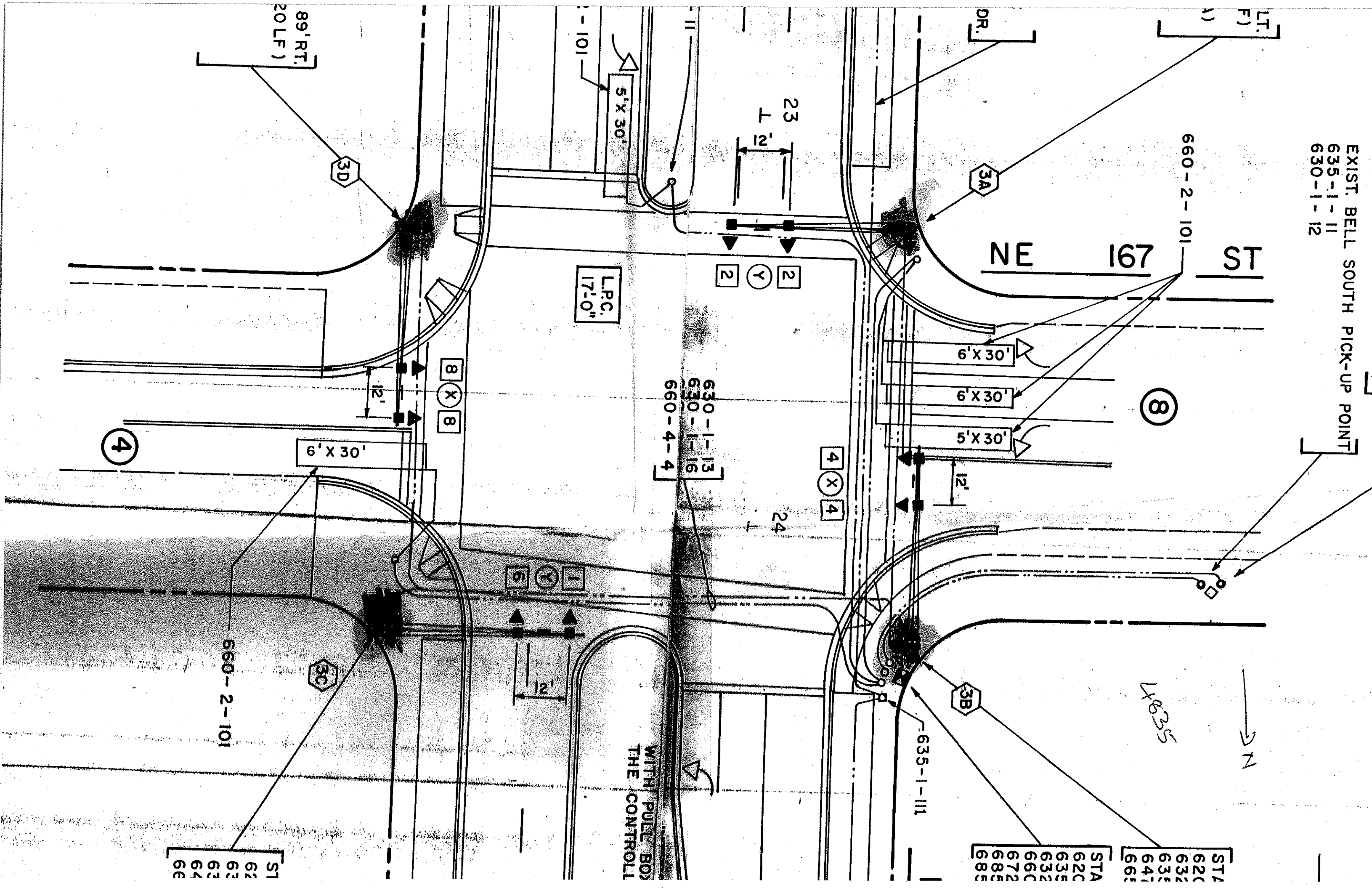
Print Date:
9/24/2019

Print Time:
9:40 PM

Current Time of Day Function				Local Time of Day Function				* Settings
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>	<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>	
0000	TOD OUTPUTS	-----1	SuM T W ThF S	0000	TOD OUTPUTS	-----1	SuM T W ThF S	Blank - FREE - Phase Bank 1, Max 1
0530	TOD OUTPUTS	-----	SuM T W ThF S	0530	TOD OUTPUTS	-----	SuM T W ThF S	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

EXIST. BELL SOUTH PICK-UP POINT
635-1 - 11
630-1 - 12



SIGNAL OPERATING PLAN



	Direction	NB		SB	EB	WB	Ped Heads				
Timing Phases	Head No.	1/6	6	2	8	4	P6	P2	P8	P4	Movements/Display/Actuation
(1+6) NBL + NBT NE 19 AV (ACTUATED)	Dwell	<G/G	G	R	R	R	W/F	DW	DW	DW	
	2+6	<Y/G	G	R	R	R	W/F	DW	DW	DW	
	C										
	l										
	e										
(2+6) SBT + NBT NE 19 AV (RECALL)	Dwell	G	G	G	R	R	W/F	W/F	DW	DW	
	4+8	Y	Y	Y	R	R	DW	DW	DW	DW	
	C										
	l										
	e										
(4+8) WBT + EBT NE 167 ST (ACTUATED)	Dwell		R	R	G	G	DW	DW	W/F	W/F	
	1+6		R	R	Y	Y	DW	DW	DW	DW	
	2+6		R	R	Y	Y	DW	DW	DW	DW	
	C										
	l										
	Dwell										
	C										
	l										
	e										
	t										
	Dwell										
	C										
	l										
	e										
	t										
	Dwell										
	C										
	l										
	e										
	t										
Flashing Operation		FY		FY	FR	FR					Page 1 of 1
Miami-Dade County Public Works Department											
Drawn E. Zapata		Date 7/20/2021		NE 19 AV & NE 167 ST							
Checked H. Kamas		Date 7/22/21		Placed in Service			Phasing No.		Asset Number		
				Date			By		3		
									4835		

Historic Background Growth

N Miami Beach Mixed-Use

21133

Background Growth Rate

Station	Location	2015	2016	2017	2018	2019	2020
5225	SR 826/NE 163 ST, 100' E OF NE 20 AVE	56,000	49,000	58,000	49,500	51,000	43,500
5219	SR 5/US-1, 300' S NE 163 ST/SUNNY ISLES CSWY	60,000	63,500	63,500	59,500	61,000	49,500
5229	SR 826/NE 167 ST, 200' W NE 10 AV	57,000	59,000	54,500	61,500	61,000	53,000
0556	SR 826/NE 163 ST, 1700' E SR 5/US-1	64,000	65,500	63,500	59,500	61,500	53,500
8505	NE 159 ST, 200' WEST OF NE 14 AVE	14,500	14,300	14,100	12,600	13,900	12,400
8273	NE 19TH AVE, 200' NORTH OF 175TH STREET	15,300	18,300	18,900	19,000	21,300	20,400
8455	NE 171 ST, 200 W OF NE 20 AVE	5,600	5,500	5,500	6,900	6,700	5,900
Total		272,400	275,100	278,000	268,500	276,400	238,200
Yearly Growth			1.0%	1.1%	-3.4%	2.9%	-13.8%
Growth Trend						0.4%	-2.5%

*Growth rate of 0.5% used in Study as the 0.4% from 2019 is below 0.5% and 2020 counts reflect the impacts from the Covid-19 shutdowns

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 0556 - SR 826/NE 163 ST, 1700' E SR 5/US-1

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	53500	C	E 27000		W 26500	9.00	54.20	4.50
2019	61500	C	E 30000		W 31500	9.00	54.60	3.60
2018	59500	C	E 29500		W 30000	9.00	54.30	5.10
2017	63500	C	E 31000		W 32500	9.00	55.00	3.30
2016	65500	C	E 32000		W 33500	9.00	54.50	3.10
2015	64000	C	E 31500		W 32500	9.00	54.70	6.00
2014	56500	C	E 27500		W 29000	9.00	54.50	6.00
2013	60000	C	E 29000		W 31000	9.00	52.40	6.00
2012	61000	C	E 29500		W 31500	9.00	55.70	3.40
2011	63500	C	E 34000		W 29500	9.00	55.10	4.90
2010	55000	C	E 26500		W 28500	8.98	54.08	4.90
2009	57000	C	E 28500		W 28500	8.99	53.24	2.70
2008	53000	C	E 26500		W 26500	9.09	55.75	2.70
2007	42500	C	E 21000		W 21500	8.01	54.34	3.40
2006	66500	C	E 35500		W 31000	7.97	54.22	2.10
2005	61500	C	E 29000		W 32500	8.80	53.80	14.70

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5219 - SR 5/US-1, 300' S NE 163 ST/SUNNY ISLES CSWY

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	49500	C	N 24500		S 25000	9.00	54.20	2.50
2019	61000	C	N 30000		S 31000	9.00	54.60	2.20
2018	59500	C	N 29500		S 30000	9.00	54.30	2.40
2017	63500	C	N 31500		S 32000	9.00	55.00	2.30
2016	63500	C	N 31000		S 32500	9.00	54.50	2.00
2015	60000	C	N 29500		S 30500	9.00	54.70	2.00
2014	55000	C	N 25500		S 29500	9.00	54.50	4.90
2013	54000	C	N 25000		S 29000	9.00	52.40	3.50
2012	64000	C	N 31000		S 33000	9.00	55.70	4.80
2011	61500	C	N 30500		S 31000	9.00	55.10	3.90
2010	60000	C	N 30000		S 30000	8.98	54.08	3.90
2009	60500	C	N 29500		S 31000	8.99	53.24	3.40
2008	55000	C	N 27000		S 28000	9.09	55.75	4.70
2007	60500	C	N 29000		S 31500	8.01	54.34	5.90
2006	58000	C	N 29000		S 29000	7.97	54.22	4.20
2005	57500	C	N 28500		S 29000	8.80	53.80	7.70

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5225 - SR 826/NE 163 ST, 100' E OF NE 20 AVE

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	43500	C	E 23000		W 20500	9.00	54.20	3.10
2019	51000	C	E 27500		W 23500	9.00	54.60	3.90
2018	49500	C	E 26500		W 23000	9.00	54.30	4.20
2017	58000	C	E 29000		W 29000	9.00	55.00	9.40
2016	49000	C	E 26500		W 22500	9.00	54.50	5.30
2015	56000	C	E 29500		W 26500	9.00	54.70	4.50
2014	50000	C	E 27000		W 23000	9.00	54.50	3.70
2013	50000	C	E 27500		W 22500	9.00	52.40	3.30
2012	54000	C	E 29500		W 24500	9.00	55.70	2.80
2011	55000	C	E 27500		W 27500	9.00	55.10	2.80
2010	52500	C	E 26500		W 26000	8.98	54.08	2.80
2009	58000	C	E 29500		W 28500	8.99	53.24	4.10
2008	53500	C	E 27500		W 26000	9.09	55.75	4.20
2007	54000	C	E 27500		W 26500	8.01	54.34	3.20
2006	51000	C	E 25500		W 25500	7.97	54.22	5.10
2005	51000	C	E 26000		W 25000	8.80	53.80	5.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5229 - SR 826/NE 167 ST, 200' W NE 10 AV

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	53000	C	E 27500		W 25500	9.00	54.20	4.30
2019	61000	C	E 32000		W 29000	9.00	54.60	3.20
2018	61500	C	E 29500		W 32000	9.00	54.30	4.70
2017	54500	C	E 26500		W 28000	9.00	55.00	9.70
2016	59000	C	E 31000		W 28000	9.00	54.50	4.20
2015	57000	C	E 26500		W 30500	9.00	54.70	7.10
2014	58000	C	E 30000		W 28000	9.00	54.50	4.50
2013	60500	C	E 31000		W 29500	9.00	52.40	3.60
2012	62000	C	E 31500		W 30500	9.00	55.70	3.60
2011	60500	C	E 30500		W 30000	9.00	55.10	3.60
2010	59000	C	E 31000		W 28000	8.98	54.08	3.60
2009	57000	C	E 29000		W 28000	8.99	53.24	3.30
2008	56000	C	E 28500		W 27500	9.09	55.75	3.60
2007	56500	C	E 28500		W 28000	8.01	54.34	3.20
2006	57500	C	E 30000		W 27500	7.97	54.22	5.10
2005	56000	C	E 28500		W 27500	8.80	53.80	5.50

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8273 - NE 19TH AVE, 200' NORTH OF 175TH STREET

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	20400	F	N 9400		S 11000	9.00	54.20	10.40
2019	21300	C	N 9800		S 11500	9.00	54.60	11.00
2018	19000	S	N 9000		S 10000	9.00	54.30	12.10
2017	18900	F	N 8900		S 10000	9.00	55.00	12.60
2016	18300	C	N 8600		S 9700	9.00	54.50	13.50
2015	15300	T	N 6200		S 9100	9.00	54.70	13.70
2014	14800	S	N 6000		S 8800	9.00	54.50	17.40
2013	14600	F	N 5900		S 8700	9.00	52.40	16.20
2012	14900	C	N 6000		S 8900	9.00	55.70	16.00

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

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8455 - NE 171 ST, 200 W OF NE 20 AVE (2011 OFF SYSTEM CYCLE)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2020	5900 S	E	2900	W	3000	9.00	56.00	3.80
2019	6700 F	E	3300	W	3400	9.00	56.00	3.70
2018	6900 C	E	3400	W	3500	9.00	54.30	2.30
2017	5500 T	E	3000	W	2500	9.00	59.30	5.10
2016	5500 S	E	3000	W	2500	9.00	56.10	3.80
2015	5600 F	E	3100	W	2500	9.00	57.40	4.10
2014	5600 C	E	3100	W	2500	9.00	59.30	6.70
2013	850 F		0		0	9.00	58.90	16.20
2012	850 C	E	0	W	0	9.00	59.70	16.00

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8505 - NE 159 ST, 200' WEST OF NE 14 AVE (2011 OFF SYSTEM CYCLE)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
----	-----		-----		-----	-----	-----	-----	
2020	12400	F	E	6100	W	6300	9.00	56.00	3.80
2019	13900	C	E	6800	W	7100	9.00	56.00	3.70
2018	12600	T	E	6300	W	6300	9.00	54.30	2.30
2017	14100	S	E	7000	W	7100	9.00	59.30	5.10
2016	14300	F	E	7100	W	7200	9.00	56.10	3.80
2015	14500	C	E	7200	W	7300	9.00	57.40	4.10
2014	12500	S					9.00	59.30	6.70
2013	12500	F		0		0	9.00	58.90	16.20
2012	12500	C	E	0	W	0	9.00	59.70	16.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
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Appendix D
Intersection Capacity Analysis
Worksheets

North Miami Beach Mixed-Use AM Intersection Assignment

North Miami Beach Mixed-Use																											
INTERSECTION	MOVEMENT	Raw Traffic Volumes	adjusted to Covid Factor 1.07	Existing (2021)	BACKGROUND Growth rate: 0.50% No. of years: 2	Regions Bank			Self storage			New North Tower		Wyn Biscayne Blvd		SkyGarden		COMMITTED DEV	FUTURE W/O PROJECT (2023)	EXISTING USES			NMB Apartments			FUTURE WITH PROJECT (2023)	
						In	Out	Total	In	Out	Total	In/out	Total	In/out	Total	In/out	Total			IN	OUT	Total	IN	OUT	Total		
						123	59	182	10	7	17	0	0	0	0	0	0			9	5	14	70	153	223		
1) NE 163 St / NE 19th Ave (S)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NBR*	20	21	21	21	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	21	0	0	0	0	0	21		
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	SBL	397	425	425	429	0.0%	0.0%	0	0.0%	0.0%	0	88	88	0	0	8	8	96	525	0%	24%	1	0%	24%	37	561	
	SBT	8	9	9	9	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	9	9	0%	0%	0	0%	0%	0	9	
	SBR	275	294	294	297	0.0%	0.0%	0	0.0%	0.0%	0	75	75	0	0	11	11	86	383	0%	14%	1	0%	14%	21	404	
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	EBL	297	318	318	321	0.0%	0.0%	0	0.0%	0.0%	0	54	54	0	0	0	0	54	375	20%	0%	2	20%	0%	14	387	
	EBT	1371	1467	1,467	1482	7.0%	0.0%	9	26.0%	0.0%	3	0	0	50	50	7	7	68	1550	8%	0%	1	8%	0%	6	1555	
	EBR*	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	WBT	1133	1212	1,212	1224	0.0%	5.4%	3	0.0%	26.0%	2	27	27	31	31	11	11	74	1298	0%	14%	1	0%	14%	21	1319	
WBR	192	205	205	207	0.0%	0.0%	0	0.0%	0.0%	0	36	36	0	0	0	0	36	243	5%	0%	0	5%	0%	4	246		
TOTAL		3,693	3951	3,951	3991	7.0%	5.4%	12	26.0%	26.0%	4	280	280	81	81	37	37	414	4405	33%	52%	6	33%	52%	103	4502	
2) NE 164 St / NE 19th Ave (S)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NBL	38	41	41	41	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	41	0	0	0	0	0	41		
	NBT	450	482	482	487	0.0%	0.0%	0	0.0%	0.0%	0	90	90	0	0	0	0	90	577	0	0	0	0	0	577		
	NBR	7	7	7	7	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	7	25%	0	2	25%	0	18	22	
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	SBL	53	57	57	58	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	58	58	5%	0	0	5%	0	4	61	
	SBT	658	704	704	711	0.0%	0.0%	0	0.0%	0.0%	0	163	163	0	0	3	3	166	877	0	0	0	0	0	877		
	SBR	182	195	195	197	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	197	197	0	0	0	0	0	197		
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	EBL	64	68	68	69	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	8	8	8	77	0	0	0	0	0	77		
	EBT	37	40	40	40	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	24	24	24	64	8%	0	1	8%	0	6	69	
	EBR	14	15	15	15	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	13	13	13	28	0	0	0	0	0	28		
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	WBL	2	2	2	2	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	3	3	3	5	0	38%	2	0	38%	58	61	
	WBT	41	44	44	44	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	44	44	0	8%	0	0	8%	12	56	
	WBR	21	22	22	22	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	22	22	0	5%	0	0	5%	8	30	
TOTAL		1,567	1677	1,677	1694	0.0%	0.0%	0	0.0%	0.0%	0	253	253	0	0	51	51	304	1998	38%	51%	6	38%	51%	105	2096	
3) NE 164 St / NE 20th Ave (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NBL	15	16	16	16	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	16	16	22%	0	2	22%	0	15	30	
	NBT	24	26	26	26	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	26	26	10%	0	1	10%	0	7	32	
	NBR	26	28	28	28	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	28	28	0	0	0	0	0	28	0	
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	SBL	4	4	4	4	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	4	4	0	5%	0	0	5%	8	11	
	SBT	5	5	5	5	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	5	5	0	10%	1	0	10%	15	20	
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	EBL	2	2	2	2	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	2	2	0	0%	0	0	0%	0	2	
	EBT	67	72	72	73	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	24	24	24	97	0	25%	1	0	25%	38	134	
	EBR	20	21	21	21	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	21	21	0	4%	0	0	4%	6	27	
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	WBL	22	24	24	24	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	24	24	0	0%	0	0	0%	0	24	
	WBT	50	54	54	55	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	3	3	3	58	20%	0	2	20%	0	14	70	
WBR	7	7	7	7	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	7	7	5	0	0	5	0	4	10		
TOTAL		242	259	259	262	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	27	27	27	289	57%	44%	7	57%	44%	107	388	
4) NE 164 St / NE 22nd Ave (S)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NBL	45	48	48	48	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	1	1	1	49	15%	0	1	15%	0	11	59	
	NBT	420	449	449	454	0.0%	5.4%	3	0.0%	10.0%	1	90	90	0	0	0	0	94	547	0	0	0	0	0	547		
	NBR	7	7	7	7	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	7	7	0	0	0	0	0	7	0	
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	SBL	6	6	6	6	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	6	6	0	0	0	0	0	6	0	
	SBT	412	441	441	445	7.0%	0.0%	9	10.0%	0.0%	1	126	126	0	0	1	1	137	582	0	0	0	0	0	0	582	
	SBR	66	71	71	72	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	2	2	2	74	10%	0	1	10%	0	7	80	
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	EBL	67	72	72	73	0.0%																					

INTERSECTION	MOVEMENT	Raw Traffic Volumes	adjusted to Covid Factor 1.07	Existing (2021)	BACKGROUND Growth rate: 0.50% No. of years: 2	Regions Bank			Self storage			New North Tower		Wyn Biscayne Blvd		SkyGarden		COMMITTED DEV	FUTURE W/O PROJECT (2023)	EXISTING USES			NMB Apartments			FUTURE WITH PROJECT (2023)
						In	Out	Total	In	Out	Total	In/out	Total	In/out	Total	In/out	Total			In	OUT	Total	IN	OUT	Total	
						123	59	182	10	7	17	0	0	0	0	0	0			9	5	14	70	153	223	
5) NE 163 St / NE 22nd Ave (S)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	65	70	70	71	0.0%	5.4%	3	0.0%	26.0%	2	63	63	0	0	2	2	70	141	5%	0%	0	5%	0%	4	144
	NBT	260	278	278	281	0.0%	5.4%	3	0.0%	10.0%	1	90	90	0	0	1	1	95	376	5%	0%	0	5%	0%	4	379
	NBR	101	108	108	109	0.0%	34.2%	20	0.0%	20.0%	1	162	162	0	0	0	0	184	293	0%	0%	0	0%	0%	0	293
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	133	142	142	143	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	12	12	12	155	0%	15%	1	0%	15%	23	178
	SBT	271	290	290	293	7.0%	0.0%	9	10.0%	0.0%	1	126	126	0	0	4	4	140	433	0%	5%	0	0%	5%	8	440
	SBR	46	49	49	49	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	1	1	1	50	0%	0%	0	0%	0%	0	50
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	65	70	70	71	0.0%	0.0%	0	20.0%	0.0%	2	0	0	0	0	0	0	2	73	0%	0%	0	0%	0%	0	73
	EBT	1463	1565	1,565	1581	0.0%	0.0%	0	0.0%	0.0%	0	27	27	50	50	9	9	86	1667	0%	19%	1	0%	19%	29	1695
	EBR	31	33	33	33	7.0%	0.0%	9	0.0%	0.0%	0	63	63	0	0	5	5	77	110	0%	5%	0	0%	5%	8	117
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.93	WBL	160	171	171	173	44.1%	0.0%	54	0.0%	0.0%	0	225	225	0	0	0	0	279	452	0%	0%	0	0%	0%	0	452
	WBT	1280	1370	1,370	1384	0.0%	0.0%	0	0.0%	0.0%	0	38	38	31	31	8	8	77	1461	24%	0%	2	24%	0%	17	1475
TOTAL		102	109	109	110	0.0%	0.0%	0	26.0%	0.0%	3	0	0	0	0	0	0	3	113	10%	0%	1	10%	0%	7	119
6) Biscayne Blvd (US-1) / NE 163rd Street (S)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	299	320	320	323	12.8%	0.0%	16	0.0%	0.0%	0	0	0	0	0	3	3	19	342	10%	0%	1	10%	0%	7	348
	NBT	888	950	950	960	0.0%	0.0%	0	0.0%	0.0%	0	0	0	34	34	0	0	34	994	0%	0%	0	0%	0%	0	994
	NBR	423	453	453	458	0.0%	0.0%	0	0.0%	0.0%	0	0	0	14	14	0	0	14	472	0%	0%	0	0%	0%	0	472
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	412	441	441	445	0.0%	0.0%	0	0.0%	0.0%	0	0	0	8	8	0	0	8	453	0%	0%	0	0%	0%	0	453
	SBT	1229	1315	1,315	1328	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1328	0%	0%	0	0%	0%	0	1328
	SBR	299	320	320	323	23.8%	0.0%	29	10.0%	0.0%	1	138	138	0	0	2	2	170	493	15%	0%	1	15%	0%	11	503
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	237	254	254	257	0.0%	18.5%	11	0.0%	10.0%	1	99	99	35	35	6	6	152	408	0%	15%	1	0%	15%	23	430
	EBT	1190	1273	1,273	1286	0.0%	5.8%	3	0.0%	10.0%	1	90	90	15	15	8	8	117	1403	0%	9%	0	0%	9%	14	1416
	EBR	335	358	358	362	0.0%	9.9%	6	0.0%	0.0%	0	0	0	0	0	8	8	14	375	0%	10%	1	0%	10%	15	390
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.92	WBL	381	408	408	412	0.0%	0.0%	0	0.0%	0.0%	0	0	0	30	30	0	0	30	442	0%	0%	0	0%	0%	0	442
	WBT	763	816	816	824	7.5%	0.0%	9	10.0%	0.0%	1	125	125	31	31	3	3	169	993	9%	0%	1	9%	0%	6	999
TOTAL		428	458	458	463	0.0%	0.0%	0	0.0%	0.0%	0	0	0	7	7	0	0	7	470	0%	0%	0	0%	0%	0	470
7) NE 163rd St / NE 20th Ave (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	26	28	28	28	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	28	0%	14%	1	0%	14%	21	49
	EBU	20	21	21	21	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	21	0%	0%	0	0%	0%	0	21
	EBL	37	40	40	40	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	40	8%	0%	1	8%	0%	6	45
	EBT	1723	1844	1,844	1862	7.0%	0.0%	9	26.0%	0.0%	3	90	90	50	50	15	15	166	2029	0%	0%	0	0%	0%	0	2029
	EBR	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	0%	0	0%	0%	0	1
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.96	WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	WBT	1352	1447	1,447	1462	0.0%	5.4%	3	0.0%	26.0%	2	101	101	31	31	11	11	148	1610	5%	0%	0	5%	0%	4	1613
TOTAL		25	27	27	27	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	27	24%	0%	2	24%	0%	17	42
8) NE 167th St / NE 19th Ave (S)	NBU	13	14	14	14	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	14	0%	0%	0	0%	0%	0	14
	NBL	76	81	81	82	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	82	0%	0%	0	0%	0%	0	82
	NBT	490	524	524	529	0.0%	0.0%	0	0.0%	0.0%	0	90	90	0	0	0	0	90	619	0%	10%	1	0%	10%	15	634
	NBR	51	55	55	56	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	56	0%	0%	0	0%	0%	0	56
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	24	26	26	26	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	26	0%	0%	0	0%	0%	0	26
	SBT	758	811	811	819	0.0%	0.0%	0	0.0%	0.0%	0	163	163	0	0	0	0	163	982	10%	0%	1	10%	0%	7	988
	SBR	42	45	45	45	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	45	0%	0%	0	0%	0%	0	45
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	26	28	28	28																					

INTERSECTION	MOVEMENT	Raw Traffic Volumes	adjusted to Covid Factor 1.07	Existing (2021)	BACKGROUND Growth rate: 0.50% No. of years: 2	Regions Bank			Self storage			New North Tower Creative		Wyn Biscayne Boule		SkyGarden		COMMITTED DEV	FUTURE W/O PROJECT (2023)	EXISTING USES			NMB Apartments			FUTURE WITH PROJECT (2023)
						In	Out	Total	In	Out	Total	In/out	Total	In/out	Total	In/out	Total			In	OUT	Total	IN	OUT	Total	
						123	59	182	10	7	17	0	0	0	0	0	0			9	5	14	70	153	223	
9) NE 165th St / Existing Alley (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	5%	0	0%	5%	8	8
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	21	22	22	22	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	22	0%	0%	0	0%	0%	0	22
	EBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	5%	0%	0	5%	0%	4	3
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.85	WBT	46	49	49	49	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	49	0%	0%	0	0%	0%	0	49
	WBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
TOTAL		68	72	72	73	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	73	5%	5%	1	5%	5%	11	83
10) NE 20th Ave / Existing Alley (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	15%	0%	1	15%	0%	11	9
	NBT	37	40	40	40	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	8	8	8	48	0%	0%	0	0%	0%	0	48
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	7	7	7	7	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	3	3	3	10	0%	0%	0	0%	0%	0	10
	SBR	2	2	2	2	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	2	0%	0%	0	0%	0%	0	2
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	15%	1	0%	15%	23	23
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.73	WBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	WBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
TOTAL		47	50	50	51	0.0%	0.0%	0	0%	0.0%	0	0	0	0	0	11	11	11	62	15%	15%	2	15%	15%	33	93
11) NE 164th St / Project Entrance (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	29%	1	0%	29%	44	46
	SBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	51%	3	0%	51%	78	81
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	38%	0%	3	38%	0%	27	30
	EBT	163	174	174	176	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	24	24	24	200	0%	0%	0	0%	0%	0	200
	EBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
PHF = 0.90	WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	WBT	113	121	121	122	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	3	3	3	125	0%	0%	0	0%	0%	0	125
	WBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	42%	0%	4	42%	0%	29	33
TOTAL		276	295	295	298	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	27	27	27	325	80%	80%	11	80%	80%	178	515
12) Existing Alley / Project Entrance (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	5%	0	0%	5%	8	8
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	15%	1	0%	15%	23	24
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	0%	0	0%	0%	0	1
	EBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	5%	0%	0	5%	0%	4	4

North Miami Beach Mixed-Use PM Intersection Assignment

North Miami Beach Mixed-Use																													
INTERSECTION	MOVEMENT	Raw Traffic Volumes	adjusted to Covid Factor 1.07	Existing (2021)	Growth rate: 0.50% No. of years: 2	Regions Bank			Self storage			New North Tower		Htown Biscayne Bouleva		SkyGarden		COMMITTED DEV	FUTURE W/O PROJECT (2023)	EXISTING USES			NMB Apartments			FUTURE WITH PROJECT (2023)			
						In	Out	Total	In	Out	Total	In/Out	Total	In/Out	Total	In/Out	Total			In	Out	Total	In	Out	Total				
						40	40	70	14	15	29									159	124	283							
1) NE 163 St / NE 19th Ave (S)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	NBT	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	1	0%	0%	0	0%	0%	0	1		
	NBR*	34	36	36	36	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	36	0%	0%	0	0%	0%	0	36		
	SBU	7	7	7	7	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	7	0%	0%	0	0%	0%	0	7		
	SBL	343	367	367	371	0.0%	0.0%	0	0.0%	0.0%	0	39	39	0	0	0	7	7	46	417	0%	24%	11	0%	24%	30	435		
	SBT	12	13	13	13	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	13	0%	0%	0	0%	0%	0	13		
	SBR	323	346	346	349	0.0%	0.0%	0	0.0%	0.0%	0	17	17	0	0	25	25	42	391	0%	14%	6	0%	14%	17	402			
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	EBL	310	332	332	335	0.0%	0.0%	0	0.0%	0.0%	0	21	21	0	0	0	0	21	356	20%	0%	9	20%	0%	32	379			
	EBT	1376	1472	1,472	1487	7.0%	0.0%	2	26.0%	0.0%	4	0	0	78	78	6	6	90	1576	8%	0%	4	8%	0%	13	1586			
	EBR*	2	2	2	2	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	2	0%	0%	0	0%	0%	0	2			
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
NBR stop control rt only Omitted from analysis	WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0			
	PHF = 0.98	WBT	1536	1644	1,644	1660	0.0%	5.4%	2	0.0%	26.0%	4	0	0	91	91	34	34	131	1792	0%	14%	6	0%	14%	17	1802		
WBR	276	295	295	298	0.0%	0.0%	0	0.0%	0.0%	0	50	50	0	0	0	0	0	50	348	5%	0%	2	5%	0%	8	354			
TOTAL		4,220	4515	4,515	4560	7.0%	5.4%	4	26.0%	26.0%	8	127	127	169	169	72	72	380	4940	33%	52%	38	33%	52%	117	5019			
2) NE 164 St / NE 19th Ave (S)	NBU	11	12	12	12	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	12	0%	0%	0	0%	0%	0	12			
	NBL	19	20	20	20	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	20	0%	0%	0	0%	0%	0	20			
	NBT	540	578	578	584	0.0%	0.0%	0	0.0%	0.0%	0	71	71	0	0	0	0	71	655	0%	0%	0	0%	0%	0	655			
	NBR	13	14	14	14	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	14	25%	0%	11	25%	0%	40	43			
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	SBL	50	54	54	55	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	55	5%	0%	2	5%	0%	8	60			
	SBT	641	686	686	693	0.0%	0.0%	0	0.0%	0.0%	0	56	56	0	0	9	9	65	758	0%	0%	0	0%	0%	0	758			
	SBR	159	159	159	161	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	161	0%	0%	0	0%	0%	0	161			
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	EBL	163	174	174	176	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	7	7	7	183	0%	0%	0	0%	0%	0	183			
	EBT	68	73	73	74	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	20	20	20	94	8%	0%	4	8%	0%	13	103			
	EBR	19	20	20	20	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	14	14	14	34	0%	0%	0	0%	0%	0	34			
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
PHF = 0.92	WBL	18	19	19	19	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	9	9	9	28	0%	38%	17	0%	38%	47	58			
	WBT	87	93	93	94	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	94	0%	8%	4	0%	8%	10	100			
WBR	110	118	118	119	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	119	0%	5%	2	0%	5%	6	123				
TOTAL		1,888	2020	2,020	2040	0.0%	0.0%	0	0.0%	0.0%	0	127	127	0	0	59	59	186	2228	38%	51%	40	38%	51%	124	2310			
3) NE 164 St / NE 20th Ave (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0			
	NBL	45	48	48	48	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	48	22%	0%	10	22%	0%	35	74			
	NBT	52	56	56	57	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	57	10%	0%	4	10%	0%	16	68			
	NBR	27	29	29	29	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	29	0%	0%	0	0%	0%	0	29			
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	SBL	9	10	10	10	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	10	0%	5%	2	0%	5%	6	14			
	SBT	6	6	6	6	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	6	0%	10%	5	0%	10%	12	14			
	SBR	5	5	5	5	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	5	0%	0%	0	0%	0%	0	5			
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	EBL	4	4	4	4	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	4	0%	0%	0	0%	0%	0	4			
	EBT	105	112	112	113	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	20	20	20	133	0%	25%	12	0%	25%	31	153			
	EBR	26	28	28	28	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	28	0%	4%	2	0%	4%	5	31			
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
PHF = 0.82	WBL	33	35	35	35	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	35	0%	0%	0	0%	0%	0	35			
	WBT	118	126	126	127	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	9	9	9	136	20%	0%	9	20%	0%	32	159			
WBR	9	10	10	10	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	10	5%	0%	2	5%	0%	8	16				
TOTAL		439	469	469	474	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	29	29	29	503	57%	44%	45	57%	44%	145	603			
4) NE 164 St / NE 22nd Ave (S)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0			
	NBL	76	81	81	82	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	4	4	4	66	15%	0%	7	15%	0%	24	103			
	NBT	502	537	537	542	0.0%	5.4%	2	0.0%	10.0%	0	2	78	78	0	0	0	82	824	0%	0%	0	0%	0%	0	624			
	NBR	10	11	11	11	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	11	0%	0%	0	0%	0%	0	11			
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	SBL	5	5	5	5	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	5	0%	0%	0	0%	0%	0	5			
	SBT	540	578	578	584	7.0%	0.0%	2	10.0%	0.0%	1	62	62	0	0	4	4	70	653	0%	0%	0	0%	0%	0	653			
	SBR	104	111	111	112	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	5	5	5	117	10%	0%	4	10%	0%	16	129			
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
	EBL	73	78	78	79	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	7	7	7	86	0%	10%	5	0%	10%	12	94			
	EBT	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	0%	0	0%	0%	0	1			
	EBR	81	87	87	88	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	13	13	13	101	0%	20%	9	0%	20%	25	116			
	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0		
PHF = 0.98	WBL	7	7	7	7	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	7	0%	0%	0	0%	0%	0	7			
	WBT	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	0%								

INTERSECTION	MOVEMENT	Raw Traffic Volumes	adjusted to Covid Factor 1.07	Existing (2021)	BACKGROUND			Regions Bank			Self storage			New North Tower		Htown Biscayne Bouleva		SkyGarden		COMMITTED DEV	FUTURE W/O PROJECT (2023)	EXISTING USES			NMB Apartments			FUTURE WITH PROJECT (2023)
					Growth rate: 0.50%	In	Out	Total	In	Out	Total	In/out	Total	In/out	Total	In/out	Total	IN	OUT			Total	IN	OUT	Total			
																										No. of years: 2	30	
5) NE 163 St / NE 22nd Ave (S)	NBU	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	167	179	179	181		5.4%	2	0.0%	26.0%	4	50	50	0	0	0	6	6	62	243	5%	0%	2	5%	0%	8	249	
	NBT	320	342	342	345		0.0%	5.4%	2	0.0%	10.0%	2	78	78	0	0	4	4	86	431	5%	0%	2	5%	0%	8	437	
	NBR	182	195	195	197		0.0%	34.2%	14	0.0%	20.0%	3	128	128	0	0	0	0	145	342	0%	0%	0	0%	0%	0	342	
	SBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	169	181	181	183		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	10	10	10	193	0%	15%	7	0%	15%	19	205	
	SBT	356	381	381	385		7.0%	0.0%	2	10.0%	0.0%	0	62	62	0	3	3	69	453	0%	5%	2	0%	5%	6	457		
	SBR	89	95	95	96		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	4	4	4	100	0%	0%	0	0%	0%	0	100	
	EBU	10	11	11	11		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	11	0%	0%	0	0%	0%	0	11	
	EBL	103	110	110	111		0.0%	0.0%	0	20.0%	0.0%	3	0	0	0	0	0	0	3	114	0%	0%	0	0%	0%	0	114	
	EBT	1405	1503	1,503	1518		0.0%	0.0%	0	0.0%	0.0%	0	21	21	78	78	8	8	107	1625	0%	19%	9	0%	19%	24	1640	
	EBR	99	106	106	107		7.0%	0.0%	2	0.0%	0.0%	0	28	28	0	0	5	5	35	142	0%	5%	2	0%	5%	6	146	
	WBU	13	14	14	14		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	14	0	0%	0%	0	0%	0%	0	14	
	WBL	162	173	173	175		44.1%	0.0%	13	0.0%	0.0%	0	101	101	0	0	0	0	114	289	0%	0%	0	0%	0%	0	289	
	WBT	1611	1724	1,724	1741		0.0%	0.0%	0	0.0%	0.0%	0	17	17	91	91	25	25	133	1874	24%	0%	11	24%	0%	38	1902	
	WBR	123	132	132	133		0.0%	0.0%	0	26.0%	0.0%	4	0	0	0	0	0	0	4	137	10%	0%	4	10%	0%	16	148	
TOTAL		4,809	5146	5,146	5198		58.1%	45.0%	35	56.0%	56.0%	16	485	485	169	169	65	65	771	5968	44%	44%	40	44%	44%	125	6053	
6) Biscayne Blvd (US-1) / NE 163rd Street (S)	NBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	NBL	377	403	403	407		12.8%	0.0%	4	0.0%	0.0%	0	0	0	0	0	9	9	13	420	10%	0%	4	10%	0%	16	431	
	NBT	1237	1324	1,324	1337		0.0%	0.0%	0	0.0%	0.0%	0	0	0	54	54	0	0	54	1391	0%	0%	0	0%	0%	0	1391	
	NBR	573	613	613	619		0.0%	0.0%	0	0.0%	0.0%	0	0	0	22	22	0	0	22	641	0%	0%	0	0%	0%	0	641	
	SBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	SBL	391	418	418	422		0.0%	0.0%	0	0.0%	0.0%	0	0	0	22	22	0	0	22	444	0%	0%	0	0%	0%	0	444	
	SBT	1201	1285	1,285	1298		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	1298	0%	0%	0	0%	0%	0	1298		
	SBR	421	450	450	455		23.8%	0.0%	7	10.0%	0.0%	1	62	62	0	7	7	78	532	15%	0%	7	15%	0%	24	549		
	EBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	EBL	325	348	348	351		0.0%	18.5%	7	0.0%	10.0%	2	78	78	54	54	5	5	146	497	0%	15%	7	0%	15%	19	509	
	EBT	976	1044	1,044	1054		0.0%	5.8%	2	0.0%	10.0%	2	71	71	24	24	7	7	106	1160	0%	9%	4	0%	9%	11	1167	
	EBR	417	446	446	450		0.0%	9.9%	4	0.0%	0.0%	0	0	0	0	0	7	7	11	461	0%	10%	5	0%	10%	12	469	
	WBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	WBL	504	539	539	544		0.0%	0.0%	0	0.0%	0.0%	0	0	0	87	87	0	0	87	631	0%	0%	0	0%	0%	0	631	
	WBT	1187	1270	1,270	1283		7.5%	0.0%	2	10.0%	0.0%	1	56	56	91	91	9	9	160	1442	9%	0%	4	9%	0%	14	1453	
	WBR	637	682	682	689		0.0%	0.0%	0	0.0%	0.0%	0	0	0	16	16	0	0	16	705	0%	0%	0	0%	0%	0	705	
TOTAL		8,246	8822	8,822	8910		44.1%	34.2%	27	20.0%	20.0%	6	267	267	370	370	44	44	714	9624	34%	34%	31	34%	34%	96	9690	
7) NE 163rd St / NE 20th Ave (U)	NBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	NBL	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	NBT	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	NBR	9	10	10	10		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	10	0%	0%	0	0%	0%	0	10	
	SBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	SBL	1	1	1	1		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	0%	0	0%	0%	0	1	
	SBT	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	SBR	63	67	67	68		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	68	0%	14%	6	0%	14%	17	79		
	EBU	28	30	30	30		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	30	0%	0%	0	0%	0%	0	30		
	EBL	73	78	78	79		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	79	8%	0%	4	8%	0%	13	88		
	EBT	1611	1724	1,724	1741		7.0%	0.0%	2	26.0%	0.0%	4	49	49	78	78	13	13	146	1887	0%	0%	0	0%	0%	0	1887	
	EBR	10	11	11	11		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	11	0%	0%	0	0%	0%	0	11		
	WBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	WBL	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	WBT	1814	1941	1,941	1960		0.0%	5.4%	2	0.0%	26.0%	4	67	67	91	91	34	34	198	2159	5%	0%	2	5%	0%	8	2164	
	WBR	61	65	65	66		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	66	24%	0%	11	24%	0%	38	93		
TOTAL		3,670	3927	3,927	3966		7.0%	5.4%	4	26.0%	26.0%	8	116	116	169	169	47	47	344	4310	37%	14%	23	37%	14%	76	4364	
8) NE 167th St / NE 19th Ave (S)	NBU	8	9	9	9		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	9	0%	0%	0	0%	0%	0	9		
	NBL	40	43	43	43		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	43	0%	0%	0	0%	0%	0	43		
	NBT	710	760	760	768		0.0%	0.0%	0	0.0%	0.0%	0	71	71	0	0	7	7	78	846	0%	10%	5	0%	10%	12	853	
	NBR	53	57	57	58		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	58	0%	0%	0	0%	0%	0	58		
	SBU	0	0	0	0		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
	SBL	39	42	42	42		0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	42	0%	0%	0						

INTERSECTION	MOVEMENT	Raw Traffic Volumes	adjusted to Covid Factor 1.07	Existing (2021)	BACKGROUND Growth rate: 0.50% No. of years: 2	Regions Bank			Self storage			New North Tower		Town Biscayne Boulevard		SkyGarden		COMMITTED DEV	FUTURE W/O PROJECT (2023)	EXISTING USES			NMB Apartments			FUTURE WITH PROJECT (2023)
						In	Out	Total	In	Out	Total	In/Out	Total	In/Out	Total	In/Out	Total			In	Out	Total	In	Out	Total	
						30	40	70	14	15	29		0		0		0			44	46	90	159	124	283	
9) NE 165th St / Existing Alley (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	2	2	2	2	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	2	0%	5%	2	0%	5%	6	6
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	35	37	37	37	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	37	0%	0%	0	0%	0%	0	37
	EBR	2	2	2	2	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	2	5%	0%	2	5%	0%	8	8
	PHF = 0.72	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
WBT	76	81	81	82	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	82	0%	0%	0	0%	0%	0	82	
WBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
TOTAL		115	122	122	123	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	123	5%	5%	5	5%	5%	14	133
10) NE 20th Ave / Existing Alley (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	3	3	3	3	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	3	15%	0%	7	15%	0%	24	20
	NBT	63	67	67	68	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	68	0%	0%	0	0%	0%	0	68
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	0%	0	0%	0%	0	1
	SBT	16	17	17	17	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	17	0%	0%	0	0%	0%	0	17
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBR	2	2	2	2	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	2	0%	15%	7	0%	15%	19	14
	PHF = 0.86	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
WBL	1	1	1	1	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	1	0%	0%	0	0%	0%	0	1	
WBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
WBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
TOTAL		86	91	91	92	0.0%	0.0%	0	0%	0.0%	0	0	0	0	0	0	0	0	92	15%	15%	14	15%	15%	42	121
11) NE 164th St / Project Entrance (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	29%	13	0%	29%	36	49
	SBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	51%	23	0%	51%	63	87
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	38%	0%	17	38%	0%	60	77
	EBT	155	166	166	168	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	20	20	20	188	0%	0%	0	0%	0%	0	188
	EBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	PHF = 0.87	WBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
WBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0	
WBT	181	194	194	196	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	9	9	9	205	0%	0%	0	0%	0%	0	205	
WBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	42%	0%	18	42%	0%	67	85	
TOTAL		336	360	360	364	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	29	29	29	393	80%	80%	72	80%	80%	226	691
12) Existing Alley / Project Entrance (U)	NBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	5%	2	0%	5%	6	9
	NBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	NBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	15%	7	0%	15%	19	26
	SBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBT	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	SBR	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBU	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBL	0	0	0	0	0.0%	0.0%	0	0.0%	0.0%	0	0	0	0	0	0	0	0	0	0%	0%	0	0%	0%	0	0
	EBT	2	2	2	2	0.0%	0.0%	0	0.0.																	

Existing Conditions

HCM 6th Signalized Intersection Summary

1: NE 163rd Street & NE 19th Avenue

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	318	1467	0	0	1212	205	0	0	0	425	9	294
Future Volume (veh/h)	318	1467	0	0	1212	205	0	0	0	425	9	294
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach	No			No						No		
Adj Sat Flow, veh/h/ln	1841	1841	1870	0	1841	1870				1870	1870	1870
Adj Flow Rate, veh/h	324	1497	0	0	1237	209				440	0	300
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	4	4	2	0	4	2				2	2	2
Cap, veh/h	374	3576	0	0	2432	411				658	0	447
Arrive On Green	0.20	1.00	0.00	0.00	0.56	0.56				0.18	0.00	0.18
Sat Flow, veh/h	1753	5191	0	0	4477	728				3563	0	1550
Grp Volume(v), veh/h	324	1497	0	0	961	485				440	0	300
Grp Sat Flow(s),veh/h/ln	1753	1675	0	0	1675	1689				1781	0	1550
Q Serve(g_s), s	10.8	0.0	0.0	0.0	22.8	22.8				14.9	0.0	22.3
Cycle Q Clear(g_c), s	10.8	0.0	0.0	0.0	22.8	22.8				14.9	0.0	22.3
Prop In Lane	1.00		0.00	0.00		0.43				1.00		1.00
Lane Grp Cap(c), veh/h	374	3576	0	0	1890	953				658	0	447
V/C Ratio(X)	0.87	0.42	0.00	0.00	0.51	0.51				0.67	0.00	0.67
Avail Cap(c_a), veh/h	520	3576	0	0	1890	953				658	0	447
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	1.00				0.97	0.00	0.97
Uniform Delay (d), s/veh	15.8	0.0	0.0	0.0	17.3	17.3				49.3	0.0	41.1
Incr Delay (d2), s/veh	6.5	0.3	0.0	0.0	1.0	1.9				2.3	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.2	0.0	0.0	13.6	14.1				11.1	0.0	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	0.3	0.0	0.0	18.3	19.3				51.7	0.0	44.6
LnGrp LOS	C	A	A	A	B	B				D	A	D
Approach Vol, veh/h	1821			1446			740					
Approach Delay, s/veh	4.2			18.6			48.8					
Approach LOS	A			B			D					
Timer - Assigned Phs	1	2					6	8				
Phs Duration (G+Y+Rc), s	19.2	79.8					99.0	31.0				
Change Period (Y+Rc), s	6.0	6.5					6.5	7.0				
Max Green Setting (Gmax), s	24.0	62.5					92.5	24.0				
Max Q Clear Time (g_c+I1), s	12.8	24.8					2.0	24.3				
Green Ext Time (p_c), s	0.4	4.1					4.9	0.0				

Intersection Summary

HCM 6th Ctrl Delay 17.6

HCM 6th LOS B

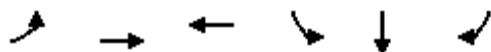
Notes

User approved volume balancing among the lanes for turning movement.

