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TRAFFIC ENGINEERING • CIVIL ENGINEERING • TRANSPORTATION PLANNING

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RE: Washington Avenue Office Traffic Statement - #22112

Dear Eric,

The proposed Washington Avenue Office project is located at 1665-1667 Washington Avenue in Miami Beach, Florida (see Attachment A for the site plan). The project proposes to demolish an existing office building consisting of 7,583 SF of office and 2,528 SF of retail and replacing it with an office building with 38,332 SF of office space and 500 SF of ground floor retail. The project is also proposing valet services. Access to the site will be provided via a two-way driveway located on Washington Avenue.

Roadway Characteristics

Washington Avenue

South of 5th Street, Washington Avenue is a two-way, divided, four-lane, collector roadway with parallel on-street parking that provides north / south access within the area. The posted speed limit is 30 mph. Between 5th Street and 16th Street, Washington Avenue is a two-way, divided, two-lane, collector roadway with an exclusive bike lane and parallel on-street parking. The posted



speed limit is 25 mph. North of 16th Street, Washington Avenue is a two-way, divided, four-lane, collector roadway with parallel on-street parking. The posted speed limit is 25 mph. This portion of Washington Avenue is segment number 40 of the most recent Miami Beach Transportation Master Plan. The City of Miami Beach has jurisdiction over Washington Avenue.

Trip Generation

The proposed project trip generation was calculated based on the rates / equations published by the Institute of Transportation Engineers (ITE) <u>Trip Generation Manual</u>, 11th 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 driveway. (Trip generation worksheets are available in Attachment B.)

The US census data states that 24.4% of the area uses alternative modes of transportation (4.5% transit, 19.4% walk, and 0.5% bike). For a more conservative analysis and consistent with the City of Miami Beach standards, only a 20% deduction was taken for other modes of transportation. Trip generation calculations were performed for a typical weekday, as well as, AM and PM peak hours of the adjacent street. The existing and proposed project trip generation calculations are summarized in Exhibit 1.

Exhibit 1 Project Trip Generation Summary

Proposed

Proposed ITE Land Use	Number	Daily Vehicle		Peak H			Peak H hicle Tr	
Designation ¹	of Units	Trips	In	Out	Total	In	Out	Total
General Office Building	38,332 SF	504	65	9	74	13	62	75
Land Use Code: 710	36,332 31	304	03	9	/4	13	02	73
Strip Retail Plaza (<40k)	500 SF	28	1	0	1	2	2	4
Land Use Code: 822	300 SI	26	1	U	1	2	2	4
Total Gross Trips	S	680	66	9	75	15	64	79
Other Modes of Transpo	rtation ²	20%	-13	-2	-15	-2	-12	-14
Internalization ³	AM	0.0%	0	0	0	0	0	0
Internalization	PM	0%	U	U	U	U	U	U
Retail Passby (PM) ⁴		45.0%	1	-	-	-1	-1	-2
Net Propose	d Trips		53	7	60	12	51	63



Exhibit 1 (Continued) Project Trip Generation Summary

Existing

Existing ITE Land Use	Number	Daily Vehicle		Peak H			Peak H hicle Tr	
Designation ¹	of Units	Trips	In	Out	Total	In	Out	Total
General Office Building Land Use Code: 710	7,583 SF	124	16	2	18	3	16	19
Strip Retail Plaza (<40k) Land Use Code: 822	2,528 SF	138	4	2	6	8	8	16
Total Gross Trip	S	262	20	4	24	11	24	35
Other Modes of Transpo	rtation ²	20%	-4	0	-4	-3	-5	-8
Internalization ³	AM PM	19.0% 0%	-2	-2	-4	0	0	0
Retail Passby (PM) ⁴		45.0%	-	-	-	-3	-3	-6
Net Existing	g Trips		14	2	16	5	16	21

¹ Based on ITE Trip Generation Manual, 11th Edition.

Trip Difference

	Daily Vehicle		Peak H		PM Peak Hour Vehicle Trips			
	Trips	In	Out	Total	In	Out	Total	
Proposed	680	53	7	60	12	51	63	
Existing	262	14	2	16	5	16	21	
Difference	418	39	5	44	7	35	42	

 $^{^2}$ Based on US census data tract 42.06 (24.4%) and local characteristics, capped at 20% per City request.

³Based on ITE <u>Trip Generation Handbook</u>, 3rd Edition.

⁴Based on two ITE studies the average pass-by rate for shopping centers <40k SF is 66%, a 45% reduction was used for a more conservative analysis.

Project Trip Distribution and Assignment

Project traffic was distributed and assigned to the study area using the Cardinal Distribution for TAZ 644, shown in Exhibit 2. The Cardinal Distribution gives a generalized distribution of trips from a TAZ to other parts of Miami-Dade County. The TAZ can be summarized as 33% to the north, 16% to the south, 0% to the east, and 51% to the west.

Exhibit 2: Cardinal Distribution Trips (TAZ 644)

DIRECTION	2015	2045	2024
NNE	14.8%	12.1%	13.99%
ENE	0.0%	0.0%	0.00%
ESE	0.0%	0.0%	0.00%
SSE	0.0%	0.0%	0.00%
SSW	16.5%	13.9%	15.72%
WSW	30.4%	34.5%	31.63%
WNW	19.0%	20.3%	19.39%
NNW	19.4%	19.2%	19.34%

For estimating the trip distribution for the project location, consideration was given to conditions such as the roadway network accessed by the project, driveway placement and land uses, roadways available to travel in the desired direction, and attractiveness of traveling on a specific roadway. Project traffic was distributed and assigned to the roadway network and proposed driveway. Project trip distribution and trip assignment for the proposed project are shown in Exhibits 3 and 4, respectively.

Washington Avenue Office



Exhibit 3

Project Trip Distribution



Washington Avenue Office





Project Trip Assignment



Turn Lane Requirements

The FDOT Access Management Guidebook (Chapter 6) and the American Association of State Highway and Transportation Officials (AASHTO) Greenbook provide guidelines and considerations to assist in the decision-making process for the need for exclusive right and left turn lanes. However, there are "no specific guidance on warrants for [exclusive] turn lanes based on number of turns in and out of unsignalized driveways." The following are guidelines provided by the FDOT and AASHTO when considering exclusive turn lanes:

Recommended Guidelines for Exclusive Right-Turn Lanes to Unsignalized Driveway:

- 80-125 right turns / hour at a posted speed of 45 mph or less
- 35-55 right turns / hour at a posted speed of over 45 mph

Considerations for Exclusive Left-Turn Lanes:

- When left-turn volumes exceed 100 vph at signalized intersections
- Along multi-lane roadways with speeds in excess of 45 mph and a median opening serving a driveway
- Driveways located on curved roadways with speeds of 45 mph or higher
- Driveways located on two-lane roadways with posted speeds of 40 mph or higher that meet the Advancing and Opposing volume guidelines outlined in the AASHTO Greenbook (and the NCHRP Report 457)

When not to consider exclusive turn lanes:

- Dense or built-out corridors with limited space
- Right-turn lanes would negatively impact pedestrians or bicyclists
- Vehicular movements from driveways or median openings that cross right-turn lanes resulting in multiple threat crashes
- Context classifications C2T, C4, C5, or C6

A review of the driveway was conducted based on the guidelines mentioned above to determine the necessity of any exclusive turn lanes at the project driveways. As the trips generated by the project are below the recommended thresholds, no exclusive turn lanes are required.



Circulation Plan

The 14th Street project will be located at 1665-1667 Washington Avenue in Miami Beach, Florida. Access to the car lift for the on-site parking garage and the valet station is provided via a two-way driveway on Washington Avenue. The loading area for the project is located on the east side of the ground floor. Access to the loading area is also provided via a driveway located on Washington Avenue. A maneuverability analysis was performed at the project loading area and car lift (see Attachment E).

The development is located in an area that is conducive for pedestrian and cyclist activities. Sidewalks along all neighboring roadways and clearly marked crosswalks at all major intersections facilitate pedestrian activity to nearby restaurants, retail, and entertainment. The project's commitment to a covered bike storage area for three short term and six long term spaces within the ground level, nearby CitiBike stations (station 163) located on Lincoln Road approximately 0.1 miles southeast of the project and (station 164) on Washington Avenue approximately 0.1 miles north of the project, shared roadway along Washington Avenue north of 16th Street, and exclusive bike lanes along Washington Avenue south of 16th Street encourage cyclist activity within the area.

Transit is also readily available within the area surrounding the project. The project area is served by six Miami-Dade bus routes (115, 120, 150, L, M, and S) and three City of Miami Beach trolley routes (South Beach Loop, Middle Beach Loop, and Collins Express). The closest trolley stops to the project are located on Washington Avenue, approximately 100 feet south and 200 feet north of the project. The closest bus stops to the project are located on Lincoln Road, approximately 250 feet south of the project and on Washington Avenue, approximately 250 feet north of the project. Bus routes 115, L, M, and S are served by these bus stops. Attachment C shows the available transit documentation.



Queuing Analysis

The project is proposing valet services for the office and retail parking. The project's parking garage is providing 60 mechanical parking spaces. The valet drop-off/pick-up area will be on the west side of ground floor. The queuing analysis for the proposed valet drop-off/pick-up areas was performed based on the methodology outlined in the *Institute of Transportation Engineers (ITE) Transportation and Land Development*. The analysis was performed to determine the number of valet parking attendants required during the peak hour so that the queue does not extend past the valet storage area (95% confidence level analysis). The potential queues were calculated based on the AM and PM peak hour of the adjacent street (worst case scenario) published by the *Institute of Transportation Engineers* (ITE) trip generation rates and/or equations. The valet project trip generation is summarized in Exhibit 5. Queuing documentation is available in Attachment D.

Exhibit 5 Project Trip Generation

Proposed ITE Land Use	Number	Daily Vehicle		Peak H		PM Peak Hour Vehicle Trips			
Designation ¹	of Units	Trips	In	Out	Total	In	Out	Total	
General Office Building	38,332 SF	504	65	9	74	13	62	75	
Land Use Code: 710	30,332 51	201	02	,	, ,	15	02	7.5	
Strip Retail Plaza (<40k)	500 SF	28	1	0	1	2	2	4	
Land Use Code: 822	300 SI	20	1	U	1	2	2	7	
Total Gross Trips	S	680	66	9	75	15	64	79	
Other Modes of Transpo	rtation ²	20%	-13	-2	-15	-2	-12	-14	
Internalization ³	AM	0.0%	0	0	0	0	0	0	
memaiization	PM	0%	U	U	0	U	U	U	
Net Propose	d Trips	_	53	7	60	13	52	65	

¹ Based on ITE Trip Generation Manual, 11th Edition.

The queuing analysis used the single-channel waiting line model with Poisson arrivals and exponential service times. The analysis is based on the coefficient of utilization (ρ) which is the ratio of the average arrival rate of vehicles to the average service rate.

$$\rho = \frac{Average\ Demand\ Rate}{Average\ Sevice\ Rate}$$



²Based on US census data tract 42.06 (24.4%) and local characteristics, capped at 20% per City request.

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

The average service rate corresponds to the time it will take a valet attendant to park / retrieve a vehicle. If the coefficient of utilization is greater than 1, then the calculation will yield an infinite queue length.

The required queue storage (M) is determined using the following equation:

$$M = \left[\frac{\ln P(x > M) - \ln Q_M}{\ln \rho} \right] - 1$$

In this equation, P(x > M) is set at 5% to yield a 95% confidence that the queue will not back-up onto the adjacent street.

The processing rates were calculated by adding the time it will take a valet attendant to process the vehicles (**processing time**), the time it will take the attendant to circulate to the parking space (**driving time**), the time it will take him to park or retrieve a vehicle (**mechanical lift processing time**, **park processing time**, **and car elevator lift time**), and the time it will take the attendant to walk to/from the parking area (**walking time**). A processing time of 60 seconds per vehicle was used in the analysis. The driving time for the valet attendant was calculated on a conservative speed of 10 mph, and the walking time for the valet attendant was calculated on a jogging speed of 6 ft/sec.

The project is providing 60 mechanical parking spaces in the parking garage for the office and retail valet parking. Since the distance from the valet drop-off / pick-up area differs for inbound / outbound, a weighted average was taken of the inbound / outbound valet processing times (based on the entering / exiting split from the trip generation) to determine the average processing time for the mechanical valet parking. The weighted average was based on the inbound / outbound trip distribution, which is 20% inbound and 80% outbound. As the processing time for the valet parking differs for the inbound and outbound, a weighted average was taken to determine the average processing rate at the valet station.

The valet processing rate for the valet station can be seen in Exhibit 6. An iterative approach was used to determine the minimum number of valet attendants required during the PM peak hour of the adjacent street to serve both the entering and exiting vehicles that will ensure that the average queue at the valet station will not extend past the valet storage. Exhibit 7 shows the queuing calculations for the valet drop-off / pick-up area.



