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MEMORANDUM

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

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

Date: July 7, 2023

Subject: Lincoln Road 100 Block Streetscape and Sagamore Hotel
Response to Traffic Impact Analysis Comments

We have received comments provided by the City of Miami Beach's Transportation Department. We offer the following responses to the comments:

3. Page 23, Valet Operations Analysis – Please justify the rationale or source for using the increase factor of 1.136 for the maximum queue observed and for the Valet attendants required. The queuing is typically non-linear and increases with much higher rate than the increase in the hotel rooms as part of the Ritz Carlton Porte-Cochere queuing analysis (Appendix J).

   Response: Consistent with the approved methodology, maximum queues were factored proportionally to account for the Sagamore Hotel valet traffic that will use the Ritz-Carlton porte-cochere. Furthermore, if additional valet attendants are required, they will be provided to ensure that that the valet queue does not extend into public right-of-way. This is a typical condition of approval by the City of Miami Beach. Please refer to the approved methodology in Appendix B of the response Attachment A-A.

   Follow-Up Comment: Please indicate in the Executive Summary and the Conclusion sections as such that based on the analysis five (5) valet attendants would be needed to accommodate the increase in demand from the Sagamore Hotel and indicate that if additional valet attendants are required, they will be provided to ensure that the valet queues does not extend into public right-of-way.

   Follow-Up Response: The executive summary and conclusion sections were updated to include the following:

   "The results of the weekday A.M. and P.M. peak hours valet operations analysis demonstrate that one (1) valet attendant would be required to accommodate valet vehicle drop-off/pick-up demand at the Sagamore Hotel porte-cochere. Furthermore, five (5) valet attendants would be required to accommodate valet vehicle drop-off/pick-up demand at the reconfigured Ritz Carlton porte-cochere with an expected future peak demand of six (6) vehicles of stacking for which seven (7) vehicles of storage capacity are provided. Note that if additional valet attendants are required, they will be provided so that the valet queues do not extend into public right-of-way."

   The updated report is provided in Attachment A-A.

4. Page 26, Pedestrian Crossing Evaluation – Please provide the source or reasoning for the assumption that 50% of the non-Ritz Carlton pedestrian traffic will be reassigned to the south sidewalk. Did this reassignment consider the growth in proportion of pedestrians coming from

north of Lincoln Road, south of Lincoln Road, and west of A1A/Collins Ave? Is any additional signage being provided along the south sidewalk noting that pedestrians should utilize this side of the road to access the beach?

Response: Pedestrian volumes are expected to be reassigned to the south side of Lincoln Road as a 15-foot-wide art walk is proposed as part of this project, which is designed to align with the Beach Walk entry that will direct pedestrians to access the beach from the newly renovated street end. The volumes were grown for future conditions, consistent with the approved methodology.

Note that, even if pedestrians are not diverted they will not conflict with loading truck maneuvers as all loading maneuvers will be internalized. Currently trucks back-in and conflict with pedestrians crossing.

Additionally, "vehicles crossing sidewalk" signs on either side of the Ritz-Carlton loading/garage driveway could be provided along the sidewalk, if requested by the City of Miami Beach.

Follow-Up Comment: Please include in the Executive Summary and in the Conclusion sections as such that a. 15-foot-wide art walk is proposed as part of this project, which is designed to align with the Beach Walk entry that will direct pedestrians to access the beach from the newly renovated street end. In addition, please provide "vehicles crossing sidewalk" signs on either side of the Ritz-Carlton loading/garage driveway to notify the pedestrians accordingly.

Follow-Up Response: Based on coordination with the public, area residents, and City of Miami Beach Transportation Department staff the proposed project has been modified to provide two (2) eastbound and two (2) westbound 10-foot travel lanes. This allows for a sidewalk width ranging from 8 to 14.5 feet wide on the southside of Lincoln Road. Additionally, the sidewalk on the northside of Lincoln Road will range from 8 to 12 feet wide. To further emphasize pedestrian safety, the proposed plans and traffic study were updated to include "Vehicles Crossing Sidewalk" signage to alert pedestrians of vehicles access the Ritz-Carlton loading/garage driveway, "Yield to Pedestrian" signage to alert vehicles of pedestrians, and in-pavement crosswalk lighting at the Ritz-Carlton loading/garage driveway. This was also added to the executive summary, pedestrian crossing evaluation, and conclusion sections. Refer to the updated study in Attachment A-A.

6. Page 29, Parking Evaluation – With the relocation of the freight loading space, 1 emergency/city vehicle space is being removed but is not being relocated. Where do you anticipate this emergency/city vehicle to park after the 100 Block streetscape project is incorporated?

Response: Please note that the one (1) emergency/city vehicle space will be removed. Coordination efforts with the Miami Beach Parking Department are ongoing.

Follow-Up Comment: Please note that the approval of the study is contingent on the applicant receiving approval from the Miami Beach Parking Department.

Follow-Up Response: Continued coordination with the Parking Department is ongoing. Note that based on coordination with the public and area residents the plan has been updated. The southside of Lincoln Road currently provides a freight loading zone (Monday-Saturday 7 A.M. to 3 P.M. that functions as approximately three [3] metered on-street parking Monday-Saturday 3 P.M. to 3 A.M. and Sunday 9 A.M. to 3 A.M.), two (2) Taxicab only spaces, and four (4) motorcycle/scooter parking spaces. The 100 Block streetscape project will modify

the southside of Lincoln Road to consist of two (2) on-street parking spaces that can be designated as rideshare. Note that the freight loading zone will be relocated to the northside of Lincoln Road.

The northside of Lincoln Road currently provides one (1) emergency/city vehicle only parking space, four (4) on-street parking spaces, and one (1) Americans with Disabilities Act (ADA) parking space. The 100 Block streetscape project will modify the northside of Lincoln Road to consist of a freight loading zone (Monday-Saturday 7 A.M. to 3 P.M. that functions as approximately three [3] metered on-street parking Monday-Saturday 3 P.M. to 3 A.M. and Sunday 9 A.M. to 3 A.M.), one (1) on-street parking space, and one (1) ADA parking space. The net on-street parking modification results in the removal of one (1) on-street parking space, one (1) emergency/city vehicle only parking space, four (4) motorcycle/scooter parking spaces, and two (2) Taxicab only spaces.

Please refer to the updated Parking Evaluation section of the traffic study contained in Attachment A-A.

7. Page 29, Parking Evaluation – Due to substantial number of pedestrians crossing, recommend providing additional signage/DMS for the loading vehicles to yield to the pedestrians due to enlarged existing driveway being proposed?

   Response: Implementing signage directing loading vehicles to yield to pedestrians will likely create safety concerns as typical traffic operations are that pedestrians yield to vehicles entering a driveway and vehicles at a stop-controlled driveway approach yield to pedestrians in the crosswalk. Further note, that proposed improvements will allow trucks direct, head-in access to the loading area to perform loading maneuvers internally to the site and eliminate the current back-in maneuvers which conflict with pedestrians.

   Additionally, the proposed entrance to the beach walk is designed in a manner to direct pedestrians to the art walk on the south side of Lincoln Road and therefore the number of pedestrians crossing the loading area driveway is expected to be reduced.

   Finally, "vehicles crossing sidewalk" signs on either side of the driveway along the sidewalk alerting pedestrians could be provided, if requested by the City of Miami Beach.

   Follow-Up Comment: Please provide "vehicles crossing sidewalk" signs on either side of the Ritz-Carlton loading/garage driveway to notify the pedestrians accordingly.

   Follow-Up Response: Noted. To further emphasize pedestrian safety, the proposed plans and traffic study were updated to include "Vehicles Crossing Sidewalk" signage to alert pedestrians of vehicles access the Ritz-Carlton loading/garage driveway, "Yield to Pedestrian" signage to alert vehicles of pedestrians, and in-pavement crosswalk lighting at the Ritz-Carlton loading/garage driveway. Refer to comment response #4 and the updated study in Attachment A-A.

8. Page 29, Parking Evaluation – Based on our previous Comment #6 from the Traffic Impact Analysis Methodology, "Please confirm no loss of on-street parking along both sides of Lincoln Road due to the proposed lanes in the westbound direction of Lincoln Road."

   Four (4) on-street parking spaces including one emergency/city vehicle space, two taxi/cab spaces, and four motorcycle spaces are being lost due to the project based on the Parking Evaluation section.

Response: As documented in the Parking Evaluation section of the submitted Traffic Impact Analysis, parking spaces along the north and south sides of Lincoln Road will be removed as part of the 100 Block Streetscape project. Please note that coordination efforts with the Miami Beach Parking Department are ongoing.

Follow-Up Comment: Please note that the approval of the study is contingent on the applicant receiving approval from the Miami Beach Parking Department.

Follow-Up Response: Noted. Continued coordination with the Parking Department is ongoing. Refer to comment response #6 and the updated study in Attachment A-A.

9. Appendix L, Parking Evaluation – Based on Appendix L, the existing parking spaces are reduced from 247 to 236, please confirm the loss of 11 total parking spaces and how we are addressing them.

Response: As noted in Appendix L, 189 parking spaces are required by code and 236 spaces are provided. Therefore, the project exceeds the parking requirements.

Follow-Up Comment: Please note that the approval of the study is contingent on the applicant receiving approval from the Miami Beach Parking Department.

Follow-Up Response: Noted. Continued coordination with the Parking Department is ongoing.

12. Page 2, Project Location – Please include study area intersection and committed developments, if any, on the Location Map.

Response: Comment noted. Figure 1 has been updated to include the study area intersection. Please refer to the updated traffic impact analysis contained in response Attachment A-A.

Follow-Up Comment: Please update Figure 1 by removing the blue dot on the building east of the Collins Avenue and 16th Street intersection.

Follow-Up Response: Figure updated. Refer to the updated study in Attachment A-A.

We trust that this response adequately addresses the comment provided. Please contact us should you have any questions.

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Attachment A-A
Updated Traffic Study

Traffic Impact Analysis
for Submittal to the
City of Miami Beach

100 BLOCK STREETSCAPE AND SAGAMORE HOTEL REDEVELOPMENT MIAMI BEACH, FLORIDA

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Updated July 2023
June 2023
May 2023
March 2023
143584000

Traffic Impact Analysis for Submittal to the City of Miami Beach

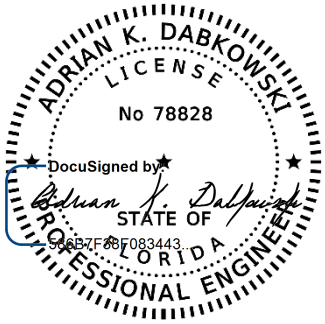
100 BLOCK STREETSCAPE AND SAGAMORE HOTEL REDEVELOPMENT MIAMI BEACH, FLORIDA

Prepared for:

Sobe Sky Development, LLC

Prepared by:

Kimley-Horn and Associates, Inc.



This item has been digitally signed and sealed by Adrian K. Dabkowski, P.E., PTOE, on 7/7/2023.

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

Adrian K. Dabkowski, P.E., PTOE
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Update July 2023
June 2023
May 2023
March 2023
143584000

EXECUTIVE SUMMARY

Sobe Sky Development, LLC is proposing a streetscape project for Lincoln Road and to redevelop the Sagamore Hotel. The streetscape project is bounded by Collins Avenue/SR A1A to the west and the public beach access/Ritz Carlton Hotel loading dock and parking garage access to the east, referred to as the 100 Block, in Miami Beach, Florida. Lincoln Road, east of Collins Avenue/SR A1A consists of one (1) 20-foot lane in each direction (wide enough to accommodate two [2] lanes but not designated as such), on-street parking on the north and south sides of the road, and a curbed 9.5-foot median. Lincoln Road terminates to the east at the public beach access in a cul-de-sac street-end with a curbed median island. The streetscape project will also include pedestrian improvements, pavement marking improvements, maneuverability/circulation improvements, and reconfiguring the Ritz Carlton porte-cochere. The proposed streetscape project will provide two (2) eastbound and two (2) westbound 10-foot travel lanes, a sidewalk width ranging from 8 to 14.5 feet wide on the southside of Lincoln Road and a sidewalk on the northside of Lincoln Road ranging from 8 to 12 feet wide. To further emphasize pedestrian safety, the proposed project will include "Vehicles Crossing Sidewalk" signage to alert pedestrians of vehicles access the Ritz-Carlton loading/garage driveway, "Yield to Pedestrian" signage to alert vehicles of pedestrians, and in-pavement crosswalk lighting at the Ritz-Carlton loading/garage driveway.

Additionally, the existing 93-room Sagamore Hotel (1671 Collins Avenue) is proposed to be redeveloped. The redevelopment includes a 51-room hotel and 30 mid-rise multifamily residential units. Currently, access to the Sagamore Hotel is provided by a porte-cochere on Collins Avenue north of Lincoln Road. The redevelopment will relocate the Sagamore Hotel access to the Ritz Carlton Hotel porte-cochere. Sagamore residents will self-park within the Ritz Carlton garage located on Lincoln Road. Sagamore resident guests will use the existing Sagamore porte-cochere on Collins Avenue to valet their vehicles or for rideshare drop-off/pick-up. The project is expected to be completed and opened by year 2025.

Trip generation for the proposed redevelopment was calculated using rates contained in the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11th Edition. The project is expected to result in a reduction of seven (7) net new weekday A.M. peak hour trips and a reduction of ten (10) net new weekday P.M. peak hour trips.

The results of the intersection capacity analysis indicate that the study intersection is expected to operate at adopted level of service (LOS) or better during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under all analysis scenarios with the exception of the eastbound approach which operates at LOS F during the Friday P.M. peak hour under all analysis scenarios and the westbound approach which operates at LOS F during the Friday P.M. peak hour under future total conditions. However, the streetscape project proposes to modify the westbound approach at the intersection of Collins Avenue/A1A and Lincoln Road from one (1) shared left-turn/through/right-turn lane to one (1) exclusive left-turn lane and one (1) shared through/right-turn lane. With the proposed improvements and signal timing optimization, all approaches are expected to operate at adopted LOS or better during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under future total conditions, with the exception of the eastbound approach which operates at LOS F during the Friday P.M. peak hour under all analysis scenarios. Furthermore, note that the streetscape project will modify eastbound Lincoln Road east of Collins Avenue/A1A to provide two (2) lanes along Lincoln Road.

The results of the 95th percentile queue analysis indicate that the anticipated future queues are not expected to exceed the provided storage with the exception of the westbound left-turn/through/right-turn movement during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under existing and future background conditions. However, with the proposed improvements to the westbound approach as part of the 100 Block Streetscape, future queues are not expected to exceed the provided storage under future total conditions.

The results of the weekday A.M. and P.M. peak hours valet operations analysis demonstrate that one (1) valet attendant would be required to accommodate valet vehicle drop-off/pick-up demand at the Sagamore Hotel porte-cochere. Furthermore, five (5) valet attendants would be required to accommodate valet vehicle drop-off/pick-up demand at the reconfigured Ritz Carlton porte-cochere with an expected future peak demand of six (6) vehicles of stacking for which seven (7) vehicles of storage capacity are provided. Note that if additional valet attendants are required, they will be provided so that the valet queues do not extend into public right-of-way.

The maneuverability analysis determined that the loading vehicles and the City of Miami Beach emergency/fire truck are expected to be able to ingress, egress, and travel within the ground level without conflicting with oncoming traffic. Additionally, loading vehicles will be able to maneuver into loading spaces within the loading area and will not need to reverse (back-in) into the site from the street. As a result, loading vehicles are not expected to reverse through the pedestrian crossing area at the loading driveway, and will be able to enter the site head-on. This allows for greater visibility of pedestrians within the crosswalk and improved safety.

TDM strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network City of Miami Beach provide public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant proposes the following TDMs:

- Secure bicycle parking spaces (bike racks and lockers)
- Improved and enhanced (wide) sidewalks around the site
- Elevators that can accommodate bikes
- Lockers for bicyclists to store a change of clothes will be provided on-site
- Shower facility for bicyclists will be provided on-site

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 234 parking spaces. As part of the proposed redevelopment, 241 parking spaces will be provided with seven (7) parking spaces provided on-street and 234 parking spaces provided on-site. Additionally, 129 bicycle spaces will be provided. The net on-street parking modification results in the removal of one (1) on-street parking space, one (1) emergency/city vehicle only parking space, four (4) motorcycle/scooter parking spaces, and two (2) Taxicab only spaces.

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INTRODUCTION

Sobe Sky Development, LLC is proposing a streetscape project for Lincoln Road and to redevelop the Sagamore Hotel. The streetscape project is bounded by Collins Avenue/SR A1A to the west and the public beach access/Ritz Carlton Hotel loading dock and parking garage access to the east, referred to as the 100 Block, in Miami Beach, Florida. Lincoln Road, east of Collins Avenue/SR A1A consists of one (1) 20-foot lane in each direction (wide enough to accommodate two [2] lanes but not designated as such), on-street parking on the north and south sides of the road, and a curbed 9.5-foot median. Lincoln Road terminates to the east at the public beach access in a cul-de-sac street-end with a curbed median island. The streetscape project will also include pedestrian improvements, pavement marking improvements, maneuverability/circulation improvements, and reconfiguring the Ritz Carlton porte-cochere.

Additionally, the existing 93-room Sagamore Hotel (1671 Collins Avenue) is proposed to be redeveloped. The redevelopment includes a 51-room hotel and 30 mid-rise multifamily residential units. Currently, access to the Sagamore Hotel is provided by a porte-cochere on Collins Avenue north of Lincoln Road. The redevelopment will relocate the Sagamore Hotel access to the Ritz Carlton Hotel porte-cochere. Sagamore residents will self-park within the Ritz Carlton garage located on Lincoln Road. Sagamore resident guests will use the existing Sagamore porte-cochere on Collins Avenue to valet their vehicles or for rideshare drop-off/pick-up. The project is expected to be completed and opened by year 2025. A project location map is provided as Figure 1. A conceptual site plan is provided in Appendix A.

Kimley-Horn and Associates, Inc. has completed this traffic impact analysis for submittal to the City of Miami Beach. The purpose of the study is to assess the project's impact on the surrounding roadway network. The study's methodology is consistent with the requirements of the City of Miami Beach. Methodology correspondence detailing the traffic study requirements is included in Appendix B.

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Project Location Map
Lincoln Road 100 Block Streetscape and Sagamore Hotel Redevelopment
Miami Beach, Florida

EXISTING TRAFFIC

In order to determine the peak traffic periods for analysis, 72-hour continuous counts were collected at the following two (2) locations from Thursday, June 16, 2022, through Saturday, June 18, 2022, and evaluated:

- Collins Avenue/SR A1A, north of Lincoln Road
- Lincoln Road, east of Collins Avenue/SR A1A

Based on the peak periods observed, turning movement counts (TMC's) were collected during peak conditions on Friday, January 13, 2023, from 3:30 P.M. to 5:30 P.M. and on Thursday, March 2, 2023, from 10:30 A.M. to 1:30 P.M. and from 2:30 P.M. to 6:30 P.M. to capture peak traffic volumes at the intersections of Lincoln Road and Collins Avenue/SR A1A.

Additionally, to capture peak pedestrian traffic volumes at the Ritz Carlton Porte-Cochere Exit Driveway and Ritz Carlton Loading Driveway, turning movement counts were collected during peak conditions on Thursday, July 21, 2022, from 10:30 A.M. to 1:30 P.M. and from 2:30 P.M. to 6:30 P.M. and on Friday, July 22, 2022, from 2:30 P.M. to 5:30 P.M.

All traffic volumes were collected in 15-minute intervals and the peak hour was determined for each intersection. Turning movement counts also included pedestrian and bicycle data. The appropriate Florida Department of Transportation (FDOT) peak season conversion factor (PSCF) of 1.06 was applied to the traffic data collected on July 21, 2022 to July 22, 2022, and 1.04 was applied to the traffic data collected on January 13, 2023. Note that the appropriate FDOT PSCF was 0.99 for the traffic data collected on March 2, 2023. However, to provide for a conservative analysis, a peak season conversion factor of 1.00 was applied to the traffic data where the identified PSCF was less than 1.00.

The 72-hour counts, turning movement counts, FDOT peak season category reports, and signal timing data are included in Appendix C. Figure 2 presents the existing turning movement volumes at the study intersection during the Thursday mid-day, Thursday P.M., and Friday P.M. peak hours.

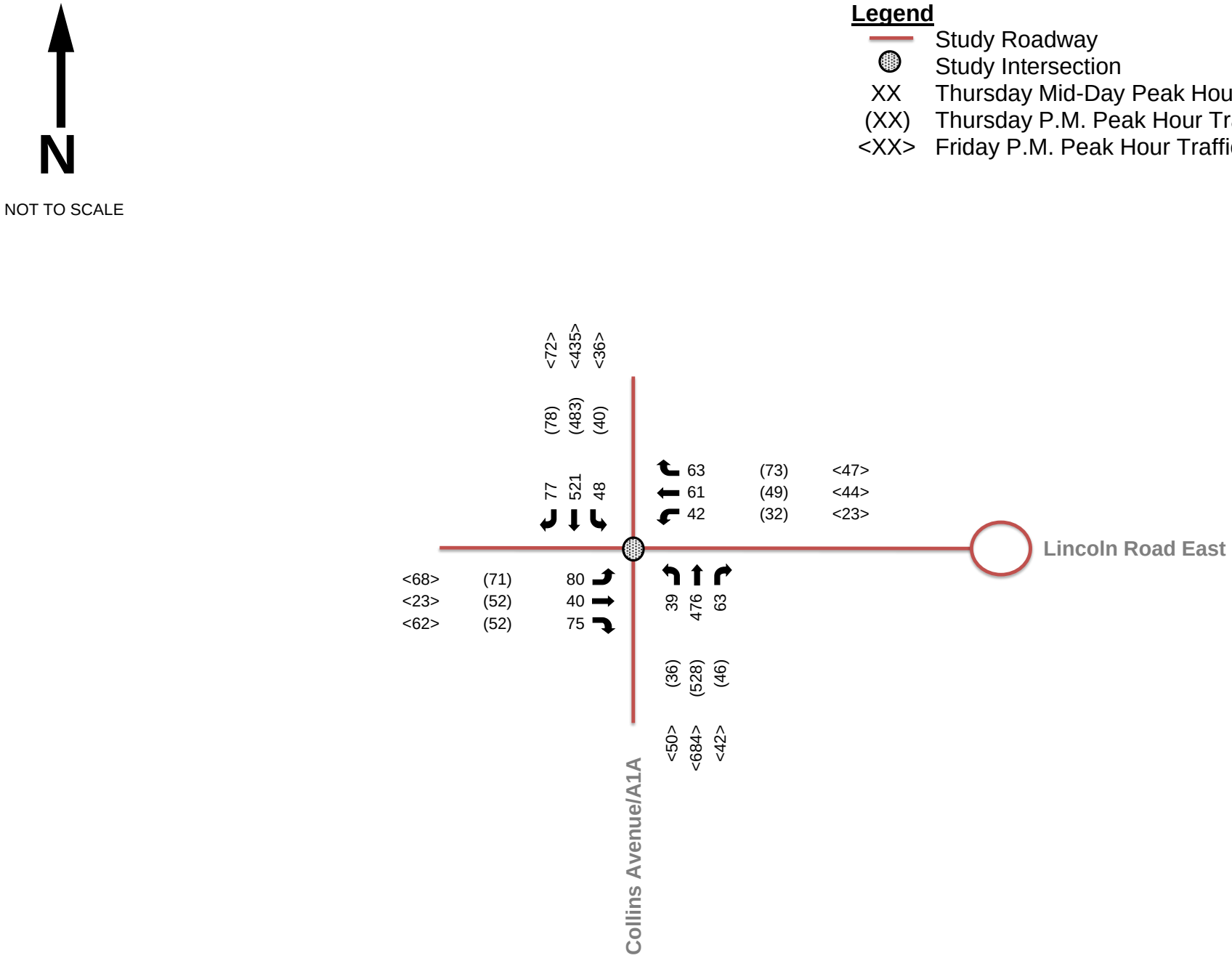

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Figure 2
Existing Peak Hour Traffic
Lincoln Road East
Miami Beach, Florida

PROGRAMMED TRANSPORTATION IMPROVEMENTS

Local transportation plans were reviewed in order to gather information about planned and programmed transportation improvements in the study area. The purpose of the plan review is to identify improvements for consideration in the analysis. Detailed plans can be found in Appendix D. The following transportation plans were examined:

- City of Miami Beach Transportation Master Plan
- Miami-Dade Transportation Planning Organization's (TPO) Transportation Improvement Program (TIP)
- Florida Department of Transportation's (FDOT's) Five-Year Work Program

Relevant information from these plans is summarized below.

CITY OF MIAMI BEACH TRANSPORTATION MASTER PLAN

The most recent City of Miami Beach Transportation Master Plan was reviewed to identify planned roadway improvements in the study area. Currently, planned studies and/or projects include the following:

- 16th Street bicycle facilities improvements from Bay Road to Collins Avenue.
- 17th Street evaluation of exclusive transit and protected/buffered bicycle lanes from Washington Avenue to Collins Avenue.
- Collins Avenue/A1A evaluation of exclusive transit and protected/buffered bicycle lanes from 17th Street to 44th Street.
- Lincoln Road shared spaces from Washington Avenue to Collins Avenue/A1A (Various multi-modal accommodations).
- Lincoln Lane North Bicycle Connection/Neighborhood Greenway from Alton Road to Washington Avenue.
- Collins Avenue/A1A protected/buffered bicycle lanes and enhanced crosswalks from South Pointe Drive to 17th Street.
- 15th Street Neighborhood Greenway (Bicycle boulevard markers and enhanced crosswalks) from Washington Avenue to West Avenue.

- Drexel Avenue Neighborhood Greenway (Bicycle boulevard markers and enhanced crosswalks) from Espanola Way to 17th Street.

MIAMI-DADE TPO TRANSPORTATION IMPROVEMENT PROGRAM

The Miami-Dade Transportation Improvement Program (TIP) specifies programmed improvements to be implemented within Miami-Dade County over the next five (5) years. The most recent TIP is for fiscal years 2023 to 2027. Improvements identified in the TIP are characterized as Intermodal, Highway, Transit, Aviation, Seaport, and Non-Motorized. Based on the review of the Miami-Dade TPO TIP, the TPO has developed the Strategic Miami Area Rapid Transit (SMART) Plan that provides recommendations for six (6) rapid transit corridors, including the Beach Corridor which extends from the existing Downtown Metromover Omni station along MacArthur Causeway to 5th Street near Washington Avenue via an elevated rubber-tire transit vehicle to be implemented by 2026. Bus-only lanes along Washington Avenue are proposed as part of TPO Resolution #03-2020 for the SMART Plan.

The Miami-Dade TPO is also developing a Transit Oriented Development (TOD) Master Plan for the Beach Corridor. This master plan is scheduled to be completed by 2024.

FDOT'S WORK PROGRAM

FDOT's Five Year Work Program specifies state regulated roadway improvements to be implemented over the next five (5) years (2023-2027). Based on the review of FDOT's Work Program, bicycle lane and sidewalk improvements will be implemented along 17th Street from West Avenue to the Beach Walk by the City of Miami Beach.

FUTURE TRAFFIC VOLUMES

Future background traffic conditions are defined as expected traffic conditions on the roadway network in the year 2025 without the completion of the proposed redevelopment. Future background traffic volumes used in the analysis are the sum of the existing traffic and additional traffic generated by growth in the study area. Refer to Figure 3 for the future background 2025 peak hour traffic volumes.

BACKGROUND AREA GROWTH

Traffic growth on the transportation network was determined based upon (a) historical growth trends at nearby FDOT traffic count stations and (b) traffic volume comparisons from the year 2015 and 2045 Florida Standard Urban Transportation Model Structure (FSUTMS) - Southeast Florida Regional Planning Model (SERPM). FDOT count stations referenced in this analysis include:

- FDOT count station no. 5159 located on SR A1A/Collins Avenue, north of 5th Street
- FDOT count station no. 5170 located on SR A1A/Collins Avenue, north of 21st Street
- FDOT count station no. 8414 located on Washington Avenue, north of 12th Street
- FDOT count station no. 8531 located on 17th Street, east of Meridian Avenue
- FDOT count station no. 8567 located on 16th Street, east of Meridian Avenue

The historic growth rate analysis, based on FDOT count stations, examined linear, exponential, and decaying exponential growth rates for the most recent five (5) and 10-year periods. The linear growth trend yielded an average growth rate of negative 2.24 percent (-1.59%) over the most recent five (5) year period and negative 0.55 percent (-0.55%) over the most recent ten (10) year period. The exponential growth trend yielded a growth rate of negative 2.85 percent (-2.85%) over the most recent five (5) year period and negative 0.57 percent (-0.57%) over the most recent ten (10) year period. The decaying exponential growth trend yielded a growth rate of negative 2.29 percent (-2.29%) over the most recent five (5) year period and negative 0.20 percent (-0.20%) over the most recent ten (10) year period.

Based on the forecasted volumes obtained from the 2015 and 2045 FSUTMS SERPM 8.521, an annual growth rate of 0.36 percent (0.36%) in the vicinity of the redevelopment was calculated.

To provide a conservative analysis, a minimum growth rate of 0.50 percent (0.50%) was applied annually to the existing traffic volumes to establish future (2025) background conditions. Detailed growth rate calculations are included in Appendix E.

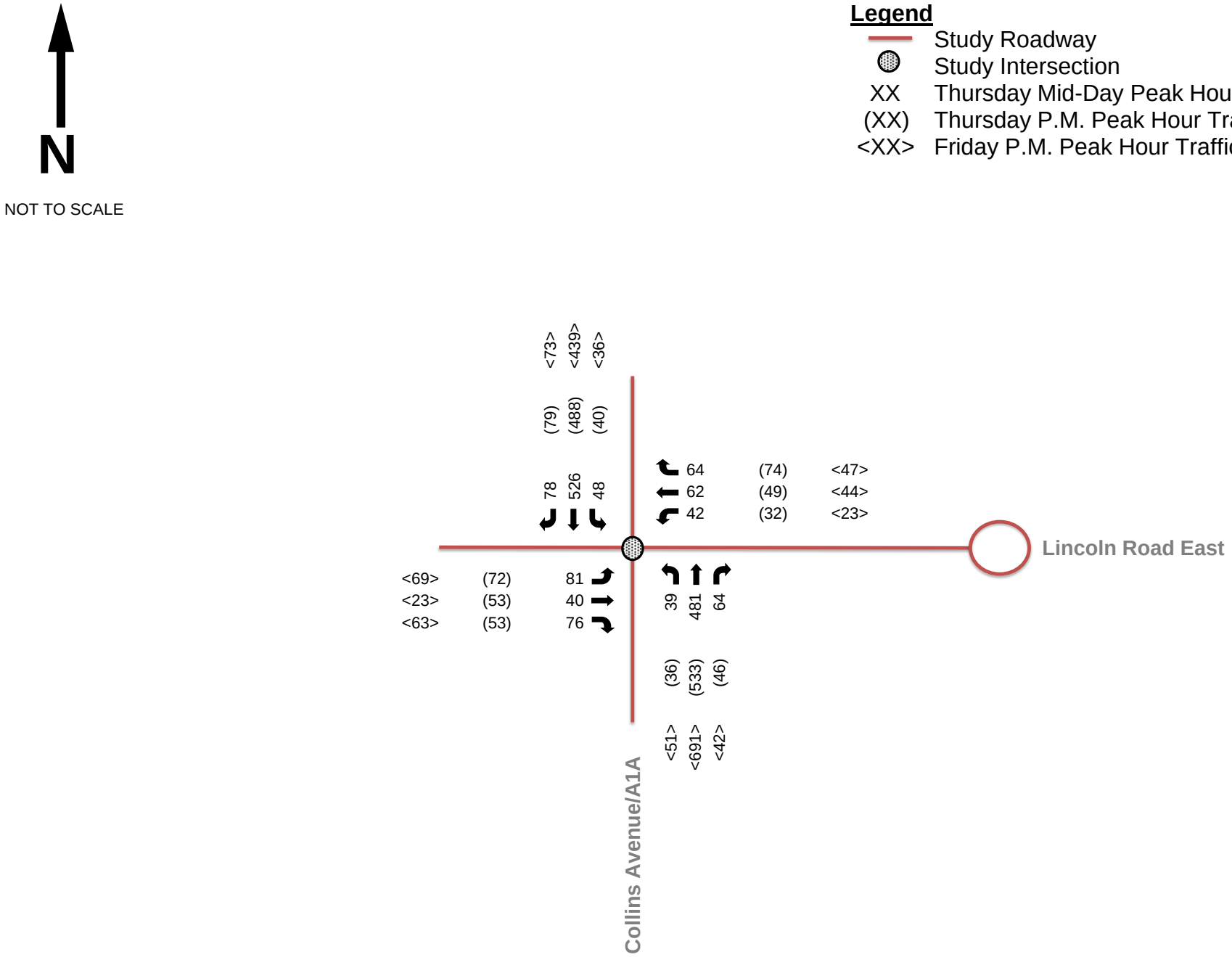

Figure 3
Future Background Peak Hour Traffic
Lincoln Road East
Miami Beach, Florida

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PROJECT TRAFFIC

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

EXISTING AND PROPOSED LAND USE

The site proposed for redevelopment is currently occupied by a 93-room hotel. The proposed redevelopment consists of a 51-room hotel and 30 mid-rise multifamily residential units. The project is expected to be completed and opened by year 2025.

PROJECT ACCESS

Access to the Ritz Carlton Hotel is provided via one (1) porte-cochere at the entrance of the Ritz Carlton Hotel and one (1) ingress/egress driveway to the loading area and parking garage. Access to the Sagamore development is provided via one (1) right-in/left-in entering driveway and one (1) right-out/left-out exiting driveway along Collins Avenue/SR A1A, north of Lincoln Road.

TRIP GENERATION

Trip generation calculations for the proposed project were performed using rates contained in ITE *Trip Generation Manual*, 11th Edition. The trip generation for the proposed land uses was determined using ITE Land Use Code LUC 310 (Hotel) and LUC 221 (Multifamily Housing [Mid- Rise]). Project trips were estimated for the weekday A.M. peak hour and P.M. peak hour.