Timings
1: NE 163rd Street & NE 19th Avenue

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	318	1467	1212	425	9	294
Future Volume (vph)	318	1467	1212	425	9	294
Lane Group Flow (vph)	324	1497	1446	221	222	300
Turn Type	pm+pt	NA	NA	Split	NA	pm+ov
Protected Phases	1	6	2	8	8	1
Permitted Phases	6					8
Detector Phase	1	6	2	8	8	1
Switch Phase						
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	13.5	44.5	30.0	30.0	11.0
Total Split (s)	30.0	99.0	69.0	31.0	31.0	30.0
Total Split (%)	23.1%	76.2%	53.1%	23.8%	23.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.5	2.5	3.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.5	6.5	7.0	7.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Max	C-Max	None	None	None
v/c Ratio	0.85	0.41	0.54	0.83	0.83	0.59
Control Delay	68.3	1.6	20.7	77.3	77.4	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	1.6	20.7	77.3	77.4	32.8
Queue Length 50th (ft)	171	24	283	189	190	169
Queue Length 95th (ft)	291	34	360	#288	#289	238
Internal Link Dist (ft)		589	589		310	
Turn Bay Length (ft)	220					
Base Capacity (vph)	440	3677	2677	310	311	571
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.41	0.54	0.71	0.71	0.53

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 92 (71%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NE 163rd Street & NE 19th Avenue



HCM Signalized Intersection Capacity Analysis

1: NE 163rd Street & NE 19th Avenue

Existing 2021 (Weekday) - PM Peak Hour

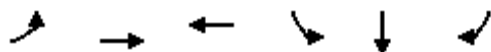
09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		  			  							
Traffic Volume (vph)	332	1472	2	0	1644	295	0	0	0	7	367	13
Future Volume (vph)	332	1472	2	0	1644	295	0	0	0	7	367	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5			6.5						7.0	7.0
Lane Util. Factor	1.00	0.91			0.91						0.95	0.95
Frpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Frt	1.00	1.00			0.98						1.00	1.00
Flt Protected	0.95	1.00			1.00						0.95	0.96
Satd. Flow (prot)	1752	5084			4955						1681	1691
Flt Permitted	0.05	1.00			1.00						0.95	0.96
Satd. Flow (perm)	89	5084			4955						1681	1691
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	339	1502	2	0	1678	301	0	0	0	7	374	13
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	0	0	0	0
Lane Group Flow (vph)	339	1504	0	0	1963	0	0	0	0	0	198	196
Confl. Peds. (#/hr)	4		10	10		4	2		2		2	
Confl. Bikes (#/hr)			1			4						
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA			NA					Split	Split	NA
Protected Phases	1	6			2					8	8	8
Permitted Phases	6											
Actuated Green, G (s)	115.7	115.7			83.0						20.8	20.8
Effective Green, g (s)	115.7	115.7			83.0						20.8	20.8
Actuated g/C Ratio	0.77	0.77			0.55						0.14	0.14
Clearance Time (s)	6.0	6.5			6.5						7.0	7.0
Vehicle Extension (s)	2.0	1.0			1.0						2.5	2.5
Lane Grp Cap (vph)	364	3921			2741						233	234
v/s Ratio Prot	c0.17	0.30			0.40						c0.12	0.12
v/s Ratio Perm	c0.55											
v/c Ratio	0.93	0.38			0.72						0.85	0.84
Uniform Delay, d1	49.9	5.6			24.8						63.1	63.0
Progression Factor	1.00	1.00			1.00						1.00	1.00
Incremental Delay, d2	29.8	0.3			1.6						23.7	21.8
Delay (s)	79.7	5.9			26.4						86.8	84.8
Level of Service	E	A			C						F	F
Approach Delay (s)		19.4			26.4			0.0				67.8
Approach LOS		B			C			A				E
Intersection Summary												
HCM 2000 Control Delay			30.3		HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)			19.5				
Intersection Capacity Utilization			90.5%		ICU Level of Service			E				
Analysis Period (min)			15									
c Critical Lane Group												

Timings
1: NE 163rd Street & NE 19th Avenue

Existing 2021 (Weekday) - PM Peak Hour

09/10/2021



Lane Group	EBL	EBT	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	332	1472	1644	367	13	346
Future Volume (vph)	332	1472	1644	367	13	346
Lane Group Flow (vph)	339	1504	1979	198	196	353
Turn Type	pm+pt	NA	NA	Split	NA	pm+ov
Protected Phases	1	6	2	8	8	1
Permitted Phases	6					8
Detector Phase	1	6	2	8	8	1
Switch Phase						
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	13.5	44.5	30.0	30.0	11.0
Total Split (s)	35.0	120.0	85.0	30.0	30.0	35.0
Total Split (%)	23.3%	80.0%	56.7%	20.0%	20.0%	23.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.5	2.5	3.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.5	6.5	7.0	7.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Max	C-Max	None	None	None
v/c Ratio	0.93	0.38	0.72	0.85	0.83	0.68
Control Delay	78.1	6.1	27.0	92.8	90.7	43.6
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.2
Total Delay	78.1	6.4	27.0	92.8	90.7	43.7
Queue Length 50th (ft)	271	165	537	198	195	249
Queue Length 95th (ft)	#443	186	597	#323	#316	355
Internal Link Dist (ft)		589	589		310	
Turn Bay Length (ft)	220					
Base Capacity (vph)	390	3920	2755	257	259	543
Starvation Cap Reductn	0	1510	0	0	0	11
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.62	0.72	0.77	0.76	0.66

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 25 (17%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NE 163rd Street & NE 19th Avenue



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	346
Future Volume (vph)	346
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1556
Flt Permitted	1.00
Satd. Flow (perm)	1556
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	353
RTOR Reduction (vph)	17
Lane Group Flow (vph)	336
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	3
Heavy Vehicles (%)	3%
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	8
Actuated Green, G (s)	47.5
Effective Green, g (s)	47.5
Actuated g/C Ratio	0.32
Clearance Time (s)	6.0
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	492
v/s Ratio Prot	0.12
v/s Ratio Perm	0.09
v/c Ratio	0.68
Uniform Delay, d1	44.7
Progression Factor	1.00
Incremental Delay, d2	3.1
Delay (s)	47.8
Level of Service	D
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Signalized Intersection Summary
2: NE 19th Avenue & NE 164th Street

Existing 2021 (Weekday) - AM Peak Hour

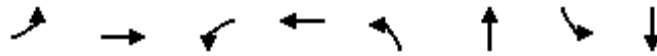
09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			 	
Traffic Volume (veh/h)	68	40	15	2	44	22	41	482	7	57	704	195
Future Volume (veh/h)	68	40	15	2	44	22	41	482	7	57	704	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1796	1870	1870	1841	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	43	16	2	47	24	44	518	8	61	757	210
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	8	2	2	7	2	2	4	2	2	2	2
Cap, veh/h	222	176	65	194	108	55	231	2856	45	644	2809	770
Arrive On Green	0.05	0.14	0.14	0.00	0.10	0.10	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1781	1227	457	1781	1105	564	273	4028	64	876	3962	1086
Grp Volume(v), veh/h	73	0	59	2	0	71	170	191	209	61	649	318
Grp Sat Flow(s),veh/h/ln	1781	0	1684	1781	0	1669	1178	1524	1662	876	1702	1644
Q Serve(g_s), s	4.3	0.0	3.7	0.1	0.0	4.8	0.4	5.0	5.0	3.0	8.2	8.4
Cycle Q Clear(g_c), s	4.3	0.0	3.7	0.1	0.0	4.8	8.8	5.0	5.0	8.0	8.2	8.4
Prop In Lane	1.00		0.27	1.00		0.34	0.26		0.04	1.00		0.66
Lane Grp Cap(c), veh/h	222	0	241	194	0	163	873	1081	1178	644	2414	1165
V/C Ratio(X)	0.33	0.00	0.24	0.01	0.00	0.44	0.19	0.18	0.18	0.09	0.27	0.27
Avail Cap(c_a), veh/h	545	0	449	599	0	445	873	1081	1178	644	2414	1165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.41	0.41	0.41	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	0.0	45.6	48.6	0.0	51.0	5.6	5.8	5.8	7.1	6.3	6.3
Incr Delay (d2), s/veh	0.3	0.0	0.6	0.0	0.0	2.2	0.2	0.1	0.1	0.3	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	0.0	2.9	0.1	0.0	3.8	2.4	2.8	3.0	1.1	5.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	0.0	46.3	48.6	0.0	53.3	5.8	6.0	5.9	7.4	6.5	6.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		132			73			570			1028	
Approach Delay, s/veh		45.2			53.1			5.9			6.7	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		91.1	11.2	17.7		91.1	5.7	23.2				
Change Period (Y+Rc), s		6.0	5.4	6.0		6.0	5.4	6.0				
Max Green Setting (Gmax), s		43.0	27.6	32.0		43.0	27.6	32.0				
Max Q Clear Time (g_c+I1), s		10.4	6.3	6.8		10.8	2.1	5.7				
Green Ext Time (p_c), s		2.9	0.1	0.4		1.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			11.2									
HCM 6th LOS			B									

Timings
2: NE 19th Avenue & NE 164th Street

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	68	40	2	44	41	482	57	704
Future Volume (vph)	68	40	2	44	41	482	57	704
Lane Group Flow (vph)	73	59	2	71	0	570	61	967
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	3	8	7	4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	3	8	7	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.4	38.0	10.4	38.0	35.0	35.0	35.0	35.0
Total Split (s)	33.0	38.0	33.0	38.0	49.0	49.0	49.0	49.0
Total Split (%)	27.5%	31.7%	27.5%	31.7%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.4	4.0	3.4	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.4	6.0	5.4	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	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.28	0.17	0.01	0.34		0.20	0.11	0.27
Control Delay	36.8	28.6	28.0	37.0		8.6	10.6	8.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.2
Total Delay	36.8	28.6	28.0	37.0		8.6	10.6	8.6
Queue Length 50th (ft)	48	28	1	37		49	14	83
Queue Length 95th (ft)	67	56	6	68		117	52	186
Internal Link Dist (ft)		580		264		310		300
Turn Bay Length (ft)	50		55				75	
Base Capacity (vph)	441	480	453	469		2892	573	3548
Starvation Cap Reductn	0	0	0	0		0	0	1609
Spillback Cap Reductn	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0		0	0	0
Reduced v/c Ratio	0.17	0.12	0.00	0.15		0.20	0.11	0.50

Intersection Summary

Cycle Length: 120

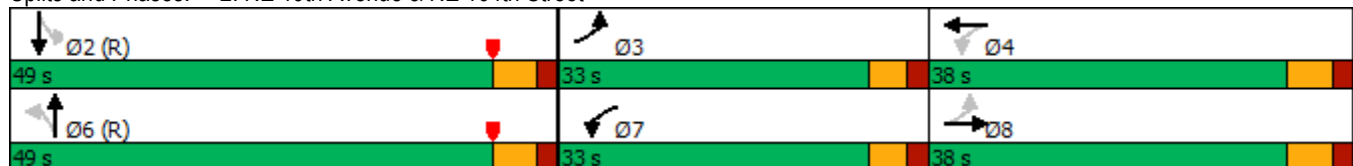
Actuated Cycle Length: 120

Offset: 28 (23%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 19th Avenue & NE 164th Street



HCM Signalized Intersection Capacity Analysis

2: NE 19th Avenue & NE 164th Street

Existing 2021 (Weekday) - PM Peak Hour

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations									  			 
Traffic Volume (vph)	174	73	20	19	93	118	12	20	578	14	54	686
Future Volume (vph)	174	73	20	19	93	118	12	20	578	14	54	686
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		5.4	6.0				6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00				0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00		1.00	0.99				1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.99	1.00
Frt	1.00	0.97		1.00	0.92				1.00		1.00	0.97
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1770	1796		1768	1665				5044		1759	4874
Flt Permitted	0.31	1.00		0.69	1.00				0.84		0.37	1.00
Satd. Flow (perm)	577	1796		1288	1665				4266		679	4874
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	79	22	21	101	128	13	22	628	15	59	746
RTOR Reduction (vph)	0	8	0	0	42	0	0	0	1	0	0	20
Lane Group Flow (vph)	189	93	0	21	187	0	0	0	677	0	59	899
Confl. Peds. (#/hr)			1	1				4		8	8	
Confl. Bikes (#/hr)			1			1				1		
Heavy Vehicles (%)	2%	2%	2%	2%	6%	2%	2%	2%	2%	8%	2%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	Perm	NA		Perm	NA
Protected Phases	3	8		7	4				6			2
Permitted Phases	8			4			6	6			2	
Actuated Green, G (s)	42.2	34.3		24.6	22.1				65.8		65.8	65.8
Effective Green, g (s)	42.2	34.3		24.6	22.1				65.8		65.8	65.8
Actuated g/C Ratio	0.35	0.29		0.20	0.18				0.55		0.55	0.55
Clearance Time (s)	5.4	6.0		5.4	6.0				6.0		6.0	6.0
Vehicle Extension (s)	2.0	3.5		2.0	3.5				1.0		1.0	1.0
Lane Grp Cap (vph)	349	513		274	306				2339		372	2672
v/s Ratio Prot	c0.07	0.05		0.00	c0.11							c0.18
v/s Ratio Perm	0.12			0.01					0.16		0.09	
v/c Ratio	0.54	0.18		0.08	0.61				0.29		0.16	0.34
Uniform Delay, d1	29.2	32.3		38.4	45.0				14.5		13.4	15.0
Progression Factor	1.00	1.00		1.00	1.00				1.00		1.00	1.00
Incremental Delay, d2	0.9	0.2		0.0	3.6				0.3		0.9	0.3
Delay (s)	30.1	32.5		38.4	48.6				14.9		14.3	15.4
Level of Service	C	C		D	D				B		B	B
Approach Delay (s)		30.9			47.7				14.9			15.3
Approach LOS		C			D				B			B
Intersection Summary												
HCM 2000 Control Delay			20.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			17.4			
Intersection Capacity Utilization			81.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Timings
2: NE 19th Avenue & NE 164th Street

Existing 2021 (Weekday) - PM Peak Hour

09/10/2021

									
Lane Group	EBL	EBT	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations							  		  
Traffic Volume (vph)	174	73	19	93	12	20	578	54	686
Future Volume (vph)	174	73	19	93	12	20	578	54	686
Lane Group Flow (vph)	189	101	21	229	0	0	678	59	919
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	3	8	7	4			6		2
Permitted Phases	8		4		6	6		2	
Detector Phase	3	8	7	4	6	6	6	2	2
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.4	38.0	10.4	38.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	43.0	38.0	43.0	38.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	35.8%	31.7%	35.8%	31.7%	32.5%	32.5%	32.5%	32.5%	32.5%
Yellow Time (s)	3.4	4.0	3.4	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.4	6.0	5.4	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	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.56	0.19	0.07	0.75			0.28	0.15	0.33
Control Delay	35.1	28.7	24.8	51.5			14.5	16.2	14.2
Queue Delay	0.0	0.0	0.0	0.0			0.0	0.0	0.4
Total Delay	35.1	28.7	24.8	51.5			14.5	16.2	14.6
Queue Length 50th (ft)	109	49	11	133			92	20	123
Queue Length 95th (ft)	145	93	25	207			147	55	191
Internal Link Dist (ft)		580		264			310		300
Turn Bay Length (ft)	50		55					75	
Base Capacity (vph)	577	538	605	482			2456	390	2820
Starvation Cap Reductn	0	0	0	0			0	0	1241
Spillback Cap Reductn	0	0	0	0			0	0	0
Storage Cap Reductn	0	0	0	0			0	0	0
Reduced v/c Ratio	0.33	0.19	0.03	0.48			0.28	0.15	0.58

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 31 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 19th Avenue & NE 164th Street



Movement	SBR
Approach Configurations	
Traffic Volume (vph)	159
Future Volume (vph)	159
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	173
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	4
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	72	21	24	54	7	16	26	28	4	5	0
Future Vol, veh/h	2	72	21	24	54	7	16	26	28	4	5	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	6	2	5	4	14	2	4	8	2	2	2
Mvmt Flow	2	84	24	28	63	8	19	30	33	5	6	0
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.2	8.1	7.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	23%	100%	0%	100%	0%	44%
Vol Thru, %	37%	0%	77%	0%	89%	56%
Vol Right, %	40%	0%	23%	0%	11%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	2	93	24	61	9
LT Vol	16	2	0	24	0	4
Through Vol	26	0	72	0	54	5
RT Vol	28	0	21	0	7	0
Lane Flow Rate	81	2	108	28	71	10
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.096	0.003	0.14	0.041	0.093	0.013
Departure Headway (Hd)	4.262	5.248	4.656	5.304	4.705	4.624
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	846	675	761	668	753	778
Service Time	2.262	3.034	2.442	3.089	2.49	2.627
HCM Lane V/C Ratio	0.096	0.003	0.142	0.042	0.094	0.013
HCM Control Delay	7.7	8.1	8.2	8.3	8	7.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0	0.5	0.1	0.3	0

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	112	28	35	126	10	48	56	29	10	6	5
Future Vol, veh/h	4	112	28	35	126	10	48	56	29	10	6	5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	3	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	5	137	34	43	154	12	59	68	35	12	7	6
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

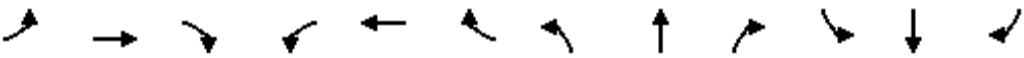
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.5	9.4	9.3	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	100%	0%	100%	0%	48%
Vol Thru, %	42%	0%	80%	0%	93%	29%
Vol Right, %	22%	0%	20%	0%	7%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	4	140	35	136	21
LT Vol	48	4	0	35	0	10
Through Vol	56	0	112	0	126	6
RT Vol	29	0	28	0	10	5
Lane Flow Rate	162	5	171	43	166	26
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.219	0.008	0.241	0.067	0.236	0.036
Departure Headway (Hd)	4.854	5.713	5.086	5.671	5.133	5.059
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	738	625	703	630	698	704
Service Time	2.894	3.46	2.832	3.418	2.879	3.115
HCM Lane V/C Ratio	0.22	0.008	0.243	0.068	0.238	0.037
HCM Control Delay	9.3	8.5	9.5	8.8	9.5	8.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.8	0	0.9	0.2	0.9	0.1

HCM 6th Signalized Intersection Summary
4: NE 22nd Avenue & NE 164th Street

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	2	101	4	2	3	48	449	7	6	441	71
Future Volume (veh/h)	72	2	101	4	2	3	48	449	7	6	441	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1841	1870	1159	1411	1796	1870	1055	1870	1870	1870
Adj Flow Rate, veh/h	73	2	103	4	2	3	49	458	7	6	450	72
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	50	4	2	50	33	7	2	57	2	2	2
Cap, veh/h	315	3	137	105	36	26	559	2335	36	591	1559	248
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.65	0.65	0.51	0.51	0.51
Sat Flow, veh/h	1409	18	949	114	252	183	1711	3582	55	922	3066	487
Grp Volume(v), veh/h	73	0	105	9	0	0	49	227	238	6	260	262
Grp Sat Flow(s),veh/h/ln	1409	0	967	548	0	0	1711	1777	1860	922	1777	1776
Q Serve(g_s), s	0.0	0.0	6.1	0.0	0.0	0.0	0.7	3.0	3.0	0.2	5.0	5.0
Cycle Q Clear(g_c), s	3.0	0.0	6.1	6.2	0.0	0.0	0.7	3.0	3.0	0.2	5.0	5.0
Prop In Lane	1.00		0.98	0.44		0.33	1.00		0.03	1.00		0.27
Lane Grp Cap(c), veh/h	315	0	140	167	0	0	559	1158	1213	591	904	903
V/C Ratio(X)	0.23	0.00	0.75	0.05	0.00	0.00	0.09	0.20	0.20	0.01	0.29	0.29
Avail Cap(c_a), veh/h	661	0	377	392	0	0	661	1158	1213	591	904	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	24.2	21.9	0.0	0.0	5.6	4.1	4.1	7.2	8.3	8.4
Incr Delay (d2), s/veh	0.3	0.0	5.9	0.1	0.0	0.0	0.0	0.4	0.4	0.0	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.0	2.8	0.2	0.0	0.0	0.4	1.5	1.6	0.1	3.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	0.0	30.1	22.0	0.0	0.0	5.6	4.5	4.5	7.2	9.1	9.2
LnGrp LOS	C	A	C	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	178			9			514			528		
Approach Delay, s/veh	27.2			22.0			4.6			9.1		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.5	36.0		14.5		44.5		14.5				
Change Period (Y+Rc), s	* 5.7	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	* 6.3	30.0		23.0		30.0		23.0				
Max Q Clear Time (g_c+I1), s	2.7	7.0		8.2		5.0		8.1				
Green Ext Time (p_c), s	0.0	1.1		0.0		0.9		0.5				

Intersection Summary

HCM 6th Ctrl Delay 9.9

HCM 6th LOS A

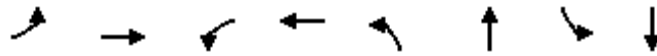
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
4: NE 22nd Avenue & NE 164th Street

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	72	2	4	2	48	449	6	441
Future Volume (vph)	72	2	4	2	48	449	6	441
Lane Group Flow (vph)	73	105	0	9	49	465	6	522
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8		4	1	6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	2	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	29.0	29.0	10.7	30.0	30.0	30.0
Total Split (s)	29.0	29.0	29.0	29.0	12.0	36.0	36.0	36.0
Total Split (%)	37.7%	37.7%	37.7%	37.7%	15.6%	46.8%	46.8%	46.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	5.7	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	Max
v/c Ratio	0.31	0.31		0.04	0.09	0.19	0.01	0.25
Control Delay	26.2	8.0		18.4	5.9	5.4	12.0	9.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	8.0		18.4	5.9	5.4	12.0	9.8
Queue Length 50th (ft)	25	1		2	5	27	1	52
Queue Length 95th (ft)	57	34		12	25	82	9	126
Internal Link Dist (ft)		1246		358		315		202
Turn Bay Length (ft)	75				105		75	
Base Capacity (vph)	533	643		470	586	2562	541	2100
Starvation Cap Reductn	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0
Reduced v/c Ratio	0.14	0.16		0.02	0.08	0.18	0.01	0.25

Intersection Summary

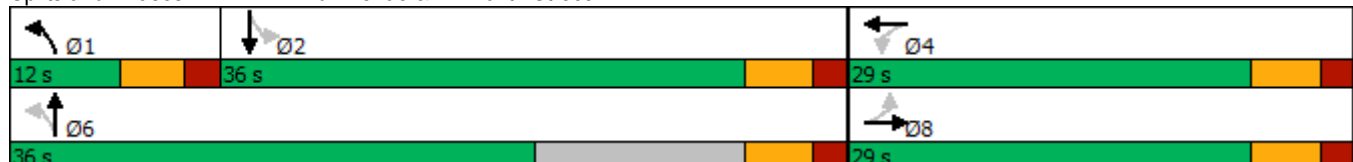
Cycle Length: 77

Actuated Cycle Length: 61.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 4: NE 22nd Avenue & NE 164th Street



HCM 6th Signalized Intersection Summary
4: NE 22nd Avenue & NE 164th Street

Existing 2021 (Weekday) - PM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	1	87	7	1	15	81	537	11	5	578	111
Future Volume (veh/h)	78	1	87	7	1	15	81	537	11	5	578	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1693	1870	1870	1826	1870	1752	1870	1870	1870
Adj Flow Rate, veh/h	80	1	89	7	1	15	83	548	11	5	590	113
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	3	14	2	2	5	2	10	2	2	2
Cap, veh/h	153	2	151	47	18	70	608	2955	59	694	2273	434
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.06	1.00	1.00	0.77	0.77	0.77
Sat Flow, veh/h	1382	17	1522	197	177	701	1739	3561	71	849	2962	566
Grp Volume(v), veh/h	80	0	90	23	0	0	83	273	286	5	353	350
Grp Sat Flow(s),veh/h/ln	1382	0	1539	1075	0	0	1739	1777	1855	849	1777	1751
Q Serve(g_s), s	3.3	0.0	9.5	0.1	0.0	0.0	1.7	0.0	0.0	0.2	9.8	9.9
Cycle Q Clear(g_c), s	12.9	0.0	9.5	9.6	0.0	0.0	1.7	0.0	0.0	0.2	9.8	9.9
Prop In Lane	1.00		0.99	0.30		0.65	1.00		0.04	1.00		0.32
Lane Grp Cap(c), veh/h	153	0	153	135	0	0	608	1475	1540	694	1364	1344
V/C Ratio(X)	0.52	0.00	0.59	0.17	0.00	0.00	0.14	0.19	0.19	0.01	0.26	0.26
Avail Cap(c_a), veh/h	219	0	226	205	0	0	653	1475	1540	694	1364	1344
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.25	0.25	0.25	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.3	0.0	73.2	70.0	0.0	0.0	3.6	0.0	0.0	4.6	5.7	5.7
Incr Delay (d2), s/veh	2.0	0.0	2.6	0.4	0.0	0.0	0.0	0.1	0.1	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	0.0	7.0	1.7	0.0	0.0	0.9	0.1	0.1	0.1	6.7	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.3	0.0	75.8	70.4	0.0	0.0	3.7	0.1	0.1	4.6	6.2	6.2
LnGrp LOS	E	A	E	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h	170			23			642			708		
Approach Delay, s/veh	76.5			70.4			0.5			6.2		
Approach LOS	E			E			A			A		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	10.6	136.5	22.9		147.1		22.9					
Change Period (Y+Rc), s	* 5.7	6.0	6.0		6.0		6.0					
Max Green Setting (Gmax), s	* 9.3	118.0	25.0		133.0		25.0					
Max Q Clear Time (g_c+I1), s	3.7	11.9	11.6		2.0		14.9					
Green Ext Time (p_c), s	0.0	1.6	0.0		1.2		0.4					

Intersection Summary

HCM 6th Ctrl Delay 12.5

HCM 6th LOS B

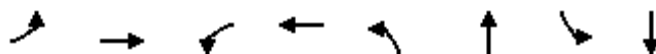
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
4: NE 22nd Avenue & NE 164th Street

Existing 2021 (Weekday) - PM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	78	1	7	1	81	537	5	578
Future Volume (vph)	78	1	7	1	81	537	5	578
Lane Group Flow (vph)	80	90	0	23	83	559	5	703
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8		4	1	6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	2	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	29.0	29.0	10.7	30.0	30.0	30.0
Total Split (s)	31.0	31.0	31.0	31.0	15.0	139.0	124.0	124.0
Total Split (%)	18.2%	18.2%	18.2%	18.2%	8.8%	81.8%	72.9%	72.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	5.7	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.66	0.41		0.16	0.14	0.19	0.01	0.26
Control Delay	98.2	18.0		38.3	1.9	1.7	6.0	6.0
Queue Delay	0.0	0.0		0.0	0.0	0.5	0.0	0.0
Total Delay	98.2	18.1		38.3	1.9	2.2	6.0	6.0
Queue Length 50th (ft)	88	1		8	6	23	1	99
Queue Length 95th (ft)	144	58		38	m15	m50	6	157
Internal Link Dist (ft)		1246		358		315		202
Turn Bay Length (ft)	75				105		75	
Base Capacity (vph)	201	301		226	600	2959	630	2655
Starvation Cap Reductn	0	0		0	0	1913	0	0
Spillback Cap Reductn	0	5		0	0	0	0	197
Storage Cap Reductn	0	0		0	0	0	0	0
Reduced v/c Ratio	0.40	0.30		0.10	0.14	0.53	0.01	0.29

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 106 (62%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

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

Splits and Phases: 4: NE 22nd Avenue & NE 164th Street



HCM 6th Signalized Intersection Summary

Existing 2021 (Weekday) - AM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/09/2021

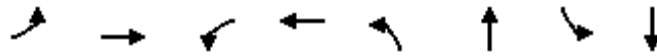
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	1565	33	171	1370	109	70	278	108	142	290	49
Future Volume (veh/h)	70	1565	33	171	1370	109	70	278	108	142	290	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1856	1856	1841	1841	1826	1870	1841	1870	1870	1796
Adj Flow Rate, veh/h	75	1683	35	184	1473	117	75	299	116	153	312	53
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	3	3	4	4	5	2	4	2	2	7
Cap, veh/h	278	2919	61	247	2870	228	201	340	129	208	525	88
Arrive On Green	0.03	0.58	0.58	0.12	1.00	1.00	0.05	0.14	0.14	0.08	0.17	0.17
Sat Flow, veh/h	1781	5066	105	1767	4741	376	1739	2508	950	1781	3043	511
Grp Volume(v), veh/h	75	1113	605	184	1041	549	75	210	205	153	181	184
Grp Sat Flow(s),veh/h/ln	1781	1675	1822	1767	1675	1767	1739	1777	1681	1781	1777	1777
Q Serve(g_s), s	3.0	35.8	35.9	7.6	0.0	0.0	6.3	19.7	20.4	12.3	15.9	16.3
Cycle Q Clear(g_c), s	3.0	35.8	35.9	7.6	0.0	0.0	6.3	19.7	20.4	12.3	15.9	16.3
Prop In Lane	1.00		0.06	1.00		0.21	1.00		0.57	1.00		0.29
Lane Grp Cap(c), veh/h	278	1930	1049	247	2028	1070	201	241	228	208	307	307
V/C Ratio(X)	0.27	0.58	0.58	0.74	0.51	0.51	0.37	0.87	0.90	0.74	0.59	0.60
Avail Cap(c_a), veh/h	416	1930	1049	332	2028	1070	299	268	253	242	307	307
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	13.9	22.9	22.9	21.3	0.0	0.0	59.6	72.0	72.3	56.7	64.8	64.9
Incr Delay (d2), s/veh	0.2	1.3	2.3	4.6	0.7	1.3	0.4	22.8	29.2	7.3	2.5	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	20.6	22.6	6.2	0.4	0.7	5.0	15.7	16.0	10.0	11.9	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	24.1	25.2	26.0	0.7	1.3	60.0	94.8	101.6	63.9	67.3	67.7
LnGrp LOS	B	C	C	C	A	A	E	F	F	E	E	E
Approach Vol, veh/h	1793		1774				490		518			
Approach Delay, s/veh	24.1		3.5				92.3		66.5			
Approach LOS	C		A				F		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	108.9	20.7	29.5	15.9	103.9	14.5	35.7				
Change Period (Y+Rc), s	6.0	6.0	6.4	6.4	6.0	6.0	6.4	6.4				
Max Green Setting (Gmax), s	18.0	84.0	17.6	25.6	18.0	84.0	17.6	25.6				
Max Q Clear Time (g_c+I1), s	5.0	2.0	14.3	22.4	9.6	37.9	8.3	18.3				
Green Ext Time (p_c), s	0.1	4.6	0.1	0.6	0.3	5.1	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.2									
HCM 6th LOS			C									
Notes												

Timings

Existing 2021 (Weekday) - AM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	←	↑↑↑	←	↑↑↑	←	↑↑	←	↑↑
Traffic Volume (vph)	70	1565	171	1370	70	278	142	290
Future Volume (vph)	70	1565	171	1370	70	278	142	290
Lane Group Flow (vph)	75	1718	184	1590	75	415	153	365
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	32.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	90.0	24.0	90.0	24.0	32.0	24.0	32.0
Total Split (%)	14.1%	52.9%	14.1%	52.9%	14.1%	18.8%	14.1%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.40	0.64	0.80	0.55	0.37	0.86	0.73	0.63
Control Delay	18.4	30.0	75.4	15.7	52.3	84.4	69.1	69.0
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.3
Total Delay	18.4	30.0	75.4	15.9	52.3	84.4	69.1	70.3
Queue Length 50th (ft)	29	507	138	213	64	224	136	193
Queue Length 95th (ft)	53	587	m220	250	109	287	202	255
Internal Link Dist (ft)		1240		610		1033		315
Turn Bay Length (ft)	290		270		150		130	
Base Capacity (vph)	302	2685	260	2890	279	529	232	592
Starvation Cap Reductn	0	0	0	359	0	0	0	89
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.64	0.71	0.63	0.27	0.78	0.66	0.73

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

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

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

Ø1	Ø2 (R)	Ø3	Ø4
24 s	90 s	24 s	32 s
Ø5	Ø6 (R)	Ø7	Ø8
24 s	90 s	24 s	32 s

HCM Signalized Intersection Capacity Analysis

Existing 2021 (Weekday) - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/10/2021

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	11	110	1503	106	14	173	1724	132	179	342	195	181
Future Volume (vph)	11	110	1503	106	14	173	1724	132	179	342	195	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	0.95		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	0.99		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.95		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1770	5030			1770	5026		1735	3319		1769
Flt Permitted		0.05	1.00			0.08	1.00		0.16	1.00		0.15
Satd. Flow (perm)		100	5030			143	5026		284	3319		282
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	11	113	1549	109	14	178	1777	136	185	353	201	187
RTOR Reduction (vph)	0	0	4	0	0	0	5	0	0	46	0	0
Lane Group Flow (vph)	0	124	1654	0	0	192	1908	0	185	508	0	187
Confl. Peds. (#/hr)				2		2			3		5	5
Confl. Bikes (#/hr)								5				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		98.8	86.7			105.2	89.9		43.3	26.5		43.1
Effective Green, g (s)		98.8	86.7			105.2	89.9		43.3	26.5		43.1
Actuated g/C Ratio		0.58	0.51			0.62	0.53		0.25	0.16		0.25
Clearance Time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Vehicle Extension (s)		2.0	1.0			3.0	1.0		2.0	2.5		2.0
Lane Grp Cap (vph)		176	2565			234	2657		215	517		217
v/s Ratio Prot		0.05	0.33			c0.07	0.38		c0.08	c0.15		0.08
v/s Ratio Perm		0.36				c0.43			0.13			0.13
v/c Ratio		0.70	0.64			0.82	0.72		0.86	0.98		0.86
Uniform Delay, d1		36.4	30.4			37.8	30.4		54.0	71.5		54.5
Progression Factor		1.00	1.00			1.77	0.49		1.00	1.00		0.92
Incremental Delay, d2		10.0	1.3			11.1	0.9		27.0	34.7		26.5
Delay (s)		46.4	31.7			78.0	15.7		81.0	106.2		76.5
Level of Service		D	C			E	B		F	F		E
Approach Delay (s)			32.7				21.4			99.9		
Approach LOS			C				C			F		
Intersection Summary												
HCM 2000 Control Delay			43.9				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			170.0				Sum of lost time (s)			24.8		
Intersection Capacity Utilization			90.2%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Timings

Existing 2021 (Weekday) - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/10/2021



Lane Group	EBU	EBL	EBT	WBU	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↗	↗↗↗		↖	↖↖↖	↖	↖↖	↖	↖↖
Traffic Volume (vph)	11	110	1503	14	173	1724	179	342	181	381
Future Volume (vph)	11	110	1503	14	173	1724	179	342	181	381
Lane Group Flow (vph)	0	124	1658	0	192	1913	185	554	187	491
Turn Type	pm+pt	pm+pt	NA	pm+pt	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	1	6	5	5	2	7	4	3	8
Permitted Phases	6	6		2	2		4		8	
Detector Phase	1	1	6	5	5	2	7	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	11.0	32.0	11.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	24.0	90.0	24.0	24.0	90.0	24.0	32.0	24.0	32.0
Total Split (%)	14.1%	14.1%	52.9%	14.1%	14.1%	52.9%	14.1%	18.8%	14.1%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Max	None	None	C-Max	None	None	None	None
v/c Ratio		0.70	0.65		0.82	0.72	0.86	0.98	0.86	0.90
Control Delay		54.4	32.0		71.8	16.0	82.4	96.5	78.2	84.5
Queue Delay		0.0	0.0		0.0	0.9	0.0	0.0	0.0	0.5
Total Delay		54.4	32.0		71.8	16.9	82.4	96.5	78.2	85.0
Queue Length 50th (ft)		77	493		150	230	165	~311	166	281
Queue Length 95th (ft)		146	552		m185	264	#290	#440	#297	#394
Internal Link Dist (ft)			1240			610		1033		315
Turn Bay Length (ft)		290			270		150		130	
Base Capacity (vph)		238	2570		261	2660	224	564	227	544
Starvation Cap Reductn		0	0		0	428	0	0	0	4
Spillback Cap Reductn		0	0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0
Reduced v/c Ratio		0.52	0.65		0.74	0.86	0.83	0.98	0.82	0.91

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street



HCM Signalized Intersection Capacity Analysis
5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

Existing 2021 (Weekday) - PM Peak Hour

09/10/2021



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	381	95
Future Volume (vph)	381	95
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3421	
Flt Permitted	1.00	
Satd. Flow (perm)	3421	
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	393	98
RTOR Reduction (vph)	13	0
Lane Group Flow (vph)	478	0
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	26.4	
Effective Green, g (s)	26.4	
Actuated g/C Ratio	0.16	
Clearance Time (s)	6.4	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	531	
v/s Ratio Prot	0.14	
v/s Ratio Perm		
v/c Ratio	0.90	
Uniform Delay, d1	70.5	
Progression Factor	0.94	
Incremental Delay, d2	18.0	
Delay (s)	84.5	
Level of Service	F	
Approach Delay (s)	82.3	
Approach LOS	F	
Intersection Summary		

HCM 6th Signalized Intersection Summary
6: Biscayne Boulevard & NE 163rd Street

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	1273	358	408	816	458	320	950	453	441	1315	320
Future Volume (veh/h)	254	1273	358	408	816	458	320	950	453	441	1315	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1826	1826	1870	1856	1870	1767	1856	1870	1870	1870	1870
Adj Flow Rate, veh/h	276	1384	389	443	887	0	348	1033	492	479	1429	348
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	5	5	2	3	2	9	3	2	2	2	2
Cap, veh/h	321	1427	617	486	1688		387	1762	650	447	1845	594
Arrive On Green	0.19	0.57	0.57	0.14	0.33	0.00	0.12	0.28	0.28	0.13	0.29	0.29
Sat Flow, veh/h	3428	4985	1516	3456	5066	1585	3264	6383	1547	3456	6434	1552
Grp Volume(v), veh/h	276	1384	389	443	887	0	348	1033	492	479	1429	348
Grp Sat Flow(s),veh/h/ln	1714	1662	1516	1728	1689	1585	1632	1596	1547	1728	1609	1552
Q Serve(g_s), s	13.3	45.4	32.0	21.5	24.1	0.0	17.9	23.8	46.2	22.0	34.6	30.4
Cycle Q Clear(g_c), s	13.3	45.4	32.0	21.5	24.1	0.0	17.9	23.8	46.2	22.0	34.6	30.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	321	1427	617	486	1688		387	1762	650	447	1845	594
V/C Ratio(X)	0.86	0.97	0.63	0.91	0.53		0.90	0.59	0.76	1.07	0.77	0.59
Avail Cap(c_a), veh/h	524	1437	620	529	1688		422	1762	650	447	1845	594
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.0	35.6	23.7	72.0	45.8	0.0	73.9	53.2	42.4	74.0	55.6	42.0
Incr Delay (d2), s/veh	5.8	13.7	1.3	19.2	0.2	0.0	20.6	1.4	8.0	62.9	3.2	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	21.9	12.8	16.1	15.2	0.0	13.3	14.7	26.2	20.2	20.4	18.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.7	49.3	25.1	91.2	46.1	0.0	94.5	54.6	50.4	136.9	58.8	46.2
LnGrp LOS	E	D	C	F	D		F	D	D	F	E	D
Approach Vol, veh/h	2049			1330			A			1873		
Approach Delay, s/veh	48.0			61.1			60.9			73.4		
Approach LOS	D			E			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	56.0	22.7	64.3	28.8	54.1	30.7	56.4				
Change Period (Y+Rc), s	6.8	* 7.2	6.8	* 7.7	6.8	* 7.2	6.8	* 7.7				
Max Green Setting (Gmax), s	22.0	* 45	26.0	* 49	22.0	* 45	26.0	* 49				
Max Q Clear Time (g_c+I1), s	19.9	36.6	15.3	26.1	24.0	48.2	23.5	47.4				
Green Ext Time (p_c), s	0.3	2.8	0.7	4.8	0.0	0.0	0.4	1.3				

Intersection Summary

HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
6: Biscayne Boulevard & NE 163rd Street

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	254	1273	358	408	816	458	320	950	453	441	1315	320
Future Volume (vph)	254	1273	358	408	816	458	320	950	453	441	1315	320
Lane Group Flow (vph)	276	1384	389	443	887	498	348	1033	492	479	1429	348
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			Free			6			2
Detector Phase	3	8	1	7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0		5.0	7.0	5.0	5.0	7.0	5.0
Minimum Split (s)	11.8	55.2	11.8	11.8	55.2		11.8	49.2	11.8	11.8	49.2	11.8
Total Split (s)	32.8	56.7	28.8	32.8	56.7		28.8	51.7	32.8	28.8	51.7	32.8
Total Split (%)	19.3%	33.4%	16.9%	19.3%	33.4%		16.9%	30.4%	19.3%	16.9%	30.4%	19.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.9	2.0	2.0	2.9		2.0	2.4	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.7	6.8	6.8	7.7		6.8	7.2	6.8	6.8	7.2	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	None
v/c Ratio	0.72	0.97	0.57	0.88	0.54	0.32	0.87	0.62	0.72	1.05	0.83	0.54
Control Delay	103.0	59.6	13.6	89.2	49.0	0.5	94.2	57.3	37.6	124.3	63.5	30.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.0	59.6	13.6	89.2	49.0	0.5	94.2	57.3	37.6	124.3	63.5	30.7
Queue Length 50th (ft)	167	408	67	251	295	0	198	297	359	~305	443	223
Queue Length 95th (ft)	m218	#649	92	#332	361	0	#275	338	494	#426	490	304
Internal Link Dist (ft)		610			881			1536			859	
Turn Bay Length (ft)	225		240	385			420		400	430		400
Base Capacity (vph)	520	1433	686	525	1635	1560	415	1661	693	456	1727	708
Starvation Cap Reductn	0	0	6	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.97	0.57	0.84	0.54	0.32	0.84	0.62	0.71	1.05	0.83	0.49

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 77 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 6: Biscayne Boulevard & NE 163rd Street

Ø1	Ø2 (R)	Ø3	Ø4
28.8 s	51.7 s	32.8 s	56.7 s
Ø5	Ø6 (R)	Ø7	Ø8
28.8 s	51.7 s	32.8 s	56.7 s

HCM 6th Signalized Intersection Summary
6: Biscayne Boulevard & NE 163rd Street

Existing 2021 (Weekday) - PM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	348	1044	446	539	1270	682	403	1324	613	418	1285	450
Future Volume (veh/h)	348	1044	446	539	1270	682	403	1324	613	418	1285	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1856	1870	1870	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	362	1088	465	561	1323	0	420	1379	639	435	1339	469
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	3	2	2	2	3	2	2	2	2	2
Cap, veh/h	406	1427	641	529	1608		462	1687	650	476	1706	604
Arrive On Green	0.23	0.56	0.56	0.15	0.31	0.00	0.13	0.26	0.26	0.14	0.27	0.27
Sat Flow, veh/h	3456	5106	1535	3456	5106	1585	3428	6434	1554	3456	6434	1578
Grp Volume(v), veh/h	362	1088	465	561	1323	0	420	1379	639	435	1339	469
Grp Sat Flow(s),veh/h/ln	1728	1702	1535	1728	1702	1585	1714	1609	1554	1728	1609	1578
Q Serve(g_s), s	17.2	27.8	46.9	26.0	40.7	0.0	20.5	34.2	44.6	21.1	32.8	44.4
Cycle Q Clear(g_c), s	17.2	27.8	46.9	26.0	40.7	0.0	20.5	34.2	44.6	21.1	32.8	44.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	406	1427	641	529	1608		462	1687	650	476	1706	604
V/C Ratio(X)	0.89	0.76	0.73	1.06	0.82		0.91	0.82	0.98	0.91	0.79	0.78
Avail Cap(c_a), veh/h	529	1427	641	529	1608		504	1687	650	508	1706	604
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.0	33.2	26.3	72.0	53.8	0.0	72.5	58.9	49.3	72.3	58.0	46.1
Incr Delay (d2), s/veh	10.5	1.7	2.7	56.5	3.5	0.0	19.4	4.5	31.5	20.2	3.7	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	13.6	18.0	22.6	24.6	0.0	15.4	20.5	41.5	15.9	19.6	26.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.5	34.8	29.0	128.5	57.3	0.0	91.8	63.4	80.8	92.5	61.7	55.5
LnGrp LOS	E	C	C	F	E		F	E	F	F	E	E
Approach Vol, veh/h		1915			1884	A		2438			2243	
Approach Delay, s/veh		40.9			78.5			72.9			66.4	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.7	52.3	26.8	61.2	30.2	51.8	32.8	55.2				
Change Period (Y+Rc), s	6.8	* 7.2	6.8	* 7.7	6.8	* 7.2	6.8	* 7.7				
Max Green Setting (Gmax), s	25.0	* 43	26.0	* 48	25.0	* 43	26.0	* 48				
Max Q Clear Time (g_c+I1), s	22.5	46.4	19.2	42.7	23.1	46.6	28.0	48.9				
Green Ext Time (p_c), s	0.4	0.0	0.7	2.9	0.3	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 65.2

HCM 6th LOS E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
6: Biscayne Boulevard & NE 163rd Street

Existing 2021 (Weekday) - PM Peak Hour

09/09/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	348	1044	446	539	1270	682	403	1324	613	418	1285	450
Future Volume (vph)	348	1044	446	539	1270	682	403	1324	613	418	1285	450
Lane Group Flow (vph)	363	1088	465	561	1323	710	420	1379	639	435	1339	469
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			Free			6			2
Detector Phase	3	8	1	7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0		5.0	7.0	5.0	5.0	7.0	5.0
Minimum Split (s)	11.8	55.2	11.8	11.8	55.2		11.8	49.2	11.8	11.8	49.2	11.8
Total Split (s)	32.8	55.2	31.8	32.8	55.2		31.8	50.2	32.8	31.8	50.2	32.8
Total Split (%)	19.3%	32.5%	18.7%	19.3%	32.5%		18.7%	29.5%	19.3%	18.7%	29.5%	19.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.9	2.0	2.0	2.9		2.0	2.4	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.7	6.8	6.8	7.7		6.8	7.2	6.8	6.8	7.2	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	None
v/c Ratio	0.78	0.81	0.69	1.07	0.92	0.46	0.87	0.79	0.90	0.89	0.77	0.68
Control Delay	99.3	47.2	17.4	124.6	70.6	1.0	89.9	62.0	53.5	92.0	61.0	36.2
Queue Delay	0.0	0.0	0.1	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.3	47.2	17.5	124.6	71.5	1.0	89.9	62.0	53.5	92.0	61.0	36.2
Queue Length 50th (ft)	221	231	109	~354	520	0	238	429	573	247	413	346
Queue Length 95th (ft)	m270	m342	m137	#479	#614	0	#318	476	#889	#334	459	468
Internal Link Dist (ft)		610			881			1536			859	
Turn Bay Length (ft)	225		240	385			420		400	430		400
Base Capacity (vph)	525	1420	685	525	1445	1559	500	1744	711	504	1748	713
Starvation Cap Reductn	0	0	9	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	27	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.77	0.69	1.07	0.93	0.46	0.84	0.79	0.90	0.86	0.77	0.66

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 77 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 6: Biscayne Boulevard & NE 163rd Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
31.8 s	50.2 s	32.8 s	55.2 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
31.8 s	50.2 s	32.8 s	55.2 s

Intersection													
Int Delay, s/veh	0.6												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗ ↑↑↑			↗ ↑↑↑					↗			↗
Traffic Vol, veh/h	21	40	1844	1	0	1447	27	0	0	0	0	0	28
Future Vol, veh/h	21	40	1844	1	0	1447	27	0	0	0	0	0	28
Conflicting Peds, #/hr	0	2	0	4	4	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	85	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	2	2	4	2	2	2	2	2	2	4
Mvmt Flow	22	42	1921	1	0	1507	28	0	0	0	0	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1121	1537	0	0	-	-	0	-	-	965	-	770
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.68	5.38	-	-	-	-	-	-	-	7.14	-	7.18
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.34	3.14	-	-	-	-	-	-	-	3.92	-	3.94
Pot Cap-1 Maneuver	369	209	-	-	0	-	0	0	0	219	0	291
Stage 1	-	-	-	-	0	-	0	0	0	-	0	-
Stage 2	-	-	-	-	0	-	0	0	0	-	0	-
Platoon blocked, %			-	-	-	-						
Mov Cap-1 Maneuver	240	240	-	-	-	-	-	-	-	218	-	290
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	0	18.8
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	-	240	-	-	-	-	290
HCM Lane V/C Ratio	-	0.265	-	-	-	-	0.101
HCM Control Delay (s)	0	25.3	-	-	-	-	18.8
HCM Lane LOS	A	D	-	-	-	-	C
HCM 95th %tile Q(veh)	-	1	-	-	-	-	0.3

Intersection													
Int Delay, s/veh	4												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↵ ↶ ↷ ↵				↶ ↷ ↵				↶ ↵			↶ ↵
Traffic Vol, veh/h	30	78	1724	11	0	1941	65	0	0	10	0	0	67
Future Vol, veh/h	30	78	1724	11	0	1941	65	0	0	10	0	0	67
Conflicting Peds, #/hr	0	2	0	5	5	0	2	5	0	5	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	85	-	-	-	-	-	-	-	0	-	-	0
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	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	80	1777	11	0	2001	67	0	0	10	0	0	69
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	1510	2070	0	0	-	-	0	-	-	904	-	-	1038
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.64	5.34	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.32	3.12	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	228	115	-	-	0	-	-	0	0	240	0	0	196
Stage 1	-	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	123	123	-	-	-	-	-	-	-	238	-	-	195
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	7.3			0			20.8			33.3			
HCM LOS							C			D			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1						
Capacity (veh/h)	238	123	-	-	-	-	195						
HCM Lane V/C Ratio	0.043	0.905	-	-	-	-	0.354						
HCM Control Delay (s)	20.8	124.3	-	-	-	-	33.3						
HCM Lane LOS	C	F	-	-	-	-	D						
HCM 95th %tile Q(veh)	0.1	5.8	-	-	-	-	1.5						

HCM Signalized Intersection Capacity Analysis

8: NE 19th Avenue & NE 167th St

Existing 2021 (Weekday) - AM Peak Hour

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	28	16	87	63	9	43	14	81	524	55	26	811
Future Volume (vph)	28	16	87	63	9	43	14	81	524	55	26	811
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.98		0.99			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00			1.00	1.00		0.99	1.00
Frt	1.00	1.00	0.85		0.95			1.00	0.99		1.00	0.99
Flt Protected	0.95	1.00	1.00		0.97			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1729	1863	1557		1671			1769	3410		1726	3506
Flt Permitted	0.66	1.00	1.00		0.82			0.27	1.00		0.43	1.00
Satd. Flow (perm)	1207	1863	1557		1408			495	3410		775	3506
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	16	90	65	9	44	14	84	540	57	27	836
RTOR Reduction (vph)	0	0	77	0	25	0	0	0	4	0	0	2
Lane Group Flow (vph)	29	16	13	0	93	0	0	98	593	0	27	880
Confl. Peds. (#/hr)	5		5	5		5		4		6	6	
Confl. Bikes (#/hr)										3		
Heavy Vehicles (%)	4%	2%	2%	2%	25%	3%	2%	2%	4%	4%	4%	2%
Turn Type	Perm	NA	Perm	Perm	NA		custom	pm+pt	NA		Perm	NA
Protected Phases		8			4			1	6			2
Permitted Phases	8		8	4			1	6			2	
Actuated Green, G (s)	15.3	15.3	15.3		15.3			82.7	82.7		70.6	70.6
Effective Green, g (s)	15.3	15.3	15.3		15.3			82.7	82.7		70.6	70.6
Actuated g/C Ratio	0.14	0.14	0.14		0.14			0.75	0.75		0.64	0.64
Clearance Time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5		2.5			2.0	1.0		1.0	1.0
Lane Grp Cap (vph)	167	259	216		195			446	2563		497	2250
v/s Ratio Prot		0.01						0.01	c0.17			c0.25
v/s Ratio Perm	0.02		0.01		c0.07			0.15			0.03	
v/c Ratio	0.17	0.06	0.06		0.48			0.22	0.23		0.05	0.39
Uniform Delay, d1	41.8	41.1	41.1		43.7			4.6	4.1		7.3	9.4
Progression Factor	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.1		1.3			0.1	0.2		0.2	0.5
Delay (s)	42.1	41.2	41.2		45.0			4.7	4.3		7.5	9.9
Level of Service	D	D	D		D			A	A		A	A
Approach Delay (s)		41.4			45.0				4.4			9.9
Approach LOS		D			D				A			A
Intersection Summary												
HCM 2000 Control Delay			12.3									
HCM 2000 Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			110.0						17.7			
Intersection Capacity Utilization			68.3%									
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	46
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
8: NE 19th Avenue & NE 167th St

Existing 2021 (Weekday) - AM Peak Hour

09/10/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	16	87	63	9	14	81	524	26	811
Future Volume (vph)	28	16	87	63	9	14	81	524	26	811
Lane Group Flow (vph)	29	16	90	0	118	0	98	597	27	882
Turn Type	Perm	NA	Perm	Perm	NA	custom	pm+pt	NA	Perm	NA
Protected Phases		8			4		1	6		2
Permitted Phases	8		8	4		1	6		2	
Detector Phase	8	8	8	4	4	1	1	6	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	5.0	7.0	7.0	7.0
Minimum Split (s)	40.0	40.0	40.0	40.0	40.0	10.7	10.7	32.0	32.0	32.0
Total Split (s)	42.0	42.0	42.0	42.0	42.0	15.0	15.0	68.0	53.0	53.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	38.2%	13.6%	13.6%	61.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0		5.7	6.0	6.0	6.0
Lead/Lag						Lead	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.17	0.06	0.31		0.54		0.22	0.23	0.05	0.39
Control Delay	39.3	35.8	9.6		39.4		6.6	5.5	12.0	12.0
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Delay	39.3	35.8	9.6		39.4		6.6	5.5	12.0	12.0
Queue Length 50th (ft)	19	10	0		61		13	45	6	125
Queue Length 95th (ft)	37	24	36		94		53	135	28	297
Internal Link Dist (ft)		601			593			454		280
Turn Bay Length (ft)	80		80						25	
Base Capacity (vph)	394	609	570		480		481	2568	496	2252
Starvation Cap Reductn	0	0	0		0		0	0	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.07	0.03	0.16		0.25		0.20	0.23	0.05	0.39