Exhibit 6: Valet Station Processing Rate Mechanical Parking

Inbound Valet Processing Rate (Mechanical Parking Space)

Processing time: $60 \sec / 60 \sec / 1 \min = 1 \min$

Driving time: 270 ft * 1 mile / 5280 ft * 1hr / 10 miles * 60 min / hr =**0.31 min**

Mechanical Lift time: 30 sec / lift * 2 lifts * 1 min / 60sec = 1.0 min

Park Processing time: = 0.15 min

Car Elevator Lift time: 30.583 ft * 100 ft / 1 min = 0.31 min

Walking time: 178 ft / 6 ft / sec / 60 sec / min = 0.49 min

 $= 3.26 \min$

Outbound Valet Processing Rate (Mechanical Parking Space)

Processing time: $60 \sec / 60 \sec / 1 \min = 1 \min$

Driving time: 200 ft * 1 mile / 5280 ft * 1hr / 10 miles * 60 min / hr = **0.23 min**

Mechanical Lift time: $30 \sec / \text{ lift * 2 lifts * 1 min / } 60 \sec = 1.0 \text{ min}$

Park Processing time: = 0.45 min

Car Elevator Lift time: 30.583 ft * 100 ft / 1 min = 0.31 min

Walking time: 178 ft / 6 ft / sec / 60 sec / min = 0.49 min

 $= 3.48 \min$

Mechanical Parking Weighted Valet Time

20% Inbound: $0.20*3.26 \min = 0.65 \min$

80% Outbound: 0.80*3.48 min = **2.78 min**

Total $= 3.43 \min$

Exhibit 7: Valet Station Queuing Calculations

Q = Processing rate =
$$\frac{60 \text{ min/hr}}{3.43 \text{ min/process}}$$
 = 34.95 process/hr

q = Demand Rate = 65
$$\frac{veh}{hr}$$

N = Service Positions = 4 attendants

$$\rho = \text{Utilization factor} = \frac{q}{(NQ)} = \frac{65 \text{ veh/hr}}{4 \times 34.95 \text{ process/hr}} = 0.4650$$

$$Q_m = Table Value = 0.1447$$

M = queue length which is exceeded 5% of the time [P(x>M)]

$$M = \frac{\ln P(x>M) - \ln(Q_m)}{\ln(\rho)} - 1 = \frac{\ln(0.05) - \ln(0.1447)}{\ln(0.4650)} - 1 = 0.39$$
, say 1 Vehicle in queue



The results of the analysis show that a total of four valet attendants would be able to handle the demand at the valet drop-off / pick-up area with approximately one vehicle on queue. It should be noted that the queuing analysis considers the worst-case scenario during the peak hour to ensure that the queue fits within the provided storage. Once operational the development can assess the actual need for valet attendants.

Conclusions

The results of the trip generation analysis show that the proposed development will generate 418 more daily trips, 44 more AM peak hour trips, and 42 more PM peak hour trips when compared to the existing use.

A review of the driveway was also conducted to determine the necessity of the exclusive turn lanes at the driveway. The driveway is along a two-lane roadway and the exclusive turn lanes volume thresholds are not met by the project trips. The project is also located in an urban center thus, the requirements for exclusive turn lanes are not applicable.

A valet queuing analysis was performed for the valet station (during the PM peak hour of the adjacent street) to ensure that the queue will not extend past the valet stacking area. The results of the analysis show that a total of four valet attendants would be able to handle the demand at the valet drop-off / pick-up area with approximately one vehicle on queue.

We stand ready to provide any support needed for this project. Should you have any questions or comments, please call me at (305) 447-0900.

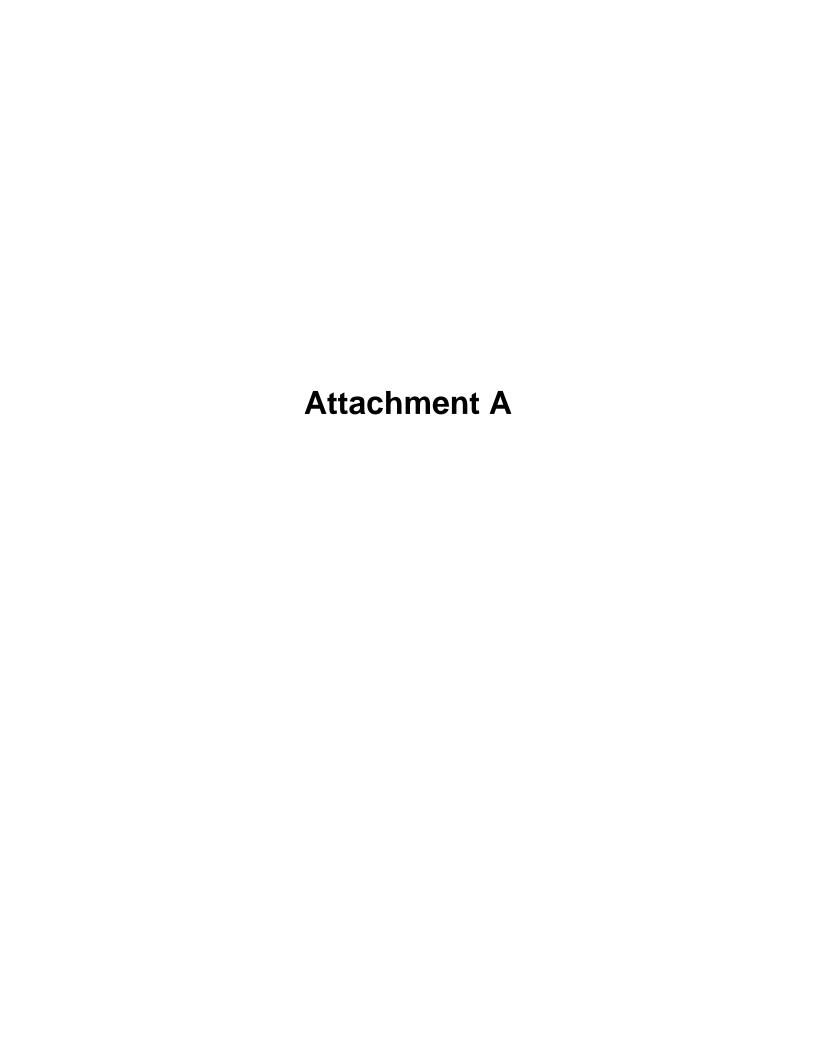
Sincerely

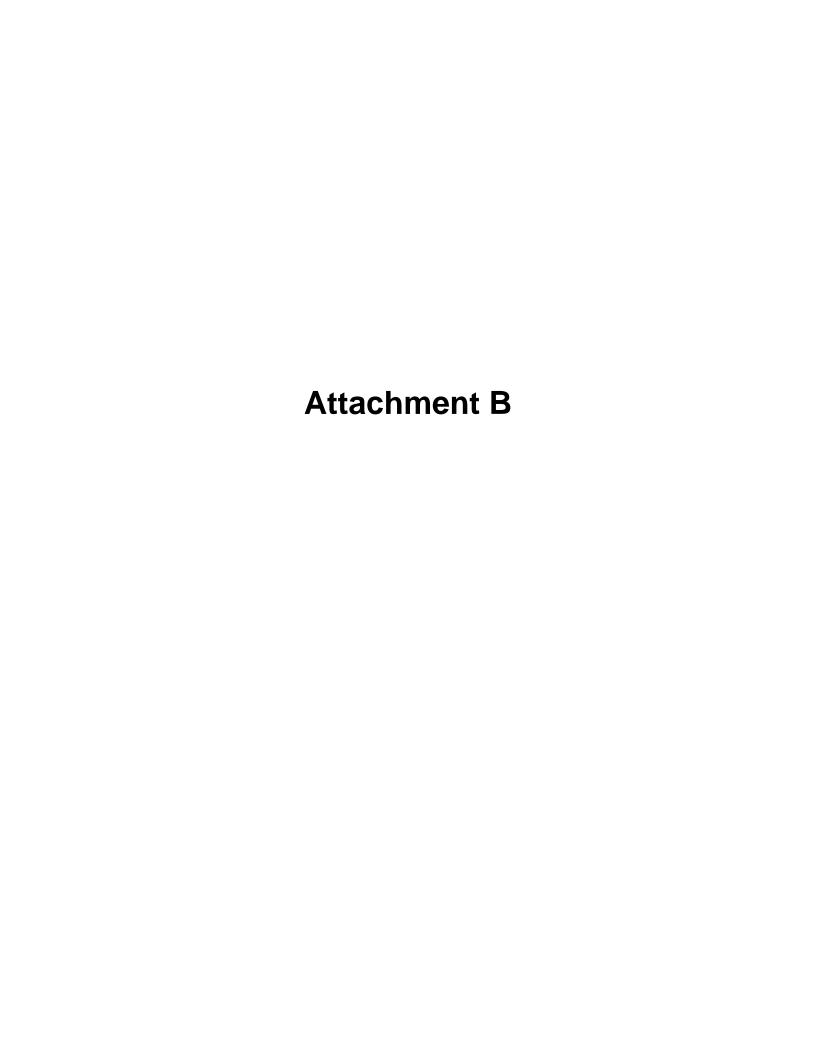
Juan Espinosa, PE

Vice-President – Transportation

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Scenario - 1

Scenario Name: Existing Dev. phase: 1

User Group: 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
Land Use & Data Source	Location	IV	Size	Time Period	Rate/Equation	Split%	Split%	TOTAL
710 - General Office Building	General	1000 Sg. Ft. GFA	7.58	Weekday	Best Fit (LOG)	62	62	124
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GFA	7.50	Weekuay	Ln(T) =0.87Ln(X) + 3.05	50%	50%	124
710(1) - General Office Building	General	1000 Sg. Ft. GFA	7.58	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	16	2	18
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GFA	7.56	One Hour Between 7 and 9 a.m.	Ln(T) =0.86Ln(X) + 1.16	88%	12%	10
710(2) - General Office Building	General	1000 Sg. Ft. GFA	7.58	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	3	16	19
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GFA	7.56	One Hour Between 4 and 6 p.m.	Ln(T) =0.83Ln(X) + 1.29	17%	83%	19
822 - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	2.53	Weekday	Average	69	69	138
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GLA	2.55	Weekuay	54.45	50%	50%	156
822(1) - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	2.53	Weekday, Peak Hour of Adjacent Street	Average	4	2	e
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GLA	2.55	Traffic, One Hour Between 7 and 9 a.m.	2.36	60%	40%	6
822(2) - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	2.53	Weekday, Peak Hour of Adjacent Street Traffic,	Average	8	8	16
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GLA	2.55	One Hour Between 4 and 6 p.m.	6.59	50%	50%	10

Scenario - 2

Scenario Name: Proposed

User Group:

Dev. phase: 1

No. of Years to 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
Land Ose & Data Source	LUCATION	IV	3126	Time renou	Rate/Equation	Split%	Split%	TOTAL
710 - General Office Building	General	1000 Sg. Ft. GFA	38.33	Weekday	Best Fit (LOG)	252	252	504
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GFA	30.33	vveekuay	Ln(T) =0.87Ln(X) + 3.05	50%	50%	304
710(1) - General Office Building	General	1000 Sg. Ft. GFA	38.33	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	65	9	74
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GFA	30.33	One Hour Between 7 and 9 a.m.	Ln(T) =0.86Ln(X) + 1.16	88%	12%	74
710(2) - General Office Building	General	1000 Sg. Ft. GFA	38.33	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	13	62	75
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GFA	30.33	One Hour Between 4 and 6 p.m.	Ln(T) =0.83Ln(X) + 1.29	17%	83%	/5
822 - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	0.5	Weekday	Average	14	14	28
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GLA	0.5	vveekuay	54.45	50%	50%	20
822(1) - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	0.5	Weekday, Peak Hour of Adjacent Street	Average	1	0	1
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GLA	0.5	Traffic, One Hour Between 7 and 9 a.m.	2.36	60%	40%	1
822(2) - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	0.5	Weekday, Peak Hour of Adjacent Street Traffic,	Average	2	2	4
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 34. Ft. GLA	0.5	One Hour Between 4 and 6 p.m.	6.59	50%	50%	4

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AM Peak Hour Trip Generation and Internalization

Washington Ave Office - Proposed Use

	Office Use 710			etail Use 822		
	332 SF			0 SF		
In	Out		ln	Out		
65	9		1	0		75 ITE Trips
-13	-2		0	0		-15 -20.0% Transit/Pedestrian
52	7		1	0		1000 Transit venicie Trins
UN	IBALANCED	INTE	RNALIZAT	TON	1	
4%	28% 2	U	32% 0			
2		U		0		
0	Office		Re	etail		
ln	Out		ln	Out		
52	7		1	0		60 Vehicle Trips
B	BALANCED I	NTER	PNALIZATIO	ON		
	0		0)		
0				0		
0	0		0	0		0 Internal
52	7 0.0%		1	0 0.0%		60 External Trips 0.0% % Internal
52	7		1	0		60
			0	0		0 0% Passby
52	7		1	0		60 Net New External Trips

PM Peak Hour Trip Generation and Internalization

Washington Ave Office - Proposed Use

Land	Office Use 710 332 SF		Land (etail Use 822 0 SF		
In	Out		ln	Out		
13	62		2	2		79 ITE Trips
-2	-12		0	0		-14 -20.0%
11	50		2	2		65 Trips
UN	IBALANCED	INTE	RNALIZAT	ION	ŀ	THIS
	20% 10	U	8% 0	1		
31% 3		U		2% 0		
0	Office		Re	etail		
In	Out		In	Out		
11	50		2	2		65 Vehicle Trips
E	BALANCED I	NTER	RNALIZATIO	ON		
	0		0	<u> </u>		
0				0		
				0		0 1545555
0	0		0	0		0 Internal
11	50		2	2		65 External Trips
	0.0%			0.0%		0.0% % Internal
11	50		2	2		65
			-1	-1		-2 45% Passby
11	50		1	1		63 Net New External Trips