MULTIMODAL REDUCTION

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tract in which the redevelopment is located. A multimodal factor of 29.3 percent (29.3%) was determined for the proposed redevelopment. Please note that based on input from the City and to provide a conservative analysis a multimodal factor of 20.0 percent (20.0%) was applied to the project traffic to account for the urban environment in which the project site is located. It is expected that a portion of residents, guests, and employees will choose to walk, bike, or use public transit to and from the proposed redevelopment. Detailed census information is provided in Appendix F.

NET NEW PROJECT TRIPS

The net new project trips represent the additional vehicles on the roadway network. As shown in Table 1, the project is expected to result in a reduction of 7 net new weekday A.M. peak hour

vehicular trips and a reduction of 10 net new weekday P.M. peak hour trips. Detailed calculations are contained in Appendix F.

Table 1: Trip Generation

A.M. Peak Hour (P.M. Peak Hour)				
Future Land Use (ITE Code)	**Scale**	**Net New External Trips**	**Entering Trips**	**Exiting Trips**
Existing Development				
Hotel (310)	93 rooms	34 (44)	19 (22)	15 (22)
Proposed Redevelopment				
Hotel (310)	51 rooms	18 (24)	10 (12)	8 (12)
Multifamily Housing (Mid-Rise) (221)	30 dwelling units	9 (10)	2 (6)	7 (4)
	Subtotal	27 (34)	12 (18)	15 (16)
Net New Vehicle Trips				
Net New Vehicle Trips		**-7 (-10)**	**-7 (-4)**	**0 (-6)**

Although the redevelopment of the Sagamore Hotel is expected to result in a reduction of trips, access to the site for valeting hotel guests, self-parking residents, and resident guest valet will be located at the Ritz Carlton site. Therefore, the proposed redevelopment traffic was distributed at the study intersection. Note that credit for the traffic volumes accessing the existing Sagamore site was not taken at the study intersection, in order to provide a conservative analysis.

TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution was based on an interpolated cardinal trip distribution for the project site's traffic analysis zone (TAZ) obtained from the Miami-Dade Transportation Planning Organization's (TPO's) *2045 Long Range Transportation Plan Directional Trip Distribution Report*. The project is located within TAZ 644. The cardinal distribution is shown in Table 2.

Table 2: Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips
North-Northeast	14%
East-Northeast	0%
East-Southeast	0%
South-Southeast	0%
South-Southwest	16%
West-Southwest	32%
West-Northwest	19%
North-Northwest	19%
Total	**100%**

Figure 4 presents the peak hour net new trip distribution and Figure 5 presents the peak hour net new trip assignment. Note that as the P.M. peak hour trip generation generates more trips than the A.M. peak hour, the P.M. peak hour trip generation was used in the mid-day analysis, to provide a conservative analysis. Detailed cardinal distribution calculations are contained in Appendix G. Additionally, as Sagamore resident guest vehicles will be valeted within the on-site Ritz Carlton parking garage, Figures 6 and 7 detail the project's valet distribution and assignment for the peak hours.

N

NOT TO SCALE

Legend

Study Roadway

Study Intersection

XX% Entering Trip Distribution

(XX%) Exiting Trip Distribution

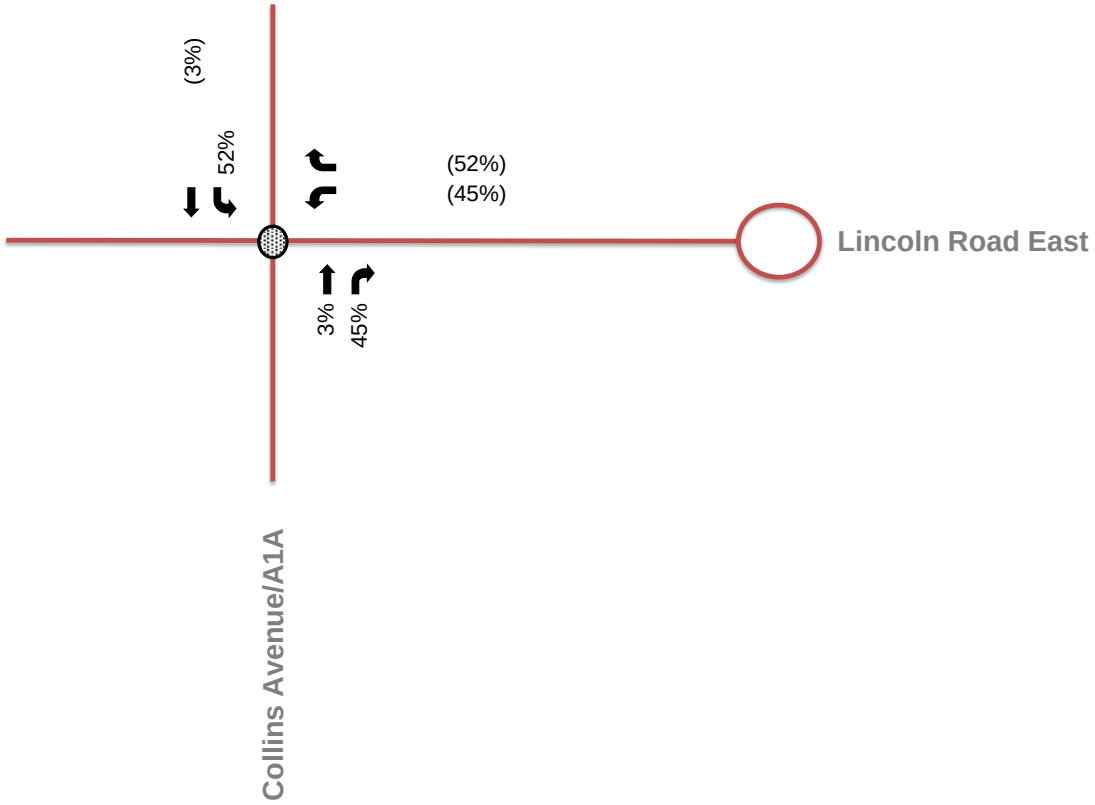

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Figure 4
Peak Hour Project Trip Distribution
Lincoln Road East
Miami Beach, Florida

N

NOT TO SCALE

Legend

Study Roadway

Study Intersection

XX Mid-Day/P.M. Peak Hour Trip Assignment

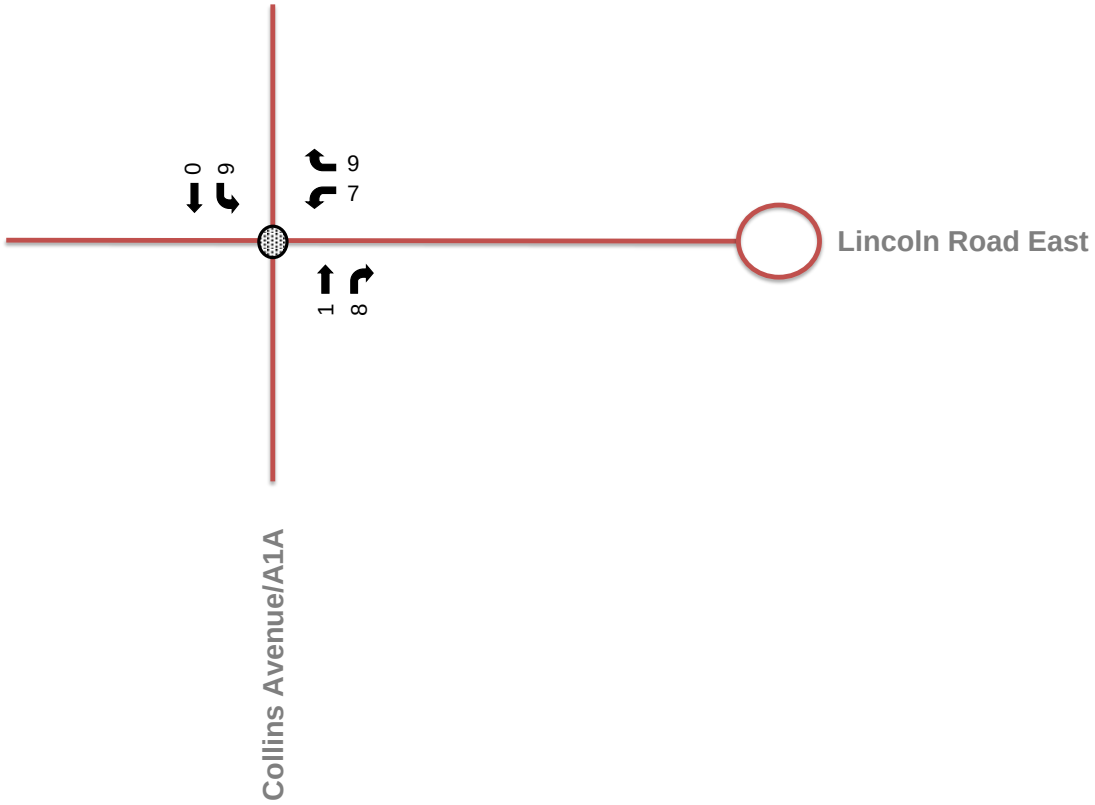

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Figure 5
Mid-Day/P.M. Peak Hour Project Trip Assignment
Lincoln Road East
Miami Beach, Florida

N

NOT TO SCALE

Legend

Study Roadway

Study Intersection

XX% Valet Drop-Off Trip Distribution

(XX%) Valet Pick-Up Trip Distribution

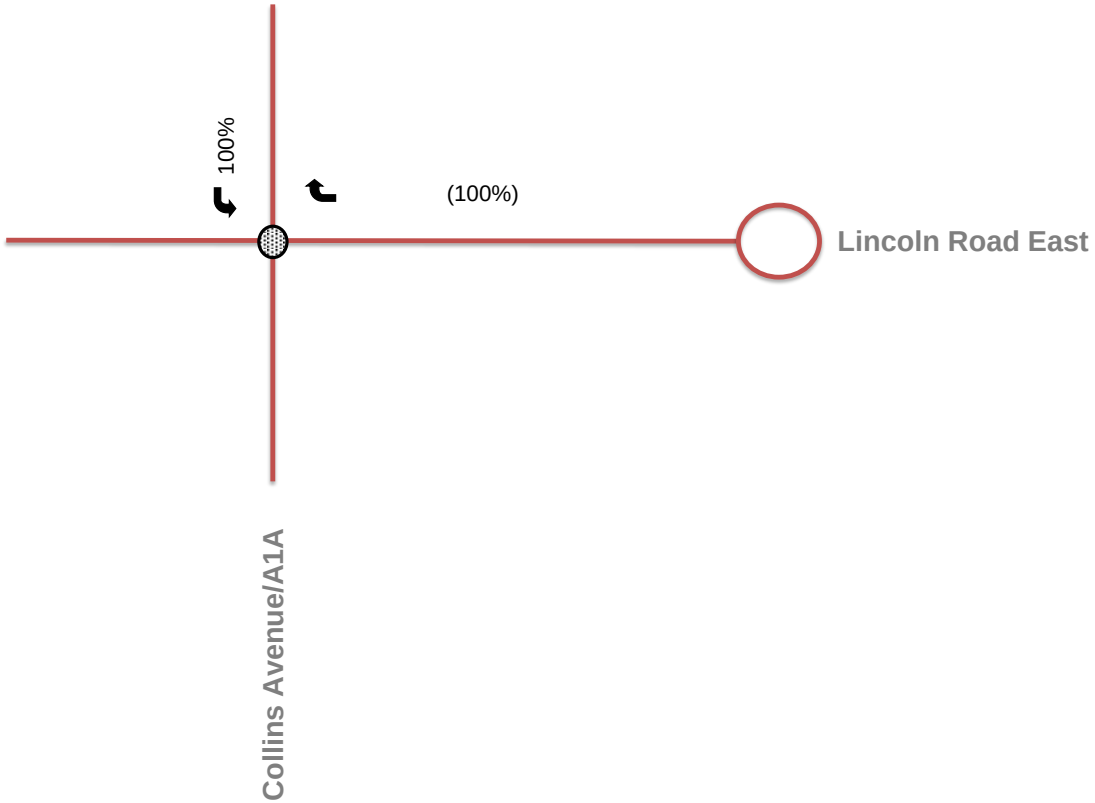

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Figure 6
Peak Hour Valet Trip Distribution
Lincoln Road East
Miami Beach, Florida

N

NOT TO SCALE

Legend

Study Roadway

Study Intersection

XX Mid-Day/P.M. Peak Hour Valet Trip Assignment

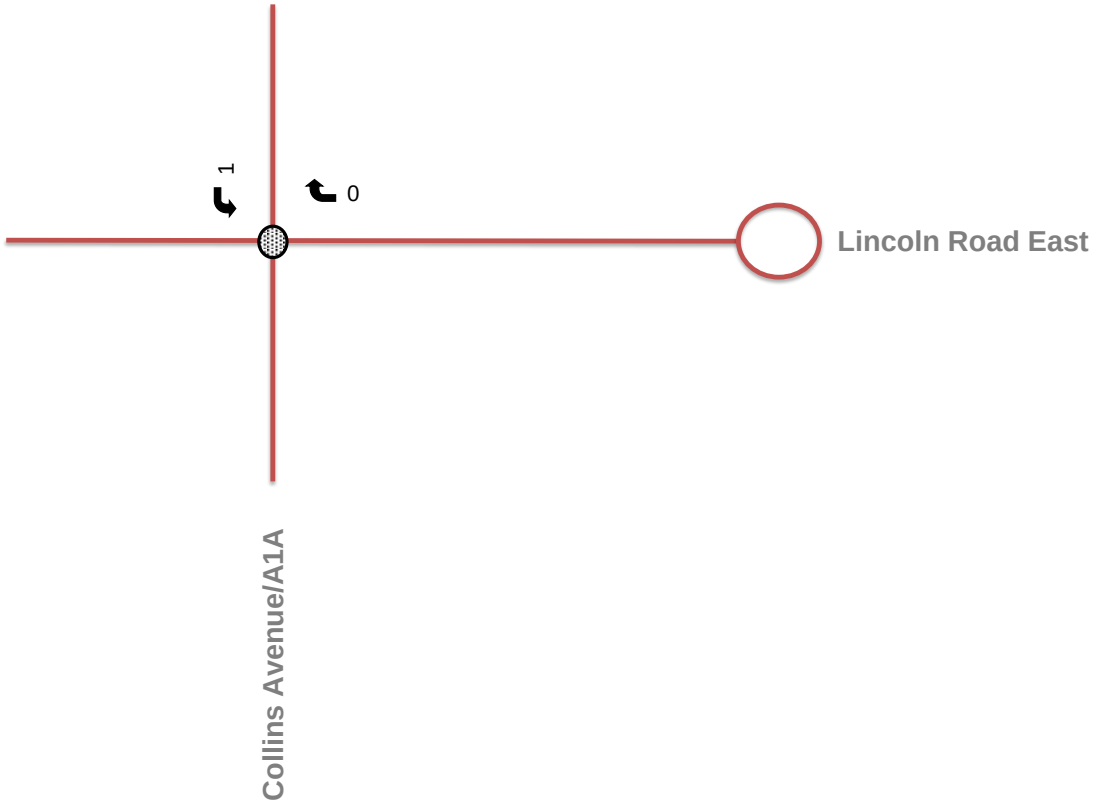

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Figure 7
Mid-Day/P.M. Peak Hour Valet Trip Assignment
Lincoln Road East
Miami Beach, Florida

FUTURE TOTAL TRAFFIC

Future total traffic conditions are defined as the expected traffic conditions in the year 2025 after the opening of the project. Total traffic volumes considered in the analysis for this project are the sum of the background traffic volumes and the expected project traffic volumes. Figure 8 presents the future total turning movement volumes at the study intersections during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour. Volume development worksheets for the study intersections are included in Appendix H.

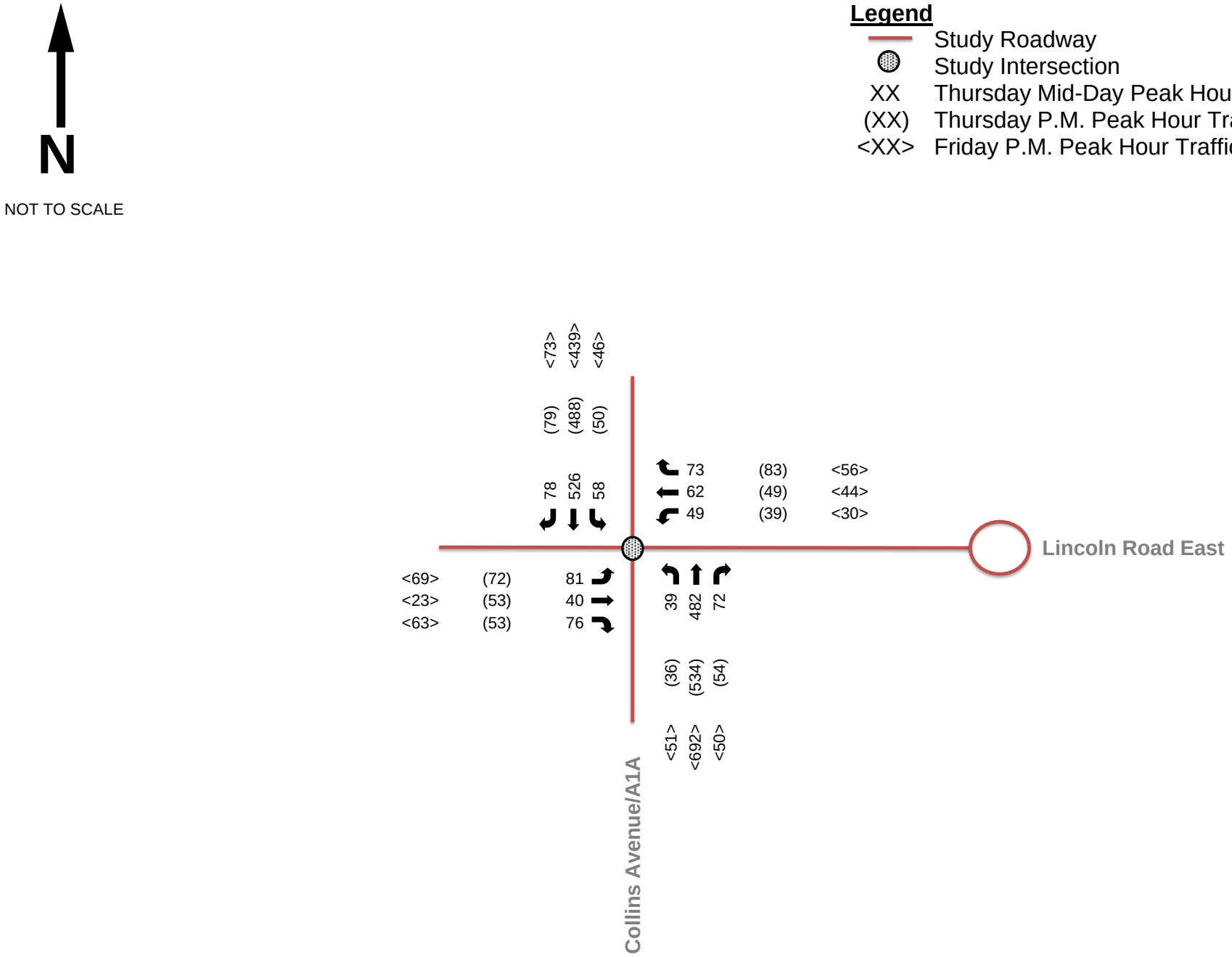

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Figure 8
Future Total Peak Hour Traffic
Lincoln Road East
Miami Beach, Florida

INTERSECTION OPERATIONAL ANALYSIS

The operating conditions for the study intersection were analyzed for three (3) scenarios (existing conditions, future background conditions, and future total conditions) using Trafficware's *SYNCHRO* software, which applies methodologies outlined in the Transportation Research Board's (TRB's) *Highway Capacity Manual* (HCM) 6th Edition/2000. The capacity and queuing analyses include the following factors to calibrate the transportation models:

- Peak Hour Factor
- Saturation flow factor (CBD)
- Right turns on red (RTOR)
- Pedestrian crossing volumes
- Conflicting pedestrian volumes
- Conflicting bicycle volumes
- On-street parking lanes
- Bus blockage
- Heavy vehicle percentages
- Critical and follow-up headways at unsignalized intersections
- Signal Timings
  - Pedestrian signal calls
  - Recall Mode
  - Minimum Initial
  - Yellow/All Red Time
  - Ped Walk Time
  - Ped Don't Walk Time
  - Vehicle Extension/Minimum Gap
  - Maximum Split
  - Offset
  - Platoon Ratio for coordinated approaches

Synchro worksheets for the study intersections are included in Appendix I.

A summary of the intersection capacity analysis is presented in Table 3. As indicated, the study intersection is expected to operate at adopted level of service (LOS) or better during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under all analysis scenarios with the exception of the eastbound approach which operates at LOS F during the Friday P.M. peak hour under all analysis scenarios and the westbound approach which operates at LOS F during the Friday P.M. peak hour under future total conditions. However, the streetscape project proposes to modify the westbound approach at the intersection of Collins Avenue/A1A and Lincoln Road from one (1) shared left-turn/through/right-turn lane to one (1) exclusive left-turn lane and one (1) shared through/right-turn lane. With the proposed improvements and signal timing

optimization, all approaches are expected to operate at adopted LOS or better during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under future total conditions, with the exception of the eastbound approach which operates at LOS F during the Friday P.M. peak hour under all analysis scenarios. Furthermore, note that the streetscape project will modify eastbound Lincoln Road east of Collins Avenue/A1A to provide two (2) lanes along Lincoln Road.

Table 3: Intersection Capacity Analysis

Peak Hour	Overall LOS/Delay	Approach LOS			
		EB	WB	NB	SB
Existing Conditions (Future Background Conditions) [Future Total Conditions]					
Thursday Mid-Day Peak Hour	B/12.1 sec (B/12.2 sec) [B/12.3 sec] (1)	C (C) [D]	D (D) [D]	A (A) [A]	A (A) [A]
Thursday P.M. Peak Hour (2)	C/29.7 sec (C/30.0 sec) [C/27.6 sec] (1)	D (D) [D]	D+1% (D+3%) [D]	C (C) [C]	C (C) [C]
Friday P.M. Peak Hour (2)	C/32.7 sec (C/33.0 sec) [C/31.6 sec] (1)	F (F) [F]	D+46% (D+46%) [D+18%]	C (C) [C]	B (B) [B]

Notes: (1) Signal timing optimized, and improvements implemented.
(2) Scenario cannot be analyzed using HCM 6th Edition. Therefore, HCM 2000 was used.

95TH PERCENTILE QUEUE ANALYSIS

A queue analysis was performed to determine if the existing turning movements storage lengths at the study intersection can accommodate expected 95th percentile vehicle queue lengths under existing, future background, and future total conditions. The 95th percentile queue lengths were calculated using Trafficware's *SYNCHRO 11* software, which applies methodologies outlined in the TRB's *HCM*, 2000/6th Edition. Synchro worksheets for the study intersections are included in Appendix I. A summary of the queue analyses for the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour is presented in Table 4. As indicated, the anticipated future queues are not expected to exceed the provided storage with the exception of the westbound left-turn/through/right-turn movement during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under existing and future background conditions. However, with the proposed improvements to the westbound approach as part of the 100 Block Streetscape, future queues are not expected to exceed the provided storage under future total conditions.

Table 4: 95th Percentile Queuing Analysis Summary

Movement	Storage Length (ft) [2]	95th Percentile Queue (ft)			Storage Sufficient?
		Thursday Mid-Day Peak Hour	Thursday P.M. Peak Hour	Friday P.M. Peak Hour	
Existing Conditions (Future Background Conditions) [Future Total Conditions]					
Eastbound Left-Turn	140	95 (95) [99]	115 (117) [122]	134 (134) [130]	Yes (Yes) [Yes]
Eastbound Through/ Right-Turn	140	88 (88) [83]	92 (94) [98]	77 (78) [78]	Yes (Yes) [Yes]
Westbound Left-Turn/ Through/Right-Turn[3]	145[3]	149 (151) [[3]]	177 (180) [[3]]	163 (163) [[3]]	No (No) [[3]]
Westbound Left-Turn	145	[2] ([2]) [62]	[2] ([2]) [59]	[2] ([2]) [62]	[2] ([2]) [Yes]
Westbound Through/ Right-Turn	145	[2] ([2]) [101]	[2] ([2]) [107]	[2] ([2]) [125]	[2] ([2]) [Yes]
Northbound Left-Turn/ Through/Right-Turn	465	158 (165) [147]	268 (272) [264]	399 (407) [411]	Yes (Yes) [Yes]
Southbound Left-Turn/ Through/Right-Turn	465	185 (192) [178]	268 (273) [272]	254 (260) [268]	Yes (Yes) [Yes]

Notes:
[1] The 95th percentile queue length is based on HCM methodology. Minimum queue of 25 feet assumed.
[2] Storage length based on distance to upstream intersection for non-exclusive turn lane movements.
[3] Approach does not exist under existing or future background conditions.
[3] Approach does not exist under future total condition with Lincoln Road 100 Block Streetscape.

VALET OPERATIONS ANALYSIS

The valet queuing operations analysis was performed to determine if valet operations could accommodate vehicular queues within the provided drop-off/pick-up areas without extending into the public right-of-way. Valet operations were analyzed for the number of valet attendants and required vehicle stacking for the redevelopment's proposed traffic.

The redevelopment will be served by the following two (2) valet drop-off and pick-up areas, including:

- The Sagamore Hotel porte-cochere will provide access to one (1) valet drop-off/pick-up area. The valet drop-off/pick-up area consists of one (1) valet drop-off/pick-up lane with storage for approximately three (3) vehicles and one (1) by-pass lane. Please note that the Sagamore Hotel porte-cochere will exclusively serve resident guests.
- The Ritz Carlton porte-cochere which consists of one (1) valet drop-off/pick-up area will be reconfigured with storage for approximately four (4) vehicles in the outer curb lane, three (3) vehicles in the inner lane, and one (1) by-pass lane as part of the streetscape project. Both lanes are used as rideshare and valet vehicle drop-off/pick-up The Ritz Carlton porte-cochere will valet all vehicles of the hotel guests for both the Ritz Carlton and Sagamore Hotel.

All resident vehicles will be self-parked within the on-site Ritz Carlton parking garage. Graphic illustrations of the proposed valet routes to and from the valet drop-off/pick-up areas and the on-site Ritz Carlton parking garage are provided in Appendix J.

SAGAMORE PORTE-COCHERE QUEUE ANALYSIS

Trip generation calculations for the proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. The trip generation for the proposed redevelopment was determined using ITE Land Use Code (LUC) 310 (Hotel) and LUC 221 (Multifamily Housing [Mid-Rise]). It is assumed that 10 percent (10%) of the Sagamore Hotel redevelopment is resident guests.

The valet analysis was prepared for the weekday A.M. and weekday P.M. peak hours. The proposed Sagamore Hotel redevelopment is expected to generate one (1) pick-up valet trip during

the A.M. peak hour and one (1) drop-off valet trip during the P.M. peak hour. Note that the Sagamore Hotel redevelopment residential guest trips were determined based on the assumption that 10 percent (10%) of the generated trips are residential guests.

VALET ASSUMPTIONS

The valet analysis was prepared based on the methodology outlined in *ITE's Transportation and Land Development*, 1988. 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 valet attendants.

Valet attendants will be stationed at the valet drop-off/pick-up areas. Valet drop-off trip service times were calculated based on the time it would take a valet parking attendant to obtain and park a drop-off vehicle within the on-site Ritz Carlton parking garage and return to the valet drop-off area. Valet pick-up trip service times were calculated based on the time it would take a valet parking attendant to bring a parked vehicle back to a guest at the valet pick-up area.

The service time for valet drop-off operation corresponds to the following:

- Exchange between valet attendant and driver (1.5 minute)
- Valet attendant drives vehicle from valet drop-off location to valet parking lot (1.0 minutes)
- Valet attendant parks vehicle in parking space (0.2 minutes)
- Valet attendant walks/runs from valet parking lot to porte-cochere (1.2 minutes)
- Total service rate: 3.9 minutes

The service time for valet pick-off operation corresponds to the following:

- Valet attendant walks/runs from porte-cochere to valet parking lot (1.2 minutes)
- Valet attendant retrieves vehicle in parking space (0.5 minutes)
- Valet attendant drives vehicle from valet parking lot to porte-cochere (0.8 minutes)
- Exchange between valet attendant and driver (1.5 minute)
- Total service rate: 4.0 minutes

Detailed travel time calculations are included in Appendix J.

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

The analysis determined the required queue storage, *M*, which is exceeded *P* percent of the time. This analysis seeks to ensure that the queue length does not exceed the storage provided at a level of confidence of 95 percent (95%). Three (3) vehicle drop-off/pick-up spaces are provided for valet operations based on the attached site plan.

VALET ANALYSIS

An iterative approach was used to determine the number of valet attendants required to accommodate the proposed redevelopment demand during the analysis hour and ensure that the 95th percentile valet queue does not extend beyond the designated valet service area. Detailed valet analysis worksheets are provided in Appendix J.

Results of the highest demand condition valet operations analysis demonstrate that one (1) valet attendant would be required to accommodate vehicle drop-off/pick-up demand.

RITZ CARLTON PORTE-COCHERE QUEUE ANALYSIS

Peak period queue accumulation data was collected during two (2) hour periods on July 21, 2022 (Thursday) from 12:00 P.M. to 2:00 P.M. and on July 23, 2022 (Saturday) from 4:30 P.M. to 6:30 P.M. Valet operations at the redevelopment were analyzed to determine if porte-cochere queues can be accommodated on-site without extending into the cul-de-sac during the weekday and weekend peak periods.

The valet area consists of one (1) outer lane (approximately 160’ feet) and one (1) inner lane (approximately 75’ feet). There is sufficient storage for approximately six (6) vehicles in the outer lane and three (3) vehicles in the inner lane. Both lanes are used as rideshare and valet vehicle drop-off/pick-up.

Four (4) valet attendants including a manager served valet during the weekday peak period and weekend peak period. The porte-cochere queues reached a maximum of five (5) vehicles with four

(4) vehicles in the inner lane and one (1) vehicle in the outer lane. To accommodate the relocation of the Sagamore Hotel valet to the Ritz Carlton porte-cochere, the maximum queue and number of valet attendants were proportionally factored based off the number of hotel rooms within the existing Ritz Carlton and proposed Sagamore Hotel redevelopment. As the existing Ritz Carlton observed a maximum queue of five (5) vehicles with 373 existing hotel rooms, an addition of 51 rooms from the Sagamore Hotel redevelopment, or 424 hotel rooms in total, would result in a maximum queue of approximately 6 vehicles. Additionally, it is expected that five (5) valet attendants would be needed to accommodate the increase in demand. With a sufficient storage capacity for approximately nine (9) vehicles in existing conditions and seven (7) vehicles in future total conditions with the 100 Block streetscape, it is expected that queues will not extend beyond the valet porte-cochere with five (5) valet attendants. Note that if additional valet attendants are required, they will be provided so that the valet queues do not extend into public right-of-way. Collected queuing data is provided in Appendix J.

PEDESTRIAN CROSSING EVALUATION

Existing pedestrian volumes crossing at the Ritz Carlton parking garage and loading driveway were evaluated. Pedestrian volumes collected in July 2022 crossing at the Ritz Carlton parking garage and loading driveway were factored by pedestrian volumes collected at the intersection of Collins Avenue and Lincoln Road in January 2023/March 2023 to account for any seasonal changes. Based on the data collected in January and March 2023, pedestrian adjustment factors of 0.94 was calculated for the Thursday mid-day peak hour, 1.16 was calculated for the Thursday P.M. peak hour, and 0.85 was calculated for the Friday P.M. peak hour. A summary of the pedestrian crossing evaluation is presented in Table 5. Sidewalk widths range from 8 to 14.5 feet wide on the southside of Lincoln Road and range from 8 to 12 feet wide on the northside of Lincoln Road. "Vehicles crossing sidewalk" signs will be installed on both sides of the Ritz Carlton Parking Garage/Loading Driveway for pedestrians crossing there, "Yield to Pedestrian" signage to alert vehicles of pedestrians will also be installed on both sides of the Ritz Carlton Parking Garage/Loading Driveway, and in-pavement crosswalk lighting will be installed along the Parking Garage/Loading Driveway. Peak pedestrian traffic volumes at the Ritz Carlton Porte-Cochere Exit Driveway and Ritz Carlton Parking Garage/Loading Driveway are included in Appendix C. Detailed pedestrian crossing calculations are provided in Appendix K.

Table 5: Ritz-Carlton Loading/Parking Garage Driveway Crossing Pedestrian Volumes
Existing Conditions
Thursday Mid-Day Peak Hour (Thursday P.M. Peak Hour) [Friday P.M. Peak Hour]
227 (356) [302]

MANEUVERABILITY ANALYSIS

A maneuverability analysis was prepared for the ground level passenger vehicle circulation areas and loading area. The analysis was performed using Transoft's *AutoTurn 11* software design vehicle turning templates and vehicle turning templates consistent with American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets*, 2018. The analysis was prepared using a passenger (P) vehicle, single unit (SU-30) truck, modified WB-62 semi-trailer, and City of Miami Beach emergency/fire truck for the proposed loading area.

The analysis determined that the loading vehicles and the City of Miami Beach emergency/fire truck are expected to be able to ingress, egress, and travel within the ground level without conflicting with oncoming traffic. Additionally, loading vehicles will be able to maneuver into loading spaces within the loading area and will not need to reverse (back-in) into the site from the street. As a result, loading vehicles are not expected to reverse through the pedestrian crossing area at the loading driveway, and will be able to enter the site head-on. This allows for greater visibility of pedestrians within the crosswalk and improved safety. Nonetheless, "Vehicles crossing sidewalk" signs will be installed on both sides of the Ritz Carlton Parking Garage/Loading Driveway for pedestrians crossing there. Vehicles accessing the Decoplage will be able to ingress and egress without conflicting with oncoming traffic. Maneuverability analysis plots are included in Appendix L.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Demand Management (TDM) strategies are proposed for the Sagamore Hotel redevelopment to reduce the impacts of the project traffic on the surrounding roadway network City of Miami Beach provide public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant proposes the following TCMs:

- Secure bicycle parking spaces (bike racks and lockers)
- Improved and enhanced (wide) sidewalks around the site
- Elevators that can accommodate bikes
- Lockers for bicyclists to store a change of clothes will be provided on-site
- Shower facility for bicyclists will be provided on-site

PARKING EVALUATION

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 234 parking spaces. As part of the proposed redevelopment, 241 parking spaces will be provided with seven (7) parking spaces provided on-street and 234 parking spaces provided on-site. Additionally, 129 bicycle spaces will be provided.

