

Redevelopment Traffic Study

CATCH Miami Beach – 200 South Pointe Drive

Prepared by:
Alfka, LLC

Prepared for:
CATCH Restaurants

Project Number:
PHL2201



THIS ITEM HAS BEEN DIGITALLY SIGNED
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Luis Alfredo Cely

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Executive Summary

CATCH Restaurants proposes to use the existing 200 South Pointe Drive commercial space to serve as a sit-down quality restaurant. The 200 South Pointe Drive commercial space was previously occupied by Cibo, which functioned as a quality sit-down restaurant. The CATCH redevelopment will continue to function as a sit-down quality restaurant with a total of 292 indoor dining seats and 200 rooftop dining seats. This represents a combined total of 492 seats.

A trip generation study was completed based on the Quality Restaurant use for CATCH. The study shows that the proposed CATCH redevelopment is expected to result in a net increase of 3 weekday peak hour trips and 6 weekend peak hour trips when compared to the previous use of the Cibo Restaurant, this represents an average 4% increase.

The Cibo Restaurant used a 20% Multimodal factor as part of its calculations based on US Census Data prior to 2013. Recent Census Data shows an increase in multimodal use nationwide, and as such 2018 data shows approximately a 25% multimodal use in Miami Beach, however as a conservative approach this Study assumes a 20% Multimodal factor. There are several Miami-Dade Transit lines that serve the vicinity of the project site,, these include Route S, M, C, 120 and 150. In addition the City of Miami Beach operates the South Beach Trolley, which also serves the subject project.

The previous development included the use of four (4) on-street reserved valet parking spaces along South Pointe Drive. The same area for the operation of the valet drop-off and pick-up operations will be maintained for the CATCH development. Valet attendants will serve CATCH patrons and park vehicles at the 125 Collins Avenue Parking Garage. The valet queuing operations analysis was performed based on the methodology outlined in ITE's Transportation and Land Development manual published in 1988. The analysis determined the four (4) existing vehicle drop-off spaces are adequate to handle valet parking operations for the CATCH redevelopment. Furthermore, the analysis identified that a total of 9 valet attendants would be required during the weekend peak hour (with a 96.9% confidence interval). Please refer to Table 3 for a detail of the valet operation analysis.

To further improve traffic circulation within its project, CATCH is currently formulating its Transportation Demand Management (TDM) Plan. The TDM will incentivize the use of transit, cycling, carpooling, and alternative transportation modes.



Trip Generation

CATCH Restaurants proposes to use the existing 200 South Pointe Drive commercial space to serve as a sit-down quality restaurant. The 200 South Pointe Drive commercial space was previously occupied by Cibo, which functioned as a quality sit-down restaurant. The proposed redevelopment of the site is limited to the commercial space, with no proposed site modifications. Trip generation calculations were performed using Institute of Transportation Engineers' (ITE's) Trip Generation Manual, 11th Edition. ITE Land Use Code (LUC) 931 (Quality Restaurant) was used to estimate traffic from the proposed CATCH redevelopment, in a similar manner to those used for the Cibo Restaurant (see Appendix A). The CATCH redevelopment will function as a sit-down quality restaurant with a total of 492 dining seats (292 indoor and 200 outdoor).

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census Means of Transportation to Work data was reviewed for the census tract containing the redevelopment (see Appendix B). A multimodal factor of 25.9 percent (25.9%) was determined for the area based on the census data for this tract, for the calculations a conservative 20% multimodal reduction factor was applied to the trip generation. The Cibo Restaurant used a 20% multimodal reduction factor, which was based on Census Data prior to 2013. It is expected that employees, patrons, and guests will choose to walk, bicycle or use public transit to and from the proposed redevelopment. There are several transit lines that serve the vicinity of the project site (see Appendix C), these include Route S, M, C, 120 and 150. In addition the City of Miami Beach operates the South Beach Trolley, which also serves the subject project (see Appendix D).

The proposed CATCH redevelopment is expected to result in a net increase of 3 weekday peak hour trips and 6 weekend peak hour trips when compared to the previously approved Cibo Restaurant development use, which represents an average 4% increase. Detailed trip generation calculations are shown below on Table 1, as well as a comparison between the generated trips from the previous and the proposed redevelopment.

Table 1 - Trip Generation Summary

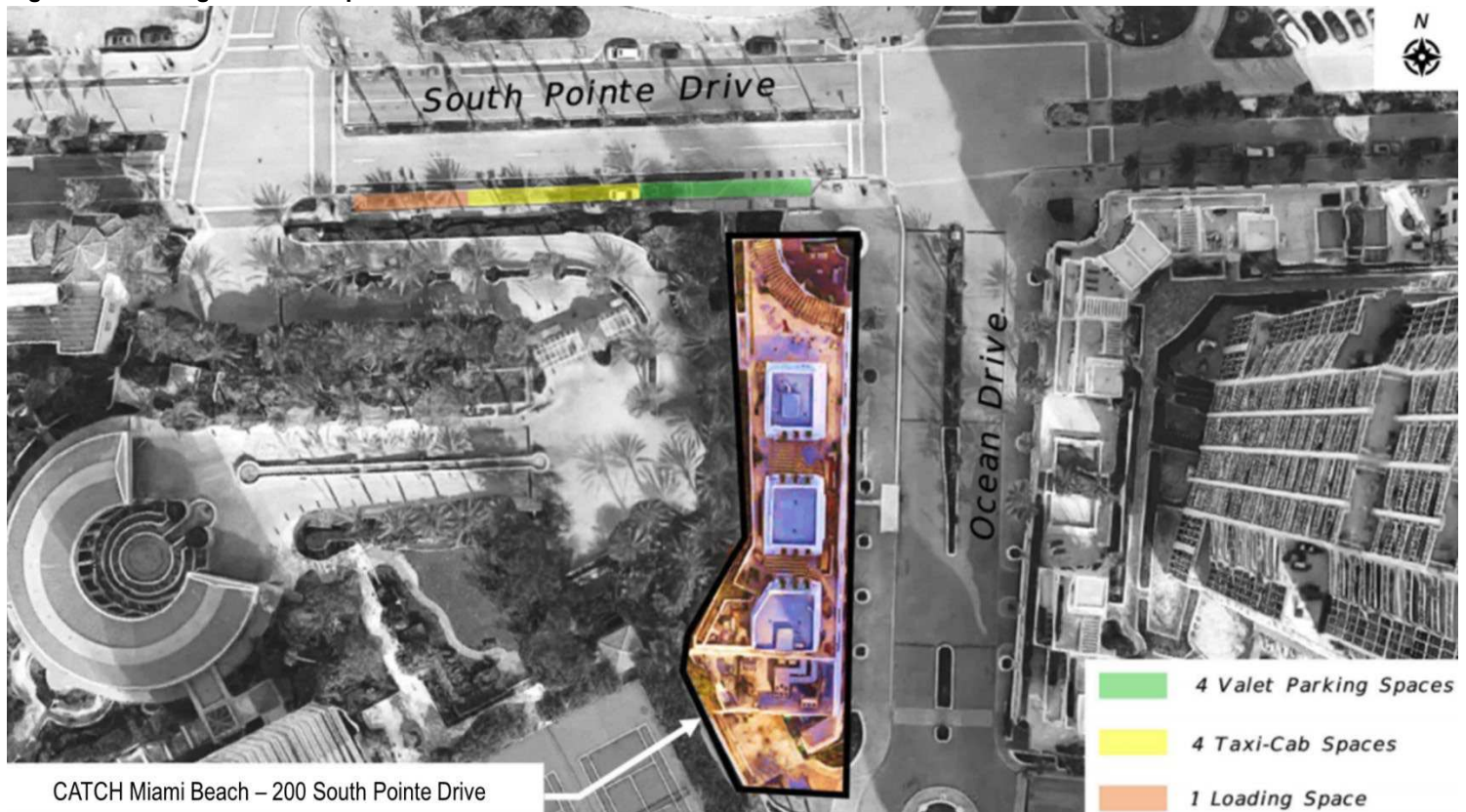
Period	ITE Code / Description	Seats	Peak Hour Trips			Multimodal Reduction	Net Peak Hour Trips			Difference from Previous Development
			In	Out	Total		In	Out	Total	
Weekday	931 / Quality Restaurant	492	91	64	155	20%	73	51	124	+3
Weekend	931 / Quality Restaurant	492	95	67	162	20%	76	54	130	+6
Cibo Restaurant Weekday Peak Hour		455	89	62	151	20%	71	50	121	
Cibo Restaurant Weekend Peak Hour		455	92	64	156	20%	74	50	124	