AM Peak Hour Trip Generation and Internalization

Washington Ave Office - Existing Use

	ffice			etail	
	Use 710 83 SF			Use 822 28 SF	
In	Out		In	Out	
16	2		4	2	24 ITE Trips
-3	0		-1	0	-4 -20.0% Transit/Pedestrian
13	2		3	2	20 Non Transit Vehicle Trips
UN	BALANCED	INTE	RNALIZAT	ION	
4% 1	28% 1	1	32% 1		
O	ffice		Re	etail	
In	Out		ln	Out	
13	2		3	2	20 Vehicle Trips
B.	ALANCED I	NIER	RNALIZATIO	ON	
	-1		-1	,	
-1				-1	
-1	-1		-1	-1	-4 Internal
12	1		2	1	16 External Trips
	13.3%			40.0%	20.0% % Internal
12	1		2	1	16
			0	0	0 0% Passby
12	1		2	1	16 Net New External Trips

PM Peak Hour Trip Generation and Internalization

Washington Ave Office - Existing Use

	Office Use 710			etail Use 822		
7,5	583 SF		2,52	28 SF		
ln	Out		In	Out		
3	16		8	8		35 ITE Trips
-1	-3		-2	-2		-8 -20.0%
2	13		6	6		27 Non Transit Vehicle Trips
UN	NBALANCED	INTE	RNALIZAT	TON	ļ	
	20%		8%			
	3	U	0	1		
31% 1		U		2% 0		
C	Office		Re	etail		
In	Out		ln	Out		
2	13		6	6		27 Vehicle Trips
Į E	BALANCED I	NTER	NALIZATIO	ON		
	0		0	_		
0				0		
						O links are al
0	0		0	0		0 Internal
2	13		6	6		27 External Trips
	0.0%			0.0%		0.0% % Internal
2	13		6	6		27
			-3	-3		-6 45% Passby
2	13		3	3		21 Net New External Trips

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 42.06, Miami-Dade County, Florida						
	Total	Male	Female				
Label	Estimate	Estimate	Estimate				
➤ Workers 16 years and over	578	401	177				
➤ MEANS OF TRANSPORTATION TO WORK							
➤ Car, truck, or van	55.9%	64.1%	37.3%				
Drove alone	35.6%	43.9%	16.9%				
∨ Carpooled	20.2%	20.2%	20.3%				
In 2-person carpool	18.2%	17.2%	20.3%				
In 3-person carpool	0.0%	0.0%	0.0%				
In 4-or-more person carpool	2.1%	3.0%	0.0%				
Workers per car, truck, or van	1.24	1.22	1.32				
Public transportation (excluding taxicab)	4.5%	2.2%	9.6%				
Walked	19.4%	15.2%	28.8%				
Bicycle	0.5%	0.0%	1.7%				
Taxicab, motorcycle, or other means	2.9%	1.2%	6.8%				
Worked from home	16.8%	17.2%	15.8%				
> PLACE OF WORK							
> Workers 16 years and over who did not work from home	481	332	149				
> 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.



OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On: 2/23/2022

Property Information			
Folio:	02-3234-019-0770		
Property Address:	1665 WASHINGTON AVE Miami Beach, FL 33139-3118		
Owner	1665 WASHINGTON AVE LLC		
Mailing Address	1665 WASHINGTON AVE STE 400 MIAMI BEACH, FL 33139-3172		
PA Primary Zone	6600 COMMERCIAL - LIBERAL		
Primary Land Use	1813 OFFICE BUILDING - MULTISTORY : OFFICE BUILDING		
Beds / Baths / Half	0/0/0		
Floors	3		
Living Units	0		
Actual Area	Sq.Ft		
Living Area	Sq.Ft		
Adjusted Area	10,111 Sq.Ft		
Lot Size	4,500 Sq.Ft		
Year Built	1999		

Assessment Information					
Year	2021	2020	2019		
Land Value	\$1,530,000	\$1,800,000	\$1,800,000		
Building Value	\$967,377	\$1,000	\$248,500		
XF Value	\$64,298	\$76,579	\$0		
Market Value	\$2,561,675	\$1,877,579	\$2,048,500		
Assessed Value	\$2,065,336	\$1,877,579	\$2,048,500		

Benefits Information					
Benefit	Туре	2021	2020	2019	
Non-Homestead Cap	Assessment Reduction	\$496,339			

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

Short Legal Description		
ALTON BEACH 1ST SUB PB 2-77		
LOT 20 BLK 31		
LOT SIZE 30.000 X 150		
OR 21184-3937 0403 1		



Taxable Value Information				
	2021	2020	2019	
County				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$2,065,336	\$1,877,579	\$2,048,500	
School Board				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$2,561,675	\$1,877,579	\$2,048,500	
City				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$2,065,336	\$1,877,579	\$2,048,500	
Regional				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$2,065,336	\$1,877,579	\$2,048,500	

Sales Information				
Previous Sale	Price	OR Book-Page	Qualification Description	
04/01/2003	\$1,550,000	21184-3937	Sales which are qualified	
06/01/1999	\$1,500,000	18662-3631	Other disqualified	
05/01/1991	\$600,000	15026-2440	Other disqualified	

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: 2/23/2022

Property Information				
Folio:	02-3234-019-0760			
Property Address:	1667 WASHINGTON AVE Miami Beach, FL 33139-3118			
Owner	BSD RALEIGH TRUSTEE LLC TRS RALEIGH LAND TRUST			
Mailing Address	745 FIFTH AVE NEW YORK, NY 10155 USA			
PA Primary Zone	6600 COMMERCIAL - LIBERAL			
Primary Land Use	2865 PARKING LOT/MOBILE HOME PARK : PARKING LOT			
Beds / Baths / Half	0/0/0			
Floors	0			
Living Units	0			
Actual Area	0 Sq.Ft			
Living Area	0 Sq.Ft			
Adjusted Area	0 Sq.Ft			
Lot Size	7,500 Sq.Ft			
Year Built	0			

Assessment Information					
Year	2021	2020	2019		
Land Value	\$3,000,000	\$3,000,000	\$3,000,000		
Building Value	\$0	\$0	\$0		
XF Value	\$13,300	\$13,537	\$13,775		
Market Value	\$3,013,300	\$3,013,537	\$3,013,775		
Assessed Value	\$3,013,300	\$3,013,537	\$3,013,775		

Benefits Information				
Benefit	Туре	2021	2020	2019

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

Short Legal Description
ALTON BEACH 1ST SUB PB 2-77
LOT 19 BLK 31
LOT SIZE 50.000 X 150
OR 20807-3904 1102 1



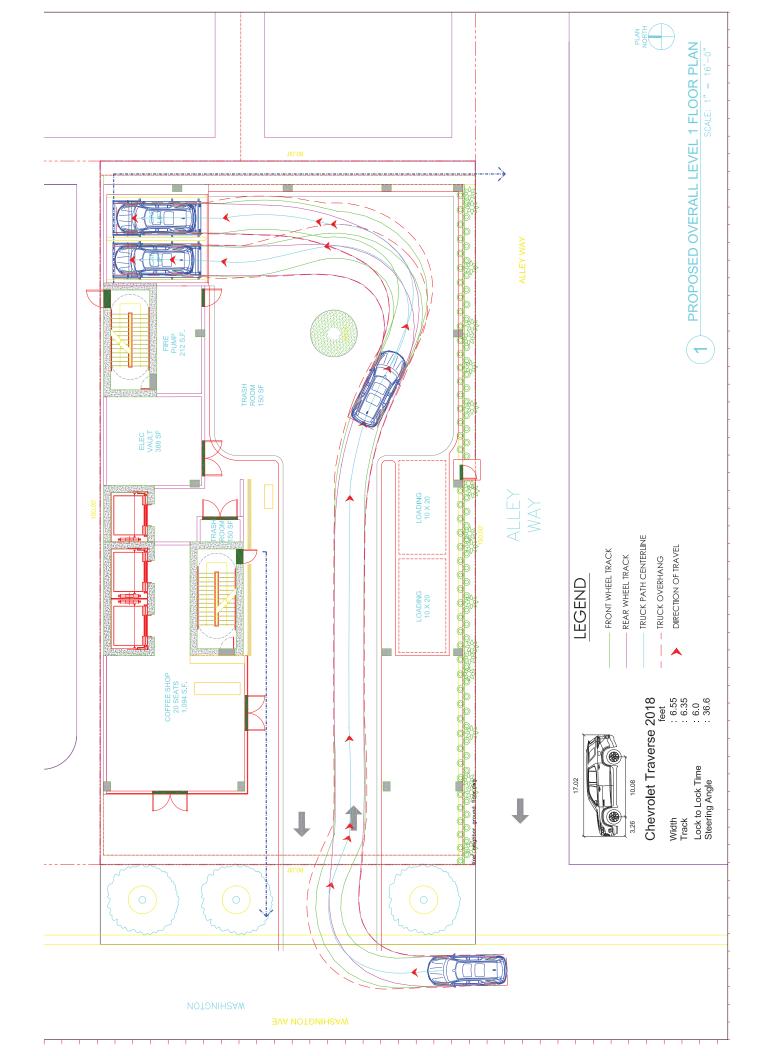
Taxable Value Information					
	2021	2020	2019		
County					
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,013,300	\$3,013,537	\$3,013,775		
School Board	School Board				
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,013,300	\$3,013,537	\$3,013,775		
City					
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,013,300	\$3,013,537	\$3,013,775		
Regional					
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,013,300	\$3,013,537	\$3,013,775		

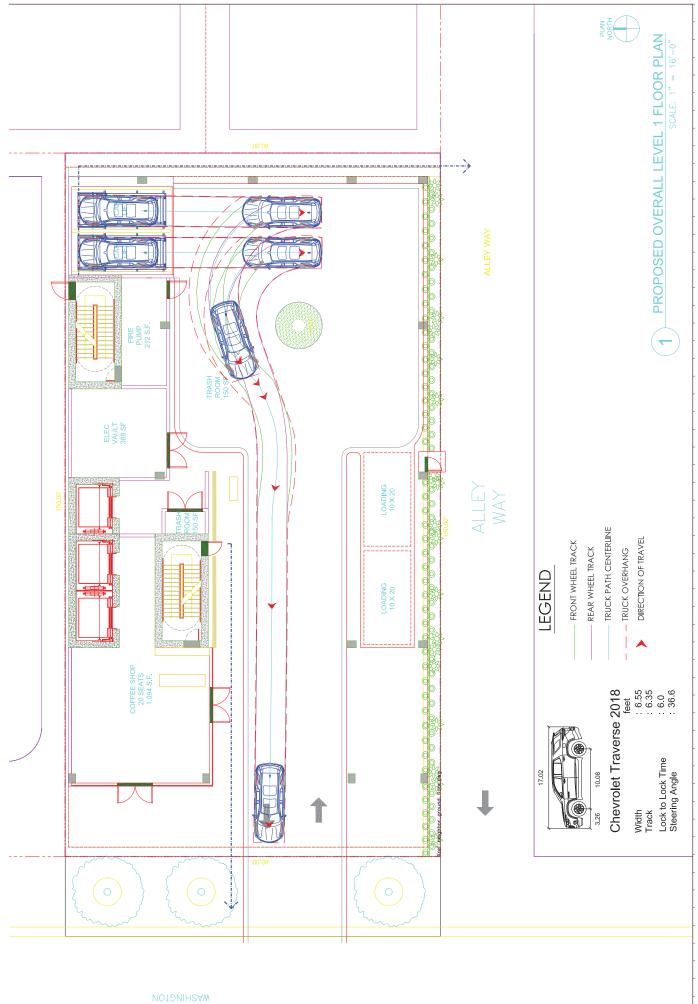
Sales Information					
Previous Sale	Price	OR Book- Page	Qualification Description		
07/22/2019	\$100	31553- 4646	Corrective, tax or QCD; min consideration		
02/12/2019	\$103,000,000	31326- 2165	Atypical exposure to market; atypical motivation		
04/11/2014	\$56,500,000	29112- 2553	Qual on DOS, multi-parcel sale		
12/17/2012	\$39,500,000	28412- 1406	Not exposed to open-market; atypical motivation		