The southside of Lincoln Road currently provides a freight loading zone (Monday-Saturday 7 A.M. to 3 P.M. that functions as approximately three [3] metered on-street parking Monday-Saturday 3 P.M. to 3 A.M. and Sunday 9 A.M. to 3 A.M.), two (2) Taxicab only spaces, and four (4) motorcycle/scooter parking spaces. The 100 Block streetscape project will modify the southside of Lincoln Road to consist of two (2) on-street parking spaces that can be used for rideshare activities. Note that the freight loading zone will be relocated to the northside of Lincoln Road.

The northside of Lincoln Road currently provides one (1) emergency/city vehicle only parking space, four (4) on-street parking spaces, and one (1) Americans with Disabilities Act (ADA) parking space. The 100 Block streetscape project will modify the northside of Lincoln Road to consist of a freight loading zone (Monday-Saturday 7 A.M. to 3 P.M. that functions as approximately three [3] metered on-street parking Monday-Saturday 3 P.M. to 3 A.M. and Sunday 9 A.M. to 3 A.M.), one (1) on-street parking space, and one (1) ADA parking space.

The net on-street parking modification results in the removal of one (1) on-street parking space, one (1) emergency/city vehicle only parking space, four (4) motorcycle/scooter parking spaces, and two (2) Taxicab only spaces. Please refer to the detailed parking calculations prepared by others contained in Appendix M.

CONCLUSION

Sobe Sky Development, LLC is proposing a streetscape project for Lincoln Road and to redevelop the Sagamore Hotel. The streetscape project is bounded by Collins Avenue/SR A1A to the west and the public beach access/Ritz Carlton Hotel loading dock and parking garage access to the east, referred to as the 100 Block, in Miami Beach, Florida. Lincoln Road, east of Collins Avenue/SR A1A consists of one (1) 20-foot lane in each direction (wide enough to accommodate two [2] lanes but not designated as such), on-street parking on the north and south sides of the road, and a curbed 9.5-foot median. Lincoln Road terminates to the east at the public beach access in a cul-de-sac street-end with a curbed median island. The streetscape project will also include pedestrian improvements, pavement marking improvements, maneuverability/circulation improvements, and reconfiguring the Ritz Carlton porte-cochere. The proposed streetscape project will provide two (2) eastbound and two (2) westbound 10-foot travel lanes, a sidewalk width ranging from 8 to 14.5 feet wide on the southside of Lincoln Road and a sidewalk on the northside of Lincoln Road ranging from 8 to 12 feet wide. To further emphasize pedestrian safety, the proposed project will include "Vehicles Crossing Sidewalk" signage to alert pedestrians of vehicles access the Ritz-Carlton loading/garage driveway, "Yield to Pedestrian" signage to alert vehicles of pedestrians, and in-pavement crosswalk lighting at the Ritz-Carlton loading/garage driveway.

Additionally, the existing 93-room Sagamore Hotel (1671 Collins Avenue) is proposed to be redeveloped. The redevelopment includes a 51-room hotel and 30 mid-rise multifamily residential units. Currently, access to the Sagamore Hotel is provided by a porte-cochere on Collins Avenue north of Lincoln Road. The redevelopment will relocate the Sagamore Hotel access to the Ritz Carlton Hotel porte-cochere. Sagamore residents will self-park within the Ritz Carlton garage located on Lincoln Road. Sagamore resident guests will use the existing Sagamore porte-cochere on Collins Avenue to valet their vehicles or for rideshare drop-off/pick-up. The project is expected to be completed and opened by year 2025.

Trip generation for the proposed redevelopment was calculated using rates contained in the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11th Edition. The project is expected to result in a reduction of seven (7) net new weekday A.M. peak hour trips and a reduction of ten (10) net new weekday P.M. peak hour trips.

The results of the intersection capacity analysis indicate that the study intersection is expected to operate at adopted level of service (LOS) or better during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under all analysis scenarios with the exception of the eastbound approach which operates at LOS F during the Friday P.M. peak hour under all analysis scenarios and the westbound approach which operates at LOS F during the Friday P.M. peak hour under future total conditions. However, the streetscape project proposes to modify the westbound approach at the intersection of Collins Avenue/A1A and Lincoln Road from one (1) shared left-turn/through/right-turn lane to one (1) exclusive left-turn lane and one (1) shared through/right-turn lane. With the proposed improvements and signal timing optimization, all approaches are expected to operate at adopted LOS or better during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under future total conditions, with the exception of the eastbound approach which operates at LOS F during the Friday P.M. peak hour under all analysis scenarios. Furthermore, note that the streetscape project will modify eastbound Lincoln Road east of Collins Avenue/A1A to provide two (2) lanes along Lincoln Road.

The results of the 95th percentile queue analysis indicate that the anticipated future queues are not expected to exceed the provided storage with the exception of the westbound left-turn/through/right-turn movement during the Thursday mid-day peak hour, Thursday P.M. peak hour, and Friday P.M. peak hour under existing and future background conditions. However, with the proposed improvements to the westbound approach as part of the 100 Block Streetscape, future queues are not expected to exceed the provided storage under future total conditions.

The results of the weekday A.M. and P.M. peak hours valet operations analysis demonstrate that one (1) valet attendant would be required to accommodate valet vehicle drop-off/pick-up demand at the Sagamore Hotel porte-cochere. Furthermore, five (5) valet attendants would be required to accommodate valet vehicle drop-off/pick-up demand at the reconfigured Ritz Carlton porte-cochere with an expected future peak demand of six (6) vehicles of stacking for which seven (7) vehicles of storage capacity are provided. Note that if additional valet attendants are required, they will be provided so that the valet queues do not extend into public right-of-way.

The maneuverability analysis determined that the loading vehicles and the City of Miami Beach emergency/fire truck are expected to be able to ingress, egress, and travel within the ground level without conflicting with oncoming traffic. Additionally, loading vehicles will be able to maneuver into loading spaces within the loading area and will not need to reverse (back-in) into the site from the street. As a result, loading vehicles are not expected to reverse through the pedestrian crossing area at the loading driveway, and will be able to enter the site head-on. This allows for greater visibility of pedestrians within the crosswalk and improved safety.

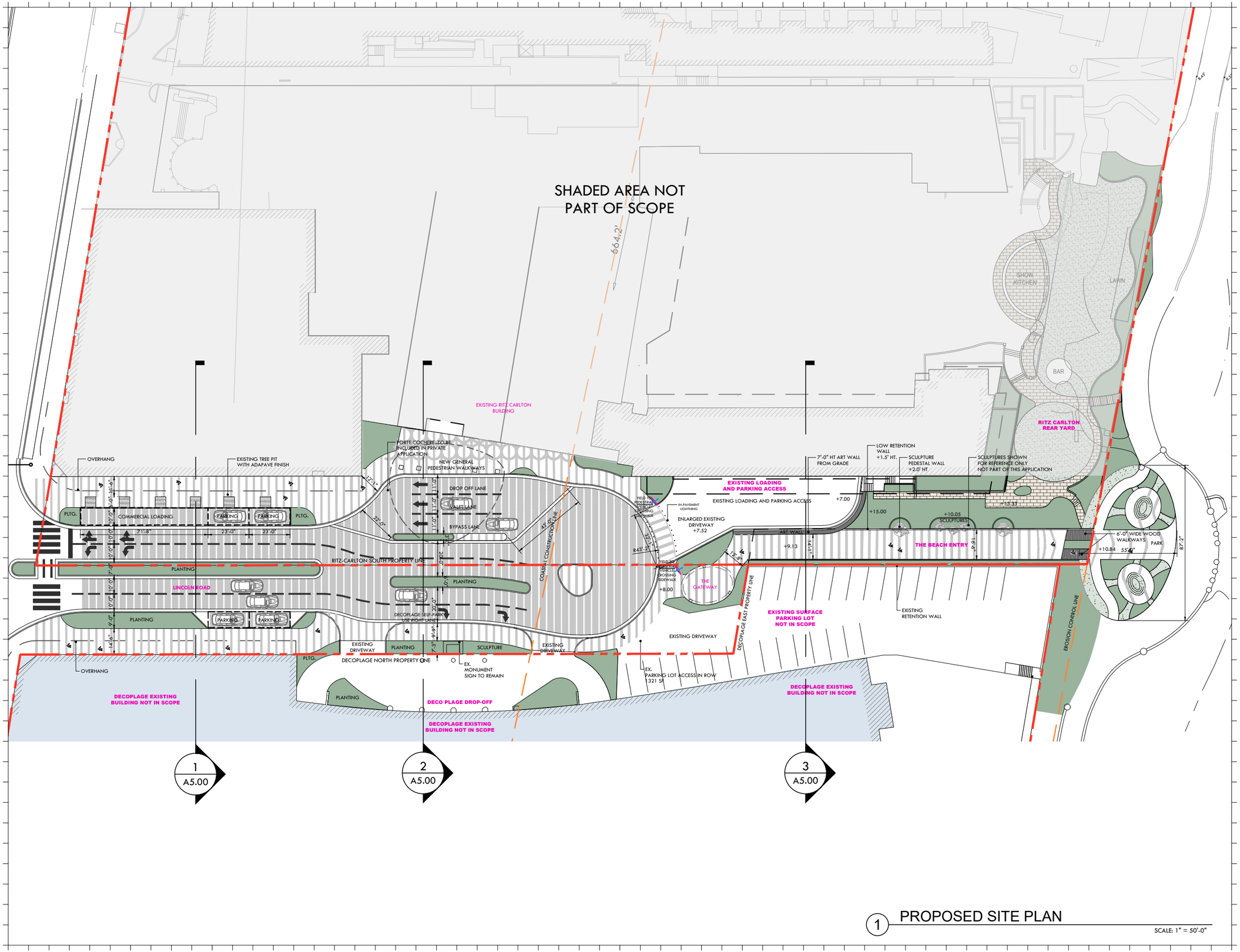
TDM strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network City of Miami Beach provide public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant proposes the following TDMs:

- Secure bicycle parking spaces (bike racks and lockers)
- Improved and enhanced (wide) sidewalks around the site
- Elevators that can accommodate bikes
- Lockers for bicyclists to store a change of clothes will be provided on-site
- Shower facility for bicyclists will be provided on-site

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 234 parking spaces. As part of the proposed redevelopment, 241 parking spaces will be provided with seven (7) parking spaces provided on-street and 234 parking spaces provided on-site. Additionally, 129 bicycle spaces will be provided. The net on-street parking modification results in the removal of one (1) on-street parking space, one (1) emergency/city vehicle only parking space, four (4) motorcycle/scooter parking spaces, and two (2) Taxicab only spaces.

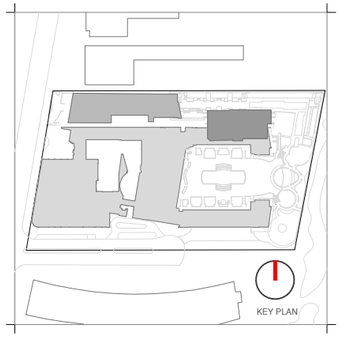
Appendix A

Site Plan



1 PROPOSED SITE PLAN

SCALE: 1" = 50'-0"



Rev.	Date	Rev.	Date

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HPB- Final Submission

LINCOLN ROAD
100 Block
Miami Beach, FL 33139

Owner:
Name
Address
Address
Tel:
Email

Consultant:
Name
Address
Address
Tel:
Email

Consultant: LANDSCAPE ARCHITECT
Name Naturalficial.
Address 6915 Red Road, Suite 224
Address Coral Gables, FL 33143
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Email

Consultant: CIVIL ENGINEER
Name KIMLEY HORN
Address 8201 Peters Road
Address Suite 2200
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Consultant:
Name
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Kobi Karp Architecture and Interior Design, Inc.
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KOBI KARP
Lic. # AR0012578

PROPOSED FLOOR PLAN

LINCOLN ROAD - 100 BLOCK

Date	07-10-2023	Sheet No.	A4.01
Scale			
Project	2018		

Appendix B

Methodology Correspondence

Dabkowski, Adrian

From: Fawaz, Dani <DaniFawaz@miamibeachfl.gov>
Sent: Monday, March 27, 2023 12:35 PM
To: Dabkowski, Adrian
Cc: Selanikio, Raquel; Hussaini, Danish; Govardhan Muthyalagari; Rodriguez, Otniel; Gonzalez, Jose R.
Subject: RE: Lincoln Road | 100 Block Streetscape and Sagamore Hotel Redevelopment Traffic Study Methodology

Categories: External

Good afternoon Adrian,

Following an internal meeting with our peer reviewer, we recommend approval of the methodology and for the applicant to move forward with the study with the following conditions.

- The applicant to provide detailed pedestrian crossing evaluation crossing the Ritz Carlton parking garage and loading driveway with the proposed streetscape project.
- As part of the maneuverability analysis, perform the AutoTURN software with the emergency/fire truck and also for the different types of vehicles coming out of the development from the southside of the Lincoln Road.

Regards

MIAMIBEACH

Dani Fawaz, P.E.
Senior Transportation Engineer
Transportation & Mobility Department
1700 Convention Center Drive, 3rd FL, Miami Beach, FL 33139
Direct: 305.673.7000, Ext. 26693

From: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>
Sent: Wednesday, March 22, 2023 1:22 PM
To: Fawaz, Dani <DaniFawaz@miamibeachfl.gov>
Cc: Michael Larkin <MLarkin@brzoninglaw.com>; Graham Penn <GPenn@brzoninglaw.com>; Victor Druga <victor@victordruga.com>; Richard Murphy <richard.murphy@flagluxury.com>; Selanikio, Raquel <Raquel.Selanikio@kimley-horn.com>; Hussaini, Danish <Danish.Hussaini@kimley-horn.com>; Govardhan Muthyalagari <gmuthyalagari@HNTB.com>
Subject: RE: Lincoln Road | 100 Block Streetscape and Sagamore Hotel Redevelopment Traffic Study Methodology

[THIS MESSAGE COMES FROM AN EXTERNAL EMAIL - USE CAUTION WHEN REPLYING AND OPENING LINKS OR ATTACHMENTS]

Good afternoon Dani:
Our response to methodology comments and updated methodology are attached. Please let us know if the City has any additional comments. We plan on submitting the traffic study by 4/3 for the July HPB hearing.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 8201 Peters Road, Suite 2200, Plantation, FL 33324
Direct: 954-535-5144 | Mobile: 303-990-2761

From: Fawaz, Dani <DaniFawaz@miamibeachfl.gov>
Sent: Wednesday, March 15, 2023 9:08 AM
To: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>
Cc: Michael Larkin <MLarkin@brzoninglaw.com>; Graham Penn <GPenn@brzoninglaw.com>; Victor Druga <victor@victordruga.com>; Richard Murphy <richard.murphy@flagluxury.com>; Selanikio, Raquel <Raquel.Selanikio@kimley-horn.com>; Hussaini, Danish <Danish.Hussaini@kimley-horn.com>; Govardhan Muthyalagari <gmuthyalagari@HNTB.com>
Subject: RE: Lincoln Road | 100 Block Streetscape and Sagamore Hotel Redevelopment Traffic Study Methodology

Good morning Adrian,

Please see attached comments on the methodology.

Regards

MIAMIBEACH

Dani Fawaz, P.E.
Senior Transportation Engineer
Transportation & Mobility Department
1700 Convention Center Drive, 3rd FL, Miami Beach, FL 33139
Direct: 305.673.7000, Ext. 26693

From: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>
Sent: Wednesday, March 15, 2023 8:52 AM
To: Fawaz, Dani <DaniFawaz@miamibeachfl.gov>
Cc: Michael Larkin <MLarkin@brzoninglaw.com>; Graham Penn <GPenn@brzoninglaw.com>; Victor Druga <victor@victordruga.com>; Richard Murphy <richard.murphy@flagluxury.com>; Selanikio, Raquel <Raquel.Selanikio@kimley-horn.com>; Hussaini, Danish <Danish.Hussaini@kimley-horn.com>; Govardhan Muthyalagari <gmuthyalagari@HNTB.com>
Subject: RE: Lincoln Road | 100 Block Streetscape and Sagamore Hotel Redevelopment Traffic Study Methodology

[THIS MESSAGE COMES FROM AN EXTERNAL EMAIL - USE CAUTION WHEN REPLYING AND OPENING LINKS OR ATTACHMENTS]

Good morning Dani:
Following up on our methodology meeting last week, can you please let me know if the City has any comments. We are planning on submitting the study 4/3.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 8201 Peters Road, Suite 2200, Plantation, FL 33324
Direct: 954-535-5144 | Mobile: 303-990-2761

From: Dabkowski, Adrian
Sent: Monday, February 27, 2023 11:46 AM

Kimley»Horn

MEMORANDUM

To: Dani Fawaz, P.E.
City of Miami Beach

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

Date: March 22, 2023

Subject: Lincoln Road East
100 Block Streetscape and Sagamore Hotel Redevelopment
Response to Traffic Impact Analysis Methodology Comments

We have received comments provided by the City of Miami Beach's Transportation Department on March 14, 2023. We offer the following responses to the comments:

1. Page 2, Background Growth Rate – As discussed in the methodology meeting on March 8, 2023, please clarify the buildout date for the project to be consistent with the Capacity Analysis described in Page 3.

   Response: The methodology was updated to state that buildout date for the project is 2025. Refer to the updated methodology in Attachment A-A.

2. Page 3, Capacity Analysis – Due to the eastbound vehicular traffic closure and the proposed conversion to pedestrian mall extension of the Lincoln Road from the Lincoln Road Pedestrian Mall Extension project, there will be an increase in pedestrian activity crossing the Collins Avenue/SR A1A at Lincoln Road. Please incorporate the pedestrian growth as part of the Build capacity analysis.

   Response: Please note that Lincoln Road Pedestrian Mall Extension project has a buildout year of 2028. As the buildout year of the 100 Block Streetscape and Sagamore Hotel redevelopment is 2025, the pedestrian volumes will not be grown for this analysis. It is also noted that the Lincoln Road Pedestrian Mall Extension study should incorporate the 100 Block Streetscape and Sagamore Hotel redevelopment.

3. Page 4, Valet Operational Analysis – Due to the relocation of the Sagamore Hotel parking from Collins Avenue to the Ritz-Carlton Hotel along Lincoln for both the hotel and residents, please analyze the impacts to the pedestrians due to the increased traffic due to the loading dock and parking garage access.

   Response: Please note that the redesign of the beach walk and south side of Lincoln Road is expected to ameliorate the safety concerns for pedestrians by encouraging pedestrians to use the wide southern sidewalk that serves as a shared use path to access the beach. Additionally, back-in maneuvers will be internalized for loading vehicles so that trucks can avoid using the street-end and drive aisles to reverse into the loading driveway.

   Pedestrian crossing volumes will be examined at the Ritz Carlton parking garage and loading driveway will be examined and redistributed to account for the streetscape project. The updated methodology in Attachment A-A was updated to provide this analysis.

4. Parking – Please provide documentation to indicate the availability of parking for the 51-room hotel and 30 mid-rise residential units at the Ritz-Carlton Hotel due to the relocation of the Sagamore Hotel parking from Collins Avenue to the Ritz-Carlton Hotel

   Response: Please note that parking calculations will be included within the traffic impact analysis. The methodology memorandum has been updated to include a Parking Evaluation section. The updated methodology is included in Attachment A-A.

5. General – As discussed in the methodology meeting on March 8, 2023, please provide adequate sidewalk connectivity within the area of influence along Lincoln Road and Collins Avenue/SR A1A.

   Response: Please note a dimensioned plan will be provided as part of the HPB submittal.

6. General – Please confirm no loss of on-street parking along both sides of Lincoln Road due to proposed lanes in the westbound direction of Lincoln Road. In addition, please consider and negate any impacts on the operations from the on-street parking vehicles with the additional traffic in the westbound direction due to the relocation of the parking for the Sagamore Hotel redevelopment.

   Response: Noted. A review of on-street parking will be provided as part of the traffic impact analysis and a section was added to the updated methodology in Attachment A-A.

7. General – Please incorporate the diversion of traffic from the Lincoln Road Pedestrian Mall Extension project along Collins Avenue/SR A1A for all the intersections within the study area.

   Response: Please note that Lincoln Road Pedestrian Mall Extension project has a buildout year of 2028. As the buildout year of the 100 Block Streetscape and Sagamore Hotel redevelopment is 2025, the pedestrian volumes will not be grown for this analysis. It is also noted that the Lincoln Road Pedestrian Mall Extension study should incorporate the 100 Block Streetscape and Sagamore Hotel redevelopment.

We trust that this response adequately addresses the comment provided. Please contact us should you have any questions.

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Attachment A-A
Updated Traffic Study Methodology

Kimley»Horn

MEMORANDUM

To: Dani Fawaz, P.E.
City of Miami Beach

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

Date: March 22, 2023

Subject: Lincoln Road East
100 Block Streetscape and Sagamore Hotel Redevelopment
Traffic Impact Analysis Methodology

The purpose of this memorandum is to summarize the traffic impact analysis methodology for the Lincoln Road East, 100 Block Streetscape and Sagamore Hotel redevelopment. The Lincoln Road streetscape project limits are Collins Avenue/SR A1A to the west and the public beach access/Ritz-Carlton Hotel loading dock and parking garage access to the east. Lincoln Road, east of Collins Avenue/SR A1A consists of one (1) 20-foot lane in each direction (wide enough to accommodate two [2] lanes), on-street parking on the north and south sides of the road, and a curbed 9.5-foot median. Lincoln Road terminates to the east at the public beach access in a cul-de-sac street-end with a curbed median island. The proposed project will examine the appropriate laneage for the roadway configuration to provide for a wider pedestrian sidewalk along the south side of Lincoln Road.

Additionally, the existing 93-room Sagamore Hotel will be redeveloped to consist of a 51-room hotel and 30 mid-rise residential units. Currently, access to the Sagamore Hotel is provided by a porte-cochere on Collins Avenue north of Lincoln Road. The redevelopment will relocate the Sagamore Hotel access to the Ritz-Carlton Hotel porte-cochere. Sagamore residents will self-park within the Ritz Carlton garage located on Lincoln Road. Sagamore resident guests will use the existing Sagamore porte-cochere on Collins Avenue to valet their vehicles or for rideshare drop-off/pick-up. The project is expected to be completed by 2025. A project location map and initial concept plan are provided as Attachment A. The following sections summarize our proposed methodology.

TRIP GENERATION

Trip generation calculations for the Sagamore hotel redevelopment for the existing development and proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. The trip generation for the existing land use was determined using ITE Land Use Code LUC 310 (Hotel). The trip generation for the proposed land uses was determined using ITE LUC 310 (Hotel) and LUC 221 (Mid-Rise, Multifamily Housing).

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tract in the vicinity of the redevelopment. The US Census data indicated that there is a 29.3 percent (29.3%) multimodal factor within the vicinity of the development. Note, that the multimodal factor was capped at 20.0 percent (20.0%) as required by City of Miami Beach. It is expected that residents, patrons, and visitors will choose to walk, bike, or use public transit to and from the proposed development. Transit route information will be documented in the report. Detailed trip generation calculations and US Census *Means of Transportation to Work* data are included in Attachment B.

The proposed redevelopment is expected to result in a reduction of 7 net new vehicle trips during the weekday A.M. peak hour and a reduction of 10 net new vehicle trips during the P.M. peak hour. Detailed trip generation calculations are included as Attachment B.

DATA COLLECTION

Consistent with the approved traffic study methodology for the Lincoln Road Pedestrian Mall Extension, the same 72-hour continuous counts were used to determine the peak traffic periods for analysis. The 72-hour continuous counts were gathered at the following two (2) locations from Thursday, June 16, 2022, through Saturday, June 18, 2022, and evaluated:

1. Collins Avenue/SR A1A, north of Lincoln Road
2. Lincoln Road, east of Collins Avenue/A1A

Based on the peak periods observed, turning movement counts (TMC's) will be collected on a Thursday from 10:30 A.M. to 1:30 P.M., 2:30 P.M. to 6:30 P.M., and on a Friday from 3:30 P.M. to 5:30 P.M to capture peak traffic volumes at the intersections of Lincoln Road and Collins Avenue/SR A1A.

Turning movement counts were collected in 15-minute intervals during the peak period. Turning movement counts include pedestrian and bicyclist volumes. All traffic counts will be adjusted to peak season conditions using the appropriate Florida Department of Transportation (FDOT) peak season category factors. All traffic data will be provided in the Appendix of the traffic impact study. The 72-hour continuous counts are included in Attachment B.

STUDY AREA

Intersection capacity analyses will be conducted for the analysis peak hours to determine the impacts of the proposed streetscape laneage plan at the intersection of Collins Avenue/SR A1A and Lincoln Road.

PROGRAMMED ROADWAY IMPROVEMENTS

Local transportation plans will be reviewed in order to gather information about planned and programmed transportation improvements in the study area. Relevant projects will be documented within the traffic impact analysis. The purpose of the plan review is to identify programmed capacity improvements for consideration in the analysis. The following transportation plans will be examined:

- Miami Beach Transportation Master Plan
- Miami-Dade Transportation Planning Organization's (TPO) Transportation Improvement Program (TIP)
- FDOT's Five-Year Work Program

BACKGROUND GROWTH RATE/MAJOR COMMITTED DEVELOPMENT

A background growth rate was calculated based on historical growth trends at nearby Florida Department of Transportation (FDOT) traffic count stations. Additionally, growth rates based on the TPO's projected 2015 and 2045 model network volumes were examined. The greater of the historical growth rate and SERPM growth rate will be used in the analysis. FDOT count stations referenced in this analysis include:

- FDOT count station no. 5159 located on SR A1A/Collins Avenue, north of 5th Street
- FDOT count station no. 5170 located on SR A1A/Collins Avenue, north of 21st Street

- FDOT count station no. 8414 located on Washington Avenue, north of 12th Street
- FDOT count station no. 8531 located on 17th Street, east of Meridian Avenue
- FDOT count station no. 8567 located on 16th Street, east of Meridian Avenue

The historic growth rate analysis, based on FDOT count stations, examined linear, exponential, and decaying exponential growth rates for the most recent five (5) and 10-year periods. The linear growth trend yielded an average growth rate of negative 2.24 percent (-2.24%) over the most recent five (5) year period and negative 0.55 percent (-0.55%) over the most recent ten (10) year period. The exponential growth trend yielded a growth rate of negative 2.85 percent (-2.85%) over the most recent five (5) year period and negative 0.57 percent (-0.57%) over the most recent ten (10) year period. The decaying exponential growth trend yielded a growth rate of negative 2.29 percent (-2.29%) over the most recent five (5) year period and negative 0.20 percent (-0.20%) over the most recent ten (10) year period.

Based on the forecasted volumes obtained from the 2015 and 2045 FSUTMS SERPM 8.521, an annual growth rate of 0.36 percent (0.36%) in the vicinity of the development was calculated. To provide a conservative analysis, a minimum growth rate of 0.50 percent (0.50%) will be applied annually to the existing traffic volumes to establish future (2025) background conditions. Detailed growth rate calculations are included in Attachment C.

The City's review of this document will determine any committed projects to include in background conditions. The City will provide the corresponding approved traffic study for any committed projects identified.

CAPACITY ANALYSIS

Capacity analyses will be conducted for the analysis period for the study intersections. Intersection analyses will be performed using Trafficware's *Synchro* traffic engineering analysis software which applies the Transportation Research Board's (TRB's), *Highway Capacity Manual* (HCM), 2000 and 6th Edition methodologies. Capacity analyses will be conducted for three (3) scenarios including:

- Existing (2023) conditions,
- Future (2025) no-build conditions
- Future (2025) build (with Streetscape) conditions

The capacity analyses will include the following factors to calibrate the transportation models:

- Peak Hour Factor
- Pedestrian crossing volumes
- Conflicting pedestrian volumes
- Conflicting bicycle volumes
- On-street parking lanes
- Bus blockage
- Heavy vehicle percentages
- Critical and follow-up headways at unsignalized intersections
- Signal Timings
    - Pedestrian signal calls
    - Recall Mode

- Minimum Initial
- Yellow Time
- All Red Time
- Ped Walk Time
- Ped Don't Walk Time
- Vehicle Extension/Minimum Gap
- Maximum Split
- Offset
- Platoon Ratio for coordinated approaches

The following figures will be included for the study intersections:

- Existing peak hour volumes
- Existing laneage
- Future peak hour volumes
- Proposed future laneage

95TH PERCENTILE QUEUE ANALYSIS

A queue analysis will be performed to determine if the existing storage lengths for exclusive turn lanes and the westbound approach at study area intersection can accommodate expected 95th percentile vehicle queue lengths under existing, future background, and future total conditions. The 95th percentile queue lengths will be calculated using Trafficware's *SYNCHRO 11* software, which applies methodologies outlined in the TRB's HCM, 2000/6th Edition.

VALET OPERATIONS ANALYSIS

A queue analysis will be performed for the existing Ritz-Carlton porte-cochere to determine the space needed to accommodate vehicle queues during peak times. Based on information provided by the hotel and the 72-hour count data gathered, maximum valet queues will be gathered in one-minute intervals during the peak valet times of Thursday 12 to 2 PM and Saturday 4:30 to 6:30 PM. These maximum valet queues will be used in the proposed layout. Additionally, the maximum queues will be factored proportionally to account for the Sagamore Hotel valet traffic that will use the Ritz-Carlton porte-cochere.

A queue analysis will be performed for the proposed Sagamore porte-cochere for resident guests. The analysis will be based on the highest trip generation peak hour assuming that 10 percent of the residential redevelopment is resident guest. The valet queuing analysis will be conducted consistent with procedures described in the ITE's *Transportation and Land Development*, 1988.

PEDESTRIAN CROSSING EVALUATION

Existing pedestrian volumes crossing at the Ritz Carlton parking garage and loading driveway will be evaluated and compared to expected future conditions with the streetscape project in-place. Pedestrian volumes collected in July 2022 crossing at the Ritz Carlton parking garage and loading driveway will be factored by pedestrian volumes collected at the intersection of Collins Avenue and Lincoln Road in January 2023/March 2023 intersection turning movement counts. The pedestrian volumes crossing at the Ritz Carlton parking garage and loading driveway will be adjusted to account for the streetscape project and wide sidewalk on the southside of Lincoln Road that serves as a shared use path to access the beach.

MANEUVERABILITY ANALYSIS

A maneuverability analysis for the Lincoln Road street-end will be performed utilizing Transoft Solutions' *AutoTURN* software. Deficiencies related to maneuverability, traffic flow, and vehicular conflicts will be documented in a technical memorandum as part of the traffic study.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Demand Management (TDM) strategies for the Sagamore hotel redevelopment will be developed to reduce the impact of project traffic on the surrounding roadway network and promote trip reduction. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours.

PARKING EVALUATION

A summary of the proposed parking supply to accommodate the Sagamore Hotel redevelopment be prepared and included as part of the traffic study based on parking calculations prepared by others.

The impacts of the streetscape design on on-street parking will also be documented in the parking evaluation section of the traffic study.

DOCUMENTATION

The results of the traffic impact analysis will be summarized in a report. The report will include graphics and tabulations plus text to describe the study procedure, key assumptions, and findings.

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Methodology Attachments removed to eliminate duplicate information.