Intersection Summary

Cycle Length: 110

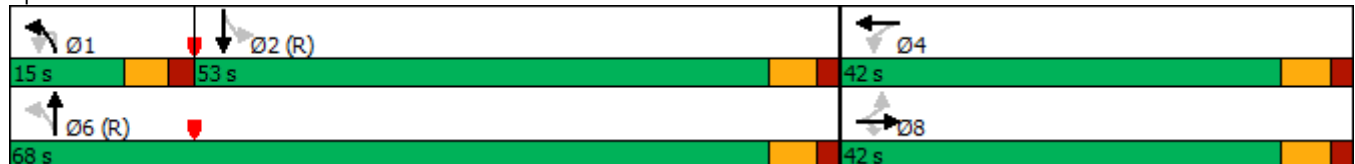
Actuated Cycle Length: 110

Offset: 28 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 8: NE 19th Avenue & NE 167th St



HCM Signalized Intersection Capacity Analysis

8: NE 19th Avenue & NE 167th St

Existing 2021 (Weekday) - PM Peak Hour

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	21	11	67	67	12	52	9	43	760	57	42	813
Future Volume (vph)	21	11	67	67	12	52	9	43	760	57	42	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.97		0.99			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		0.95			1.00	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.98			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1764	1863	1535		1655			1769	3494		1745	3523
Flt Permitted	0.63	1.00	1.00		0.83			0.27	1.00		0.33	1.00
Satd. Flow (perm)	1172	1863	1535		1414			503	3494		610	3523
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)	22	11	70	70	12	54	9	45	792	59	44	847
RTOR Reduction (vph)	0	0	58	0	22	0	0	0	3	0	0	1
Lane Group Flow (vph)	22	11	12	0	115	0	0	54	848	0	44	868
Confl. Peds. (#/hr)	4		18	18		4		5		6	6	
Confl. Bikes (#/hr)						2				3		
Heavy Vehicles (%)	2%	2%	2%	5%	9%	2%	2%	2%	2%	2%	3%	2%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	pm+pt	NA		Perm	NA
Protected Phases		8			4		1	1	6			2
Permitted Phases	8		8	4			6	6			2	
Actuated Green, G (s)	20.2	20.2	20.2		20.2			87.8	87.8		77.3	77.3
Effective Green, g (s)	20.2	20.2	20.2		20.2			87.8	87.8		77.3	77.3
Actuated g/C Ratio	0.17	0.17	0.17		0.17			0.73	0.73		0.64	0.64
Clearance Time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5		2.5			2.0	1.0		1.0	1.0
Lane Grp Cap (vph)	197	313	258		238			418	2556		392	2269
v/s Ratio Prot		0.01						0.01	c0.24			c0.25
v/s Ratio Perm	0.02		0.01		c0.08			0.09			0.07	
v/c Ratio	0.11	0.04	0.05		0.48			0.13	0.33		0.11	0.38
Uniform Delay, d1	42.3	41.7	41.8		45.2			5.4	5.7		8.2	10.1
Progression Factor	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.0	0.1		1.1			0.1	0.3		0.6	0.5
Delay (s)	42.5	41.8	41.9		46.3			5.4	6.1		8.8	10.6
Level of Service	D	D	D		D			A	A		A	B
Approach Delay (s)		42.0			46.3				6.0			10.5
Approach LOS		D			D				A			B
Intersection Summary												
HCM 2000 Control Delay			12.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			73.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	21
Future Volume (vph)	21
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
8: NE 19th Avenue & NE 167th St

Existing 2021 (Weekday) - PM Peak Hour

09/10/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	21	11	67	67	12	9	43	760	42	813
Future Volume (vph)	21	11	67	67	12	9	43	760	42	813
Lane Group Flow (vph)	22	11	70	0	137	0	54	851	44	869
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	pm+pt	NA	Perm	NA
Protected Phases		8			4	1	1	6		2
Permitted Phases	8		8	4		6	6		2	
Detector Phase	8	8	8	4	4	1	1	6	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	5.0	7.0	7.0	7.0
Minimum Split (s)	40.0	40.0	40.0	40.0	40.0	10.7	10.7	32.0	32.0	32.0
Total Split (s)	40.0	40.0	40.0	40.0	40.0	15.0	15.0	80.0	65.0	65.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	12.5%	12.5%	66.7%	54.2%	54.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0		5.7	6.0	6.0	6.0
Lead/Lag						Lead	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.11	0.04	0.22		0.53		0.13	0.33	0.11	0.38
Control Delay	37.3	34.3	7.4		40.8		7.6	7.6	13.8	12.8
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.4	0.0	0.0
Total Delay	37.3	34.3	7.4		40.8		7.6	8.0	13.8	12.8
Queue Length 50th (ft)	16	8	0		83		8	82	10	131
Queue Length 95th (ft)	34	21	30		124		32	202	41	278
Internal Link Dist (ft)		601			593			454		280
Turn Bay Length (ft)	80		80						25	
Base Capacity (vph)	332	527	491		420		466	2560	398	2302
Starvation Cap Reductn	0	0	0		0		0	1081	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.07	0.02	0.14		0.33		0.12	0.58	0.11	0.38

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 8: NE 19th Avenue & NE 167th St



HCM 6th TWSC
9: Existing Alleyway & NE 165th St

Existing 2021 (Weekday) - AM Peak Hour

09/09/2021

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	0	0	49	1	0
Future Vol, veh/h	22	0	0	49	1	0
Conflicting Peds, #/hr	0	8	8	0	8	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	0	0	58	1	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	34	0	100	42
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1578	-	899	1029
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1566	-	885	1013
Mov Cap-2 Maneuver	-	-	-	-	885	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	949	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.1	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	885	-	-	1566	-	
HCM Lane V/C Ratio	0.001	-	-	-	-	
HCM Control Delay (s)	9.1	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 6th TWSC
9: Existing Alleyway & NE 165th St

Existing 2021 (Weekday) - PM Peak Hour

09/09/2021

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	2	0	81	2	0
Future Vol, veh/h	37	2	0	81	2	0
Conflicting Peds, #/hr	0	2	2	0	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	3	0	113	3	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	56
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1549
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1546
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	817	-	-	1546	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	40	7	2
Future Vol, veh/h	0	1	0	40	7	2
Conflicting Peds, #/hr	0	1	3	0	0	3
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	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	5	2	2
Mvmt Flow	0	1	0	55	10	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	70	16	16	0	-	0
Stage 1	15	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	934	1063	1602	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	928	1059	1597	-	-	-
Mov Cap-2 Maneuver	928	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1597	-	1059	-	-	
HCM Lane V/C Ratio	-	-	0.001	-	-	
HCM Control Delay (s)	0	-	8.4	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	3	67	17	0
Future Vol, veh/h	0	2	3	67	17	0
Conflicting Peds, #/hr	8	9	7	0	0	7
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	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	3	78	20	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	119	36	27	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	877	1037	1587	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	932	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	863	1021	1576	-	-	-
Mov Cap-2 Maneuver	863	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	0.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1576	-	1021	-	-	
HCM Lane V/C Ratio	0.002	-	0.002	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

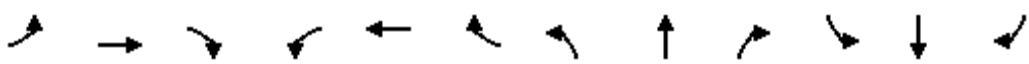
Future without Project Conditions

HCM 6th Signalized Intersection Summary

1: NE 163rd Street & NE 19th Avenue

Future 2023 Without Project - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	1550	0	0	1298	243	0	0	0	525	9	383
Future Volume (veh/h)	375	1550	0	0	1298	243	0	0	0	525	9	383
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1841	1841	1870	0	1841	1870				1870	1870	1870
Adj Flow Rate, veh/h	383	1582	0	0	1324	248				542	0	391
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	4	4	2	0	4	2				2	2	2
Cap, veh/h	401	3576	0	0	2222	416				658	0	509
Arrive On Green	0.28	1.00	0.00	0.00	0.52	0.52				0.18	0.00	0.18
Sat Flow, veh/h	1753	5191	0	0	4399	793				3563	0	1550
Grp Volume(v), veh/h	383	1582	0	0	1048	524				542	0	391
Grp Sat Flow(s), veh/h/ln	1753	1675	0	0	1675	1676				1781	0	1550
Q Serve(g_s), s	15.9	0.0	0.0	0.0	28.1	28.1				19.0	0.0	24.0
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	28.1	28.1				19.0	0.0	24.0
Prop In Lane	1.00		0.00	0.00		0.47				1.00		1.00
Lane Grp Cap(c), veh/h	401	3576	0	0	1758	880				658	0	509
V/C Ratio(X)	0.96	0.44	0.00	0.00	0.60	0.60				0.82	0.00	0.77
Avail Cap(c_a), veh/h	478	3576	0	0	1758	880				658	0	509
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	1.00				0.95	0.00	0.95
Uniform Delay (d), s/veh	20.7	0.0	0.0	0.0	21.4	21.4				51.0	0.0	39.6
Incr Delay (d2), s/veh	21.9	0.3	0.0	0.0	1.5	3.0				7.8	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	0.2	0.0	0.0	16.5	17.0				14.0	0.0	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.3	0.0	0.0	22.8	24.3				58.8	0.0	46.0
LnGrp LOS	D	A	A	A	C	C				E	A	D
Approach Vol, veh/h	1965				1572				933			
Approach Delay, s/veh	8.6				23.3				53.4			
Approach LOS	A				C				D			
Timer - Assigned Phs	1	2					6	8				
Phs Duration (G+Y+Rc), s	24.3	74.7					99.0	31.0				
Change Period (Y+Rc), s	6.0	6.5					6.5	7.0				
Max Green Setting (Gmax), s	24.0	62.5					92.5	24.0				
Max Q Clear Time (g_c+I1), s	17.9	30.1					2.0	26.0				
Green Ext Time (p_c), s	0.3	4.6					5.4	0.0				

Intersection Summary

HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

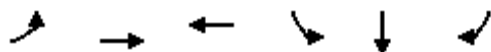
Notes

User approved volume balancing among the lanes for turning movement.

Timings
1: NE 163rd Street & NE 19th Avenue

Future 2023 Without Project - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	375	1550	1298	525	9	383
Future Volume (vph)	375	1550	1298	525	9	383
Lane Group Flow (vph)	383	1582	1572	273	272	391
Turn Type	pm+pt	NA	NA	Split	NA	pm+ov
Protected Phases	1	6	2	8	8	1
Permitted Phases	6					8
Detector Phase	1	6	2	8	8	1
Switch Phase						
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	13.5	44.5	30.0	30.0	11.0
Total Split (s)	30.0	99.0	69.0	31.0	31.0	30.0
Total Split (%)	23.1%	76.2%	53.1%	23.8%	23.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.5	2.5	3.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.5	6.5	7.0	7.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Max	C-Max	None	None	None
v/c Ratio	0.97	0.44	0.65	0.92	0.91	0.66
Control Delay	88.6	2.0	25.8	87.0	85.8	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.6	2.0	25.8	87.0	85.8	34.0
Queue Length 50th (ft)	225	32	353	237	236	229
Queue Length 95th (ft)	#460	42	407	#403	#402	334
Internal Link Dist (ft)		589	589		310	
Turn Bay Length (ft)	220					
Base Capacity (vph)	403	3584	2417	310	311	597
Starvation Cap Reductn	0	400	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.50	0.65	0.88	0.87	0.65

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 92 (71%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green

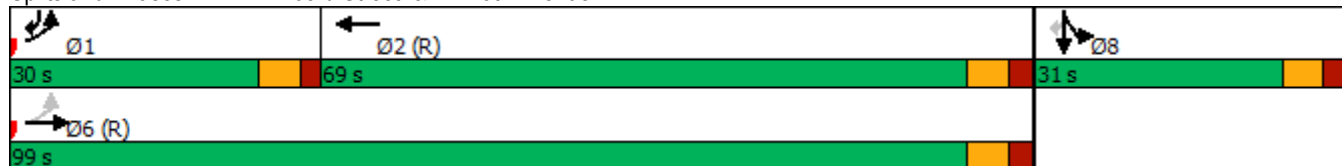
Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NE 163rd Street & NE 19th Avenue



HCM Signalized Intersection Capacity Analysis Future 2023 Without Project - PM Peak Hour

1: NE 163rd Street & NE 19th Avenue

09/10/2021

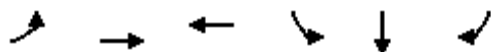
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	356	1576	2	0	1792	348	0	0	0	7	417	13
Future Volume (vph)	356	1576	2	0	1792	348	0	0	0	7	417	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5			6.5						7.0	7.0
Lane Util. Factor	1.00	0.91			0.91						0.95	0.95
Frpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Frt	1.00	1.00			0.98						1.00	1.00
Flt Protected	0.95	1.00			1.00						0.95	0.96
Satd. Flow (prot)	1752	5084			4947						1681	1690
Flt Permitted	0.05	1.00			1.00						0.95	0.96
Satd. Flow (perm)	85	5084			4947						1681	1690
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	363	1608	2	0	1829	355	0	0	0	7	426	13
RTOR Reduction (vph)	0	0	0	0	19	0	0	0	0	0	0	0
Lane Group Flow (vph)	363	1610	0	0	2165	0	0	0	0	0	224	222
Confl. Peds. (#/hr)	4		10	10		4	2		2		2	
Confl. Bikes (#/hr)			1			4						
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA			NA					Split	Split	NA
Protected Phases	1	6			2					8	8	8
Permitted Phases	6											
Actuated Green, G (s)	114.4	114.4			80.4						22.1	22.1
Effective Green, g (s)	114.4	114.4			80.4						22.1	22.1
Actuated g/C Ratio	0.76	0.76			0.54						0.15	0.15
Clearance Time (s)	6.0	6.5			6.5						7.0	7.0
Vehicle Extension (s)	2.0	1.0			1.0						2.5	2.5
Lane Grp Cap (vph)	376	3877			2651						247	248
v/s Ratio Prot	c0.18	0.32			0.44						c0.13	0.13
v/s Ratio Perm	c0.55											
v/c Ratio	0.97	0.42			0.82						0.91	0.90
Uniform Delay, d1	51.7	6.2			28.7						62.9	62.8
Progression Factor	1.00	1.00			1.00						1.00	1.00
Incremental Delay, d2	36.8	0.3			2.9						33.2	30.8
Delay (s)	88.5	6.5			31.6						96.2	93.6
Level of Service	F	A			C						F	F
Approach Delay (s)		21.6			31.6			0.0				73.1
Approach LOS		C			C			A				E
Intersection Summary												
HCM 2000 Control Delay			34.7		HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)			19.5				
Intersection Capacity Utilization			97.2%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	391
Future Volume (vph)	391
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1556
Flt Permitted	1.00
Satd. Flow (perm)	1556
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	399
RTOR Reduction (vph)	17
Lane Group Flow (vph)	382
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	3
Heavy Vehicles (%)	3%
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	8
Actuated Green, G (s)	50.1
Effective Green, g (s)	50.1
Actuated g/C Ratio	0.33
Clearance Time (s)	6.0
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	519
v/s Ratio Prot	0.14
v/s Ratio Perm	0.11
v/c Ratio	0.74
Uniform Delay, d1	44.1
Progression Factor	1.00
Incremental Delay, d2	4.7
Delay (s)	48.8
Level of Service	D
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
1: NE 163rd Street & NE 19th Avenue

Future 2023 Without Project - PM Peak Hour

09/10/2021



Lane Group	EBL	EBT	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	356	1576	1792	417	13	391
Future Volume (vph)	356	1576	1792	417	13	391
Lane Group Flow (vph)	363	1610	2184	224	222	399
Turn Type	pm+pt	NA	NA	Split	NA	pm+ov
Protected Phases	1	6	2	8	8	1
Permitted Phases	6					8
Detector Phase	1	6	2	8	8	1
Switch Phase						
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	13.5	44.5	30.0	30.0	11.0
Total Split (s)	35.0	120.0	85.0	30.0	30.0	35.0
Total Split (%)	23.3%	80.0%	56.7%	20.0%	20.0%	23.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.5	2.5	3.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.5	6.5	7.0	7.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Max	C-Max	None	None	None
v/c Ratio	0.97	0.42	0.82	0.91	0.89	0.73
Control Delay	85.7	6.6	31.8	100.0	97.3	45.7
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.2
Total Delay	85.7	7.0	31.8	100.0	97.3	45.9
Queue Length 50th (ft)	303	182	638	228	226	295
Queue Length 95th (ft)	#503	205	705	#388	#381	415
Internal Link Dist (ft)		589	589		310	
Turn Bay Length (ft)	220					
Base Capacity (vph)	387	3878	2670	257	259	556
Starvation Cap Reductn	0	1462	0	0	0	10
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.67	0.82	0.87	0.86	0.73

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 25 (17%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green

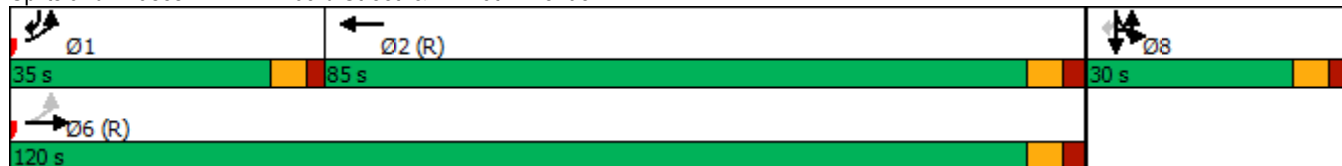
Natural Cycle: 110

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NE 163rd Street & NE 19th Avenue



HCM 6th Signalized Intersection Summary
2: NE 19th Avenue & NE 164th Street

Future 2023 Without Project - AM Peak Hour

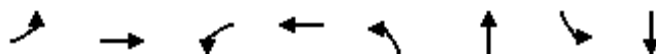
09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			 	
Traffic Volume (veh/h)	77	64	28	5	44	22	41	577	7	58	877	197
Future Volume (veh/h)	77	64	28	5	44	22	41	577	7	58	877	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1796	1870	1870	1841	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	69	30	5	47	24	44	620	8	62	943	212
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	8	2	2	7	2	2	4	2	2	2	2
Cap, veh/h	233	170	74	189	108	55	195	2828	37	578	2917	653
Arrive On Green	0.05	0.15	0.15	0.01	0.10	0.10	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	1781	1166	507	1781	1105	564	225	4025	53	797	4151	930
Grp Volume(v), veh/h	83	0	99	5	0	71	190	230	252	62	773	382
Grp Sat Flow(s),veh/h/ln	1781	0	1674	1781	0	1669	1114	1524	1664	797	1702	1676
Q Serve(g_s), s	4.9	0.0	6.4	0.3	0.0	4.8	0.8	6.4	6.4	3.5	10.5	10.5
Cycle Q Clear(g_c), s	4.9	0.0	6.4	0.3	0.0	4.8	11.3	6.4	6.4	9.9	10.5	10.5
Prop In Lane	1.00		0.30	1.00		0.34	0.23		0.03	1.00		0.55
Lane Grp Cap(c), veh/h	233	0	244	189	0	164	820	1071	1169	578	2392	1178
V/C Ratio(X)	0.36	0.00	0.41	0.03	0.00	0.43	0.23	0.22	0.22	0.11	0.32	0.32
Avail Cap(c_a), veh/h	546	0	446	587	0	445	820	1071	1169	578	2392	1178
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.17	0.17	0.17	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	0.0	46.5	48.3	0.0	51.0	6.0	6.2	6.3	8.0	6.9	6.9
Incr Delay (d2), s/veh	0.3	0.0	1.3	0.0	0.0	2.2	0.1	0.1	0.1	0.4	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.0	5.0	0.2	0.0	3.8	2.3	2.9	3.1	1.2	6.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	0.0	47.8	48.3	0.0	53.2	6.1	6.3	6.3	8.4	7.2	7.6
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		182			76			672			1217	
Approach Delay, s/veh		46.1			52.9			6.3			7.4	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		90.3	11.9	17.8		90.3	6.2	23.5				
Change Period (Y+Rc), s		6.0	5.4	6.0		6.0	5.4	6.0				
Max Green Setting (Gmax), s		43.0	27.6	32.0		43.0	27.6	32.0				
Max Q Clear Time (g_c+I1), s		12.5	6.9	6.8		13.3	2.3	8.4				
Green Ext Time (p_c), s		3.6	0.1	0.4		1.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			11.9									
HCM 6th LOS			B									

Timings
2: NE 19th Avenue & NE 164th Street

Future 2023 Without Project - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	77	64	5	44	41	577	58	877
Future Volume (vph)	77	64	5	44	41	577	58	877
Lane Group Flow (vph)	83	99	5	71	0	672	62	1155
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	3	8	7	4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	3	8	7	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.4	38.0	10.4	38.0	35.0	35.0	35.0	35.0
Total Split (s)	33.0	38.0	33.0	38.0	49.0	49.0	49.0	49.0
Total Split (%)	27.5%	31.7%	27.5%	31.7%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.4	4.0	3.4	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.4	6.0	5.4	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	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.30	0.29	0.02	0.34		0.25	0.13	0.34
Control Delay	36.9	32.3	28.4	37.0		9.4	11.2	9.6
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.4
Total Delay	36.9	32.3	28.4	37.0		9.4	11.2	10.0
Queue Length 50th (ft)	54	53	3	37		61	14	110
Queue Length 95th (ft)	74	89	11	68		141	55	238
Internal Link Dist (ft)		580		264		310		300
Turn Bay Length (ft)	50		55				75	
Base Capacity (vph)	443	482	453	469		2715	487	3393
Starvation Cap Reductn	0	0	0	0		0	0	1526
Spillback Cap Reductn	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0		0	0	0
Reduced v/c Ratio	0.19	0.21	0.01	0.15		0.25	0.13	0.62

Intersection Summary

Cycle Length: 120

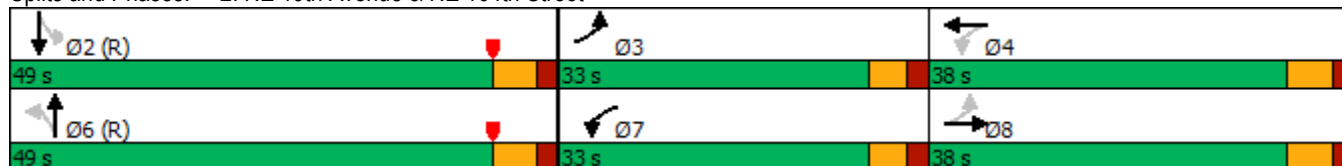
Actuated Cycle Length: 120

Offset: 28 (23%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 19th Avenue & NE 164th Street



HCM Signalized Intersection Capacity Analysis Future 2023 Without Project - PM Peak Hour

2: NE 19th Avenue & NE 164th Street

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations									  			  
Traffic Volume (vph)	183	94	34	28	94	119	12	20	655	14	55	758
Future Volume (vph)	183	94	34	28	94	119	12	20	655	14	55	758
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		5.4	6.0				6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00				0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00		1.00	0.99				1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.99	1.00
Frt	1.00	0.96		1.00	0.92				1.00		1.00	0.97
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1770	1782		1769	1665				5049		1760	4885
Flt Permitted	0.29	1.00		0.67	1.00				0.84		0.33	1.00
Satd. Flow (perm)	547	1782		1244	1665				4264		612	4885
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	102	37	30	102	129	13	22	712	15	60	824
RTOR Reduction (vph)	0	11	0	0	43	0	0	0	1	0	0	17
Lane Group Flow (vph)	199	128	0	30	188	0	0	0	761	0	60	982
Confl. Peds. (#/hr)			1	1				4		8	8	
Confl. Bikes (#/hr)			1			1				1		
Heavy Vehicles (%)	2%	2%	2%	2%	6%	2%	2%	2%	2%	8%	2%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	Perm	NA		Perm	NA
Protected Phases	3	8		7	4				6			2
Permitted Phases	8			4			6	6			2	
Actuated Green, G (s)	41.9	32.6		25.2	21.3				66.1		66.1	66.1
Effective Green, g (s)	41.9	32.6		25.2	21.3				66.1		66.1	66.1
Actuated g/C Ratio	0.35	0.27		0.21	0.18				0.55		0.55	0.55
Clearance Time (s)	5.4	6.0		5.4	6.0				6.0		6.0	6.0
Vehicle Extension (s)	2.0	3.5		2.0	3.5				1.0		1.0	1.0
Lane Grp Cap (vph)	345	484		278	295				2348		337	2690
v/s Ratio Prot	c0.07	0.07		0.00	0.11							c0.20
v/s Ratio Perm	c0.13			0.02					0.18		0.10	
v/c Ratio	0.58	0.26		0.11	0.64				0.32		0.18	0.37
Uniform Delay, d1	29.6	34.3		38.1	45.8				14.7		13.4	15.2
Progression Factor	1.00	1.00		1.00	1.00				1.00		1.00	1.00
Incremental Delay, d2	1.5	0.3		0.1	4.7				0.4		1.2	0.4
Delay (s)	31.1	34.6		38.2	50.5				15.1		14.6	15.5
Level of Service	C	C		D	D				B		B	B
Approach Delay (s)		32.5			49.0				15.1			15.5
Approach LOS		C			D				B			B
Intersection Summary												
HCM 2000 Control Delay			21.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			17.4			
Intersection Capacity Utilization			82.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Approach Configurations	
Traffic Volume (vph)	161
Future Volume (vph)	161
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	175
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	4
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
2: NE 19th Avenue & NE 164th Street

Future 2023 Without Project - PM Peak Hour

09/10/2021

									
Lane Group	EBL	EBT	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations							  		  
Traffic Volume (vph)	183	94	28	94	12	20	655	55	758
Future Volume (vph)	183	94	28	94	12	20	655	55	758
Lane Group Flow (vph)	199	139	30	231	0	0	762	60	999
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	3	8	7	4			6		2
Permitted Phases	8		4		6	6		2	
Detector Phase	3	8	7	4	6	6	6	2	2
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.4	38.0	10.4	38.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	43.0	38.0	43.0	38.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	35.8%	31.7%	35.8%	31.7%	32.5%	32.5%	32.5%	32.5%	32.5%
Yellow Time (s)	3.4	4.0	3.4	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.4	6.0	5.4	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	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.59	0.28	0.10	0.75			0.31	0.17	0.36
Control Delay	35.5	31.3	25.0	51.6			15.3	17.1	15.0
Queue Delay	0.0	0.0	0.0	0.0			0.0	0.0	0.5
Total Delay	35.5	31.3	25.0	51.6			15.3	17.1	15.5
Queue Length 50th (ft)	115	79	16	134			108	21	140
Queue Length 95th (ft)	150	121	32	208			170	58	215
Internal Link Dist (ft)		580		264			310		300
Turn Bay Length (ft)	50		55					75	
Base Capacity (vph)	578	519	608	482			2430	348	2798
Starvation Cap Reductn	0	0	0	0			0	0	1198
Spillback Cap Reductn	0	0	0	0			0	0	0
Storage Cap Reductn	0	0	0	0			0	0	0
Reduced v/c Ratio	0.34	0.27	0.05	0.48			0.31	0.17	0.62

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 31 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 19th Avenue & NE 164th Street



Intersection

Intersection Delay, s/veh 8.2

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	97	21	24	58	7	16	26	28	4	5	0
Future Vol, veh/h	2	97	21	24	58	7	16	26	28	4	5	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	6	2	5	4	14	2	4	8	2	2	2
Mvmt Flow	2	113	24	28	67	8	19	30	33	5	6	0
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.5	8.2	7.8	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	23%	100%	0%	100%	0%	44%
Vol Thru, %	37%	0%	82%	0%	89%	56%
Vol Right, %	40%	0%	18%	0%	11%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	2	118	24	65	9
LT Vol	16	2	0	24	0	4
Through Vol	26	0	97	0	58	5
RT Vol	28	0	21	0	7	0
Lane Flow Rate	81	2	137	28	76	10
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.098	0.003	0.179	0.041	0.101	0.014
Departure Headway (Hd)	4.344	5.25	4.692	5.319	4.825	4.709
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	829	674	755	665	748	763
Service Time	2.348	3.045	2.487	3.119	2.525	2.717
HCM Lane V/C Ratio	0.098	0.003	0.181	0.042	0.102	0.013
HCM Control Delay	7.8	8.1	8.5	8.4	8.1	7.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0	0.6	0.1	0.3	0

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	133	28	35	136	10	48	57	29	10	6	5
Future Vol, veh/h	4	133	28	35	136	10	48	57	29	10	6	5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	3	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	5	162	34	43	166	12	59	70	35	12	7	6
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.9	9.5	9.4	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	100%	0%	100%	0%	48%
Vol Thru, %	43%	0%	83%	0%	93%	29%
Vol Right, %	22%	0%	17%	0%	7%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	4	161	35	146	21
LT Vol	48	4	0	35	0	10
Through Vol	57	0	133	0	136	6
RT Vol	29	0	28	0	10	5
Lane Flow Rate	163	5	196	43	178	26
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.225	0.008	0.28	0.068	0.256	0.037
Departure Headway (Hd)	4.948	5.737	5.128	5.708	5.173	5.163
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	722	622	697	626	691	688
Service Time	2.998	3.491	2.881	3.461	2.926	3.233
HCM Lane V/C Ratio	0.226	0.008	0.281	0.069	0.258	0.038
HCM Control Delay	9.4	8.5	9.9	8.9	9.7	8.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.9	0	1.1	0.2	1	0.1

HCM 6th Signalized Intersection Summary 4: NE 22nd Avenue & NE 164th Street

Future 2023 Without Project - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	2	118	4	2	3	49	547	7	6	582	74
Future Volume (veh/h)	81	2	118	4	2	3	49	547	7	6	582	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1841	1870	1159	1411	1796	1870	1055	1870	1870	1870
Adj Flow Rate, veh/h	83	2	120	4	2	3	50	558	7	6	594	76
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	50	4	2	50	33	7	2	57	2	2	2
Cap, veh/h	323	3	156	103	37	27	479	2292	29	537	1572	201
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.64	0.64	0.50	0.50	0.50
Sat Flow, veh/h	1410	16	951	106	226	166	1711	3594	45	841	3165	404
Grp Volume(v), veh/h	83	0	122	9	0	0	50	276	289	6	333	337
Grp Sat Flow(s),veh/h/ln	1410	0	967	498	0	0	1711	1777	1862	841	1777	1792
Q Serve(g_s), s	0.0	0.0	7.3	0.0	0.0	0.0	0.8	4.0	4.0	0.2	7.0	7.0
Cycle Q Clear(g_c), s	3.8	0.0	7.3	7.3	0.0	0.0	0.8	4.0	4.0	0.2	7.0	7.0
Prop In Lane	1.00		0.98	0.44		0.33	1.00		0.02	1.00		0.23
Lane Grp Cap(c), veh/h	323	0	158	167	0	0	479	1133	1188	537	882	890
V/C Ratio(X)	0.26	0.00	0.77	0.05	0.00	0.00	0.10	0.24	0.24	0.01	0.38	0.38
Avail Cap(c_a), veh/h	629	0	368	364	0	0	577	1133	1188	537	882	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	24.2	21.5	0.0	0.0	6.3	4.7	4.7	7.7	9.4	9.4
Incr Delay (d2), s/veh	0.3	0.0	5.8	0.1	0.0	0.0	0.0	0.5	0.5	0.0	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	3.3	0.2	0.0	0.0	0.4	2.2	2.3	0.1	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	0.0	30.0	21.6	0.0	0.0	6.3	5.2	5.2	7.8	10.7	10.7
LnGrp LOS	C	A	C	C	A	A	A	A	A	A	B	B
Approach Vol, veh/h	205			9			615			676		
Approach Delay, s/veh	27.2			21.6			5.3			10.6		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	8.5	36.0	15.9			44.5	15.9					
Change Period (Y+Rc), s	* 5.7	6.0	6.0			6.0	6.0					
Max Green Setting (Gmax), s	* 6.3	30.0	23.0			30.0	23.0					
Max Q Clear Time (g_c+I1), s	2.8	9.0	9.3			6.0	9.3					
Green Ext Time (p_c), s	0.0	1.5	0.0			1.2	0.6					

Intersection Summary

HCM 6th Ctrl Delay 10.8

HCM 6th LOS B

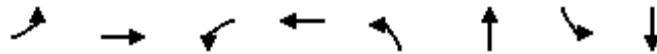
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
4: NE 22nd Avenue & NE 164th Street

Future 2023 Without Project - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	81	2	4	2	49	547	6	582
Future Volume (vph)	81	2	4	2	49	547	6	582
Lane Group Flow (vph)	83	122	0	9	50	565	6	670
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8		4	1	6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	2	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	29.0	29.0	10.7	30.0	30.0	30.0
Total Split (s)	29.0	29.0	29.0	29.0	12.0	36.0	36.0	36.0
Total Split (%)	37.7%	37.7%	37.7%	37.7%	15.6%	46.8%	46.8%	46.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	5.7	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	Max
v/c Ratio	0.34	0.34		0.04	0.10	0.23	0.01	0.32
Control Delay	26.7	7.9		18.3	6.1	5.6	12.2	10.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	7.9		18.3	6.1	5.6	12.2	10.7
Queue Length 50th (ft)	29	1		2	5	35	1	73
Queue Length 95th (ft)	63	36		12	25	100	9	167
Internal Link Dist (ft)		1246		358		315		202
Turn Bay Length (ft)	75				105		75	
Base Capacity (vph)	537	658		471	516	2583	487	2089
Starvation Cap Reductn	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0
Reduced v/c Ratio	0.15	0.19		0.02	0.10	0.22	0.01	0.32

Intersection Summary

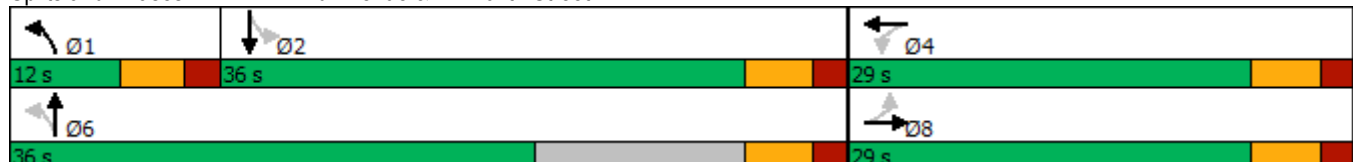
Cycle Length: 77

Actuated Cycle Length: 61.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 4: NE 22nd Avenue & NE 164th Street



HCM 6th Signalized Intersection Summary 4: NE 22nd Avenue & NE 164th Street

Future 2023 Without Project - PM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	1	101	7	1	15	86	624	11	5	653	117
Future Volume (veh/h)	86	1	101	7	1	15	86	624	11	5	653	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.99	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1693	1870	1870	1826	1870	1752	1870	1870	1870
Adj Flow Rate, veh/h	88	1	103	7	1	15	88	637	11	5	666	119
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	3	14	2	2	5	2	10	2	2	2
Cap, veh/h	158	2	166	48	18	71	556	2931	51	635	2273	406
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.06	1.00	1.00	0.76	0.76	0.76
Sat Flow, veh/h	1384	15	1526	183	163	651	1739	3573	62	782	2999	535
Grp Volume(v), veh/h	88	0	104	23	0	0	88	317	331	5	394	391
Grp Sat Flow(s),veh/h/ln	1384	0	1541	997	0	0	1739	1777	1857	782	1777	1757
Q Serve(g_s), s	3.9	0.0	11.0	0.1	0.0	0.0	1.9	0.0	0.0	0.3	11.7	11.8
Cycle Q Clear(g_c), s	14.9	0.0	11.0	11.1	0.0	0.0	1.9	0.0	0.0	0.3	11.7	11.8
Prop In Lane	1.00		0.99	0.30		0.65	1.00		0.03	1.00		0.30
Lane Grp Cap(c), veh/h	158	0	168	136	0	0	556	1458	1524	635	1347	1332
V/C Ratio(X)	0.56	0.00	0.62	0.17	0.00	0.00	0.16	0.22	0.22	0.01	0.29	0.29
Avail Cap(c_a), veh/h	210	0	227	192	0	0	601	1458	1524	635	1347	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	74.9	0.0	72.4	68.5	0.0	0.0	4.1	0.0	0.0	5.0	6.4	6.4
Incr Delay (d2), s/veh	2.3	0.0	2.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	0.0	8.0	1.7	0.0	0.0	1.0	0.0	0.0	0.1	8.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	0.0	75.1	69.0	0.0	0.0	4.2	0.0	0.0	5.0	7.0	7.0
LnGrp LOS	E	A	E	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h	192				23				736			
Approach Delay, s/veh	76.0				69.0				0.5			
Approach LOS	E				E				A			
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	10.6	134.8	24.5		145.5		24.5					
Change Period (Y+Rc), s	* 5.7	6.0	6.0		6.0		6.0					
Max Green Setting (Gmax), s	* 9.3	118.0	25.0		133.0		25.0					
Max Q Clear Time (g_c+I1), s	3.9	13.8	13.1		2.0		16.9					
Green Ext Time (p_c), s	0.0	1.8	0.0		1.4		0.4					

Intersection Summary

HCM 6th Ctrl Delay 12.7

HCM 6th LOS B

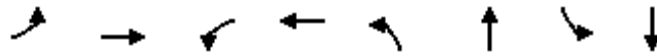
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
4: NE 22nd Avenue & NE 164th Street

Future 2023 Without Project - PM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	86	1	7	1	86	624	5	653
Future Volume (vph)	86	1	7	1	86	624	5	653
Lane Group Flow (vph)	88	104	0	23	88	648	5	785
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8		4	1	6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	2	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	29.0	29.0	10.7	30.0	30.0	30.0
Total Split (s)	31.0	31.0	31.0	31.0	15.0	139.0	124.0	124.0
Total Split (%)	18.2%	18.2%	18.2%	18.2%	8.8%	81.8%	72.9%	72.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	5.7	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.69	0.44		0.16	0.17	0.22	0.01	0.30
Control Delay	100.3	17.3		37.9	1.8	1.7	6.2	6.5
Queue Delay	0.0	0.1		0.0	0.0	0.9	0.0	0.1
Total Delay	100.3	17.4		37.9	1.8	2.6	6.2	6.5
Queue Length 50th (ft)	97	1		8	6	26	1	118
Queue Length 95th (ft)	156	61		38	m13	m47	6	181
Internal Link Dist (ft)		1246		358		315		202
Turn Bay Length (ft)	75				105		75	
Base Capacity (vph)	201	312		226	553	2946	575	2642
Starvation Cap Reductn	0	0		0	0	1936	0	0
Spillback Cap Reductn	0	15		0	0	0	0	526
Storage Cap Reductn	0	0		0	0	0	0	0
Reduced v/c Ratio	0.44	0.35		0.10	0.16	0.64	0.01	0.37

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 106 (62%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

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

Splits and Phases: 4: NE 22nd Avenue & NE 164th Street



HCM 6th Signalized Intersection Summary

Future 2023 Without Project - AM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/09/2021

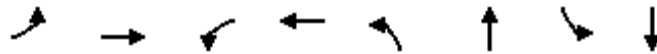
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	73	1667	110	452	1461	113	141	376	293	155	433	50
Future Volume (veh/h)	73	1667	110	452	1461	113	141	376	293	155	433	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1856	1856	1841	1841	1826	1870	1841	1870	1870	1796
Adj Flow Rate, veh/h	78	1792	118	486	1571	122	152	404	315	167	466	54
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	3	3	4	4	5	2	4	2	2	7
Cap, veh/h	247	2443	161	279	2758	214	201	285	220	204	500	58
Arrive On Green	0.03	0.51	0.51	0.21	1.00	1.00	0.09	0.15	0.15	0.09	0.16	0.16
Sat Flow, veh/h	1781	4817	317	1767	4750	369	1739	1894	1462	1781	3209	370
Grp Volume(v), veh/h	78	1245	665	486	1108	585	152	379	340	167	257	263
Grp Sat Flow(s),veh/h/ln	1781	1675	1784	1767	1675	1769	1739	1777	1580	1781	1777	1803
Q Serve(g_s), s	3.6	49.6	49.8	18.0	0.0	0.0	12.4	25.6	25.6	13.3	24.3	24.5
Cycle Q Clear(g_c), s	3.6	49.6	49.8	18.0	0.0	0.0	12.4	25.6	25.6	13.3	24.3	24.5
Prop In Lane	1.00		0.18	1.00		0.21	1.00		0.93	1.00		0.21
Lane Grp Cap(c), veh/h	247	1699	904	279	1945	1027	201	268	238	204	277	281
V/C Ratio(X)	0.32	0.73	0.74	1.74	0.57	0.57	0.76	1.42	1.43	0.82	0.93	0.94
Avail Cap(c_a), veh/h	378	1699	904	279	1945	1027	233	268	238	227	277	281
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	0.54	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	18.9	32.9	32.9	39.7	0.0	0.0	56.3	72.2	72.2	55.9	70.8	70.9
Incr Delay (d2), s/veh	0.3	2.8	5.3	340.7	0.7	1.2	9.4	207.5	216.2	16.6	34.3	35.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	28.1	30.5	53.7	0.3	0.6	10.0	41.0	37.8	11.3	19.7	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	35.7	38.2	380.4	0.7	1.2	65.6	279.7	288.4	72.5	105.1	106.6
LnGrp LOS	B	D	D	F	A	A	E	F	F	E	F	F
Approach Vol, veh/h	1988			2179			871			687		
Approach Delay, s/veh	35.9			85.5			245.7			97.7		
Approach LOS	D			F			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	104.7	21.8	32.0	24.0	92.2	20.9	32.9				
Change Period (Y+Rc), s	6.0	6.0	6.4	6.4	6.0	6.0	6.4	6.4				
Max Green Setting (Gmax), s	18.0	84.0	17.6	25.6	18.0	84.0	17.6	25.6				
Max Q Clear Time (g_c+I1), s	5.6	2.0	15.3	27.6	20.0	51.8	14.4	26.5				
Green Ext Time (p_c), s	0.1	5.1	0.1	0.0	0.0	6.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	94.1											
HCM 6th LOS	F											

Timings

Future 2023 Without Project - AM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	73	1667	452	1461	141	376	155	433
Future Volume (vph)	73	1667	452	1461	141	376	155	433
Lane Group Flow (vph)	78	1910	486	1693	152	719	167	520
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	32.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	90.0	24.0	90.0	24.0	32.0	24.0	32.0
Total Split (%)	14.1%	52.9%	14.1%	52.9%	14.1%	18.8%	14.1%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.47	0.78	2.13	0.62	0.77	1.18	0.80	0.90
Control Delay	22.8	38.1	549.6	17.7	72.6	148.9	75.6	87.7
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0	4.1
Total Delay	22.8	38.1	549.6	18.1	72.6	148.9	75.6	91.8
Queue Length 50th (ft)	32	630	~825	256	132	~472	147	302
Queue Length 95th (ft)	55	690	m#1042	292	#204	#611	#247	#435
Internal Link Dist (ft)		1240		610		1033		315
Turn Bay Length (ft)	290		270		150		130	
Base Capacity (vph)	274	2445	228	2740	222	607	227	576
Starvation Cap Reductn	0	0	0	464	0	0	0	26
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.78	2.13	0.74	0.68	1.18	0.74	0.95

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street



HCM Signalized Intersection Capacity Analysis Future 2023 Without Project - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/10/2021

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	11	114	1625	142	14	289	1874	137	243	431	342	193
Future Volume (vph)	11	114	1625	142	14	289	1874	137	243	431	342	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	0.95		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	0.99		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.93		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1770	5018			1770	5029		1735	3271		1770
Flt Permitted		0.05	1.00			0.05	1.00		0.15	1.00		0.16
Satd. Flow (perm)		89	5018			94	5029		280	3271		291
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	11	118	1675	146	14	298	1932	141	251	444	353	199
RTOR Reduction (vph)	0	0	6	0	0	0	5	0	0	85	0	0
Lane Group Flow (vph)	0	129	1815	0	0	312	2068	0	251	712	0	199
Confl. Peds. (#/hr)				2		2			3		5	5
Confl. Bikes (#/hr)								5				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		96.4	84.0			107.6	89.6		43.7	26.1		42.7
Effective Green, g (s)		96.4	84.0			107.6	89.6		43.7	26.1		42.7
Actuated g/C Ratio		0.57	0.49			0.63	0.53		0.26	0.15		0.25
Clearance Time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Vehicle Extension (s)		2.0	1.0			3.0	1.0		2.0	2.5		2.0
Lane Grp Cap (vph)		173	2479			236	2650		222	502		221
v/s Ratio Prot		0.05	0.36			c0.14	0.41		c0.12	c0.22		0.09
v/s Ratio Perm		0.37				c0.69			0.17			0.14
v/c Ratio		0.75	0.73			1.32	0.78		1.13	1.42		0.90
Uniform Delay, d1		44.1	34.1			56.8	32.3		56.4	72.0		55.2
Progression Factor		1.00	1.00			1.39	0.50		1.00	1.00		0.91
Incremental Delay, d2		14.1	2.0			153.4	0.7		100.0	200.0		33.5
Delay (s)		58.2	36.0			232.6	16.7		156.4	272.0		83.7
Level of Service		E	D			F	B		F	F		F
Approach Delay (s)			37.5				44.9			244.3		
Approach LOS			D				D			F		
Intersection Summary												
HCM 2000 Control Delay			85.8				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.34									
Actuated Cycle Length (s)			170.0				Sum of lost time (s)			24.8		
Intersection Capacity Utilization			105.8%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Future 2023 Without Project - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/10/2021



Movement	SBT	SBR
Lane Configurations	↑↑	
Traffic Volume (vph)	453	100
Future Volume (vph)	453	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3432	
Flt Permitted	1.00	
Satd. Flow (perm)	3432	
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	467	103
RTOR Reduction (vph)	11	0
Lane Group Flow (vph)	559	0
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	25.6	
Effective Green, g (s)	25.6	
Actuated g/C Ratio	0.15	
Clearance Time (s)	6.4	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	516	
v/s Ratio Prot	0.16	
v/s Ratio Perm		
v/c Ratio	1.08	
Uniform Delay, d1	72.2	
Progression Factor	0.94	
Incremental Delay, d2	63.4	
Delay (s)	131.1	
Level of Service	F	
Approach Delay (s)	118.8	
Approach LOS	F	
Intersection Summary		

Timings

Future 2023 Without Project - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/10/2021



Lane Group	EBU	EBL	EBT	WBU	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↗	↗↗↗		↖	↖↖↖	↖	↖↖	↖	↖↖
Traffic Volume (vph)	11	114	1625	14	289	1874	243	431	193	453
Future Volume (vph)	11	114	1625	14	289	1874	243	431	193	453
Lane Group Flow (vph)	0	129	1821	0	312	2073	251	797	199	570
Turn Type	pm+pt	pm+pt	NA	pm+pt	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	1	6	5	5	2	7	4	3	8
Permitted Phases	6	6		2	2		4		8	
Detector Phase	1	1	6	5	5	2	7	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	11.0	32.0	11.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	24.0	90.0	24.0	24.0	90.0	24.0	32.0	24.0	32.0
Total Split (%)	14.1%	14.1%	52.9%	14.1%	14.1%	52.9%	14.1%	18.8%	14.1%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Max	None	None	C-Max	None	None	None	None
v/c Ratio		0.75	0.73		1.32	0.78	1.13	1.36	0.90	1.08
Control Delay		65.1	36.1		205.1	17.0	145.1	216.1	83.2	122.4
Queue Delay		0.0	0.0		0.0	2.8	0.0	0.0	0.0	4.0
Total Delay		65.1	36.1		205.1	19.8	145.1	216.1	83.2	126.4
Queue Length 50th (ft)		90	577		~395	258	~273	~567	178	~366
Queue Length 95th (ft)		163	634		m#436	m270	#468	#705	#319	#497
Internal Link Dist (ft)			1240			610		1033		315
Turn Bay Length (ft)		290			270		150		130	
Base Capacity (vph)		231	2485		236	2654	222	587	227	527
Starvation Cap Reductn		0	0		0	453	0	0	0	5
Spillback Cap Reductn		0	0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0
Reduced v/c Ratio		0.56	0.73		1.32	0.94	1.13	1.36	0.88	1.09

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

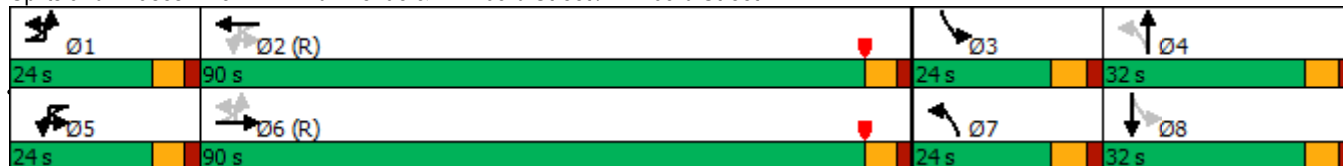
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street



HCM 6th Signalized Intersection Summary 6: Biscayne Boulevard & NE 163rd Street

Future 2023 Without Project - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	408	1403	375	442	993	470	342	994	472	453	1328	493
Future Volume (veh/h)	408	1403	375	442	993	470	342	994	472	453	1328	493
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1826	1826	1870	1856	1870	1767	1856	1870	1870	1870	1870
Adj Flow Rate, veh/h	443	1525	408	480	1079	0	372	1080	513	492	1443	536
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	5	5	2	3	2	9	3	2	2	2	2
Cap, veh/h	480	1437	630	518	1510		408	1691	647	447	1732	639
Arrive On Green	0.28	0.58	0.58	0.15	0.30	0.00	0.13	0.26	0.26	0.13	0.27	0.27
Sat Flow, veh/h	3428	4985	1516	3456	5066	1585	3264	6383	1547	3456	6434	1551
Grp Volume(v), veh/h	443	1525	408	480	1079	0	372	1080	513	492	1443	536
Grp Sat Flow(s),veh/h/ln	1714	1662	1516	1728	1689	1585	1632	1596	1547	1728	1609	1551
Q Serve(g_s), s	21.3	49.0	34.6	23.3	32.3	0.0	19.1	25.4	45.0	22.0	35.9	45.8
Cycle Q Clear(g_c), s	21.3	49.0	34.6	23.3	32.3	0.0	19.1	25.4	45.0	22.0	35.9	45.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	480	1437	630	518	1510		408	1691	647	447	1732	639
V/C Ratio(X)	0.92	1.06	0.65	0.93	0.71		0.91	0.64	0.79	1.10	0.83	0.84
Avail Cap(c_a), veh/h	524	1437	630	529	1510		422	1691	647	447	1732	639
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.3	36.0	23.4	71.4	53.2	0.0	73.4	55.3	43.6	74.0	58.5	45.3
Incr Delay (d2), s/veh	13.1	36.4	1.1	22.5	1.5	0.0	23.2	1.9	9.6	72.5	4.9	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.8	26.9	12.9	17.5	19.8	0.0	14.2	15.6	28.0	21.2	21.3	30.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.4	72.4	24.6	93.9	54.8	0.0	96.7	57.1	53.2	146.5	63.4	57.8
LnGrp LOS	E	F	C	F	D		F	E	D	F	E	E
Approach Vol, veh/h	2376			1559			1965			2471		
Approach Delay, s/veh	64.3			66.8			63.6			78.7		
Approach LOS	E			E			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.1	53.0	30.6	58.4	28.8	52.2	32.3	56.7				
Change Period (Y+Rc), s	6.8	* 7.2	6.8	* 7.7	6.8	* 7.2	6.8	* 7.7				
Max Green Setting (Gmax), s	22.0	* 45	26.0	* 49	22.0	* 45	26.0	* 49				
Max Q Clear Time (g_c+I1), s	21.1	47.8	23.3	34.3	24.0	47.0	25.3	51.0				
Green Ext Time (p_c), s	0.1	0.0	0.5	5.1	0.0	0.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay 68.9