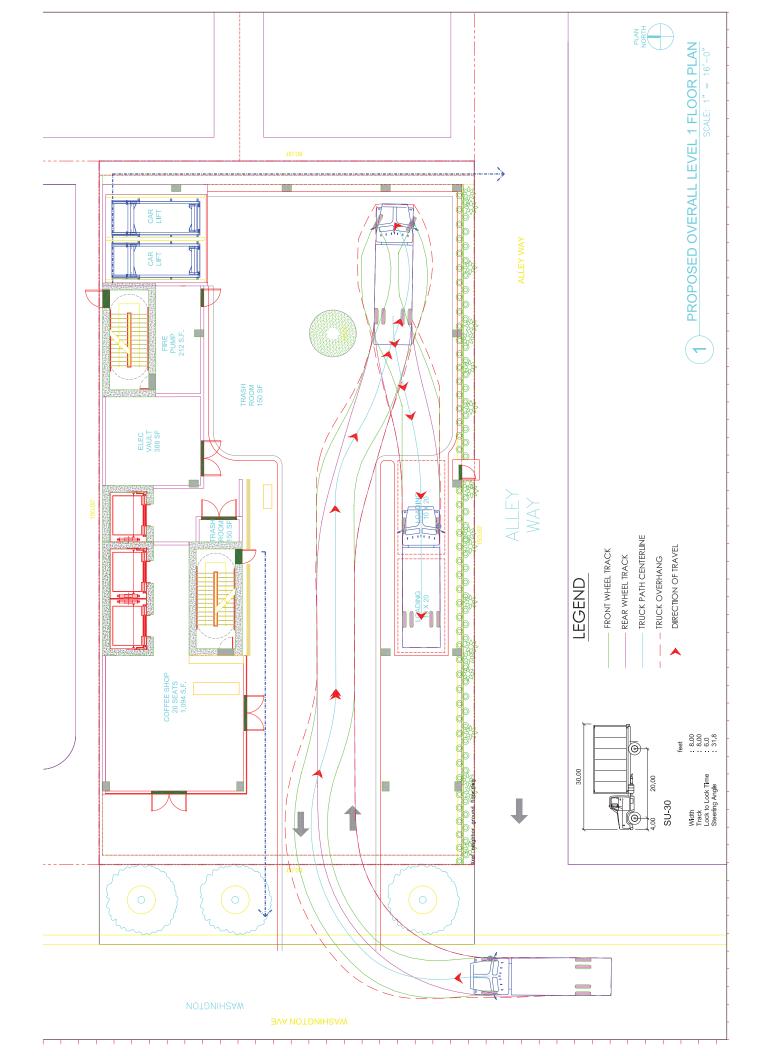
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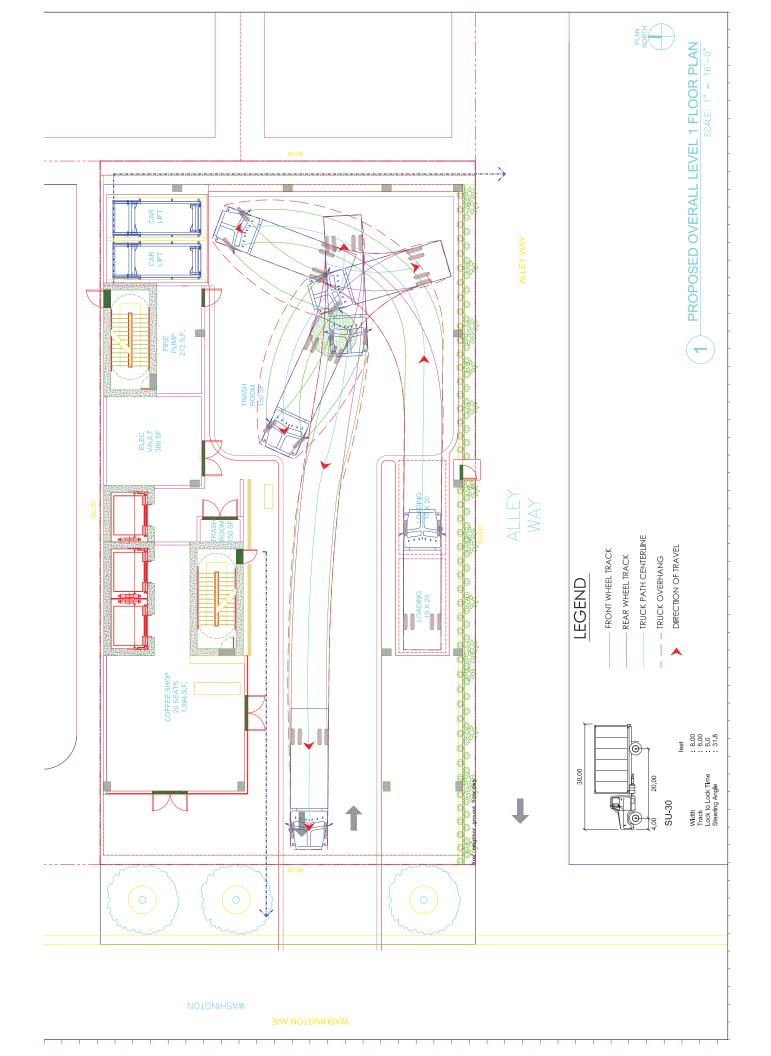
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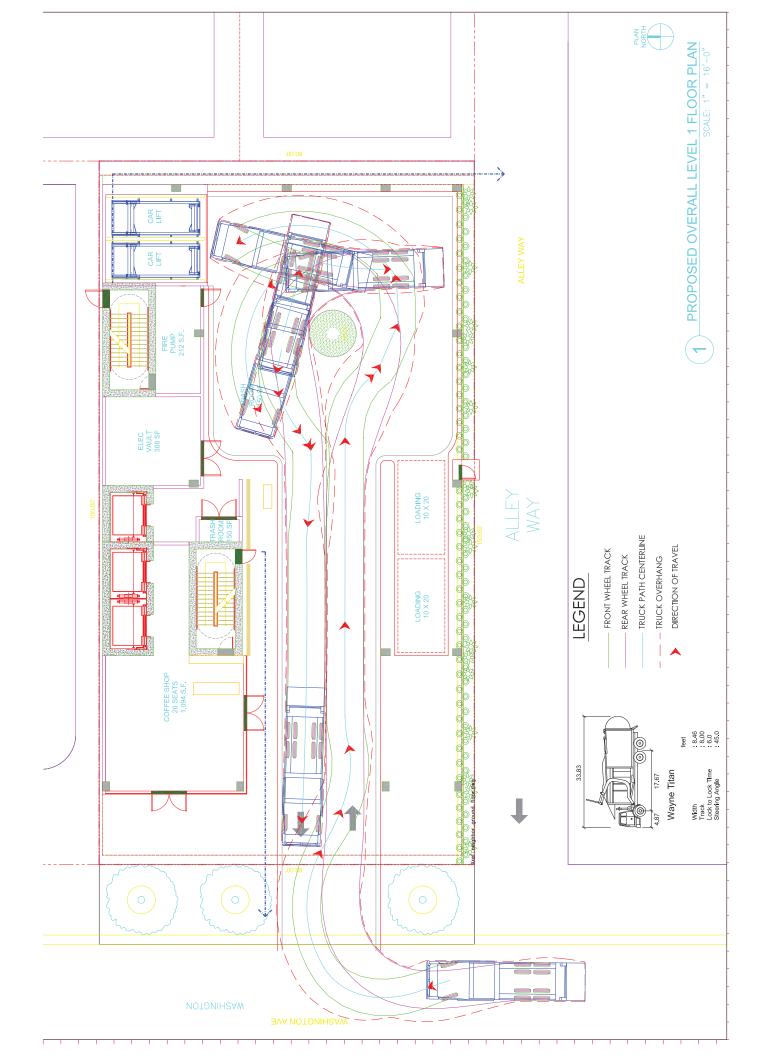




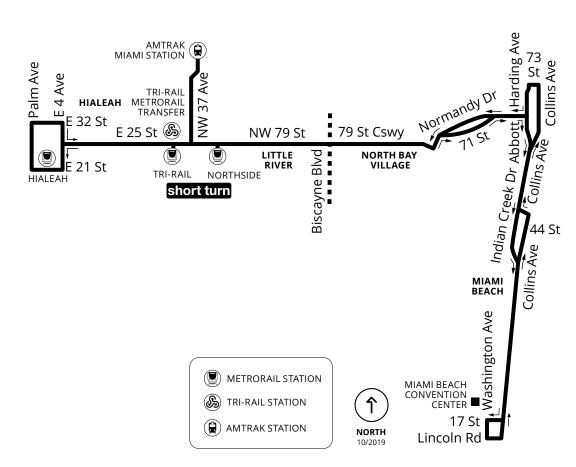


























Back

Schedule



112 Route L

- Weekday (Westbound)
WASHINGTON AV 17 ST

4:39 AM

Dest: L - Hialeah Station

5:21 AM

Dest: L - Hialeah Station

6:06 AM

Dest: L - Amtrak Station

6:23 AM

Dest: L - Amtrak Station

6:35 AM

Dest: L - Hialeah Station

6:47 AM

Dest: L - Amtrak Station

6:59 AM

Dest: L - Hialeah Station

7:11 AM

Dest: L - Amtrak Station

7:23 AM

Dest: L - Hialeah Station

7:35 AM

Dest: L - Amtrak Station

7:47 AM

Dest: L - Hialeah Station

7:59 AM

Dest: L - Amtrak Station

8:11 AM

Dest: L - Hialeah Station

8:23 AM

Dest: L - Amtrak Station

8:35 AM

Dest: L - Hialeah Station

8:47 AM

Dest: L - Amtrak Station

8:59 AM

Dest: L - Hialeah Station

9:11 AM

Dest: L - Amtrak Station

9:23 AM

Dest: L - Hialeah Station

9:35 AM

Dest: L - Amtrak Station

9:47 AM

Dest: L - Hialeah Station

9:59 AM

Dest: L - Amtrak Station

10:14 AM

Dest: L - Hialeah Station

10:29 AM

Dest: L - Amtrak Station

10:44 AM

Dest: L - Hialeah Station

10:59 AM

Dest: L - Amtrak Station

11:14 AM

Dest: L - Hialeah Station

11:29 AM

Dest: L - Amtrak Station

11:44 AM

Dest: L - Hialeah Station

11:59 AM (14 min)

Dest: L - Amtrak Station

12:14 PM

Dest: L - Hialeah Station

Back **Schedule** 12:44 PW Dest: L - Hialeah Station 12:59 PM Dest: L - Amtrak Station 1:14 PM Dest: L - Hialeah Station Dest: L - Amtrak Station 1:44 PM Dest: L - Hialeah Station 1:59 PM Dest: L - Amtrak Station 2:14 PM Dest: L - Hialeah Station 2:29 PM Dest: L - Amtrak Station 2:44 PM Dest: L - Hialeah Station 2:59 PM Dest: L - Amtrak Station 3:12 PM Dest: L - Hialeah Station 3:23 PM Dest: L - Amtrak Station 3:35 PM Dest: L - Hialeah Station 3:47 PM Dest: L - Amtrak Station 3:59 PM

Dest: L - Hialeah Station

4:11 PM

Dest: L - Amtrak Station

Dest: L - Hialeah Station

4:35 PM

Dest: L - Amtrak Station

4:47 PM

Dest: L - Hialeah Station 4:59 PM

Dest: L - Hialeah Station

5:11 PM

Dest: L - Amtrak Station

5:23 PM

Dest: L - Hialeah Station

5:35 PM

Dest: L - Amtrak Station

5:47 PM

Dest: L - Hialeah Station

5:59 PM

Dest: L - Amtrak Station

6:11 PM

Dest: L - Hialeah Station

6:23 PM

Dest: L - Northside Station

6:38 PM

Dest: L - Hialeah Station

6:53 PM

Dest: L - Hialeah Station

Dest: L - Northside Station

7:23 PM

Dest: L - Hialeah Station

7:39 PM

Dest: L - Northside Station



Schedule



8:19 PW

Dest: L - Hialeah Station

8:49 PM

Dest: L - Hialeah Station

9:29 PM

Dest: L - Hialeah Station

Dest: L - Hialeah Station

10:49 PM

Dest: L - Hialeah Station

11:29 PM

Dest: L - Northside Station

12:09 AM

Dest: L - Hialeah Station

12:41 AM

Dest: L - Northside Station

1:41 AM

Dest: L - Northside Station

2:41 AM

Dest: L - Northside Station

3:41 AM

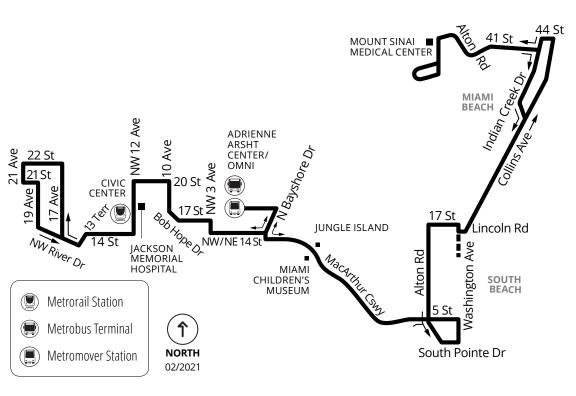
Dest: L - Amtrak Station



view full web site

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WEEKDAYS / DIAS LABORABLES / JOU LASEMÈN

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

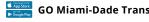
WESTBOUND RUMBO OESTE / DIREKSYON IWÈS	MORNING / MAÑANA / MATEN AM									PM AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ										
Alton Rd & 39 St	_	_	7:02	7:43	8:25	9:17	10:13	_	_	_	_	_	_	4:29	5:14	6:06	7:12	8:12	8:57	
Mt Sinai Hospital	5:43	6:26	7:05	7:46	8:28	9:20	10:16	11:16	12:16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

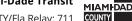
Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions.