Queue Analysis

The previous development included the use of four (4) on-street reserved valet parking spaces along South Pointe Drive. The same area for the operation of the valet drop-off and pick-up operations will be maintained for the CATCH development. Figure 1 provides a detail of the site location and its existing assigned on-street parking spaces along South Pointe Drive. Appendix E, provides a Context Location Plan.

Figure 1 - Existing On-Street Spaces



CATCH Restaurants will subcontract with Elite Parking to accommodate vehicular valet services. There are 120 parking spaces available for use of the CATCH development at the parking garage located at 125 Collins Avenue. Elite Parking will provide all necessary attendants based on daily traffic volume and for special events. There will be a Manager on-site at all times supervising the Valet services operation. An automated system will be used with patrons to help them order the vehicle in advance via a mobile app or mobile phone call/text message. This will allow Elite Parking to schedule pick-ups and reduce congestion at the valet area.

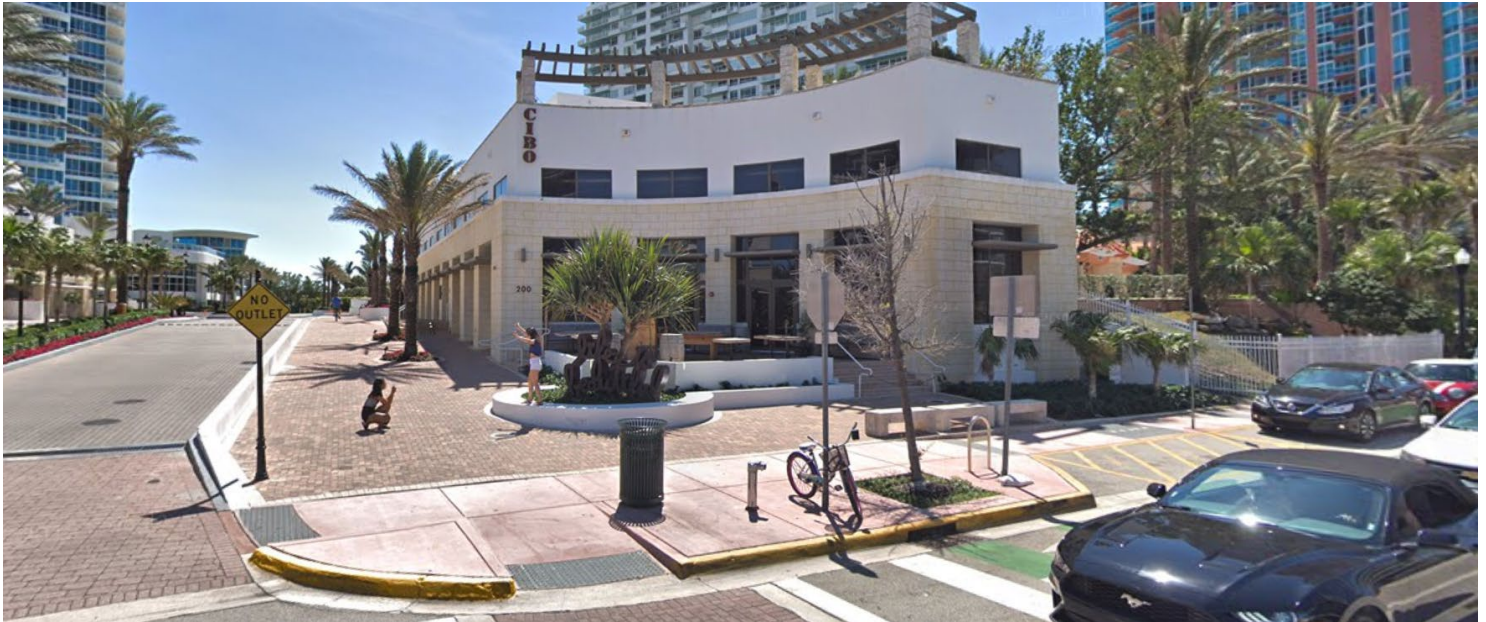


Figures 2 and 3 provide photographs of the site along South Pointe Drive and Ocean Drive. As noted on the image valet parking operations are to be maintained using South Pointe Drive, using the four (4) existing marked valet parking spaces. All CATCH patrons are expected to valet or use the drop-off area for taxi or rideshare arrivals.

Figure 2 - Site Photograph Looking East towards the intersection of South Pointe Drive and Ocean Drive



Figure 3 - Site Photograph Looking South-West towards the intersection of South Pointe Drive and Ocean Drive



The valet queuing operations analysis was performed based on the methodology outlined in ITE's Transportation and Land Development, 1988. The analysis was performed to determine if valet operations could accommodate vehicular queues without exceeding the storage length provided on the four (4) on-street valet designated spaces. A highest demand condition and an average demand condition analyses were performed.

Elite Parking Valet attendants will serve CATCH patrons with a valet station located in-front of the project site, adjacent to the four (4) dedicated on-street valet parking spaces. Valet attendants have the option of turning at either



the intersection with Ocean Drive or at the cul-de-sac at the end of South Pointe Drive for vehicle drop-off. The average distance between these two locations was used to estimate the service time. The calculated service time for vehicles valeted at the 125 Collins Avenue Parking Garage is 3.4 minutes. Figure 4, shows the valet operation routes and Table 2 provides a summary of the travel times used to determine the valet service time.