HCM 6th LOS E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
6: Biscayne Boulevard & NE 163rd Street

Future 2023 Without Project - AM Peak Hour

09/09/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	408	1403	375	442	993	470	342	994	472	453	1328	493
Future Volume (vph)	408	1403	375	442	993	470	342	994	472	453	1328	493
Lane Group Flow (vph)	443	1525	408	480	1079	511	372	1080	513	492	1443	536
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			Free			6			2
Detector Phase	3	8	1	7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0		5.0	7.0	5.0	5.0	7.0	5.0
Minimum Split (s)	11.8	55.2	11.8	11.8	55.2		11.8	49.2	11.8	11.8	49.2	11.8
Total Split (s)	32.8	56.7	28.8	32.8	56.7		28.8	51.7	32.8	28.8	51.7	32.8
Total Split (%)	19.3%	33.4%	16.9%	19.3%	33.4%		16.9%	30.4%	19.3%	16.9%	30.4%	19.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.9	2.0	2.0	2.9		2.0	2.4	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.7	6.8	6.8	7.7		6.8	7.2	6.8	6.8	7.2	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	None
v/c Ratio	0.88	1.06	0.60	0.93	0.73	0.33	0.91	0.65	0.74	1.11	0.85	0.77
Control Delay	98.9	86.7	14.5	95.8	57.7	0.6	99.5	58.0	39.2	140.2	65.5	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.9	86.7	14.6	95.8	57.7	0.6	99.5	58.0	39.2	140.2	65.5	41.3
Queue Length 50th (ft)	268	~672	98	275	401	0	213	313	385	~320	449	414
Queue Length 95th (ft)	m#315	m#732	m123	#378	458	0	#306	355	527	#442	496	564
Internal Link Dist (ft)		610			881			1536			859	
Turn Bay Length (ft)	225		240	385			420		400	430		400
Base Capacity (vph)	520	1434	686	525	1476	1560	415	1661	693	444	1691	699
Starvation Cap Reductn	0	0	6	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.06	0.60	0.91	0.73	0.33	0.90	0.65	0.74	1.11	0.85	0.77

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 77 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 6: Biscayne Boulevard & NE 163rd Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
28.8 s	51.7 s	32.8 s	56.7 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
28.8 s	51.7 s	32.8 s	56.7 s

HCM 6th Signalized Intersection Summary 6: Biscayne Boulevard & NE 163rd Street

Future 2023 Without Project - PM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	497	1160	461	631	1442	705	420	1391	641	444	1298	532
Future Volume (veh/h)	497	1160	461	631	1442	705	420	1391	641	444	1298	532
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1870	1870	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	518	1208	480	657	1502	0	438	1449	668	462	1352	554
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	3	2	2	2	3	2	2	2	2	2
Cap, veh/h	529	1427	648	529	1427		478	1644	639	499	1676	653
Arrive On Green	0.31	0.56	0.56	0.15	0.28	0.00	0.14	0.26	0.26	0.14	0.26	0.26
Sat Flow, veh/h	3456	5106	1535	3456	5106	1585	3428	6434	1553	3456	6434	1578
Grp Volume(v), veh/h	518	1208	480	657	1502	0	438	1449	668	462	1352	554
Grp Sat Flow(s),veh/h/ln	1728	1702	1535	1728	1702	1585	1714	1609	1553	1728	1609	1578
Q Serve(g_s), s	25.3	33.7	47.5	26.0	47.5	0.0	21.4	36.8	43.4	22.4	33.4	44.3
Cycle Q Clear(g_c), s	25.3	33.7	47.5	26.0	47.5	0.0	21.4	36.8	43.4	22.4	33.4	44.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	529	1427	648	529	1427		478	1644	639	499	1676	653
V/C Ratio(X)	0.98	0.85	0.74	1.24	1.05		0.92	0.88	1.04	0.93	0.81	0.85
Avail Cap(c_a), veh/h	529	1427	648	529	1427		504	1644	639	508	1676	653
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.58	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	34.5	26.5	72.0	61.3	0.0	72.2	60.8	50.4	71.8	58.8	45.1
Incr Delay (d2), s/veh	24.9	2.9	2.5	124.7	39.1	0.0	21.0	7.2	47.8	22.8	4.3	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.9	15.8	18.7	30.8	34.6	0.0	16.1	22.1	46.4	16.9	20.0	31.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	37.3	29.1	196.7	100.3	0.0	93.1	68.0	98.3	94.6	63.1	58.0
LnGrp LOS	F	D	C	F	F		F	E	F	F	E	E
Approach Vol, veh/h	2206			2159			2555			2368		
Approach Delay, s/veh	46.4			129.6			80.2			68.1		
Approach LOS	D			F			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.5	51.5	32.8	55.2	31.4	50.6	32.8	55.2				
Change Period (Y+Rc), s	6.8	* 7.2	6.8	* 7.7	6.8	* 7.2	6.8	* 7.7				
Max Green Setting (Gmax), s	25.0	* 43	26.0	* 48	25.0	* 43	26.0	* 48				
Max Q Clear Time (g_c+I1), s	23.4	46.3	27.3	49.5	24.4	45.4	28.0	49.5				
Green Ext Time (p_c), s	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 80.6

HCM 6th LOS F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
6: Biscayne Boulevard & NE 163rd Street

Future 2023 Without Project - PM Peak Hour

09/09/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	497	1160	461	631	1442	705	420	1391	641	444	1298	532
Future Volume (vph)	497	1160	461	631	1442	705	420	1391	641	444	1298	532
Lane Group Flow (vph)	518	1208	480	657	1502	734	438	1449	668	463	1352	554
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			Free			6			2
Detector Phase	3	8	1	7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0		5.0	7.0	5.0	5.0	7.0	5.0
Minimum Split (s)	11.8	55.2	11.8	11.8	55.2		11.8	49.2	11.8	11.8	49.2	11.8
Total Split (s)	32.8	55.2	31.8	32.8	55.2		31.8	50.2	32.8	31.8	50.2	32.8
Total Split (%)	19.3%	32.5%	18.7%	19.3%	32.5%		18.7%	29.5%	19.3%	18.7%	29.5%	19.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.9	2.0	2.0	2.9		2.0	2.4	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.7	6.8	6.8	7.7		6.8	7.2	6.8	6.8	7.2	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	None
v/c Ratio	0.99	0.85	0.68	1.25	1.06	0.47	0.90	0.89	0.98	0.93	0.82	0.80
Control Delay	110.3	52.2	17.0	183.7	98.2	1.0	93.2	68.7	68.5	97.3	64.6	44.3
Queue Delay	0.0	0.0	0.1	0.0	17.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.3	52.2	17.1	183.7	115.5	1.0	93.2	68.7	68.5	97.3	64.6	44.3
Queue Length 50th (ft)	314	354	133	~469	~668	0	250	457	621	266	418	446
Queue Length 95th (ft)	m#387	m419	m154	#598	#765	0	#340	504	#673	#369	464	606
Internal Link Dist (ft)		610			881			1536			859	
Turn Bay Length (ft)	225		240	385			420		400	430		400
Base Capacity (vph)	525	1420	707	525	1420	1559	500	1632	685	504	1644	689
Starvation Cap Reductn	0	0	8	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	71	0	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.85	0.69	1.25	1.11	0.47	0.88	0.89	0.98	0.92	0.82	0.81

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 77 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 6: Biscayne Boulevard & NE 163rd Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
31.8 s	50.2 s	32.8 s	55.2 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
31.8 s	50.2 s	32.8 s	55.2 s

Intersection													
Int Delay, s/veh	0.7												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗ ↑↑↑			↑↑↑ ↘				↗			↘
Traffic Vol, veh/h	21	40	2029	1	0	1610	27	0	0	0	0	0	28
Future Vol, veh/h	21	40	2029	1	0	1610	27	0	0	0	0	0	28
Conflicting Peds, #/hr	0	2	0	4	4	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	85	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	2	2	4	2	2	2	2	2	2	4
Mvmt Flow	22	42	2114	1	0	1677	28	0	0	0	0	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1245	1707	0	0	-	-	0	-	-	1062	-	855
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.68	5.38	-	-	-	-	-	-	-	7.14	-	7.18
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.34	3.14	-	-	-	-	-	-	-	3.92	-	3.94
Pot Cap-1 Maneuver	315	172	-	-	0	-	0	0	189	0	0	256
Stage 1	-	-	-	-	0	-	0	0	-	0	0	-
Stage 2	-	-	-	-	0	-	0	0	-	0	0	-
Platoon blocked, %			-	-	-	-						
Mov Cap-1 Maneuver	199	199	-	-	-	-	-	-	188	-	-	256
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	0	20.9
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	-	199	-	-	-	-	256
HCM Lane V/C Ratio	-	0.319	-	-	-	-	0.114
HCM Control Delay (s)	0	31.4	-	-	-	-	20.9
HCM Lane LOS	A	D	-	-	-	-	C
HCM 95th %tile Q(veh)	-	1.3	-	-	-	-	0.4

Intersection													
Int Delay, s/veh	6.9												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰ ↱ ↲ ↳				↰ ↱ ↲ ↳				↰ ↱ ↲ ↳			↰ ↱ ↲ ↳
Traffic Vol, veh/h	30	79	1887	11	0	2159	66	0	0	10	0	0	68
Future Vol, veh/h	30	79	1887	11	0	2159	66	0	0	10	0	0	68
Conflicting Peds, #/hr	0	2	0	5	5	0	2	5	0	5	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	85	-	-	-	-	-	-	-	0	-	-	0
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	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	81	1945	11	0	2226	68	0	0	10	0	0	70
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	1674	2296	0	0	-	-	0	-	-	988	-	-	1151
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.64	5.34	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.32	3.12	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	184	88	-	-	0	-	-	0	0	211	0	0	164
Stage 1	-	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	93	93	-	-	-	-	-	-	-	209	-	-	163
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	13.3			0			23.1			42.8			
HCM LOS							C			E			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1						
Capacity (veh/h)	209	93	-	-	-	-	163						
HCM Lane V/C Ratio	0.049	1.208	-	-	-	-	0.43						
HCM Control Delay (s)	23.1	245.8	-	-	-	-	42.8						
HCM Lane LOS	C	F	-	-	-	-	E						
HCM 95th %tile Q(veh)	0.2	7.8	-	-	-	-	1.9						

HCM Signalized Intersection Capacity Analysis Future 2023 Without Project - AM Peak Hour

8: NE 19th Avenue & NE 167th St

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	28	16	88	64	9	43	14	82	619	56	26	982
Future Volume (vph)	28	16	88	64	9	43	14	82	619	56	26	982
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.98		0.99			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		0.95			1.00	0.99		1.00	0.99
Flt Protected	0.95	1.00	1.00		0.97			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1729	1863	1557		1672			1769	3418		1727	3512
Flt Permitted	0.66	1.00	1.00		0.82			0.21	1.00		0.39	1.00
Satd. Flow (perm)	1207	1863	1557		1407			389	3418		704	3512
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	16	91	66	9	44	14	85	638	58	27	1012
RTOR Reduction (vph)	0	0	78	0	25	0	0	0	3	0	0	2
Lane Group Flow (vph)	29	16	13	0	94	0	0	99	693	0	27	1056
Confl. Peds. (#/hr)	5		5	5		5		4		6	6	
Confl. Bikes (#/hr)										3		
Heavy Vehicles (%)	4%	2%	2%	2%	25%	3%	2%	2%	4%	4%	4%	2%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	pm+pt	NA		Perm	NA
Protected Phases		8			4		1	1	6			2
Permitted Phases	8		8	4			6	6			2	
Actuated Green, G (s)	15.4	15.4	15.4		15.4			82.6	82.6		70.5	70.5
Effective Green, g (s)	15.4	15.4	15.4		15.4			82.6	82.6		70.5	70.5
Actuated g/C Ratio	0.14	0.14	0.14		0.14			0.75	0.75		0.64	0.64
Clearance Time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5		2.5			2.0	1.0		1.0	1.0
Lane Grp Cap (vph)	168	260	217		196			372	2566		451	2250
v/s Ratio Prot		0.01						0.02	c0.20			c0.30
v/s Ratio Perm	0.02		0.01		c0.07			0.18			0.04	
v/c Ratio	0.17	0.06	0.06		0.48			0.27	0.27		0.06	0.47
Uniform Delay, d1	41.7	41.0	41.0		43.6			5.3	4.3		7.4	10.1
Progression Factor	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.1		1.3			0.1	0.3		0.3	0.7
Delay (s)	42.0	41.1	41.1		45.0			5.5	4.5		7.6	10.8
Level of Service	D	D	D		D			A	A		A	B
Approach Delay (s)		41.3			45.0				4.7			10.8
Approach LOS		D			D				A			B
Intersection Summary												
HCM 2000 Control Delay			12.3			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			73.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	46
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
8: NE 19th Avenue & NE 167th St

Future 2023 Without Project - AM Peak Hour

09/10/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	16	88	64	9	14	82	619	26	982
Future Volume (vph)	28	16	88	64	9	14	82	619	26	982
Lane Group Flow (vph)	29	16	91	0	119	0	99	696	27	1058
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	pm+pt	NA	Perm	NA
Protected Phases		8			4	1	1	6		2
Permitted Phases	8		8	4		6	6		2	
Detector Phase	8	8	8	4	4	1	1	6	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	5.0	7.0	7.0	7.0
Minimum Split (s)	40.0	40.0	40.0	40.0	40.0	10.7	10.7	32.0	32.0	32.0
Total Split (s)	42.0	42.0	42.0	42.0	42.0	15.0	15.0	68.0	53.0	53.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	38.2%	13.6%	13.6%	61.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0		5.7	6.0	6.0	6.0
Lead/Lag						Lead	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.17	0.06	0.31		0.54		0.27	0.27	0.06	0.47
Control Delay	39.2	35.7	9.6		39.6		7.2	5.8	12.2	13.1
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Delay	39.2	35.7	9.6		39.6		7.2	5.8	12.2	13.1
Queue Length 50th (ft)	19	10	0		62		13	55	6	162
Queue Length 95th (ft)	37	24	37		95		53	162	29	378
Internal Link Dist (ft)		601			593			454		280
Turn Bay Length (ft)	80		80						25	
Base Capacity (vph)	394	609	570		479		410	2569	451	2252
Starvation Cap Reductn	0	0	0		0		0	0	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.07	0.03	0.16		0.25		0.24	0.27	0.06	0.47

Intersection Summary

Cycle Length: 110

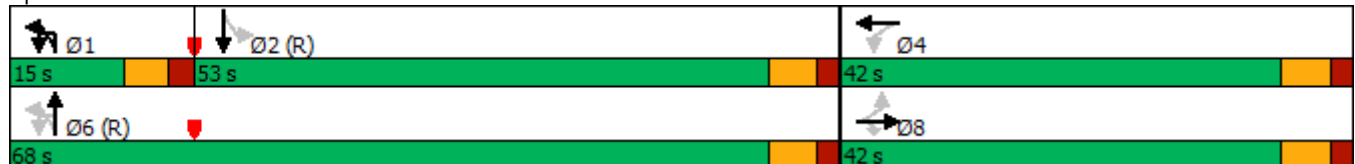
Actuated Cycle Length: 110

Offset: 28 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 8: NE 19th Avenue & NE 167th St



HCM Signalized Intersection Capacity Analysis Future 2023 Without Project - PM Peak Hour

8: NE 19th Avenue & NE 167th St

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	21	11	68	68	12	53	9	43	846	58	42	886
Future Volume (vph)	21	11	68	68	12	53	9	43	846	58	42	886
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.97		0.99			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		0.95			1.00	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.98			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1764	1863	1535		1655			1769	3498		1746	3524
Flt Permitted	0.63	1.00	1.00		0.83			0.24	1.00		0.30	1.00
Satd. Flow (perm)	1168	1863	1535		1414			455	3498		558	3524
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)	22	11	71	71	12	55	9	45	881	60	44	923
RTOR Reduction (vph)	0	0	59	0	22	0	0	0	3	0	0	1
Lane Group Flow (vph)	22	11	12	0	117	0	0	54	938	0	44	944
Confl. Peds. (#/hr)	4		18	18		4		5		6	6	
Confl. Bikes (#/hr)						2				3		
Heavy Vehicles (%)	2%	2%	2%	5%	9%	2%	2%	2%	2%	2%	3%	2%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	pm+pt	NA		Perm	NA
Protected Phases		8			4		1	1	6			2
Permitted Phases	8		8	4			6	6			2	
Actuated Green, G (s)	20.3	20.3	20.3		20.3			87.7	87.7		77.2	77.2
Effective Green, g (s)	20.3	20.3	20.3		20.3			87.7	87.7		77.2	77.2
Actuated g/C Ratio	0.17	0.17	0.17		0.17			0.73	0.73		0.64	0.64
Clearance Time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5		2.5			2.0	1.0		1.0	1.0
Lane Grp Cap (vph)	197	315	259		239			385	2556		358	2267
v/s Ratio Prot		0.01						0.01	c0.27			c0.27
v/s Ratio Perm	0.02		0.01		c0.08			0.10			0.08	
v/c Ratio	0.11	0.03	0.05		0.49			0.14	0.37		0.12	0.42
Uniform Delay, d1	42.2	41.7	41.7		45.1			5.7	5.9		8.3	10.4
Progression Factor	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.0	0.1		1.1			0.1	0.4		0.7	0.6
Delay (s)	42.4	41.7	41.8		46.3			5.7	6.3		9.0	11.0
Level of Service	D	D	D		D			A	A		A	B
Approach Delay (s)		41.9			46.3				6.3			10.9
Approach LOS		D			D				A			B
Intersection Summary												
HCM 2000 Control Delay			12.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			75.5%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	21
Future Volume (vph)	21
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
8: NE 19th Avenue & NE 167th St

Future 2023 Without Project - PM Peak Hour

09/10/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	21	11	68	68	12	9	43	846	42	886
Future Volume (vph)	21	11	68	68	12	9	43	846	42	886
Lane Group Flow (vph)	22	11	71	0	139	0	54	941	44	945
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	pm+pt	NA	Perm	NA
Protected Phases		8			4	1	1	6		2
Permitted Phases	8		8	4		6	6		2	
Detector Phase	8	8	8	4	4	1	1	6	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	5.0	7.0	7.0	7.0
Minimum Split (s)	40.0	40.0	40.0	40.0	40.0	10.7	10.7	32.0	32.0	32.0
Total Split (s)	40.0	40.0	40.0	40.0	40.0	15.0	15.0	80.0	65.0	65.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	12.5%	12.5%	66.7%	54.2%	54.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0		5.7	6.0	6.0	6.0
Lead/Lag						Lead	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.11	0.03	0.22		0.53		0.14	0.37	0.12	0.41
Control Delay	37.3	34.3	7.5		41.0		7.8	7.9	14.1	13.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.5	0.0	0.0
Total Delay	37.3	34.3	7.5		41.0		7.8	8.4	14.1	13.3
Queue Length 50th (ft)	16	8	0		85		8	95	10	147
Queue Length 95th (ft)	34	21	31		126		32	230	42	309
Internal Link Dist (ft)		601			593			454		280
Turn Bay Length (ft)	80		80						25	
Base Capacity (vph)	330	527	491		420		434	2558	364	2301
Starvation Cap Reductn	0	0	0		0		0	1040	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.07	0.02	0.14		0.33		0.12	0.62	0.12	0.41

Intersection Summary

Cycle Length: 120

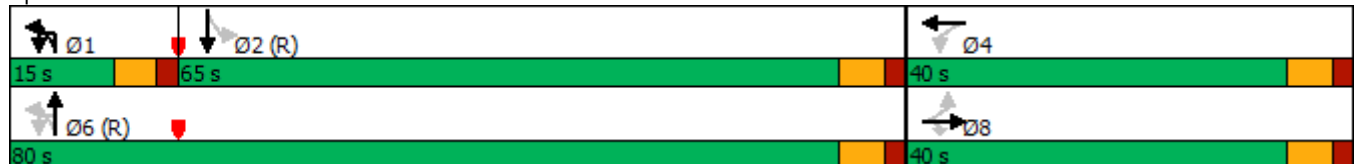
Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 8: NE 19th Avenue & NE 167th St



Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	0	0	49	1	0
Future Vol, veh/h	22	0	0	49	1	0
Conflicting Peds, #/hr	0	8	8	0	8	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	0	0	58	1	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	34	0	100	42
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1578	-	899	1029
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1566	-	885	1013
Mov Cap-2 Maneuver	-	-	-	-	885	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	949	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.1	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	885	-	-	1566	-	
HCM Lane V/C Ratio	0.001	-	-	-	-	
HCM Control Delay (s)	9.1	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	2	0	82	2	0
Future Vol, veh/h	37	2	0	82	2	0
Conflicting Peds, #/hr	0	2	2	0	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	3	0	114	3	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	56	0	171	57
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1549	-	819	1009
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1546	-	816	1005
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	907	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.4	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	816	-	-	1546	-	
HCM Lane V/C Ratio	0.003	-	-	-	-	
HCM Control Delay (s)	9.4	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	48	10	2
Future Vol, veh/h	0	1	0	48	10	2
Conflicting Peds, #/hr	0	1	3	0	0	3
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	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	5	2	2
Mvmt Flow	0	1	0	66	14	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	85	20	20	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	66	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	916	1058	1596	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	911	1054	1591	-	-	-
Mov Cap-2 Maneuver	911	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1591	-	1054	-	-	
HCM Lane V/C Ratio	-	-	0.001	-	-	
HCM Control Delay (s)	0	-	8.4	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

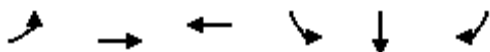
Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	3	68	17	0
Future Vol, veh/h	0	2	3	68	17	0
Conflicting Peds, #/hr	8	9	7	0	0	7
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	3	79	20	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	120	36	27	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	93	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	876	1037	1587	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	862	1021	1576	-	-	-
Mov Cap-2 Maneuver	862	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	0.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1576	-	1021	-	-	
HCM Lane V/C Ratio	0.002	-	0.002	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Future with Project Conditions

Timings
1: NE 163rd Street & NE 19th Avenue

Future 2023 With Project - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	387	1555	1319	561	9	404
Future Volume (vph)	387	1555	1319	561	9	404
Lane Group Flow (vph)	395	1587	1597	292	289	412
Turn Type	pm+pt	NA	NA	Split	NA	pm+ov
Protected Phases	1	6	2	8	8	1
Permitted Phases	6					8
Detector Phase	1	6	2	8	8	1
Switch Phase						
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	13.5	44.5	30.0	30.0	11.0
Total Split (s)	30.0	99.0	69.0	31.0	31.0	30.0
Total Split (%)	23.1%	76.2%	53.1%	23.8%	23.8%	23.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.5	2.5	3.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.5	6.5	7.0	7.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Max	C-Max	None	None	None
v/c Ratio	0.99	0.45	0.68	0.95	0.94	0.68
Control Delay	93.8	2.1	27.0	93.3	90.6	34.4
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	93.8	2.1	27.0	93.3	90.6	34.4
Queue Length 50th (ft)	242	33	361	258	254	247
Queue Length 95th (ft)	#494	43	416	#444	#435	358
Internal Link Dist (ft)		589	589		310	
Turn Bay Length (ft)	220					
Base Capacity (vph)	399	3560	2362	310	311	608
Starvation Cap Reductn	0	402	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.50	0.68	0.94	0.93	0.68

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 92 (71%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NE 163rd Street & NE 19th Avenue

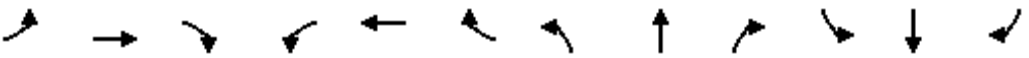


HCM 6th Signalized Intersection Summary

1: NE 163rd Street & NE 19th Avenue

Future 2023 With Project - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	1555	0	0	1319	246	0	0	0	561	9	404
Future Volume (veh/h)	387	1555	0	0	1319	246	0	0	0	561	9	404
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1841	1841	1870	0	1841	1870				1870	1870	1870
Adj Flow Rate, veh/h	395	1587	0	0	1346	251				578	0	412
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	4	4	2	0	4	2				2	2	2
Cap, veh/h	412	3576	0	0	2174	405				658	0	527
Arrive On Green	0.30	1.00	0.00	0.00	0.51	0.51				0.18	0.00	0.18
Sat Flow, veh/h	1753	5191	0	0	4403	790				3563	0	1550
Grp Volume(v), veh/h	395	1587	0	0	1064	533				578	0	412
Grp Sat Flow(s),veh/h/ln	1753	1675	0	0	1675	1676				1781	0	1550
Q Serve(g_s), s	17.5	0.0	0.0	0.0	29.5	29.5				20.5	0.0	24.0
Cycle Q Clear(g_c), s	17.5	0.0	0.0	0.0	29.5	29.5				20.5	0.0	24.0
Prop In Lane	1.00		0.00	0.00		0.47				1.00		1.00
Lane Grp Cap(c), veh/h	412	3576	0	0	1719	860				658	0	527
V/C Ratio(X)	0.96	0.44	0.00	0.00	0.62	0.62				0.88	0.00	0.78
Avail Cap(c_a), veh/h	469	3576	0	0	1719	860				658	0	527
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	1.00				0.95	0.00	0.95
Uniform Delay (d), s/veh	21.7	0.0	0.0	0.0	22.6	22.6				51.6	0.0	38.9
Incr Delay (d2), s/veh	23.7	0.3	0.0	0.0	1.7	3.3				12.3	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	0.2	0.0	0.0	17.3	17.8				15.4	0.0	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	0.3	0.0	0.0	24.3	25.9				63.8	0.0	45.8
LnGrp LOS	D	A	A	A	C	C				E	A	D
Approach Vol, veh/h	1982				1597				990			
Approach Delay, s/veh	9.3				24.8				56.3			
Approach LOS	A				C				E			
Timer - Assigned Phs	1	2					6	8				
Phs Duration (G+Y+Rc), s	25.8	73.2					99.0	31.0				
Change Period (Y+Rc), s	6.0	6.5					6.5	7.0				
Max Green Setting (Gmax), s	24.0	62.5					92.5	24.0				
Max Q Clear Time (g_c+I1), s	19.5	31.5					2.0	26.0				
Green Ext Time (p_c), s	0.3	4.7					5.4	0.0				

Intersection Summary

HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

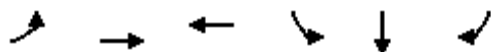
Notes

User approved volume balancing among the lanes for turning movement.

Timings
1: NE 163rd Street & NE 19th Avenue

Future 2023 With Project - PM Peak Hour

09/10/2021



Lane Group	EBL	EBT	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	379	1586	1802	435	13	402
Future Volume (vph)	379	1586	1802	435	13	402
Lane Group Flow (vph)	387	1620	2200	233	231	410
Turn Type	pm+pt	NA	NA	Split	NA	pm+ov
Protected Phases	1	6	2	8	8	1
Permitted Phases	6					8
Detector Phase	1	6	2	8	8	1
Switch Phase						
Minimum Initial (s)	5.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	11.0	13.5	44.5	30.0	30.0	11.0
Total Split (s)	35.0	120.0	85.0	30.0	30.0	35.0
Total Split (%)	23.3%	80.0%	56.7%	20.0%	20.0%	23.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.5	2.5	3.0	3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.5	6.5	7.0	7.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	C-Max	C-Max	None	None	None
v/c Ratio	0.98	0.42	0.84	0.93	0.92	0.73
Control Delay	87.7	6.7	33.7	104.2	101.1	44.9
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.2
Total Delay	87.7	7.1	33.7	104.2	101.1	45.1
Queue Length 50th (ft)	331	184	646	238	236	306
Queue Length 95th (ft)	#554	207	714	#408	#402	431
Internal Link Dist (ft)		589	589		310	
Turn Bay Length (ft)	220					
Base Capacity (vph)	395	3869	2606	257	259	565
Starvation Cap Reductn	0	1458	0	0	0	10
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.67	0.84	0.91	0.89	0.74

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 25 (17%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NE 163rd Street & NE 19th Avenue



HCM Signalized Intersection Capacity Analysis

1: NE 163rd Street & NE 19th Avenue

Future 2023 With Project - PM Peak Hour

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	379	1586	2	0	1802	354	0	0	0	7	435	13
Future Volume (vph)	379	1586	2	0	1802	354	0	0	0	7	435	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5			6.5						7.0	7.0
Lane Util. Factor	1.00	0.91			0.91						0.95	0.95
Frpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Frt	1.00	1.00			0.98						1.00	1.00
Flt Protected	0.95	1.00			1.00						0.95	0.95
Satd. Flow (prot)	1752	5084			4945						1681	1690
Flt Permitted	0.05	1.00			1.00						0.95	0.95
Satd. Flow (perm)	87	5084			4945						1681	1690
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	387	1618	2	0	1839	361	0	0	0	7	444	13
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	0	0	0	0
Lane Group Flow (vph)	387	1620	0	0	2180	0	0	0	0	0	233	231
Confl. Peds. (#/hr)	4		10	10		4	2		2		2	
Confl. Bikes (#/hr)			1			4						
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA			NA					Split	Split	NA
Protected Phases	1	6			2					8	8	8
Permitted Phases	6											
Actuated Green, G (s)	114.1	114.1			78.5						22.4	22.4
Effective Green, g (s)	114.1	114.1			78.5						22.4	22.4
Actuated g/C Ratio	0.76	0.76			0.52						0.15	0.15
Clearance Time (s)	6.0	6.5			6.5						7.0	7.0
Vehicle Extension (s)	2.0	1.0			1.0						2.5	2.5
Lane Grp Cap (vph)	394	3867			2587						251	252
v/s Ratio Prot	c0.19	0.32			0.44						c0.14	0.14
v/s Ratio Perm	c0.55											
v/c Ratio	0.98	0.42			0.84						0.93	0.92
Uniform Delay, d1	51.7	6.3			30.5						63.0	62.9
Progression Factor	1.00	1.00			1.00						1.00	1.00
Incremental Delay, d2	40.3	0.3			3.6						37.5	34.9
Delay (s)	92.0	6.6			34.0						100.5	97.7
Level of Service	F	A			C						F	F
Approach Delay (s)		23.1			34.0			0.0				74.8
Approach LOS		C			C			A				E
Intersection Summary												
HCM 2000 Control Delay			36.7			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				19.5		
Intersection Capacity Utilization			99.3%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	402
Future Volume (vph)	402
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1556
Flt Permitted	1.00
Satd. Flow (perm)	1556
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	410
RTOR Reduction (vph)	16
Lane Group Flow (vph)	394
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	3
Heavy Vehicles (%)	3%
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	8
Actuated Green, G (s)	52.0
Effective Green, g (s)	52.0
Actuated g/C Ratio	0.35
Clearance Time (s)	6.0
Vehicle Extension (s)	2.0
Lane Grp Cap (vph)	539
v/s Ratio Prot	0.14
v/s Ratio Perm	0.11
v/c Ratio	0.73
Uniform Delay, d1	42.9
Progression Factor	1.00
Incremental Delay, d2	4.4
Delay (s)	47.2
Level of Service	D
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 6th Signalized Intersection Summary 2: NE 19th Avenue & NE 164th Street

Future 2023 With Project - AM Peak Hour

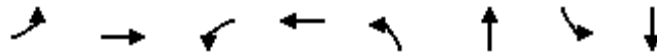
09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	69	28	61	56	30	41	577	22	61	877	197
Future Volume (veh/h)	77	69	28	61	56	30	41	577	22	61	877	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1796	1870	1870	1841	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	74	30	66	60	32	44	620	24	66	943	212
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	8	2	2	7	2	2	4	2	2	2	2
Cap, veh/h	231	142	58	217	118	63	189	2711	106	558	2870	643
Arrive On Green	0.05	0.12	0.12	0.04	0.11	0.11	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1781	1193	484	1781	1088	580	220	3920	154	785	4151	930
Grp Volume(v), veh/h	83	0	104	66	0	92	195	237	256	66	773	382
Grp Sat Flow(s),veh/h/ln	1781	0	1676	1781	0	1668	1126	1524	1643	785	1702	1676
Q Serve(g_s), s	4.9	0.0	7.0	3.9	0.0	6.2	0.9	6.8	6.8	4.0	10.9	10.9
Cycle Q Clear(g_c), s	4.9	0.0	7.0	3.9	0.0	6.2	11.8	6.8	6.8	10.9	10.9	10.9
Prop In Lane	1.00		0.29	1.00		0.35	0.23		0.09	1.00		0.55
Lane Grp Cap(c), veh/h	231	0	200	217	0	181	815	1054	1136	558	2354	1159
V/C Ratio(X)	0.36	0.00	0.52	0.30	0.00	0.51	0.24	0.22	0.23	0.12	0.33	0.33
Avail Cap(c_a), veh/h	543	0	447	547	0	445	815	1054	1136	558	2354	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.11	0.11	0.11	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	49.6	44.8	0.0	50.4	6.5	6.8	6.8	8.7	7.4	7.4
Incr Delay (d2), s/veh	0.4	0.0	2.5	0.3	0.0	2.6	0.1	0.1	0.1	0.4	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.0	5.5	3.2	0.0	4.9	2.3	2.9	3.1	1.3	6.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	52.2	45.1	0.0	53.1	6.5	6.8	6.8	9.2	7.8	8.2
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		187			158			688			1221	
Approach Delay, s/veh		48.8			49.8			6.7			8.0	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		89.0	12.0	19.1		89.0	10.7	20.3				
Change Period (Y+Rc), s		6.0	5.4	6.0		6.0	5.4	6.0				
Max Green Setting (Gmax), s		43.0	27.6	32.0		43.0	27.6	32.0				
Max Q Clear Time (g_c+I1), s		12.9	6.9	8.2		13.8	5.9	9.0				
Green Ext Time (p_c), s		3.6	0.1	0.5		1.8	0.1	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			13.9									
HCM 6th LOS			B									

Timings
2: NE 19th Avenue & NE 164th Street

Future 2023 With Project - AM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	77	69	61	56	41	577	61	877
Future Volume (vph)	77	69	61	56	41	577	61	877
Lane Group Flow (vph)	83	104	66	92	0	688	66	1155
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	3	8	7	4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	3	8	7	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.4	38.0	10.4	38.0	35.0	35.0	35.0	35.0
Total Split (s)	33.0	38.0	33.0	38.0	49.0	49.0	49.0	49.0
Total Split (%)	27.5%	31.7%	27.5%	31.7%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.4	4.0	3.4	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.4	6.0	5.4	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	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.30	0.45	0.25	0.41		0.26	0.14	0.34
Control Delay	36.2	43.9	34.9	39.9		9.7	11.6	9.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.4
Total Delay	36.2	43.9	34.9	39.9		9.7	11.6	10.3
Queue Length 50th (ft)	53	65	42	52		66	16	115
Queue Length 95th (ft)	74	99	61	86		145	58	238
Internal Link Dist (ft)		580		264		310		300
Turn Bay Length (ft)	50		55				75	
Base Capacity (vph)	454	469	456	469		2686	476	3358
Starvation Cap Reductn	0	0	0	0		0	0	1496
Spillback Cap Reductn	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0		0	0	0
Reduced v/c Ratio	0.18	0.22	0.14	0.20		0.26	0.14	0.62

Intersection Summary

Cycle Length: 120

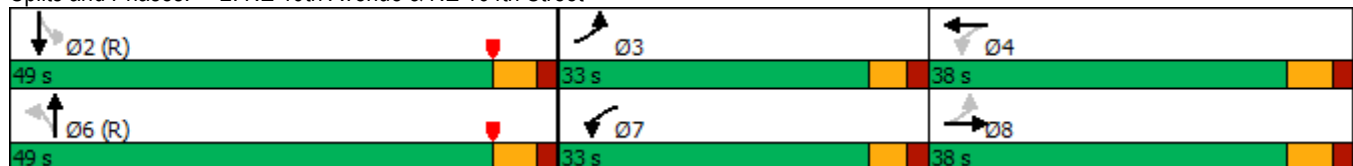
Actuated Cycle Length: 120

Offset: 28 (23%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 19th Avenue & NE 164th Street



HCM Signalized Intersection Capacity Analysis

2: NE 19th Avenue & NE 164th Street

Future 2023 With Project - PM Peak Hour

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations									  			  
Traffic Volume (vph)	183	103	34	58	100	123	12	20	655	43	60	758
Future Volume (vph)	183	103	34	58	100	123	12	20	655	43	60	758
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.0		5.4	6.0				6.0		6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00				0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00		1.00	0.99				1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.99	1.00
Frt	1.00	0.96		1.00	0.92				0.99		1.00	0.97
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1770	1787		1769	1667				5000		1761	4885
Flt Permitted	0.27	1.00		0.66	1.00				0.85		0.32	1.00
Satd. Flow (perm)	501	1787		1233	1667				4235		588	4885
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	112	37	63	109	134	13	22	712	47	65	824
RTOR Reduction (vph)	0	11	0	0	41	0	0	0	4	0	0	17
Lane Group Flow (vph)	199	139	0	63	202	0	0	0	790	0	65	982
Confl. Peds. (#/hr)			1	1					4		8	8
Confl. Bikes (#/hr)			1			1				1		
Heavy Vehicles (%)	2%	2%	2%	2%	6%	2%	2%	2%	2%	8%	2%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	Perm	NA		Perm	NA
Protected Phases	3	8		7	4				6			2
Permitted Phases	8			4			6	6			2	
Actuated Green, G (s)	41.7	30.0		27.5	21.2				66.3		66.3	66.3
Effective Green, g (s)	41.7	30.0		27.5	21.2				66.3		66.3	66.3
Actuated g/C Ratio	0.35	0.25		0.23	0.18				0.55		0.55	0.55
Clearance Time (s)	5.4	6.0		5.4	6.0				6.0		6.0	6.0
Vehicle Extension (s)	2.0	3.5		2.0	3.5				1.0		1.0	1.0
Lane Grp Cap (vph)	333	446		310	294				2339		324	2698
v/s Ratio Prot	c0.08	0.08		0.01	c0.12							c0.20
v/s Ratio Perm	0.13			0.04					0.19		0.11	
v/c Ratio	0.60	0.31		0.20	0.69				0.34		0.20	0.36
Uniform Delay, d1	29.9	36.6		37.0	46.3				14.8		13.5	15.0
Progression Factor	1.00	1.00		1.00	1.00				1.00		1.00	1.00
Incremental Delay, d2	1.9	0.5		0.1	6.8				0.4		1.4	0.4
Delay (s)	31.8	37.1		37.1	53.0				15.2		14.9	15.4
Level of Service	C	D		D	D				B		B	B
Approach Delay (s)		34.1			49.8				15.2			15.4
Approach LOS		C			D				B			B
Intersection Summary												
HCM 2000 Control Delay			22.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			17.4			
Intersection Capacity Utilization			87.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Synchro 10 Report
Page 3

Timings
2: NE 19th Avenue & NE 164th Street

Future 2023 With Project - PM Peak Hour

09/10/2021

									
Lane Group	EBL	EBT	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations							  		  
Traffic Volume (vph)	183	103	58	100	12	20	655	60	758
Future Volume (vph)	183	103	58	100	12	20	655	60	758
Lane Group Flow (vph)	199	149	63	243	0	0	794	65	999
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	3	8	7	4			6		2
Permitted Phases	8		4		6	6		2	
Detector Phase	3	8	7	4	6	6	6	2	2
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.4	38.0	10.4	38.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	43.0	38.0	43.0	38.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	35.8%	31.7%	35.8%	31.7%	32.5%	32.5%	32.5%	32.5%	32.5%
Yellow Time (s)	3.4	4.0	3.4	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.4	6.0	5.4	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	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.60	0.33	0.20	0.76			0.33	0.20	0.36
Control Delay	35.4	34.2	26.2	52.2			15.8	18.2	15.5
Queue Delay	0.0	0.0	0.0	0.0			0.3	0.0	0.5
Total Delay	35.4	34.2	26.2	52.2			16.2	18.2	16.0
Queue Length 50th (ft)	113	87	33	145			115	24	143
Queue Length 95th (ft)	148	132	55	220			179	64	218
Internal Link Dist (ft)		580		264			310		300
Turn Bay Length (ft)	50		55					75	
Base Capacity (vph)	578	506	613	481			2382	330	2762
Starvation Cap Reductn	0	0	0	0			921	0	1170
Spillback Cap Reductn	0	0	0	0			0	0	0
Storage Cap Reductn	0	0	0	0			0	0	0
Reduced v/c Ratio	0.34	0.29	0.10	0.51			0.54	0.20	0.63

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 31 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 19th Avenue & NE 164th Street



Intersection												
Intersection Delay, s/veh	8.8											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	134	27	24	70	10	30	32	28	11	20	0
Future Vol, veh/h	2	134	27	24	70	10	30	32	28	11	20	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	6	2	5	4	14	2	4	8	2	2	2
Mvmt Flow	2	156	31	28	81	12	35	37	33	13	23	0
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.4	8.5	8.4	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	35%
Vol Thru, %	36%	0%	83%	0%	88%	65%
Vol Right, %	31%	0%	17%	0%	12%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	2	161	24	80	31
LT Vol	30	2	0	24	0	11
Through Vol	32	0	134	0	70	20
RT Vol	28	0	27	0	10	0
Lane Flow Rate	105	2	187	28	93	36
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.135	0.004	0.257	0.043	0.129	0.049
Departure Headway (Hd)	4.629	5.487	4.935	5.593	4.986	4.907
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	775	653	728	641	719	730
Service Time	2.654	3.213	2.661	3.322	2.714	2.939
HCM Lane V/C Ratio	0.135	0.003	0.257	0.044	0.129	0.049
HCM Control Delay	8.4	8.2	9.4	8.6	8.5	8.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0	1	0.1	0.4	0.2

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	153	31	35	159	16	74	68	29	14	14	5
Future Vol, veh/h	4	153	31	35	159	16	74	68	29	14	14	5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	3	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	5	187	38	43	194	20	90	83	35	17	17	6
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.9	10.4	10.5	9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	43%	100%	0%	100%	0%	42%
Vol Thru, %	40%	0%	83%	0%	91%	42%
Vol Right, %	17%	0%	17%	0%	9%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	4	184	35	175	33
LT Vol	74	4	0	35	0	14
Through Vol	68	0	153	0	159	14
RT Vol	29	0	31	0	16	5
Lane Flow Rate	209	5	224	43	213	40
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.301	0.008	0.334	0.07	0.319	0.062
Departure Headway (Hd)	5.191	5.968	5.362	5.931	5.378	5.586
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	686	594	664	598	662	645
Service Time	3.271	3.76	3.153	3.721	3.169	3.586
HCM Lane V/C Ratio	0.305	0.008	0.337	0.072	0.322	0.062
HCM Control Delay	10.5	8.8	10.9	9.2	10.7	9
HCM Lane LOS	B	A	B	A	B	A
HCM 95th-tile Q	1.3	0	1.5	0.2	1.4	0.2

HCM 6th Signalized Intersection Summary 4: NE 22nd Avenue & NE 164th Street

Future 2023 With Project - AM Peak Hour

09/09/2021

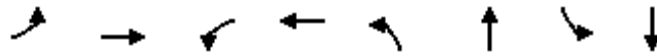
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	2	148	4	2	3	59	547	7	6	582	80
Future Volume (veh/h)	96	2	148	4	2	3	59	547	7	6	582	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1841	1870	1159	1411	1796	1870	1055	1870	1870	1870
Adj Flow Rate, veh/h	98	2	151	4	2	3	60	558	7	6	594	82
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	50	4	2	50	33	7	2	57	2	2	2
Cap, veh/h	334	2	187	100	37	27	457	2210	28	512	1483	204
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.05	0.62	0.62	0.47	0.47	0.47
Sat Flow, veh/h	1410	13	955	90	188	139	1711	3594	45	841	3132	431
Grp Volume(v), veh/h	98	0	153	9	0	0	60	276	289	6	336	340
Grp Sat Flow(s),veh/h/ln	1410	0	968	417	0	0	1711	1777	1862	841	1777	1787
Q Serve(g_s), s	0.0	0.0	9.6	0.1	0.0	0.0	1.0	4.5	4.5	0.2	7.8	7.8
Cycle Q Clear(g_c), s	5.3	0.0	9.6	9.6	0.0	0.0	1.0	4.5	4.5	0.2	7.8	7.8
Prop In Lane	1.00		0.99	0.44		0.33	1.00		0.02	1.00		0.24
Lane Grp Cap(c), veh/h	334	0	189	164	0	0	457	1093	1145	512	841	846
V/C Ratio(X)	0.29	0.00	0.81	0.05	0.00	0.00	0.13	0.25	0.25	0.01	0.40	0.40
Avail Cap(c_a), veh/h	570	0	351	314	0	0	540	1093	1145	512	841	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	24.3	21.1	0.0	0.0	7.3	5.6	5.6	8.8	10.8	10.8
Incr Delay (d2), s/veh	0.4	0.0	6.0	0.1	0.0	0.0	0.0	0.6	0.5	0.0	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	0.0	4.3	0.2	0.0	0.0	0.6	2.6	2.7	0.1	5.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	0.0	30.4	21.2	0.0	0.0	7.3	6.1	6.1	8.9	12.2	12.3
LnGrp LOS	C	A	C	C	A	A	A	A	A	A	B	B
Approach Vol, veh/h	251					9				625	682	
Approach Delay, s/veh	27.5					21.2				6.2	12.2	
Approach LOS	C					C				A	B	
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	9.0	36.0	18.4			45.0	18.4					
Change Period (Y+Rc), s	* 5.7	6.0	6.0			6.0	6.0					
Max Green Setting (Gmax), s	* 6.3	30.0	23.0			30.0	23.0					
Max Q Clear Time (g_c+I1), s	3.0	9.8	11.6			6.5	11.6					
Green Ext Time (p_c), s	0.0	1.5	0.0			1.2	0.8					
Intersection Summary												
HCM 6th Ctrl Delay				12.3								
HCM 6th LOS				B								
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
4: NE 22nd Avenue & NE 164th Street

Future 2023 With Project - AM Peak Hour

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	96	2	4	2	59	547	6	582
Future Volume (vph)	96	2	4	2	59	547	6	582
Lane Group Flow (vph)	98	153	0	9	60	565	6	676
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8		4	1	6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	2	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	29.0	29.0	10.7	30.0	30.0	30.0
Total Split (s)	29.0	29.0	29.0	29.0	12.0	36.0	36.0	36.0
Total Split (%)	37.7%	37.7%	37.7%	37.7%	15.6%	46.8%	46.8%	46.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	5.7	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	Max
v/c Ratio	0.40	0.39		0.04	0.13	0.25	0.01	0.36
Control Delay	27.8	7.6		18.2	6.4	6.2	12.3	11.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	7.6		18.2	6.4	6.2	12.3	11.3
Queue Length 50th (ft)	34	1		2	6	37	1	76
Queue Length 95th (ft)	72	40		12	29	100	9	168
Internal Link Dist (ft)		1246		358		315		202
Turn Bay Length (ft)	75				105		75	
Base Capacity (vph)	517	658		463	474	2401	432	1854
Starvation Cap Reductn	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0
Reduced v/c Ratio	0.19	0.23		0.02	0.13	0.24	0.01	0.36

Intersection Summary

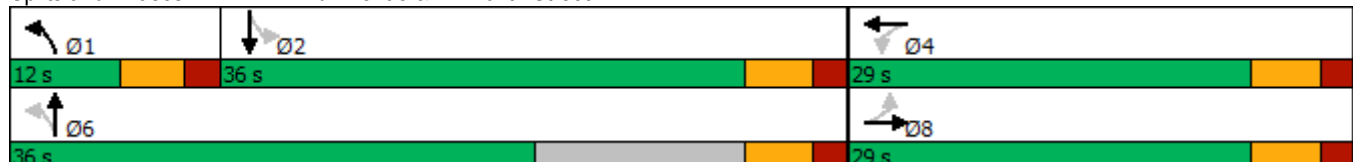
Cycle Length: 77

Actuated Cycle Length: 63.4

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Splits and Phases: 4: NE 22nd Avenue & NE 164th Street



HCM 6th Signalized Intersection Summary

4: NE 22nd Avenue & NE 164th Street

Future 2023 With Project - PM Peak Hour

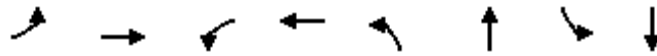
09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	1	116	7	1	15	103	624	11	5	653	129
Future Volume (veh/h)	94	1	116	7	1	15	103	624	11	5	653	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.99	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1693	1870	1870	1826	1870	1752	1870	1870	1870
Adj Flow Rate, veh/h	96	1	118	7	1	15	105	637	11	5	666	132
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	3	14	2	2	5	2	10	2	2	2
Cap, veh/h	162	2	182	48	18	72	541	2896	50	627	2200	436
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.06	1.00	1.00	0.75	0.75	0.75
Sat Flow, veh/h	1385	13	1530	170	152	603	1739	3573	62	782	2942	582
Grp Volume(v), veh/h	96	0	119	23	0	0	105	317	331	5	402	396
Grp Sat Flow(s),veh/h/ln	1385	0	1543	924	0	0	1739	1777	1857	782	1777	1747
Q Serve(g_s), s	4.4	0.0	12.5	0.1	0.0	0.0	2.4	0.0	0.0	0.3	12.5	12.6
Cycle Q Clear(g_c), s	17.1	0.0	12.5	12.6	0.0	0.0	2.4	0.0	0.0	0.3	12.5	12.6
Prop In Lane	1.00		0.99	0.30		0.65	1.00		0.03	1.00		0.33
Lane Grp Cap(c), veh/h	162	0	183	137	0	0	541	1440	1506	627	1329	1307
V/C Ratio(X)	0.59	0.00	0.65	0.17	0.00	0.00	0.19	0.22	0.22	0.01	0.30	0.30
Avail Cap(c_a), veh/h	201	0	227	179	0	0	585	1440	1506	627	1329	1307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	74.6	0.0	71.5	67.1	0.0	0.0	4.6	0.0	0.0	5.4	7.0	7.0
Incr Delay (d2), s/veh	2.5	0.0	3.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	0.0	8.9	1.7	0.0	0.0	1.2	0.0	0.0	0.1	8.5	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	0.0	75.1	67.5	0.0	0.0	4.6	0.0	0.0	5.5	7.6	7.6
LnGrp LOS	E	A	E	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h	215			23			753			803		
Approach Delay, s/veh	76.0			67.5			0.7			7.6		
Approach LOS	E			E			A			A		
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	10.7	133.1	26.2			143.8	26.2					
Change Period (Y+Rc), s	* 5.7	6.0	6.0			6.0	6.0					
Max Green Setting (Gmax), s	* 9.3	118.0	25.0			133.0	25.0					
Max Q Clear Time (g_c+I1), s	4.4	14.6	14.6			2.0	19.1					
Green Ext Time (p_c), s	0.0	1.9	0.0			1.4	0.4					
Intersection Summary												
HCM 6th Ctrl Delay	13.6											
HCM 6th LOS	B											
Notes												

Timings
4: NE 22nd Avenue & NE 164th Street

Future 2023 With Project - PM Peak Hour

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	94	1	7	1	103	624	5	653
Future Volume (vph)	94	1	7	1	103	624	5	653
Lane Group Flow (vph)	96	119	0	23	105	648	5	798
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8		4	1	6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	2	2
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	29.0	29.0	10.7	30.0	30.0	30.0
Total Split (s)	31.0	31.0	31.0	31.0	15.0	139.0	124.0	124.0
Total Split (%)	18.2%	18.2%	18.2%	18.2%	8.8%	81.8%	72.9%	72.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	5.7	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.72	0.46		0.15	0.20	0.22	0.01	0.31
Control Delay	100.9	16.4		37.2	1.9	1.8	6.6	6.9
Queue Delay	0.0	0.2		0.0	0.0	0.9	0.0	0.1
Total Delay	100.9	16.5		37.2	1.9	2.7	6.6	7.0
Queue Length 50th (ft)	106	1		8	8	28	1	125
Queue Length 95th (ft)	168	65		38	m15	m48	6	190
Internal Link Dist (ft)		1246		358		315		202
Turn Bay Length (ft)	75				105		75	
Base Capacity (vph)	201	325		226	541	2927	570	2612
Starvation Cap Reductn	0	0		0	0	1924	0	0
Spillback Cap Reductn	0	18		0	0	0	0	544
Storage Cap Reductn	0	0		0	0	0	0	0
Reduced v/c Ratio	0.48	0.39		0.10	0.19	0.65	0.01	0.39

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 106 (62%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

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

Splits and Phases: 4: NE 22nd Avenue & NE 164th Street



HCM 6th Signalized Intersection Summary

Future 2023 With Project - AM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/09/2021

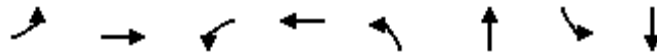
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1695	117	452	1475	119	144	379	293	178	440	50
Future Volume (veh/h)	73	1695	117	452	1475	119	144	379	293	178	440	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1856	1856	1841	1841	1826	1870	1841	1870	1870	1796
Adj Flow Rate, veh/h	78	1823	126	486	1586	128	155	408	315	191	473	54
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	3	3	4	4	5	2	4	2	2	7
Cap, veh/h	242	2381	164	271	2694	217	211	287	219	223	532	61
Arrive On Green	0.03	0.50	0.50	0.21	1.00	1.00	0.09	0.15	0.15	0.10	0.17	0.17
Sat Flow, veh/h	1781	4800	331	1767	4734	382	1739	1903	1455	1781	3215	366
Grp Volume(v), veh/h	78	1271	678	486	1122	592	155	381	342	191	261	266
Grp Sat Flow(s),veh/h/ln	1781	1675	1781	1767	1675	1766	1739	1777	1582	1781	1777	1804
Q Serve(g_s), s	3.7	52.4	52.7	18.0	0.0	0.0	12.7	25.6	25.6	15.3	24.4	24.6
Cycle Q Clear(g_c), s	3.7	52.4	52.7	18.0	0.0	0.0	12.7	25.6	25.6	15.3	24.4	24.6
Prop In Lane	1.00		0.19	1.00		0.22	1.00		0.92	1.00		0.20
Lane Grp Cap(c), veh/h	242	1662	883	271	1906	1005	211	268	238	223	294	299
V/C Ratio(X)	0.32	0.76	0.77	1.79	0.59	0.59	0.73	1.42	1.44	0.86	0.89	0.89
Avail Cap(c_a), veh/h	372	1662	883	271	1906	1005	240	268	238	227	294	299
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	19.7	34.8	34.9	41.4	0.0	0.0	56.0	72.2	72.2	55.2	69.4	69.4
Incr Delay (d2), s/veh	0.3	3.4	6.3	363.9	0.7	1.3	7.7	210.7	219.1	23.4	24.4	25.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	29.7	32.3	54.7	0.3	0.7	10.0	41.4	38.2	13.0	18.9	19.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	38.2	41.2	405.3	0.7	1.3	63.7	282.9	291.3	78.5	93.8	94.7
LnGrp LOS	C	D	D	F	A	A	E	F	F	E	F	F
Approach Vol, veh/h	2027				2200		878				718	
Approach Delay, s/veh	38.5				90.2		247.5				90.1	
Approach LOS	D				F		F				F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	102.7	23.7	32.0	24.0	90.3	21.1	34.5				
Change Period (Y+Rc), s	6.0	6.0	6.4	6.4	6.0	6.0	6.4	6.4				
Max Green Setting (Gmax), s	18.0	84.0	17.6	25.6	18.0	84.0	17.6	25.6				
Max Q Clear Time (g_c+I1), s	5.7	2.0	17.3	27.6	20.0	54.7	14.7	26.6				
Green Ext Time (p_c), s	0.1	5.2	0.0	0.0	0.0	6.2	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			95.9									
HCM 6th LOS			F									
Notes												
User approved ignoring U-Turning movement.												