Appendix C

Traffic Data

72-Hour Continuous Counts

SR A1A/Collins Avenue N/O Lincoln Road Hourly Volumes

	Thursday	Thursday Hourly Count	Friday	Friday Hourly Count	Saturday	Saturday Hourly Count
Time	Counts					
00:00	196	715	206	851	265	1113
00:15	192	660	232	828	301	1136
00:30	159	593	233	769	257	1098
00:45	168	561	180	714	290	1103
01:00	141	494	183	668	288	1068
01:15	125	476	173	607	263	1013
01:30	127	449	178	569	262	958
01:45	101	407	134	523	255	894
02:00	123	388	122	487	233	784
02:15	98	337	135	459	208	725
02:30	85	316	132	406	198	685
02:45	82	284	98	365	145	624
03:00	72	276	94	362	174	613
03:15	77	255	82	368	168	574
03:30	53	236	91	376	137	542
03:45	74	253	95	375	134	498
04:00	51	229	100	343	135	492
04:15	58	226	90	313	136	460
04:30	70	231	90	282	93	437
04:45	50	232	63	260	128	426
05:00	48	266	70	289	103	382
05:15	63	312	59	307	113	363
05:30	71	349	68	343	82	348
05:45	84	394	92	389	84	346
06:00	94	464	88	417	84	389
06:15	100	513	95	479	98	413
06:30	116	559	114	500	80	447
06:45	154	589	120	513	127	516
07:00	143	609	150	558	108	534
07:15	146	657	116	598	132	571
07:30	146	698	127	662	149	595
07:45	174	745	165	741	145	618
08:00	191	800	190	796	145	659
08:15	187	811	180	810	156	711
08:30	193	853	206	818	172	749
08:45	229	861	220	819	186	782
09:00	202	857	204	822	197	800
09:15	229	866	188	840	194	843
09:30	201	875	207	892	205	904
09:45	225	896	223	930	204	951
10:00	211	950	222	1014	240	1050
10:15	238	1015	240	1081	255	1091
10:30	222	1041	245	1140	252	1158
10:45	279	1100	307	1184	303	1158
11:00	276	1106	289	1190	281	1208
11:15	264	1116	299	1174	322	1268
11:30	281	1125	289	1191	252	1246
11:45	285	1140	313	1195	353	1309
12:00	286	1153	273	1199	341	1295
12:15	273	1138	316	1270	300	1255
12:30	296	1262	293	1305	315	1256
12:45	298	1291	317	1311	339	1293
13:00	271	1274	344	1325	301	1303
13:15	397	1258	351	1327	301	1370
13:30	325	1116	299	1350	352	1436
13:45	281	1076	331	1403	349	1443
14:00	255	1084	346	1431	368	1447
14:15	255	1167	374	1446	367	1444
14:30	285	1255	352	1444	359	1397
14:45	289	1273	359	1463	353	1378
15:00	338	1263	361	1426	365	1331
15:15	343	1245	372	1380	320	1261
15:30	303	1222	371	1455	340	1266
15:45	279	1219	322	1543	306	1262
16:00	320	1270	315	1621	295	1315
16:15	320	1214	447	1732	325	1341
16:30	300	1160	459	1658	336	1351
16:45	330	1148	400	1553	359	1384
17:00	264	1091	426	1508	321	1378
17:15	266	1153	373	1448	335	1399
17:30	288	1170	354	1405	369	1374
17:45	273	1175	355	1361	353	1311
18:00	326	1200	366	1327	342	1278
18:15	283	1159	330	1236	310	1266
18:30	293	1182	310	1181	306	1320
18:45	298	1175	321	1166	320	1346
19:00	285	1181	275	1200	330	1367
19:15	306	1260	275	1254	364	1342
19:30	286	1250	295	1347	332	1317
19:45	304	1238	355	1396	341	1262
20:00	364	1170	329	1325	305	1266
20:15	296	1049	368	1293	339	1264
20:30	274	1008	344	1202	277	1265
20:45	236	957	284	1150	345	1332
21:00	243	978	297	1217	303	1342
21:15	255	993	277	1238	340	1355
21:30	223	984	292	1307	344	1335
21:45	257	1013	351	1418	355	1334
22:00	258	1002	318	1407	316	1350
22:15	246	1018	346	1451	320	1373
22:30	252	983	403	1412	343	1378
22:45	246	957	340	1296	371	1323
23:00	274	948	362	1292	339	1282
23:15	211		307		325	
23:30	226		287		288	
23:45	237		336		330	

Lincoln Road E/O SR A1A/ Collins Avenue Hourly Volumes

	Thursday	Thursday Hourly Count	Friday	Friday Hourly Count	Saturday	Saturday Hourly Count
Time	Counts					
00:00	66	182	57	197	80	336
00:15	18	170	46	199	82	316
00:30	51	180	56	192	91	282
00:45	47	162	38	164	83	245
01:00	54	144	59	170	60	206
01:15	28	107	39	135	48	190
01:30	33	100	28	130	54	180
01:45	29	79	44	129	44	143
02:00	17	69	24	102	44	110
02:15	21	68	34	93	38	91
02:30	12	61	27	68	17	73
02:45	19	53	17	54	11	66
03:00	16	42	15	44	25	74
03:15	14	38	9	34	20	56
03:30	4	30	13	41	10	54
03:45	8	44	7	45	19	56
04:00	12	46	5	55	7	58
04:15	6	52	16	58	18	69
04:30	18	53	17	63	12	66
04:45	10	47	17	70	21	94
05:00	18	66	8	70	18	104
05:15	7	78	21	93	15	104
05:30	12	102	24	93	40	112
05:45	29	121	17	102	31	107
06:00	30	118	31	129	18	127
06:15	31	125	21	146	23	133
06:30	31	127	33	150	35	173
06:45	26	143	44	145	51	196
07:00	37	210	48	180	24	201
07:15	33	240	25	182	63	224
07:30	47	287	28	210	58	210
07:45	93	286	79	243	56	203
08:00	67	282	50	254	47	199
08:15	80	287	53	276	49	215
08:30	46	294	61	283	51	228
08:45	89	347	90	295	52	235
09:00	72	338	72	280	63	241
09:15	87	340	60	298	62	252
09:30	99	333	73	325	58	271
09:45	80	335	75	315	58	298
10:00	74	366	90	334	74	331
10:15	80	417	87	350	81	360
10:30	101	456	63	387	85	374
10:45	111	456	94	391	91	355
11:00	125	452	106	420	103	382
11:15	119	441	124	426	95	368
11:30	101	446	67	441	66	390
11:45	107	463	123	491	118	461
12:00	114	466	112	455	89	473
12:15	124	466	139	465	117	482
12:30	118	480	117	447	137	472
12:45	110	475	87	456	130	436
13:00	114	466	122	495	98	435
13:15	138	450	121	486	107	456
13:30	113	413	126	489	101	458
13:45	101	408	126	497	129	465
14:00	98	387	113	529	119	458
14:15	101	366	124	539	109	456
14:30	108	384	134	550	108	486
14:45	80	381	158	546	122	503
15:00	77	412	123	499	117	506
15:15	119	455	135	452	139	502
15:30	105	434	130	427	125	477
15:45	111	435	111	420	125	499
16:00	120	446	76	434	113	480
16:15	98	440	110	480	114	476
16:30	106	453	123	521	147	489
16:45	122	445	125	529	106	442
17:00	114	472	122	513	109	446
17:15	111	453	151	524	127	483
17:30	98	436	131	465	100	479
17:45	149	452	109	414	110	514
18:00	95	466	133	387	146	518
18:15	94	470	92	366	123	494
18:30	114	476	80	397	135	445
18:45	163	445	82	405	114	422
19:00	99	378	112	417	122	436
19:15	100	401	123	416	74	400
19:30	83	414	88	413	112	409
19:45	96	416	94	439	128	409
20:00	122	417	111	451	86	394
20:15	113	384	120	439	83	417
20:30	85	376	114	413	112	431
20:45	97	388	106	375	113	443
21:00	89	377	99	362	109	427
21:15	105	353	94	357	97	416
21:30	97	338	76	343	124	404
21:45	86	328	93	347	97	357
22:00	65	315	94	339	98	338
22:15	90	333	80	344	85	310
22:30	87	331	80	334	77	317
22:45	73	314	85	327	78	334
23:00	83	299	99	343	70	347
23:15	88		70		92	
23:30	70		73		94	
23:45	58		101		91	

All Segments

	Thursday	Thursday Hourly Count	Friday	Friday Hourly Count	Saturday	Saturday Hourly Count
Time	Counts					
00:00	262	897	263	1,048	345	1,449
00:15	210	830	278	1,027	383	1,452
00:30	210	773	289	961	348	1,380
00:45	215	723	218	878	373	1,348
01:00	195	638	242	838	348	1,274
01:15	153	583	212	742	311	1,203
01:30	160	549	206	699	316	1,138
01:45	130	486	178	652	299	1,037
02:00	140	457	146	589	277	894
02:15	119	405	169	552	246	816
02:30	97	377	159	474	215	758
02:45	101	337	115	419	156	690
03:00	88	318	109	406	199	687
03:15	91	293	91	402	188	630
03:30	57	266	104	417	147	596
03:45	82	297	102	420	153	554
04:00	63	275	105	398	142	550
04:15	64	278	106	371	154	529
04:30	88	284	107	345	105	503
04:45	60	279	80	330	149	520
05:00	66	332	78	359	121	486
05:15	70	390	80	400	128	467
05:30	83	451	92	436	122	460
05:45	113	515	109	491	115	453
06:00	124	582	119	546	102	516
06:15	131	638	116	625	121	546
06:30	147	686	147	650	115	620
06:45	180	732	164	658	178	712
07:00	180	819	198	738	132	735
07:15	179	897	141	780	195	795
07:30	193	985	155	872	207	805
07:45	267	1,031	244	984	201	821
08:00	258	1,082	240	1,050	192	858
08:15	267	1,098	233	1,086	205	926
08:30	239	1,147	267	1,101	223	977
08:45	318	1,208	310	1,114	238	1,017
09:00	274	1,195	276	1,102	260	1,041
09:15	316	1,206	248	1,138	256	1,095
09:30	300	1,208	280	1,217	263	1,175
09:45	305	1,231	298	1,245	262	1,249
10:00	285	1,316	312	1,348	314	1,381
10:15	318	1,432	327	1,431	336	1,451
10:30	323	1,497	308	1,527	337	1,532
10:45	390	1,556	401	1,575	394	1,513
11:00	401	1,558	395	1,610	384	1,590
11:15	383	1,557	423	1,600	417	1,636
11:30	382	1,571	356	1,632	318	1,636
11:45	392	1,603	436	1,686	471	1,770
12:00	400	1,619	385	1,654	430	1,768
12:15	397	1,604	455	1,735	417	1,737
12:30	414	1,742	410	1,752	452	1,728
12:45	408	1,766	404	1,767	469	1,729
13:00	385	1,740	466	1,820	399	1,738
13:15	535	1,708	472	1,813	408	1,826
13:30	438	1,529	425	1,839	453	1,894
13:45	382	1,484	457	1,900	478	1,908
14:00	353	1,471	459	1,960	487	1,905
14:15	356	1,533	498	1,985	476	1,900
14:30	393	1,639	486	1,994	467	1,883
14:45	369	1,654	517	2,009	475	1,881
15:00	415	1,675	484	1,925	482	1,837
15:15	462	1,700	507	1,832	459	1,763
15:30	408	1,656	501	1,882	465	1,743
15:45	390	1,654	433	1,963	431	1,761
16:00	440	1,716	391	2,055	408	1,795
16:15	418	1,654	557	2,212	439	1,817
16:30	406	1,613	582	2,179	483	1,840
16:45	452	1,593	525	2,082	465	1,826
17:00	378	1,563	548	2,021	430	1,824
17:15	377	1,606	524	1,972	462	1,882
17:30	386	1,606	485	1,870	469	1,853
17:45	422	1,627	464	1,775	463	1,825
18:00	421	1,666	499	1,714	488	1,796
18:15	377	1,629	422	1,602	433	1,760
18:30	407	1,658	390	1,578	441	1,765
18:45	461	1,620	403	1,571	434	1,768
19:00	384	1,559	387	1,617	452	1,803
19:15	406	1,661	398	1,670	438	1,742
19:30	369	1,664	383	1,760	444	1,726
19:45	400	1,654	449	1,835	469	1,671
20:00	486	1,587	440	1,776	391	1,660
20:15	409	1,433	488	1,732	422	1,681
20:30	359	1,384	458	1,615	389	1,696
20:45	333	1,345	390	1,525	458	1,775
21:00	332	1,355	396	1,579	412	1,769
21:15	360	1,346	371	1,595	437	1,771
21:30	320	1,322	368	1,650	468	1,739
21:45	343	1,341	444	1,765	452	1,691
22:00	323	1,317	412	1,746	414	1,688
22:15	336	1,351	426	1,795	405	1,683
22:30	339	1,314	483	1,746	420	1,695
22:45	319	1,271	425	1,623	449	1,657
23:00	357	1,247	461	1,635	409	1,629
23:15	299		377		417	
23:30	296		360		382	
23:45	295		437		421	

Prepared by National Data & Surveying Services

VOLUME

SR A1A/Collins Ave N/O Lincoln Rd

Day: Thursday
Date: 6/16/2022

City: Miami Beach
Project #: FL22_140314_002

DAILY TOTALS	NB	SB	EB	WB	Total
	10,070	10,698	0	0	20,768

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	97		99				196		12:00	145		141				286	
0:15	102		90				192		12:15	152		121				273	
0:30	70		89				159		12:30	143		153				296	
0:45	78	347	90	368			168	715	12:45	159	599	139	554			298	1153
1:00	69		72				141		13:00	131		140				271	
1:15	67		58				125		13:15	169		228				397	
1:30	58		69				127		13:30	169		156				325	
1:45	46	240	55	254			101	494	13:45	133	602	148	672			281	1274
2:00	65		58				123		14:00	133		122				255	
2:15	49		49				98		14:15	134		121				255	
2:30	48		37				85		14:30	152		133				285	
2:45	34	196	48	192			82	388	14:45	142	561	147	523			289	1084
3:00	30		42				72		15:00	172		166				338	
3:15	37		40				77		15:15	179		164				343	
3:30	25		28				53		15:30	142		161				303	
3:45	37	129	37	147			74	276	15:45	146	639	133	624			279	1263
4:00	26		25				51		16:00	162		158				320	
4:15	32		26				58		16:15	166		154				320	
4:30	40		30				70		16:30	148		152				300	
4:45	21	119	29	110			50	229	16:45	160	636	170	634			330	1270
5:00	30		18				48		17:00	135		129				264	
5:15	32		31				63		17:15	140		126				266	
5:30	35		36				71		17:30	131		157				288	
5:45	42	139	42	127			84	266	17:45	130	536	143	555			273	1091
6:00	40		54				94		18:00	167		159				326	
6:15	63		37				100		18:15	137		146				283	
6:30	61		55				116		18:30	147		146				293	
6:45	71	235	83	229			154	464	18:45	130	581	168	619			298	1200
7:00	69		74				143		19:00	144		141				285	
7:15	64		82				146		19:15	142		164				306	
7:30	65		81				146		19:30	142		144				286	
7:45	67	265	107	344			174	609	19:45	145	573	159	608			304	1181
8:00	75		116				191		20:00	178		186				364	
8:15	91		96				187		20:15	130		166				296	
8:30	85		108				193		20:30	133		141				274	
8:45	101	352	128	448			229	800	20:45	117	558	119	612			236	1170
9:00	92		110				202		21:00	121		122				243	
9:15	96		133				229		21:15	119		136				255	
9:30	96		105				201		21:30	105		118				223	
9:45	104	388	121	469			225	857	21:45	134	479	123	499			257	978
10:00	89		122				211		22:00	136		122				258	
10:15	103		135				238		22:15	112		134				246	
10:30	106		116				222		22:30	126		126				252	
10:45	121	419	158	531			279	950	22:45	110	484	136	518			246	1002
11:00	137		139				276		23:00	130		144				274	
11:15	133		131				264		23:15	96		115				211	
11:30	141		140				281		23:30	114		112				226	
11:45	125	536	160	570			285	1106	23:45	117	457	120	491			237	948
TOTALS		3365		3789				**7154**	**TOTALS**		6705		6909				**13614**
SPLIT %		47.0%		53.0%				**34.4%**	**SPLIT %**		49.3%		50.7%				**65.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	10,070	10,698	0	0	20,768

AM Peak Hour	11:45	11:45						**11:45**	**PM Peak Hour**	14:30	13:00						**12:45**
AM Pk Volume	565	575						**1140**	**PM Pk Volume**	645	672						**1291**
Pk Hr Factor	0.929	0.898						**0.963**	**Pk Hr Factor**	0.901	0.737						**0.813**
7 - 9 Volume	617	792	0	0				**1409**	**4 - 6 Volume**	1172	1189	0	0				**2361**
7 - 9 Peak Hour	8:00	8:00						**8:00**	**4 - 6 Peak Hour**	16:00	16:00						**16:00**
7 - 9 Pk Volume	352	448	0	0				**800**	**4 - 6 Pk Volume**	636	634	0	0				**1270**
Pk Hr Factor	0.871	0.875	0.000	0.000				**0.873**	**Pk Hr Factor**	0.958	0.932	0.000	0.000				**0.962**

Prepared by National Data & Surveying Services

VOLUME

SR A1A/Collins Ave N/O Lincoln Rd

Day: Friday
Date: 6/17/2022

City: Miami Beach
Project #: FL22_140314_002

DAILY TOTALS	NB	SB	EB	WB	Total
	11,465	12,610	0	0	24,075

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	96		110				206		12:00	131		142				273	
0:15	120		112				232		12:15	170		146				316	
0:30	120		113				233		12:30	132		161				293	
0:45	94	430	86	421			180	851	12:45	152	585	165	614			317	1199
1:00	84		99				183		13:00	178		166				344	
1:15	81		92				173		13:15	161		190				351	
1:30	86		92				178		13:30	155		144				299	
1:45	76	327	58	341			134	668	13:45	178	672	153	653			331	1325
2:00	54		68				122		14:00	168		178				346	
2:15	55		80				135		14:15	181		193				374	
2:30	53		79				132		14:30	195		157				352	
2:45	51	213	47	274			98	487	14:45	173	717	186	714			359	1431
3:00	47		47				94		15:00	164		197				361	
3:15	34		48				82		15:15	173		199				372	
3:30	48		43				91		15:30	185		186				371	
3:45	42	171	53	191			95	362	15:45	145	667	177	759			322	1426
4:00	58		42				100		16:00	151		164				315	
4:15	48		42				90		16:15	214		233				447	
4:30	47		43				90		16:30	204		255				459	
4:45	25	178	38	165			63	343	16:45	197	766	203	855			400	1621
5:00	34		36				70		17:00	241		185				426	
5:15	33		26				59		17:15	213		160				373	
5:30	28		40				68		17:30	177		177				354	
5:45	38	133	54	156			92	289	17:45	155	786	200	722			355	1508
6:00	48		40				88		18:00	175		191				366	
6:15	53		42				95		18:15	159		171				330	
6:30	51		63				114		18:30	133		177				310	
6:45	57	209	63	208			120	417	18:45	136	603	185	724			321	1327
7:00	64		86				150		19:00	122		153				275	
7:15	54		62				116		19:15	134		141				275	
7:30	60		67				127		19:30	127		168				295	
7:45	77	255	88	303			165	558	19:45	164	547	191	653			355	1200
8:00	91		99				190		20:00	148		181				329	
8:15	78		102				180		20:15	172		196				368	
8:30	75		131				206		20:30	146		198				344	
8:45	104	348	116	448			220	796	20:45	133	599	151	726			284	1325
9:00	104		100				204		21:00	132		165				297	
9:15	80		108				188		21:15	147		130				277	
9:30	102		105				207		21:30	137		155				292	
9:45	116	402	107	420			223	822	21:45	154	570	197	647			351	1217
10:00	112		110				222		22:00	151		167				318	
10:15	120		120				240		22:15	134		212				346	
10:30	117		128				245		22:30	172		231				403	
10:45	147	496	160	518			307	1014	22:45	158	615	182	792			340	1407
11:00	141		148				289		23:00	158		204				362	
11:15	151		148				299		23:15	137		170				307	
11:30	144		145				289		23:30	143		144				287	
11:45	153	589	160	601			313	1190	23:45	149	587	187	705			336	1292
TOTALS		3751		4046				**7797**	**TOTALS**		7714		8564				**16278**
SPLIT %		48.1%		51.9%				**32.4%**	**SPLIT %**		47.4%		52.6%				**67.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	11,465	12,610	0	0	24,075

AM Peak Hour	11:30	11:45						**11:45**	**PM Peak Hour**	16:15	16:15							**16:15**
AM Pk Volume	598	609						**1195**	**PM Pk Volume**	856	876							**1732**
Pk Hr Factor	0.879	0.946						**0.945**	**Pk Hr Factor**	0.888	0.859							**0.943**
7 - 9 Volume	603	751	0	0				**1354**	**4 - 6 Volume**	1552	1577	0	0					**3129**
7 - 9 Peak Hour	8:00	8:00						**8:00**	**4 - 6 Peak Hour**	16:15	16:15							**16:15**
7 - 9 Pk Volume	348	448	0	0				**796**	**4 - 6 Pk Volume**	856	876	0	0					**1732**
Pk Hr Factor	0.837	0.855	0.000	0.000				**0.905**	**Pk Hr Factor**	0.888	0.859	0.000	0.000					**0.943**

Prepared by National Data & Surveying Services

VOLUME

SR A1A/Collins Ave N/O Lincoln Rd

Day: Saturday
Date: 6/18/2022

City: Miami Beach
Project #: FL22_140314_002

DAILY TOTALS	NB	SB	EB	WB	Total
	11,447	13,599	0	0	25,046

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	124		141				265		12:00	157		184				341	
0:15	147		154				301		12:15	122		178				300	
0:30	131		126				257		12:30	145		170				315	
0:45	138	540	152	573			290	1113	12:45	152	576	187	719			339	1295
1:00	136		152				288		13:00	139		162				301	
1:15	122		141				263		13:15	125		176				301	
1:30	115		147				262		13:30	156		196				352	
1:45	118	491	137	577			255	1068	13:45	173	593	176	710			349	1303
2:00	101		132				233		14:00	173		195				368	
2:15	102		106				208		14:15	174		193				367	
2:30	86		112				198		14:30	161		198				359	
2:45	80	369	65	415			145	784	14:45	179	687	174	760			353	1447
3:00	77		97				174		15:00	155		210				365	
3:15	64		104				168		15:15	143		177				320	
3:30	73		64				137		15:30	143		197				340	
3:45	60	274	74	339			134	613	15:45	130	571	176	760			306	1331
4:00	81		54				135		16:00	137		158				295	
4:15	71		65				136		16:15	156		169				325	
4:30	55		38				93		16:30	154		182				336	
4:45	61	268	67	224			128	492	16:45	146	593	213	722			359	1315
5:00	50		53				103		17:00	142		179				321	
5:15	68		45				113		17:15	144		191				335	
5:30	32		50				82		17:30	186		183				369	
5:45	43	193	41	189			84	382	17:45	156	628	197	750			353	1378
6:00	47		37				84		18:00	152		190				342	
6:15	46		52				98		18:15	120		190				310	
6:30	43		37				80		18:30	153		153				306	
6:45	59	195	68	194			127	389	18:45	136	561	184	717			320	1278
7:00	53		55				108		19:00	159		171				330	
7:15	58		74				132		19:15	157		207				364	
7:30	59		90				149		19:30	151		181				332	
7:45	65	235	80	299			145	534	19:45	139	606	202	761			341	1367
8:00	60		85				145		20:00	137		168				305	
8:15	74		82				156		20:15	152		187				339	
8:30	80		92				172		20:30	117		160				277	
8:45	73	287	113	372			186	659	20:45	143	549	202	717			345	1266
9:00	85		112				197		21:00	131		172				303	
9:15	75		119				194		21:15	150		190				340	
9:30	104		101				205		21:30	176		168				344	
9:45	90	354	114	446			204	800	21:45	143	600	212	742			355	1342
10:00	109		131				240		22:00	138		178				316	
10:15	121		134				255		22:15	146		174				320	
10:30	127		125				252		22:30	164		179				343	
10:45	141	498	162	552			303	1050	22:45	170	618	201	732			371	1350
11:00	138		143				281		23:00	152		187				339	
11:15	152		170				322		23:15	142		183				325	
11:30	137		115				252		23:30	128		160				288	
11:45	175	602	178	606			353	1208	23:45	137	559	193	723			330	1282
TOTALS		4306		4786				**9092**	**TOTALS**		7141		8813				**15954**
SPLIT %		47.4%		52.6%				**36.3%**	**SPLIT %**		44.8%		55.2%				**63.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	11,447	13,599	0	0	25,046

AM Peak Hour	11:15	11:45						**11:45**	**PM Peak Hour**	14:00	14:15							**14:00**
AM Pk Volume	621	710						**1309**	**PM Pk Volume**	687	775							**1447**
Pk Hr Factor	0.887	0.965						**0.927**	**Pk Hr Factor**	0.959	0.923							**0.983**
7 - 9 Volume	522	671	0	0				**1193**	**4 - 6 Volume**	1221	1472	0	0					**2693**
7 - 9 Peak Hour	8:00	8:00						**8:00**	**4 - 6 Peak Hour**	17:00	16:45							**16:45**
7 - 9 Pk Volume	287	372	0	0				**659**	**4 - 6 Pk Volume**	628	766	0	0					**1384**
Pk Hr Factor	0.897	0.823	0.000	0.000				**0.886**	**Pk Hr Factor**	0.844	0.899	0.000	0.000					**0.938**

Prepared by National Data & Surveying Services

VOLUME

Lincoln Rd E/O SR A1A/Collins Ave

Day: Thursday
Date: 6/16/2022

City: Miami Beach
Project #: FL22_140314_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,538	3,678	7,216

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			30		36		66		12:00			58		56		114	
0:15			7		11		18		12:15			54		70		124	
0:30			22		29		51		12:30			69		49		118	
0:45			22	81	25	101	47	182	12:45			55	236	55	230	110	466
1:00			24		30		54		13:00			64		50		114	
1:15			14		14		28		13:15			90		48		138	
1:30			14		19		33		13:30			52		61		113	
1:45			15	67	14	77	29	144	13:45			53	259	48	207	101	466
2:00			8		9		17		14:00			55		43		98	
2:15			9		12		21		14:15			53		48		101	
2:30			5		7		12		14:30			64		44		108	
2:45			6	28	13	41	19	69	14:45			38	210	42	177	80	387
3:00			8		8		16		15:00			27		50		77	
3:15			6		8		14		15:15			67		52		119	
3:30			2		2		4		15:30			51		54		105	
3:45			4	20	4	22	8	42	15:45			52	197	59	215	111	412
4:00			7		5		12		16:00			65		55		120	
4:15			3		3		6		16:15			43		55		98	
4:30			9		9		18		16:30			56		50		106	
4:45			5	24	5	22	10	46	16:45			56	220	66	226	122	446
5:00			6		12		18		17:00			49		65		114	
5:15			5		2		7		17:15			57		54		111	
5:30			5		7		12		17:30			61		37		98	
5:45			17	33	12	33	29	66	17:45			86	253	63	219	149	472
6:00			17		13		30		18:00			49		46		95	
6:15			11		20		31		18:15			42		52		94	
6:30			15		16		31		18:30			58		56		114	
6:45			14	57	12	61	26	118	18:45			93	242	70	224	163	466
7:00			13		24		37		19:00			49		50		99	
7:15			18		15		33		19:15			57		43		100	
7:30			17		30		47		19:30			41		42		83	
7:45			37	85	56	125	93	210	19:45			47	194	49	184	96	378
8:00			33		34		67		20:00			64		58		122	
8:15			33		47		80		20:15			43		70		113	
8:30			22		24		46		20:30			45		40		85	
8:45			46	134	43	148	89	282	20:45			40	192	57	225	97	417
9:00			33		39		72		21:00			43		46		89	
9:15			39		48		87		21:15			48		57		105	
9:30			48		51		99		21:30			40		57		97	
9:45			37	157	43	181	80	338	21:45			40	171	46	206	86	377
10:00			37		37		74		22:00			33		32		65	
10:15			41		39		80		22:15			47		43		90	
10:30			48		53		101		22:30			41		46		87	
10:45			46	172	65	194	111	366	22:45			35	156	38	159	73	315
11:00			62		63		125		23:00			36		47		83	
11:15			43		76		119		23:15			46		42		88	
11:30			56		45		101		23:30			35		35		70	
11:45			45	206	62	246	107	452	23:45			27	144	31	155	58	299
TOTALS				1064		1251		**2315**	**TOTALS**				2474		2427		**4901**
SPLIT %				46.0%		54.0%		**32.1%**	**SPLIT %**				50.5%		49.5%		**67.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,538	3,678	7,216

AM Peak Hour				11:45		10:30		**11:45**	**PM Peak Hour**				12:30		16:15		**12:30**
AM Pk Volume				226		257		**463**	**PM Pk Volume**				278		236		**480**
Pk Hr Factor				0.819		0.845		**0.933**	**Pk Hr Factor**				0.772		0.894		**0.870**
7 - 9 Volume	0	0		219		273		**492**	**4 - 6 Volume**	0	0		473		445		**918**
7 - 9 Peak Hour				8:00		7:30		**7:30**	**4 - 6 Peak Hour**				17:00		16:15		**17:00**
7 - 9 Pk Volume	0	0		134		167		**287**	**4 - 6 Pk Volume**	0	0		253		236		**472**
Pk Hr Factor	0.000	0.000		0.728		0.746		**0.772**	**Pk Hr Factor**	0.000	0.000		0.735		0.894		**0.792**

Prepared by National Data & Surveying Services

VOLUME

Lincoln Rd E/O SR A1A/Collins Ave

Day: Friday
Date: 6/17/2022

City: Miami Beach
Project #: FL22_140314_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,722	3,737	7,459

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00			21	36	57	12:00			53	59	112
0:15			22	24	46	12:15			76	63	139
0:30			27	29	56	12:30			58	59	117
0:45			17 87	21 110	38 197	12:45			50 237	37 218	87 455
1:00			29	30	59	13:00			57	65	122
1:15			20	19	39	13:15			64	57	121
1:30			10	18	28	13:30			69	57	126
1:45			21 80	23 90	44 170	13:45			57 247	69 248	126 495
2:00			15	9	24	14:00			61	52	113
2:15			17	17	34	14:15			60	64	124
2:30			13	14	27	14:30			63	71	134
2:45			7 52	10 50	17 102	14:45			96 280	62 249	158 529
3:00			7	8	15	15:00			61	62	123
3:15			4	5	9	15:15			63	72	135
3:30			6	7	13	15:30			51	79	130
3:45			4 21	3 23	7 44	15:45			52 227	59 272	111 499
4:00			2	3	5	16:00			37	39	76
4:15			9	7	16	16:15			53	57	110
4:30			10	7	17	16:30			63	60	123
4:45			7 28	10 27	17 55	16:45			67 220	58 214	125 434
5:00			3	5	8	17:00			48	74	122
5:15			10	11	21	17:15			64	87	151
5:30			12	12	24	17:30			75	56	131
5:45			10 35	7 35	17 70	17:45			53 240	56 273	109 513
6:00			10	21	31	18:00			59	74	133
6:15			12	9	21	18:15			39	53	92
6:30			15	18	33	18:30			32	48	80
6:45			26 63	18 66	44 129	18:45			45 175	37 212	82 387
7:00			23	25	48	19:00			57	55	112
7:15			12	13	25	19:15			64	59	123
7:30			18	10	28	19:30			43	45	88
7:45			36 89	43 91	79 180	19:45			54 218	40 199	94 417
8:00			26	24	50	20:00			66	45	111
8:15			33	20	53	20:15			58	62	120
8:30			28	33	61	20:30			65	49	114
8:45			53 140	37 114	90 254	20:45			54 243	52 208	106 451
9:00			42	30	72	21:00			43	56	99
9:15			26	34	60	21:15			43	51	94
9:30			40	33	73	21:30			39	37	76
9:45			43 151	32 129	75 280	21:45			55 180	38 182	93 362
10:00			43	47	90	22:00			43	51	94
10:15			39	48	87	22:15			44	36	80
10:30			32	31	63	22:30			40	40	80
10:45			43 157	51 177	94 334	22:45			48 175	37 164	85 339
11:00			53	53	106	23:00			53	46	99
11:15			50	74	124	23:15			32	38	70
11:30			34	33	67	23:30			39	34	73
11:45			65 202	58 218	123 420	23:45			51 175	50 168	101 343
TOTALS			1105	1130	2235	TOTALS			2617	2607	5224
SPLIT %			49.4%	50.6%	30.0%	SPLIT %			50.1%	49.9%	70.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,722	3,737	7,459

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour		14:30	16:30	14:30
AM Pk Volume			252	239	491	PM Pk Volume		283	279	550
Pk Hr Factor			0.829	0.948	0.883	Pk Hr Factor		0.737	0.802	0.870
7 - 9 Volume	0	0	229	205	434	4 - 6 Volume	0	0 460	487	947
7 - 9 Peak Hour			8:00	7:45	8:00	4 - 6 Peak Hour		16:45	16:30	16:45
7 - 9 Pk Volume	0	0	140	120	254	4 - 6 Pk Volume	0	0 254	279	529
Pk Hr Factor	0.000	0.000	0.660	0.698	0.706	Pk Hr Factor	0.000	0.000 0.847	0.802	0.876

Prepared by National Data & Surveying Services

VOLUME

Lincoln Rd E/O SR A1A/Collins Ave

Day: Saturday
Date: 6/18/2022

City: Miami Beach
Project #: FL22_140314_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,838	3,789	7,627

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			44		36		80		12:00			43		46		89	
0:15			39		43		82		12:15			63		54		117	
0:30			48		43		91		12:30			72		65		137	
0:45			36	167	47	169	83	336	12:45			72	250	58	223	130	473
1:00			32		28		60		13:00			54		44		98	
1:15			21		27		48		13:15			53		54		107	
1:30			25		29		54		13:30			55		46		101	
1:45			17	95	27	111	44	206	13:45			71	233	58	202	129	435
2:00			18		26		44		14:00			71		48		119	
2:15			18		20		38		14:15			49		60		109	
2:30			8		9		17		14:30			54		54		108	
2:45			5	49	6	61	11	110	14:45			64	238	58	220	122	458
3:00			14		11		25		15:00			50		67		117	
3:15			9		11		20		15:15			78		61		139	
3:30			8		2		10		15:30			59		66		125	
3:45			9	40	10	34	19	74	15:45			63	250	62	256	125	506
4:00			4		3		7		16:00			56		57		113	
4:15			9		9		18		16:15			57		57		114	
4:30			8		4		12		16:30			74		73		147	
4:45			9	30	12	28	21	58	16:45			45	232	61	248	106	480
5:00			12		6		18		17:00			54		55		109	
5:15			8		7		15		17:15			68		59		127	
5:30			26		14		40		17:30			46		54		100	
5:45			12	58	19	46	31	104	17:45			57	225	53	221	110	446
6:00			8		10		18		18:00			72		74		146	
6:15			12		11		23		18:15			57		66		123	
6:30			21		14		35		18:30			61		74		135	
6:45			27	68	24	59	51	127	18:45			57	247	57	271	114	518
7:00			9		15		24		19:00			63		59		122	
7:15			34		29		63		19:15			34		40		74	
7:30			30		28		58		19:30			56		56		112	
7:45			31	104	25	97	56	201	19:45			54	207	74	229	128	436
8:00			28		19		47		20:00			46		40		86	
8:15			26		23		49		20:15			39		44		83	
8:30			23		28		51		20:30			59		53		112	
8:45			29	106	23	93	52	199	20:45			44	188	69	206	113	394
9:00			30		33		63		21:00			49		60		109	
9:15			37		25		62		21:15			49		48		97	
9:30			27		31		58		21:30			62		62		124	
9:45			27	121	31	120	58	241	21:45			56	216	41	211	97	427
10:00			35		39		74		22:00			49		49		98	
10:15			38		43		81		22:15			50		35		85	
10:30			42		43		85		22:30			37		40		77	
10:45			44	159	47	172	91	331	22:45			44	180	34	158	78	338
11:00			56		47		103		23:00			33		37		70	
11:15			50		45		95		23:15			48		44		92	
11:30			33		33		66		23:30			49		45		94	
11:45			60	199	58	183	118	382	23:45			46	176	45	171	91	347
TOTALS				1196		1173		2369	TOTALS				2642		2616		5258
SPLIT %				50.5%		49.5%		31.1%	SPLIT %				50.2%		49.8%		68.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,838	3,789	7,627