Figure 4 - Valet Operation Routes

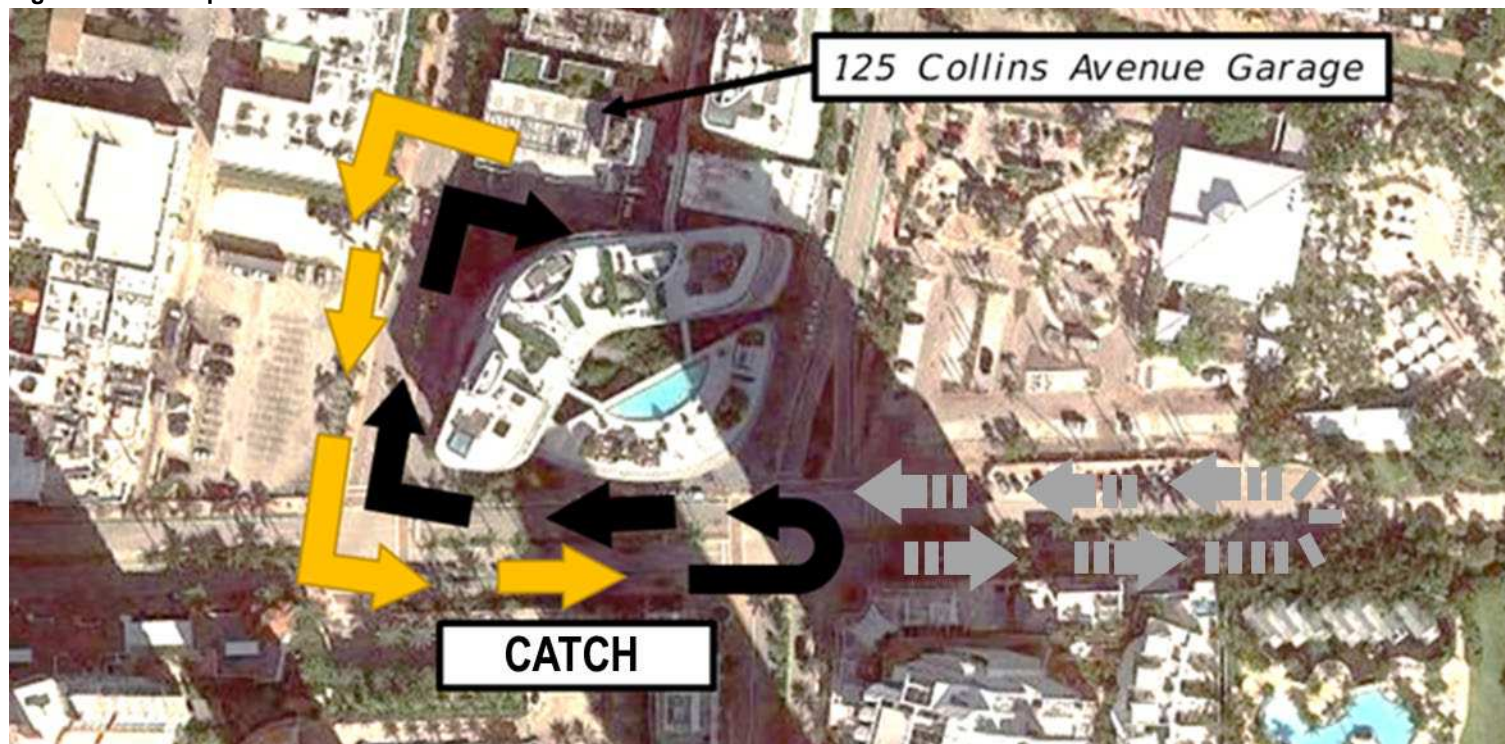


Table 2 - Valet Operation Travel Times

Drop-Off			Pick-Up		
Vehicle			Vehicle		
Distance	950 feet		Distance	550 feet	
Average Speed	15 mph		Average Speed	15 mph	
Travel Time	0.72 minutes		Travel Time	0.4 minutes	
Controlled Delay	0.50 minutes		Controlled Delay	0.5 minutes	
Vehicle Time	1.22 minutes		Vehicle Time	0.9 minutes	
Drop-Off Time 3.55 Minutes			Pick-Up Time 3.2 Minutes		
Pedestrian			Pedestrian		
Distance	550 feet		Distance	550 feet	
Average Speed	5 feet/sec.		Average Speed	5 feet/sec.	
Travel Time	1.83 minutes		Travel Time	1.8 minutes	
Controlled Delay	0.50 minutes		Controlled Delay	0.5 minutes	
Pedestrian Time	2.33 minutes		Pedestrian Time	2.3 minutes	

The valet queuing operations analysis was performed based on the methodology outlined in ITE's Transportation and Land Development manual published in 1988. The analysis determined the four (4) existing vehicle drop-off spaces are adequate to handle valet parking operations for the CATCH redevelopment. Furthermore, the analysis identified that a total of 9 valet attendants would be required during the weekend peak hour (with a 96.9% Confidence Interval). Please refer to Table 3 for a detail of the valet operation analysis.

**Table 3 - Waiting Line Model - Multiple Server Analysis of Valet Operations**

Peak Hour Arrival Vehicles	76	veh/hr	Attendant Pick-up Rate	3.2	min/veh
Peak Hour Departure Vehicles	54	veh/hr	Attendant Drop-off Rate	3.6	min/veh
Avg. Vehicle Arrival Rate (λ)	130	veh/hr	Avg. Attendant Service Rate	3.4	min/veh

Valet Attendants (s)	9	person	96.9% Confidence Interval		
Hourly Service Rate per Attendant (μ)	17.6	veh/hr			
Mean Service Rate for System ($s\mu$)	158.8	veh/hr			
Avg. Time Waiting in Queue (W_q)	0.89	minutes			
Avg. Time Spent in the System (W)	4.29	minutes			
Avg. Vehicles in the System (L)	9.3	veh	Probability M vehicles are waiting	3.1%	
Avg. System Utilization (p)	81.6%		Waiting Vehicles (M)	5.0	veh
Probability no vehicles on queue (P_o)	0.05%		Valet Parking Stalls	4	veh
Avg. Vehicles Waiting in Queue (L_q)	1.92	veh	Exceeding vehicles	1.0	veh

Transportation Demand Management

CATCH Restaurants is currently formulating its Transportation Demand Management (TDM) Plan to incentivize the use of transit, cycling, carpooling, and alternative transportation modes. These strategies are to be completed with the goal of reducing the impacts of the project traffic on the surrounding roadway network. Typical measures used to manage transportation demand focus on promoting bicycling and walking, car/vanpooling, and alternatives to the typical individual use of a motor vehicle to access the site, either as a patron or employee.

A land-use plan is included under Appendix F to provide information on surrounding land uses, and the Traffic Methodology Checklist developed by the City of Miami Beach for the CATCH redevelopment project is included in Appendix H.



APPENDIX A

Traffic Study for Cibo Restaurant

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Kimley-Horn
and Associates, Inc.

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CMB PLANNING DEPT

Memorandum

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

From: Adrian K. Dabkowski, P.E. (A), PTOE
John J. McWilliams, P.E.

Cc: Nick Di Donato, Liberty Entertainment Group
John Adams, Sieger Suarez Architectural Partnership

Date: May 14, 2013

Subject: Cibo Wine Bar Restaurant
200 South Pointe Drive
Valet Operations Analysis

5200 NW 33rd Avenue
Suite 109
Fort Lauderdale, Florida
33309

Kimley-Horn and Associates, Inc. has prepared a valet operations analysis for the proposed Cibo Wine Bar restaurant. The project consists of a 455-seat restaurant. The project is located on the southWest quadrant of South Pointe Drive and Ocean Drive. Refer to Figure 1 in Attachment A for a location map. The following sections summarize the analysis.

Valet Service and Operations

The Cibo Wine Bar restaurant will be served by one (1) valet drop-off/pick-up area. Restaurant patrons will retrieve vehicles in the proposed curb side drop-off and pick-up area adjacent to the restaurant on the south side of South Pointe Drive west of Ocean Drive. The curb side drop-off and pick-up area will be constructed as part of the restaurant development and will have a vehicle storage capacity of four (4) vehicles.