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









SATURDAY / SÁBADO / SAMDI

EASTBOUI RUMBO ESTE / DIREKSYO			MORN	IING / M	AÑANA/I	MATEN	АМ	PM		AFTERNO	OON AND	EVENING	/ TARDE`	Y NOCHE /	'APREMID	I AK ASWÈ		
NW 21 Ave & 2	2 St 5:5	3	7:25	8:25	9:25	10:25	11:25	12:25	1:25	2:25	3:25	4:25	5:25	6:25	7:25	8:15	9:15	10:15
NW 12 Ave & 1	5 St 5:5	9	7:32	8:32	9:33	10:33	11:33	12:33	1:33	2:33	3:33	4:33	5:33	6:33	7:32	8:22	9:22	10:21
Omni Terminal / Arsht Metrome	ver 6:0	9	7:43	8:43	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	7:43	8:33	9:33	10:31
Alton Rd &	2 St 6:1	9	7:53	8:53	9:57	10:57	11:57	12:57	1:57	2:57	3:57	4:57	5:57	6:57	7:53	8:43	9:43	10:41
5 St & Lenox	Ave 6:2	4	7:59	8:59	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	7:59	8:49	9:49	10:46
17 St & Lenox	Ave 6:3	2	8:08	9:08	10:12	11:12	12:12	1:12	2:12	3:12	4:12	5:12	6:12	7:11	8:07	8:57	9:57	10:53
Lincoln Rd & James	Ave 6:3	7	8:14	9:15	10:19	11:19	12:19	1:19	2:19	3:19	4:19	5:19	6:19	7:17	8:13	9:03	10:03	10:58
Indian Creek Dr & 4	3 St 6:4	5	8:24	9:27	10:31	11:31	12:31	1:31	2:31	3:31	4:30	5:30	6:30	7:27	8:23	9:13	10:11	11:06
41 St & Meridian	Ave 6:5	1	8:31	9:35	10:39	11:39	12:39	1:39	2:39	3:39	4:37	5:37	6:37	7:34	8:30	9:20	10:17	11:12
41 St & Alton	Rd 6:5	2	8:33	9:37	10:41	11:41	12:41	1:41	2:41	3:41	4:39	5:39	6:39	7:35	8:31	9:21	10:18	11:13
Mt Sinai Hos	ital 6:5	4	8:35	9:39	10:43	11:43	12:43	1:43	2:43	3:43	4:41	5:41	6:41	7:37	8:33	9:23	10:20	11:15
Alton Rd & 3	9 St 6:5	6	8:37	9:41	10:45	11:45	12:45	1:45	_	3:45	4:43	5:43	6:43	7:39	8:35	_	_	_

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

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

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









SUNDAY / DOMINGO / DIMANCH

EASTBOUND RUMBO ESTE / DIREKSYON IS		М	ORNING / M	AÑANA / MAT	EN	АМ	PM AFTER	RNOON AND I	EVENING / TA	ARDE Y NOCHE	/ APREMIDI AI	(ASWÈ
NW 21 Ave & 22 St	5:54	7:29	8:25	9:20	10:20	11:20	12:20	1:20	2:20	3:20	4:20	5:35
NW 12 Ave & 15 St	6:01	7:36	8:32	9:28	10:28	11:28	12:28	1:28	2:28	3:28	4:28	5:43
Omni Terminal / Arsht Metromover	6:10	7:45	8:41	9:39	10:39	11:39	12:39	1:39	2:39	3:39	4:39	5:54
Alton Rd & 2 St	6:20	7:55	8:51	9:49	10:49	11:50	12:50	1:50	2:50	3:50	4:50	6:05
5 St & Lenox Ave	6:25	8:00	8:56	9:55	10:55	11:56	12:56	1:56	2:56	3:56	4:56	6:11
17 St & Lenox Ave	6:33	8:08	9:05	10:04	11:04	12:05	1:05	2:05	3:05	4:05	5:05	6:20
Lincoln Rd & James Ave	6:38	8:13	9:11	10:10	11:10	12:11	1:11	2:11	3:11	4:11	5:11	6:26
Indian Creek Dr & 43 St	6:47	8:22	9:21	10:20	11:21	12:22	1:22	2:22	3:22	4:22	5:22	6:37
41 St & Meridian Ave	6:53	8:28	9:28	10:27	11:28	12:29	1:29	2:29	3:29	4:29	5:29	6:44
41 St & Alton Rd	6:54	8:29	9:30	10:29	11:30	12:31	1:31	2:31	3:31	4:31	5:31	6:46
Mt Sinai Hospital	6:56	8:31	9:32	10:31	11:32	12:33	1:33	2:33	3:33	4:33	5:33	6:48
Alton Rd & 39 St	6:58	8:33	9:34	10:33	11:34	12:35	1:35	2:35	3:35	4:35	5:35	-
WESTROLIND									AFTERNIO	ONLAND EVEN	INIC	

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

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

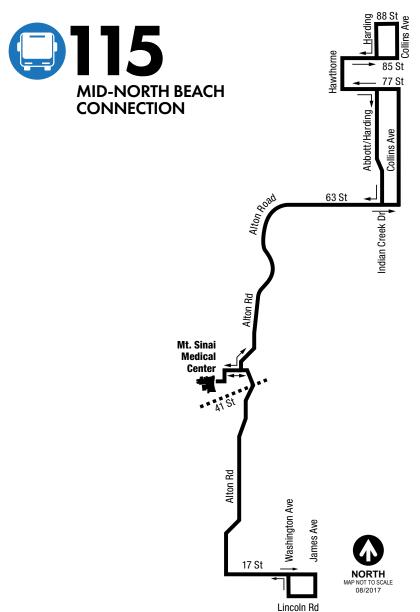
Las horas publicadas son aproximadas, pues dependen del trafico y otras condiciones de las vias. | Ore yo apwoksimatif. Vre le bis yo ap rive oswa deplase ka varye selon kondisyon sikilasyon sou wout yo.

























V	/EEK	(DA)	YS	l E	NTR	E SEI	MAI	VA	1	LASI	EMÈ	N			
SOUTHBOUND RUMBO SUR DIREKSYON SID			M ORI Ñ <i>ANA</i>			AM			TA		ERNO A				
Collins Ave & 87 St	7:20	8:10	9:00	9:50	10:40	11:30 1	2:20	1:10	2:00	2:50	3:40	4:30	5:20	6:10	7:00
Abbott Ave & 69 St	7:34	8:24	9:12	10:02	10:52	11:42 1	2:32	1:22	2:12	3:02	3:52	4:42	5:32	6:22	7:12
Mt Sinai Hospital	7:47	8:37	9:25	10:15	11:05	11:55	2:45	1:35	2:25	3:15	4:05	4:55	5:45	6:35	7:22
Lincoln & Washington	8:04	8:54	9:44	10:34	11:24	12:14 1	:04	1:54	2:44	3:34	4:24	5:14	6:04	6:54	7:37
NORTHBOUND RUMBO NORTE DIREKSYON NÒ	M		ORNI NA /		TIN 🏻	PM					RNO APF		IDI		
Lincoln & Washington	8:06	8:56	9:46	10:3	6 11:2	12:16	1:0	6 1:	56 2	:46 3	3:36	4:26	5:16	6:06	6:56
Mt Sinai Hospital	8:21	9:11	10:00	10:5	0 11:4	12:30	1:2	0 2:	10 3	:00 3	3:50	4:40	5:30	6:20	7:10
Collins Ave & 69 St	8:35	9:25	10:14	11:0	4 11:5	12:44	1:3	4 2:	24 3	:14 4	4:04	4:54	5:44	6:34	7:22
Collins Ave & 87 St	8:51	9:41	10:30	11:2	0 12:1	1:00	1:5	0 2:	40 3	:30 4	4:19	5:09	5:59	6:49	7:37
W	EEK	END	S	FI	NES	DE S	EM	<i>AN</i>	4	W	ΊΚΕΝ	V V			
SOUTHBOUND RUMBO SUR DIREKSYON SID	EEK	ı	NORI VANA	VING		DE S		'AN		AFT	IKEN ERNI E / AF	OON			
SOUTHBOUND RUMBO SUR	7:20	ı	MORI Ñ <i>ANA</i>	NING / MA	i A <i>TIN</i>				TA	AFT A <i>RDE</i>	ERNO	OON PREN	1IDI	6:10	7:00
SOUTHBOUND RUMBO SUR DIREKSYON SID		MA!	MORI ÑANA 9:00	VING / MA 9:50	i A <i>TIN</i> 10:40	AM	2:20	1:10	7. 2:00	AFT ARDE 2:50	TERN() A / A / A / A / A / A / A / A / A / A	OON PREN 4:30	5:20		
SOUTHBOUND RUMBO SUR DIREKSYON SID Collins Ave & 87 St	7:20 7:30	8:10 8:20	MORI <i>VANA</i> 9:00 9:11	9:50 10:01	10:40 10:51	₩ ā	2:20 2:31	1:10 1:21	2:00 2:11	AFT A <i>RDE</i> 2:50 3:01	3:40 3:51	OON PREN 4:30 4:41	5:20 5:31	6:21	
SOUTHBOUND RUMBO SUR DIREKSYON SID Collins Ave & 87 St Abbott Ave & 69 St	7:20 7:30 7:40	8:10 8:20 8:30	MORI <i>VANA</i> 9:00 9:11 9:22	9:50 10:01	10:40 10:51 11:02	W 3 11:30 1 11:41 1	2:20 2:31 2:42	1:10 1:21 1:32	2:00 2:11 2:22	AFT ARDE 2:50 3:01 3:12	3:40 3:51 4:02	900N PREM 4:30 4:41 4:52	5:20 5:31 5:42	6:21 6:32	7:10 7:20
SOUTHBOUND RUMBO SUR DIREKSYON SID Collins Ave & 87 St Abbott Ave & 69 St Mt Sinai Hospital	7:20 7:30 7:40 7:54	8:10 8:20 8:30 8:44	9:00 9:11 9:22 9:38	9:50 10:01 10:12 10:28	10:40 10:51 11:02	\(\frac{1}{2}\) \(\frac{1}2\) \(\frac{1}{2}\) \(\frac{1}2\) \(\frac{1}2\) \(\frac{1}2\) \(\frac{1}2\) \(\frac\	2:20 2:31 2:42	1:10 1:21 1:32	2:00 2:11 2:22 2:38	2:50 3:01 3:12 3:28	3:40 3:51 4:02	4:30 4:41 4:52 5:08	5:20 5:31 5:42 5:58	6:21 6:32	7:10 7:20
SOUTHBOUND RUMBO SUR DIREKSYON SID Collins Ave & 87 St Abbott Ave & 69 St Mt Sinai Hospital Lincoln & Washington NORTHBOUND RUMBO NORTE	7:20 7:30 7:40 7:54	8:10 8:20 8:30 8:44 MC	9:00 9:11 9:22 9:38 ORNI	9:50 10:01 10:12 10:28 ING MA	10:40 10:51 11:02 11:18 1	\(\frac{1}{2}\) \(\frac{1}2\) \(\frac{1}{2}\) \(\frac{1}2\) \(\frac{1}2\) \(\frac{1}2\) \(\frac{1}2\) \(\frac\	2:20 2:31 2:42 2:58	1:10 1:21 1:32 1:48	2:00 2:11 2:22 2:38 A	2:50 3:01 3:12 3:28 FTEI	3:40 3:51 4:02 4:18 RNO	4:30 4:41 4:52 5:08	5:20 5:31 5:42 5:58	6:21 6:32	7:10 7:20
SOUTHBOUND RUMBO SUR DIREKSYON SID Collins Ave & 87 St Abbott Ave & 69 St Mt Sinai Hospital Lincoln & Washington NORTHBOUND RUMBO NORTE DIREKSYON NÒ	7:20 7:30 7:40 7:54	8:10 8:20 8:30 8:44 MC	9:00 9:11 9:22 9:38 ORNI NA /	9:50 10:01 10:12 10:28 ING MA	10:40 1 10:51 1 11:02 1 11:18 1	11:30 1 11:41 1 11:52 1 12:08 1	2:22 2:31 2:42 2:58	1:10 1:21 1:32 1:48	2:00 2:11 2:22 2:38 A TAR	2:50 3:01 3:12 3:28 FTEI DE /	3:40 3:51 4:02 4:18 RNO / APF	4:30 4:41 4:52 5:08	5:20 5:31 5:42 5:58	6:21 6:32 6:48	7:10 7:20 7:33
SOUTHBOUND RUMBO SUR DIREKSYON SID Collins Ave & 87 St Abbott Ave & 69 St Mt Sinai Hospital Lincoln & Washington NORTHBOUND RUMBO NORTE DIREKSYON NO Lincoln & Washington	7:20 7:30 7:40 7:54	8:10 8:20 8:30 8:44 MO AÑA 8:46	9:00 9:11 9:22 9:38 ORNI NA / 9:40 9:52	9:50 9:50 10:01 10:12 10:28 ING MA 10:3	10:40 11:02 11:18 7//N 3 11:20 11:30 11:20 11:30	11:30 1 11:41 1 11:52 1 12:08 1	2:20 2:31 2:42 2:58	1:10 1:21 1:32 1:48 0 1: 2 2:	2:00 2:11 2:22 2:38 A TAR 50 2	2:50 3:01 3:12 3:28 FTE	3:40 3:51 4:02 4:18 RNO / APF	4:30 4:41 4:52 5:08 ON REMA	5:20 5:31 5:42 5:58 5:58	6:21 6:32 6:48	7:10 7:20 7:33

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

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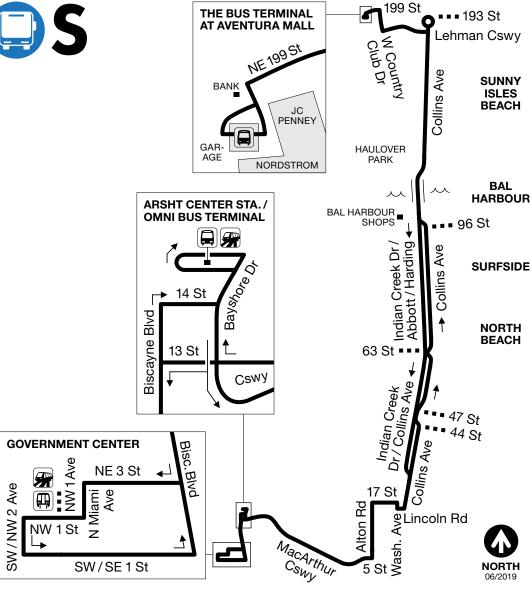
