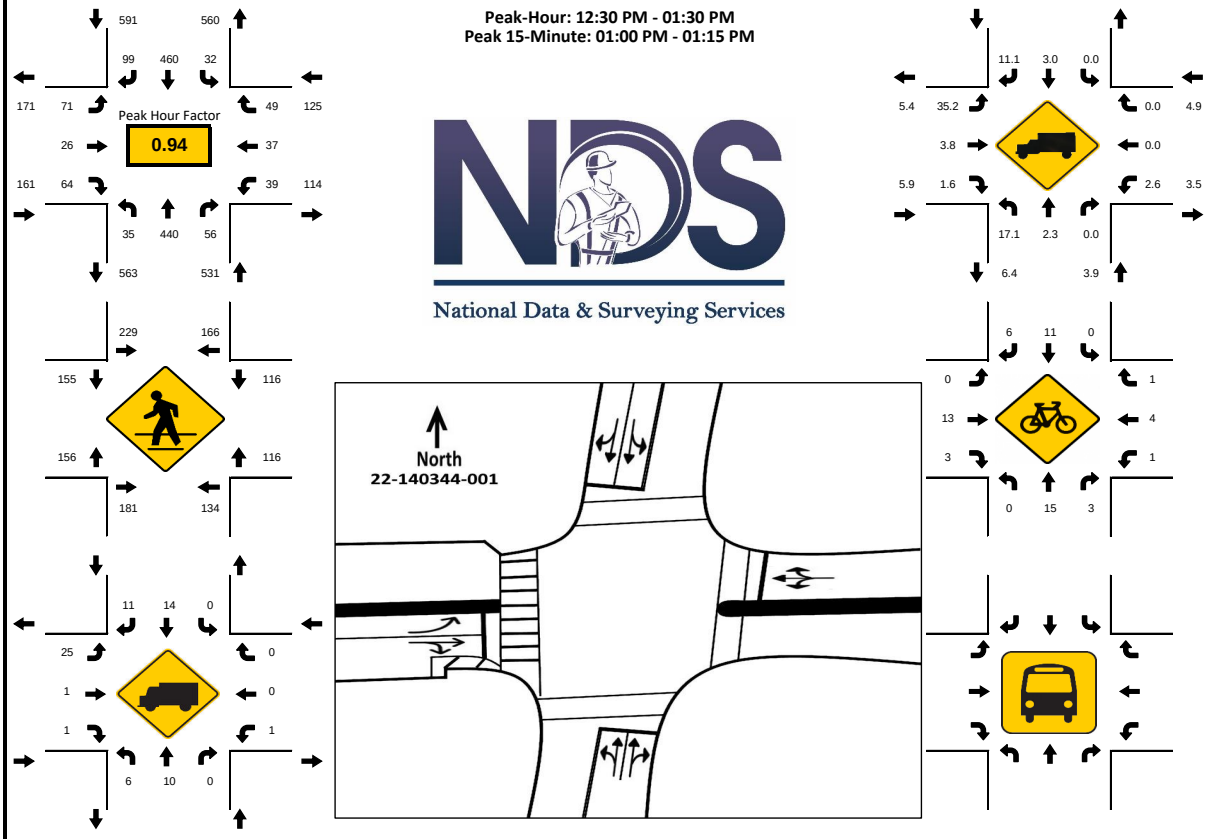
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			12:15	18:00	18:00
AM Pk Volume			238	223	461	PM Pk Volume			261	271	518
Pk Hr Factor			0.826	0.858	0.841	Pk Hr Factor			0.906	0.916	0.887
7 - 9 Volume	0	0	210	190	400	4 - 6 Volume	0	0	457	469	926
7 - 9 Peak Hour			7:15	7:15	7:15	4 - 6 Peak Hour			16:30	16:00	16:30
7 - 9 Pk Volume	0	0	123	101	224	4 - 6 Pk Volume	0	0	241	248	489
Pk Hr Factor	0.000	0.000	0.904	0.871	0.889	Pk Hr Factor	0.000	0.000	0.814	0.849	0.832

Turning Movement Counts

LOCATION: Collins Ave/A1A & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-001
DATE: Thu, Jul 21, 2022

Peak-Hour: 12:30 PM - 01:30 PM
Peak 15-Minute: 01:00 PM - 01:15 PM

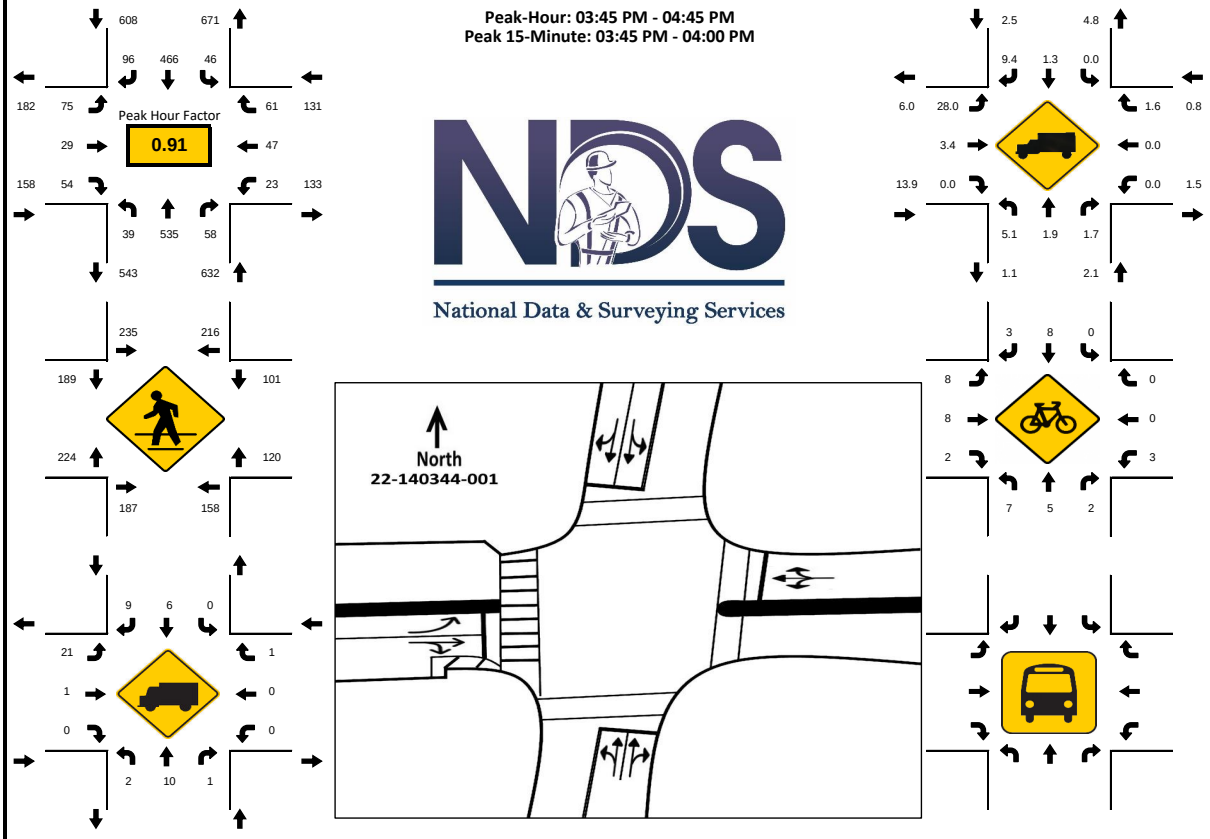


15-Min Count Period Beginning At	Collins Ave/A1A Northbound					Collins Ave/A1A Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
10:30 AM	9	92	16	1		6	102	13	0		13	5	8	0		6	14	7	0		292	1278
10:45 AM	11	108	13	1		5	109	16	0		13	8	13	1		7	9	9	0		323	1337
11:00 AM	10	88	9	0		10	109	16	0		13	10	6	2		10	8	23	0		314	1347
11:15 AM	9	97	17	0		9	107	31	0		13	9	20	1		9	15	12	0		349	1399
11:30 AM	7	103	19	0		8	115	23	0		19	6	15	1		10	10	15	0		351	1381
11:45 AM	10	96	14	0		12	105	14	0		13	12	18	0		10	14	15	0		333	1369
12:00 PM	12	98	12	0		11	134	19	0		19	6	19	0		10	13	12	1		366	1382
12:15 PM	14	101	10	1		11	103	15	0		13	9	16	2		11	13	11	1		331	1391
12:30 PM	5	112	14	0		5	98	19	1		14	9	27	0		15	8	12	0		339	1408
12:45 PM	4	104	12	0		9	118	30	0		14	8	16	1		7	13	10	0		346	1069
01:00 PM	13	121	16	0		9	118	26	0		20	5	13	1		8	10	15	0		375	723
01:15 PM	13	103	14	0		8	126	24	0		21	4	8	0		9	6	12	0		348	348
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	52	484	64	0		36	504	120	4		84	36	108	4		60	52	60	0		**1668**	
Heavy Trucks	16	20	0	0		0	24	16	0		32	4	4	0		4	0	0	0		**120**	
Pedestrians		380					452					360					268				**1460**	
Bicycles	0	24	8	0		0	24	12	0		0	20	8	0		4	8	4	0		**112**	
Buses																						
Stopped Buses																						

LOCATION: Collins Ave/A1A & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-001
DATE: Thu, Jul 21, 2022

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

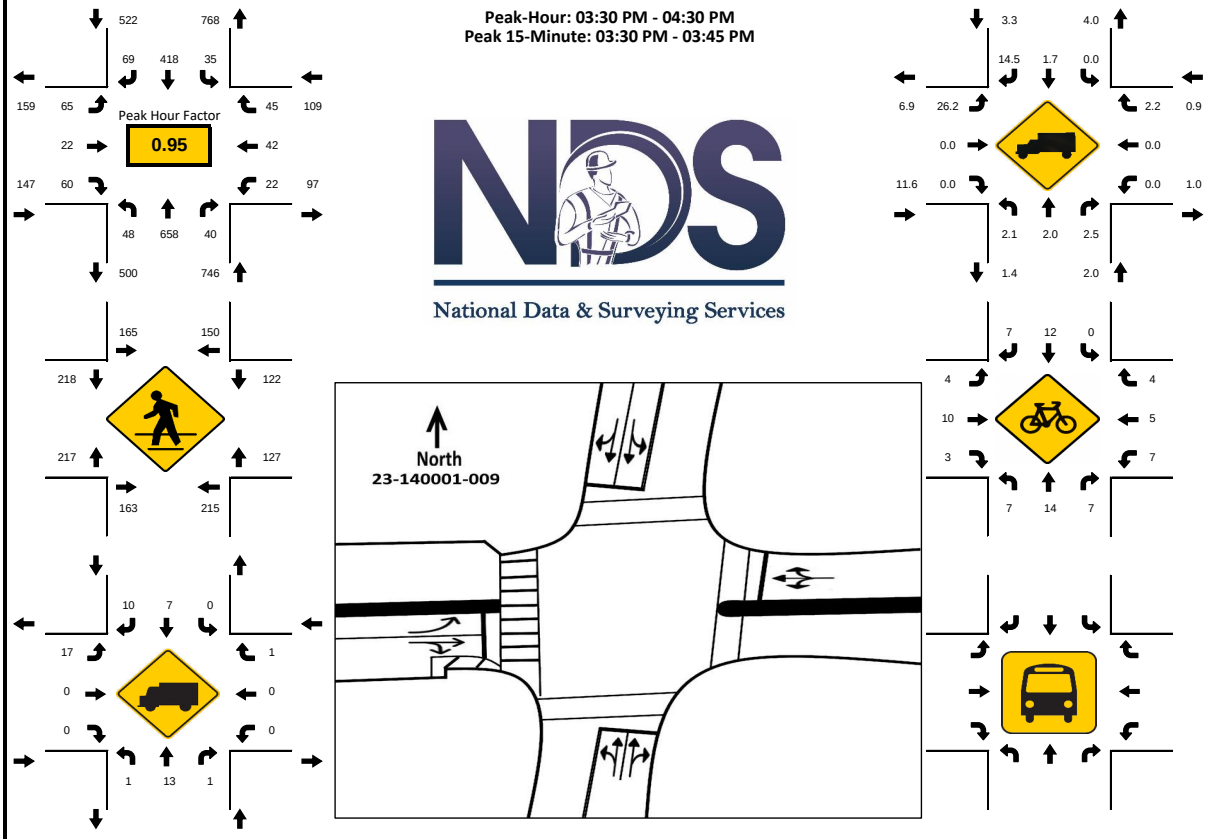


15-Min Count Period Beginning At	Collins Ave/A1A Northbound					Collins Ave/A1A Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
03:30 PM	6	105	11	0		9	103	22	0		17	10	22	0		7	12	12	0		336	1489
03:45 PM	8	139	18	0		17	122	31	0		19	12	14	0		10	11	20	1		422	1529
04:00 PM	11	112	16	0		14	115	27	0		17	11	17	1		1	16	13	0		371	1482
04:15 PM	12	140	11	0		9	104	18	0		18	3	11	0		6	12	16	0		360	1460
04:30 PM	8	144	13	0		5	125	20	1		19	3	12	1		5	8	12	0		376	1451
04:45 PM	10	130	12	0		7	112	25	0		22	4	16	4		7	6	19	1		375	1428
05:00 PM	12	113	14	1		10	104	19	0		15	12	10	2		7	9	21	0		349	1413
05:15 PM	13	107	10	1		10	101	23	0		19	6	19	1		11	14	16	0		351	1453
05:30 PM	4	109	15	0		10	114	29	0		13	12	17	0		6	12	12	0		353	1493
05:45 PM	11	109	9	0		8	115	27	1		22	5	24	1		5	9	12	2		360	1140
06:00 PM	9	115	20	0		15	118	35	0		14	9	11	1		9	18	14	1		389	780
06:15 PM	11	114	14	1		11	120	24	0		20	8	24	2		10	17	15	0		391	391
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	48	576	72	0		68	500	124	4		76	48	68	4		40	64	80	4		**1776**	
Heavy Trucks	4	20	4	0		0	12	16	0		28	4	0	0		0	0	4	0		**92**	
Pedestrians		436					560					512					292				**1800**	
Bicycles	12	8	4	0		0	12	8	0		20	20	4	0		12	0	0	0		**100**	
Buses																						
Stopped Buses																						

LOCATION: SR A1A/Collins Ave & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140001-009
DATE: Fri, Jan 13, 2023

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



National Data & Surveying Services

15-Min Count Period Beginning At	SR A1A/Collins Ave Northbound					SR A1A/Collins Ave Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
03:30 PM	15	190	13	0		7	95	18	0		16	7	14	0		5	13	8	1		402	1524
03:45 PM	11	163	8	0		6	88	11	0		21	8	9	1		4	7	15	0		352	1496
04:00 PM	10	155	9	0		15	109	17	0		14	4	19	0		5	15	11	0		383	1517
04:15 PM	12	150	10	0		7	126	23	0		13	3	18	0		6	7	11	1		387	1520
04:30 PM	15	124	12	0		6	116	22	1		18	8	15	0		6	13	18	0		374	1509
04:45 PM	7	141	8	0		13	128	11	0		20	9	13	2		6	4	11	0		373	1135
05:00 PM	6	157	7	0		12	109	14	0		17	10	10	2		7	14	20	1		386	762
05:15 PM	8	155	9	0		11	112	19	0		11	8	16	0		7	8	12	0		376	376
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	60	760	52	0		60	504	92	0		84	32	76	4		24	60	60	4		**1872**	
Heavy Trucks	4	24	4	0		0	12	20	0		20	0	0	0		0	0	4	0		**88**	
Pedestrians		416					348					632					296				**1692**	
Bicycles	12	28	12	0		0	20	16	0		8	20	4	0		20	8	8	0		**156**	
Buses																						
Stopped Buses																						

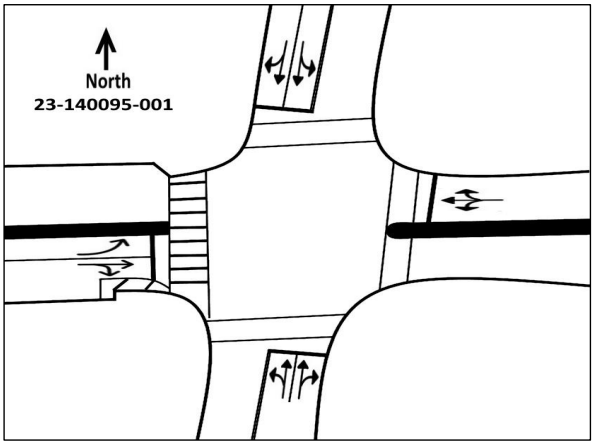
LOCATION: Collins Ave/SR A1A & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140095-001
DATE: Thu, Mar 02, 2023

Peak-Hour: 12:00 PM - 01:00 PM
Peak 15-Minute: 12:30 PM - 12:45 PM

Peak Hour Factor: **0.92**

National Data & Surveying Services

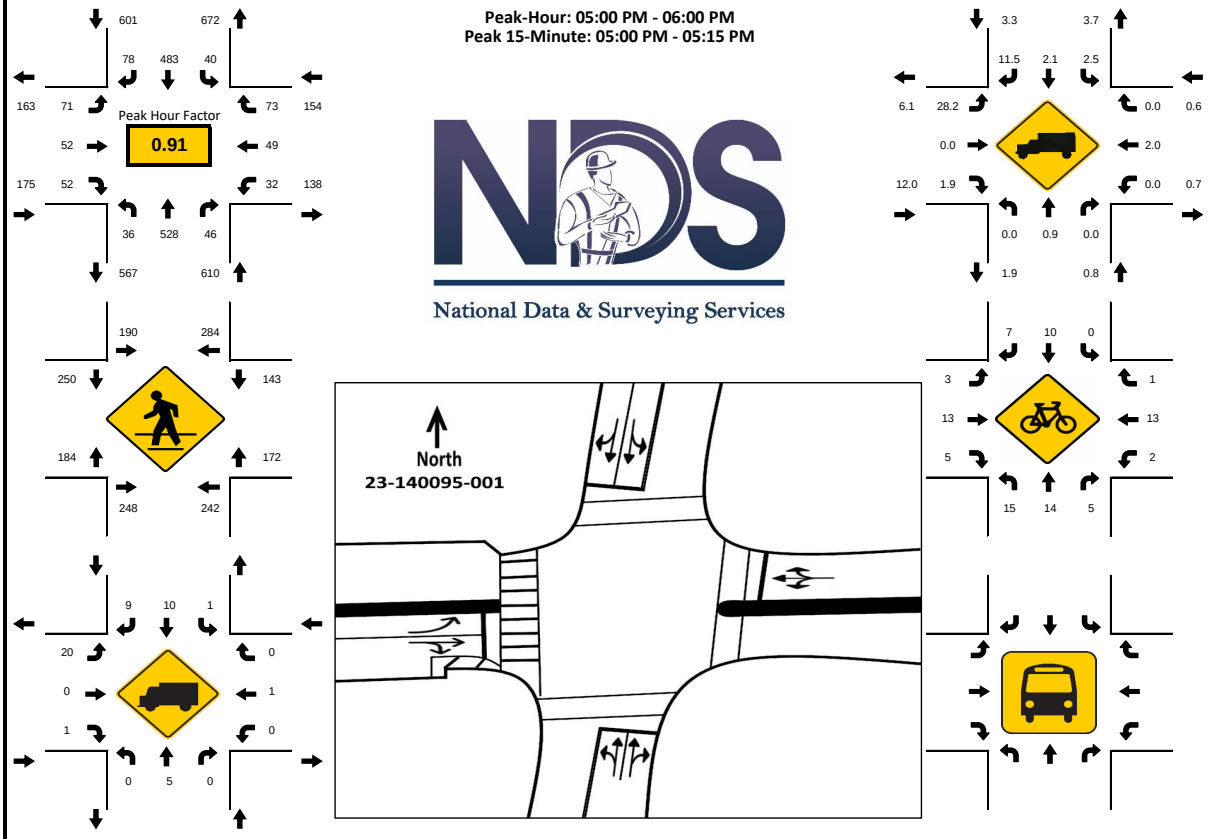


15-Min Count Period Beginning At	Collins Ave/SR A1A Northbound					Collins Ave/SR A1A Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
10:30 AM	9	86	11	0		10	100	17	1		17	7	10	0		9	11	14	1		303	1364
10:45 AM	7	98	9	1		9	113	15	1		19	8	10	0		9	9	14	0		322	1401
11:00 AM	10	108	13	0		7	130	32	0		18	10	25	1		9	12	13	0		388	1434
11:15 AM	8	111	10	0		12	122	21	0		16	7	9	0		13	9	13	0		351	1441
11:30 AM	7	93	6	0		19	106	21	0		20	7	14	1		17	15	14	0		340	1476
11:45 AM	8	103	14	0		7	119	21	0		20	15	17	1		5	7	18	0		355	1569
12:00 PM	8	113	21	0		14	127	17	0		16	9	21	2		16	12	19	0		395	1585
12:15 PM	9	118	15	0		10	124	20	0		16	14	18	1		8	14	19	0		386	1532
12:30 PM	14	134	16	1		14	141	20	1		20	6	24	0		11	17	14	0		433	1490
12:45 PM	7	111	11	0		9	129	20	0		24	11	12	1		7	18	11	0		371	1057
1:00 PM	10	95	13	0		13	112	16	0		15	6	22	1		8	14	16	1		342	686
1:15 PM	7	103	15	0		13	112	17	1		20	6	16	0		4	15	15	0		344	344
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	56	536	84	4		56	564	80	4		96	56	96	8		64	72	76	0		**1852**	
Heavy Trucks	4	28	8	0		4	20	16	0		28	4	12	0		4	8	4	0		**140**	
Pedestrians		404					396					404					276				**1480**	
Bicycles	8	24	12	4		4	20	4	0		12	20	24	0		8	40	8	0		**184**	
Buses																						
Stopped Buses																						

LOCATION: Collins Ave/SR A1A & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140095-001
DATE: Thu, Mar 02, 2023

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

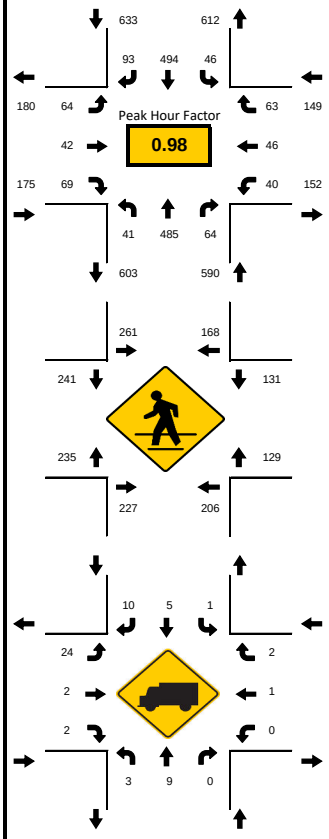


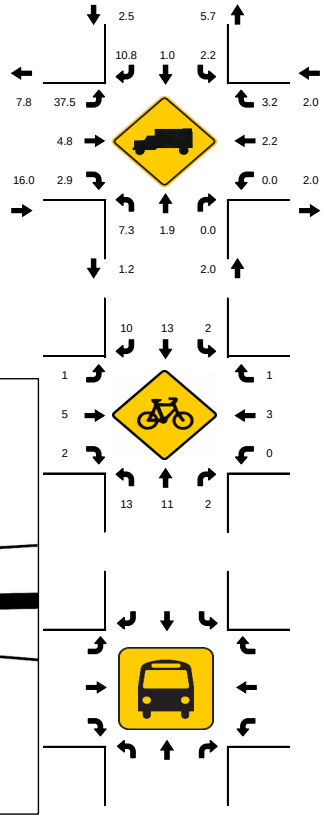
15-Min Count Period Beginning At	Collins Ave/SR A1A Northbound					Collins Ave/SR A1A Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
2:30 PM	8	146	17	0		8	113	18	0		14	10	14	0		5	12	9	0		374	1432
2:45 PM	5	133	8	0		11	104	17	0		14	12	13	0		6	5	11	1		340	1458
3:00 PM	11	141	15	1		8	105	24	0		16	11	17	0		8	10	21	0		388	1460
3:15 PM	9	121	18	0		7	94	19	0		10	10	13	3		7	13	6	0		330	1465
3:30 PM	10	152	15	0		9	116	13	0		19	14	19	0		7	10	16	0		400	1515
3:45 PM	3	125	15	0		9	98	9	0		18	7	12	0		13	12	21	0		342	1459
4:00 PM	8	165	12	1		3	105	22	0		19	14	11	1		6	12	12	2		393	1476
4:15 PM	8	164	14	0		10	92	14	0		22	6	18	0		9	14	9	0		380	1505
4:30 PM	5	120	17	0		9	104	16	0		14	8	17	2		7	12	13	0		344	1512
4:45 PM	3	145	8	1		8	110	20	0		14	8	15	0		6	6	13	2		359	1506
5:00 PM	11	151	10	0		12	116	30	0		21	15	14	0		5	18	19	0		422	1540
5:15 PM	11	128	11	0		12	120	14	0		19	13	16	0		12	10	21	0		387	1487
5:30 PM	4	120	7	0		8	108	18	0		17	13	8	0		7	8	20	0		338	1482
5:45 PM	10	129	18	0		8	139	16	0		14	11	14	0		7	13	13	1		393	1144
6:00 PM	8	129	10	0		10	112	27	0		8	12	14	1		5	20	13	0		369	751
6:15 PM	10	114	20	1		14	122	17	0		23	7	9	0		8	11	26	0		382	382
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	44	604	72	0		48	556	120	0		84	60	64	0		48	72	84	4		**1860**	
Heavy Trucks	0	12	0	0		4	16	16	0		20	0	4	0		0	4	0	0		**76**	
Pedestrians		548					552					540					364				**2004**	
Bicycles	24	20	12	0		0	20	12	0		8	16	8	0		4	24	4	0		**152**	
Buses																						
Stopped Buses																						

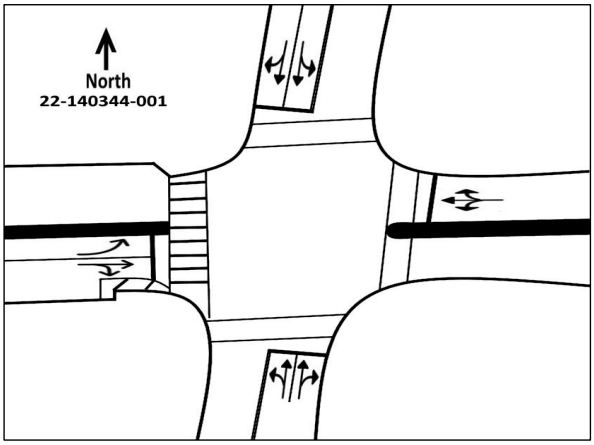
LOCATION: Collins Ave/A1A & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-001
DATE: Fri, Jul 22, 2022

Peak-Hour: 02:30 PM - 03:30 PM
Peak 15-Minute: 02:30 PM - 02:45 PM







15-Min Count Period Beginning At	Collins Ave/A1A Northbound					Collins Ave/A1A Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:30 PM	11	113	23	0		16	130	20	1		14	8	16	0		9	13	19	1		394	1547
02:45 PM	14	125	15	0		7	124	24	0		20	12	15	0		10	8	15	1		390	1532
03:00 PM	8	127	11	0		12	121	18	0		14	11	19	0		8	18	12	0		379	1487
03:15 PM	8	120	15	0		10	119	31	0		16	11	19	0		11	7	17	0		384	1483
03:30 PM	5	127	15	0		13	120	16	1		13	8	19	1		2	19	19	1		379	1490
03:45 PM	7	117	11	1		8	101	25	0		20	10	18	0		6	10	11	0		345	1494
04:00 PM	8	135	11	0		12	126	21	0		11	6	17	0		8	10	10	0		375	1501
04:15 PM	12	132	9	0		10	139	23	0		17	8	19	0		2	12	8	0		391	1459
04:30 PM	7	138	11	0		13	114	25	0		14	9	14	0		7	13	18	0		383	1404
04:45 PM	15	119	12	0		12	111	18	0		15	7	14	0		3	9	17	0		352	1021
05:00 PM	8	97	11	0		12	109	29	0		18	5	14	0		7	9	13	1		333	669
05:15 PM	10	126	10	0		11	98	19	0		15	5	16	1		1	12	12	0		336	336
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	56	508	92	0		64	520	124	4		80	48	76	0		44	72	76	4		**1768**	
Heavy Trucks	8	12	0	0		4	8	16	0		36	8	4	0		0	4	4	0		**104**	
Pedestrians		504					496					536					348				**1884**	
Bicycles	24	20	4	4		8	24	20	0		4	16	4	0		0	12	4	0		**140**	
Buses																						
Stopped Buses																						

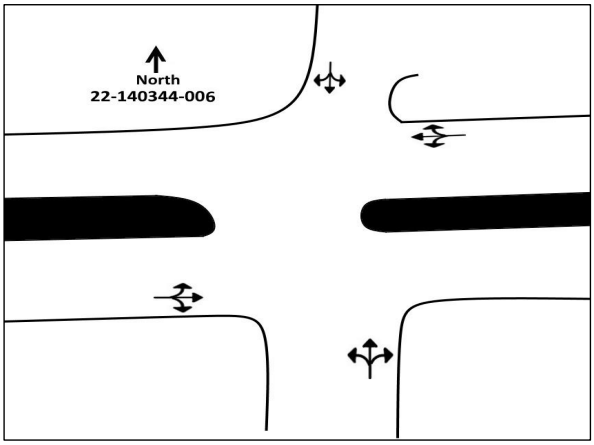
LOCATION: Ritz Carlton Porte-Cochere Exit Dwy & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-006
DATE: Thu, Jul 21, 2022

Peak-Hour: 12:30 PM - 01:30 PM
Peak 15-Minute: 12:45 PM - 01:00 PM

Peak Hour Factor
0.81

National Data & Surveying Services



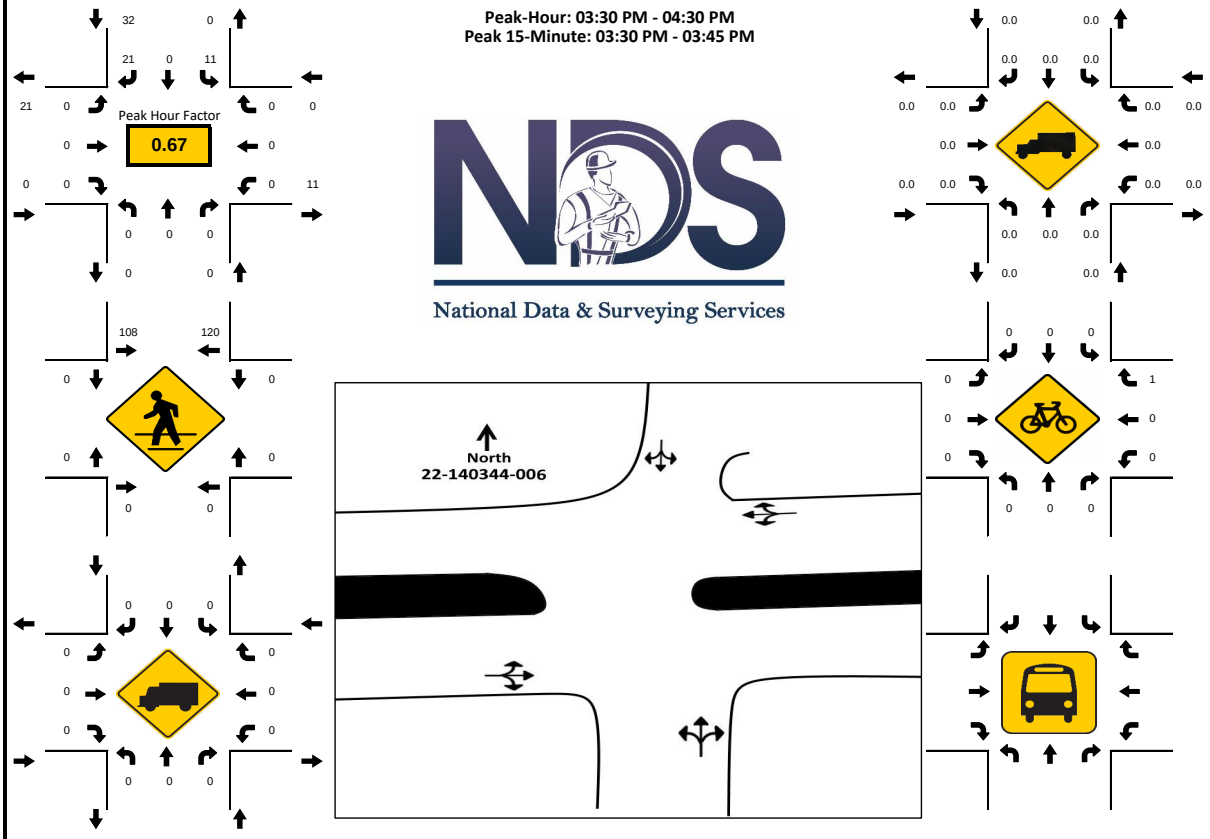
15-Min Count Period Beginning At	tz Carlton Porte-Cochere Exit Dw Northbound					tz Carlton Porte-Cochere Exit Dw Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
10:30 AM	0	0	0	0		2	0	4	0		1	0	0	0		0	0	0	0		7	23
10:45 AM	0	0	0	0		0	0	7	0		0	0	0	0		0	0	0	0		7	23
11:00 AM	0	0	0	0		0	0	4	0		0	0	0	0		0	0	0	0		4	21
11:15 AM	0	0	0	0		1	0	4	0		0	0	0	0		0	0	0	0		5	21
11:30 AM	0	0	0	0		0	0	7	0		0	0	0	0		0	0	0	0		7	20
11:45 AM	0	0	0	0		0	0	5	0		0	0	0	0		0	0	0	0		5	20
12:00 PM	0	0	0	0		0	0	4	0		0	0	0	0		0	0	0	0		4	23
12:15 PM	0	0	0	0		0	0	4	0		0	0	0	0		0	0	0	0		4	22
12:30 PM	0	0	0	0		3	0	4	0		0	0	0	0		0	0	0	0		7	26
12:45 PM	0	0	0	0		3	0	5	0		0	0	0	0		0	0	0	0		8	19
01:00 PM	0	0	0	0		1	0	2	0		0	0	0	0		0	0	0	0		3	11
01:15 PM	0	0	0	0		2	0	6	0		0	0	0	0		0	0	0	0		8	8
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		12	0	24	0		0	0	0	0		0	0	0	0		**36**	
Heavy Trucks	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Pedestrians		0					116					0					0				**116**	
Bicycles	0	0	0	0		4	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