Timings

Future 2023 With Project - AM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/09/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	73	1695	452	1475	144	379	178	440
Future Volume (vph)	73	1695	452	1475	144	379	178	440
Lane Group Flow (vph)	78	1949	486	1714	155	723	191	527
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	32.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	90.0	24.0	90.0	24.0	32.0	24.0	32.0
Total Split (%)	14.1%	52.9%	14.1%	52.9%	14.1%	18.8%	14.1%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.48	0.80	2.13	0.63	0.79	1.23	0.88	0.92
Control Delay	23.4	38.8	549.3	17.9	74.3	166.8	84.8	90.2
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0	4.5
Total Delay	23.4	38.8	549.3	18.3	74.3	166.8	84.8	94.7
Queue Length 50th (ft)	32	652	~823	262	135	~480	170	308
Queue Length 95th (ft)	55	712	m#1038	297	#215	#616	#310	#444
Internal Link Dist (ft)		1240		610		1033		315
Turn Bay Length (ft)	290		270		150		130	
Base Capacity (vph)	271	2443	228	2740	220	587	226	573
Starvation Cap Reductn	0	0	0	463	0	0	0	23
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.80	2.13	0.75	0.70	1.23	0.85	0.96

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street



HCM Signalized Intersection Capacity Analysis

Future 2023 With Project - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/10/2021

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	11	114	1640	146	14	289	1902	148	249	437	342	205
Future Volume (vph)	11	114	1640	146	14	289	1902	148	249	437	342	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	0.95		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	0.99		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.93		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1770	5016			1770	5025		1735	3274		1770
Flt Permitted		0.05	1.00			0.05	1.00		0.16	1.00		0.16
Satd. Flow (perm)		89	5016			90	5025		285	3274		291
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	11	118	1691	151	14	298	1961	153	257	451	353	211
RTOR Reduction (vph)	0	0	6	0	0	0	5	0	0	83	0	0
Lane Group Flow (vph)	0	129	1836	0	0	312	2109	0	257	721	0	211
Confl. Peds. (#/hr)				2		2			3		5	5
Confl. Bikes (#/hr)								5				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		96.4	84.0			107.6	89.6		43.2	25.6		43.2
Effective Green, g (s)		96.4	84.0			107.6	89.6		43.2	25.6		43.2
Actuated g/C Ratio		0.57	0.49			0.63	0.53		0.25	0.15		0.25
Clearance Time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Vehicle Extension (s)		2.0	1.0			3.0	1.0		2.0	2.5		2.0
Lane Grp Cap (vph)		173	2478			234	2648		222	493		227
v/s Ratio Prot		0.05	0.37			c0.14	0.42		c0.12	c0.22		0.10
v/s Ratio Perm		0.37				c0.70			0.17			0.14
v/c Ratio		0.75	0.74			1.33	0.80		1.16	1.46		0.93
Uniform Delay, d1		44.4	34.3			57.6	32.8		56.8	72.2		55.2
Progression Factor		1.00	1.00			1.36	0.51		1.00	1.00		0.91
Incremental Delay, d2		14.1	2.0			157.6	0.7		109.5	218.9		38.9
Delay (s)		58.5	36.4			236.2	17.3		166.3	291.1		88.9
Level of Service		E	D			F	B		F	F		F
Approach Delay (s)			37.8				45.4			260.8		
Approach LOS			D				D			F		
Intersection Summary												
HCM 2000 Control Delay			89.2				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.36									
Actuated Cycle Length (s)			170.0				Sum of lost time (s)			24.8		
Intersection Capacity Utilization			107.1%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

Future 2023 With Project - PM Peak Hour

09/10/2021



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	457	100
Future Volume (vph)	457	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3433	
Flt Permitted	1.00	
Satd. Flow (perm)	3433	
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	471	103
RTOR Reduction (vph)	11	0
Lane Group Flow (vph)	563	0
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	25.6	
Effective Green, g (s)	25.6	
Actuated g/C Ratio	0.15	
Clearance Time (s)	6.4	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	516	
v/s Ratio Prot	0.16	
v/s Ratio Perm		
v/c Ratio	1.09	
Uniform Delay, d1	72.2	
Progression Factor	0.93	
Incremental Delay, d2	66.0	
Delay (s)	133.5	
Level of Service	F	
Approach Delay (s)	121.5	
Approach LOS	F	
Intersection Summary		

Timings

Future 2023 With Project - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/10/2021



Lane Group	EBU	EBL	EBT	WBU	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↗	↗↗↗		↖	↖↖↖	↖	↖↖	↖	↖↖
Traffic Volume (vph)	11	114	1640	14	289	1902	249	437	205	457
Future Volume (vph)	11	114	1640	14	289	1902	249	437	205	457
Lane Group Flow (vph)	0	129	1842	0	312	2114	257	804	211	574
Turn Type	pm+pt	pm+pt	NA	pm+pt	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	1	6	5	5	2	7	4	3	8
Permitted Phases	6	6		2	2		4		8	
Detector Phase	1	1	6	5	5	2	7	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	11.0	32.0	11.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	24.0	90.0	24.0	24.0	90.0	24.0	32.0	24.0	32.0
Total Split (%)	14.1%	14.1%	52.9%	14.1%	14.1%	52.9%	14.1%	18.8%	14.1%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Max	None	None	C-Max	None	None	None	None
v/c Ratio		0.75	0.74		1.34	0.80	1.16	1.39	0.93	1.09
Control Delay		65.1	36.4		211.2	17.7	153.7	230.9	88.8	124.4
Queue Delay		0.0	0.0		0.0	3.9	0.0	0.0	0.0	4.1
Total Delay		65.1	36.4		211.2	21.6	153.7	230.9	88.8	128.5
Queue Length 50th (ft)		90	587		~402	271	~285	~577	190	~371
Queue Length 95th (ft)		163	645		m#431	m278	#480	#716	#357	#502
Internal Link Dist (ft)			1240			610		1033		315
Turn Bay Length (ft)		290			270		150		130	
Base Capacity (vph)		231	2485		233	2651	222	577	227	527
Starvation Cap Reductn		0	0		0	449	0	0	0	5
Spillback Cap Reductn		0	0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0
Reduced v/c Ratio		0.56	0.74		1.34	0.96	1.16	1.39	0.93	1.10

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street



HCM 6th Signalized Intersection Summary

6: Biscayne Boulevard & NE 163rd Street

Future 2023 With Project - AM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	430	1416	390	442	999	470	348	994	472	453	1328	503
Future Volume (veh/h)	430	1416	390	442	999	470	348	994	472	453	1328	503
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1826	1826	1870	1856	1870	1767	1856	1870	1870	1870	1870
Adj Flow Rate, veh/h	467	1539	424	480	1086	0	378	1080	513	492	1443	547
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	5	5	2	3	2	9	3	2	2	2	2
Cap, veh/h	501	1437	633	518	1479		413	1691	647	447	1722	647
Arrive On Green	0.29	0.58	0.58	0.15	0.29	0.00	0.13	0.26	0.26	0.13	0.27	0.27
Sat Flow, veh/h	3428	4985	1516	3456	5066	1585	3264	6383	1547	3456	6434	1551
Grp Volume(v), veh/h	467	1539	424	480	1086	0	378	1080	513	492	1443	547
Grp Sat Flow(s),veh/h/ln	1714	1662	1516	1728	1689	1585	1632	1596	1547	1728	1609	1551
Q Serve(g_s), s	22.5	49.0	37.6	23.3	32.8	0.0	19.4	25.4	45.0	22.0	36.0	45.5
Cycle Q Clear(g_c), s	22.5	49.0	37.6	23.3	32.8	0.0	19.4	25.4	45.0	22.0	36.0	45.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	1437	633	518	1479		413	1691	647	447	1722	647
V/C Ratio(X)	0.93	1.07	0.67	0.93	0.73		0.91	0.64	0.79	1.10	0.84	0.85
Avail Cap(c_a), veh/h	524	1437	633	529	1479		422	1691	647	447	1722	647
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	36.0	23.9	71.4	54.2	0.0	73.3	55.3	43.6	74.0	58.8	45.1
Incr Delay (d2), s/veh	13.9	39.5	1.3	22.5	1.8	0.0	23.9	1.9	9.6	72.5	5.1	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.3	27.3	13.7	17.5	20.1	0.0	14.5	15.6	28.0	21.2	21.4	30.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.2	75.5	25.1	93.9	56.1	0.0	97.2	57.1	53.2	146.5	63.8	58.0
LnGrp LOS	E	F	C	F	E		F	E	D	F	E	E
Approach Vol, veh/h	2430			1566			1971			2482		
Approach Delay, s/veh	66.3			67.7			63.8			78.9		
Approach LOS	E			E			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.3	52.7	31.6	57.3	28.8	52.2	32.3	56.7				
Change Period (Y+Rc), s	6.8	* 7.2	6.8	* 7.7	6.8	* 7.2	6.8	* 7.7				
Max Green Setting (Gmax), s	22.0	* 45	26.0	* 49	22.0	* 45	26.0	* 49				
Max Q Clear Time (g_c+I1), s	21.4	47.5	24.5	34.8	24.0	47.0	25.3	51.0				
Green Ext Time (p_c), s	0.1	0.0	0.3	5.1	0.0	0.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay 69.7

HCM 6th LOS E

Notes

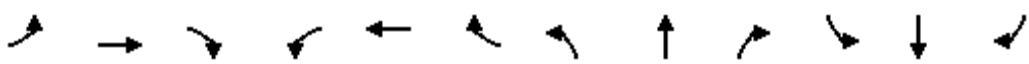
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
6: Biscayne Boulevard & NE 163rd Street

Future 2023 With Project - AM Peak Hour

09/09/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	430	1416	390	442	999	470	348	994	472	453	1328	503
Future Volume (vph)	430	1416	390	442	999	470	348	994	472	453	1328	503
Lane Group Flow (vph)	467	1539	424	480	1086	511	378	1080	513	492	1443	547
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			Free			6			2
Detector Phase	3	8	1	7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0		5.0	7.0	5.0	5.0	7.0	5.0
Minimum Split (s)	11.8	55.2	11.8	11.8	55.2		11.8	49.2	11.8	11.8	49.2	11.8
Total Split (s)	32.8	56.7	28.8	32.8	56.7		28.8	51.7	32.8	28.8	51.7	32.8
Total Split (%)	19.3%	33.4%	16.9%	19.3%	33.4%		16.9%	30.4%	19.3%	16.9%	30.4%	19.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.9	2.0	2.0	2.9		2.0	2.4	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.7	6.8	6.8	7.7		6.8	7.2	6.8	6.8	7.2	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	None
v/c Ratio	0.91	1.07	0.62	0.93	0.74	0.33	0.92	0.65	0.74	1.11	0.86	0.79
Control Delay	100.1	90.6	15.1	95.8	58.4	0.6	100.9	58.0	39.2	140.2	65.6	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.1	90.6	15.2	95.8	58.4	0.6	100.9	58.0	39.2	140.2	65.6	42.2
Queue Length 50th (ft)	282	~685	106	275	405	0	217	313	385	~320	449	428
Queue Length 95th (ft)	m#344	m#741	m131	#378	461	0	#314	355	527	#442	496	584
Internal Link Dist (ft)		610			881			1536			859	
Turn Bay Length (ft)	225		240	385			420		400	430		400
Base Capacity (vph)	520	1434	686	525	1461	1560	415	1661	693	444	1687	698
Starvation Cap Reductn	0	0	6	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	1.07	0.62	0.91	0.74	0.33	0.91	0.65	0.74	1.11	0.86	0.78

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 77 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 6: Biscayne Boulevard & NE 163rd Street

Ø1	Ø2 (R)	Ø3	Ø4
28.8 s	51.7 s	32.8 s	56.7 s
Ø5	Ø6 (R)	Ø7	Ø8
28.8 s	51.7 s	32.8 s	56.7 s

HCM 6th Signalized Intersection Summary 6: Biscayne Boulevard & NE 163rd Street

Future 2023 With Project - PM Peak Hour

09/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Future Volume (veh/h)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1870	1870	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	530	1216	489	657	1514	0	449	1449	668	462	1352	572
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	3	2	2	2	3	2	2	2	2	2
Cap, veh/h	529	1427	653	529	1427		488	1644	639	499	1659	649
Arrive On Green	0.31	0.56	0.56	0.15	0.28	0.00	0.14	0.26	0.26	0.14	0.26	0.26
Sat Flow, veh/h	3456	5106	1535	3456	5106	1585	3428	6434	1553	3456	6434	1578
Grp Volume(v), veh/h	530	1216	489	657	1514	0	449	1449	668	462	1352	572
Grp Sat Flow(s),veh/h/ln	1728	1702	1535	1728	1702	1585	1714	1609	1553	1728	1609	1578
Q Serve(g_s), s	26.0	34.1	47.5	26.0	47.5	0.0	22.0	36.8	43.4	22.4	33.6	43.8
Cycle Q Clear(g_c), s	26.0	34.1	47.5	26.0	47.5	0.0	22.0	36.8	43.4	22.4	33.6	43.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	529	1427	653	529	1427		488	1644	639	499	1659	649
V/C Ratio(X)	1.00	0.85	0.75	1.24	1.06		0.92	0.88	1.04	0.93	0.82	0.88
Avail Cap(c_a), veh/h	529	1427	653	529	1427		504	1644	639	508	1659	649
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.0	34.5	26.7	72.0	61.3	0.0	72.0	60.8	50.4	71.8	59.3	46.3
Incr Delay (d2), s/veh	30.0	2.9	2.6	124.7	41.9	0.0	22.0	7.2	47.8	22.8	4.5	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.6	15.9	19.3	30.8	35.3	0.0	16.5	22.1	46.4	16.9	20.1	33.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.0	37.5	29.3	196.7	103.2	0.0	94.0	68.0	98.3	94.6	63.8	62.2
LnGrp LOS	F	D	C	F	F		F	E	F	F	E	E
Approach Vol, veh/h	2235			2171			2566			2386		
Approach Delay, s/veh	47.9			131.5			80.4			69.4		
Approach LOS	D			F			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	51.0	32.8	55.2	31.4	50.6	32.8	55.2				
Change Period (Y+Rc), s	6.8	* 7.2	6.8	* 7.7	6.8	* 7.2	6.8	* 7.7				
Max Green Setting (Gmax), s	25.0	* 43	26.0	* 48	25.0	* 43	26.0	* 48				
Max Q Clear Time (g_c+I1), s	24.0	45.8	28.0	49.5	24.4	45.4	28.0	49.5				
Green Ext Time (p_c), s	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	81.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
6: Biscayne Boulevard & NE 163rd Street

Future 2023 With Project - PM Peak Hour

09/09/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Future Volume (vph)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Lane Group Flow (vph)	530	1216	489	657	1514	734	449	1449	668	463	1352	572
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			Free			6			2
Detector Phase	3	8	1	7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0		5.0	7.0	5.0	5.0	7.0	5.0
Minimum Split (s)	11.8	55.2	11.8	11.8	55.2		11.8	49.2	11.8	11.8	49.2	11.8
Total Split (s)	32.8	55.2	31.8	32.8	55.2		31.8	50.2	32.8	31.8	50.2	32.8
Total Split (%)	19.3%	32.5%	18.7%	19.3%	32.5%		18.7%	29.5%	19.3%	18.7%	29.5%	19.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.9	2.0	2.0	2.9		2.0	2.4	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.7	6.8	6.8	7.7		6.8	7.2	6.8	6.8	7.2	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	None
v/c Ratio	1.01	0.86	0.70	1.25	1.07	0.47	0.92	0.89	0.98	0.93	0.83	0.83
Control Delay	113.7	53.0	17.3	183.7	100.7	1.0	95.4	68.7	68.5	97.3	64.9	46.7
Queue Delay	0.0	0.0	0.1	0.0	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.7	53.0	17.3	183.7	114.7	1.0	95.4	68.7	68.5	97.3	64.9	46.8
Queue Length 50th (ft)	~325	364	137	~469	~678	0	257	457	621	266	418	471
Queue Length 95th (ft)	m#397	m423	m158	#598	#775	0	#354	504	#673	#369	464	639
Internal Link Dist (ft)		610			881			1536			859	
Turn Bay Length (ft)	225		240	385			420		400	430		400
Base Capacity (vph)	525	1420	707	525	1420	1559	500	1632	685	504	1638	687
Starvation Cap Reductn	0	0	8	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	83	0	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.86	0.70	1.25	1.13	0.47	0.90	0.89	0.98	0.92	0.83	0.83

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 77 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 6: Biscayne Boulevard & NE 163rd Street

Ø1	Ø2 (R)	Ø3	Ø4
31.8 s	50.2 s	32.8 s	55.2 s
Ø5	Ø6 (R)	Ø7	Ø8
31.8 s	50.2 s	32.8 s	55.2 s

Intersection													
Int Delay, s/veh	0.9												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗ ↑↑↑				↑↑↑				↗			↗
Traffic Vol, veh/h	21	45	2029	1	0	1613	42	0	0	0	0	0	49
Future Vol, veh/h	21	45	2029	1	0	1613	42	0	0	0	0	0	49
Conflicting Peds, #/hr	0	2	0	4	4	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	85	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	2	2	4	2	2	2	2	2	2	4
Mvmt Flow	22	47	2114	1	0	1680	44	0	0	0	0	0	51
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	1258	1726	0	0	-	-	0	-	-	1062	-	-	864
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.68	5.38	-	-	-	-	-	-	-	7.14	-	-	7.18
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.34	3.14	-	-	-	-	-	-	-	3.92	-	-	3.94
Pot Cap-1 Maneuver	309	168	-	-	0	-	-	0	0	189	0	0	252
Stage 1	-	-	-	-	0	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	187	187	-	-	-	-	-	-	-	188	-	-	252
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	1.1			0			0			22.9			
HCM LOS							A			C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1						
Capacity (veh/h)	-	187	-	-	-	-	252						
HCM Lane V/C Ratio	-	0.368	-	-	-	-	0.203						
HCM Control Delay (s)	0	34.9	-	-	-	-	22.9						
HCM Lane LOS	A	D	-	-	-	-	C						
HCM 95th %tile Q(veh)	-	1.6	-	-	-	-	0.7						

Intersection													
Int Delay, s/veh	9.8												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗ ↑↑↑			↑↑↑					↗			↗
Traffic Vol, veh/h	30	88	1887	11	0	2164	93	0	0	10	0	0	79
Future Vol, veh/h	30	88	1887	11	0	2164	93	0	0	10	0	0	79
Conflicting Peds, #/hr	0	2	0	5	5	0	2	5	0	5	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	85	-	-	-	-	-	-	-	0	-	-	0
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	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	91	1945	11	0	2231	96	0	0	10	0	0	81

Major/Minor	Major1		Major2		Minor1		Minor2	
Conflicting Flow All	1699	2329	0	0	-	-	0	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	5.64	5.34	-	-	-	-	7.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.32	3.12	-	-	-	-	3.92	-
Pot Cap-1 Maneuver	178	~ 85	-	-	0	-	0	211
Stage 1	-	-	-	-	0	-	0	-
Stage 2	-	-	-	-	0	-	0	-
Platoon blocked, %			-	-	-	-		
Mov Cap-1 Maneuver	86	~ 86	-	-	-	-	209	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.1	0	23.1	49.3
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	209	~ 86	-	-	-	-	159
HCM Lane V/C Ratio	0.049	1.415	-	-	-	-	0.512
HCM Control Delay (s)	23.1	326.5	-	-	-	-	49.3
HCM Lane LOS	C	F	-	-	-	-	E
HCM 95th %tile Q(veh)	0.2	9.3	-	-	-	-	2.5

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM Signalized Intersection Capacity Analysis

8: NE 19th Avenue & NE 167th St

Future 2023 With Project - AM Peak Hour

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	28	16	88	64	9	43	14	82	634	56	26	988
Future Volume (vph)	28	16	88	64	9	43	14	82	634	56	26	988
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.98		0.99			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		0.95			1.00	0.99		1.00	0.99
Flt Protected	0.95	1.00	1.00		0.97			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1729	1863	1557		1672			1769	3419		1727	3512
Flt Permitted	0.66	1.00	1.00		0.82			0.21	1.00		0.38	1.00
Satd. Flow (perm)	1207	1863	1557		1407			385	3419		693	3512
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	16	91	66	9	44	14	85	654	58	27	1019
RTOR Reduction (vph)	0	0	78	0	25	0	0	0	3	0	0	2
Lane Group Flow (vph)	29	16	13	0	94	0	0	99	709	0	27	1063
Confl. Peds. (#/hr)	5		5	5		5		4		6	6	
Confl. Bikes (#/hr)										3		
Heavy Vehicles (%)	4%	2%	2%	2%	25%	3%	2%	2%	4%	4%	4%	2%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	pm+pt	NA		Perm	NA
Protected Phases		8			4		1	1	6			2
Permitted Phases	8		8	4			6	6			2	
Actuated Green, G (s)	15.4	15.4	15.4		15.4			82.6	82.6		70.5	70.5
Effective Green, g (s)	15.4	15.4	15.4		15.4			82.6	82.6		70.5	70.5
Actuated g/C Ratio	0.14	0.14	0.14		0.14			0.75	0.75		0.64	0.64
Clearance Time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5		2.5			2.0	1.0		1.0	1.0
Lane Grp Cap (vph)	168	260	217		196			369	2567		444	2250
v/s Ratio Prot		0.01						0.02	c0.21			c0.30
v/s Ratio Perm	0.02		0.01		c0.07			0.19			0.04	
v/c Ratio	0.17	0.06	0.06		0.48			0.27	0.28		0.06	0.47
Uniform Delay, d1	41.7	41.0	41.0		43.6			5.4	4.3		7.4	10.2
Progression Factor	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.1		1.3			0.1	0.3		0.3	0.7
Delay (s)	42.0	41.1	41.1		45.0			5.5	4.6		7.6	10.9
Level of Service	D	D	D		D			A	A		A	B
Approach Delay (s)		41.3			45.0				4.7			10.8
Approach LOS		D			D				A			B
Intersection Summary												
HCM 2000 Control Delay			12.3			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			73.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	46
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
8: NE 19th Avenue & NE 167th St

Future 2023 With Project - AM Peak Hour

09/10/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	16	88	64	9	14	82	634	26	988
Future Volume (vph)	28	16	88	64	9	14	82	634	26	988
Lane Group Flow (vph)	29	16	91	0	119	0	99	712	27	1065
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	pm+pt	NA	Perm	NA
Protected Phases		8			4	1	1	6		2
Permitted Phases	8		8	4		6	6		2	
Detector Phase	8	8	8	4	4	1	1	6	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	5.0	7.0	7.0	7.0
Minimum Split (s)	40.0	40.0	40.0	40.0	40.0	10.7	10.7	32.0	32.0	32.0
Total Split (s)	42.0	42.0	42.0	42.0	42.0	15.0	15.0	68.0	53.0	53.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	38.2%	13.6%	13.6%	61.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0		5.7	6.0	6.0	6.0
Lead/Lag						Lead	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.17	0.06	0.31		0.54		0.27	0.28	0.06	0.47
Control Delay	39.2	35.7	9.6		39.6		7.2	5.8	12.2	13.1
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Delay	39.2	35.7	9.6		39.6		7.2	5.8	12.2	13.1
Queue Length 50th (ft)	19	10	0		62		13	57	6	163
Queue Length 95th (ft)	37	24	37		95		53	166	29	382
Internal Link Dist (ft)		601			593			454		280
Turn Bay Length (ft)	80		80						25	
Base Capacity (vph)	394	609	570		479		408	2572	444	2254
Starvation Cap Reductn	0	0	0		0		0	0	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.07	0.03	0.16		0.25		0.24	0.28	0.06	0.47

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 28 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 8: NE 19th Avenue & NE 167th St



HCM Signalized Intersection Capacity Analysis

8: NE 19th Avenue & NE 167th St

Future 2023 With Project - PM Peak Hour

09/10/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	21	11	68	68	12	53	9	43	853	58	42	898
Future Volume (vph)	21	11	68	68	12	53	9	43	853	58	42	898
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.97		0.99			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		0.95			1.00	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.98			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1764	1863	1535		1655			1769	3498		1746	3524
Flt Permitted	0.63	1.00	1.00		0.83			0.24	1.00		0.30	1.00
Satd. Flow (perm)	1168	1863	1535		1414			447	3498		554	3524
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)	22	11	71	71	12	55	9	45	889	60	44	935
RTOR Reduction (vph)	0	0	59	0	22	0	0	0	3	0	0	1
Lane Group Flow (vph)	22	11	12	0	117	0	0	54	946	0	44	956
Confl. Peds. (#/hr)	4		18	18		4		5		6	6	
Confl. Bikes (#/hr)						2				3		
Heavy Vehicles (%)	2%	2%	2%	5%	9%	2%	2%	2%	2%	2%	3%	2%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	pm+pt	NA		Perm	NA
Protected Phases		8			4		1	1	6			2
Permitted Phases	8		8	4			6	6			2	
Actuated Green, G (s)	20.3	20.3	20.3		20.3			87.7	87.7		77.2	77.2
Effective Green, g (s)	20.3	20.3	20.3		20.3			87.7	87.7		77.2	77.2
Actuated g/C Ratio	0.17	0.17	0.17		0.17			0.73	0.73		0.64	0.64
Clearance Time (s)	6.0	6.0	6.0		6.0			5.7	6.0		6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5		2.5			2.0	1.0		1.0	1.0
Lane Grp Cap (vph)	197	315	259		239			379	2556		356	2267
v/s Ratio Prot		0.01						0.01	c0.27			c0.27
v/s Ratio Perm	0.02		0.01		c0.08			0.10			0.08	
v/c Ratio	0.11	0.03	0.05		0.49			0.14	0.37		0.12	0.42
Uniform Delay, d1	42.2	41.7	41.7		45.1			5.7	6.0		8.3	10.5
Progression Factor	1.00	1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.0	0.1		1.1			0.1	0.4		0.7	0.6
Delay (s)	42.4	41.7	41.8		46.3			5.8	6.4		9.0	11.1
Level of Service	D	D	D		D			A	A		A	B
Approach Delay (s)		41.9			46.3				6.3			11.0
Approach LOS		D			D				A			B
Intersection Summary												
HCM 2000 Control Delay			12.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	21
Future Volume (vph)	21
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Timings
8: NE 19th Avenue & NE 167th St

Future 2023 With Project - PM Peak Hour

09/10/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBU	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	21	11	68	68	12	9	43	853	42	898
Future Volume (vph)	21	11	68	68	12	9	43	853	42	898
Lane Group Flow (vph)	22	11	71	0	139	0	54	949	44	957
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	pm+pt	NA	Perm	NA
Protected Phases		8			4	1	1	6		2
Permitted Phases	8		8	4		6	6		2	
Detector Phase	8	8	8	4	4	1	1	6	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	5.0	7.0	7.0	7.0
Minimum Split (s)	40.0	40.0	40.0	40.0	40.0	10.7	10.7	32.0	32.0	32.0
Total Split (s)	40.0	40.0	40.0	40.0	40.0	15.0	15.0	80.0	65.0	65.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	12.5%	12.5%	66.7%	54.2%	54.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	3.7	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0		5.7	6.0	6.0	6.0
Lead/Lag						Lead	Lead		Lag	Lag
Lead-Lag Optimize?						Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.11	0.03	0.22		0.53		0.14	0.37	0.12	0.42
Control Delay	37.3	34.3	7.5		41.0		7.8	8.0	14.1	13.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.5	0.0	0.0
Total Delay	37.3	34.3	7.5		41.0		7.8	8.4	14.1	13.3
Queue Length 50th (ft)	16	8	0		85		8	96	10	151
Queue Length 95th (ft)	34	21	31		126		32	233	42	314
Internal Link Dist (ft)		601			593			454		280
Turn Bay Length (ft)	80		80						25	
Base Capacity (vph)	330	527	491		420		429	2560	360	2301
Starvation Cap Reductn	0	0	0		0		0	1040	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.07	0.02	0.14		0.33		0.13	0.62	0.12	0.42

Intersection Summary

Cycle Length: 120

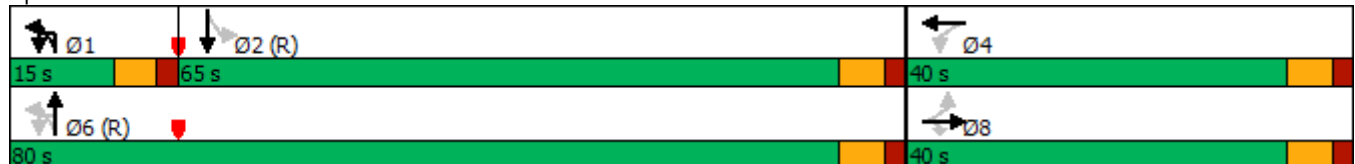
Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 8: NE 19th Avenue & NE 167th St



Intersection

Int Delay, s/veh 0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	3	0	49	8	0
Future Vol, veh/h	22	3	0	49	8	0
Conflicting Peds, #/hr	0	8	8	0	8	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	4	0	58	9	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	38
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1572
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1560
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	882	-	-	1560	-
HCM Lane V/C Ratio	0.011	-	-	-	-
HCM Control Delay (s)	9.1	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	8	0	82	6	0
Future Vol, veh/h	37	8	0	82	6	0
Conflicting Peds, #/hr	0	2	2	0	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	11	0	114	8	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	64	0	175	61
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1538	-	815	1004
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1535	-	812	1000
Mov Cap-2 Maneuver	-	-	-	-	812	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	907	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0		9.5		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	812	-	-	1535	-	
HCM Lane V/C Ratio	0.01	-	-	-	-	
HCM Control Delay (s)	9.5	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	9	48	10	2
Future Vol, veh/h	0	23	9	48	10	2
Conflicting Peds, #/hr	0	1	3	0	0	3
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	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	5	2	2
Mvmt Flow	0	32	12	66	14	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	109	20	20	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	888	1058	1596	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	876	1054	1591	-	-	-
Mov Cap-2 Maneuver	876	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	1.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1591	-	1054	-	-	
HCM Lane V/C Ratio	0.008	-	0.03	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	20	68	17	0
Future Vol, veh/h	0	14	20	68	17	0
Conflicting Peds, #/hr	8	9	7	0	0	7
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	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	23	79	20	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	160	36	27	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	133	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	831	1037	1587	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	893	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	807	1021	1576	-	-	-
Mov Cap-2 Maneuver	807	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.6	1.7		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1576	-	1021	-	-	
HCM Lane V/C Ratio	0.015	-	0.016	-	-	
HCM Control Delay (s)	7.3	0	8.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	200	125	33	46	81
Future Vol, veh/h	30	200	125	33	46	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	222	139	37	51	90
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	176	0	-	0	446	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	288	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1400	-	-	-	570	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	761	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1400	-	-	-	556	887
Mov Cap-2 Maneuver	-	-	-	-	556	-
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	761	-
Approach	EB	WB		SB		
HCM Control Delay, s	1	0		11.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1400	-	-	-	730	
HCM Lane V/C Ratio	0.024	-	-	-	0.193	
HCM Control Delay (s)	7.6	-	-	-	11.1	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	188	205	85	49	87
Future Vol, veh/h	77	188	205	85	49	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	216	236	98	56	100

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	334	0	0	679	285
Stage 1	-	-	-	285	-
Stage 2	-	-	-	394	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1225	-	-	417	754
Stage 1	-	-	-	763	-
Stage 2	-	-	-	681	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1225	-	-	387	754
Mov Cap-2 Maneuver	-	-	-	387	-
Stage 1	-	-	-	707	-
Stage 2	-	-	-	681	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1225	-	-	-	562
HCM Lane V/C Ratio	0.072	-	-	-	0.278
HCM Control Delay (s)	8.2	-	-	-	13.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.1

HCM 6th TWSC
11: NE 164th Street & Project Entrance

10/27/2021

Intersection

Int Delay, s/veh 3.2

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	30	200	125	33	46	81
Future Vol, veh/h	30	200	125	33	46	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	222	139	37	51	90

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	176	0	-	0	446	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	288	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1400	-	-	-	570	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	761	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1400	-	-	-	556	887
Mov Cap-2 Maneuver	-	-	-	-	556	-
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	761	-

Approach EB WB SB

HCM Control Delay, s	1	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1400	-	-	-	730
HCM Lane V/C Ratio	0.024	-	-	-	0.193
HCM Control Delay (s)	7.6	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	188	205	85	49	87
Future Vol, veh/h	77	188	205	85	49	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	216	236	98	56	100

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	334	0	0 679 285
Stage 1	-	-	- 285 -
Stage 2	-	-	- 394 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1225	-	- 417 754
Stage 1	-	-	- 763 -
Stage 2	-	-	- 681 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1225	-	- 387 754
Mov Cap-2 Maneuver	-	-	- 387 -
Stage 1	-	-	- 707 -
Stage 2	-	-	- 681 -

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1225	-	-	-	562
HCM Lane V/C Ratio	0.072	-	-	-	0.278
HCM Control Delay (s)	8.2	-	-	-	13.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.1

**Future with Project with
Improvements Conditions**

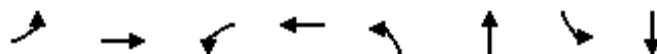
HCM 6th Signalized Future 2023 With Project With Intersection Improvements - AM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1695	117	452	1475	119	144	379	293	178	440	50
Future Volume (veh/h)	73	1695	117	452	1475	119	144	379	293	178	440	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1856	1856	1841	1841	1826	1870	1841	1870	1870	1796
Adj Flow Rate, veh/h	78	1823	126	486	1586	128	155	408	315	191	473	54
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	3	3	4	4	5	2	4	2	2	7
Cap, veh/h	239	2315	160	266	2627	212	223	387	296	153	585	66
Arrive On Green	0.03	0.48	0.48	0.21	1.00	1.00	0.08	0.20	0.20	0.06	0.18	0.18
Sat Flow, veh/h	1781	4800	331	1767	4734	382	1739	1904	1456	1781	3215	366
Grp Volume(v), veh/h	78	1271	678	486	1122	592	155	381	342	191	261	266
Grp Sat Flow(s),veh/h/ln	1781	1675	1781	1767	1675	1766	1739	1777	1583	1781	1777	1804
Q Serve(g_s), s	3.8	53.8	54.1	18.0	0.0	0.0	12.2	34.6	34.6	10.6	23.9	24.1
Cycle Q Clear(g_c), s	3.8	53.8	54.1	18.0	0.0	0.0	12.2	34.6	34.6	10.6	23.9	24.1
Prop In Lane	1.00		0.19	1.00		0.22	1.00		0.92	1.00		0.20
Lane Grp Cap(c), veh/h	239	1616	859	266	1859	980	223	362	322	153	323	328
V/C Ratio(X)	0.33	0.79	0.79	1.82	0.60	0.60	0.70	1.05	1.06	1.24	0.81	0.81
Avail Cap(c_a), veh/h	368	1616	859	266	1859	980	277	362	322	153	323	328
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	20.8	36.7	36.8	42.2	0.0	0.0	52.4	67.7	67.7	58.8	66.7	66.8
Incr Delay (d2), s/veh	0.3	3.9	7.3	378.9	0.8	1.4	3.4	61.7	67.8	151.1	12.8	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	30.5	33.3	48.1	0.4	0.7	9.4	30.3	28.2	13.3	17.6	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	40.6	44.1	421.0	0.8	1.4	55.8	129.4	135.5	209.9	79.5	80.0
LnGrp LOS	C	D	D	F	A	A	E	F	F	F	E	F
Approach Vol, veh/h		2027			2200			878			718	
Approach Delay, s/veh		41.0			93.8			118.8			114.4	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	100.3	17.0	41.0	24.0	88.0	20.7	37.3				
Change Period (Y+Rc), s	6.0	6.0	6.4	6.4	6.0	6.0	6.4	6.4				
Max Green Setting (Gmax), s	18.0	82.0	10.6	34.6	18.0	82.0	19.6	25.6				
Max Q Clear Time (g_c+I1), s	5.8	2.0	12.6	36.6	20.0	56.1	14.2	26.1				
Green Ext Time (p_c), s	0.1	5.2	0.0	0.0	0.0	6.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				81.7								
HCM 6th LOS				F								
Notes												
User approved ignoring U-Turning movement.												

Timings Future 2023 With Project With Intersection Improvements - AM Peak Hour
5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street 09/13/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	73	1695	452	1475	144	379	178	440
Future Volume (vph)	73	1695	452	1475	144	379	178	440
Lane Group Flow (vph)	78	1949	486	1714	155	723	191	527
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	32.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	88.0	24.0	88.0	26.0	41.0	17.0	32.0
Total Split (%)	14.1%	51.8%	14.1%	51.8%	15.3%	24.1%	10.0%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.48	0.82	2.11	0.64	0.75	0.97	1.24	0.88
Control Delay	24.6	41.0	542.3	18.8	68.0	84.2	192.4	83.2
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0	7.2
Total Delay	24.6	41.0	542.3	19.2	68.0	84.2	192.4	90.4
Queue Length 50th (ft)	33	668	~823	266	133	374	~211	303
Queue Length 95th (ft)	57	730	m#1038	299	201	#510	#400	#444
Internal Link Dist (ft)		1240		610		1033		315
Turn Bay Length (ft)	290		270		150		130	
Base Capacity (vph)	267	2385	230	2682	243	745	154	602
Starvation Cap Reductn	0	0	0	452	0	0	0	51
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.82	2.11	0.77	0.64	0.97	1.24	0.96

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

~ 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.

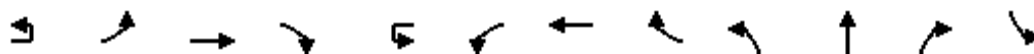
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street



HCM Signalized Intersection Capacity Analysis - Future 2023 With Project With Improvements - PM Peak Hour 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/13/2021



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	11	114	1640	146	14	289	1902	148	249	437	342	205
Future Volume (vph)	11	114	1640	146	14	289	1902	148	249	437	342	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Lane Util. Factor		1.00	0.91			1.00	0.91		1.00	0.95		1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	0.99		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	0.93		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1770	5016			1770	5025		1736	3274		1770
Flt Permitted		0.05	1.00			0.05	1.00		0.11	1.00		0.14
Satd. Flow (perm)		96	5016			89	5025		209	3274		261
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	11	118	1691	151	14	298	1961	153	257	451	353	211
RTOR Reduction (vph)	0	0	6	0	0	0	5	0	0	83	0	0
Lane Group Flow (vph)	0	129	1836	0	0	312	2109	0	257	721	0	211
Confl. Peds. (#/hr)				2		2			3		5	5
Confl. Bikes (#/hr)								5				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA		pm+pt
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases	6	6			2	2			4			8
Actuated Green, G (s)		90.5	78.0			101.5	83.5		55.6	35.6		42.2
Effective Green, g (s)		90.5	78.0			101.5	83.5		55.6	35.6		42.2
Actuated g/C Ratio		0.53	0.46			0.60	0.49		0.33	0.21		0.25
Clearance Time (s)		6.0	6.0			6.0	6.0		6.4	6.4		6.4
Vehicle Extension (s)		2.0	1.0			3.0	1.0		2.0	2.5		2.0
Lane Grp Cap (vph)		174	2301			231	2468		253	685		185
v/s Ratio Prot		0.05	0.37			c0.14	0.42		c0.12	c0.22		0.09
v/s Ratio Perm		0.34				c0.66			0.21			0.19
v/c Ratio		0.74	0.80			1.35	0.85		1.02	1.05		1.14
Uniform Delay, d1		44.1	39.3			58.6	37.9		52.9	67.2		57.4
Progression Factor		1.00	1.00			1.42	0.53		1.00	1.00		0.89
Incremental Delay, d2		13.8	3.0			165.2	1.1		60.7	49.0		107.9
Delay (s)		57.9	42.3			248.6	21.3		113.6	116.2		158.9
Level of Service		E	D			F	C		F	F		F
Approach Delay (s)			43.3				50.5			115.6		
Approach LOS			D				D			F		
Intersection Summary												
HCM 2000 Control Delay			67.2				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.30									
Actuated Cycle Length (s)			170.0				Sum of lost time (s)			24.8		
Intersection Capacity Utilization			107.1%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis - Future 2023 With Project With Improvements - PM Peak Hour
 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street 09/13/2021



Movement	SBT	SBR
Lane Configurations	↑↑	→
Traffic Volume (vph)	457	100
Future Volume (vph)	457	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3433	
Flt Permitted	1.00	
Satd. Flow (perm)	3433	
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	471	103
RTOR Reduction (vph)	11	0
Lane Group Flow (vph)	563	0
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	28.6	
Effective Green, g (s)	28.6	
Actuated g/C Ratio	0.17	
Clearance Time (s)	6.4	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	577	
v/s Ratio Prot	0.16	
v/s Ratio Perm		
v/c Ratio	0.98	
Uniform Delay, d1	70.4	
Progression Factor	0.93	
Incremental Delay, d2	30.5	
Delay (s)	96.2	
Level of Service	F	
Approach Delay (s)	113.1	
Approach LOS	F	
Intersection Summary		

Timings

Future 2023 With Project With Improvements - PM Peak Hour

5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street

09/13/2021



Lane Group	EBU	EBL	EBT	WBU	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↔↔↔		↔	↔↔↔	↔	↔↔	↔	↔↔
Traffic Volume (vph)	11	114	1640	14	289	1902	249	437	205	457
Future Volume (vph)	11	114	1640	14	289	1902	249	437	205	457
Lane Group Flow (vph)	0	129	1842	0	312	2114	257	804	211	574
Turn Type	pm+pt	pm+pt	NA	pm+pt	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	1	6	5	5	2	7	4	3	8
Permitted Phases	6	6		2	2		4		8	
Detector Phase	1	1	6	5	5	2	7	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	7.0	5.0	7.0
Minimum Split (s)	11.0	11.0	32.0	11.0	11.0	32.0	11.4	30.4	11.4	30.4
Total Split (s)	24.0	24.0	84.0	24.0	24.0	84.0	27.0	42.0	20.0	35.0
Total Split (%)	14.1%	14.1%	49.4%	14.1%	14.1%	49.4%	15.9%	24.7%	11.8%	20.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Max	None	None	C-Max	None	None	None	None
v/c Ratio		0.75	0.80		1.36	0.86	1.02	1.05	1.14	0.98
Control Delay		64.7	42.3		220.5	21.8	109.7	100.0	146.3	94.4
Queue Delay		0.0	0.0		0.0	18.9	0.0	0.0	0.0	20.0
Total Delay		64.7	42.3		220.5	40.6	109.7	100.0	146.3	114.3
Queue Length 50th (ft)		91	632		~410	273	~250	~458	~222	333
Queue Length 95th (ft)		163	693		m#439	m758	#444	#597	#406	#464
Internal Link Dist (ft)			1240			610		1033		315
Turn Bay Length (ft)		290			270		150		130	
Base Capacity (vph)		231	2308		230	2472	253	768	185	588
Starvation Cap Reductn		0	0		0	422	0	0	0	41
Spillback Cap Reductn		0	0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0
Reduced v/c Ratio		0.56	0.80		1.36	1.03	1.02	1.05	1.14	1.05

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 27 (16%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

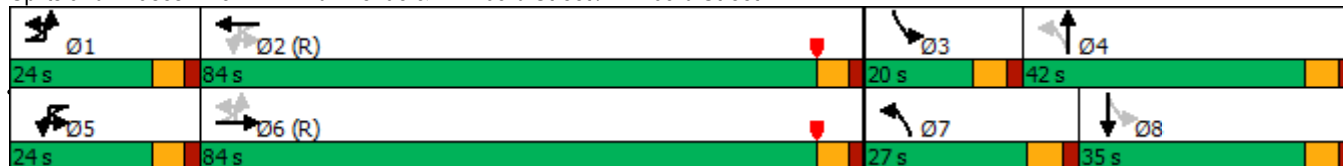
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 5: NE 22nd Avenue & NE 163rd Street /NE 163rd Street



HCM 6th Signalized Intersection Summary 2023 With Project With Improvements - PM Peak Hour

6: Biscayne Boulevard & NE 163rd Street

09/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Future Volume (veh/h)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1870	1870	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	530	1216	489	657	1514	0	449	1449	668	462	1352	572
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	3	2	2	2	3	2	2	2	2	2
Cap, veh/h	569	1427	616	630	1517		407	1620	680	411	1620	658
Arrive On Green	0.33	0.56	0.56	0.18	0.30	0.00	0.12	0.25	0.25	0.12	0.25	0.25
Sat Flow, veh/h	3456	5106	1535	3456	5106	1585	3428	6434	1553	3456	6434	1577
Grp Volume(v), veh/h	530	1216	489	657	1514	0	449	1449	668	462	1352	572
Grp Sat Flow(s),veh/h/ln	1728	1702	1535	1728	1702	1585	1714	1609	1553	1728	1609	1577
Q Serve(g_s), s	25.2	34.1	47.5	31.0	50.4	0.0	20.2	37.0	42.8	20.2	33.8	42.8
Cycle Q Clear(g_c), s	25.2	34.1	47.5	31.0	50.4	0.0	20.2	37.0	42.8	20.2	33.8	42.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	569	1427	616	630	1517		407	1620	680	411	1620	658
V/C Ratio(X)	0.93	0.85	0.79	1.04	1.00		1.10	0.89	0.98	1.13	0.83	0.87
Avail Cap(c_a), veh/h	630	1427	616	630	1517		407	1620	680	411	1620	658
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	34.5	28.9	69.5	59.7	0.0	74.9	61.4	47.6	74.9	60.2	45.4
Incr Delay (d2), s/veh	10.6	2.3	3.1	47.4	22.6	0.0	75.2	8.1	30.5	83.0	5.2	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.1	15.3	19.9	25.1	32.5	0.0	19.8	22.3	42.8	20.6	20.4	32.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	36.9	32.0	116.9	82.3	0.0	150.1	69.5	78.1	157.9	65.5	60.0
LnGrp LOS	E	D	C	F	F		F	E	E	F	E	E
Approach Vol, veh/h	2235				2171		A	2566		2386		
Approach Delay, s/veh	42.9				92.8			85.8		82.1		
Approach LOS	D				F			F		F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	50.0	34.8	58.2	27.0	50.0	37.8	55.2				
Change Period (Y+Rc), s	6.8	* 7.2	6.8	* 7.7	6.8	* 7.2	6.8	* 7.7				
Max Green Setting (Gmax), s	20.2	* 43	31.0	* 48	20.2	* 43	31.0	* 48				
Max Q Clear Time (g_c+I1), s	22.2	44.8	27.2	52.4	22.2	44.8	33.0	49.5				
Green Ext Time (p_c), s	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	76.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings

Future 2023 With Project With Improvements - PM Peak Hour

6: Biscayne Boulevard & NE 163rd Street

09/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Future Volume (vph)	509	1167	469	631	1453	705	431	1391	641	444	1298	549
Lane Group Flow (vph)	530	1216	489	657	1514	734	449	1449	668	463	1352	572
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			Free			6			2
Detector Phase	3	8	1	7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0		5.0	7.0	5.0	5.0	7.0	5.0
Minimum Split (s)	11.8	55.2	11.8	11.8	55.2		11.8	49.2	11.8	11.8	49.2	11.8
Total Split (s)	37.8	55.2	27.0	37.8	55.2		27.0	50.0	37.8	27.0	50.0	37.8
Total Split (%)	22.2%	32.5%	15.9%	22.2%	32.5%		15.9%	29.4%	22.2%	15.9%	29.4%	22.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.0	2.9	2.0	2.0	2.9		2.0	2.4	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.7	6.8	6.8	7.7		6.8	7.2	6.8	6.8	7.2	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	None
v/c Ratio	0.88	0.86	0.74	1.05	1.04	0.47	1.11	0.90	0.92	1.14	0.84	0.80
Control Delay	92.0	55.9	18.8	114.4	92.1	1.0	143.8	69.8	55.5	151.3	65.9	42.0
Queue Delay	0.0	0.0	0.1	0.0	24.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.0	55.9	18.9	114.4	116.3	1.0	143.8	69.8	55.5	151.3	65.9	42.0
Queue Length 50th (ft)	321	365	136	~408	~678	0	~293	458	587	~307	419	445
Queue Length 95th (ft)	m364	m438	m162	#538	#775	0	#411	506	#914	#426	465	604
Internal Link Dist (ft)		610			881			1536			859	
Turn Bay Length (ft)	225		240	385			420		400	430		400
Base Capacity (vph)	626	1420	665	626	1456	1559	404	1613	725	407	1613	726
Starvation Cap Reductn	0	0	7	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	113	0	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.86	0.74	1.05	1.13	0.47	1.11	0.90	0.92	1.14	0.84	0.79

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 77 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ 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.