Back

Schedule



119 Route S

- Weekday (Northbound)

COLLINS AV 17 ST

5:28 AM

Dest: S - Aventura Mall

5:52 AM

Dest: S - Aventura Mall

6:05 AM

Dest: S - Aventura Mall

6:19 AN

Dest: S - Aventura Mall

6:34 AM

Dest: S - Aventura Mall

6:49 AM

Dest: S - Aventura Mall

7:04 AM

Dest: S - Aventura Mall

7:22 AM

Dest: S - Aventura Mall

7:37 AM

Dest: S - Aventura Mall

7:53 AM

Dest: S - Aventura Mall

8:09 AM

Dest: S - Aventura Mall

8:25 AM

Dest: S - Aventura Mall

8:41 AM

Dest: S - Aventura Mall

8:56 AM

Dest: S - Aventura Mall

9:13 AM

Dest: S - Aventura Mall

9:29 AM

Dest: S - Aventura Mall

9:46 AN

Dest: S - Aventura Mall

10:01 AM

Dest: S - Aventura Mall

10:16 AM

Dest: S - Aventura Mall

10:31 AM

Dest: S - Aventura Mall

10:46 AM

Dest: S - Aventura Mall

11:01 AM

Dest: S - Aventura Mall

11:16 AM

Dest: S - Aventura Mall

11:31 AM

Dest: S - Aventura Mall

11:46 AM

Dest: S - Aventura Mall

12:01 PM (12 min)

Dest: S - Aventura Mall

12:16 PM Dest: S - Aventura Mall

2-21 DM

12:31 PM

Dest: S - Aventura Mall

12:46 PM

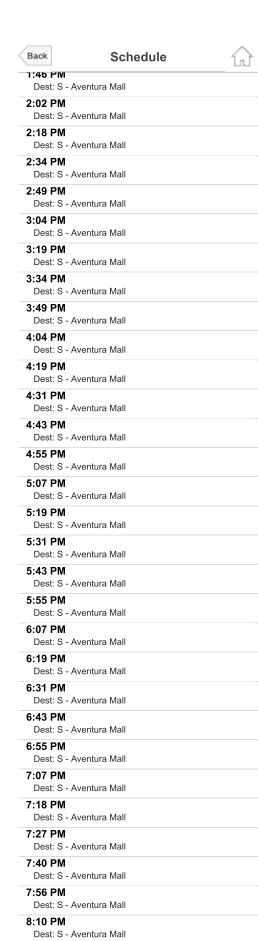
Dest: S - Aventura Mall

1:01 PM

Dest: S - Aventura Mall

1:16 PM

Dest: S - Aventura Mall



8:28 PM

8:50 PM

Dest: S - Aventura Mall

Dest: S - Aventura Mall



Schedule



9:40 PW

Dest: S - Aventura Mall

10:05 PM

Dest: S - Aventura Mall

10:27 PM

Dest: S - Aventura Mall

10:51 PM

Dest: S - Aventura Mall

11:16 PM

Dest: S - Aventura Mall

11:46 PM

Dest: S - Aventura Mall

12:14 AM

Dest: S - Aventura Mall

12:42 AM

Dest: S - Aventura Mall

1:12 AM

Dest: S - Aventura Mall

1:42 AM

Dest: S - Aventura Mall

2:42 AM

Dest: S - Aventura Mall

3:42 AM

Dest: S - Aventura Mall

4:42 AM

Dest: S - Aventura Mall



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COUNTY

WEEKDAYS / DIAS LABORABLES / LACÈMEN EVERY / CADA / CHAK 15 min EVERY / CADA / CHAK 12 min MORNING **NORTHBOUND** AVERAGE / PROMEDIO / MWAYÈN AVERAGE / PROMEDIO / MWAYÈN **EVENING /** NOCHE / ASWÈ MAÑANA / MATEN **RUMBO NORTE / DIREKSYON NÒ** FROM/DESDE/DE AM PM TO/HASTA/A FROM/DESDE/DE TO/HASTA/A Stephen P Clark Center 7:35 5:00 5:45 6:15 6:45 10:00 10:12 5:00 5:15 5:30 5:46 6:02 6:20 6:40 7:05 8:15 8:55 9:30 **Omni Terminal Arsht Metromover** 5:55 5:34 6:21 6:59 8:28 9:08 9:43 5:10 6:26 6:56 10:18 10:30 5:19 5:49 6:05 6:39 7:18 7:48 Lincoln Rd & James Ave 5:26 6:12 6:43 7:14 10:40 10:52 5:41 5:56 6:11 6:27 6:43 7:01 7:21 7:38 8:08 8:48 9:28 10:03 Collins Ave & 43 St 6:20 6:06 6:21 6:53 8:58 5:33 6:51 7:22 10:50 11:02 5:51 6:37 7:11 7:31 7:48 8:18 9:38 10:12 Collins Ave & 69 St 6:28 6:59 6:17 6:32 7:04 7:20 8:27 9:07 10:20 5:40 7:31 11:00 11:12 6:02 6:48 7:40 7:57 9:47 **Collins Ave & # 9701** 6:42 6:58 7:12 7:28 7:48 8:35 9:15 9:55 5:47 6:36 7:08 7:40 11:10 11:22 6:12 6:27 8:05 10:28 **Haulover Club Parking Lot** 7:13 8:04 8:57 9:28 10:00 10:30 11:00 11:27 11:52 12:15 12:39 1:03 1:27 1:51 2:15 2:39 3:03 3:28 3:52 4:17 4:41 5:05 5:29 5:53 6:17 6:47 7:17 8:33 8:46 9:15 9:48 10:18 10:48 11:18 11:43 12:06 12:30 12:53 1:18 11:42 2:06 2:30 2:54 3:19 3:43 4:08 4:32 4:56 5:20 5:44 6:08 6:35 7:06 7:35 7:55 8:12 8:42 9:22 10:02 10:34 Collins Ave At 16900 Blk **Bus Terminal at Aventura Mall** 5:59 | 6:50 | 7:59 | 8:33 | 8:45 | 8:58 | 9:27 | 10:00 | 10:30 | 11:00 | 11:30 | 11:55 | 12:18 | 12:42 | 1:05 | 1:30 | 1:54 | 2:18 | 2:42 | 3:07 | 3:32 | 3:56 | 4:21 | 4:45 | 5:09 | 5:33 | 5:57 | 6:21 | 6:48 | 7:17 | 7:46 | 8:06 | 8:23 | 8:53 | 9:33 | 10:12 | 10:44 **SOUTHBOUND MORNING / MAÑANA / MATEN** AM PM AFTERNOON AND EVENING / TARDE Y NOCHE / APREMIDI AK ASWÈ **RUMBO SUR / DIREKSYON SID** 6:30 | 6:54 | 7:21 | 7:33 | 7:45 | 8:00 | 8:27 | 8:59 | 9:31 | 10:05 | 10:31 | 10:05 | 10:31 | 10:05 | 11:20 | 11:44 | 12:08 | 12:32 | 12:56 | 1:20 | 1:44 | 2:08 | 2:31 | 2:51 | 3:15 | 3:38 | 3:58 | 4:24 | 4:59 | 5:33 | 6:12 | 6:37 | 7:07 | 7:47 | 8:27 | 9:07 | 9:49 | 10:31 **Bus Terminal at Aventura Mall** Collins Ave & # 16830 6:13 | 6:43 | 7:09 | 7:36 | 7:48 | 8:02 | 8:17 | 8:44 | 9:16 | 9:48 | 10:22 | 10:48 | 11:13 | 11:37 | 12:01 | 12:25 | 12:49 | 1:13 | 1:37 | 2:01 | 2:25 | 2:48 | 3:08 | 3:32 | 3:55 | 4:17 | 4:43 | 5:18 | 5:52 | 6:28 | 6:53 | 7:23 | 8:03 | 8:43 | 9:23 | 10:05 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10:45 | 10: **Haulover Club Parking Lot** 6:55 8:29 10:00 | 10:11 | 10:35 | 11:01 | 11:25 | 11:49 | 12:13 | 12:37 | 1:01 1:25 1:49 2:13 2:37 2:56 3:20 3:44 4:07 4:59 6:06 7:23 4:31 5:34 EVERY / CADA / CHAK 15 min EVERY / CADA / CHAK 12 min **EVENING / NOCHE / ASWÈ** AVERAGE / PROMEDIO / MWAYÈN AVERAGE / PROMEDIO / MWAYÈN FROM/DESDE/DE TO/HASTA/A FROM/DESDE/DE AM PM TO/HASTA/A **Bal Harbour Shops** 7:30 6:05 10:55 11:08 4:51 5:06 5:26 5:41 6:00 6:15 6:35 7:00 8:10 8:50 9:30 10:11 10:51 5:17 5:37 5:52 6:25 Abbott Ave & 69 St 6:14 11:06 11:19 5:02 6:10 6:45 7:10 7:40 8:20 9:00 9:40 10:20 11:00 Indian Creek Dr & 40 St 5:50 6:20 6:55 6:23 11:19 11:32 5:15 5:30 6:05 6:35 7:20 7:50 8:30 9:10 9:50 10:29 11:09 **Washington Ave & Lincoln Rd** 6:31 11:29 11:42 5:25 5:40 6:00 6:15 6:30 6:45 7:05 7:30 8:00 8:40 9:20 10:38 11:18 10:00 Omni Terminal / Arsht Metromover 12:02 6:46 11:49 5:49 6:04 6:19 6:34 6:49 7:04 7:24 7:49 8:59 10:17 10:55 11:35 8:19 9:39 Stephen P Clark Center 12:14 6:15 6:30 7:00 7:35 8:30 6:56 12:01 6:02 6:45 7:15 8:00 9:10 9:50 10:27 11:05 11:45

Scheduled times are approximate. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. Actual arrival and departure times may vary depending on traffic and road conditions. | Las horas publicadas son aproximates. | Las









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	NORTHBOUND	МО	RNING	/ MAÑ. TEN	ANA/				nin AV	/ERAGE / PR		AYÈN e v		DA/CHAK 1					ÈN				E	VENING	5 / NOC	CHE / AS	5WÈ				
	RUMBO NORTE / DIREKSYON NÒ						FROM/DE			TO/HA		_		DESDE/DE	AM	PM	TO/HAS														
	Stephen P Clark Center		00		5:36		7:0			10:		_	•	10:15			6:30		_	7:00		7:30		8:00		8:30		9:00		9:30	
🚍 🚍 Om	nni Terminal / Arsht Metromover	6:	09	6	5:45	<u> </u>	7:0	9		10:	10	\perp		10:25			6:4)	_	7:08		7:38		8:08		8:38	}	9:08	,	9:38	
	Lincoln Rd & James Ave	6:	25	7	7:01		7:2	5		10:	28	\perp	•	10:43			6:59	9	┸	7:24		7:54		8:24		8:54		9:24	-	9:54	
	Collins Ave & 43 St	6:	34	7	7:10	1	7:3	4		10:	39			10:54			7:10)		7:35		8:05		8:35		9:05	,	9:35	,	10:05	-
	Collins Ave & 69 St	6:	44	7	7:20		7:4	4		10:	49			11:04			7:19)		7:44		8:14		8:44		9:14	+	9:44	+	10:13	,
	Collins Ave & # 9701	6:	50	7	7:26		7:5	0		10:	56			11:11			7:2	5		7:50		8:20		8:50		9:20)	9:50)	10:17	
			М	ORNIN	I G / MAÑ	ÍANA/	MATEN		AM P	PM						AFT	ERNOC	N AND	EVENI	NG / TAF	RDE Y NO	OCHE /	'APREM	IDI AK A	SWÈ						
	Haulover Club Parking Lot	8:16	9:0)1	9:41	10:21	11:0	1 11	:31	12:01	12:31	1:0	01	1:31	2:01	2	:31	3:01	3:3	1 4:0	01 4	l:31	5:02	5:32	2 6	6:02	6:32	7:30	8:2	25 9:	:25
	Collins Ave At 16900 Blk	6:57	7:33	7:57	8:42	9:23	10:03	10:43	11:18	8 11:48	12:18	12:4	8 1:1	8 1:4	8 2:	18 2	:48	3:18	3:48	4:18 4	1:49 5	:19	5:49	6:19	6:49	7:04	7:17	7:56	8:56	9:56 10	0:23
	Bus Terminal at Aventura Mall	7:11	7:47	8:13	8:58	9:39	10:19	10:59	11:34	4 12:04	12:34	1:04	1:3	4 2:0	4 2:	34 3	:04	3:34 4	1:04	4:34	5:05 5	:35	6:05	6:35	7:05	7:19	7:32	8:11	9:11	10:11 10	0:35
	SOUTHBOUND RUMBO SUR / DIREKSYON SID					EVENI	NG / No	OCHE / A	ASWÈ				AM	РМ				AFT	ERNO	ON AND	EVENIN	IG / TA	ARDE Y N	NOCHE/	APREN	IIDI AK	ASWÈ				
	Bus Terminal at Aventura Mall	5:49	6:11	6:44	7:24	8:00	8:38	9:17	9:51	10:21	10:51 1	1:21	11:51	12:21	12:51	1:21	1:51	2:21	2:51	3:21	3:50	4:20	4:50	5:20	6:25	6:57	7:29	7:59	8:43	9:35 1	0:30
	Collins Ave & # 16830	6:02	6:24	7:00	7:40	8:16	8:54	9:34	10:08	10:38	11:08 1	1:38	12:08	12:38	1:08	1:38	2:08	2:38	3:08	3:38	4:08	4:38	5:08	5:38	6:43	7:15	7:45	8:15	8:59	9:51 1	0:42
	Haulover Club Parking Lot	6:41	7:2	20	7:59			14	9:53	10:23	3 10	:53	11:23	11:5	53	12:23	12:5	53 1	:23	1:53	2:23	: :	2:53	3:23	3:5	3	4:23	4:53	5:23	3 6:	10
			EVERY/CADA/CHAK 20 min AVERAGE				AGE / PROM	MEDIO / MWA	YÈN EVER	Y / CADA / CH	15 AK	min	AVERAGE	/ PROMEDIC	/ MWAYÈN						E	VENING	/ NOCH	HE / AS\	WÈ						
	Bal Harbour Shops	6:1	10		6:32			10:0	2		10:	17	AM P	M	5:47		6	:19	6:	52	7:23		7:53		8:23		9:07	9	:59	10:49	9
	Abbott Ave & 69 St	6:1	18		6:40			10:1	1		10:	26			5:56		6	:28	7:	01	7:31		8:01		8:31		9:15	10	0:07	10:5	7
	Indian Creek Dr & 40 St	6:2	26		6:48			10:2	0		10:	35			6:05		6	:37	7:	09	7:39		8:09		8:39		9:23	10	0:15	11:0	5
	Washington Ave & Lincoln Rd	6:3	33		6:55			10:3	0		10:	45			6:15		6	:47	7:	18	7:48		8:18		8:48		9:32	10	0:22	11:1:	2
🚍 💂 Om	nni Terminal / Arsht Metromover	6:4	48		7:11			10:4	9		11:	04		(6:34		7	:06	7:	36	8:06		8:36		9:06		9:50	10	0:36	11:2	6
	Stephen P Clark Center	6:5	58		7:22			11:0	1		11:	16		(6:46		7	:16	7:	46	8:16		8:46		9:16		10:00	10	0:45	11:3	5