Self-parking will not be provided at the site. Therefore, with the exception of taxi trips, all restaurant patrons arriving by personal vehicle are assumed to valet their vehicle. Double Park, LLC will serve as the valet operator and will utilize the parking garage at 101 Ocean Drive (Bentley Beach Hotel Garage) and the surface parking lots at 125 Collins Avenue for valet operations. Figure 2 contained in Attachment A depicts the valet vehicle circulation routes.

Trip Generation

Highest Demand Condition

Trip generation for the proposed development was calculated using rates and equations contained in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 9th Edition, 2012. ITE Land Use Code 931 (Quality Restaurant) was used for the restaurant. In order to account for the area's urban environment, a

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multimodal reduction of 20 percent (20%) was applied to the site. It is expected that nearby residents, employees, and guests in adjacent hotels will choose to walk to the site. Restaurant patrons may walk to the adjacent retail stores, the beach, restaurants, and local places of interests. Additionally, It is expected that a portion of the trips including employee trips will utilize transit.

Trip generation rates were examined for the weekday P.M. peak hour of generator and weekend (Saturday) peak hour of generator which are considered the highest demand conditions. The project is expected to generate 121 net new trips during the weekday P.M. peak hour of generator of which 74 trips enter and 47 trips exit. During the weekend (Saturday) peak hour of generator, the project is expected to generate 124 net new trips of which 76 trips enter the site and 48 trips exit. Therefore, for highest demand conditions, weekend (Saturday) weekend peak hour of generator was used for analysis purposes as it generates more trips. Detailed trip generation calculations are contained in Attachment B.

Typical Demand Condition

An average demand condition was also examined which is equal to 25 percent of the highest demand scenario or 31 valet trips, of which 19 enter the site and 12 exit.

Valet Operations Analysis

The valet queuing operations analysis was performed based on the methodology outlined in the ITE's *Transportation and Land Development*, 1988. The analysis was performed to determine if valet operations could accommodate vehicular queues without blocking travel lanes on South Pointe Drive. Two (2) analyses were developed, (1) for the highest demand condition and (2) for the typical demand condition.

Assumptions

In order to provide a conservative analysis it is assumed that all vehicle trips to the site will utilize the valet services.

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

The average service rate corresponds to the time it would take a valet attendant to obtain a vehicle from an arriving patron, park the vehicle, and return to the restaurant's proposed curb side drop-off and pick-up area. The calculated average service time for both parking areas was 5.0 minutes. Detailed trip length calculations are included in Attachment C.



The average service rate for departing patrons corresponds to the time it would take the valet to walk to the parking, return with the vehicle to the valet area, and the patron exits the valet area. The calculated average service time for both parking areas was 4.0 minutes. Detailed trip length calculations are included in Attachment C.

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

The analysis determined the required queue storage, M , which is exceeded P percent of the time. Since this analysis seeks to ensure that the queue length does not exceed the storage provided, at a level of confidence of 90 percent. A total of four (4) vehicle drop-off/pick-up spaces are provided at the curb side drop-off and pick-up area.

Analysis

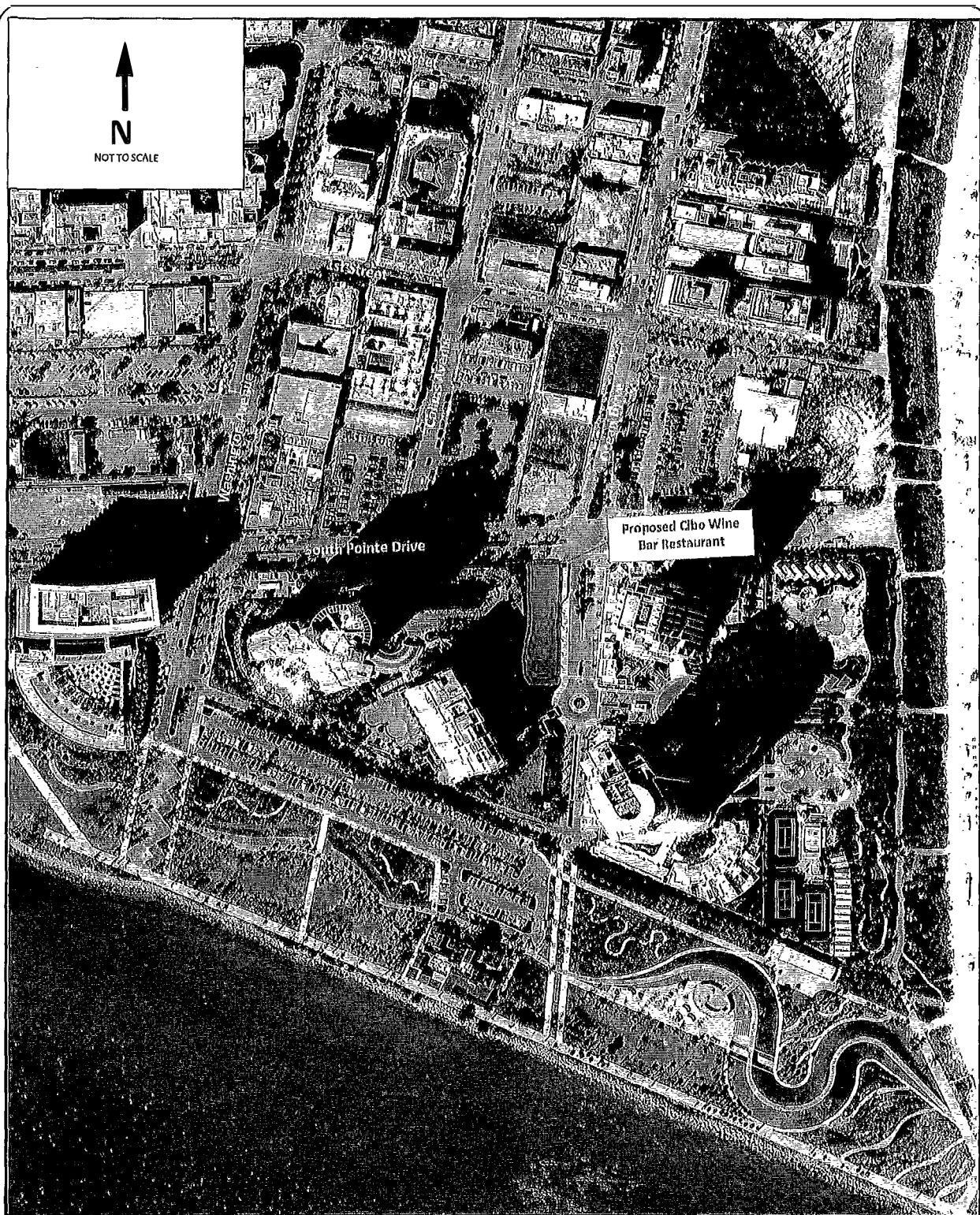
An iterative approach was used to determine the number of valet attendants required to accommodate the proposed restaurant demand during the analysis hour and ensure that the 90th percentile valet queue does not extend beyond the designated valet service area. The valet analysis worksheet is provided in Attachment D.

Results of the valet operations analysis demonstrate that a total of four (4) valet attendants are required under average demand conditions with 13 valet attendants being needed during the Saturday peak hour of generator (highest demand condition) without blocking travel lanes on South Pointe Drive.