LOCATION: Ritz Carlton Porte-Cochere Exit Dwy & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-006
DATE: Thu, Jul 21, 2022

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

Peak Hour Factor: **0.67**



15-Min Count Period Beginning At	tz Carlton Porte-Cochere Exit Dw Northbound					tz Carlton Porte-Cochere Exit Dw Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
03:30 PM	0	0	0	0		6	0	6	0		0	0	0	0		0	0	0	0		12	32
03:45 PM	0	0	0	0		2	0	6	0		0	0	0	0		0	0	0	0		8	26
04:00 PM	0	0	0	0		2	0	3	0		0	0	0	0		0	0	0	0		5	23
04:15 PM	0	0	0	0		1	0	6	0		0	0	0	0		0	0	0	0		7	27
04:30 PM	0	0	0	0		2	0	4	0		0	0	0	0		0	0	0	0		6	23
04:45 PM	0	0	0	0		3	0	2	0		0	0	0	0		0	0	0	0		5	22
05:00 PM	0	0	0	0		4	0	5	0		0	0	0	0		0	0	0	0		9	24
05:15 PM	0	0	0	0		1	0	2	0		0	0	0	0		0	0	0	0		3	22
05:30 PM	0	0	0	0		1	0	4	0		0	0	0	0		0	0	0	0		5	25
05:45 PM	0	0	0	0		5	0	2	0		0	0	0	0		0	0	0	0		7	20
06:00 PM	0	0	0	0		0	0	7	0		0	0	0	0		0	0	0	0		7	13
06:15 PM	0	0	0	0		0	0	6	0		0	0	0	0		0	0	0	0		6	6
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		24	0	24	0		0	0	0	0		0	0	0	0		**48**	
Heavy Trucks	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Pedestrians		0					252					0					0				**252**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	4	0		**4**	
Buses																						
Stopped Buses																						

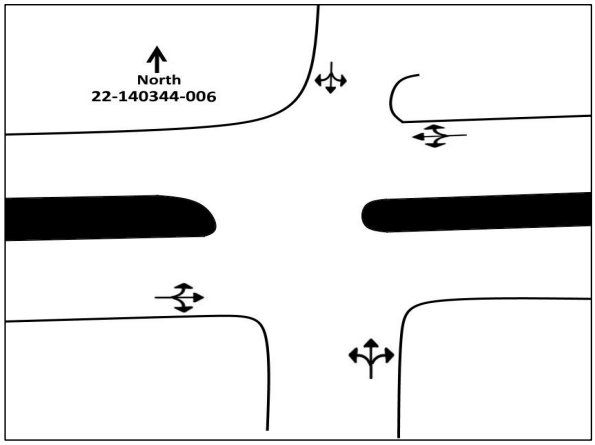
LOCATION: Ritz Carlton Porte-Cochere Exit Dwy & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-006
DATE: Fri, Jul 22, 2022

Peak-Hour: 02:30 PM - 03:30 PM
Peak 15-Minute: 03:00 PM - 03:15 PM

Peak Hour Factor: **0.79**

National Data & Surveying Services



15-Min Count Period Beginning At	tz Carlton Porte-Cochere Exit Dw Northbound					tz Carlton Porte-Cochere Exit Dw Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:30 PM	0	0	0	0		1	0	10	0		0	0	0	0		0	0	0	0		11	38
02:45 PM	0	0	0	0		2	0	6	0		0	0	0	0		0	0	0	0		8	37
03:00 PM	0	0	0	0		5	0	7	0		0	0	0	0		0	0	0	0		12	34
03:15 PM	0	0	0	0		2	0	5	0		0	0	0	0		0	0	0	0		7	34
03:30 PM	0	0	0	0		3	0	7	0		0	0	0	0		0	0	0	0		10	32
03:45 PM	0	0	0	0		1	0	4	0		0	0	0	0		0	0	0	0		5	29
04:00 PM	0	0	0	0		2	0	10	0		0	0	0	0		0	0	0	0		12	31
04:15 PM	0	0	0	0		2	0	3	0		0	0	0	0		0	0	0	0		5	25
04:30 PM	0	0	0	0		4	0	3	0		0	0	0	0		0	0	0	0		7	22
04:45 PM	0	0	0	0		2	0	5	0		0	0	0	0		0	0	0	0		7	15
05:00 PM	0	0	0	0		1	0	5	0		0	0	0	0		0	0	0	0		6	8
05:15 PM	0	0	0	0		1	0	1	0		0	0	0	0		0	0	0	0		2	2
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		20	0	40	0		0	0	0	0		0	0	0	0		**60**	
Heavy Trucks	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Pedestrians		0					224					0					0				**224**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	4	0		**4**	
Buses																						
Stopped Buses																						

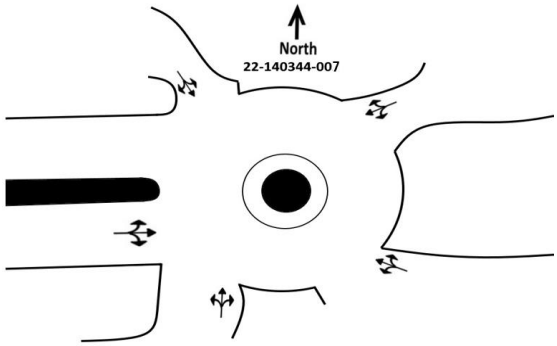
LOCATION: Ritz Carlton Loading Dwy & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-007
DATE: Thu, Jul 21, 2022

Peak-Hour: 12:15 PM - 01:15 PM
Peak 15-Minute: 12:30 PM - 12:45 PM

Peak Hour Factor: **0.58**

National Data & Surveying Services



15-Min Count Period Beginning At	Ritz Carlton Loading Dwy Northbound					Ritz Carlton Loading Dwy Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
10:30 AM	0	0	0	0		0	0	0	0		0	2	0	0		0	0	0	0		2	7
10:45 AM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0		1	6
11:00 AM	0	0	0	0		0	0	0	0		0	1	0	0		0	1	0	0		2	5
11:15 AM	0	0	0	0		0	0	0	0		0	2	0	0		0	0	0	0		2	3
11:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0		1	5
11:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	10
12:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	10
12:15 PM	0	0	0	0		0	0	0	0		0	2	0	0		0	2	0	0		4	14
12:30 PM	0	0	0	0		0	0	0	0		0	4	0	0		0	2	0	0		6	12
12:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	6
01:00 PM	0	0	0	0		0	0	0	0		0	2	0	0		0	2	0	0		4	6
01:15 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	1	0	0		2	2
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		0	0	0	0		0	16	0	0		0	8	0	0		**24**	
Heavy Trucks	0	0	0	0		0	0	0	0		0	8	0	0		0	4	0	0		**12**	
Pedestrians		0					0					0					260				**260**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

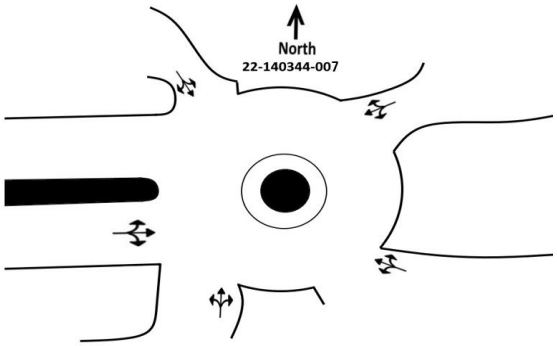
LOCATION: Ritz Carlton Loading Dwy & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-007
DATE: Thu, Jul 21, 2022

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

Peak Hour Factor
0.70

National Data & Surveying Services



15-Min Count Period Beginning At	Ritz Carlton Loading Dwy Northbound					Ritz Carlton Loading Dwy Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
03:30 PM	0	0	0	0		0	0	0	0		0	4	0	0		0	5	0	0		9	14
03:45 PM	0	0	0	0		0	0	0	0		0	3	0	0		0	0	0	0		3	7
04:00 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0		1	5
04:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0		1	5
04:30 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	1	0	0		2	8
04:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0		1	10
05:00 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0		1	10
05:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	4	0	0		4	14
05:30 PM	0	0	0	0		0	0	0	0		0	3	0	0		0	1	0	0		4	12
05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0		1	8
06:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	5	0	0		5	7
06:15 PM	0	0	0	0		0	0	0	0		0	2	0	0		0	0	0	0		2	2
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		0	0	0	0		0	12	0	0		0	20	0	0		**32**	
Heavy Trucks	0	0	0	0		0	0	0	0		0	0	0	0		0	4	0	0		**4**	
Pedestrians		0					0					0					348				**348**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

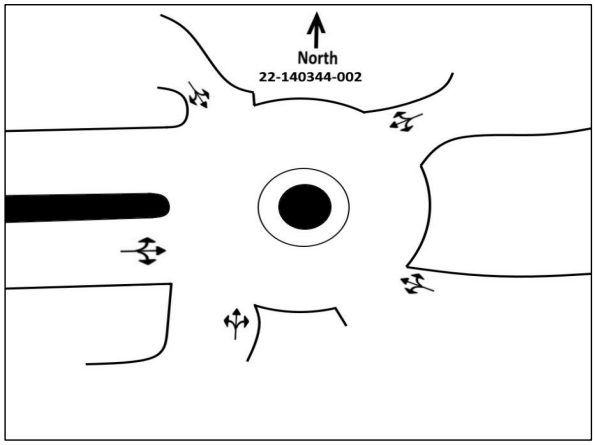
LOCATION: Ritz Carlton Loading Dwy & Lincoln Rd
CITY/STATE: Miami Beach, FL

PROJECT ID: 22-140344-007
DATE: Fri, Jul 22, 2022

Peak-Hour: 02:45 PM - 03:45 PM
Peak 15-Minute: 03:00 PM - 03:15 PM

Peak Hour Factor: **0.75**

National Data & Surveying Services



15-Min Count Period Beginning At	Ritz Carlton Loading Dwy Northbound					Ritz Carlton Loading Dwy Southbound					Lincoln Rd Eastbound					Lincoln Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	11
02:45 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	2	0	0		3	15
03:00 PM	0	0	0	0		0	0	0	0		0	2	0	0		0	3	0	0		5	13
03:15 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	2	0	0		3	8
03:30 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	3	0	0		4	7
03:45 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	0	0		1	4
04:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	4
04:15 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	1	0	0		2	5
04:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0		1	7
04:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0		1	6
05:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0		1	5
05:15 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	3	0	0		4	4
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	0	0		0	0	0	0		0	8	0	0		0	12	0	0		**20**	
Heavy Trucks	0	0	0	0		0	0	0	0		0	0	0	0		0	4	0	0		**4**	
Pedestrians		0					0					0					436				**436**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

Peak Season Category Report

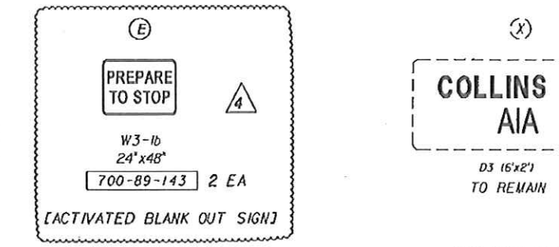
2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8700 MIAMI-DADE NORTH

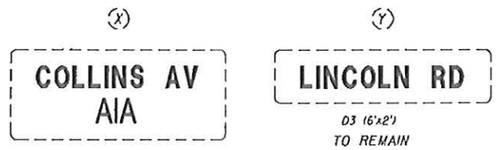
MOCF: 0.97

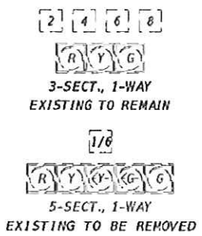
WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	1.03	1.06
2	01/06/2019 - 01/12/2019	1.02	1.05
3	01/13/2019 - 01/19/2019	1.01	1.04
4	01/20/2019 - 01/26/2019	1.00	1.03
* 5	01/27/2019 - 02/02/2019	0.98	1.01
* 6	02/03/2019 - 02/09/2019	0.97	1.00
* 7	02/10/2019 - 02/16/2019	0.96	0.99
* 8	02/17/2019 - 02/23/2019	0.96	0.99
* 9	02/24/2019 - 03/02/2019	0.96	0.99
*10	03/03/2019 - 03/09/2019	0.96	0.99
*11	03/10/2019 - 03/16/2019	0.97	1.00
*12	03/17/2019 - 03/23/2019	0.97	1.00
*13	03/24/2019 - 03/30/2019	0.97	1.00
*14	03/31/2019 - 04/06/2019	0.97	1.00
*15	04/07/2019 - 04/13/2019	0.98	1.01
*16	04/14/2019 - 04/20/2019	0.98	1.01
*17	04/21/2019 - 04/27/2019	0.98	1.01
18	04/28/2019 - 05/04/2019	0.99	1.02
19	05/05/2019 - 05/11/2019	0.99	1.02
20	05/12/2019 - 05/18/2019	1.00	1.03
21	05/19/2019 - 05/25/2019	1.00	1.03
22	05/26/2019 - 06/01/2019	1.01	1.04
23	06/02/2019 - 06/08/2019	1.01	1.04
24	06/09/2019 - 06/15/2019	1.02	1.05
25	06/16/2019 - 06/22/2019	1.02	1.05
26	06/23/2019 - 06/29/2019	1.02	1.05
27	06/30/2019 - 07/06/2019	1.02	1.05
28	07/07/2019 - 07/13/2019	1.03	1.06
29	07/14/2019 - 07/20/2019	1.03	1.06
30	07/21/2019 - 07/27/2019	1.03	1.06
31	07/28/2019 - 08/03/2019	1.02	1.05
32	08/04/2019 - 08/10/2019	1.02	1.05
33	08/11/2019 - 08/17/2019	1.02	1.05
34	08/18/2019 - 08/24/2019	1.02	1.05
35	08/25/2019 - 08/31/2019	1.02	1.05
36	09/01/2019 - 09/07/2019	1.03	1.06
37	09/08/2019 - 09/14/2019	1.03	1.06
38	09/15/2019 - 09/21/2019	1.03	1.06
39	09/22/2019 - 09/28/2019	1.02	1.05
40	09/29/2019 - 10/05/2019	1.01	1.04
41	10/06/2019 - 10/12/2019	1.00	1.03
42	10/13/2019 - 10/19/2019	0.99	1.02
43	10/20/2019 - 10/26/2019	1.00	1.03
44	10/27/2019 - 11/02/2019	1.00	1.03
45	11/03/2019 - 11/09/2019	1.01	1.04
46	11/10/2019 - 11/16/2019	1.01	1.04
47	11/17/2019 - 11/23/2019	1.02	1.05
48	11/24/2019 - 11/30/2019	1.02	1.05
49	12/01/2019 - 12/07/2019	1.02	1.05
50	12/08/2019 - 12/14/2019	1.03	1.06
51	12/15/2019 - 12/21/2019	1.03	1.06
52	12/22/2019 - 12/28/2019	1.02	1.05
53	12/29/2019 - 12/31/2019	1.01	1.04

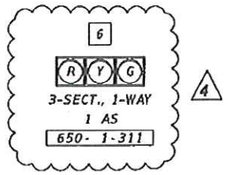
* PEAK SEASON

Signal Timings



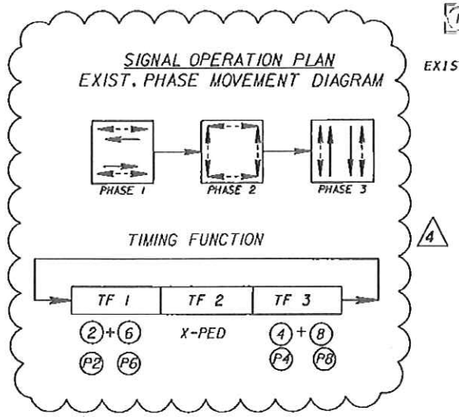


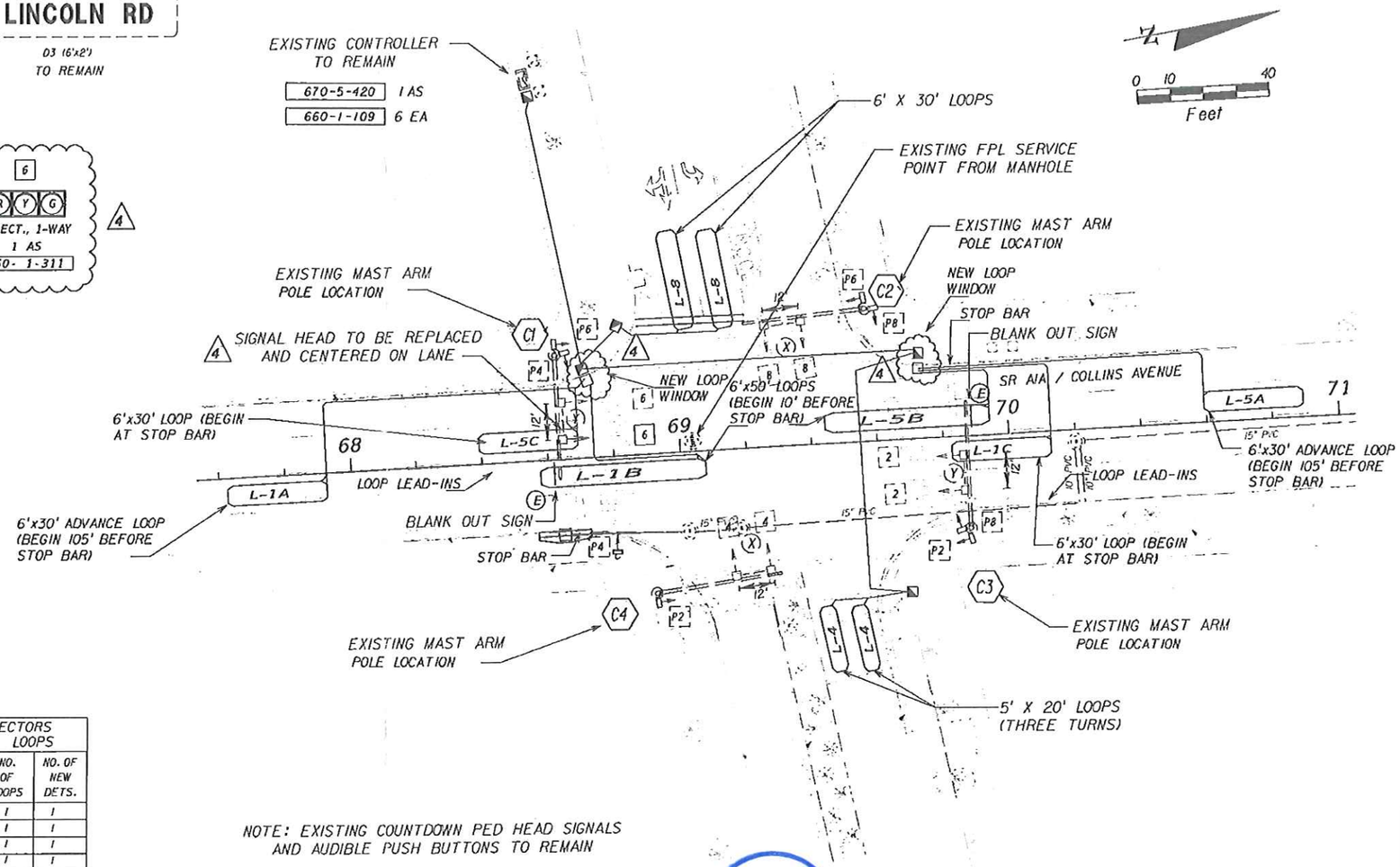




CONTROLLER OPERATION

MAJOR STREET: COLLINS AVENUE
MINOR STREET: LINCOLN ROAD
SOP AS SHOWN





GENERAL NOTES:

1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. THE CONTRACTOR SHALL INSTALL CONDUITS TO AVOID ANY DAMAGE TO EXISTING LOOPS AND THEIR OPERATION. ANY DAMAGE TO EXISTING LOOPS AND THEIR OPERATION DURING CONSTRCTION SHALL BE AT THE CONTRACTOR EXPENSE AND REPLACED IN ACCORDANCE WITH LATEST FDOT AND MIAMI DADE TRAFFIC SIGNAL AND SIGN DIVISION STANDARDS.
3. SIDEWALK FLAG REPLACEMENT DUE TO PULL BOX INSTALLATION SHALL BE INCLUDED IN THE COST OF PULL BOX PAY ITEM 635-1-11

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF NEW DETS.
L-1A	1	1
L-1B	1	1
L-1C	1	1
L-5A	1	1
L-5B	1	1
L-5C	1	1

NOTE: EXISTING COUNTDOWN PED HEAD SIGNALS AND AUDIBLE PUSH BUTTONS TO REMAIN

BLANK-OUT SIGN AND DETECTION NOTES:

1. BLANK-OUT SIGN WILL ONLY TURN ON DURING THE GREEN AND YELLOW INTERVALS.
2. THE "PREPARE TO STOP" BLANK-OUT SIGN WILL REMAIN OFF UNTIL A A VEHICLE IS DETECTED FOR MORE THAN 4 SECONDS BY EITHER L-1B OR L-5B.
3. WHEN VEHICLE IS DETECTED FOR MORE THAN 4 SECONDS BY LOOPS L-1A, L-1B AND L-1C OR BY L-5A, L-5B AND L-5C, THE "PREPARE TO STOP" BLANK-OUT SIGN WILL TURN OFF.

CONDUITS AND PULL BOXES:

630-1-13 400 FT

635-1-11 3 EA

LOOP ASSEMBLY:

660-2-101 6 AS

REMOVAL ITEMS:

690-100 1 PI

UNDER POWER CORP.
7900 NW 60 Street
Doral, FL 33166
1/20/15

SR-AIA /COLLINS AVENUE AND LINCOLN RD
INTERSECTION ID # 2664

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

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
1/15/2013	1 CHANGE VIDEO DETECTION SYSTEM TO LOOP DETECTOR SYSTEM	12/5/2013	4 W3-1b SIGN SIZE MODIFIED. RELOCATE LOOP WINDOWS. SOP MODIFIED; SIGNAL HEAD 6 ADDED. EXISTING LOOPS ADDED

FDOT DISTRICT SIX
VINOD TULI, P.E.
1000 N.W. 111TH AVENUE
MIAMI, FLORIDA 33172
P.E. NO. 44916

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
AIA	MIAMI-DADE	250236-3-52-01

SIGNALIZATION PLAN

SHEET NO. T-18

KNAPTLG 1/16/2015 3:52:04 PM C:\e\Projects\25023615201\signals\PLANSG12Rev4.dgn

TOD Schedule Report

for 2664: Collins Av&Lincoln Rd

Print Date: 10/4/2021

Print Time: 3:14 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2664	Collins Av&Lincoln Rd	DOW-2	TOD	N/A	0	0	N/A	0	Max 0

Splits

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

Phase 9 - PED crossing is added in Synchro to match SOP, Walk time and FDW are added per phase bank 2/3. As a result, total cycle length is changed to 161.

Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 / 2 / 3)	Don't Walk (Phase Bank 1 / 2 / 3)	Min Initial (Phase Bank 1 / 2 / 3)	Veh Ext (Phase Bank 1 / 2 / 3)	Max Limit (Phase Bank 1 / 2 / 3)	Max 2 (Phase Bank 1 / 2 / 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 NBT	0 - 5 - 5	0 - 24 - 24	16 - 7 - 7	1 - 1 - 1	35 - 35 - 35	0 - 35 - 31	4	2.5
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 EBT	0 - 5 - 5	0 - 17 - 17	7 - 7 - 7	2.5 - 2.5 - 2.5	22 - 30 - 29	50 - 40 - 32	4	2.2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 SBT	0 - 5 - 5	0 - 24 - 24	16 - 7 - 7	1 - 1 - 1	35 - 35 - 35	0 - 35 - 31	4	2.5
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 WBT	0 - 5 - 5	0 - 17 - 17	7 - 7 - 7	2.5 - 2.5 - 2.5	22 - 30 - 29	50 - 40 - 32	4	2.2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-234-6-8
External Permit 0	-234-6-8
External Permit 1	-234-6-8
External Permit 2	-234-6-8

TOD Schedule Report

for 2664: Collins Av&Lincoln Rd

Print Date: 10/4/2021

Print Time: 3:14 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 NBT	3 -	4 EBT	5 -	6 SBT	7 -	8 WBT	Ring Offset	Offset
	1	100	0	51	0	37	0	51	0	37	0	74
	2	100	0	51	0	37	0	51	0	37	0	68
	3	100	0	51	0	37	0	51	0	37	0	20
	4	100	0	51	0	37	0	51	0	37	0	57
	5	110	0	59	0	39	0	59	0	39	0	8
	6	130	0	76	0	42	0	76	0	42	0	0
	7	120	0	66	0	42	0	66	0	42	0	0
	8	130	0	78	0	40	0	78	0	40	0	81
	11	90	0	45	0	33	0	45	0	33	0	27
	12	90	0	49	0	29	0	49	0	29	0	42
	13	90	0	45	0	33	0	45	0	33	0	42
	14	120	0	69	0	39	0	69	0	39	0	76
	15	120	0	74	0	34	0	74	0	34	0	70
	20	100	0	44	0	44	0	44	0	44	0	53
	22	100	0	51	0	37	0	51	0	37	0	81
	25	140	0	83	0	45	0	83	0	45	0	81

Local TOD Schedule

Time	Plan	DOW
0000	1	Su M T W Th
0000	7	F S
0300	4	Su
0300	3	M T W Th F S
0700	Free	Su M T W Th F S
0930	2	Su M T W Th
1000	5	Su F S
1500	Free	M T W Th
1500	8	Su F S
1500	8	Su F S
1800	20	M T W Th F
2200	6	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8-------	SuM T W ThF S
0000	TOD LOCAL MULTIFU	----4---	SuM T W ThF S
0000	PED RECALL	--------	SuM T W
0300	TOD OUTPUTS	87--4---	SuM T W ThF S
0500	TOD LOCAL MULTIFU	--------	SuM T W ThF S
0530	PED RECALL	8---4---	M T W ThF
0600	TOD OUTPUTS	87----2-	SuM T W ThF S
0700	TOD OUTPUTS	--------	SuM T W ThF S
0930	TOD OUTPUTS	-7----2-	SuM T W ThF S
1500	TOD OUTPUTS	--------	SuM T W ThF S
2200	TOD OUTPUTS	8-------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8-------	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	----4---	SuM T W ThF S
0000	PED RECALL	8---4---	ThF S
0000	PED RECALL	--------	SuM T W
0200	PED RECALL	--------	ThF S
0300	TOD OUTPUTS	87--4---	SuM T W ThF S
0500	PED RECALL	8---4---	Su S
0500	TOD LOCAL MULTIFUNCT	--------	SuM T W ThF S
0530	PED RECALL	8---4---	M T W ThF
0600	TOD OUTPUTS	87----2-	SuM T W ThF S
0700	TOD OUTPUTS	--------	SuM T W ThF S
0930	TOD OUTPUTS	-7----2-	SuM T W ThF S
1500	TOD OUTPUTS	--------	SuM T W ThF S
2200	TOD OUTPUTS	8-------	SuM T W ThF S

* Settings

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

TOD Schedule Report

for 2664: Collins Av&Lincoln Rd

Print Date: 10/4/2021

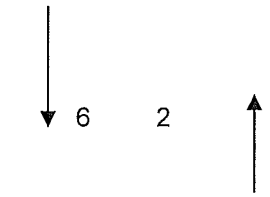
Print Time: 3:14 PM

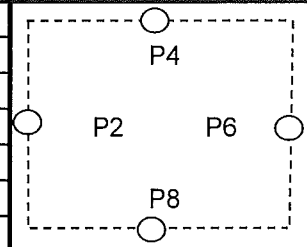
No Calendar Defined/Enabled

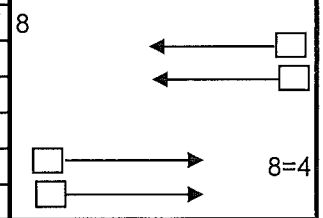
SIGNAL OPERATING PLAN

N

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







PEDS HAVE A DUAL MODE OPERARTION:
CONCURRENT OR EXCLUSIVE, SEE TIMING.
SHOWN HERE IS THE EXCLUSIVE ONLY

Miami-Dade County Public Works Department

Drawn	Date	COLLINS AV & LINCOLN RD		
WILLIAM RIVERA PAZ	9/10/2014			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	9/10/14	Date 12/01/2014 By UND	4	2664

Appendix D

Programmed Transportation Improvements

City of Miami Beach

Transportation Master Plan

TRANSPORTATION MASTER PLAN FINAL REPORT

MIAMIBEACH

City of Miami Beach Mayor and Commissioners

Mayor Philip Levine
Commissioner John Elizabeth Alemán
Commissioner Ricky Arriola
Commisioner Michael Grieco
Commissioner Joy Malakoff
Commissioner Kristen Rosen Gonzalez
Commissioner Micky Steinberg

City of Miami Beach Management Team

Jimmy L. Morales, City Manager
Kathie G. Brooks, Assistant City Manager
Jose R. Gonzalez, P.E., Transportation Director
Josiel Ferrer-Diaz, E.I., Transportation Manager
Milosh Majstorovic, M.S.C.E.,Transit Operations Supervisor
Xavier R. Falconi, P.E., Bicycle & Pedestrian Coordinator

Gannett Fleming

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
44	**16th Street Bicycle Facilities Improvements**	South	Bike/Ped	Bay Road	Collins Avenue	0.83	Phase I of the project proposes the improvement of the existing Bicycle Lanes by painting them green. Phase II of the project includes the implementation of Protected Bicycle Lanes along the corridor.	16th Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
45	**47th Street Enhanced Bicycle Lane**	Middle	Bike/Ped	North Bay Road	Pine Tree Drive	0.66	Enhanced (Green) Bike Lane for the corridor, including the portion between Alton Road and North Bay Road.	47th Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
46	**42nd Street Enhance Bicycle Lanes**	Middle	Bike/Ped	Prairie Avenue	Pine Tree Drive	0.25	Enhanced (Green) Bike Lane for the corridor.	42nd Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

Priority 2 Projects

Table 40: Priority 2 Projects

Project Number	Project Name	City Area	Project Type	From	To	Project Length (Miles)	Project Description	Purpose & Need
1	**17th Street Exclusive transit and protected/buffered bicycle lanes**	South	Transit/Bike& Ped	Washington Avenue	Collins Avenue	0.14	Evaluation of Exclusive transit and/or protected/buffered bicycle lanes *(Lane repurposing and/or roadway widening),*	17th Street requires an improvement towards regional and local connectivity. Improve the speed, reliability, comfort and convenience of transit.
2	**SR A1A / Collins Avenue / Indian Creek Drive Exclusive transit and protected/buffered bicycle lanes**	South / Middle	Transit/Bike& Ped	17th Street	44th Street	2.76	Exclusive transit and protected/buffered bicycle lanes *(Lane repurposing and/or roadway widening),* Enhanced crosswalks	SR A1A / Collins Avenue / Indian Creek Drive requires an improvement towards regional and local connectivity. Improve the speed, reliability, comfort and convenience of transit. Serve new markets and support economic vitality.
3	**Meridian Avenue Protected/buffered bicycle lanes**	South / Middle	Bike/Ped	16th Street	28th Street	1.04	Protected/buffered bicycle lanes *(Lane repurposing and/or roadway widening),* Enhanced crosswalks	Meridian Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
10	**44th Street AND SR A1A / Collins Avenue Safety Feasibility Study**	Middle	Bike/Ped	44th Street	SR A1A / Collins Avenue	N/A	Safety Feasibility Study	Improve multimodal vehicular operations along the corridor of 44th Street AND SR A1A / Collins Avenue
11	**Meridian Avenue Bicycle Greenway Analysis**	South	Bike/Ped	1st Street	16th Street	1	Neighborhood Greenway(Boulevard Markers and Traffic Calming) Enhanced crosswalks	Meridian Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
12	**Lincoln Road Shared Space**	South	Bike/Ped	Washington Avenue	Collins Avenue	0.12	Shared Space including changes to pavement and various multi-modal accommodations.	Meridian Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

Project Number	Project Name	City Area	Project Type	From	To	Project Length (Miles)	Project Description	Purpose & Need
13	**Lincoln Lane North Bicycle Connection/ Neighborhood Greenway**	South	Bike/Ped	Alton Road	Washington Avenue	0.57	Exploring the various typical sections of the alleyway to create an exclusive bicycle lane or Neighborhood Greenways.	Lincoln Lane North requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
14	**Fairway Drive Shared-Use Path**	North	Bike/Ped	Biarritz Drive	Bay Drive	1.10	Shared-Use Path adjacent to the golf course.	Fairway Drive requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

PRIORITY 3 PROJECTS

Table 41: Priority 3 Projects

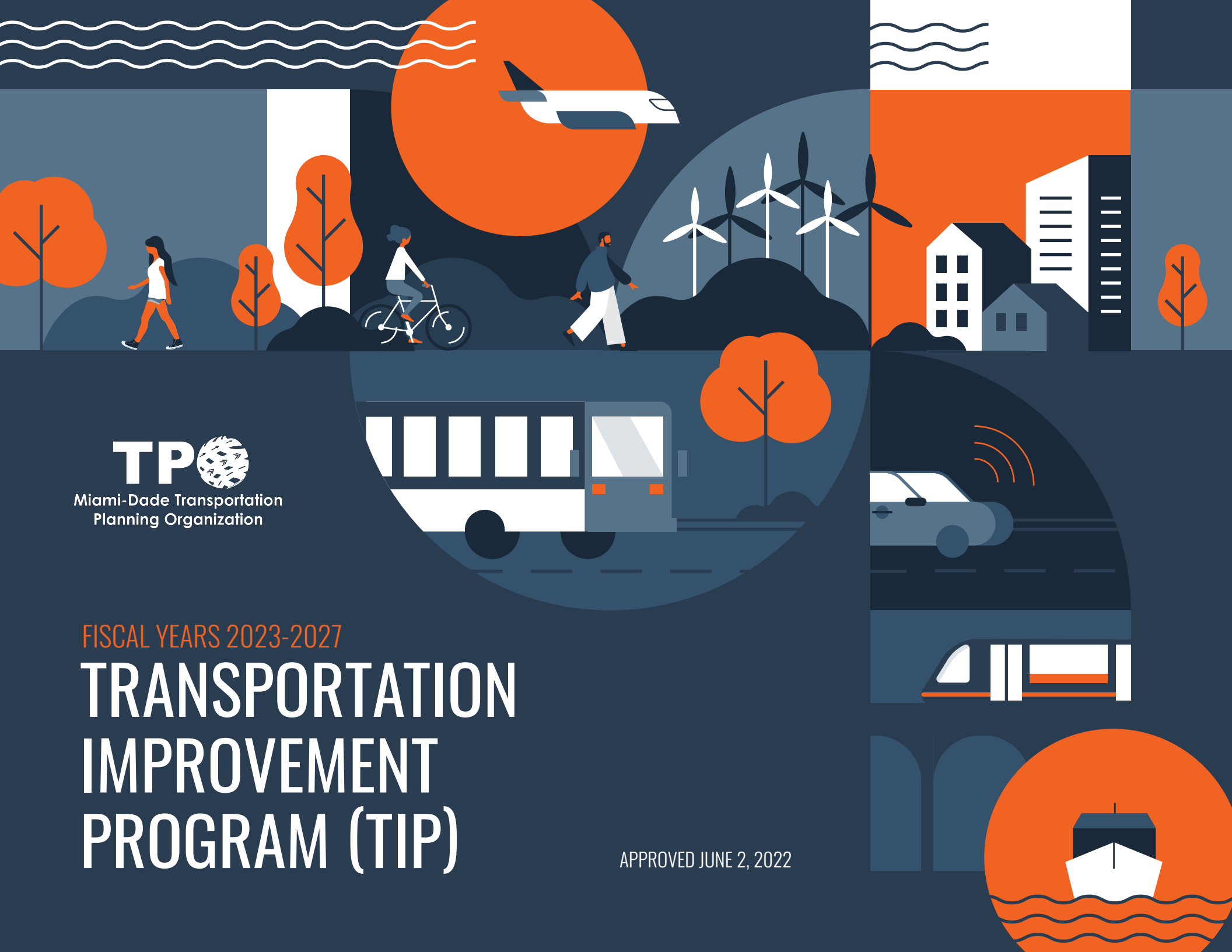
PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
1	**SR A1A / Collins Avenue Protected/buffered bicycle lanes**	South	Bike/Ped	South Pointe Drive	17th Street	1.68	Protected/buffered bicycle lanes *(Lane repurposing and/or roadway widening) Enhanced crosswalks*	SR A1A / Collins Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
2	**Prairie Avenue Neighborhood Greenway**	Middle	Bike/Ped	44th Street	47th Street	0.25	Neighborhood Greenway*(Sharrow Markers) Enhanced crosswalks*	Prairie Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
3	**SR A1A Collins Avenue Exclusive transit lanes**	Middle	Transit	44th Street	SR A1A Collins Avenue / Indian Creek Drive Split	2	Exclusive transit lanes *(Lane repurposing)*	SR A1A Collins Avenue requires an improvement towards regional and local connectivity. Improve the speed, reliability, comfort and convenience of transit. Serve new markets and support economic vitality.