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









SUNDAY / DOMINGO / DIMANCH

	NORTHBOUND RUMBO NORTE / DIREKSYON NÒ				,	MORN	IING / M.	AÑANA	A / MATE	N			АМ	PM				AFT	ERNOO	N AND	EVENII	NG / TA	RDE Y I	NOCHE	/ APRE	EMIDI /	AK ASI	WÈ				
	Stephen P Clark Center	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	0 6:0	00 6	6:30	7:00	7:30	8:00	9:00
e e om	ni Terminal / Arsht Metromover	6:06	6:36	7:06	7:36	8:08	8:38	9:08	9:38	10:10	10:40	11:10	11:40	12:10	12:40	1:10	1:40	2:10	2:40	3:10	3:40	4:10	4:40	5:10	5:40	0 6:0	08 6	5:38	7:08	7:38	8:06	9:06
	Lincoln Rd & James Ave	6:20	6:50	7:20	7:50	8:24	8:54	9:24	9:54	10:27	10:57	11:27	11:57	12:27	12:57	1:27	1:57	2:27	2:57	3:27	3:57	4:27	4:57	5:27	5:5	7 6:2	23 6	6:53	7:23	7:53	8:20	9:20
	Collins Ave & 43 St	6:29	6:59	7:29	7:59	8:33	9:03	9:33	10:05	10:38	11:08	11:38	12:08	12:38	1:08	1:38	2:08	2:38	3:08	3:38	4:08	4:38	5:08	5:38	6:0	8 6:3	33 7	7:03	7:33	8:03	8:29	9:29
	Collins Ave & 69 St	6:37	7:07	7:37	8:08	8:42	9:12	9:42	10:15	10:48	11:18	11:48	12:18	12:48	1:18	1:48	2:18	2:48	3:18	3:48	4:18	4:48	5:18	5:48	6:1	7 6:4	42 7	7:12	7:42	8:11	8:37	9:37
	Collins Ave & # 9701	6:41	7:11	7:41	8:14	8:48	9:18	9:48	10:21	10:54	11:24	11:54	12:24	12:54	1:24	1:54	2:24	2:54	3:24	3:54	4:25	4:55	5:25	5:55	6:23	3 6:4	48 7	7:18	7:48	8:15	8:41	9:41
	Collins Ave at 16900 Blk	6:47	7:17	7:47	8:21	8:55	5 9:25	9:55	10:28	11:01	11:31	12:01	12:31	1:01	1:31	2:01	2:31	3:01	3:31	4:01	4:32	5:02	5:32	6:02	6:29	9 6:5	54 7	7:24	7:54	8:21	8:47	9:47
	Bus Terminal at Aventura Mall	7:00	7:30	8:02	8:36	9:10	9:40	10:11	10:44	11:17	11:47	12:17	12:47	1:17	1:47	2:17	2:47	3:17	3:47	4:17	4:48	5:18	5:48	6:16	6:43	3 7:0	08 7	7:38	8:08	8:34	9:00	10:00
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	SOUTHBOUND RUMBO SUR / DIREKSYON SID					MORI	NING / M	IAÑAN	A / MAT	EN			AM	PM			I	AFT	ERNOC	ON AND	EVENI	NG / T <i>A</i>	ARDE Y	NOCH	E / APR	EMIDI	AK AS	SWÈ				
=		6:01	6:41	7:07	7:34				A / MAT 9:24 9:		:20 10:50	11:20			12:50	1:20	1:50			3:20				NOCH 5:23					8:00	8:29	8:59	9:27
=	RUMBO SUR / DIREKSYON SID				7:34	8:01	8:31	9:00	9:24 9:	50 10:	:20 10:50 :36 11:06		11:50	12:20				2:20	2:50	3:20	3:50 4	:20 4	:51 5	5:23	5:55	6:26	6:57	7:30				
=	RUMBO SUR / DIREKSYON SID Bus Terminal at Aventura Mall	6:12		7:18	7:34 7:45	8:01 8:14	8:31 9 8:44 9	9:00 9:13	9:24 9: 9:37 10	50 10:		11:36	11:50 12:06	12:20 12:36	1:06	1:36	2:06	2:20 2:36	2:50	3:20 3 3:36 4	3:50	1:20 4 1:36 5	:51 5 :07 5	5:23 5	5:55 (5:26 5:41	6:57 7:12	7:30 7:45	8:12	8:41		9:39
	RUMBO SUR / DIREKSYON SID Bus Terminal at Aventura Mall Collins Avs & # 16830	6:12	6:52 6:58	7:18 7:24	7:34 7:45 7:51	8:01 8:14 8:21	8:31 9 8:44 9 8:51 9	9:00 9 9:13 9 9:20 9	9:24 9: 9:37 10 9:44 10	50 10: :06 10: :14 10:	:36 11:06	11:36	11:50 12:06 12:14	12:20 12:36 12:44	1:06	1:36	2:06	2:20 2:36 2:44	2:50 3:06 3:14	3:20 3 3:36 4 3:44 4	3:50	::20 4 ::36 5 ::44 5	:51 5 :07 5 :15 5	5:23 5 5:39 6 5:47 6	5:55 (5:11 (5:18 (6:26 6:41 6:48	6:57 7:12 7:19	7:30 7:45 7:52	8:12	8:41	9:11	9:39 9:45
	RUMBO SUR / DIREKSYON SID Bus Terminal at Aventura Mall Collins Avs & # 16830 Bal Harbour Shops	6:12 6:18 6:26	6:52 6:58 7:06	7:18 7:24 7:32	7:34 7:45 7:51 8:00	8:01 8:14 8:21 8:30	8:31 9 8:44 9 8:51 9:00 9	9:00 9 9:13 9 9:20 9 9:29 9	9:24 9: 9:37 10 9:44 10 9:53 10	50 10: :06 10: :14 10: :23 10:	:36 11:06 :44 11:14	11:36 11:44 11:53	11:50 12:06 12:14 12:23	12:20 12:36 12:44 12:53	1:06 1:14 1:23	1:36 1:44 1:53	2:06 2:14 2:23	2:20 2:36 2:44 2:53	2:50 3:06 3:14 3:23	3:20 3 3:36 4 3:44 4 3:53 4	3:50	1:20 4 1:36 5 1:44 5 1:53 5	:51 5 :07 5 :15 5 :24 5	5:23 5 5:39 6 5:47 6 5:56 6	5:55 (5:11 (5:18 (5:26 (6) (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6) (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6) (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6:26 (6) (6:26 (6:26 (6) (6:26 (6:26 (6:26 (6:26 (6) (6:26 (6) (6:26 (6)	5:26 5:41 5:48 6:56	6:57 7:12 7:19 7:27	7:30 7:45 7:52 8:00	8:12 8:18 8:26	8:41 8:47 8:55	9:11 9:17 9:25	9:39 9:45 9:53
	RUMBO SUR / DIREKSYON SID Bus Terminal at Aventura Mall Collins Avs & # 16830 Bal Harbour Shops Abbott Ave & 69 St	6:12 6:18 6:26 6:34	6:52 6:58 7:06 7:14	7:18 7:24 7:32 7:40	7:34 7:45 7:51 8:00 8:09	8:01 8:14 8:21 8:30 8:39	8:31 9 8:44 9 8:51 9 9:00 9	9:00 9:00 9:20 9:20 9:29 9:38 1	9:24 9: 9:37 10 9:44 10 9:53 10 0:02 10	50 10: :06 10: :14 10: :23 10: :32 11:	:36 11:06 :44 11:14 :53 11:23	11:36 11:44 11:53 12:02	11:50 12:06 12:14 12:23 12:32	12:20 12:36 12:44 12:53 1:02	1:06 1:14 1:23 1:32	1:36 1:44 1:53 2:02	2:06 2:14 2:23 2:32	2:20 2:36 2:44 2:53 3:02	2:50 3:06 3:14 3:23 3:32	3:20 3 3:36 4 3:44 4 3:53 4 4:02 4	3:50	3:20 4 3:36 5 3:44 5 3:53 5 3:02 5	:51 5 :07 5 :15 5 :24 5 :33 6	5:23 5 5:39 6 5:47 6 5:56 6 5:05 6	5:55 (5:55 (5:55) (5:11 (5:18) (5:18) (5:26) (5:35) (5:35)	6:26 6:41 6:48 6:56 7:05	6:57 7:12 7:19 7:27 7:36	7:30 7:45 7:52 8:00 8:08	8:12 8:18 8:26 8:34	8:41 8:47 8:55 9:03	9:11 9:17 9:25	9:39 9:45 9:53 10:01
	RUMBO SUR / DIREKSYON SID Bus Terminal at Aventura Mall Collins Avs & # 16830 Bal Harbour Shops Abbott Ave & 69 St Indian Creek Dr & 40 St	6:12 6:18 6:26 6:34 6:40	6:52 6:58 7:06 7:14 7:20	7:18 7:24 7:32 7:40 7:46	7:34 7:45 7:51 8:00 8:09 8:16	8:01 8:14 8:21 8:30 8:39 8:46	8:31 9 8:44 9 8:51 9 9:00 9 9:09 9	9:00 9:13 9:20 9:29 9:29 9:38 1 9:45 1	9:24 9: 9:37 10 9:44 10 9:53 10 0:02 10 0:11 10	50 10: :06 10: :14 10: :23 10: :32 11: :41 11:	:36 11:06 :44 11:14 :53 11:23 :02 11:32	11:36 11:44 11:53 12:02 12:11	11:50 12:06 12:14 12:23 12:32 12:41	12:20 12:36 12:44 12:53 1:02	1:06 1:14 1:23 1:32 1:41	1:36 1:44 1:53 2:02 2:11	2:06 2:14 2:23 2:32 2:41	2:20 2:36 2:44 2:53 3:02 3:11	2:50 3:06 3:14 3:23 3:32 3:41	3:20 3 3:36 4 3:44 4 3:53 4 4:02 4	3:50	::20 4 ::36 5 ::44 5 ::53 5 ::02 5 ::11 5	::51	5:23 5:39 6:39 6:47 6:556 6:556 6:05 6:13 6:	5:55 (6:55) (6:55) (6:55) (6:55) (6:55) (7:5	5:26 5:41 5:48 5:56 7:05 7:13	6:57 7:12 7:19 7:27 7:36 7:44	7:30 7:45 7:52 8:00 8:08 8:15	8:12 8:18 8:26 8:34 8:41	8:41 8:47 8:55 9:03	9:11 9:17 9:25 9:33 9:40	9:39 9:45 9:53 10:01 10:08

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

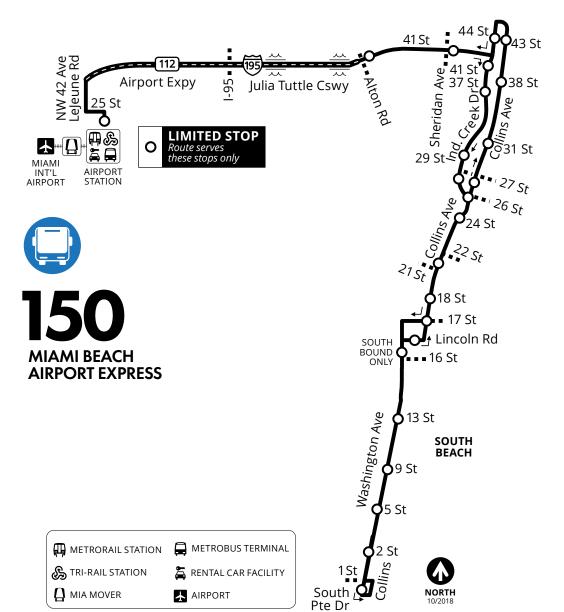










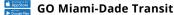














SEVEN DAYS A WEEK LOS SIETE DIAS SET IOU YON SEMEN

EVERY CADA / CHAK

SET JOO TOTA SETVICIA		4111
EASTBOUND RUMBO ESTE / DIREKSYON IS	FROM DESDE • DE	UNTIL* HASTA • A
✓ MIA METRORAIL☑ ⑤ STATION	6:00 a.m.	11:40 p.m.
41 ST & ALTON RD	6:14 a.m.	11:52 p.m.
41 ST & INDIAN CREEK	6:20 a.m.	11:57 p.m.
LINCOLN RD & WASHINGTON AVE	6:29 a.m.	12:06 a.m.
SOUTH POINTE DR & WASHINGTON AVE	6:39 a.m.	12:16 a.m.
WESTBOUND RUMBO OESTE / DIREKSYON WES	FROM DESDE • DE	UNTIL* HASTA • A
SOUTH POINTE DR & WASHINGTON AVE	5:10 a.m.	10:55 p.m.
LINCOLN RD & WASHINGTON AVE	5:20 a.m.	11:05 p.m.
41 ST & INDIAN CREEK	5:29 a.m.	11:14 p.m.
41 ST & ALTON RD	5:33 a.m.	11:18 p.m.
MIA METRORAIL STATION	5:45 a.m.	11:30 p.m.