Conclusion

Based on the valet operations analysis performed, it was determined that the 90th percentile valet queues will not extend beyond the valet service area blocking travel lanes on South Pointe Drive. Based upon the conservative assumptions regarding the traffic demand, it was estimated that between four (4) to 13 valet attendants may be required during typical and high demand peak periods. It should be noted that projected vehicular volumes and estimated valet processing times were conservatively assumed in the analysis. If it is determined that valet processing times can be performed more efficiently and/or actual traffic volumes are lower than projected, a reduced number of valet attendants may be adequate to serve the site.

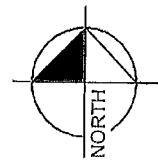
Attachment A



Kimley-Horn
and Associates, Inc.

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Figure 1
Location Map
Clbo Wine Bar Restaurant
City of Miami Beach, Florida



NOT TO SCALE



LEGEND

- Restaurant Valet Drop-off Route (Entering Trips)
- - - Restaurant Valet Pick-up Route (Exiting Trips)

FIGURE 2
PROPOSED VALET ROUTING
CIBO WINE BAR RESTAURANT



Kimley-Horn
and Associates, Inc.

Attachment B

PEAK HOUR TRIP GENERATION COMPARISON

WEEKDAY (PEAK HOUR OF GENERATOR) TRIP GENERATION

ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			20% MULTIMODAL REDUCTION FACTOR		NET NEW EXTERNAL TRIPS				
Land Use		ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	
GROUP 1	1	Quality Restaurant	9	931	455	664	59%	41%	89	62	151	0.0%	0	89	62	151	20.0%	30	74	47	121
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
	16																				
ITE Land Use Code		Rate or Equation				Total:		89	62	151			89	62	151	19.9%	30	74	47	121	
931		Y=0.4*(X)+31.48																			

PEAK HOUR TRIP GENERATION COMPARISON

WEEKEND (PEAK HOUR OF GENERATOR) TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			20% MULTIMODAL REDUCTION FACTOR		NET NEW EXTERNAL TRIPS		
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
						In	Out													
GROUP 1	1 Quality Restaurant	9	931	456	seat	59%	41%	92	64	160	0.0%	0	92	64	160	20.0%	32	76	48	124
	2																			
	3																			
	4																			
	5																			
	6																			
	7																			
	8																			
	9																			
	10																			
	11																			
	12																			
	13																			
	14																			
	15																			
Total:								92	64	160			92	64	160	20.6%	32	76	48	124
ITE Land Use Code		Rate of Equallon																		
931		Y=0.38*(X)+-16.72																		

Attachment C

Valet Drop off/Pick-Up Calculated Travel Time

101 Ocean Drive Parking Garage Calculated Travel Time

VEHICLE TRAVEL TIME		VALET DROP-OFF		VALET ATTENDANT TRAVEL TIME	
Travel Times (Assume 15 mph speed)		Travel Times (Assume 5 ft/s speed)		Travel Times (Assume 5 ft/s speed)	
To Valet Garage (In Vehicle)		Return from Valet Garage (Walk/Run) to Valet Area		Return from Valet Garage (Walk/Run) to Valet Area	
Distance	0.207 miles	Distance	0.215 miles	Distance	0.215 miles
Travel Time	0.8 minutes	Travel Time	3.8 minutes	Travel Time	3.8 minutes
Controlled Delay	1.0 Minutes				
Total Time	5.6 Minutes				

125 Collins Avenue Parking Garage Calculated Travel Time

VEHICLE TRAVEL TIME		VALET DROP-OFF		VALET ATTENDANT TRAVEL TIME	
Travel Times (Assume 15 mph speed)		Travel Times (Assume 5 ft/s speed)		Travel Times (Assume 5 ft/s speed)	
To Valet Lot (In Vehicle)		Return from Valet Lot (Walk/Run) to Valet Area		Return from Valet Lot (Walk/Run) to Valet Area	
Distance	0.203 miles	Distance	0.135 miles	Distance	0.135 miles
Travel Time	0.8 minutes	Travel Time	2.4 minutes	Travel Time	2.4 minutes
Controlled Delay	1.0 Minutes				
Total Time	4.2 Minutes				

101 Ocean Drive Parking Garage Calculated Travel Time

VALET ATTENDANT TRAVEL TIME		VALET PICK-UP		VALET ATTENDANT TRAVEL TIME	
Travel Times (Assume 5 ft/s speed)		Travel Times (Assume 15 mph speed)		Travel Times (Assume 15 mph speed)	
To Valet Garage (Walk/Run)		Return from Valet Garage (In Vehicle) to Valet Area		Return from Valet Garage (In Vehicle) to Valet Area	
Distance	0.215 miles	Distance	0.233 miles	Distance	0.233 miles
Travel Time	2.6 minutes	Travel Time	1.3 minutes	Travel Time	1.3 minutes
Controlled Delay	1.0 Minutes				
Total Time	4.9 Minutes				

125 Collins Avenue Parking Garage Calculated Travel Time

VALET ATTENDANT TRAVEL TIME		VALET PICK-UP		VALET ATTENDANT TRAVEL TIME	
Travel Times (Assume 5 ft/s speed)		Travel Times (Assume 15 mph speed)		Travel Times (Assume 15 mph speed)	
To Valet Garage (Walk/Run)		Return from Valet Lot (In Vehicle) to Valet Area		Return from Valet Lot (In Vehicle) to Valet Area	
Distance	0.135 miles	Distance	0.143 miles	Distance	0.143 miles
Travel Time	1.6 minutes	Travel Time	0.6 minutes	Travel Time	0.6 minutes
Controlled Delay	1.0 Minutes				
Total Time	3.2 Minutes				

Attachment D

Weekend (Highest Demand Condition) Peak Hour of Generator

Arrival Rate	IN	OUT	
	76	48	veh/hr

Service Rate	IN	OUT	
	5.00	4.00	mins/veh

Control Delay = min
Service Time = 4.61 mins/veh

Number of Valet Attendants (N) = 13
Level of Confidence = 0.90
Storage Provided On-Site = 4 vehicles
Total Entering and Exiting Vehicles(q) = 124 veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) = 13.01 veh/hr/pos
Average Service Rate (t) = 4.61 mins/veh
 $\rho (t/Q) = 0.733$

Expected (avg.) number of vehicles in the system	E(m)=	0.60	
Expected (avg.) number of vehicles waiting in queue	E(n)=	10.14	
Mean time in the queue	E(w)=	0.29	mins
Mean time in system	E(t)=	4.90	mins

Proportion of customers who wait (P) $(E(w) > 0) = 21.94\%$
Probability of a queue exceeding a length (M) $P(x > M) = 10.00\%$

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

Average (Typical Demand Condition) Peak Hour of Generator

Arrival Rate	IN	OUT	
	19	12	veh/hr

Number of Valet Attendants (N) = 4
Level of Confidence = 0.90

Storage Provided On-Site = 4 vehicles

Service Rate	IN	OUT	
	5.00	4.00	mins/veh

Total Entering and Exiting Vehicles(q) = 31 veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) = 13.01 veh/hr/pos

Average Service Rate (t) = 4.61 mins/veh
 $\rho (t/Q) = 0.596$

Control Delay = min
Service Time = 4.61 mins/veh

Expected (avg.) number of vehicles in the system	E(m)=	0.42	
Expected (avg.) number of vehicles waiting in queue	E(n)=	2.80	
Mean time in the queue	E(w)=	0.80	mins
Mean time in system	E(t)=	5.42	mins

Proportion of customers who wait (P) (E(w) > 0) = 28.17%
Probability of a queue exceeding a length (M) P(x > M) = 10.00%

Queue length which is exceeded 10.00% of the times is equal to 0.8 vehicles



APPENDIX B

US Census Means of Transportation to Work

MEANS OF TRANSPORTATION TO WORK BY VEHICLES AVAILABLE



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.