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

Splits and Phases: 6: Biscayne Boulevard & NE 163rd Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
27 s	50 s	37.8 s	55.2 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
27 s	50 s	37.8 s	55.2 s

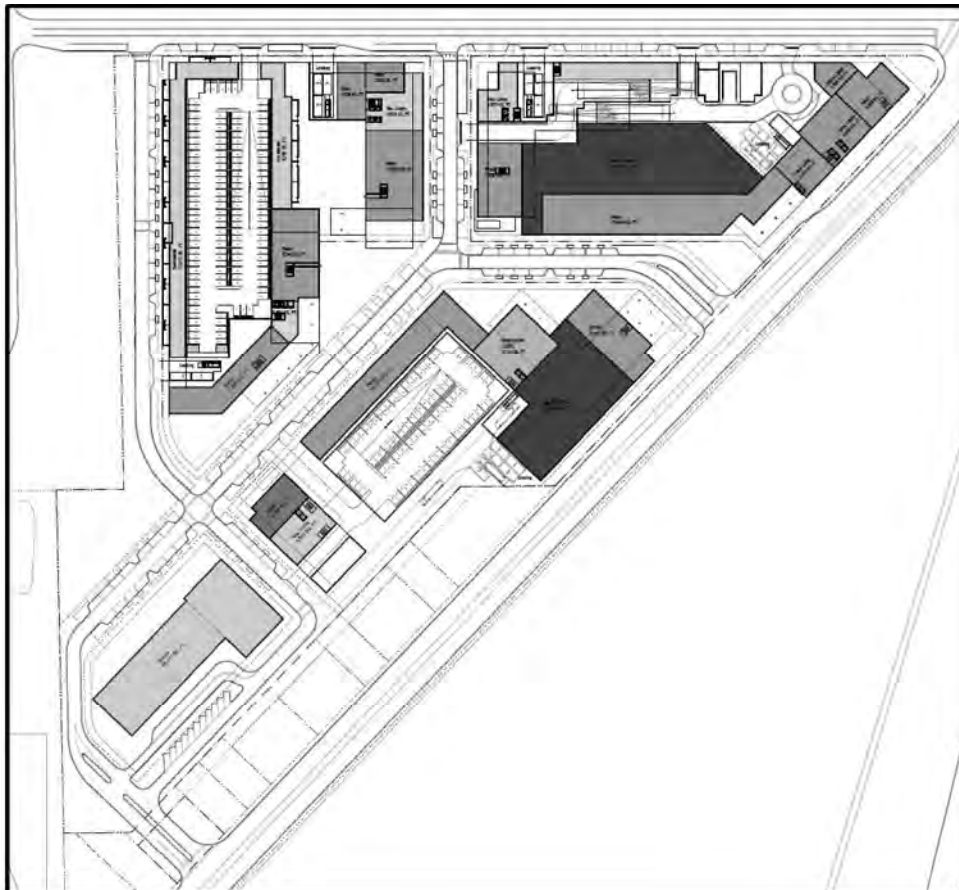
Appendix E

Committed Development Information



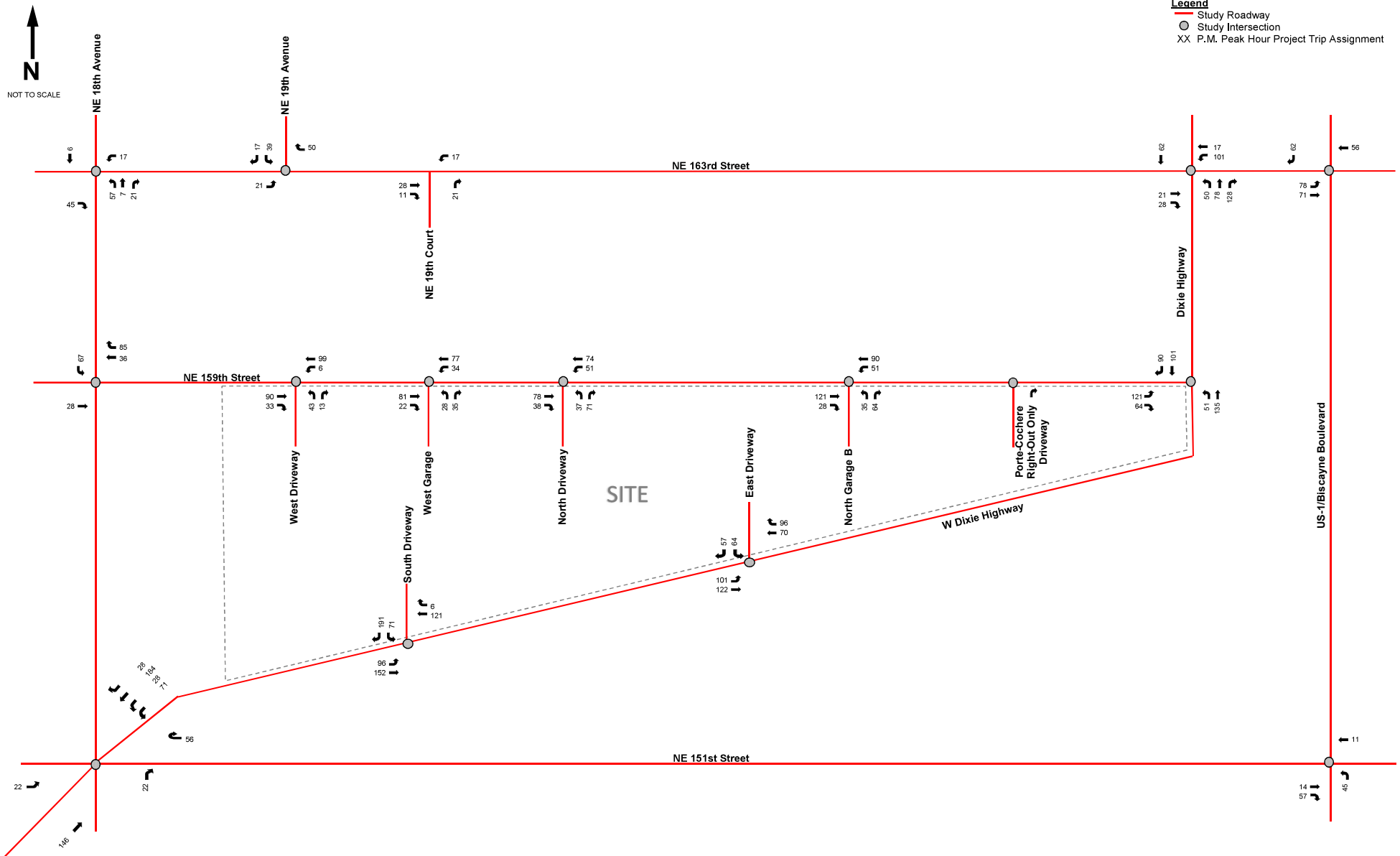
*Traffic Impact Analysis for
Submittal to the
City of North Miami Beach*

15780 West Dixie Highway
North Miami Beach, Florida



Kimley»Horn

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Revised May 2018
March 2018
043932000





Traffic Impact Analysis

Uptown Biscayne North Miami Beach, Florida



Kimley»Horn

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Updated October 2017
043745000

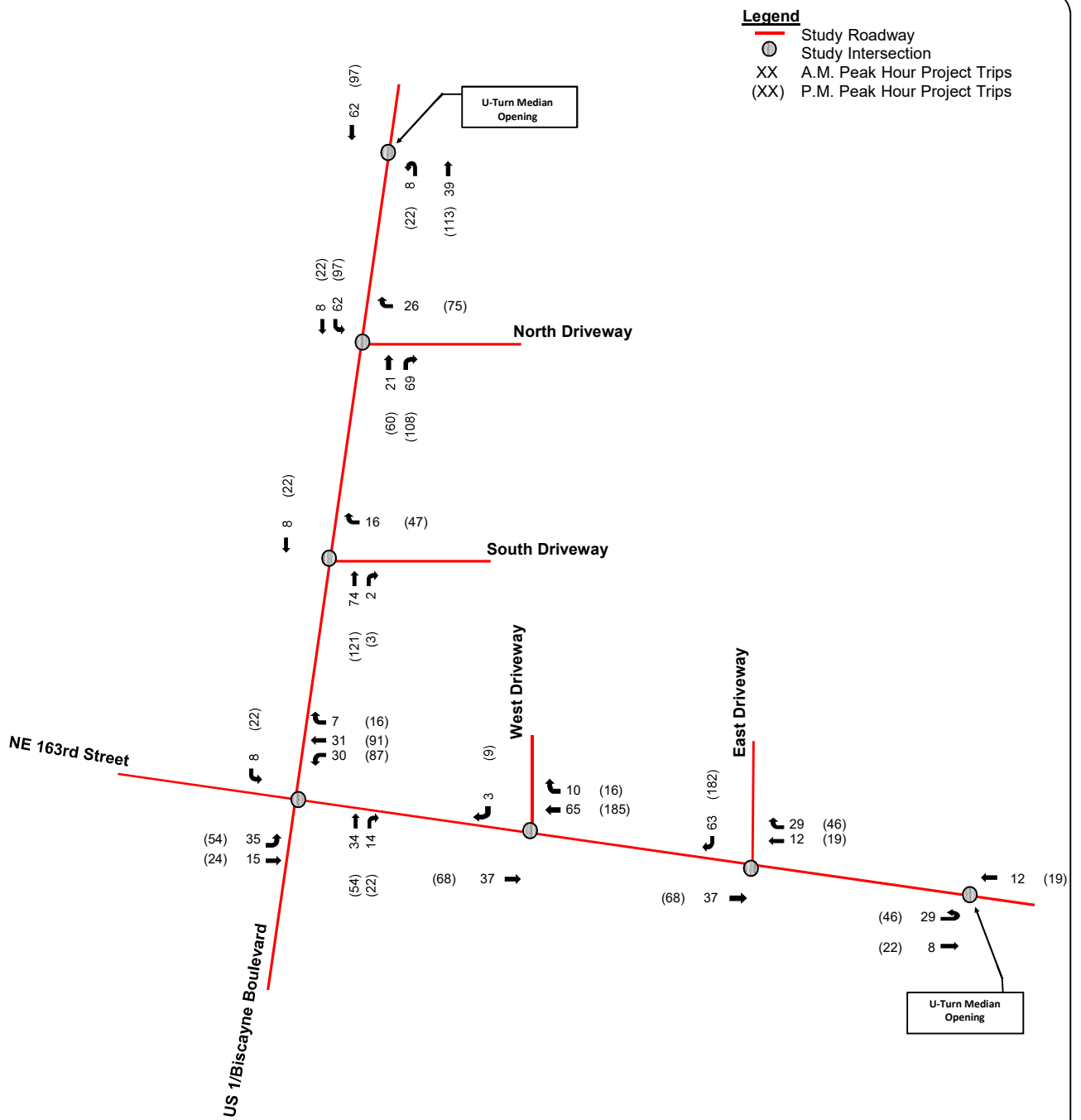


Figure 13
Project Trip Assignment - Scenario 3
A.M. and P.M. Peak Hours
Uptown Biscayne
North Miami Beach, Florida

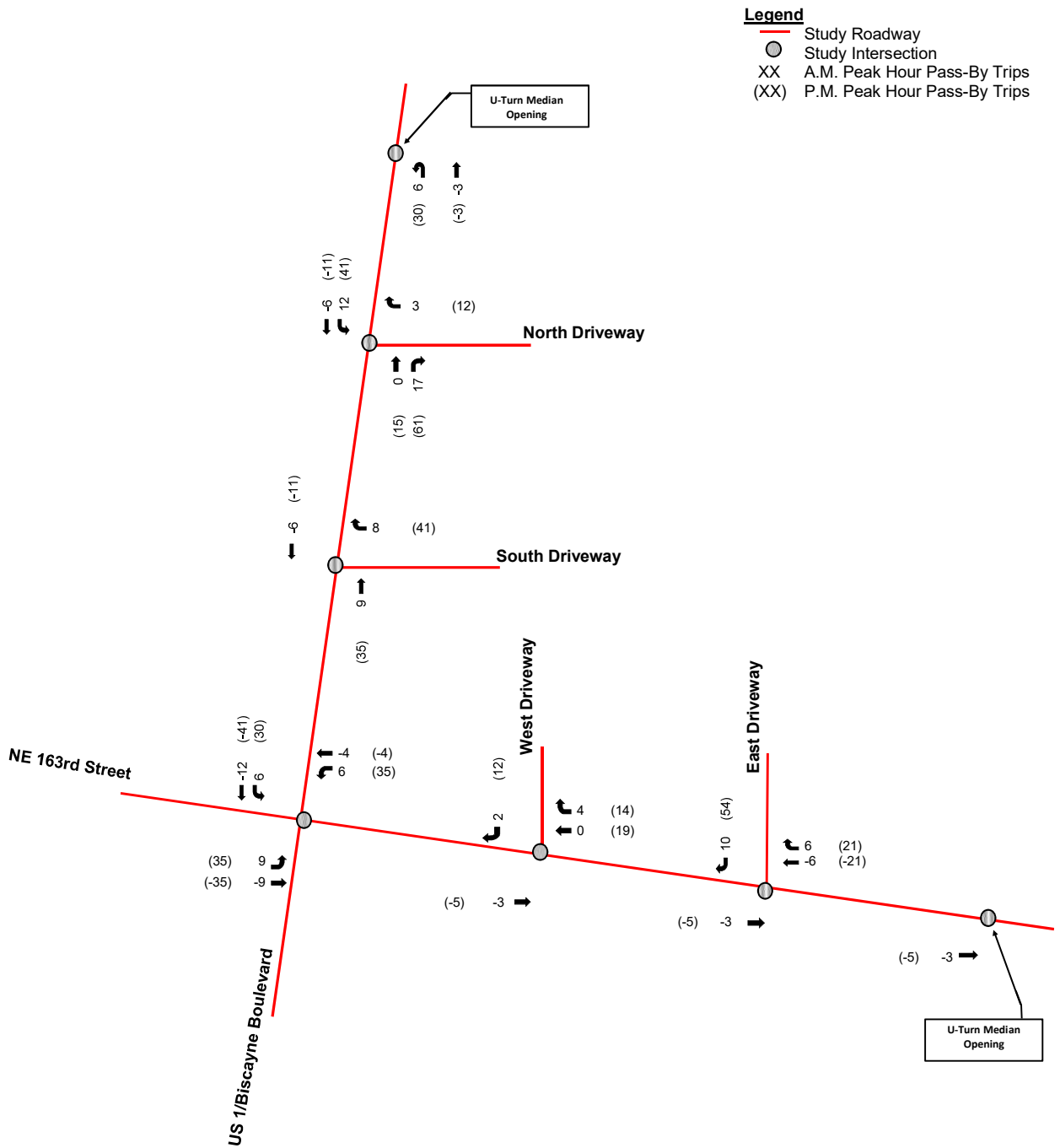
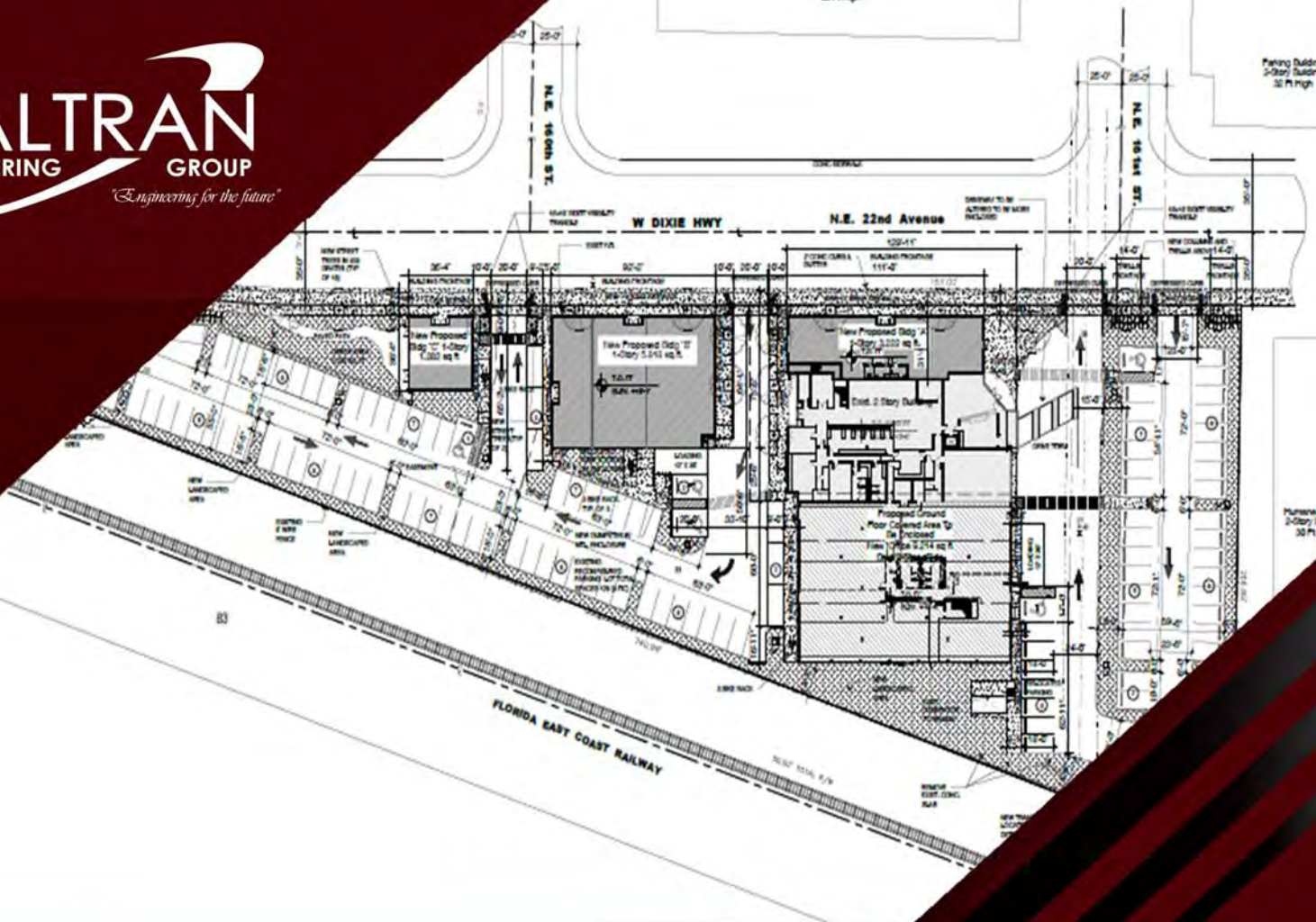


Figure 15
Pass-By Trip Assignment - Scenario 3
A.M. and P.M. Peak Hours
Uptown Biscayne
North Miami Beach, Florida



16051 West Dixie Highway *Trip Generation Memorandum*

March 2020

Caltran Engineering Group, Inc.
790 NW 107 Avenue, Suite 200
Miami, FL 33172
Phone: 786-456-7700
Fax: 786-513-0711

Table 2 presents the forecasted trip generation for the existing and additional uses as well as the expected future re-development trips.

Table 2: ITE Trip Generation for proposed renovations and addition.

Land Use	ITE Land Use Code	Size	Weekday		Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.		Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	
			Entry	Exit	Entry	Exit	Entry	Exit
Existing Commercial (Bank)	912- Drive-in Bank	6.65 x 1000 Sq. Ft. GFA	334	334	37	26	68	68
Ground Floor (General Urban/Suburban)			0	0	11	7	24	24
Pass-by			334	334	26	19	44	44
Non-pass-by								
Existing Educational (General Urban/Suburban)	550 – University/ College	122 Students	95	95	14	4	6	12
Non-pass-by			95	95	14	4	6	12
Proposed Office Space (General Urban/Suburban)	710 – General Office Building	9.21 x1000 Sq. Ft. GFA	53	52	30	5	2	10
Internal			0	0	3	3	1	2
Non-pass-by			53	52	27	2	1	8
Proposed Restaurant (General Urban/Suburban)	932- High Turnover (Sit-Down) Restaurant	1.28 x 1000 Sq. Ft. GFA	72	72	7	6	8	5
Internal			0	0	6	3	2	2
Pass-by			0	0	0	0	3	1
Non-pass-by			72	72	1	3	3	2
Proposed Retail A + Retail B	820- Shopping Center	9.04 x 1000 Sq. Ft. GLA	171	170	97	59	44	48
Internal			0	0	2	5	4	3
Pass-by			0	0	0	0	14	15
Non-pass-by			171	170	95	54	26	30
Total Existing			429	429	40	23	50	56
Total Proposed			296	294	123	59	30	40
Total Future Trips			725	723	163	82	80	96

Note: Includes internal captures.

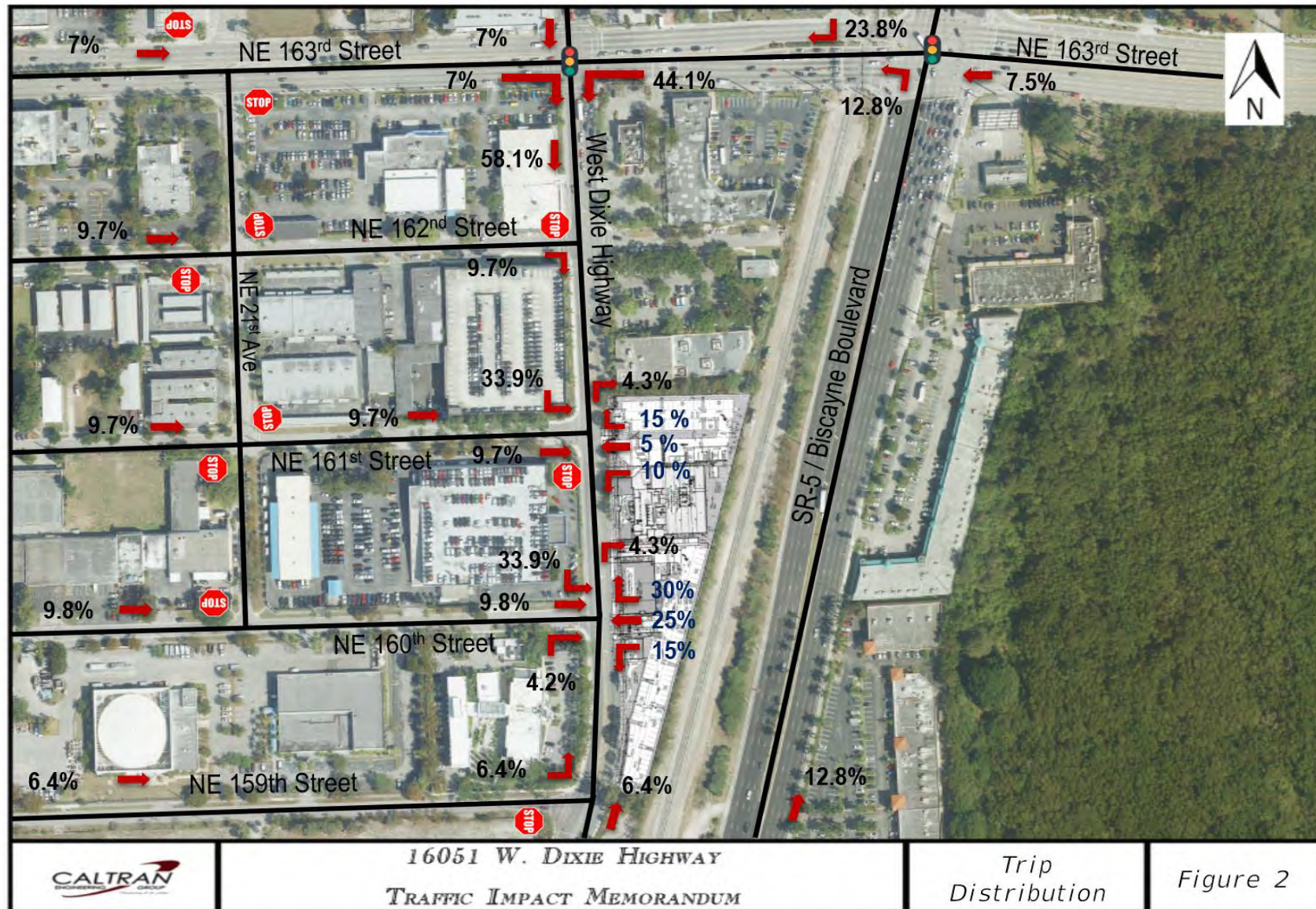


Figure 2: Trip Distribution for the Proposed Re-Development.

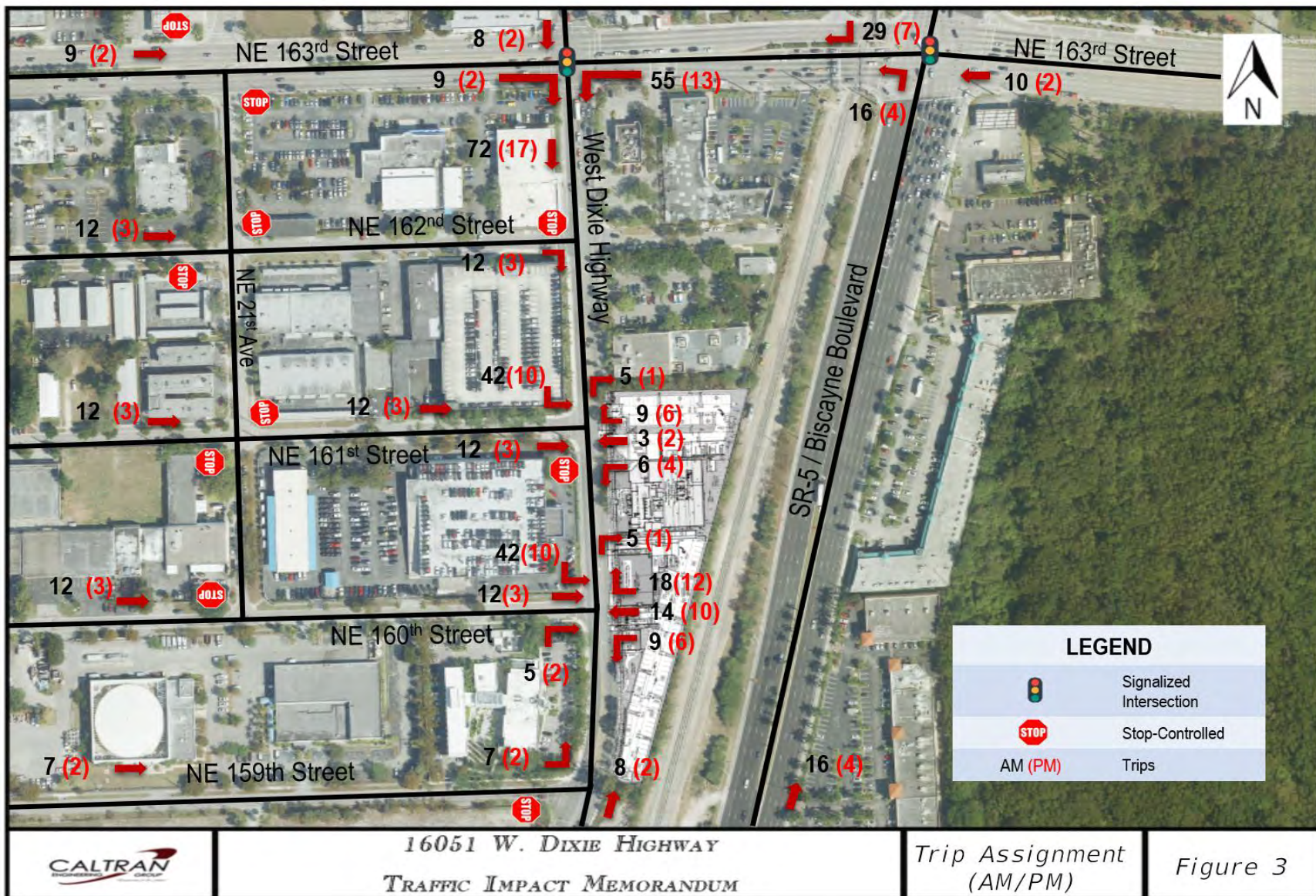


Figure 3: AM and PM Peak Hour Future Trips Demand from proposed Re-development.

Traffic Impact Statement

15699 West Dixie Highway



MARLIN Engineering, Inc.

Plantation, FL 33313



MARLIN

Figure 3 - Distribution Percentages and AM Trip Assignments

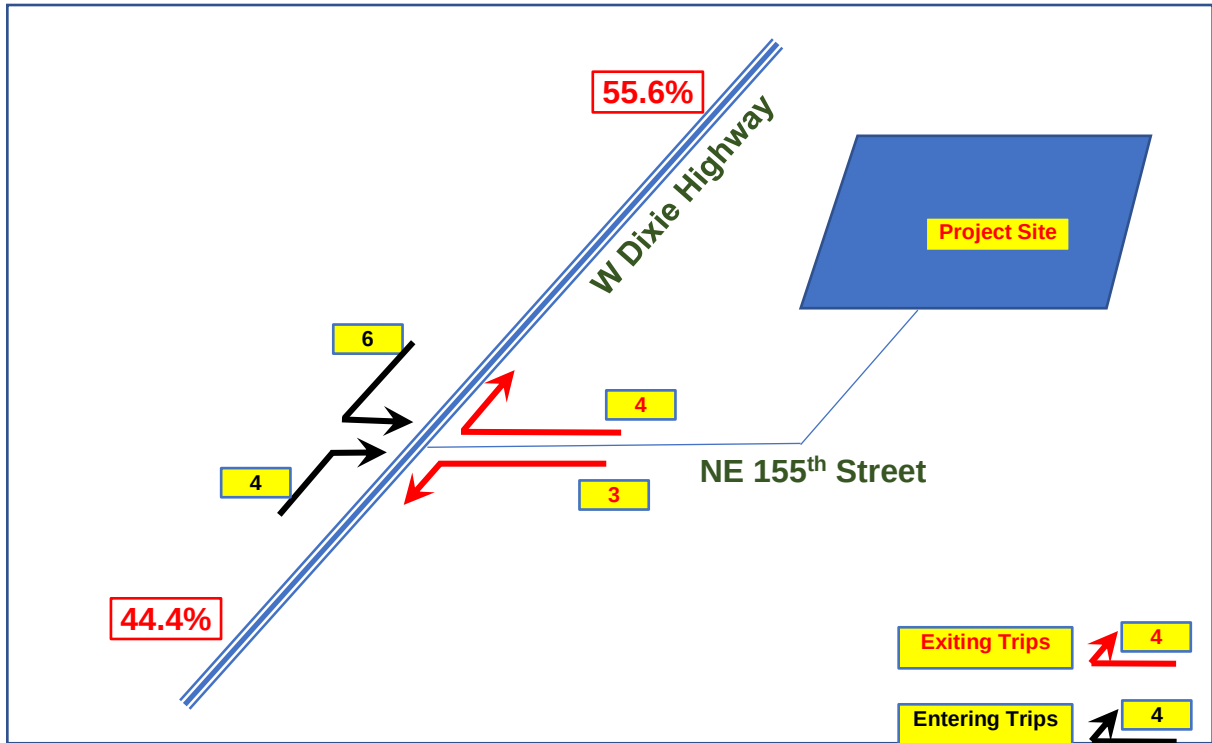
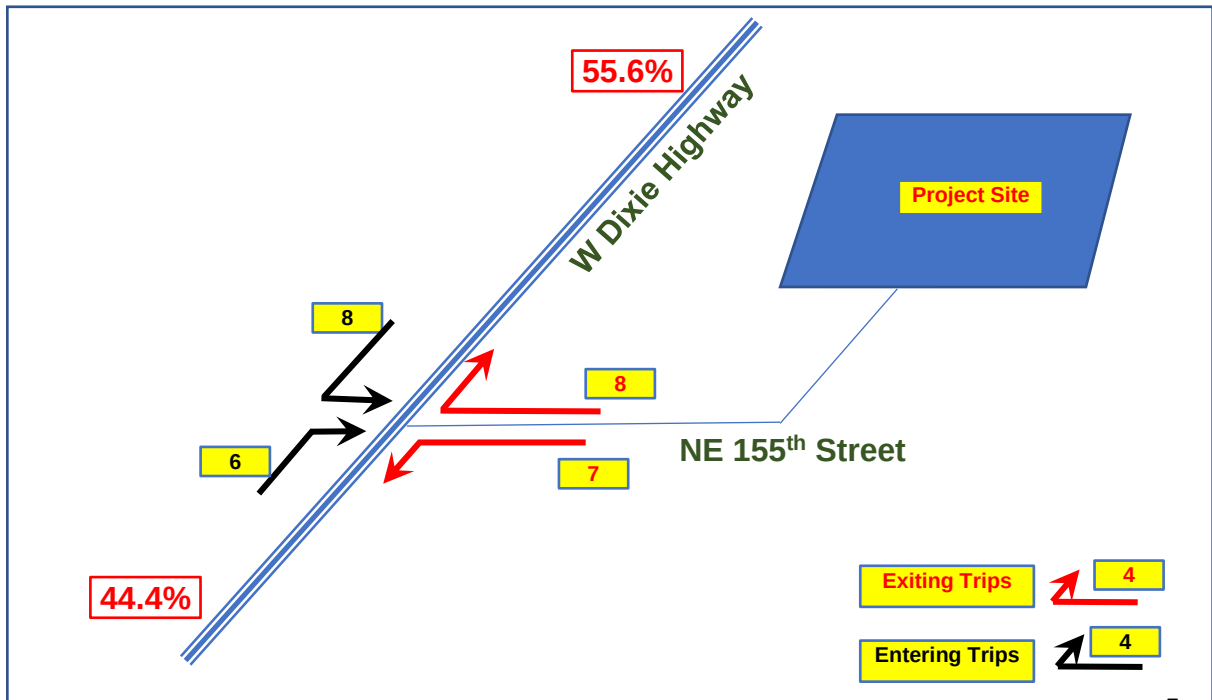
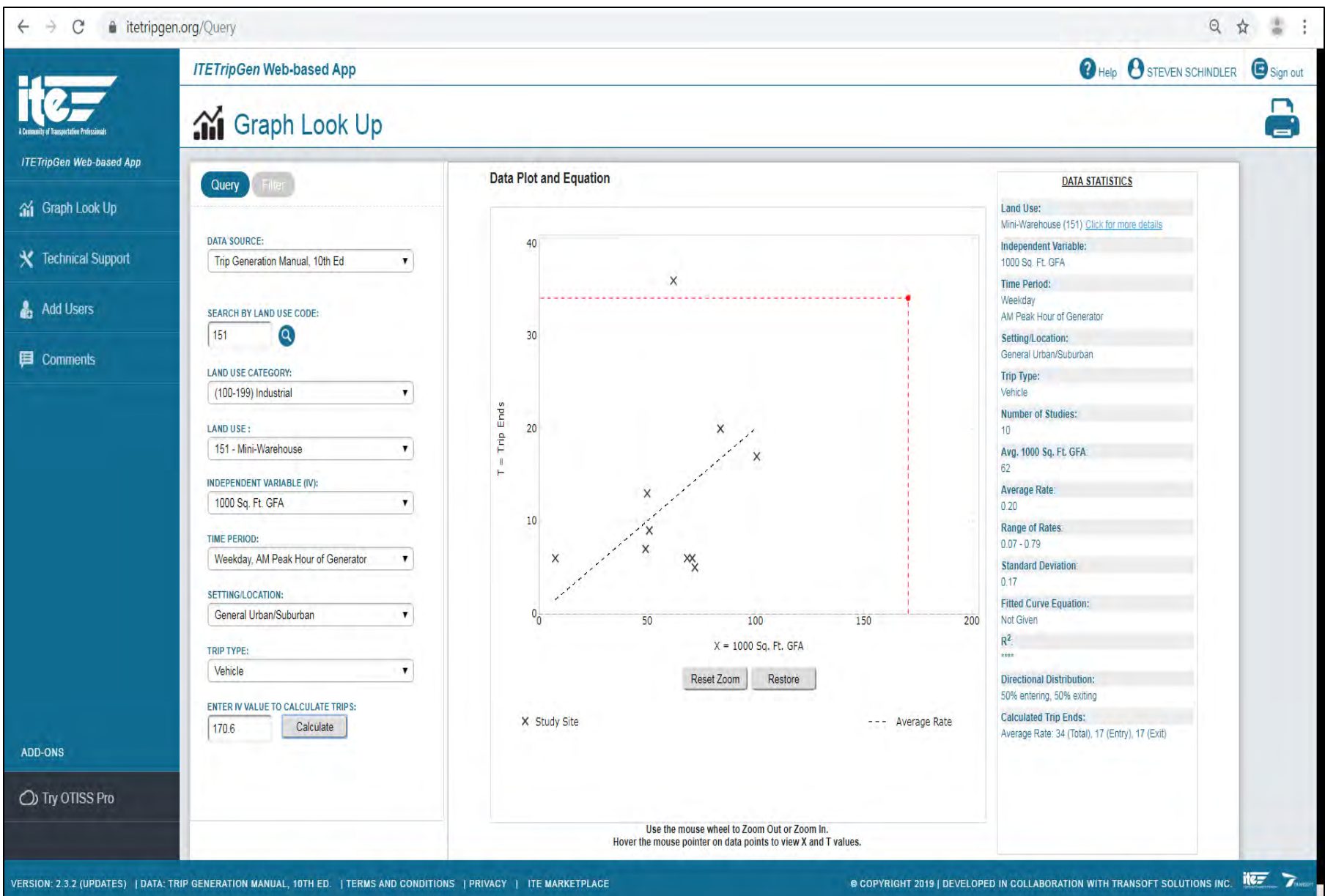


Figure 4 - Distribution Percentages and PM Trip Assignments





An aerial photograph of a city street grid, likely in Miami, showing various buildings, parking lots, and green spaces. A semi-transparent white rectangular box is centered over the image, containing the title text.

SKYGARDEN MIAMI

Traffic Study

SKYGARDEN MIAMI

Prepared By:
David Plummer & Associates

Prepared For:
Bercow Radell Fernandez Larkin & Tapanes

Prepared In:
February 2021

DPA Job #:
20146

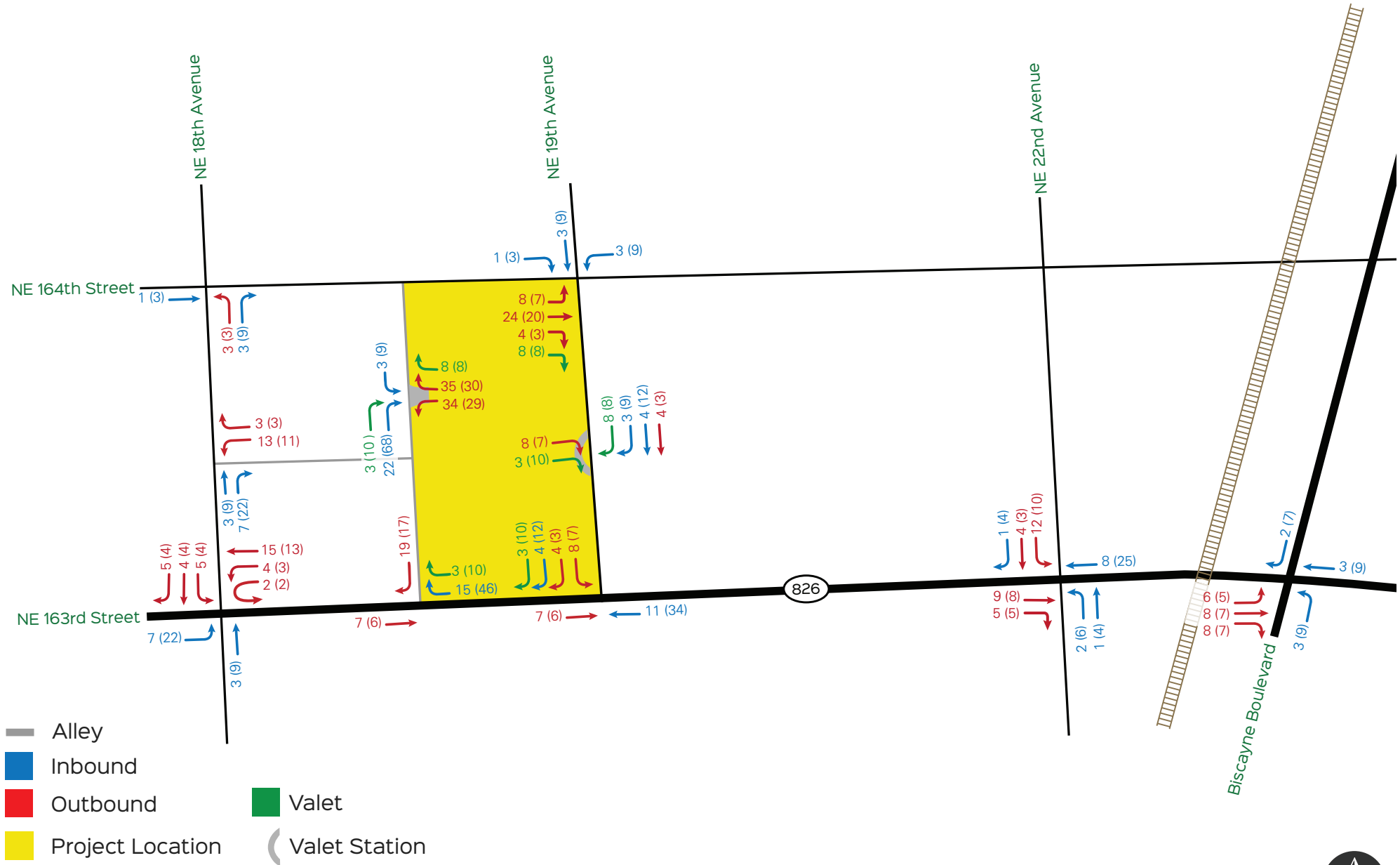


Exhibit 10

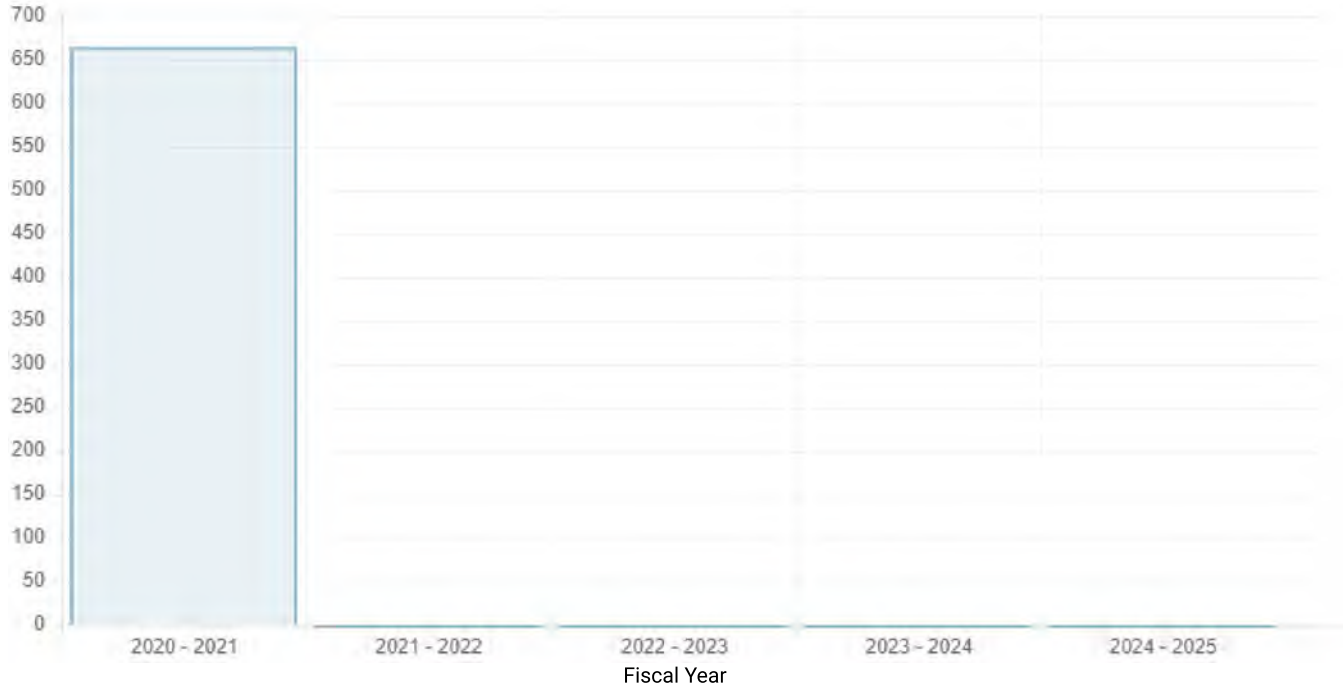
Project Trip Assignment

Project Type: Arterial/Collector Road
MPO Project No.: DT4402811
Type of Work: LIGHTING
TIP Year: 2021
Construction Year: 2021
From: FROM NW 2 AVE
To: TO NE 35 AVE
Agency: FL Dept. of Transportation
Management Agency: FDOT
Agency Project No: 4402811
Status:
Contact Person:
Contact Email:
Contact Phone:
Description:

Funding Information \$(thousands)

Project Phase	Funding	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
CONSTRUCTION	ACSS	\$602	\$0	\$0	\$0	\$0
CONSTRUCTION	DIH	\$36	\$0	\$0	\$0	\$0
CONSTRUCTION	DS	\$17	\$0	\$0	\$0	\$0
PRELIMINARY ENGINEERING	ACSS	\$0	\$0	\$0	\$0	\$0
PRELIMINARY ENGINEERING	DIH	\$10	\$0	\$0	\$0	\$0
PRELIMINARY ENGINEERING	DS	\$0	\$0	\$0	\$0	\$0
PRELIMINARY ENGINEERING	SA	\$0	\$0	\$0	\$0	\$0

Funding Chart \$(thousands)

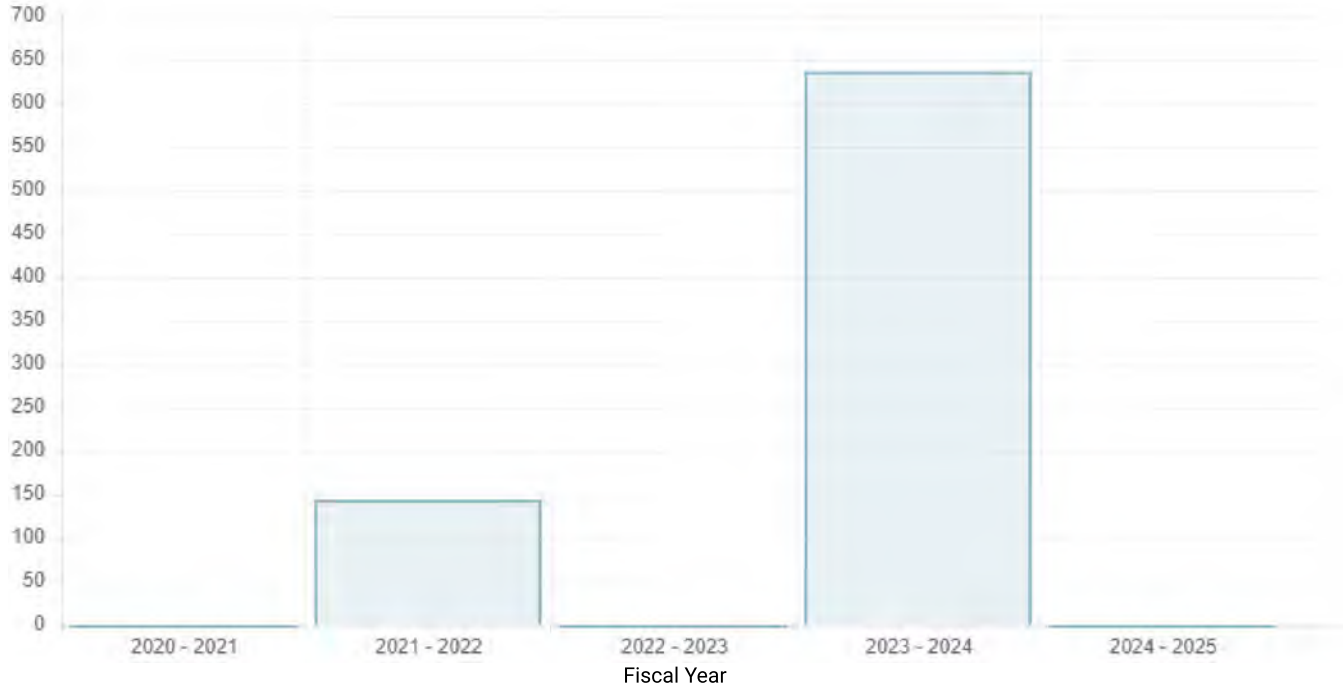


Project Type: Pedestrian/Bicycle
MPO Project No.: DT4442991
Type of Work: BIKE PATH/TRAIL
TIP Year: 2021
Construction Year: 2024
From:
To:
Agency: FL Dept. of Transportation
Management Agency: FDOT
Agency Project No: 4442991
Status:
Contact Person:
Contact Email:
Contact Phone:
Description:

Funding Information \$(thousands)

Project Phase	Funding	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
CONSTRUCTION	LF	\$0	\$0	\$0	\$229	\$0
CONSTRUCTION	SA	\$0	\$0	\$0	\$5	\$0
CONSTRUCTION	TALU	\$0	\$0	\$0	\$403	\$0
PRELIMINARY ENGINEERING	LF	\$0	\$139	\$0	\$0	\$0
PRELIMINARY ENGINEERING	SA	\$0	\$5	\$0	\$0	\$0

Funding Chart \$(thousands)



MDPROS - SNAKE CREEK TRAIL ACCESS AND PATH IMPROVEMENTS

2021 Transportation Improvement Program

Project Type: Pedestrian/Bicycle
MPO Project No.: DT4460691
Type of Work: BIKE PATH/TRAIL
TIP Year: 2021
Construction Year:
From:
To:
Agency: FL Dept. of Transportation
Management Agency: FDOT
Agency Project No: 4460691
Status:
Contact Person:
Contact Email:
Contact Phone:
Description:

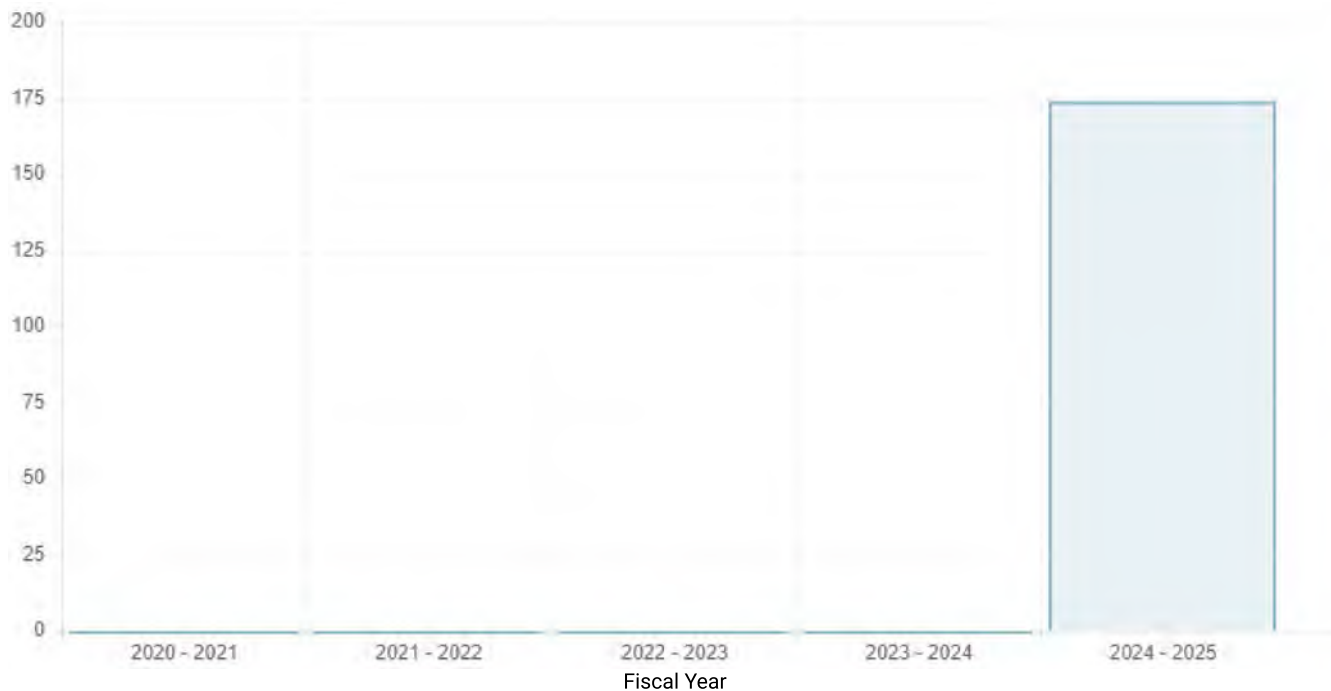
Funding Information \$(thousands)

Project Phase	Funding	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
PRELIMINARY ENGINEERING	TALT	\$0	\$0	\$0	\$0	\$174

MDPROS - SNAKE CREEK TRAIL ACCESS AND PATH IMPROVEMENTS

2021 Transportation Improvement Program

Funding Chart \$(thousands)



TPO RESOLUTION #33-18

**RESOLUTION APPROVING AN AMENDMENT TO THE FISCAL YEAR 2019
TRANSPORTATION IMPROVEMENT PROGRAM (TIP) TO INCLUDE A
ROAD WIDENING PROJECT ON WEST DIXIE HIGHWAY FROM NE 163RD
STREET TO NE 175TH STREET FROM TWO TO FOUR LANES; PROJECT
NUMBER PW000764**

WHEREAS, the Interlocal Agreement creating and establishing the Miami-Dade Metropolitan Planning Organization (MPO), for the Miami Urbanized Area, now known as the Transportation Planning Organization (TPO), requires that the TPO provide a structure to evaluate the adequacy of the transportation planning and programming process; and

WHEREAS, the Transportation Planning Council (TPC) has been established and charged with the responsibility and duty of fulfilling the aforementioned functions; and

WHEREAS, pursuant to Code of Federal Regulations Title 23, section 450.306 ("Scope of the Metropolitan Transportation Planning Process") Federal rules require that amendments to the TIP that occur after May 27, 2018, incorporate the goals, objectives, performance measures, and targets described in State transportation plans and transportation processes, as well as public transportation plans developed under 49 U.S.C. chapter 53, as part of a performance-based program; and

WHEREAS, the TPC has reviewed the amendment to the Fiscal Year (FY) 2019 Transportation Improvement Program (TIP), made a part hereof, which was initially incorporated in the FYs 2019-2023 TIP, and finds it consistent with the goals and objectives of the Transportation Plan for the Miami Urbanized Area; and

WHEREAS, the TPO Governing Board at its June 21, 2018 meeting approved the FYs 2019-2023 TIP, with the exception of the referenced widening project that was deferred for further discussion; and

WHEREAS, vehicular traffic in Northeast Miami-Dade County is heavily congested; and

WHEREAS, the widening of West Dixie Highway from NE 163rd Street to NE 175th Street from the current two lanes to four will help address roadway capacity needs in the area; and

WHEREAS, the TPO Governing Board believes that implementing the widening project will relieve traffic congestion and improve travel efficiencies in the corridor,

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE TRANSPORTATION PLANNING ORGANIZATION IN ITS ROLE AS THE MPO FOR THE MIAMI URBANIZED AREA, that this Board:

Section 1. Approves an amendment to the Fiscal Year 2019 Transportation Improvement Program (TIP) to include a road widening project on West Dixie Highway from NE 163rd Street to NE 175th Street from two to four lanes; Project Number PW000764.