*LAST FOUR TRIPS 30 MINUTES APART

ULTIMOS CUATRO VIAJES 30 MINUTOS APARTE/DENYE KAT SOTI 30 MINIT APA

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





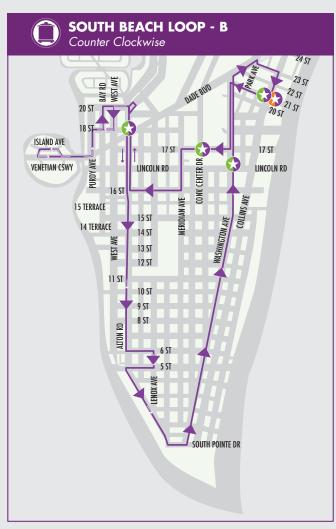














location, a 5% probability of back-up onto the adjacent street is judged to be acceptable. Demand on the system for design is expected to be 110 vehicles in a 45-minute period. Average service time was expected to be 2.2 minutes. Is the queue storage adequate?

Such problems can be quickly solved using Equation (8-9b) given in Table 8-10 and repeated below for convenience.

$$M = \left[\frac{\ln P(x > M) - \ln Q_M}{\ln \rho}\right] - 1$$

where:

M = queue length which is exceeded p percent of the time

N = number of service channels (drive-in positions)

Q = service rate per channel (vehicles per hour)

$$\rho = \frac{\text{demand rate}}{\text{service rate}} = \frac{q}{NQ} = \text{utilization factor}$$

q = demand rate on the system (vehicles per hour)

 Q_M = tabled values of the relationship between queue length, number of channels, and utilization factor (see Table 8.11)

TABLE 8-11
Table of Q_M Values

N = 1	2	3	4	6	8	10
0.0000	0.0000	0.0000	0.0000			
.1000	.0182	.0037	.0008	.0000	0.0000	0.0000
.2000	.0666	.0247	.0096	.0015	.0002	.0000
.3000	.1385	.0700	.0370	.0111	.0036	.0011
.4000	.2286	.1411	.0907	.0400	.0185	.0088
.5000	.3333	.2368	.1739	.0991	.0591	.0360
.6000	.4501	.3548	.2870	.1965	.1395	.1013
.7000	.5766	.4923	.4286	.3359	.2706	.2218
.8000	.7111	.6472	.5964	.5178	.4576	.4093
.9000	.8526	.8172	.7878	.7401	.7014	.6687
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	0.0000 .1000 .2000 .3000 .4000 .5000 .6000 .7000 .8000	0.0000 0.0000 .1000 .0182 .2000 .0666 .3000 .1385 .4000 .2286 .5000 .3333 .6000 .4501 .7000 .5766 .8000 .7111	0.0000 0.0000 0.0000 .1000 .0182 .0037 .2000 .0666 .0247 .3000 .1385 .0700 .4000 .2286 .1411 .5000 .3333 .2368 .6000 .4501 .3548 .7000 .5766 .4923 .8000 .7111 .6472 .9000 .8526 .8172	0.0000 0.0000 0.0000 0.0000 .1000 .0182 .0037 .0008 .2000 .0666 .0247 .0096 .3000 .1385 .0700 .0370 .4000 .2286 .1411 .0907 .5000 .3333 .2368 .1739 .6000 .4501 .3548 .2870 .7000 .5766 .4923 .4286 .8000 .7111 .6472 .5964 .9000 .8526 .8172 .7878	0.0000 0.0000 0.0000 0.0000 .1000 .0182 .0037 .0008 .0000 .2000 .0666 .0247 .0096 .0015 .3000 .1385 .0700 .0370 .0111 .4000 .2286 .1411 .0907 .0400 .5000 .3333 .2368 .1739 .0991 .6000 .4501 .3548 .2870 .1965 .7000 .5766 .4923 .4286 .3359 .8000 .7111 .6472 .5964 .5178 .9000 .8526 .8172 .7878 .7401	0.0000 0.0000 0.0000 0.0000 .1000 .0182 .0037 .0008 .0000 0.0000 .2000 .0666 .0247 .0096 .0015 .0002 .3000 .1385 .0700 .0370 .0111 .0036 .4000 .2286 .1411 .0907 .0400 .0185 .5000 .3333 .2368 .1739 .0991 .0591 .6000 .4501 .3548 .2870 .1965 .1395 .7000 .5766 .4923 .4286 .3359 .2706 .8000 .7111 .6472 .5964 .5178 .4576 .9000 .8526 .8172 .7878 .7401 .7014

 $[\]rho = \frac{q}{NQ} = \frac{\text{arrival rate, total}}{(\text{number of channels})(\text{service rate per channel})}$

N - number of channels (service positions)

Solution

Step 1:
$$Q = \frac{60 \text{ min/hr}}{2.2 \text{ min/service}} = 27.3 \text{ services per hour}$$

Step 2:
$$q = (110 \text{ veh/}45 \text{ min}) \times (60 \text{ min/hr}) = 146.7 \text{ vehicles per hour}$$

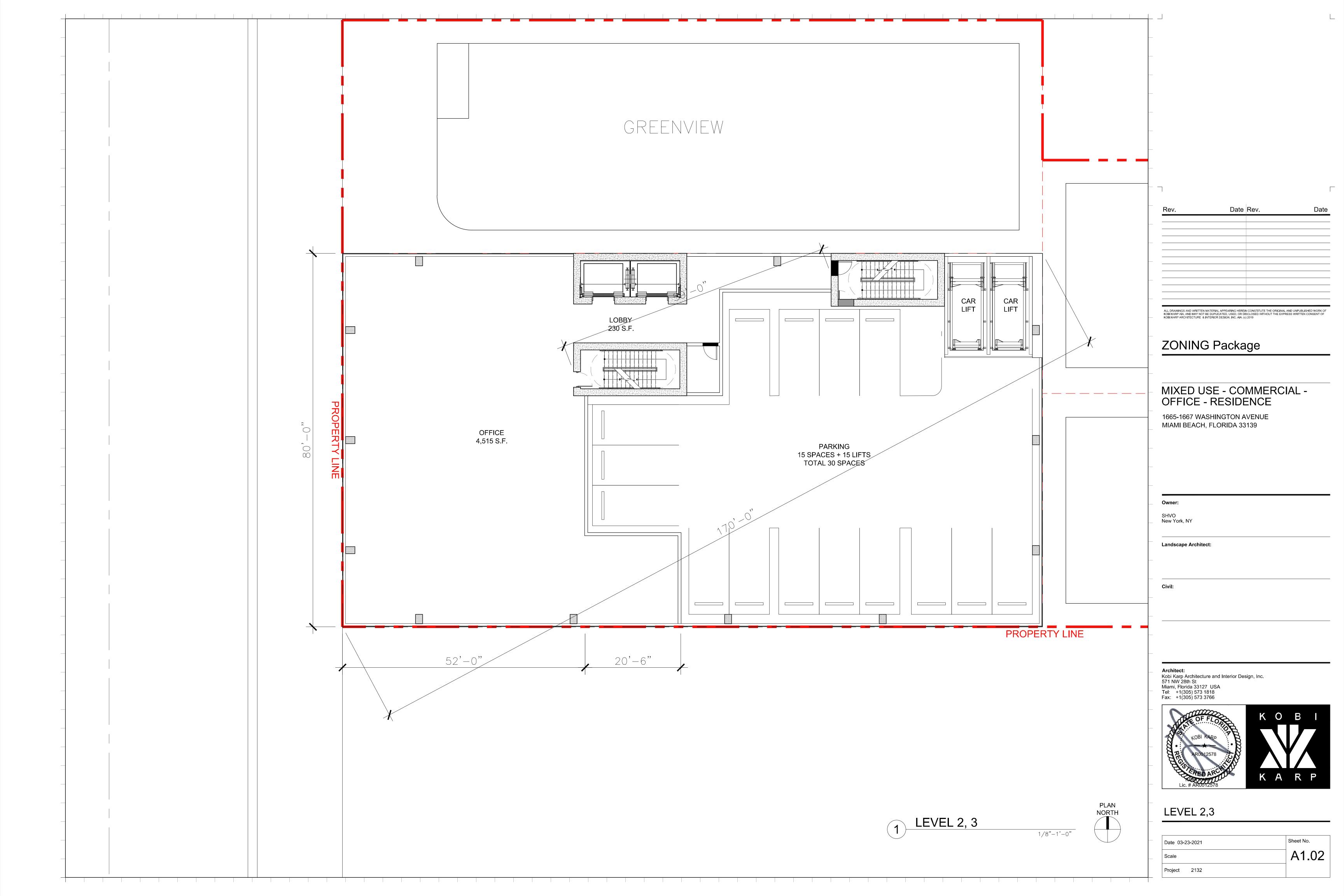
Step 3:
$$\rho = \frac{q}{NQ} = \frac{146.7}{(6)(27.3)} = 0.8956$$

Step 4:
$$Q_M = 0.7303$$
 by interpolation between 0.8 and 0.9 for $N = 6$ from the table of Q_M values (see Table 8-11).

Step 5: The acceptable probability of the queue,
$$M$$
, being longer than the storage, 18 spaces in this example, was stated to be 5%. $P(x > M) = 0.05$, and:

$$M = \left[\frac{\ln 0.05 - \ln 0.7303}{\ln 0.8956} \right] - 1 = \left[\frac{-2.996 - (-0.314)}{-0.110} \right] - 1$$

= 24.38 - 1 = 23.38, say 23 vehicles.





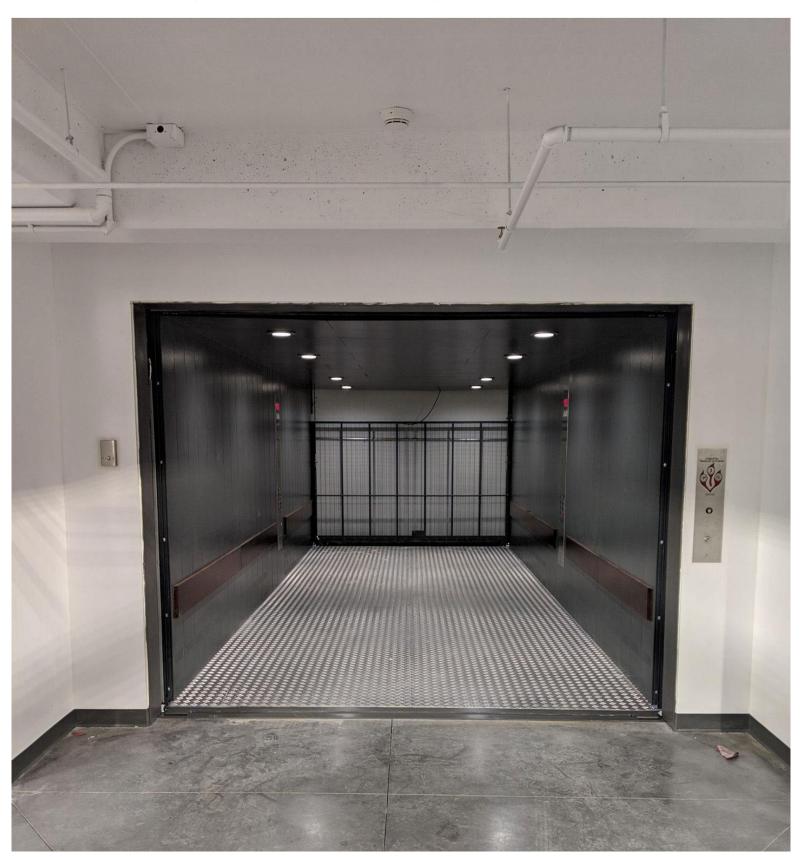
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