Miami Beach city, Florida		
Label		Estimate
▼ Total:		53,102
No vehicle available		8,959
1 vehicle available		24,517
2 vehicles available		15,855
3 or more vehicles available		3,771
➤ Car, truck, or van - drove alone:		28,123
➤ Car, truck, or van - carpooled:		3,971
➤ Public transportation (excluding taxicab):		5,106
➤ Walked:		4,696
➤ Taxicab, motorcycle, bicycle, or other means:		6,852
➤ Worked at home:		4,354

Table Notes

MEANS OF TRANSPORTATION TO WORK BY VEHICLES AVAILABLE

Survey/Program:

American Community Survey

Universe:

Workers 16 years and over in households

Year:

2018

Estimates:

1-Year

Table ID:

B08141

Source: U.S. Census Bureau, 2018 American Community Survey 1-Year Estimates

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.

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

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

While the 2018 American Community Survey (ACS) data generally reflect the July 2015 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 delineations 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 C

Miami-Dade Transit Bus Service Routes



METROBUS SYSTEM

MAY 2019

- METROBUS ROUTES**
- Limited-Stop Service
 - Express Service
 - Non-stop Service
 - East-West Local-Stop Service
 - North-South Local-Stop Service
 - Local Shuttle or Circulator Service
- METROBUS DESTINATIONS**
- Service Endpoint - Single Route Type
 - Service Endpoints - Multiple Route Types
 - Terminal
 - Park and Ride Lot
 - South Dade TransitWay Station
 - Metrorail & Station - Routes Serving Station
 - Tri-Rail
 - Brightline

THIS IS A GENERAL REFERENCE MAP. CONSULT INDIVIDUAL ROUTE MAPS FOR DETAILS.

BROWARD COUNTY



FLORIDA KEYS



DOWNTOWN MIAMI



- Connects with Metrorail Serves Park & Ride Lot Overnight Service Serves Miami International Airport Connects with Tri-Rail Connects with Brightline

- 1 Perrine ↔ Quail Roost Dr/SW 117 Ave
- 2 163 St Mall, 84 St ↔ Downtown Miami
- 3 Aventura Mall ↔ Downtown Miami
- 7 Dolphin Mall, Miami Intl Airport ↔ Downtown Miami
- 8 FIU Maidique Campus ↔ Brickell Metrorail
- 9 Aventura, 163 St Mall ↔ Downtown Miami
- 10 SkyLake Mall ↔ Omni Metrobus Terminal
- 11 FIU Maidique Campus, Mall of the Americas ↔ Downtown Miami
- 12 Northside Metrorail ↔ Mercy Hospital
- 16 163 St Mall ↔ Omni Metrobus Terminal
- 17 Norwood ↔ Vizzaya Metrorail
- 19 (WEEKDAYS ONLY) MDC North Campus ↔ 163 St Mall
- 21 Northside Metrorail ↔ Downtown Miami
- 22 163 St Mall ↔ Coconut Grove Metrorail
- 24 CORAL WAY LIMITED - West Dade ↔ Brickell Metrorail
- 27 Miami Gardens ↔ Coconut Grove Metrorail
- 29 (WEEKDAYS ONLY) Miami Lakes Education Center ↔ Hialeah
- 31 BUSWAY LOCAL - South Dade Government Center ↔ Dadeland South Metrorail
- 32 Carol City ↔ Omni Metrobus Terminal
- 33 Hialeah ↔ NE 79 St/Biscayne Blvd
- 34 EXPRESS (WEEKDAY RUSH-HOUR ONLY) Florida City ↔ Dadeland South Metrorail
- 35 MDC Kendall Campus ↔ Florida City
- 36 Dolphin Mall, Doral, Miami Springs ↔ Midtown Miami
- 37 Hialeah ↔ South Miami Metrorail
- 38 BUSWAY MAX Dadeland South Metrorail ↔ Florida City
- 39 EXPRESS (WEEKDAY RUSH-HOUR ONLY) Dade Govt Ctr ↔ Dadeland South Metrorail
- 40 Lakes of the Meadow, Tamiami Trail/SW 132 Ave ↔ Douglas Road Metrorail
- 42 Opa-locka Tri-Rail ↔ Douglas Road Metrorail
- 46 LIBERTY CITY CONNECTION (WEEKDAY RUSH-HOUR ONLY) Brownsville Metrorail ↔ Seventh Avenue Transit Village
- 51 FLAGLER MAX (WEEKDAYS ONLY) West Dade ↔ Downtown Miami
- 52 Dadeland South Metrorail ↔ South Dade Health Center
- 54 Miami Gardens Dr/NW 87 Ave, Hialeah Gardens ↔ Biscayne Blvd/NE 54 St
- 56 (WEEKDAYS ONLY) West Dade ↔ Miami Children's Hospital
- 57 (WEEKDAYS ONLY) Miami Intl Airport ↔ Jackson South Hospital
- 62 Hialeah ↔ Biscayne Blvd / 62 St
- 71 Dolphin Mall ↔ MDC Kendall Campus
- 72 West Kendall Terminal, Miller Square ↔ South Miami Metrorail
- 73 Miami Gardens Dr & NW 73 Ave Park & Ride ↔ Dadeland South Metrorail
- 75 Miami Lakes Educational Center ↔ FIU Biscayne Bay Campus
- 77 Norwood ↔ Downtown Miami
- 79 STREET MAX (WEEKDAY RUSH-HOUR ONLY) Northside Metrorail ↔ 72 St / Miami Beach
- 82 WESTCHESTER CIRCULATOR (NO SUNDAYS) FIU Maidique Campus ↔ Flagami
- 87 Palmetto Metrorail, Doral ↔ Dadeland North Metrorail
- 88 Dadeland North Metrorail ↔ West Kendall Terminal
- 93 BISCAYNE MAX (WEEKDAYS ONLY) Downtown Miami ↔ Aventura Mall
- 95 EXPRESS GOLDEN GLADES (WEEKDAY RUSH-HOUR ONLY) Carol City, Aventura Mall, Golden Glades ↔ Downtown Miami, Civic Center
- 95 EXPRESS DADE BROWARD (WEEKDAY RUSH-HOUR ONLY) ROUTE 195: Broward Blvd ↔ Downtown Miami
- ROUTE 196: Sheridan St ↔ Downtown Miami
- ROUTE 295: Broward Blvd ↔ Civic Center
- ROUTE 296: Sheridan St ↔ Civic Center
- 99 Miami Gardens Dr & NW 73 Ave Park & Ride ↔ Aventura Mall
- A ROUTE 101: Omni ↔ 20th Street & West Avenue / Miami Beach
- B ROUTE 102: Brickell Metrorail ↔ Key Biscayne
- C ROUTE 103: South Beach ↔ Mt. Sinai Medical Center
- 104 West Kendall Terminal ↔ Dadeland North Metrorail
- E ROUTE 105: Golden Glades ↔ Hallandale Beach
- G ROUTE 107: 94 St / Miami Beach ↔ MDC North Campus
- H ROUTE 108: 163 Street Mall ↔ Haulover Park
- J ROUTE 110: Miami Intl Airport ↔ 41 St / Miami Beach
- L ROUTE 112: Lincoln Rd ↔ Hialeah Metrorail
- M ROUTE 113: Civic Center ↔ Mt. Sinai Hospital
- 115 MID-NORTH BEACH CONNECTION - Collins Ave / 88 St ↔ Lincoln Rd
- S ROUTE 119: Downtown Miami ↔ Aventura Mall
- 120 BEACH MAX Downtown Miami ↔ Haulover Park, Aventura Mall
- 132 TRI-RAIL DORAL SHUTTLE (WEEKDAY RUSH-HOUR ONLY): Doral ↔ Hialeah Market Tri-Rail
- 135 Hialeah Metrorail, Miami Lakes ↔ FIU Biscayne Bay Campus
- 136 (WEEKDAY RUSH-HOUR ONLY) SW 136 St / US1 ↔ Douglas Road Metrorail
- 137 WEST DADE CONNECTION Dolphin Mall ↔ South Dade Gov Center
- 150 MIAMI BEACH AIRPORT EXPRESS Miami Intl Airport ↔ South Beach
- 155 BISCAYNE GARDENS CIRCULATOR (WEEKDAYS ONLY)
- 183 Miami Gardens Dr & NW 73 Ave Park & Ride ↔ Aventura Mall
- 200 CUTLER BAY LOCAL
- 202 LITTLE HAITI CONNECTION Biscayne Shopping Plaza, NW 5 Ave / 83 St ↔ Miami Design District
- 204 KILLIAN KAT (WEEKDAY RUSH-HOUR ONLY) West Kendall Terminal ↔ Dadeland North Metrorail
- 207 LITTLE HAVANA CONNECTION (CLOCKWISE) Downtown Miami, Brickell ↔ SW 25 Ave via SW 1 St & SW 7 St
- 208 LITTLE HAVANA CONNECTION (COUNTERCLOCKWISE) Downtown Miami, Brickell ↔ SW 27 Ave via W Flagler St & S
- 210 SKYLARK CIRCULATOR Skylark Mall ↔ 163 Street Mall
- 211 OVERTOWN CIRCULATOR (WEEKDAYS ONLY)
- 212 SWEETWATER CIRCULATOR (WEEKDAYS ONLY)
- 217 BUNCHE PARK CIRCULATOR (WEEKDAYS ONLY) NW 127 St / 22 Ave ↔ N Dade Health Center
- 238 EAST-WEST CONNECTION (WEEKDAYS ONLY) Dolphin Mall ↔ Miami Int. Airport
- 246 NIGHT OWL Downtown Miami ↔ 163 St Mall
- 248 PRINCETON CIRCULATOR Southland Mall ↔ SW 264 St, Naranja (Weekdays Only)
- 252 CORAL REEF MAX Country Walk ↔ Dadeland South Metrorail, Zoo Miami (Weekends Only)
- 254 BROWNSVILLE CIRCULATOR (WEEKDAYS ONLY) Caleb Center ↔ Jefferson Reeves Park, Hialeah (Thursday only)
- 267 LUDLAM LIMITED (WEEKDAY RUSH-HOUR ONLY) NW 186 St/87 Ave ↔ Okeechobee Metrorail
- 272 SUNSET KAT (WEEKDAY RUSH-HOUR ONLY) West Kendall Terminal ↔ Dadeland North Metrorail
- 277 NW 7 AVENUE MAX (WEEKDAY RUSH-HOUR ONLY) Downtown Miami ↔ Golden Glades Park & Ride
- 286 NORTH POINTE CIRCULATOR (NO SUNDAYS) Miami Gardens Dr & NW 73 Ave Park & Ride ↔ NW 57 Ave/NW 176 St
- 287 SAGA BAY MAX (WEEKDAY RUSH-HOUR ONLY) S Dade Health Center ↔ Dadeland South Metrorail
- 288 KENDALL CRUISER (WEEKDAY RUSH-HOUR ONLY) West Kendall Terminal, SW 127 Ave Park & Ride ↔ Dadeland North Metrorail
- 297 27th AVE ORANGE MAX (WEEKDAYS ONLY) Miami Intl Airport ↔ Miami Gardens
- 301 DADE-MONROE EXPRESS Florida City ↔ Marathon Key
- 302 CARD SOUND EXPRESS Florida City ↔ Ocean Reef Club
- 338 WEEKEND EXPRESS (WEEKENDS ONLY) Miami Intl Airport ↔ Dolphin Mall
- 344 (WEEKDAYS ONLY) Florida City ↔ MDC Homestead Campus
- 500 MIDNIGHT OWL Dadeland South Metrorail ↔ Downtown Miami