Section 2. Incorporates, by reference, the FDOT Highway Safety Plan, Highway Safety Improvement Program, Freight Mobility Plan, the FDOT Asset Management Plan and the Miami-Dade Department of Transportation & Public Works' Transit Asset Management Plan into the 2019 Transportation Improvement Program (TIP).

The adoption of the foregoing resolution was sponsored by Board Member Jean Monestime and moved by Board Member Joe A. Martinez. The motion was seconded by Board Member Sally A. Heyman, and upon being put to a vote, the vote was as follows:

Chairman Esteban L. Bovo, Jr.-Aye
Vice Chairman Francis Suarez-Aye

Board Member Juan Carlos Bermudez	-Absent	Board Member Vince Lago	-Aye
Board Member Jose "Pepe" Diaz	-Aye	Board Member Daniella Levine Cava	-Aye
Board Member Audrey M. Edmonson	-Aye	Board Member Roberto Martell	-Absent
Board Member Dan Gelber	-Aye	Board Member Joe A. Martinez	-Aye
Board Member Oliver G. Gilbert, III	-Absent	Board Member Jean Monestime	-Aye
Board Member Perla T. Hantman	-Aye	Board Member Dennis C. Moss	-Aye
Board Member Carlos Hernandez	-Absent	Board Member Jeff Porter	-Absent
Board Member Sally A. Heyman	-Aye	Board Member Shelly Smith Fano	-Aye
Board Member Eileen Higgins	-Absent	Board Member Rebeca Sosa	-Aye
Board Member Barbara J. Jordan	-Aye	Board Member Javier D. Souto	-Aye
Board Member Smith Joseph	-Absent	Board Member Xavier L. Suarez	-Aye

The Chairperson thereupon declared the resolution duly passed and approved this day of 27th day of September, 2018.

TRANSPORTATION PLANNING ORGANIZATION

By

Zainab Salim

Zainab Salim, Clerk
Miami-Dade TPO





TIP AMENDMENT FORM

PROJECT BACKGROUND

Requesting Entity: Miami-Dade County Department of Transportation **Date Submitted:** June 27, 2018
and Public Works (DTPW)

Project ID#: PW000764 Submitted by: DTPW

Project Title/Name: W Dixie Highway from NE 163 Street to NE 175 Street

Project Boundary Map is attached: X YES NO

Project Jurisdiction Agency: DTPW

Partially or Fully Funded Project: The project is fully funded.

Project Total Estimated Cost: \$ 9,934,427

Project Description (brief): The project will consist of widening W Dixie Highway (from NE 163 Street to NE 175 Street) from two to four lanes.

Project Secured Funding Source(s):

Agency DTPW

Federal (\$)	Fund Name	Phase funded
--------------	-----------	--------------

State (\$)	Fund Name	Phase funded
------------	-----------	--------------

Local (\$) 9,934,427	Fund Name Road Impact Fee (RIF) District 3	Phase funded Design/Construction
-----------------------------	---	---

Project Year of Construction: Construction is scheduled to commence in 2020.

Funding Participation by Agencies: The project is funded by RIF District 3.

Role of each Participating Agency (Design, ROW, Construction etc.): Design and construction by DTPW.

Partially or Fully Funded Project: The project is fully funded.

Project Estimated Cost: \$ 9,934,427

Project Description (brief): The project will consist of widening W Dixie Highway (from NE 163 Street to NE 175 Street) from two to four lanes.

PROJECT AMENDMENT

Project Schedule (include Year funding requested; estimated completion or implementation date):
RIF District 3 funds included in FY 17/18. Construction is scheduled to commence in 2020.

Project Source of Local Matching Funds: The project is funded by RIF District 3.

Project Environmental Action Type and Status: N/A

Date of Environmental Assessment (EA) or expected EA approval Date: N/A

If a capital project, provide 2040 LRTP Page Reference: Page 6-20

If MDT operating project provide TDP page reference: N/A

If FTA funds involved; have the funds been transferred to FTA from FHWA? N/A

If Municipality, provide date of study supporting planned service: N/A

Type of Amendment (check applicable)	Funding Source		Time Schedule	
	Phase to be funded		Scope of Work	

Amendment Description (brief): The project will consist of widening W Dixie Highway (from NE 163 Street to NE 175 Street) from two to four lanes.

Justification for the Amendment: The project will address roadway capacity needs in the area. RIF District 3 funding has been identified for W Dixie Highway from NE 163 Street to NE 175 Street.

Does the amendment affect other projects	Yes		If yes...	Local	
	No	X		State	

Please, indicate affected projects:	1	
2	3	

Project has been previously amended	Yes		If yes...	Date	
	No	X		MPO Res. #	

Contact Person	Alejandro Sauleda	Title	Project Manager
Phone #	305-375-4866	Fax #	
		e-mail	Alejandro.Sauleda@miamidade.gov

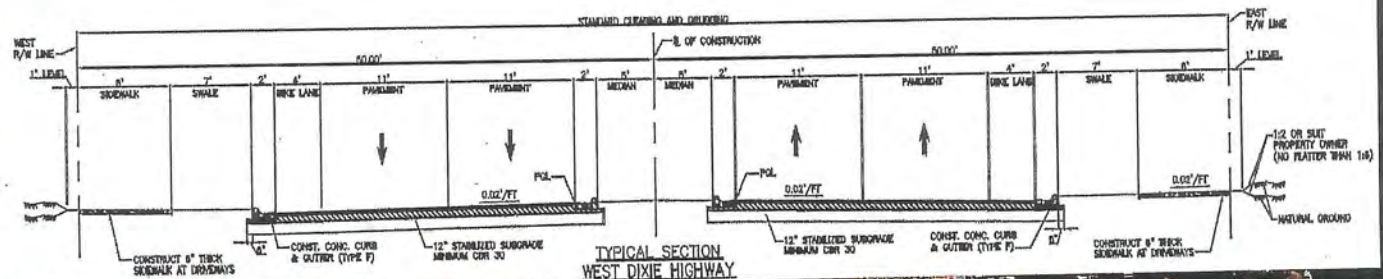
Roadway Improvement Project

End Project

Begin Project



© 2018 Google



1000 ft

Project Details - new122

Field Name	Field Value
L RTP Project Code	new122
Facility	North Miami Beach Station
Limit From	US 1 (Biscayne Blvd / SR 5) & NE 163 St
Limit To	
Description	Construct park-and-ride / transit terminal with 100 surface parking spaces
L RTP Year	2045
Project Type	Transit
Agency Name	Miami-Dade Dept. of Transportation and Public Works
Purpose	
Last Approved Date	
Last Approved User Name	
Last Amended Date	
Last Amended User Name	
Project Costs Funded	\$2.44M
Total Capital Cost	\$M

Priority Data

	P1 2020-2025(Y-O-E\$)	P2 2026-2030(Y-O-E\$)	P3 2031-2035(Y-O-E\$)	P4 2036-2045(Y-O-E\$)
Preliminary Engineering	\$M	\$M	\$M	\$M
Right of Way	\$M	\$M	\$M	\$M
Construction	\$M	\$M	\$M	\$M
Operations and Maintenance	\$M	\$0.462M	\$0.543M	\$M
Capital	\$M	\$M	\$M	\$M

Project Details - DTnew001

Field Name	Field Value
L RTP Project Code	DTnew001
Facility	SR 5 / US 1 / Grade Separations
Limit From	@ NE 163 St
Limit To	
Description	E / W Grade Separated Overpass (GSO) over the FEC Rail line
L RTP Year	2045
Project Type	Arterial/Collector
Agency Name	FL Dept. of Transportation
Purpose	
Last Approved Date	
Last Approved User Name	
Last Amended Date	
Last Amended User Name	
Project Costs Funded	\$75.64M
Total Capital Cost	\$M

Priority Data

	P1 2020-2025(Y-O-E\$)	P2 2026-2030(Y-O-E\$)	P3 2031-2035(Y-O-E\$)	P4 2036-2045(Y-O-E\$)
Preliminary Engineering	\$M	\$M	\$13.64M	\$M
Right of Way	\$M	\$M	\$M	\$M
Construction	\$M	\$M	\$62M	\$M
Operations and Maintenance	\$M	\$M	\$M	\$M
Capital	\$M	\$M	\$M	\$M

Project Details - NW00127

Field Name	Field Value
LRTP Project Code	NW00127
Facility	SMART Trails - NE 21st Ave / NE 164 Street
Limit From	Snake Creek Greenway
Limit To	NE 23rd Ave
Description	Off-Road Bicycle and Pedestrian Facility Improvement
LRTP Year	2045
Project Type	Bicycle/Pedestrian Improvements
Agency Name	Miami-Dade Dept. of Transportation and Public Works
Purpose	
Last Approved Date	
Last Approved User Name	
Last Amended Date	
Last Amended User Name	
Project Costs Funded	\$496.379M
Total Capital Cost	\$242.136M

Priority Data

	P1 2020-2025(Y-O-E\$)	P2 2026-2030(Y-O-E\$)	P3 2031-2035(Y-O-E\$)	P4 2036-2045(Y-O-E\$)
Preliminary Engineering	\$M	\$M	\$M	\$68.466M
Right of Way	\$M	\$M	\$M	\$M
Construction	\$M	\$M	\$M	\$427.913M
Operations and Maintenance	\$M	\$M	\$M	\$M
Capital	\$M	\$M	\$M	\$M

Project Details - CM12

Field Name	Field Value
LRTP Project Code	CM12
Facility	SR 826 / NE 167 St / Miami Beach Blvd
Limit From	I-95
Limit To	US 1
Description	1.4: Bus Rapid Transit; 1.8: Local Circulator Expansion; 2.0: Travel Demand Management; 3.2: New Sidewalks and Designated Bicycle Lanes on Local Streets; 3.3: Improved Bicycle Facilities at Transit St
LRTP Year	2045
Project Type	Congestion Management
Agency Name	Miami-Dade Dept. of Transportation and Public Works
Purpose	
Last Approved Date	
Last Approved User Name	
Last Amended Date	
Last Amended User Name	
Project Costs Funded	\$6600M
Total Capital Cost	\$M

Priority Data

	P1 2020-2025(Y-O-E\$)	P2 2026-2030(Y-O-E\$)	P3 2031-2035(Y-O-E\$)	P4 2036-2045(Y-O-E\$)
Preliminary Engineering	\$M	\$M	\$M	\$M
Right of Way	\$M	\$M	\$M	\$M
Construction	\$M	\$M	\$M	\$M

	P1 2020-2025(Y-O-E\$)	P2 2026-2030(Y-O-E\$)	P3 2031-2035(Y-O-E\$)	P4 2036-2045(Y-O-E\$)
Operations and Maintenance	\$M	\$6600M	\$M	\$M
Capital	\$M	\$M	\$M	\$M

Appendix F

Project Trip Generation

Scenario - Existing

Scenario Name: Existing

User Group:

Dev. phase: 1

No. of Years to Project Traffic :

0

Analyst Note:

Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
820 - Shopping Center	General	1000 Sq. Ft. GLA	17.75	Weekday	Best Fit (LOG)	928	928	1856
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.68\ln(X) + 5.57$	50%	50%	
931 - Quality Restaurant	General	1000 Sq. Ft. GFA	1.77	Weekday	Average	74	74	148
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				83.84	50%	50%	
820(1) - Shopping Center	General	1000 Sq. Ft. GLA	17.75	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average	10	6	16
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				0.94	62%	38%	
931(1) - Quality Restaurant	General	1000 Sq. Ft. GFA	1.77	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average	1	1	2
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				0.73	50%	50%	
820(2) - Shopping Center	General	1000 Sq. Ft. GLA	17.75	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	73	79	152
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.74\ln(X) + 2.89$	48%	52%	
931(2) - Quality Restaurant	General	1000 Sq. Ft. GFA	1.77	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average	9	5	14
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				7.80	67%	33%	

Scenario - Proposed

Scenario Name: Proposed

User Group:

Dev. phase: 1

No. of Years to Project Traffic :

0

Analyst Note:

Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
222 - Multifamily Housing (High-Rise)	General	Dwelling Units	700	Weekday	Best Fit (LIN)	1485	1485	2970
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 3.94(X) + 211.81$	50%	50%	
710 - General Office Building	General	1000 Sq. Ft. GFA	8.82	Weekday	Best Fit (LOG)	50	50	100
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.97\ln(X) + 2.50$	50%	50%	
820 - Shopping Center	General	1000 Sq. Ft. GLA	22.55	Weekday	Best Fit (LOG)	1092	1092	2184
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.68\ln(X) + 5.57$	50%	50%	
222(1) - Multifamily Housing (High-Rise)	General	Dwelling Units	700	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN)	50	159	209
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.28(X) + 12.86$	24%	76%	
710(1) - General Office Building	General	1000 Sq. Ft. GFA	8.82	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN)	30	5	35
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.94(X) + 26.49$	86%	14%	
820(1) - Shopping Center	General	1000 Sq. Ft. GLA	22.55	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average	13	8	21
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				0.94	62%	38%	
222(2) - Multifamily Housing (High-Rise)	General	Dwelling Units	700	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LIN)	150	96	246
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$T = 0.34(X) + 8.56$	61%	39%	
710(2) - General Office Building	General	1000 Sq. Ft. GFA	8.82	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	2	10	12
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.95\ln(X) + 0.36$	16%	84%	
820(2) - Shopping Center	General	1000 Sq. Ft. GLA	22.55	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	87	94	181
Data Source: Trip Gen Manual, 10th Ed	Urban/Suburban				$\ln(T) = 0.74\ln(X) + 2.89$	48%	52%	

AM Peak Hour Trip Generation and Internalization

North Miami Beach Mixed-Use Existing

Retail Land Use 820 17,751 SF		Restaurant Land Use 931 1,773 SF		
In	Out	In	Out	
10	6	1	1	18 ITE Trips
UNBALANCED INTERNALIZATION				
13% 1 8% 1		50% 1 14% 0		
1		0		
Retail		Restaurant		
In	Out	In	Out	
10	6	1	1	18 Vehicle Trips
BALANCED INTERNALIZATION				
-1 0		-1 0		
0		0		
0	-1	-1	0	-2 Internal
10	5	0	1	16 External Trips
6.3%		50.0%		11.1% % Internal
-1	-1	0	0	-2 10.0% Transit/Pedestrian
9	4	0	1	14
0	0	0	0	0 0% Passby
				0 0% Passby
9	4	0	1	14 Net New External Trips

AM Peak Hour Trip Generation and Internalization

North Miami Beach Mixed-Use Existing

Retail Land Use 820 17,751 SF		Restaurant Land Use 931 1,773 SF		
In	Out	In	Out	
73	79	9	5	166 ITE Trips
UNBALANCED INTERNALIZATION				
29% 23 50% 37		5	5	
50%		2	41%	2
Retail		Restaurant		
In	Out	In	Out	
73	79	9	5	166 Vehicle Trips
BALANCED INTERNALIZATION				
-5 -2		-5 -2		
-2	-5	-5	-2	-14 Internal
71	74	4	3	152 External Trips
4.6%		50.0%		8.4% % Internal
-7	-7	0	0	-14 10.0% Transit/Pedestrian
64	67	4	3	138
-22	-22	-2	-2	-44 34% Passby
				-4 44% Passby
42	45	2	1	90 Net New External Trips

AM Peak Hour Trip Generation and Internalization

North Miami Beach Mixed-Use Proposed

Multi-Fam(High-Rise)		Office		Retail		
Land Use 222		Land Use 710		Land Use 820		
700 Dweling Units		8,817 Sq Ft		22,545 Sq Ft		
In	Out	In	Out	In	Out	
50	159	30	5	2	10	256 ITE Trips
UNBALANCED INTERNALIZATION						
2% 3 0% 0 3% 1 1% 0 1						
1% 2 2% 1 0 1 17% 0 14% 1						
28% 1 4% 1 32% 1 29% 3 1 1						
Multi-Fam(High-Rise)		Office		Retail		
In	Out	In	Out	In	Out	
50	159	30	5	2	10	256 Vehicle Trips
BALANCED INTERNALIZATION						
-1 0 -1 0						
0 -1 0 -1						
-1 -1 -1 -1						
-1	-1	-2	-1	-1	-2	-8 Internal
49	158	28	4	1	8	248 External Trips
	1.0%		8.6%		25.0%	3.1% % Internal
-5	-16	-3	0	0	-1	-25 -10% Transit/Pedestrian
44	142	25	4	1	7	223
				0	0	0 0% Passby (Retail)
44	142	25	4	1	7	223 Net New External Trips

PM Peak Hour Trip Generation and Internalization

North Miami Beach Mixed-Use Proposed

Multi-Fam(High-Rise) Land Use 222 700 Dweling Units		Office Land Use 710 8,817 Sq Ft		Retail Land Use 820 22,545 Sq Ft		
In	Out	In	Out	In	Out	
150	96	2	10	87	94	439 ITE Trips
UNBALANCED INTERNALIZATION						
4% 4 4% 6 1 0 57% 1 2% 2% 0						
42% 40 46% 69 9 24 10% 9 26% 24						
20% 2 31% 1 2 1 8% 7 2% 2 2						
Multi-Fam(High-Rise)		Office		Retail		
In	Out	In	Out	In	Out	
150	96	2	10	87	94	439 Vehicle Trips
BALANCED INTERNALIZATION						
-1 0 -1 0						
-9 -24 -9 -24						
-2 -1 -2 -1						
-24	-10	-2	-2	-11	-25	-74 Internal
126	86	0	8	76	69	365 External Trips
	13.8%		33.3%		19.9%	16.9% % Internal
-13	-9	0	-1	-8	-7	-38 -10.0% Transit/Pedestrian
113	77	0	7	68	62	327
				-22	-22	-44 -34% Passby
113	77	0	7	46	40	283 Net New External Trips



OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On : 7/1/2021

Property Information	
Folio:	07-2216-001-0370
Property Address:	1959 NE 164 ST North Miami Beach, FL 33162-4118
Owner	NMBPLACE LLC
Mailing Address	1911 NE 164 ST NORTH MIAMI BEACH, FL 33162 USA
PA Primary Zone	6400 COMMERCIAL - CENTRAL
Primary Land Use	1111 STORE : RETAIL OUTLET
Beds / Baths / Half	0 / 0 / 0
Floors	1
Living Units	0
Actual Area	Sq.Ft
Living Area	Sq.Ft
Adjusted Area	17,751 Sq.Ft
Lot Size	69,080 Sq.Ft
Year Built	1959



Assessment Information			
Year	2020	2019	2018
Land Value	\$1,657,920	\$1,657,920	\$1,657,920
Building Value	\$728,128	\$695,032	\$695,032
XF Value	\$106,471	\$107,000	\$107,529
Market Value	\$2,492,519	\$2,459,952	\$2,460,481
Assessed Value	\$2,492,519	\$2,459,952	\$2,460,481

Benefits Information				
Benefit	Type	2020	2019	2018
Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).				

Short Legal Description	
16 52 42 FULFORD BY THE SEA SEC F PB 8-64 LOTS 12 THRU 21 INC BLK 72 LOT SIZE IRREGULAR OR 15619-3180 22549-1709 0792 4	

Taxable Value Information			
	2020	2019	2018
County			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481
School Board			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481
City			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481
Regional			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$2,492,519	\$2,459,952	\$2,460,481

Sales Information			
Previous Sale	Price	OR Book-Page	Qualification Description
01/28/2016	\$100	29947-2781	Corrective, tax or QCD; min consideration
01/28/2016	\$1,303,400	29947-2751	Affiliated parties
07/01/1992	\$0	00000-00000	Sales which are disqualified as a result of examination of the deed
01/01/1988	\$0	00000-00000	Sales which are disqualified as a result of examination of the deed

The Office of the Property Appraiser is continually editing and updating the tax roll. This website may not reflect the most current information on record. The Property Appraiser and Miami-Dade County assumes no liability, see full disclaimer and User Agreement at <http://www.miamidade.gov/info/disclaimer.asp>

Version:

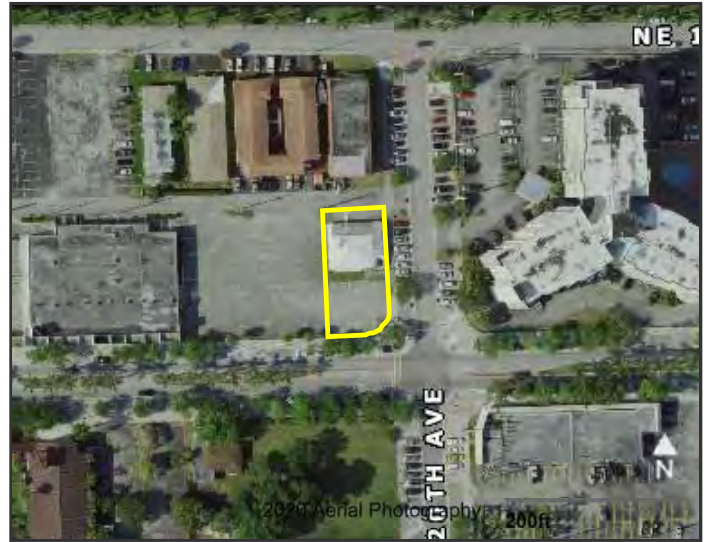


OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On : 7/1/2021

Property Information	
Folio:	07-2216-001-0360
Property Address:	1999 NE 164 ST North Miami Beach, FL 33162-4118
Owner	TFH GRP LLC
Mailing Address	1999 NE 164 ST NORTH MIAMI BEACH, FL 33162-4118
PA Primary Zone	6400 COMMERCIAL - CENTRAL
Primary Land Use	2111 RESTAURANT OR CAFETERIA : RETAIL OUTLET
Beds / Baths / Half	0 / 0 / 0
Floors	1
Living Units	0
Actual Area	Sq.Ft
Living Area	Sq.Ft
Adjusted Area	1,773 Sq.Ft
Lot Size	9,283 Sq.Ft
Year Built	Multiple (See Building Info.)



Assessment Information			
Year	2020	2019	2018
Land Value	\$222,792	\$222,792	\$222,792
Building Value	\$117,135	\$111,811	\$111,986
XF Value	\$23,867	\$24,032	\$24,198
Market Value	\$363,794	\$358,635	\$358,976
Assessed Value	\$363,794	\$358,635	\$328,410

Benefits Information				
Benefit	Type	2020	2019	2018
Non-Homestead Cap	Assessment Reduction			\$30,566
Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).				

Short Legal Description	
FULFORD BY THE SEA SEC F PB 8-64 LOT 11 BLK 72 LOT SIZE 66.310 X 140 COC 26269-4290 03 2008 1	

Taxable Value Information			
	2020	2019	2018
County			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$328,410
School Board			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$358,976
City			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$328,410
Regional			
Exemption Value	\$0	\$0	\$0
Taxable Value	\$363,794	\$358,635	\$328,410

Sales Information			
Previous Sale	Price	OR Book-Page	Qualification Description
03/01/2008	\$370,000	26269-4290	Sales which are qualified

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Version:

COMMUTING CHARACTERISTICS BY SEX

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

Census Tract 2.14, Miami-Dade County, Florida							
Label	Total		Male		Female		
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	
✓ Workers 16 years and over	3,207	±375	1,397	±283	1,810	±337	
✓ MEANS OF TRANSPORTATION TO WORK							
✓ Car, truck, or van	82.5%	±7.3	79.9%	±11.9	84.5%	±8.7	
Drove alone	68.3%	±6.7	68.6%	±10.3	68.1%	±9.7	
✓ Carpooled	14.2%	±7.0	11.3%	±7.5	16.5%	±8.4	
In 2-person carpool	9.8%	±5.9	9.8%	±7.3	9.8%	±6.1	
In 3-person carpool	0.0%	±1.3	0.0%	±3.0	0.0%	±2.3	
In 4-or-more person carpool	4.4%	±4.9	1.5%	±2.3	6.7%	±6.9	
Workers per car, truck, or van	1.11	±0.06	1.08	±0.05	1.13	±0.08	
Public transportation (excluding taxicab)	8.7%	±5.4	7.5%	±7.0	9.6%	±6.3	
Walked	5.3%	±5.1	8.4%	±10.1	2.8%	±3.6	
Bicycle	0.7%	±1.2	0.0%	±3.0	1.3%	±2.1	
Taxicab, motorcycle, or other means	2.4%	±2.6	3.2%	±4.8	1.8%	±2.9	
Worked from home	0.4%	±0.7	0.9%	±1.5	0.0%	±2.3	
➤ PLACE OF WORK							
➤ Workers 16 years and over who did not work from	3,194	±380	1,384	±286	1,810	±337	
➤ VEHICLES AVAILABLE							
➤ PERCENT ALLOCATED							

Table Notes

COMMUTING CHARACTERISTICS BY SEX

Survey/Program: American Community Survey
Year: 2019
Estimates: 5-Year
Table ID: S0801

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

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

When information is missing or inconsistent, the Census Bureau logically assigns an acceptable value using the response to a related question or questions. If a logical assignment is not possible, data are filled using a statistical process called allocation, which uses a similar individual or household to provide a donor value. The "Allocated" section is the number of respondents who received an allocated value for a particular subject.

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

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

The 12 selected states are Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

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

The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

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

Explanation of Symbols:

- An "***" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.

An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.

An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.

An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

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

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

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

Appendix G

Policy 1.1.2 and 1.1.3

City of North Miami Beach Comprehensive Plan



As Adopted by City Council

Updated to Ordinance No. 2015-13, adopted October 20, 2015



II. Transportation Element

Goals, Objectives, and Policies

Goal 1

To maintain a financially feasible, multimodal, urban transportation system that meets the mobility needs of the residents in a safe, convenient and efficient manner and that operates in harmony with the existing and future land use pattern and the environment.

Objective 1.1 Level of Service (LOS)

The City will ensure that the impact on the traffic circulation system from new development and redevelopment occurring within the City is minimized through the implementation of the Smart Growth North Miami Beach Vision, transportation concurrency, the capital improvement program, and programs that reduce automobile demand and support alternative modes of transportation to the automobile.

Policy 1.1.1

Consistent with the Capital Improvements Element and Transportation Element of the Miami-Dade Comprehensive Development Master Plan (CDMP), as amended, the City designates the area within its corporate boundaries east of I-95 as the Urban Infill Area (UIA) and transportation concurrency exception area. The City has amended its Future Land Use Map to reflect these boundaries and has added a consistency policy to its Future Land Use Element.

Policy 1.1.1

Consistent with the Capital Improvements Element and Transportation Element of the Miami-Dade Comprehensive Development Master Plan (CDMP), as amended, the City designates the area within its corporate boundaries east of I-95 as the Urban Infill Area (UIA) and transportation concurrency exception area. The City has amended its Future Land Use Map to reflect these boundaries and has added a consistency policy to its Future Land Use Element.

Policy 1.1.2

The City hereby adopts traffic circulation level of service standards based on peak period conditions consistent with those standards established in the Miami-Dade CDMP for arterials and collectors. Peak period means the average of the two highest consecutive hours of traffic volume during a weekday.



1. *Florida Intrastate Highway System (FIHS)* – Limited access State highways shall operate at LOS D or better. Where exclusive through lanes exist, such as high occupancy vehicle (HOV) lanes, roadways may operate at LOS E.
2. *Arterials and Collectors* – Within the UIA:
 - (a) Where no public mass transit service exists, roadways shall operate at or above LOS E;
 - (b) Where mass transit service having headways of 20 minutes or less is provided within $\frac{1}{2}$ mile distance, roadways shall operate at no greater than 120 percent of their capacity;
 - (c) Roadways parallel to and within $\frac{1}{2}$ mile distance of I-95/Tri-Rail, US 1, or any other corridors where extraordinary transit service such as commuter rail or express bus service exists, shall operate at no greater than 150 percent of their capacity.
3. *Local Roads* – Within the City limits, local roads shall operate at LOS D.

Policy 1.1.3

No development shall be approved if the projected impacts of the development (including redevelopment) would reduce service levels of any roadway on the traffic circulation system below the standards in Policy 1.1.2, unless the development qualifies for a transportation concurrency exception. In order to qualify for a transportation concurrency exception, the development must be located within the Community Redevelopment Area and designated Mixed-Use, MU/TC Mixed Use Town Center, MU/EC Mixed-Use Employment Center or MU/NC Mixed-Use Neighborhood Center, subject to FLUE Policy 1.8.1, and/or located within $\frac{1}{4}$ mile of either an MDTA transit center, or an MDTA or city circulator bus stop with existing, or planned and funded, peak hour headway service of 20 minutes or less, or express bus service, and shall comply with one of the following alternative requirements:

- a. the additional peak travel hour trips generated by the development do not exceed one-quarter of one percent (0.25 percent) of the peak travel hour capacity of any SIS facility, adjacent to the city, at the adopted LOS standard; or
- b. the development shall incorporate, on or off-site, a premium transit shelter; or the development shall accommodate and provide for alternative modes of transportation, or transportation demand management, as follows, provided that the city shall determine the acceptability of alternatives proposed for any given development.
 - i. Incorporate secure bicycle storage.
 - ii. Ensure that a complete sidewalk network is available for pedestrian access no later than issuance of a certificate of occupancy, such that



the sidewalk network within $\frac{1}{4}$ mile in each direction within the city limits is complete.

- iii. Enhance existing pedestrian and bicycle ways with shade cover.
- iv. Provide convenient group transportation for residents or employees, as applicable, through private van transportation, during peak travel hours, with commensurate reduction in the number of on-site parking spaces consistent with Policy 1.2.7.
- v. Coordinate an employee carpooling program, including the provision and enforcement of reserved parking spaces for car poolers, with a commensurate reduction in the number of on-site parking spaces consistent with Policy 1.2.7. This program must be supplemented with a guaranteed ride home program.
- vi. Provide a transit discount program to all residents or employees, as applicable.
- vii. Provide for flexible work hours or telecommuting with a commensurate reduction in the number of on-site parking spaces consistent with Policy 1.2.7.
- viii. Innovative alternatives the City deems equally effective

Policy 1.1.4

Traffic impact shall be limited to the collector or arterial roadway(s) serving the local road(s) providing access to the project site, or to the collector or arterial road providing direct access to the project site.

Policy 1.1.5

Project traffic shall be based on the application of ITE trip rates (Trip Generation Manual, 6th Edition or subsequent editions). Alternatively, project traffic may be based upon trip rates developed from existing facilities of the same type as proposed, following established traffic engineering procedures as approved by FDOT, the County and the City.

Policy 1.1.6

Roadway capacity shall be calculated as specified in the most current version of the Florida DOT "Level of Service Standards and Guidelines Manual for Planning". The City may allow roadway capacity to be measured using the Miami-Dade County Concurrency Information Center and Miami-Dade County Administrative Order #4-85 (July 1989) or other traffic engineering analysis such as ART-PLAN or speed-delay studies which are technically sound and acceptable.

TABLE 7

Generalized **Peak Hour Directional** Volumes for Florida's
Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
1	Undivided	*	830	880	**	2	2,230	3,100	3,740	4,080	
2	Divided	*	1,910	2,000	**	3	3,280	4,570	5,620	6,130	
3	Divided	*	2,940	3,020	**	4	4,310	6,030	7,490	8,170	
4	Divided	*	3,970	4,040	**	5	5,390	7,430	9,370	10,220	
						6	6,380	8,990	11,510	12,760	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
1	Undivided	*	370	750	800	2	2,270	3,100	3,890	4,230	
2	Divided	*	730	1,630	1,700	3	3,410	4,650	5,780	6,340	
3	Divided	*	1,170	2,520	2,560	4	4,550	6,200	7,680	8,460	
4	Divided	*	1,610	3,390	3,420	5	5,690	7,760	9,520	10,570	
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)						Freeway Adjustments					
Non-State Signalized Roadways - 10%						Auxiliary Lane + 1,000 Ramp Metering + 5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
1	Divided	Yes	No	+5%		1	Undivided	580	890	1,200	1,610
1	Undivided	No	No	-20%		2	Divided	1,800	2,600	3,280	3,730
Multi	Undivided	Yes	No	-5%		3	Divided	2,700	3,900	4,920	5,600
Multi	Undivided	No	No	-25%							
—	—	—	Yes	+ 5%							
One-Way Facility Adjustment Multiply the corresponding directional volumes in this table by 1.2						Uninterrupted Flow Highway Adjustments					
						Lanes	Median	Exclusive left lanes	Adjustment factors		
						1	Divided	Yes	+5%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						¹ Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.					
Paved Shoulder/Bicycle						² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.					
Lane Coverage	B	C	D	E		³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
0-49%	*	150	390	1,000		* Cannot be achieved using table input value defaults.					
50-84%	110	340	1,000	>1,000		** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
85-100%	470	1,000	>1,000	**		Source: Florida Department of Transportation Systems Implementation Office https://www.fdot.gov/planning/systems/					
PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	*	*	140	480							
50-84%	*	80	440	800							
85-100%	200	540	880	>1,000							
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)											
Sidewalk Coverage	B	C	D	E							
0-84%	> 5	≥ 4	≥ 3	≥ 2							
85-100%	> 4	≥ 3	≥ 2	≥ 1							

Appendix H

Transit Information



3

**NORTH
MIAMI BEACH**

Aventura Blvd / NE 199 St

167 St

15 Ave

171 /
172 St

12 Ave

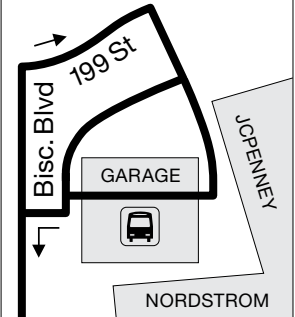
163 ST
MALL

Biscayne Blvd

**MIAMI
SHORES**

**UPPER
EAST SIDE**

**THE BUS TERMINAL
AT AVENTURA MALL**



**DOWNTOWN BUS
TERMINAL**

GVT
CTR



N Mia. Ct

N. Mia. Ave

NE 3 St

NW 1 St

Flagler St

→ SW / SE 1 St

Biscayne Blvd

**ARSHT CTR
& OMNI BUS
TERMINAL**

Bisc. Blvd

NORTH
BOUND

14 St

13 St



Bayshore Dr

17 Ter

SOUTH
BOUND



NORTH
06/2019



@GoMiamiDade



MDT Tracker | EASY Pay Miami

www.miamidade.gov/transit



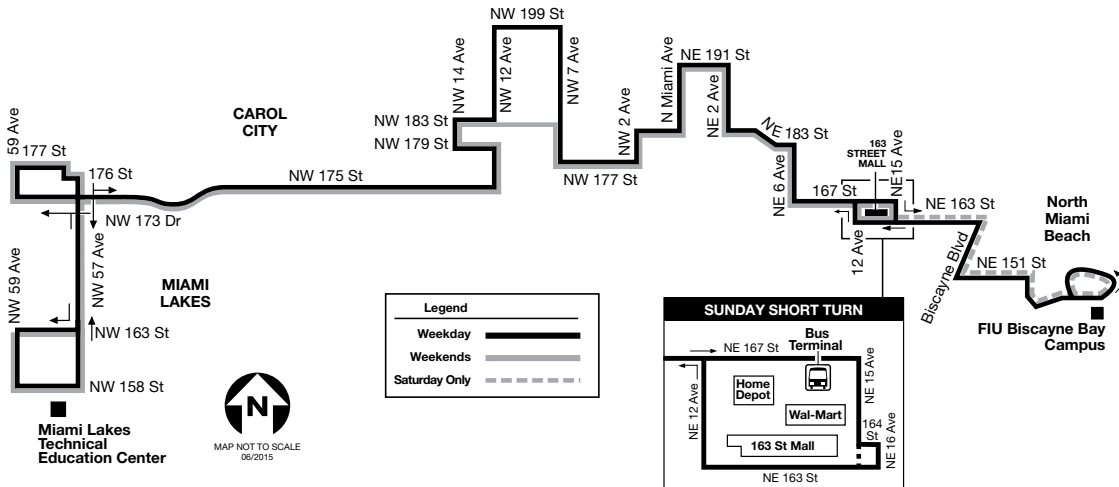
311 or 305.468.5900 TTY/Fla Relay: 711



WEEKDAYS / DIAS LABORABLES / LACÈMEN																								
NORTHBOUND RUMBO NORTE / DIREKSYON NÒ		EVERY/CADA/CHAK 20 min		EVERY/CADA/CHAK 10 min		EVERY/CADA/CHAK 20 min		EVERY/CADA/CHAK 10 min		EVENING / NOCHE / CHAK ASWÈ														
		FROM DESDE/DE	TO HASTA/A	FROM DESDE/DE	TO HASTA/A	FROM DESDE/DE	AM PM TO HASTA/A	FROM DESDE/DE	TO HASTA/A															
	Downtown Metrobus Terminal	5:15	7:55	8:10	9:10	9:30		3:10	3:20	7:30	7:50	8:10	8:40	9:10	9:40	10:10	10:40	11:10	11:40					
	Omni Terminal / Arsht Metromover	5:24	8:08	8:23	9:23	9:43		3:24	3:34	7:43	8:03	8:23	8:53	9:23	9:53	10:23	10:53	11:21	11:51					
	Biscayne Blvd & NE 36 St	5:30	8:17	8:32	9:31	9:51		3:36	3:46	7:51	8:11	8:31	9:01	9:31	10:01	10:31	11:01	11:28	11:58					
	Biscayne Blvd & NE 79 St	5:39	8:29	8:44	9:43	10:03		3:49	3:59	8:03	8:21	8:41	9:11	9:41	10:11	10:41	11:11	11:38	12:08					
	Biscayne Blvd & NE 123 St	5:49	8:43	8:58	9:57	10:17		4:04	4:14	8:15	8:33	8:53	9:23	9:53	10:23	10:53	11:21	11:48	12:18					
	NE 163 St & NE 23 Ave	5:58	8:55	9:11	10:10	10:30		4:18	4:28	8:25	8:43	9:03	9:33	10:03	10:33	11:03	11:30	11:57	12:27					
	NE 167 St & 15 Ave	6:08	9:07	9:23	10:22	10:42		4:31	4:41	8:35	8:53	9:13	9:43	10:13	10:43	11:10	11:37	12:04	12:34					
	Bus Terminal at Aventura Mall	6:25	9:28	9:44	10:43	11:03		4:55	5:05	8:53	9:11	9:31	10:01	10:31	11:01	11:26	11:53	12:20	12:50					
SOUTHBOUND RUMBO SUR / DIREKSYON SID		MORNING / MAÑANA / MATEN		EVERY/CADA/CHAK 20 min		EVERY/CADA/CHAK 10 min		EVERY/CADA/CHAK 20 min		EVERY/CADA/CHAK 10 min		EVENING / NOCHE / CHAK ASWÈ												
				FROM DESDE/DE	TO HASTA/A	FROM DESDE/DE	TO HASTA/A	FROM DESDE/DE	AM PM TO HASTA/A	FROM DESDE/DE	TO HASTA/A													
	Bus Terminal at Aventura Mall	4:26	4:56	5:17	6:23	6:35	7:29	7:47		1:27	1:37	5:49	6:14	6:36	7:05	7:38	8:10	8:40	9:10	9:40	10:14	10:49	11:23	11:53
	NE 15 Ave & 165 St	4:40	5:10	5:31	6:39	6:51	7:48	8:07		1:47	1:57	6:13	6:35	6:57	7:26	7:59	8:29	8:59	9:29	9:59	10:33	11:08	11:38	12:08
	Biscayne Blvd & NE 163 St	4:46	5:16	5:37	6:46	7:00	7:57	8:17		1:57	2:07	6:23	6:45	7:07	7:34	8:07	8:37	9:07	9:37	10:07	10:41	11:14	11:44	12:14
	Biscayne Blvd & NE 123 St	4:53	5:23	5:44	6:55	7:10	8:08	8:28		2:10	2:20	6:34	6:56	7:17	7:44	8:16	8:46	9:16	9:46	10:16	10:50	11:22	11:52	12:22
	Biscayne Blvd & NE 79 St	5:04	5:34	5:55	7:11	7:26	8:24	8:44		2:26	2:36	6:49	7:11	7:31	7:58	8:29	8:59	9:29	9:59	10:29	11:03	11:33	12:03	12:33
	Biscayne Blvd & NE 36 St	5:12	5:42	6:07	7:24	7:39	8:39	8:59		2:39	2:49	7:01	7:21	7:41	8:08	8:38	9:08	9:38	10:08	10:38	11:11	11:41	12:11	12:41
	Omni Terminal / Arsht Metromover	5:17	5:47	6:14	7:33	7:48	8:48	9:08		2:48	2:58	7:09	7:29	7:49	8:15	8:45	9:15	9:45	10:15	10:45	11:17	11:47	12:17	12:47
	Downtown Metrobus Terminal	5:25	5:55	6:25	7:45	8:00	9:00	9:20		3:00	3:10	7:20	7:40	8:00	8:25	8:55	9:25	9:55	10:25	10:55	11:25	11:55	12:25	12:55

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





WEEKDAYS / DIAS LABORABLES / JOU LASÈMEN

EASTBOUND RUMBO ESTE / DIREKSYON IS	MORNING / MAÑANA / MATEN													AM	PM	AFTERNOON AND EVENING TARDE Y NOCHE / APREMIDI AK ASWÈ																
NW 163 St & 57 Ave	5:27	5:53	6:20	6:47	7:16	7:52	8:22	8:55	9:26	9:57	10:27	10:56	11:26	11:54	12:24	12:54	1:21	1:58	2:21	-	2:48	3:16	3:46	4:16	4:46	5:20	5:51	7:00	8:00	9:05		
NW 176 St & 57 Ave	5:36	6:02	6:29	6:56	7:26	8:02	8:32	9:05	9:36	10:07	10:37	11:06	11:36	12:04	12:34	1:04	1:31	2:08	2:31	-	2:58	3:28	3:58	4:29	5:00	5:34	6:05	7:10	8:10	9:14		
NW 175 St & 27 Ave	5:48	6:15	6:42	7:10	7:40	8:16	8:46	9:18	9:49	10:20	10:50	11:20	11:50	12:18	12:48	1:18	1:45	2:22	2:45	-	3:12	3:42	4:12	4:43	5:14	5:48	6:18	7:22	8:22	9:25		
NW 12 Ave & 183 St	5:55	6:25	6:52	7:22	7:52	8:27	8:57	9:27	9:58	10:29	10:59	11:29	11:59	12:27	12:57	1:27	1:54	2:33	2:56	2:23	3:23	3:53	4:23	4:54	5:24	5:58	6:28	7:31	8:31	9:33		
NW 7 Ave & 183 St	6:03	6:33	7:00	7:30	8:00	8:35	9:05	9:35	10:06	10:36	11:06	11:36	12:06	12:34	1:04	1:34	2:02	2:41	3:04	2:31	3:31	4:01	4:31	5:02	5:32	6:06	6:36	7:37	8:37	9:39		
NW 183 St & 2 Ave	6:09	6:39	7:07	7:37	8:07	8:42	9:12	9:42	10:12	10:42	11:12	11:42	12:12	12:40	1:10	1:40	2:10	2:49	3:12	2:39	3:39	4:09	4:39	5:10	5:40	6:12	6:42	7:43	8:43	9:44		
NE 183 St & 2 Ct	6:15	6:45	7:14	7:44	8:14	8:49	9:20	9:50	10:20	10:50	11:20	11:50	12:20	12:48	1:18	1:48	2:18	2:57	3:20	2:47	3:47	4:17	4:47	5:18	5:48	6:19	6:49	7:50	8:50	9:50		
NE 167 St & 15 Ave	6:25	6:55	7:25	7:55	8:25	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:10	3:33	2:59	4:00	4:30	5:00	5:30	6:00	6:30	7:00	8:00	9:00	10:00		
FIU Biscayne Bay Campus	6:37	7:08	7:38	8:09	8:39	9:14	9:44	10:14	10:44	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:25	3:48	-	4:14	4:44	5:14	5:44	6:13	6:43	7:12	8:12	9:11	10:11		
WESTBOUND RUMBO OESTE / DIREKSYON IWÈS	MORNING / MAÑANA / MATEN												AM	PM	AFTERNOON AND EVENING TARDE Y NOCHE / APREMIDI AK ASWÈ																	
FIU Biscayne Bay Campus	5:20	5:49	6:19	6:47	7:22	7:52	8:22	8:51	9:26	9:55	10:35	11:05	11:35	12:05	12:35	1:04	1:44	2:04	-	2:34	3:04	3:34	4:04	4:34	5:05	5:35	6:06	6:36	7:26	8:26	9:29	10:29
NE 163 St & 15 Ave	5:30	6:00	6:30	7:00	7:35	8:05	8:35	9:05	9:40	10:10	10:50	11:20	11:50	12:20	12:50	1:20	2:00	2:20	-	2:50	3:20	3:50	4:20	4:50	5:20	5:50	6:20	6:50	7:40	8:40	9:40	10:40
NE 2 Ave & 183 St	5:39	6:11	6:41	7:14	7:49	8:19	8:49	9:18	9:53	10:23	11:03	11:33	12:03	12:33	1:05	1:35	2:16	2:36	-	3:06	3:36	4:06	4:36	5:06	5:36	6:06	6:34	7:04	7:53	8:53	9:51	10:51
NW 2 Ave & 183 St	5:45	6:17	6:47	7:22	7:57	8:28	8:58	9:26	10:01	10:31	11:12	11:42	12:12	12:42	1:14	1:44	2:25	2:45	-	3:15	3:45	4:15	4:45	5:15	5:45	6:14	6:42	7:12	8:01	9:01	9:58	10:58
NW 7 Ave & 183 St	5:51	6:23	6:53	7:29	8:04	8:35	9:05	9:32	10:07	10:37	11:18	11:48	12:18	12:48	1:20	1:50	2:31	2:51	2:21	3:21	3:51	4:22	4:52	5:22	5:52	6:19	6:47	7:17	8:06	9:06	10:03	11:03
NW 12 Ave & 183 St	5:58	6:31	7:03	7:39	8:14	8:45	9:13	9:40	10:15	10:45	11:26	11:56	12:26	12:56	1:29	1:59	2:40	3:00	2:30	3:30	4:00	4:31	5:01	5:31	6:01	6:27	6:55	7:25	8:14	9:13	10:10	11:10
NW 175 St & 27 Ave	6:07	6:40	7:13	7:49	8:24	8:55	9:22	9:49	10:24	10:54	11:35	12:05	12:35	1:05	1:38	2:08	2:49	3:09	2:39	3:39	4:09	4:40	5:10	5:40	6:09	6:35	7:03	7:33	8:22	9:20	10:17	11:17
NW 176 St & 57 Ave	6:20	6:53	7:27	8:03	8:38	9:09	9:35	10:02	10:37	11:07	11:48	12:18	12:48	1:18	1:51	2:21	3:02	3:22	2:52	3:52	4:23	4:54	5:24	5:54	6:22	6:48	7:16	7:46	8:35	9:32	10:29	11:29
NW 163 St & 57 Ave	6:26	6:59	7:34	8:10	8:45	9:16	9:42	10:09	10:44	11:14	11:55	12:25	12:55	1:25	1:58	2:28	3:10	3:30	2:59	4:00	4:31	5:02	5:31	6:01	6:29	6:55	7:22	7:52	8:41	9:37	10:34	11:34