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
28	**SR A1A/ Indian Creek Drive Protected Bicycle Lanes**	North	Bike/Ped	Abbott Avenue	Dickens Avenue	0.33	Protected Bicycle Lanes (Lane repurposing and/or roadway widening)	That section of Indian Creek Drive requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
29	**15th Street Neighborhood Greenway**	South	Bike/Ped	Washington Avenue	West Avenue	0.66	Neighborhood Greenway *(Bicycle Boulevard Markers) Enhanced crosswalks*	15th Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
30	**20 Street Neighborhood Greenway**	South	Bike/Ped	Purdy Avenue	Sunset Drive	0.25	Neighborhood Greenway *(Bicycle Boulevard Markers) Enhanced crosswalks*	20th Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
34	**Drexel Avenue Neighborhood Greenway**	South	Bike/Ped	Espanola Way	17th Street	0.40	Neighborhood Greenway (Bicycle Boulevard Markers) Enhanced crosswalks	Drexel Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

Miami-Dade TPO

Transportation Improvement Program



TPO
Miami-Dade Transportation Planning Organization

FISCAL YEARS 2023-2027

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

APPROVED JUNE 2, 2022

TRANSPORTATION PLANNING ORGANIZATION FOR THE MIAMI URBANIZED AREAS

2023 – 2027 TIP

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) | FISCAL YEARS 2022/2023 – 2026/2027

This document was prepared by the Transportation Planning Organization for the Miami Urbanized Area in collaboration with the Florida Department of Transportation; Miami-Dade Expressway Authority; Florida's Turnpike Enterprise; South Florida Regional Transportation Authority; Miami-Dade County Office of Strategic Business Management; Miami-Dade Department of Transportation and Public Works, Miami-Dade County Aviation Department; Miami-Dade Seaport Department; Miami-Dade League of Cities; Miami-Dade County Department of Regulatory and Economic Resources; and the Miami-Dade County Developmental Impact Committee.

The Miami-Dade TPO complies with the provisions of Title VI of the Civil Rights Act of 1964, which states: No person in the United States shall, on grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. It is also the policy of the Miami-Dade TPO to comply with all of the requirements of the Americans with Disabilities Act. For materials in accessible format please call (305) 375-4507.

The preparation of this report has been financed in part from the U.S. Department of Transportation (USDOT) through the Federal Highway Administration (FHWA) and/or the Federal Transit Administration (FTA), the State Planning and Research Program (Section 505 of Title 23, U.S. Code) and Miami-Dade County, Florida. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

Stategic Miami Area Rapid Transit (SMART) Plan

Beach Corridor (SMART)

Type of Project: ***Transit***

TA11	METRORAIL - TRACK AND GUIDEWAY PROJECTS		MAINTENANCE	36,207	13,000	21,070	0	0	***70,277***	A11-5
		0.0								
11	Miami-Dade Dept. of Transportation and Public Works (Transit)	OMB # P6710900								
TA201925	Beach Express South (SMART Plan)		Transit Improvement	2,590	6,490	0	0	0	***9,080***	A11-10
		0.0								
201925	Miami-Dade Dept. of Transportation and Public Works (Transit)	SMART Plan BERT Route f3; OMB SITE S3002256								
TAS30000139	METRORAIL STATIONS REFURBISHMENT		STATION RENEWAL	14,070	21,777	18,284	18,642	0	***72,773***	A11-26
		0.0								
S30000139	Miami-Dade Dept. of Transportation and Public Works (Transit)	OMB #P2000000104 SITE S3000139								
TAS3002956	TOD MASTER PLAN FOR THE BEACH CORRIDOR (OSP258)		TOD master plan	0	350	0	0	0	***350***	A11-36
	Washington Avenue / Dade BLVD NE 41st Street / NE 2nd Avenue	0.0								
S3002956	Miami-Dade Dept. of Transportation and Public Works (Transit)	program #672670, OMB Site S3002956								
TAS3003575	METROMOVER GUIDEWAY STRUCTURAL SUPERSTRUCTURE RETROFIT			15,943	47,828	15,943	0	0	***79,714***	A11-39
	Downtown Government Center 50 NE 15TH ST	0.0								
S3003575	Miami-Dade Dept. of Transportation and Public Works (Transit)	program #673910, OMB Site S3003575								

Stategic Miami Area Rapid Transit (SMART) Plan

Beach Corridor (SMART)

Type of Project: ***Pedestrian/Bicycle***

TPO Project No.	Facility/Project Name			Type of Work	Proposed Funding ($000s)						TIP Page Ref
	From/Location	To/Location	Length (Miles)		2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	*5-YEAR TOTAL*	
Agency Project No.	Responsible Agency		Project Comments								
DT4434321	SR A1A / MACARTHUR CAUSEWAY			BIKE PATH/TRAIL	1,122	0	0	0	0	*1,122*	A1-289
	FROM SR 5 / BISCAYNE BLVD	TO SR 907 / ALTON RD	2.7								
4434321	FL Dept. of Transportation										
DT4441961	MIAMI BEACH HIGH SCHOOL PEDESTRIAN ENHANCEMENTS			PEDESTRIAN SAFETY IMPROVEMENT	0	264	0	0	0	*264*	A1-561
			0.2								
4441961	FL Dept. of Transportation										
DT4460531	CITY OF MIAMI - I-395 PEDESTRIAN BAYWALK CONNECTION			PEDESTRIAN/WILDLIFE OVERPASS	0	3,285	454	0	0	*3,739*	A1-360
			0.0								
4460531	FL Dept. of Transportation										
DT4479841	CITY OF MIAMI BEACH - 17 ST BICYCLE LANE PROJECT			BIKE LANE/SIDEWALK	0	0	576	915	0	*1,491*	A1-580
			0.0								
4479841	FL Dept. of Transportation										

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

PART 2: 5-YEAR PROJECT LISTING

STATE TRANSPORTATION SYSTEM AND MAJOR PROJECTS

MIA MIAMI INTERNATIONAL AIRPORT

PORTMIAMI

4DX

FLORIDA'S TURNPIKE

FDOT

RTA SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY

MIAMI-DADE COUNTY

Private Sector

TPO Miami-Dade Transportation Planning Organization

MISCELLANEOUS

TPO Project No: DT4479841
LRTP Ref: 06-10
County: MIAMI-DADE
Roadway ID:
Lanes Exist:
Lanes Improved:
Lanes Added:
Project Length:
District: 6

Project Description: **CITY OF MIAMI BEACH - 17 ST BICYCLE LANE PROJECT**

Type of Work: **BIKE LANE/SIDEWALK**

SIS or Non-SIS: **No**

Extra Description:

PHASE :	Funding Source	Proposed Funding (in $000s) <2023	2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	>2027	All Years
	TALU	0	0	0	81	0	0	0	81
CONSTRUCTION	**Total**	**0**	**0**	**0**	**576**	**915**	**0**	**0**	**1,491**

RESPONSIBLE AGENCY: **CITY OF MIAMI BEACH**

Item Segment TOTAL ALL Years ALL Phases: $1,662

Item Number: 447984

Item TOTAL ALL Years ALL Phases ALL Segments: $1,662

TPO Project No: DT4479851
LRTP Ref: 06-10
County: MIAMI-DADE
Roadway ID:
Lanes Exist:
Lanes Improved:
Lanes Added:
Project Length:
District: 6

Project Description: **TOWN OF CUTLER BAY - CARIBBEAN BOULEVARD COMPLETE STREETS**

Type of Work: **BIKE LANE/SIDEWALK**

SIS or Non-SIS: **No**

Extra Description:

PHASE :	Funding Source	Proposed Funding (in $000s) <2023	2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	>2027	All Years
	LF	160	0	0	0	0	0	0	160
	TALU	5	0	0	0	0	0	0	5
PRELIMINARY ENGINEERING	**Total**	**165**	**0**	**0**	**0**	**0**	**0**	**0**	**165**
	LF	0	0	0	0	546	0	0	546
	SA	0	0	0	0	5	0	0	5
	TALT	0	0	0	0	606	0	0	606
	TALU	0	0	0	0	394	0	0	394
CONSTRUCTION	**Total**	**0**	**0**	**0**	**0**	**1,551**	**0**	**0**	**1,551**

RESPONSIBLE AGENCY: **Town of Cutler Bay**

Item Segment TOTAL ALL Years ALL Phases: $1,716

Item Number: 447985

Item TOTAL ALL Years ALL Phases ALL Segments: $1,716

TPO RESOLUTION #03-2020

RESOLUTION SELECTING THE LOCALLY PREFERRED ALTERNATIVE FOR THE BEACH CORRIDOR OF THE STRATEGIC MIAMI AREA RAPID TRANSIT (SMART) PLAN

WHEREAS, the Interlocal Agreement creating and establishing the Metropolitan Planning Organization (MPO) for the Miami Urbanized Area requires that the Miami-Dade Transportation Planning Organization (TPO), in its role as the MPO, provide a structure to evaluate the adequacy of the transportation planning and programming process; and

WHEREAS, in 2016, the TPO Governing Board adopted Resolution #06-16, which established transit as the "highest priority" in Miami-Dade County. Subsequently, the Governing Board unanimously adopted Resolution #26-16, which approved the Strategic Miami Area Rapid Transit (SMART) Plan in order to implement mass transit projects throughout the County; and

WHEREAS, the SMART Plan includes six (6) rapid transit corridors along with a network of Bus Express Rapid Transit (BERT) services; and

WHEREAS, implementation of the vital rapid transit corridors, in whole or in part, will provide needed transportation alternatives and relief from traffic congestion in Miami-Dade County; and

WHEREAS, the Beach Corridor is one of the six (6) SMART Plan rapid corridors; and

WHEREAS, the Beach Corridor study area is bounded by I-195/Julia Tuttle Causeway on the north; I-395/MacArthur Causeway on the south; I-95 on the west; and Washington Avenue on the east; and

WHEREAS, the Beach Corridor Development and Environment (PD&E) study builds on prior studies dating back to 1988, including a Supplemental Draft Environment Impact Statement (DEIS), which concluded in 2003 with a LPA (TPO Resolution #26-03); and

WHEREAS, the PD&E studies for the six SMART Plan corridors have been funded and are presently in progress, with the Miami-Dade Department of Transportation and Public Works (DTPW) serving as the lead agency for the Beach Corridor,

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE TRANSPORTATION PLANNING ORGANIZATION IN ITS ROLE AS THE MPO FOR THE MIAMI URBANIZED AREA, that this Board hereby selects the following locally preferred alternative for the Beach Corridor of the Strategic Miami Area Rapid Transit (SMART) Plan as recommended by the Beach Corridor Project Development and Environment (PD&E) Study:

Section 1. For the Beach Corridor Trunkline, which extends from the existing Downtown Metromover Omni Extension along MacArthur Causeway to 5th Street near Washington Avenue, the selected technology is elevated rubber tire vehicles.

Section 2. For the Miami Design District Extension, the selected technology is an extension of the existing Metromover in the median of Miami Avenue to NW 41st Street in the Design District.

Section 3. For the Miami Beach Convention Center Extension, the selected technology is dedicated lanes for bus/trolleys along Washington Avenue.

The adoption of the foregoing resolution was moved by Board Member Eileen Higgins. The motion was seconded by Board Member Jose "Pepe" Diaz, and upon being put to a vote, the vote was as follows:

Chairman Oliver G. Gilbert III -Aye
Vice Chairman Esteban L. Bovo, Jr. -Aye

Board Member Juan Carlos Bermudez	-Aye	Board Member Steven D. Losner	-Aye
Board Member Philippe Bien-Aime	-Absent	Board Member Roberto Martell	-Aye
Board Member Daniella Levine Cava	-Aye	Board Member Joe A. Martinez	-Absent
Board Member Jose "Pepe" Diaz	-Aye	Board Member Jean Monestime	-Aye
Board Member Audrey M. Edmonson	-Aye	Board Member Dennis C. Moss	-Aye
Board Member Perla T. Hantman	-Absent	Board Member Rebeca Sosa	-Aye
Board Member Carlos Hernandez	-Aye	Board Member Javier D. Souto	-Absent
Board Member Sally A. Heyman	-Aye	Board Member Micky Steinberg	-Aye
Board Member Eileen Higgins	-Aye	Board Member Francis Suarez	-Absent
Board Member Barbara J. Jordan	-Aye	Board Member Xavier L. Suarez	-Absent
Board Member Vince Lago	-Aye		

The Chairperson thereupon declared the resolution duly passed and approved this day of 30th day of January, 2020.

TRANSPORTATION PLANNING ORGANIZATION

By Zainab Salim
Zainab Salim, Clerk
Miami-Dade TPO

FDOT Five-Year Work Program

FDOT Emergency Travel Alert: For information on the current situation, please visit the following page - Alerts.

Florida Department of

TRANSPORTATION

Office of Work Program and Budget Cynthia Lorenzo - Director **Updated: 2/26/2023 8**

Five Year Work Program

Selection Criteria
All in State
2023-2027 AD
Item Number:447984-1

Display current records in a Report Style
Display current records in an Excel Document

Project Summary

Transportation System: NON-SYSTEM SPECIFICDistrict 06 - Miami-Dade County
Description: CITY OF MIAMI BEACH - 17TH STREET BICYCLE LANE PROJECT
Type of Work: BIKE LANE/SIDEWALK View Scheduled Activities
Item Number: 447984-1

Project Detail

Fiscal Year:	**2023**	**2024**	**2025**	**2026**	**2027**
Miscellaneous/Preliminary Engineering					***(On-Going)***
Amount:	$5,000				
Miscellaneous/Construction					
Amount:			$575,549	$914,541	
Item Total:	**$5,000**		**$575,549**	**$914,541**	

This site is maintained by the Office of Work Program and Budget, located at 605 Suwannee Street, MS 21, Tallahassee, Florida 32399.

View Contact Information for Office of Work Program and Budget

Application Home: Work Program
Office Home: Office of Work Program and Budget

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Florida Department of Transportation

Consistent, Predictable, Repeatable

Appendix E

Growth Rate Calculations

FDOT Historic Growth Trends

FDOT Growth Rate Summary

Station Number	Location	Historic Growth- Linear				Historic Growth- Exponential				Historic Growth- Decaying Exponential			
		5-year	R-squared	10-year	R-squared	5-year	R-squared	10-year	R-squared	5-year	R-squared	10-year	R-squared
5159	SR A1A/Collins Avenue -- 200 feet North of 5th Street	-2.34%	21.98%	-1.35%	14.65%	-2.42%	22.66%	-1.36%	15.17%	-2.04%	18.61%	-0.71%	3.65%
5170	SR A1A/Collins Avenue -- North of 21st Street	-1.67%	22.50%	0.26%	1.60%	-1.81%	24.09%	0.22%	1.37%	-1.33%	13.38%	0.31%	2.09%
8414	Washington Avenue -- 200 feet North of 12th Street	2.51%	45.36%	-	-	2.29%	45.02%	-	-	1.94%	30.83%	-	-
8531	17th Street -- 200 feet East of Meridian Avenue	-0.66%	4.05%	-	-	-0.67%	4.48%	-	-	-0.93%	6.96%	-	-
8567	16th Street -- 200 feet East of Meridian Avenue	-9.02%	76.98%	-	-	-11.62%	72.71%	-	-	-9.07%	58.12%	-	-
Total		**-2.24%**	**34.17%**	**-0.55%**	**8.13%**	**-2.85%**	**33.79%**	**-0.57%**	**8.27%**	**-2.29%**	**25.58%**	**-0.20%**	**2.87%**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

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

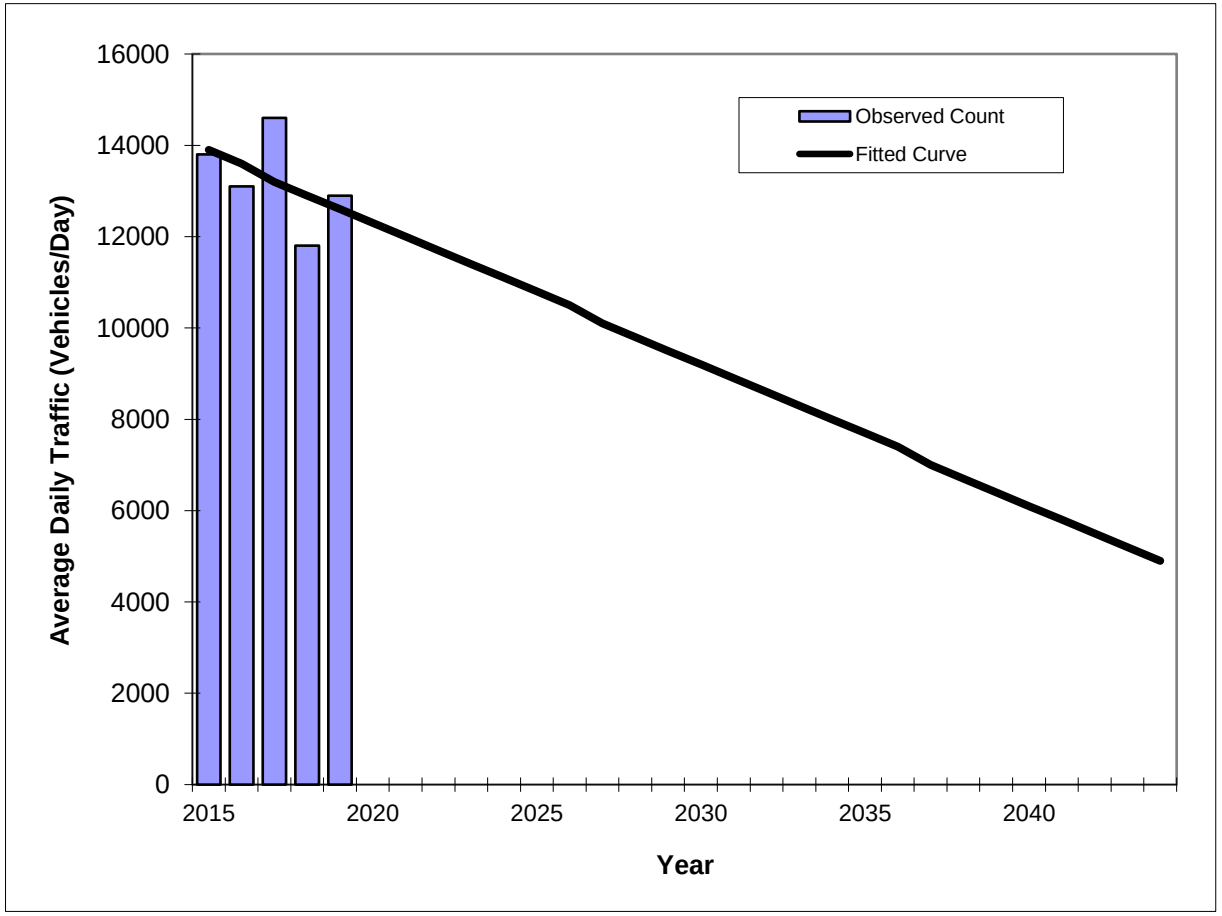
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	15700 C	N 9400	S 6300	9.00	54.30	5.40
2020	14500 C	N 6900	S 7600	9.00	54.20	9.20
2019	12900 C	N 6900	S 6000	9.00	54.60	5.00
2018	11800 C	N 6600	S 5200	9.00	54.30	5.60
2017	14600 C	N 8800	S 5800	9.00	55.00	5.30
2016	13100 C	N 6700	S 6400	9.00	54.50	7.80
2015	13800 C	N 5500	S 8300	9.00	54.70	4.60
2014	13400 C	N 6500	S 6900	9.00	54.50	5.10
2013	16400 C	N 7400	S 9000	9.00	52.40	6.10
2012	16700 C	N 7100	S 9600	9.00	55.70	8.40
2011	13600 C	N 6900	S 6700	9.00	55.10	7.50
2010	12900 C	N 6200	S 6700	8.98	54.08	8.80
2009	15300 C	N 7600	S 7700	8.99	53.24	8.40
2008	13600 C	N 6300	S 7300	9.09	55.75	5.30
2007	14300 C	N 6500	S 7800	8.01	54.34	4.90
2006	13100 C	N 5800	S 7300	7.97	54.22	2.20

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

Traffic Trends

SR A1A/COLLINS AVENUE -- 200 FEET NORTH OF 5TH STREET

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	13800	13900
2016	13100	13600
2017	14600	13200
2018	11800	12900
2019	12900	12600

Trend R-squared:	21.98%
Trend Annual Historic Growth Rate:	-2.34%
Printed:	12-Sep-22

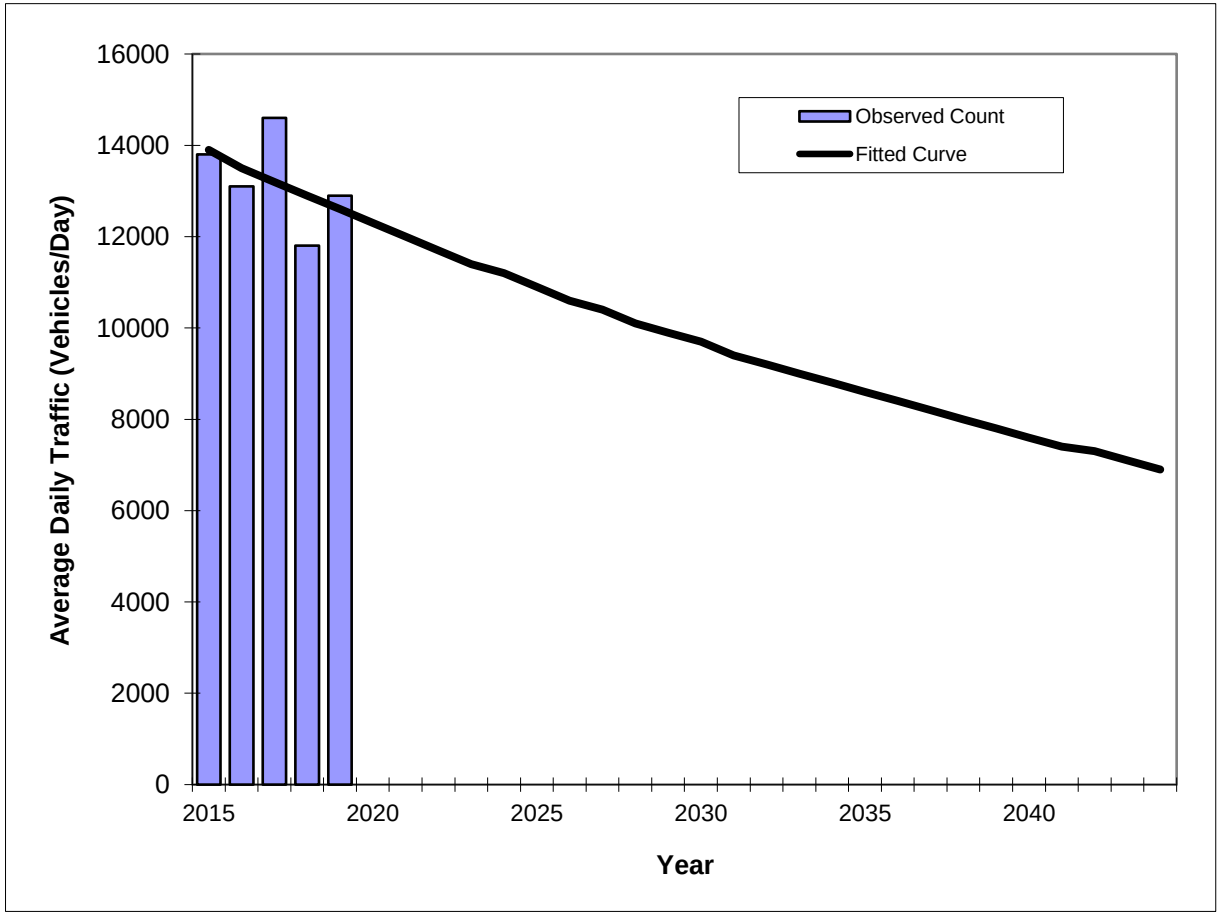
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- 200 FEET NORTH OF 5TH STREET

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	13800	13900
2016	13100	13500
2017	14600	13200
2018	11800	12900
2019	12900	12600

Trend R-squared:	22.66%
Compounded Annual Historic Growth Rate:	-2.42%
Printed:	12-Sep-22

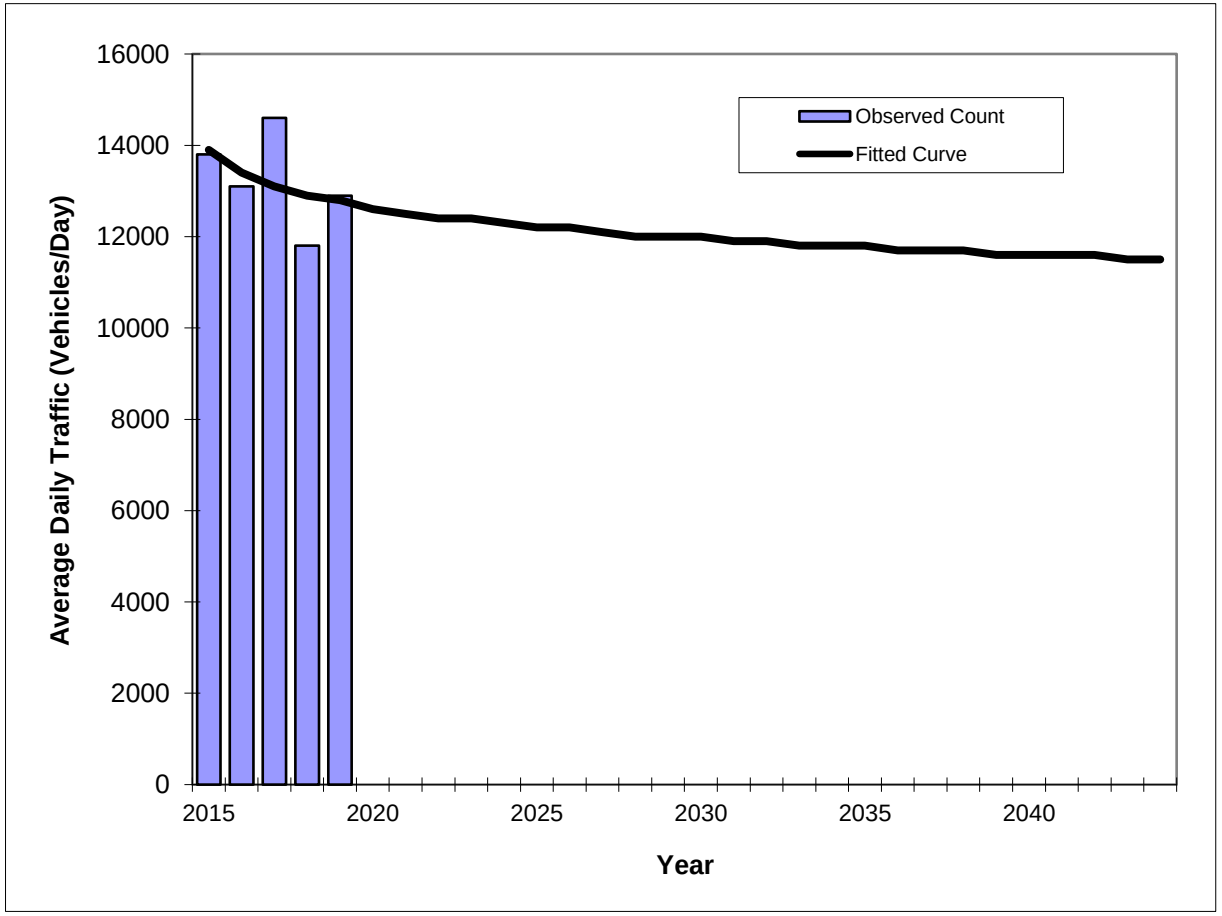
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- 200 FEET NORTH OF 5TH STREET

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	13800	13900
2016	13100	13400
2017	14600	13100
2018	11800	12900
2019	12900	12800

Trend R-squared:	18.61%
Compounded Annual Historic Growth Rate:	-2.04%
Printed:	12-Sep-22

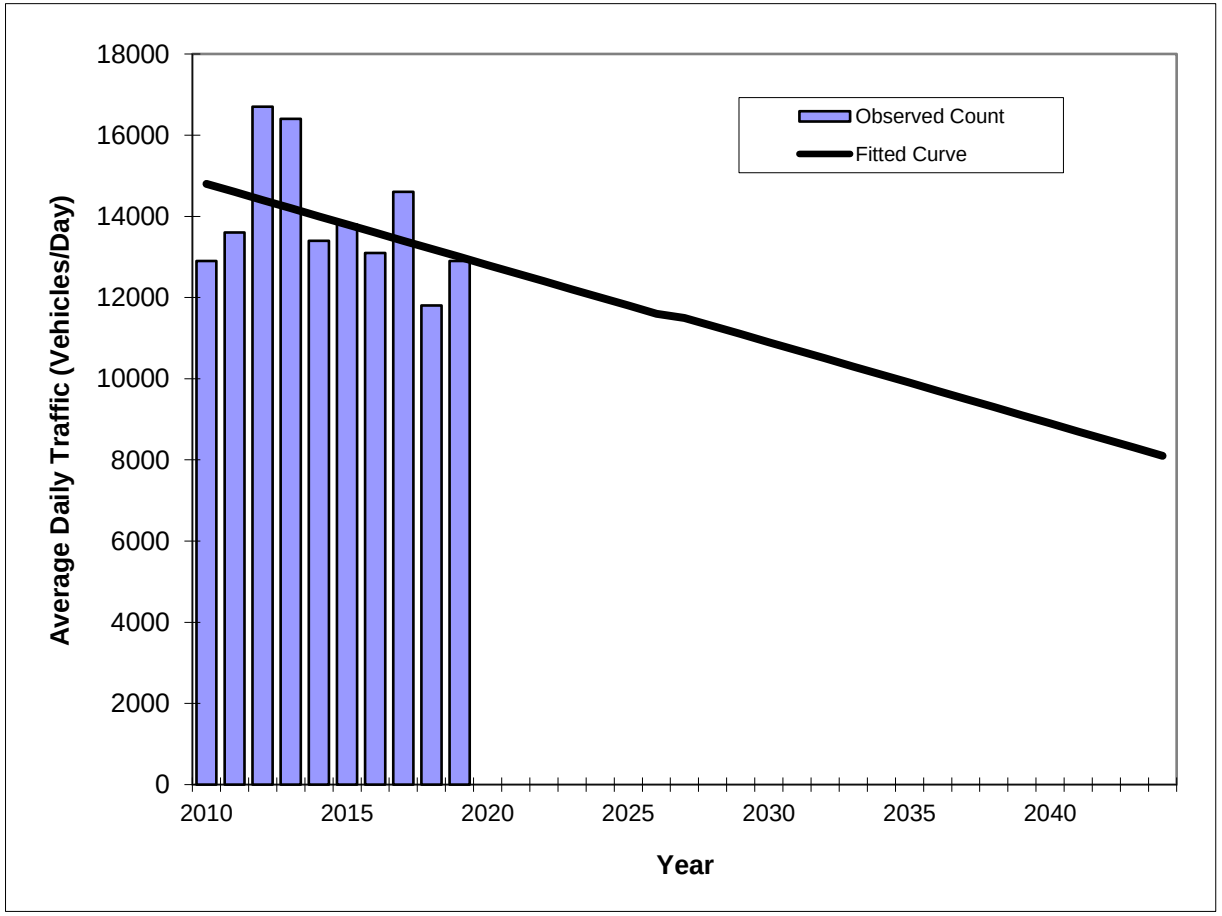
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- 200 FEET NORTH OF 5TH STREET