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MDT TRACKER / EASY PAY MIAMI / MDT TRANSIT WATCH





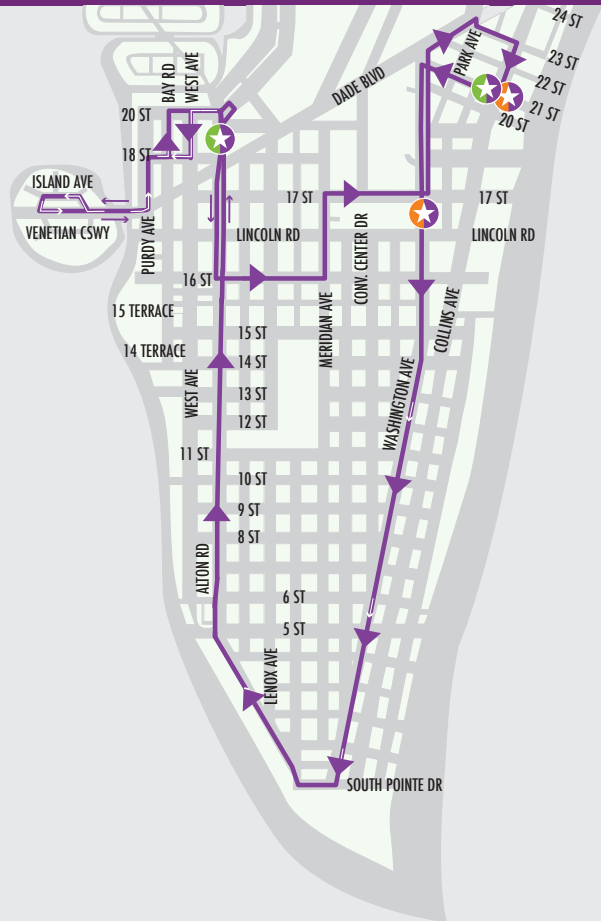
APPENDIX D

City of Miami Beach South Beach Trolley Map



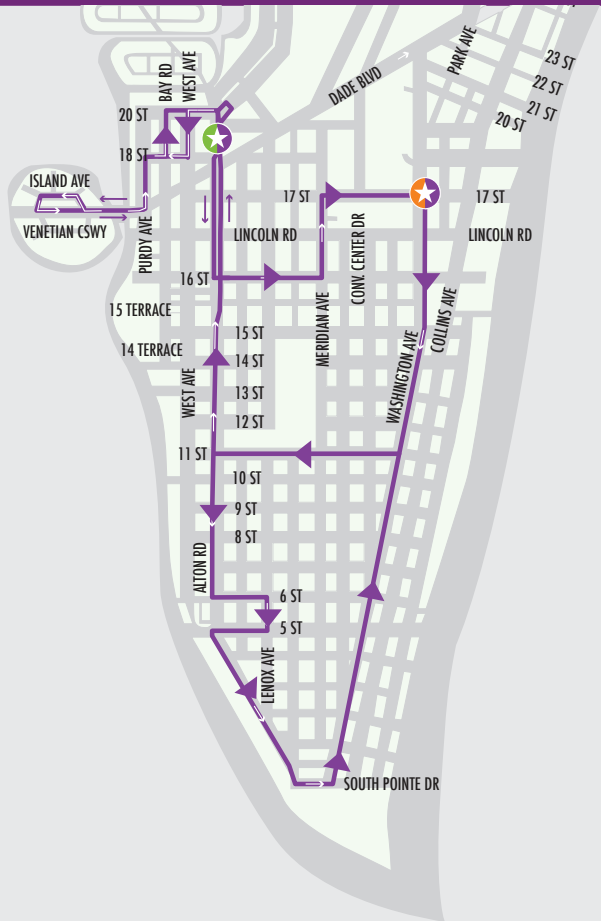
SOUTH BEACH LOOP - A

(Clockwise - Approximately 20 minutes)