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

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





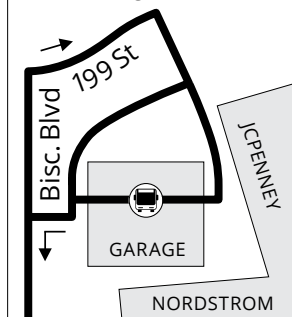
93

BISCAYNE MAX

Aventura Blvd / NE 199 St

MAKES ALL
LOCAL STOPS
NORTH OF 163 ST

**THE BUS TERMINAL
AT AVENTURA MALL**



Biscayne Blvd

163 ST

151 ST

146 ST

**NORTH
MIAMI**

135 ST

123 ST

SANS SOUCI BLVD

**MIAMI
SHORES**

107 ST

96 ST

91 ST

79 ST

**UPPER
EAST SIDE**

70 ST (NORTHBOUND)

71 ST (SOUTHBOUND)

62 ST

54 ST

36 ST

EDGEWATER

29 ST

19 ST

Biscayne Blvd

MAKES ALL
LOCAL STOPS
SOUTH OF 19 ST



LIMITED STOPS

19 St to 163 St

**DOWNTOWN BUS
TERMINAL**

GVT
CTR



N Mia. Ct
N. Mia. Ave

NE 3 St

NW 1 St

Flagler St

→ SW / SE 1 St



Metromover Terminal



Metrorail Station



Metromover Station



NORTH
10/2019



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311 or 305.468.5900 TTY/Fla Relay: 711



WEEKDAYS / DIAS LABORABLES / LASEMÈN

NORTHBOUND RUMBO NORTE / DIREKSYON Nò		EVERY CADA/CHAK 15 min		MORNING / MAÑANA / MATEN			AM	PM	AFTERNOON / TARDE / APRÈ MIDI			EVERY CADA/CHAK 15 min		EVENING / NOCHE / CHAK ASWÈ	
		FROM DESDE/DE	TO HASTA/A									FROM DESDE/DE	TO HASTA/A		
 DOWNTOWN TERMINAL	5:24	5:44	10:06	10:30	11:00	11:30		12:00	12:30	1:00	1:30	2:00	6:45	7:05	7:25
BISCAYNE BLVD & NE 15 ST	5:32	5:52	10:19	10:43	11:13	11:43		12:13	12:43	1:13	1:43	2:14	6:59	7:17	7:37
BISCAYNE BLVD & NE 36 ST	5:37	5:57	10:26	10:50	11:20	11:50		12:20	12:50	1:21	1:51	2:22	7:07	7:24	7:44
BISCAYNE BLVD & NE 79 ST	5:45	6:05	10:34	10:58	11:28	11:58		12:29	12:59	1:30	2:00	2:31	7:16	7:33	7:53
BISCAYNE BLVD & NE 123 ST	5:53	6:14	10:44	11:09	11:39	12:09		12:40	1:10	1:41	2:12	2:43	7:26	7:43	8:03
BISCAYNE BLVD & NE 163 ST	6:02	6:23	10:53	11:19	11:49	12:20		12:51	1:21	1:52	2:23	2:54	7:34	7:51	8:11
 TERMINAL AVENTURA MALL	6:14	6:35	11:07	11:33	12:04	12:35		1:07	1:37	2:08	2:39	3:11	7:46	8:03	8:22
SOUTHBOUND RUMBO SUR / DIREKSYON SID		EVERY CADA/CHAK 15 min		MORNING / MAÑANA / MATEN					AM	PM	AFTER- NOON / TARDE / APRÈ MIDI	EVERY CADA/CHAK 15 min		EVENING / NOCHE / CHAK ASWÈ	
		FROM DESDE/DE	TO HASTA/A									FROM DESDE/DE	TO HASTA/A		
 TERMINAL AVENTURA MALL	5:45	8:56	9:20	9:49	10:20	10:49	11:18	11:47	12:16	12:46	5:32	5:53	6:15		
BISCAYNE BLVD & NE 163 ST	5:55	9:10	9:34	10:03	10:34	11:04	11:33	12:02	12:31	1:01	5:49	6:10	6:30		
BISCAYNE BLVD & NE 123 ST	6:02	9:18	9:42	10:12	10:43	11:13	11:42	12:12	12:41	1:11	6:00	6:20	6:40		
BISCAYNE BLVD & NE 79 ST	6:12	9:29	9:53	10:24	10:55	11:25	11:54	12:24	12:53	1:23	6:11	6:31	6:51		
BISCAYNE BLVD & NE 36 ST	6:21	9:39	10:03	10:33	11:04	11:34	12:03	12:33	1:03	1:33	6:20	6:40	7:00		
BISCAYNE BLVD & NE 15 ST	6:26	9:44	10:08	10:38	11:09	11:39	12:09	12:39	1:09	1:39	6:25	6:45	7:05		
 DOWNTOWN TERMINAL	6:37	9:56	10:20	10:50	11:20	11:50	12:20	12:50	1:20	1:50	6:35	6:55	7:15		

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

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



93 BISCAYNE
MAX



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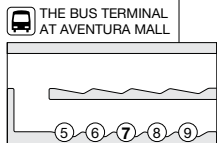
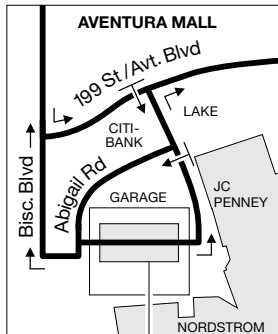


311 or 305.468.5900 TTY/Fla Relay: 711

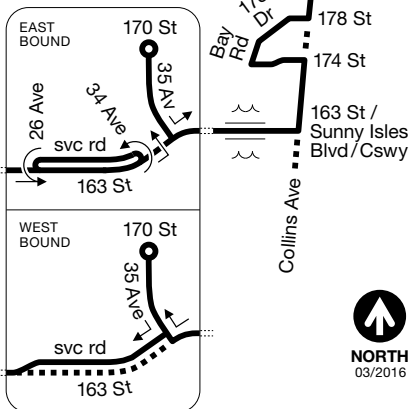
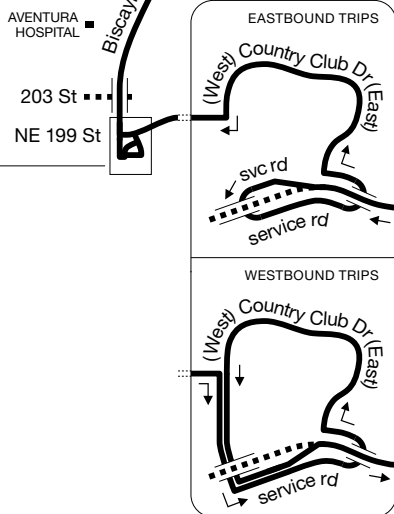
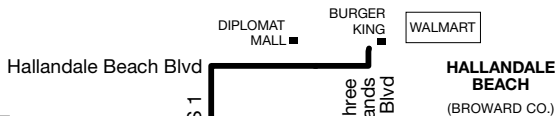
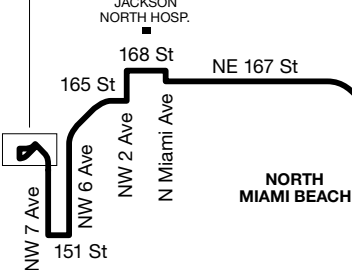




E



Board at Bay ⑦



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



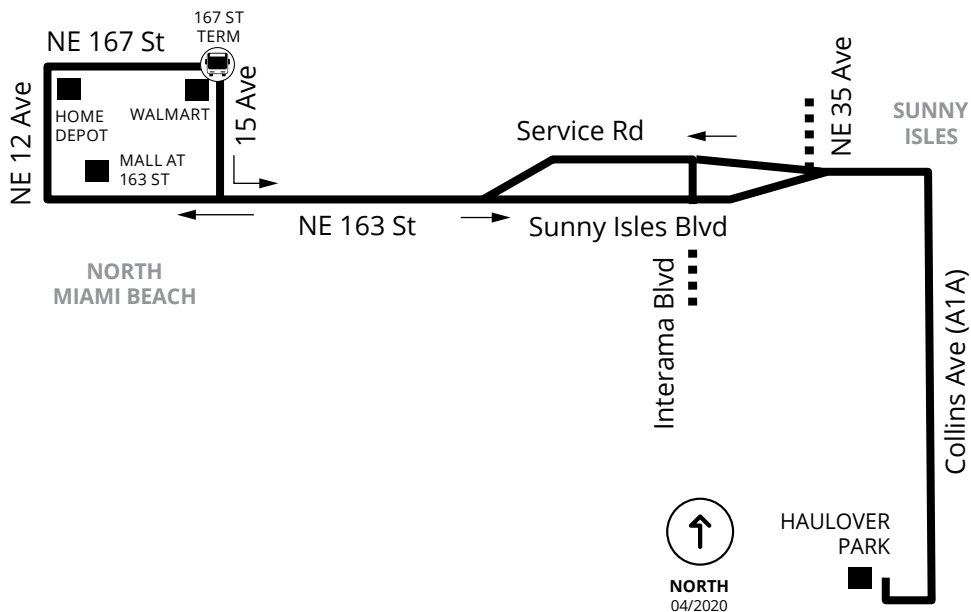
WEEKDAYS / DIAS LABORABLES / JOU LASEMÈN

EASTBOUND RUMBO ESTE / DIREKSYON IS		MORNING / MAÑANA / MATEN									AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ														
Golden Glades (East Lot)		5:55	6:33	7:10	7:40	8:10	8:45	9:25	10:10	11:00	11:50	12:35	1:20	2:10	2:50	3:25	3:55	4:25	4:55	5:30	6:00	6:30	7:30	8:30			
NW 168 St & 1 Ave		6:06	6:44	7:21	7:51	8:21	8:56	9:36	10:21	11:11	12:01	12:46	1:31	2:21	3:03	3:38	4:08	4:38	5:08	5:43	6:13	6:43	7:41	8:41			
NE 164 St & 15 Ave		6:16	6:54	7:31	8:01	8:31	9:07	9:47	10:32	11:22	12:12	12:57	1:42	2:32	3:15	3:50	4:20	4:50	5:20	5:55	6:25	6:55	7:51	8:51			
NE 163 St & Biscayne Blvd		6:24	7:02	7:39	8:09	8:39	9:15	9:55	10:40	11:30	12:20	1:05	1:50	2:40	3:23	3:58	4:28	4:58	5:28	6:03	6:33	7:03	7:58	8:58			
Collins Ave at 16900 Blk		6:45	7:23	8:00	8:30	9:00	9:36	10:16	11:01	11:51	12:41	1:26	2:11	3:01	3:44	4:19	4:49	5:19	5:49	6:24	6:54	7:22	8:17	9:17			
N Bay Rd & 174 St		6:49	7:27	8:04	8:34	9:05	9:41	10:21	11:06	11:56	12:46	1:31	2:16	3:06	3:49	4:24	4:54	5:24	5:54	6:29	6:59	7:27	8:22	9:22			
Collins Ave & 185 St		6:54	7:32	8:09	8:39	9:10	9:46	10:26	11:11	12:01	12:51	1:36	2:21	3:11	3:54	4:29	4:59	5:29	5:59	6:34	7:04	7:31	8:26	9:26			
	Bus Terminal at Aventura Mall	7:09	7:47	8:24	8:54	9:25	10:01	10:41	11:26	12:16	1:06	1:51	2:36	3:26	4:09	4:44	5:14	5:44	6:14	6:49	7:19	7:46	8:41	9:41			
Three Is Blvd & Hallandale Bch Blvd		7:30	8:08	8:45	9:18	9:49	10:25	11:05	11:50	12:40	1:30	2:15	3:03	3:53	4:36	5:11	5:41	6:11	6:41	7:16	7:40	8:07	9:02	10:02			
WESTBOUND RUMBO OESTE / DIREKSYON IWÈS		MORNING / MAÑANA / MATEN									AM	PM	AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ														
Three Is Blvd & Hallandale Bch Blvd		–	6:01	6:31	7:03	7:41	8:19	9:09	9:54	10:44	11:29	12:19	1:14	1:49	2:28	2:54	3:24	3:54	4:24	4:54	5:26	6:06	6:38	7:30	8:20	9:20	10:06
	Bus Terminal at Aventura Mall	5:47	6:17	6:47	7:19	7:57	8:42	9:32	10:17	11:07	11:52	12:42	1:37	2:12	2:51	3:21	3:51	4:21	4:51	5:21	5:53	6:33	7:05	7:50	8:40	9:40	10:23
Collins Ave & 185 St		6:08	6:38	7:08	7:40	8:20	9:05	9:55	10:40	11:30	12:15	1:05	2:00	2:35	3:15	3:45	4:15	4:45	5:15	5:45	6:17	6:57	7:27	8:12	9:02	10:02	–
N Bay Rd & 174 St		6:12	6:42	7:12	7:44	8:24	9:09	9:59	10:44	11:34	12:19	1:09	2:04	2:39	3:19	3:49	4:19	4:49	5:19	5:49	6:21	7:01	7:31	8:16	9:06	10:05	–
NE 163 St & Collins Ave		6:17	6:47	7:17	7:49	8:29	9:14	10:04	10:49	11:39	12:24	1:14	2:09	2:44	3:24	3:54	4:24	4:54	5:24	5:54	6:26	7:05	7:35	8:20	9:10	10:08	–
NE 163 St & Biscayne Blvd		6:32	7:02	7:32	8:05	8:45	9:30	10:20	11:05	11:55	12:40	1:30	2:25	3:01	3:41	4:11	4:41	5:11	5:41	6:11	6:43	7:19	7:49	8:34	9:24	10:20	–
NE 164 St & 15 Ave		6:39	7:09	7:39	8:12	8:52	9:37	10:27	11:12	12:02	12:47	1:37	2:32	3:08	3:48	4:18	4:48	5:18	5:48	6:18	6:50	7:25	7:55	8:40	9:30	10:25	–
NW 168 St & 1 Ave		6:50	7:20	7:50	8:25	9:05	9:50	10:40	11:25	12:15	1:00	1:50	2:45	3:24	4:04	4:34	5:04	5:34	6:04	6:34	7:06	7:36	8:06	8:51	9:41	10:34	–
Golden Glades (East Lot)		7:00	7:30	8:00	8:35	9:15	10:00	10:50	11:35	12:25	1:10	2:00	2:55	3:35	4:15	4:45	5:15	5:45	6:15	6:45	7:15	7:45	8:15	9:00	9:50	10:40	–

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

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WEEKDAYS / DIAS LABORABLES / LASEMÈN																																						
NORTHBOUND RUMBO NORTE / DIREKSYON NÒ	MORNING / MAÑANA / MATEN												AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																							
Haulover Club Parking Lot	5:40	6:10	6:45	7:15	7:45	8:15	8:45	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:45	7:15	7:45	8:15	8:45	9:15	9:50	10:20	10:50	11:20	11:59	
Collins Ave & Atlantic Ave	5:45	6:15	6:50	7:20	7:50	8:20	8:50	9:20	9:50	10:20	10:50	11:20	11:50	12:20	12:50	1:20	1:50	2:20	2:50	3:20	3:50	4:20	4:50	5:20	5:50	6:20	6:50	7:20	7:50	8:20	8:50	9:20	9:55	10:25	10:55	11:25	12:04	
NE 167 St & 15 Ave	5:59	6:33	7:11	7:41	8:11	8:41	9:12	9:42	10:12	10:42	11:12	11:42	12:13	12:43	1:13	1:43	2:13	2:43	3:13	3:43	4:13	4:43	5:13	5:43	6:13	6:43	7:13	7:39	8:09	8:36	9:06	9:36	10:11	10:41	11:11	11:41	12:18	
SOUTHBOUND RUMBO SUR / DIREKSYON SID	MORNING / MAÑANA / MATEN												AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																							
NE 167 St & 15 Ave	5:13	5:42	6:12	6:39	7:06	7:36	8:04	8:34	9:04	9:34	10:04	10:34	11:04	11:34	12:04	12:34	1:04	1:34	2:04	2:34	3:04	3:34	4:04	4:34	5:04	5:34	6:04	6:34	7:08	7:38	8:15	8:45	9:20	9:50	10:20	10:50	11:30	11:59
Collins Ave & 163 St	5:28	5:57	6:27	6:57	7:27	7:57	8:27	8:57	9:27	9:57	10:27	10:57	11:27	11:57	12:27	12:57	1:27	1:57	2:27	2:57	3:27	3:57	4:27	4:57	5:27	5:57	6:27	6:57	7:27	7:57	8:32	9:02	9:37	10:07	10:37	11:07	11:47	12:16
Haulover Club Parking Lot	5:33	6:02	6:32	7:02	7:32	8:02	8:32	9:02	9:32	10:02	10:32	11:02	11:32	12:02	12:32	1:02	1:32	2:02	2:32	3:02	3:32	4:02	4:32	5:02	5:32	6:02	6:32	7:02	7:32	8:02	8:37	9:07	9:42	10:12	10:42	11:12	11:52	12:21

SATURDAY / SABADO / SAMDI																																						
NORTHBOUND RUMBO NORTE / DIREKSYON NÒ	MORNING / MAÑANA / MATEN													AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																						
Haulover Club Parking Lot	5:40	6:10	6:45	7:15	7:45	8:15	8:45	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:40	7:10	7:40	8:10	8:40	9:10	9:50	10:20	10:50	11:20	11:59	
Collins Ave & Atlantic Ave	5:45	6:15	6:50	7:20	7:50	8:20	8:50	9:20	9:50	10:20	10:50	11:20	11:50	12:20	12:50	1:20	1:50	2:20	2:50	3:20	3:50	4:20	4:50	5:20	5:50	6:20	6:45	7:15	7:45	8:15	8:45	9:15	9:55	10:25	10:55	11:25	12:04	
NE 167 St & 15 Ave	5:59	6:32	7:10	7:40	8:10	8:40	9:12	9:42	10:12	10:42	11:12	11:42	12:12	12:42	1:12	1:42	2:12	2:42	3:12	3:42	4:13	4:43	5:13	5:43	6:13	6:43	7:08	7:34	8:04	8:31	9:01	9:31	10:11	10:41	11:11	11:41	12:18	
SOUTHBOUND RUMBO SUR / DIREKSYON SID	MORNING / MAÑANA / MATEN													AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																						
NE 167 St & 15 Ave	5:13	5:42	6:10	6:40	7:08	7:38	8:08	8:38	9:05	9:35	10:05	10:35	11:05	11:35	12:04	12:34	1:04	1:34	2:04	2:34	3:04	3:34	4:04	4:34	5:04	5:34	6:04	6:34	7:08	7:38	8:10	8:40	9:20	9:50	10:20	10:50	11:30	11:59
Collins Ave & 163 St	5:28	5:57	6:27	6:57	7:27	7:57	8:27	8:57	9:27	9:57	10:27	10:57	11:27	11:57	12:27	12:57	1:27	1:57	2:27	2:57	3:27	3:57	4:27	4:57	5:27	5:57	6:27	6:57	7:27	7:57	8:27	8:57	9:37	10:07	10:37	11:07	11:47	12:16
Haulover Club Parking Lot	5:33	6:02	6:32	7:02	7:32	8:02	8:32	9:02	9:32	10:02	10:32	11:02	11:32	12:02	12:32	1:02	1:32	2:02	2:32	3:02	3:32	4:02	4:32	5:02	5:32	6:02	6:32	7:02	7:32	8:02	8:32	9:02	9:42	10:12	10:42	11:12	11:52	12:21

SUNDAY / DOMINGO / DIMANCH																																							
NORTHBOUND RUMBO NORTE / DIREKSYON NÒ	MORNING / MAÑANA / MATEN												AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																								
	Haulover Club Parking Lot	5:40	6:10	6:45	7:15	7:45	8:15	8:45	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:40	7:10	7:40	8:10	8:40	9:10	9:50	10:20	10:50	11:20	11:59	
	Collins Ave & Atlantic Ave	5:45	6:15	6:50	7:20	7:50	8:20	8:50	9:20	9:50	10:20	10:50	11:20	11:50	12:20	12:50	1:20	1:50	2:20	2:50	3:20	3:50	4:20	4:50	5:20	5:50	6:20	6:45	7:15	7:45	8:15	8:45	9:15	9:55	10:25	10:55	11:25	12:04	
	NE 167 St & 15 Ave	5:59	6:31	7:08	7:38	8:08	8:38	9:10	9:40	10:10	10:40	11:10	11:40	12:12	12:42	1:12	1:42	2:12	2:42	3:12	3:42	4:12	4:42	5:12	5:42	6:12	6:42	7:07	7:34	8:04	8:31	9:01	9:31	10:11	10:41	11:11	11:41	12:18	
SOUTHBOUND RUMBO SUR / DIREKSYON SID	MORNING / MAÑANA / MATEN												AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI, CHAK ASWÈ																								
	NE 167 St & 15 Ave	5:15	5:44	6:10	6:40	7:10	7:40	8:10	8:40	9:09	9:39	10:09	10:39	11:09	11:39	12:09	12:39	1:09	1:39	2:09	2:39	3:09	3:39	4:06	4:36	5:06	5:36	6:10	6:40	7:10	7:40	8:11	8:41	9:21	9:51	10:21	10:51	11:31	11:59
	Collins Ave & 163 St	5:28	5:57	6:27	6:57	7:27	7:57	8:27	8:57	9:27	9:57	10:27	10:57	11:27	11:57	12:27	12:57	1:27	1:57	2:27	2:57	3:27	3:57	4:27	4:57	5:27	5:57	6:27	6:57	7:27	7:57	8:27	8:57	9:37	10:07	10:37	11:07	11:47	12:15
	Haulover Club Parking Lot	5:33	6:02	6:32	7:02	7:32	8:02	8:32	9:02	9:32	10:02	10:32	11:02	11:32	12:02	12:32	1:02	1:32	2:02	2:32	3:02	3:32	4:02	4:32	5:02	5:32	6:02	6:32	7:02	7:32	8:02	8:32	9:02	9:42	10:12	10:42	11:12	11:52	12:20

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



210

SKYLAKE CIRCULATOR



NE 191 St

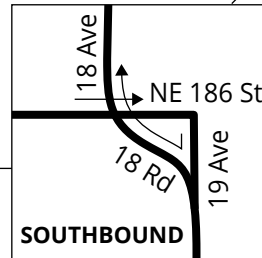
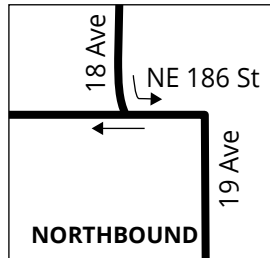
NE 14 Ave

NE 18 Ave

Miami Gardens Dr

SHOPS AT
SKYLAKE

NE 186 St



NE 19 Ave



NORTH
11/2019



Metrobus Terminal

NE 12 Ave

NE 167 St

HOME
DEPOT

THE MALL AT
163RD STREET

WALMART



NE 15 Ave

NORTH
MIAMI
BEACH

NE 163 St



@GoMiamiDade



GO Miami-Dade Transit

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



WEEKDAYS / DIAS LABORABLES/ LACÈMEN

SOUTHBOUND RUMBO SUR / DIREKSYON SID		MORNING / MAÑANA / MATIN										AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI CHAK ASWE																
NE 185 St & 18 Ave		5:42	6:35	7:35	8:34	9:04	9:34	10:04	10:34	11:04	11:34	12:04	12:34	1:04	1:34	2:04	2:34	3:04	3:34	4:04	4:34	5:34	6:34	7:39	8:40	9:40	10:40	11:40		
NE 191 St Circle		5:47	6:41	7:41	8:40	9:10	9:40	10:10	10:40	11:10	11:40	12:10	12:40	1:10	1:40	2:10	2:40	3:10	3:40	4:10	4:40	5:40	6:40	7:44	8:45	9:45	10:45	11:45		
	NE 167 St Terminal	5:59	6:59	7:59	8:59	9:29	9:59	10:29	10:59	11:29	11:59	12:29	12:59	1:29	1:59	2:29	2:59	3:29	3:59	4:29	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59		
NORTHBOUND RUMBO NORTE / DIREKSYON NÒ		MORNING / MAÑANA / MATIN										AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI CHAK ASWE																
	NE 167 St Terminal	5:00	6:00	7:00	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	6:00	7:00	8:00	9:00	10:00	11:00	11:59
NE 191 St Circle		5:10	6:12	7:13	8:13	8:43	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:16	4:46	5:16	6:16	7:13	8:12	9:12	10:12	11:12	12:09
NE 185 St & 18 Ave		5:15	6:18	7:19	8:19	8:49	9:21	9:51	10:21	10:51	11:21	11:51	12:21	12:51	1:21	1:51	2:21	2:51	3:21	3:51	4:22	4:52	5:22	6:22	7:19	8:18	9:18	10:18	11:18	12:14

WEEKENDS / FINES DE SEMANA / WIKENN

SOUTHBOUND RUMBO SUR / DIREKSYON SID		MORNING / MAÑANA / MATIN						AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI CHAK ASWE											
NE 185 St & 18 Ave		5:42	6:39	7:37	8:35	9:35	10:35	11:35	12:35	1:35	2:35	3:35	4:34	5:34	6:34	7:39	8:40	9:40	10:40	11:40	
NE 191 St Circle		5:47	6:45	7:43	8:41	9:41	10:41	11:41	12:41	1:41	2:41	3:41	4:40	5:40	6:40	7:44	8:45	9:45	10:45	11:45	
	NE 167 St Terminal	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	
NORTHBOUND RUMBO NORTE / DIREKSYON NÒ		MORNING / MAÑANA / MATIN						AM	PM	AFTERNOON & EVENING / TARDE Y NOCHE / APREMIDI CHAK ASWE											
	NE 167 St Terminal	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	11:59
NE 191 St Circle		5:10	6:12	7:12	8:13	9:13	10:13	11:13	12:14	1:14	2:14	3:14	4:14	5:14	6:14	7:13	8:12	9:12	10:12	11:12	12:09
NE 185 St & 18 Ave		5:15	6:18	7:18	8:19	9:19	10:19	11:19	12:20	1:20	2:20	3:20	4:20	5:20	6:20	7:19	8:18	9:18	10:18	11:18	12:14

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

ROUTE A

1	Intracoastal Mall / Arrive	7:30 AM	8:59 AM	10:28 AM	11:57 AM	1:27 PM	2:56 PM	4:25 PM	5:55 PM	
1	Intracoastal Mall / Leave	7:40 AM	9:09 AM	10:38 AM	12:07 PM	1:37 PM	3:06 PM	4:35 PM	6:05 PM	
2	NE 35th Ave 166th ST	7:43 AM	9:12 AM	10:42 AM	12:11 PM	1:40 PM	3:10 PM	4:39 PM	6:08 PM	
3	NE 35th Ave 169th ST	7:49 AM	9:19 AM	10:48 AM	12:17 PM	1:46 PM	3:16 PM	4:45 PM	6:14 PM	
4	NE 35th Ave 170th ST	7:53 AM	9:22 AM	10:51 AM	12:21 PM	1:50 PM	3:19 PM	4:49 PM	6:18 PM	
5	NE 35th Ave 171st ST	7:56 AM	9:25 AM	10:55 AM	12:24 PM	1:53 PM	3:23 PM	4:52 PM	6:21 PM	
1	Intracoastal Mall	7:59 AM	9:28 AM	10:57 AM	12:27 PM	1:56 PM	3:25 PM	4:55 PM	6:24 PM	
6	Stratford	8:03 AM	9:33 AM	11:02 AM	12:31PM	2:01 PM	3:30 PM	4:59 PM	6:28 PM	
7	Post Office/ Laurenzo's	8:11 AM	9:41 AM	11:10 AM	12:39 PM	2:08 PM	3:38 PM	5:07 PM	6:36 PM	
8	Inland Towers	8:13 AM	9:42 AM	11:12 AM	12:41 PM	2:10 PM	3:40 PM	5:09 PM	6:38 PM	
9	NMB Library	8:20 AM	9:49 AM	11:18 AM	12:47 PM	2:17 PM	3:46 PM	5:15 PM	6:45 PM	
10	Walmart	8:24 AM	9:53 AM	11:23 AM	12:52 PM	2:21 PM	3:51 PM	5:20 PM	6:49 PM	
11	NE 171st ST 16th Ave	8:27 AM	9:56 AM	11:26 AM	12:55 PM	2:24 PM	3:54 PM	5:23 PM	6:52 PM	
12	Victory Pool/ City Hall	8:34 AM	10:03 AM	11:32 AM	1:02 PM	2:31 PM	4:00 PM	5:30 PM	6:59 PM	
13	NE 20th Ave 168th ST	8:36 AM	10:05 AM	11:34 AM	1:04 PM	2:33 PM	4:02 PM	5:32 PM	7:01 PM	
14	NE 19th Ave 167th ST	8:38 AM	10:07 AM	11:36 AM	1:06 PM	2:35 PM	4:04 PM	5:34 PM	7:03 PM	
15	Inland Towers	8:41 AM	10:11 AM	11:40 AM	1:09 PM	2:38 PM	4:08 PM	5:37 PM	7:06 PM	
16	Post Office/ Laurenzo's	8:43 AM	10:13 AM	11:42 AM	1:11 PM	2:40 PM	4:10 PM	5:39 PM	7:08 PM	
6	Stratford	8:53 AM	10:22 AM	11:51 AM	1:21 PM	2:50 PM	4:19 PM	5:49 PM	7:18 PM	

EAST

NMB-Line will not be providing service on the following holidays:

- New Year's Day
- MLK- Birthday
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Day

Special Rules to Remember:

- Shop for only as much as you can carry yourself.
- No more than four(4) plastic or two(2) bags allowed per person
- The driver cannot carry your packages or leave vehicle unattended
- Please no tipping

NMB LINE is operated by:

The City of North Miami Beach Public Works Department

For more Information call :

(786) 785-4875
(305) RIDENMB
743 3662

or visit us online at:

www.citynmb.com

ROUTE B

1	Walmart / Arrive		8:10 AM	8:56 AM	9:45 AM	10:30 AM	11:16 AM	12:02 PM	12:47 PM	1:33 PM	2:19 PM	3:05 PM	3:52 PM	4:37 PM	5:23 PM	6:08 PM	6:54 PM
1	Walmart / Leave	7:30 AM	8:16 AM	9:02 AM	9:51 AM	10:36 AM	11:22 AM	12:08 PM	12:53 PM	1:39 PM	2:25 PM	3:11 PM	3:58 PM	4:43 PM	5:29 PM	6:14 PM	7:00 PM
2	NE 170th ST 15th Ave	7:31 AM	8:17 AM	9:04 AM	9:52 AM	10:38 AM	11:23 AM	12:09 PM	12:55 PM	1:40 PM	2:26 PM	3:13 PM	3:59 PM	4:45 PM	5:30 PM	6:16 PM	7:01 PM
3	NE 175th ST 15th Ave	7:34 AM	8:20 AM	9:06 AM	9:55 AM	10:40 AM	11:26 AM	12:12 PM	12:57 PM	1:43 PM	2:29 PM	3:15 PM	4:02 PM	4:47 PM	5:33 PM	6:18 PM	7:04 PM
4	Greynolds P. Elem	7:35 AM	8:21 AM	9:07 AM	9:56 AM	10:41 AM	11:27 AM	12:13 PM	12:58 PM	1:44 PM	2:30 PM	3:16 PM	4:03 PM	4:48 PM	5:34 PM	6:19 PM	7:05 PM
5	NE 181st ST 12th Ave	7:37 AM	8:23 AM	9:09 AM	9:58 AM	10:43 AM	11:29 AM	12:14 PM	1:00 PM	1:46 PM	2:32 PM	3:18 PM	4:04 PM	4:50 PM	5:35 PM	6:21 PM	7:07 PM
6	Shops at Skylake	7:42 AM	8:28 AM	9:16 AM	10:03 AM	10:48 AM	11:34 AM	12:19 PM	1:05 PM	1:50 PM	2:37 PM	3:23 PM	4:09 PM	4:55 PM	5:40 PM	6:26 PM	7:12 PM
7	NE 183rd ST 19th Ave	7:45 AM	8:31 AM	9:20 AM	10:06 AM	10:51 AM	11:37 AM	12:23 PM	1:08 PM	1:54 PM	2:40 PM	3:27 PM	4:12 PM	4:58 PM	5:44 PM	6:29 PM	7:15 PM
8	NE 177st ST 19th Ave	7:46 AM	8:33 AM	9:21 AM	10:07 AM	10:53 AM	11:38 AM	12:24 PM	1:09 PM	1:55 PM	2:41 PM	3:28 PM	4:16 PM	4:59 PM	5:45 PM	6:30 PM	7:16 PM
9	Vitory Pool/City Hall	7:48 AM	8:35 AM	9:24 AM	10:09 AM	10:55 AM	11:40 AM	12:26 PM	1:11 PM	1:57 PM	2:43 PM	3:30 PM	4:16 PM	5:01 PM	5:47 PM	6:33 PM	7:18 PM
10	NE 171st ST 23rd Ave	7:50 AM	8:36 AM	9:25 AM	10:11 AM	10:56 AM	11:42 AM	12:28 PM	1:13 PM	1:59 PM	2:45 PM	3:32 PM	4:18 PM	5:03 PM	5:49 PM	6:34 PM	7:20 PM
11	W. Dixie Hwy NE 22nd Ave	7:51 AM	8:38 AM	9:27 AM	10:12 AM	10:58 AM	11:43 AM	12:29 PM	1:14 PM	2:00 PM	2:47 PM	3:33 PM	4:19 PM	5:04 PM	5:50 PM	6:36 PM	7:21 PM
12	NE 167th ST 22nd Ave	7:52 AM	8:39 AM	9:28 AM	10:13 AM	10:59 AM	11:44 AM	12:30 PM	1:16 PM	2:01 PM	2:48 PM	3:34 PM	4:20 PM	5:06 PM	5:51 PM	6:37 PM	7:22 PM
13	Nova South Univ.	7:55 AM	8:41 AM	9:30 AM	10:16 AM	11:01 AM	11:47 AM	12:32 PM	1:18 PM	2:04 PM	2:50 PM	3:37 PM	4:22 PM	5:08 PM	5:54 PM	6:39 PM	7:25 PM
14	NE 167th ST 19th Ave	7:57 AM	8:44 AM	9:32 AM	10:18 AM	11:04 AM	11:49 AM	12:35 PM	1:20 PM	2:06 PM	2:52 PM	3:39 PM	4:25 PM	5:10 PM	5:56 PM	6:41 PM	7:27 PM
15	NE 164th ST 19th Ave	7:59 AM	8:46 AM	9:34 AM	10:20 AM	11:06 AM	11:51 AM	12:37 PM	1:22 PM	2:08 PM	2:54 PM	3:41 PM	4:27 PM	5:12 PM	5:58 PM	6:43 PM	7:29 PM
16	NMB Library	8:01 AM	8:47 AM	9:36 AM	10:21 AM	11:07 AM	11:53 AM	12:38 PM	1:24 PM	2:09 PM	2:56 PM	3:42 PM	4:28 PM	5:14 PM	5:59 PM	6:45 PM	7:30 PM
17	NE 164th ST 15th Ave	8:02 AM	8:48 AM	9:37 AM	10:23 AM	11:08 AM	11:54 AM	12:40 PM	1:25 PM	2:11 PM	2:57 PM	3:44 PM	4:30 PM	5:15 PM	6:01 PM	6:46 PM	7:32 PM
18	163rd Mall Main Ent	8:04 AM	8:51 AM	9:40 AM	10:25 AM	11:11 AM	11:56 AM	12:42 PM	1:28 PM	2:13 PM	3:00 PM	3:46 PM	4:32 PM	5:18 PM	6:03 PM	6:49 PM	7:34 PM
19	NMB High, JFK Middle	8:08 AM	8:54 AM	9:43 AM	10:28 AM	11:14 AM	12:00 PM	12:45 PM	1:31 PM	2:17 PM	3:03 PM	3:49 PM	4:35 PM	5:21 PM	6:06 PM	6:52 PM	7:37 PM

NORTH

Look for our stops!



ROUTE C

1	Walmart / Arrive		7:56 AM	8:59 AM	10:03 AM	11:06 AM	12:09 PM	1:12 PM	2:17 PM	3:21 PM	4:25 PM	5:28 PM	6:34 PM
1	Walmart / Leave		8:04 AM	9:07 AM	10:11 AM	11:14 AM	12:17 PM	1:20 PM	2:25 PM	3:29 PM	4:33 PM	5:36 PM	6:39 PM
2	NMB Library		8:06 AM	9:10 AM	10:13 AM	11:16 AM	12:19 PM	1:22 PM	2:27 PM	3:32 PM	4:35 PM	5:38 PM	6:41 PM
3	Fulford Elem.		8:09 AM	9:13 AM	10:16 AM	11:19 AM	12:22 PM	1:25 PM	2:30 PM	3:35 PM	4:38 PM	5:41 PM	6:44 PM
4	NE 18th Ave 157th Ter		8:11 AM	9:14 AM	10:17 AM	11:21 AM	12:24 PM	1:27 PM	2:32 PM	3:37 PM	4:40 PM	5:43 PM	6:46 PM
5	NE 16th Ave 153rd Ter		8:13 AM	9:17 AM	10:20 AM	11:23 AM	12:26 PM	1:30 PM	2:35 PM	3:39 PM	4:42 PM	5:46 PM	6:49 PM
6	NE 151st ST W. Dixie Hwy		8:15 AM	9:19 AM	10:22 AM	11:25 AM	12:28 PM	1:32 PM	2:37 PM	3:41 PM	4:44 PM	5:47 PM	6:50 PM
7	NE 151st ST & US1		8:17 AM	9:21 AM	10:24 AM	11:27 AM	12:30 PM	1:34 PM	2:38 PM	3:43 PM	4:46 PM	5:49 PM	6:52 PM
8	David Lawrence Jr.		8:20 AM	9:24 AM	10:27 AM	11:30 AM	12:33 PM	1:37 PM	2:42 PM	3:46 PM	4:49 PM	5:52 PM	6:55 PM
9	FIU North Campus		8:23 AM	9:26 AM	10:29 AM	11:32 AM	12:35 PM	1:39 PM	2:44 PM	3:48 PM	4:51 PM	5:54 PM	6:57 PM
10	ATM High School		8:26 AM	9:29 AM	10:32 AM	11:35 AM	12:38 PM	1:43 PM	2:47 PM	3:51 PM	4:54 PM	5:58 PM	7:01 PM
11	US1 & 151st ST		8:28 AM	9:32 AM	10:35 AM	11:38 AM	12:41 PM	1:45 PM	2:50 PM	3:54 PM	4:57 PM	6:00 PM	7:03 PM
12	US1 & 146th ST		8:30 AM	9:33 AM	10:36 AM	11:40 AM	12:43 PM	1:47 PM	2:52 PM	3:56 PM	4:59 PM	6:02 PM	7:05 PM
13	Highland Park	7:30 AM	8:34 AM	9:37 AM	10:40 AM	11:43 AM	12:46 PM	1:51 PM	2:55 PM	3:59 PM	5:02 PM	6:05 PM	7:09 PM
14	US1 & 141st ST	7:32 AM	8:36 AM	9:39 AM	10:42 AM	11:45 AM	12:48 PM	1:53 PM	2:57 PM	4:01 PM	5:04 PM	6:07 PM	7:11 PM
15	US1 & 146th ST	7:33 AM	8:37 AM	9:41 AM	10:44 AM	11:47 AM	12:50 PM	1:54 PM	2:59 PM	4:03 PM	5:06 PM	6:09 PM	7:12 PM
16	NE 151st ST /W. Dixie Hwy	7:39 AM	8:43 AM	9:46 AM	10:49 AM	11:52 AM	12:55 PM	2:00 PM	3:04 PM	4:08 PM	5:11 PM	6:15 PM	7:18 PM
17	NE 152nd Ter. & 14th CT	7:44 AM	8:47 AM	9:51 AM	10:54 AM	11:57 AM	1:00 PM	2:05 PM	3:09 PM	4:13 PM	5:16 PM	6:19 PM	7:22 PM
18	NE 154th ST & 13th Ave	7:46 AM	8:50 AM	9:53 AM	10:56 AM	12:00 PM	1:03 PM	2:07 PM	3:12 PM	4:16 PM	5:19 PM	6:22 PM	7:25 PM
19	NE 12th Ave & 158th ST	7:49 AM	8:53 AM	9:56 AM	10:59 AM	12:03 PM	1:06 PM	2:10 PM	3:15 PM	4:19 PM	5:22 PM	6:25 PM	7:18 PM
20	NMB High & JFK Middle	7:53 AM	8:56 AM	10:00 AM	11:03 AM	12:06 PM	1:09 PM	2:14 PM	3:18 PM	4:22 PM	5:25 PM	6:28 PM	7:30 PM

SOUTH



ROUTE D

		D1	D2	D1	D2	D1	D2	D1	D2	D1	D2	D1	D2	D1	D2	D1	D2	D1	D2
1	Walmart / Arrive	7:30 AM	8:06 AM	8:45 AM	9:21 AM	10:00 AM	10:36 AM	11:16 AM	11:52 AM	12:31 PM	1:07 PM	1:47 PM	2:23 PM	3:02 PM	3:38 PM	4:18 PM	4:54 PM	5:33 PM	6:09 PM
1	Walmart / Leave	7:38 AM	8:14 AM	8:53 AM	9:29 AM	10:08 AM	10:44 AM	11:24 AM	12:00 PM	12:39 PM	1:15 PM	1:55 PM	2:31 PM	3:10 PM	3:46 PM	4:26 PM	5:02 PM	5:41 PM	6:17 PM
2	Allen Park	7:46 AM	8:22 AM	9:02 AM	9:38 AM	10:17 AM	10:53 AM	11:32 AM	12:08 PM	12:48 PM	1:24 PM	2:03 PM	2:39 PM	3:19 PM	3:55 PM	4:34 PM	5:10 PM	5:50 PM	6:26 PM
3	Hazel Fazzino Park	7:51 AM	8:27 AM	9:06 AM	9:42 AM	10:22 AM	10:58 AM	11:37 AM	12:13 PM	12:53 PM	1:29 PM	2:08 PM	2:44 PM	3:24 PM	4:00 PM	4:39 PM	5:15 PM	5:55 PM	6:31 PM
4	Sauls Park	7:55 AM	8:31 AM	9:11 AM	9:47 AM	10:26 AM	11:02 AM	11:42 AM	12:18 PM	12:57 PM	1:33 PM	2:13 PM	2:49 PM	3:28 PM	4:04 PM	4:44 PM	5:20 PM	5:59 PM	6:35 PM
5	Oak Grove Park	8:01 AM	8:37 AM	9:16 AM	9:52 AM	10:32 AM	11:08 AM	11:47 AM	12:23 PM	1:03 PM	1:39 PM	2:18 PM	2:54 PM	3:34 PM	4:10 PM	4:49 PM	5:25 PM	6:05 PM	6:41 PM
6	Jefferson Plaza	8:03 AM	8:39 AM	9:19 AM	9:55 AM	10:34 AM	11:10 AM	11:50 AM	12:26 PM	1:05 PM	1:41 PM	2:21 PM	2:57 PM	3:36 PM	4:12 PM	4:52 PM	5:28 PM	6:07 PM	6:43 PM
7	NE 167th ST 7th Ave	8:08 AM	8:44 AM	9:23 AM	9:59 AM	10:39 AM	11:15 AM	11:54 AM	12:30 PM	1:10 PM	1:46 PM	2:25 PM	3:01 PM	3:41 PM	4:17 PM	4:56 PM	5:32 PM	6:12 PM	6:48 PM
8	Uleta Park Community Ctr	8:10 AM	8:46 AM	9:26 AM	10:02 AM	10:41 AM	11:17 AM	11:57 AM	12:33 PM	1:12 PM	1:48 PM	2:28 PM	3:04 PM	3:43 PM	4:19 PM	4:59 PM	5:35 PM	6:14 PM	6:50 PM
9	NE 2nd Ave 172nd ST	8:14 AM	8:50 AM	9:30 AM	10:06 AM	10:45 AM	11:21 AM	12:00 PM	12:36 PM	1:16 PM	1:52 PM	2:31 PM	3:07 PM	3:47 PM	4:23 PM	5:02 PM	5:38 PM	6:18 PM	6:54 PM
10	Jackson North Medical Ctr	8:17 AM	8:53 AM	9:32 AM	10:08 AM	10:48 AM	11:24 AM	12:03 PM	12:39 PM	1:19 PM	1:55 PM	2:34 PM	3:10 PM	3:50 PM	4:26 PM	5:05 PM	5:41 PM	6:21 PM	6:57 PM
11	US 441 NW 177th ST	8:18 AM	8:54 AM	9:34 AM	10:10 AM	10:49 AM	11:25 AM	12:05 PM	12:41 PM	1:20 PM	1:56 PM	2:36 PM	3:12 PM	3:51 PM	4:27 PM	5:07 PM	5:43 PM	6:22 PM	6:58 PM
12	US 441 NW 183rd ST	8:20 AM	8:56 AM	9:35 AM	10:11 AM	10:51 AM	11:27 AM	12:06 PM	12:42 PM	1:22 PM	1:58 PM	2:37 PM	3:13 PM	3:53 PM	4:29 PM	5:08 PM	5:44 PM	6:24 PM	7:00 PM
13	NE 6th Ave & NE 179th Dr.	8:26 AM	9:02 AM	9:41 AM	10:17 AM	10:57 AM	11:33 AM	12:12 PM	12:48 PM	1:28 PM	2:04 PM	2:43 PM	3:19 PM	3:59 PM	4:35 PM	5:14 PM	5:50 PM	6:30 PM	7:06 PM
14	NE 6th Ave & NE 175th ST	8:26 AM	9:02 AM	9:41 AM	10:17 AM	10:57 AM	11:33 AM	12:12 PM	12:48 PM	1:28 PM	2:04 PM	2:43 PM	3:19 PM	3:59 PM	4:35 PM	5:14 PM	5:50 PM	6:30 PM	7:06 PM
15	Sabal Palm Elem. School	8:29 AM	9:05 AM	9:44 AM	10:20 AM	10:59 AM	11:35 AM	12:15 PM	12:51 PM	1:30 PM	2:06 PM	2:46 PM	3:22 PM	4:01 PM	4:37 PM	5:17 PM	5:53 PM	6:32 PM	7:08 PM
16	NE 10th Ave & NE 169th ST	8:32 AM	9:08 AM	9:48 AM	10:24 AM	11:03 AM	11:39 AM	12:19 PM	12:55 PM	1:34 PM	2:10 PM	2:50 PM	3:26 PM	4:05 PM	4:41 PM	5:21 PM	5:57 PM	6:36 PM	7:12 PM
17	NMB High & JFK Middle	8:40 AM	9:16 AM	9:56 AM	10:32 AM	11:11 AM	11:47 AM	12:27 PM	1:03 PM	1:42 PM	2:18 PM	2:58 PM	3:34 PM	4:13 PM	4:49 PM	5:29 PM	6:05 PM	6:44 PM	7:20 PM



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and schedules
on your
mobile device

Major Locations in North Miami Beach

- ROUTE A**
 - 1 Intracoastal Mall
Transfer SIB Shuttle
 - 6 Stratford House
 - 7 U.S. Postal Office
 - 9 NMB Public Library
 - 10 Walmart
 - 12 City Hall /Victory Pool
- ROUTE B**
 - 1 Walmart
 - 4 Greynolds Park Elementary
 - 6 Shops at Skylake
 - 9 City Hall /Victory Pool
 - 11 Spanish Monastery
 - 16 NMB Public Library
- ROUTE C**
 - 1 Walmart
 - 3 Fulford Elementary/ Allen Park
 - 9 FIU
Transfer NOMI
 - 15 Biscayne Commons
 - 13 Highland Village
 - 17 Washington Park
- ROUTE D**
 - 1 Walmart
 - 2 Fulford Elementary/ Allen Park
 - 6 Jefferson Plaza
 - 8 Uleta Park
 - 9 Jackson North Medical Center
 - 12 Transfer Miami Gardens Express
 - 19 Sabal Palms Elem.

-  NMB Line trolley stop only
-  NMB Line & MIAMI-DADE Transit bus stop

   Transfer to Sunny Isles' SIB Shuttle, North Miami's NOMI Express and Miami Garden's Express.

  
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