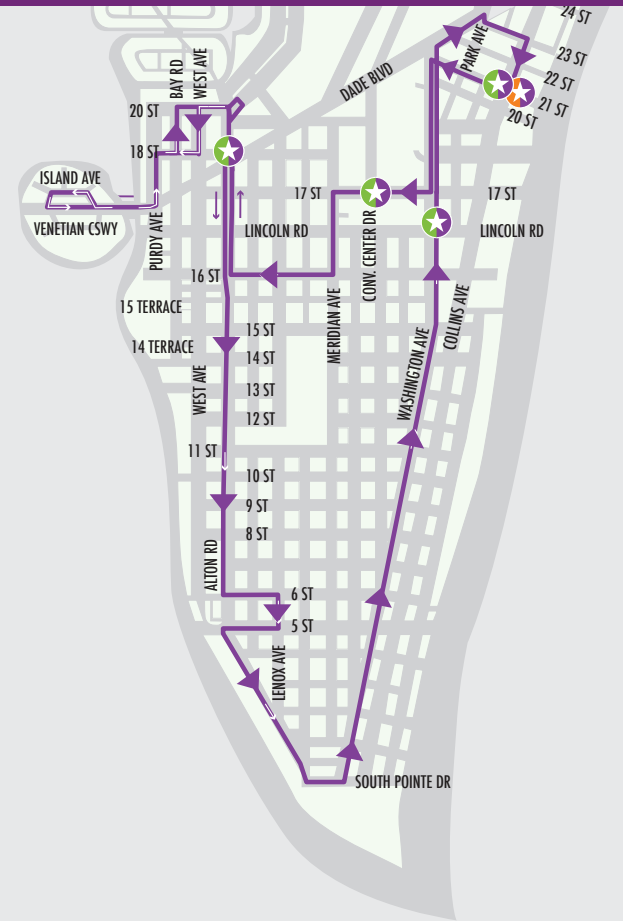
SOUTH BEACH LOOP - VIA 11 ST

(Approximately 40 minutes)



SOUTH BEACH LOOP - B

(Counter Clockwise - Approximately 20 minutes)



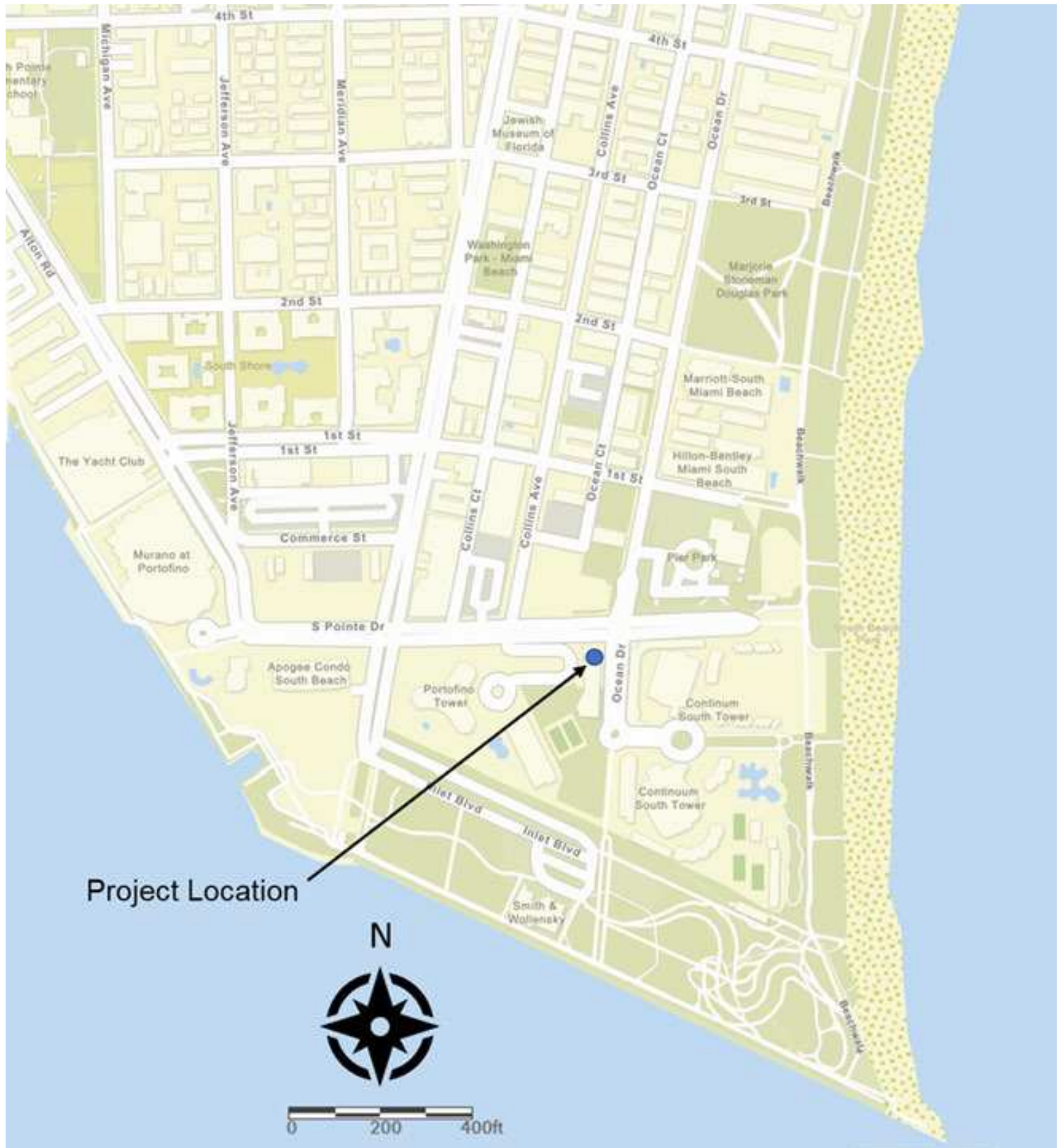


APPENDIX E

Context Location Plan



Context Location Plan





APPENDIX F

Land Use Plan



*A t l a n t i c
O c e a n*

MIAMI BEACH PLANNING DEPARTMENT

1700 CONVENTION CENTER DRIVE
MIAMI BEACH, FLORIDA 33139
P 305.673.7550 F 305.673.7559



LAND USE MAP MIAMI-DADE COUNTY





APPENDIX G

Site Plan, Floor Plan and Site Access