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2010	12900	14800
2011	13600	14600
2012	16700	14400
2013	16400	14200
2014	13400	14000
2015	13800	13800
2016	13100	13600
2017	14600	13400
2018	11800	13200
2019	12900	13000

Trend R-squared:	14.65%
Trend Annual Historic Growth Rate:	-1.35%
Printed:	12-Sep-22

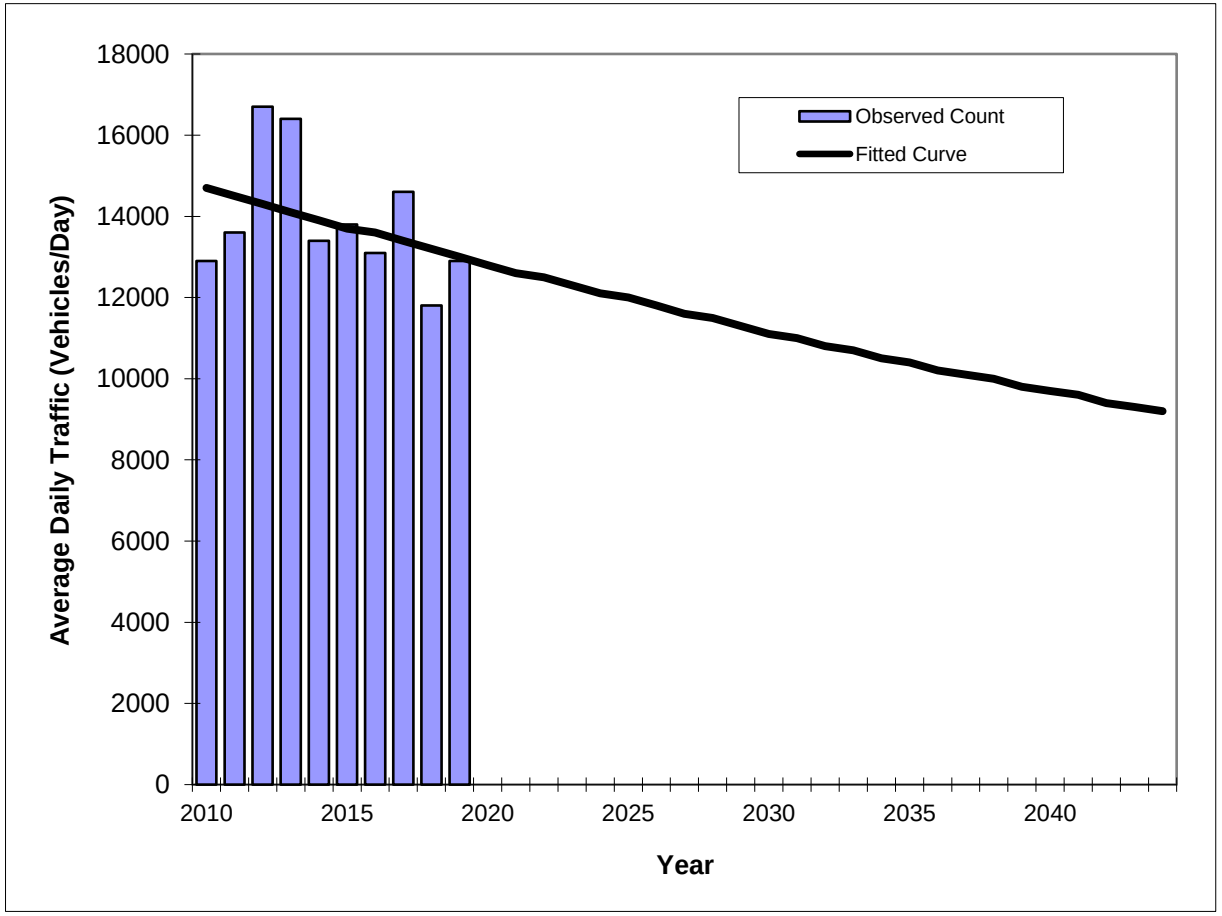
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- 200 FEET NORTH OF 5TH STREET

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2010	12900	14700
2011	13600	14500
2012	16700	14300
2013	16400	14100
2014	13400	13900
2015	13800	13700
2016	13100	13600
2017	14600	13400
2018	11800	13200
2019	12900	13000

Trend R-squared:	15.17%
Compounded Annual Historic Growth Rate:	-1.36%
Printed:	12-Sep-22

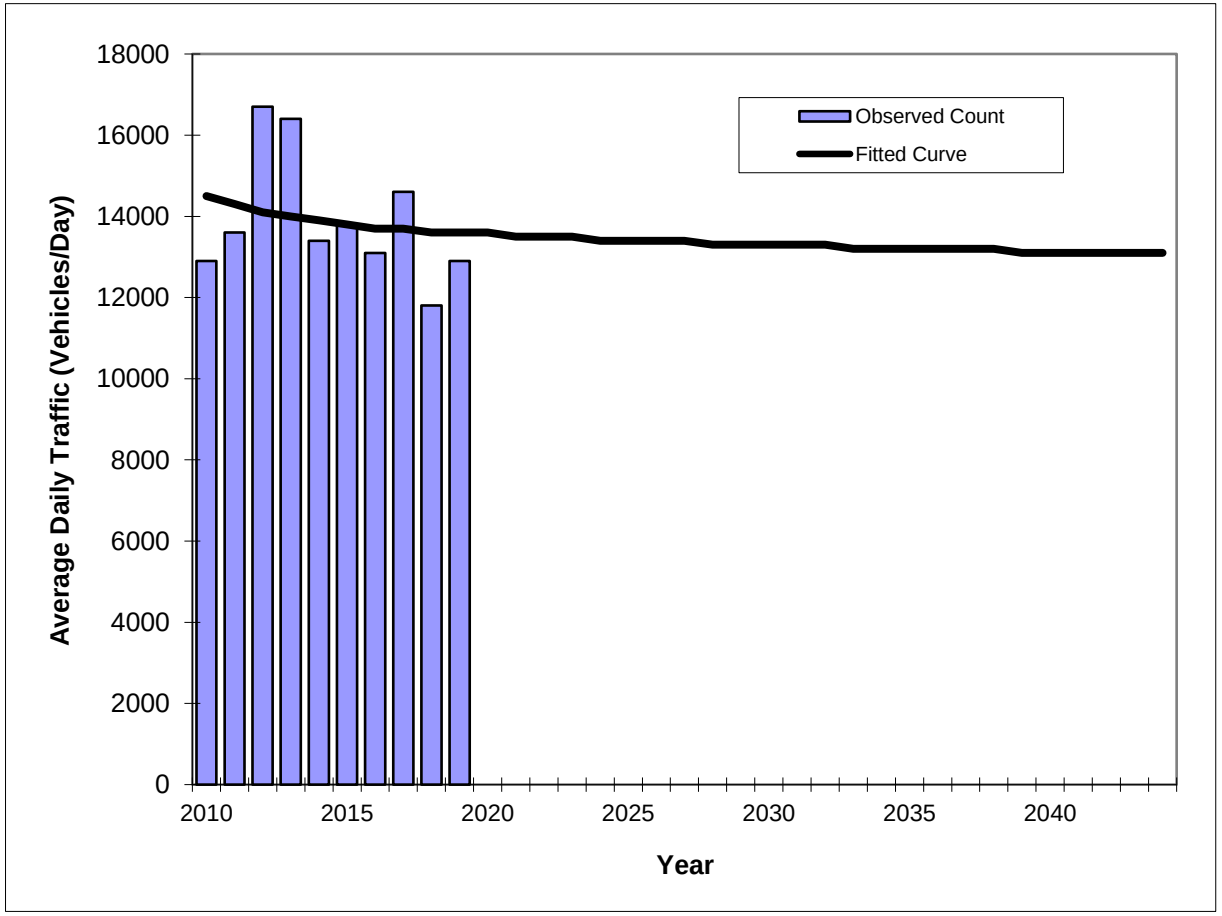
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- 200 FEET NORTH OF 5TH STREET

County:	Miami-Dade (87)
Station #:	5159
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	12900	14500
2011	13600	14300
2012	16700	14100
2013	16400	14000
2014	13400	13900
2015	13800	13800
2016	13100	13700
2017	14600	13700
2018	11800	13600
2019	12900	13600

Trend R-squared:	3.65%
Compounded Annual Historic Growth Rate:	-0.71%
Printed:	12-Sep-22

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5170 - SR A1A/COLLINS AV, N OF 21 ST (MIAMI BEACH)

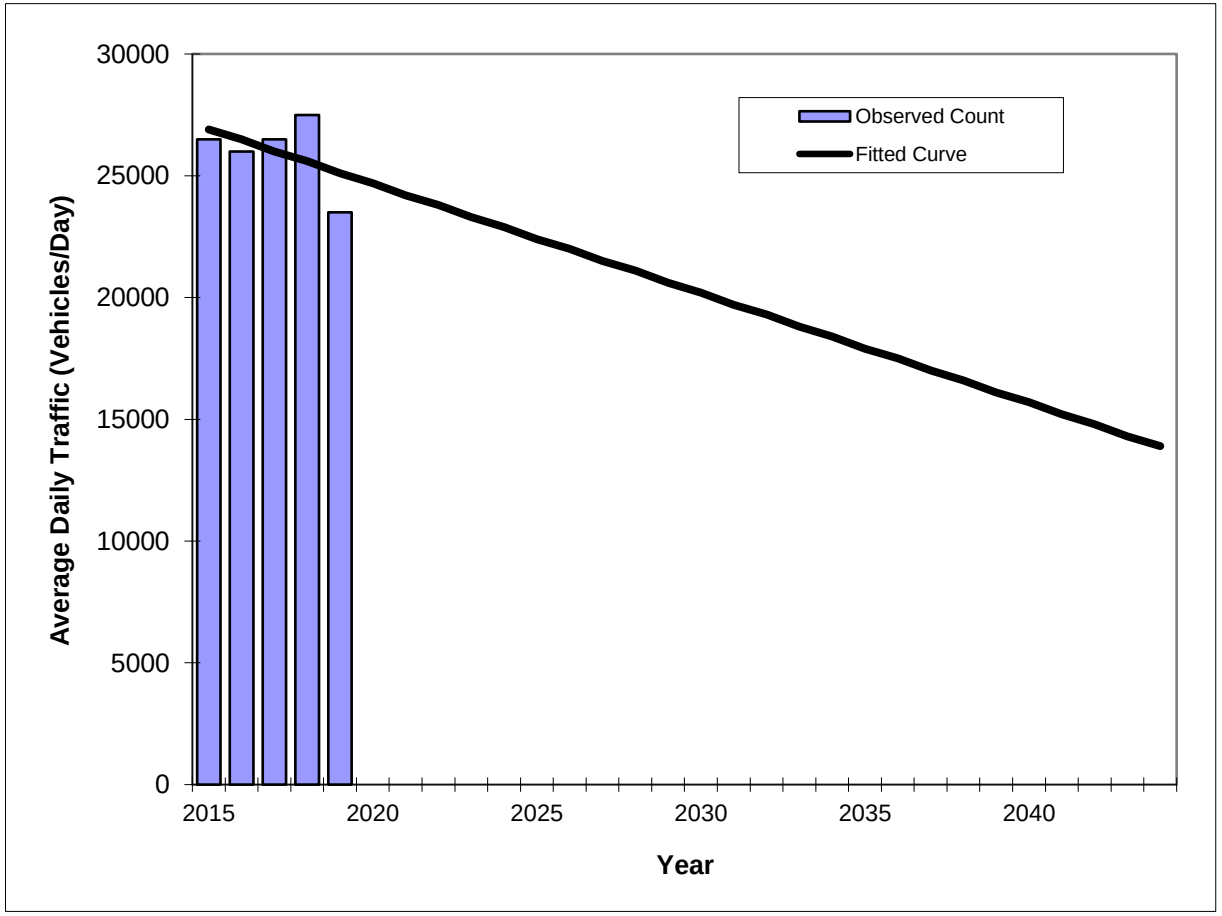
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	18400 C	N 9300	S 9100	9.00	54.30	8.40
2020	10400 C	N 5200	S 5200	9.00	54.20	31.10
2019	23500 C	N 12000	S 11500	9.00	54.60	10.00
2018	27500 C	N 13000	S 14500	9.00	54.30	7.90
2017	26500 C	N 13000	S 13500	9.00	55.00	6.60
2016	26000 C	N 13500	S 12500	9.00	54.50	20.20
2015	26500 C	N 12500	S 14000	9.00	54.70	4.20
2014	27000 C	N 12500	S 14500	9.00	54.50	4.10
2013	22500 C	N 10500	S 12000	9.00	52.40	9.00
2012	25000 C	N 12000	S 13000	9.00	55.70	4.30
2011	26500 C	N 13500	S 13000	9.00	55.10	2.80
2010	25000 C	N 12500	S 12500	8.98	54.08	2.80
2009	26500 C	N 13000	S 13500	8.99	53.24	2.70
2008	27000 C	N 13500	S 13500	9.09	55.75	4.60
2007	25500 C	N 12500	S 13000	8.01	54.34	5.10
2006	25500 C	N 12500	S 13000	7.97	54.22	2.70

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

Traffic Trends

SR A1A/COLLINS AVENUE -- NORTH OF 21ST STREET

County:	Miami-Dade (87)
Station #:	5170
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	26500	26900
2016	26000	26500
2017	26500	26000
2018	27500	25600
2019	23500	25100

Trend R-squared:	22.50%
Trend Annual Historic Growth Rate:	-1.67%
Printed:	12-Sep-22

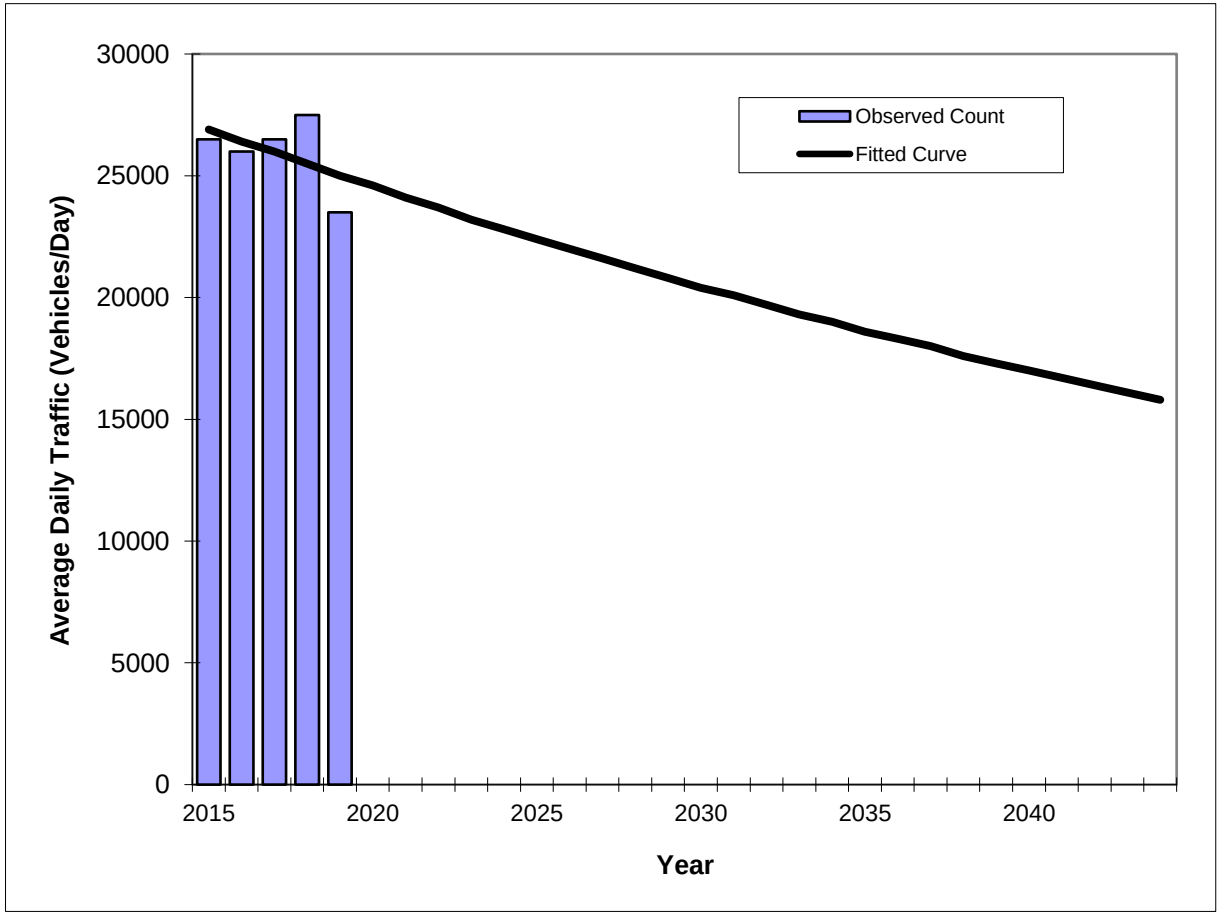
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- NORTH OF 21ST STREET

County:	Miami-Dade (87)
Station #:	5170
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	26500	26900
2016	26000	26400
2017	26500	26000
2018	27500	25500
2019	23500	25000

Trend R-squared:	24.09%
Compounded Annual Historic Growth Rate:	-1.81%
Printed:	12-Sep-22

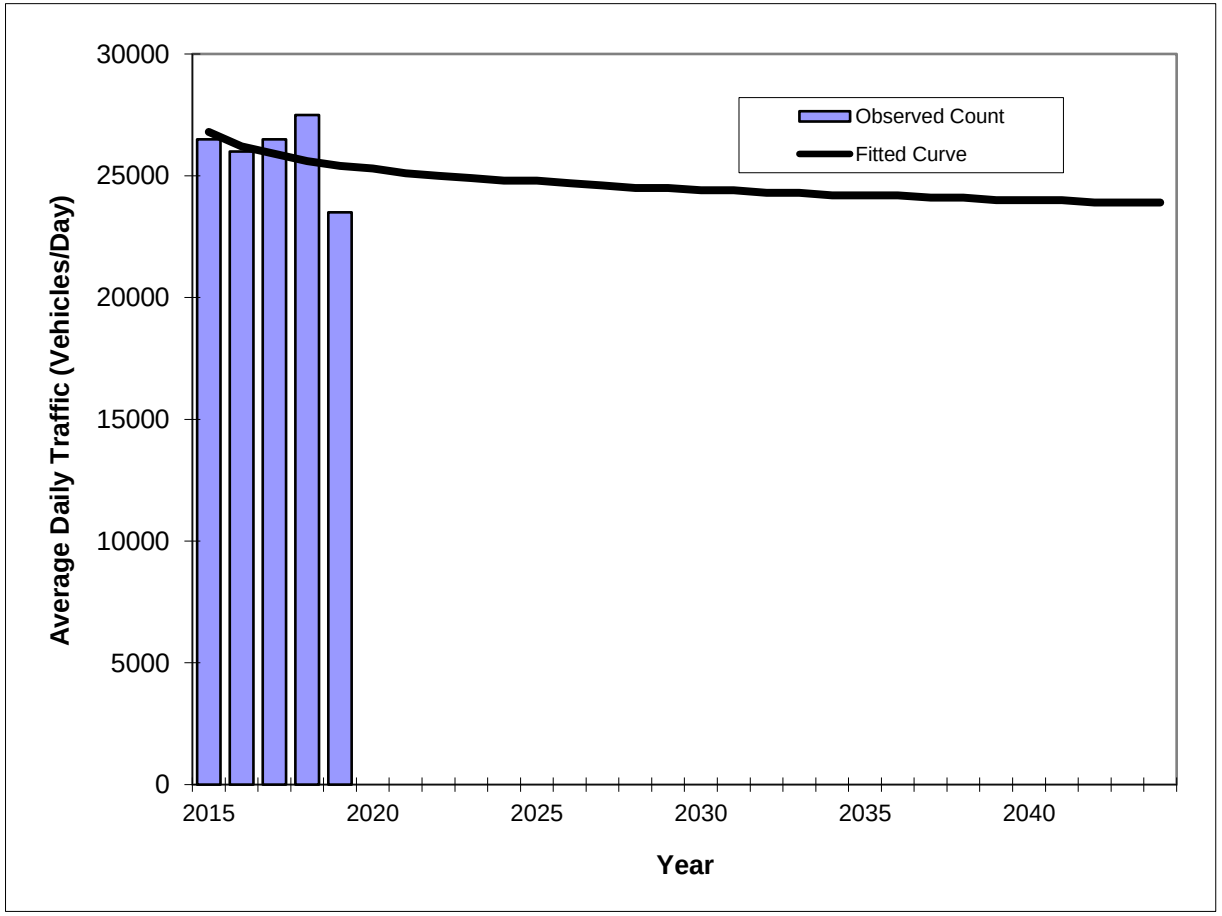
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- NORTH OF 21ST STREET

County:	Miami-Dade (87)
Station #:	5170
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	26500	26800
2016	26000	26200
2017	26500	25900
2018	27500	25600
2019	23500	25400

Trend R-squared:	13.38%
Compounded Annual Historic Growth Rate:	-1.33%
Printed:	12-Sep-22

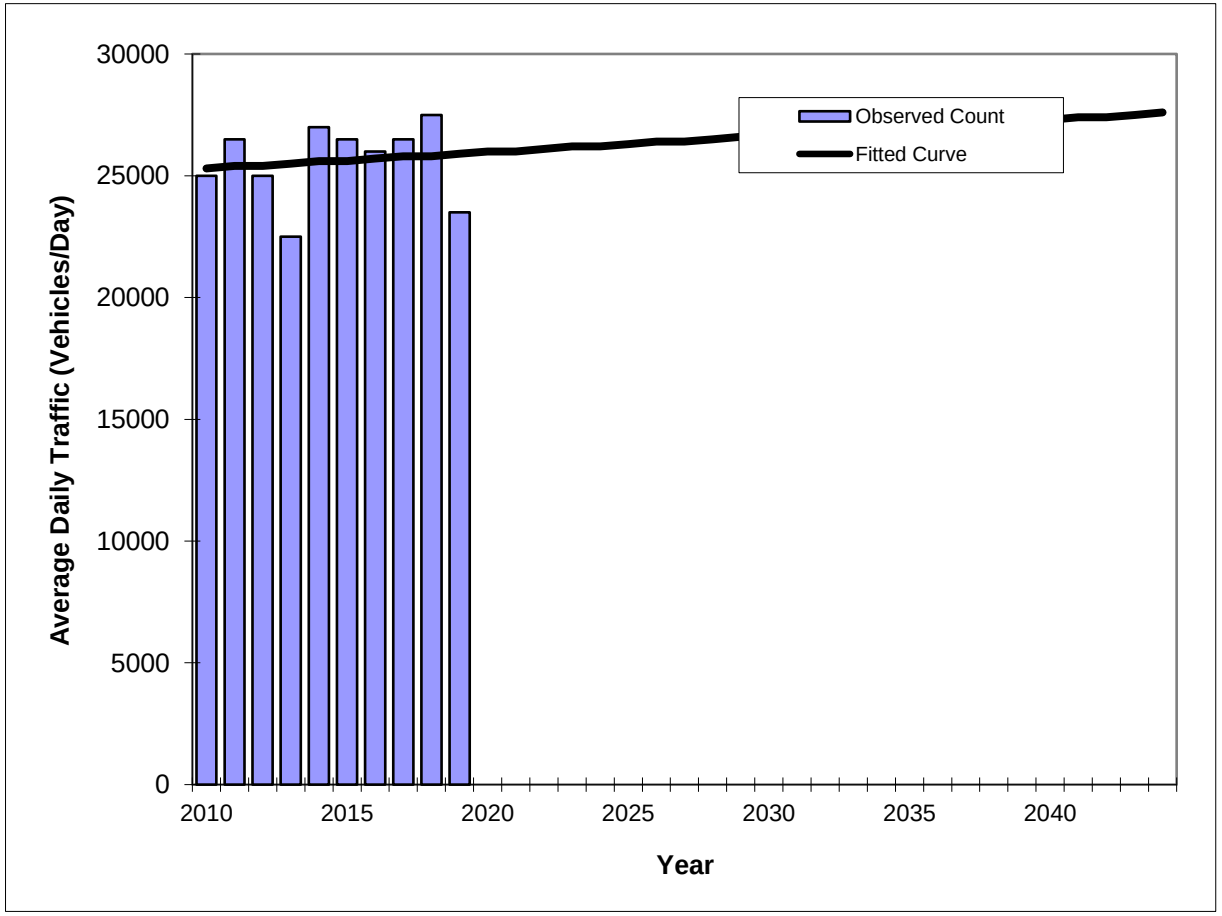
Decaying Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- NORTH OF 21ST STREET

County:	Miami-Dade (87)
Station #:	5170
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2010	25000	25300
2011	26500	25400
2012	25000	25400
2013	22500	25500
2014	27000	25600
2015	26500	25600
2016	26000	25700
2017	26500	25800
2018	27500	25800
2019	23500	25900

Trend R-squared:	1.60%
Trend Annual Historic Growth Rate:	0.26%
Printed:	12-Sep-22

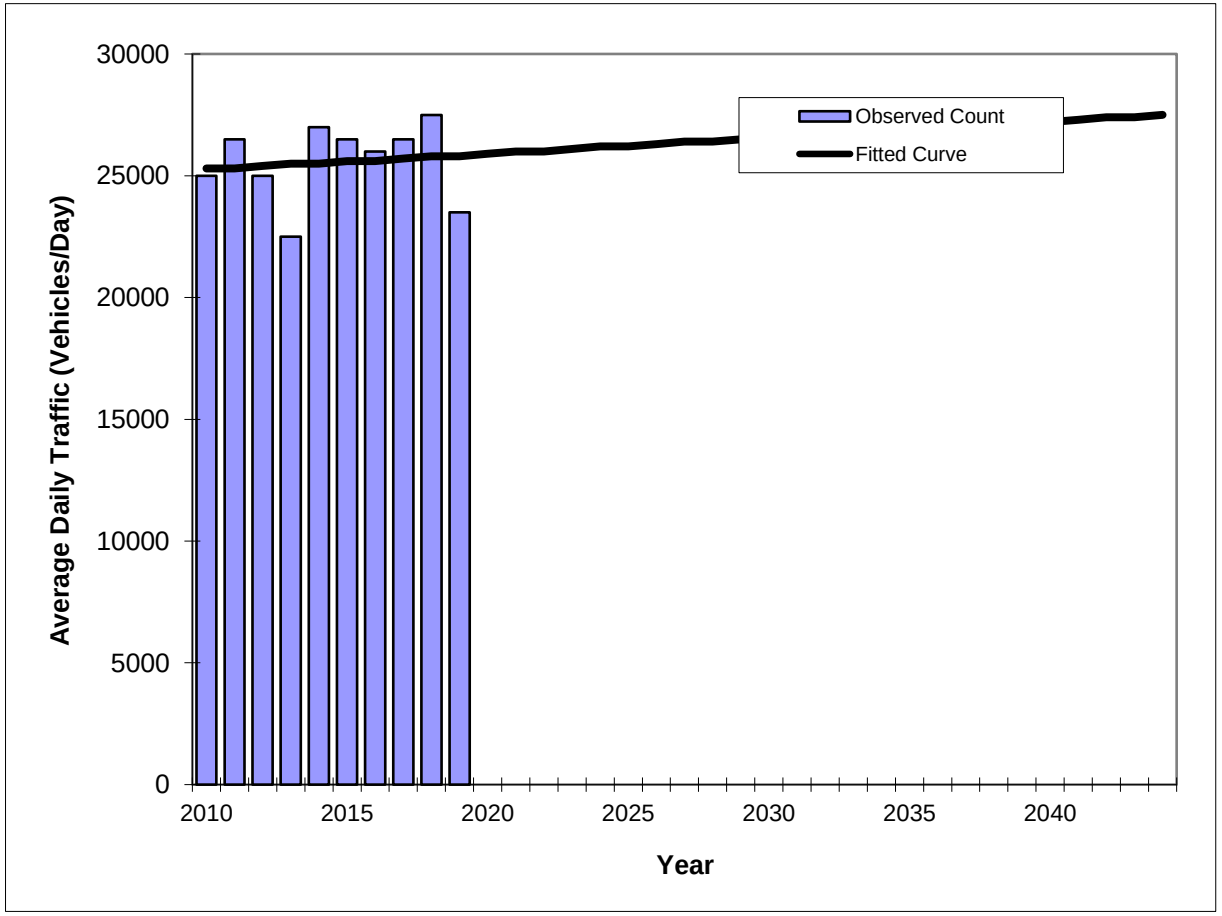
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- NORTH OF 21ST STREET

County:	Miami-Dade (87)
Station #:	5170
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2010	25000	25300
2011	26500	25300
2012	25000	25400
2013	22500	25500
2014	27000	25500
2015	26500	25600
2016	26000	25600
2017	26500	25700
2018	27500	25800
2019	23500	25800

Trend R-squared:	1.37%
Compounded Annual Historic Growth Rate:	0.22%
Printed:	12-Sep-22

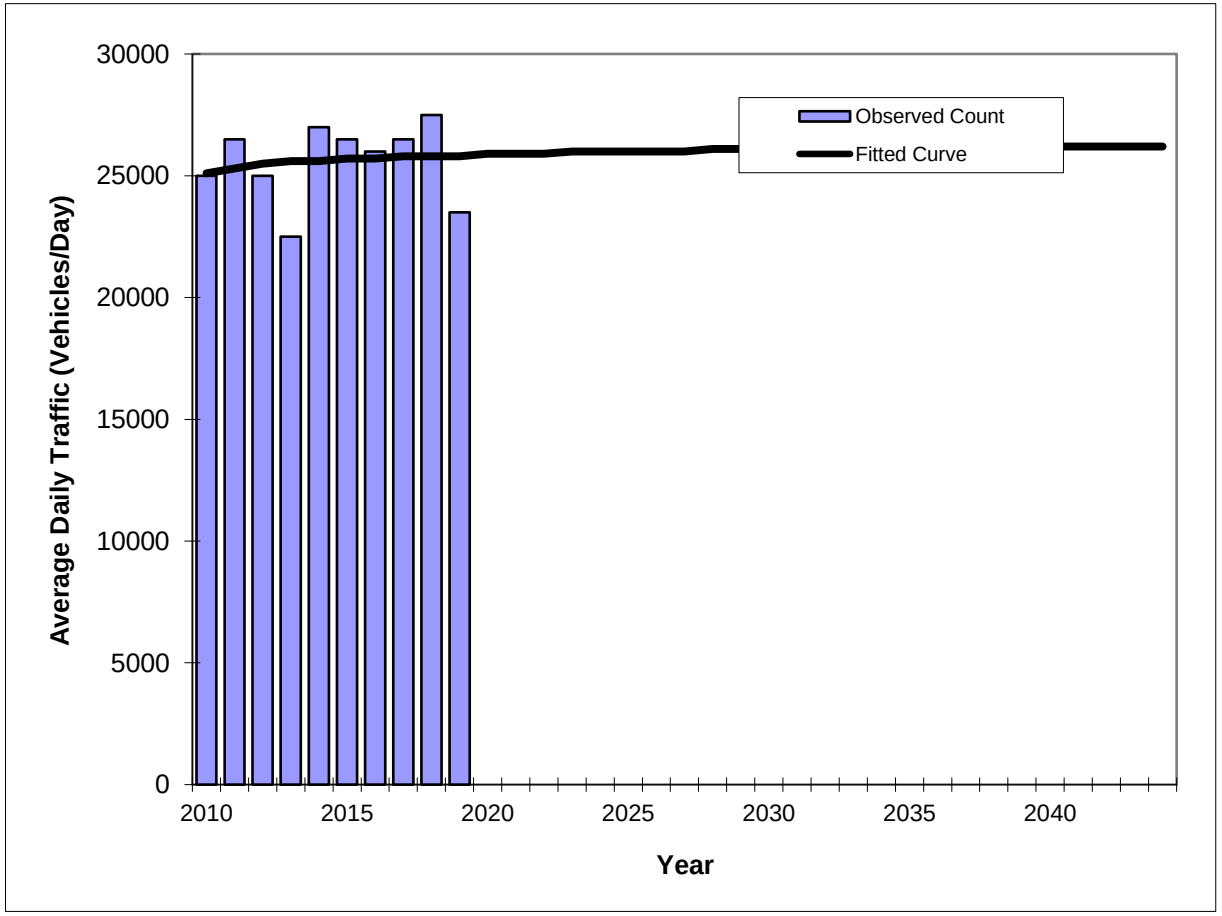
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

SR A1A/COLLINS AVENUE -- NORTH OF 21ST STREET

County:	Miami-Dade (87)
Station #:	5170
Highway:	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2010	25000	25100
2011	26500	25300
2012	25000	25500
2013	22500	25600
2014	27000	25600
2015	26500	25700
2016	26000	25700
2017	26500	25800
2018	27500	25800
2019	23500	25800

Trend R-squared:	2.09%
Compounded Annual Historic Growth Rate:	0.31%
Printed:	12-Sep-22

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8414 - WASHINGTON AVE, 200 FT N OF 12 ST (2011 OFF SYSTEM CYCLE)

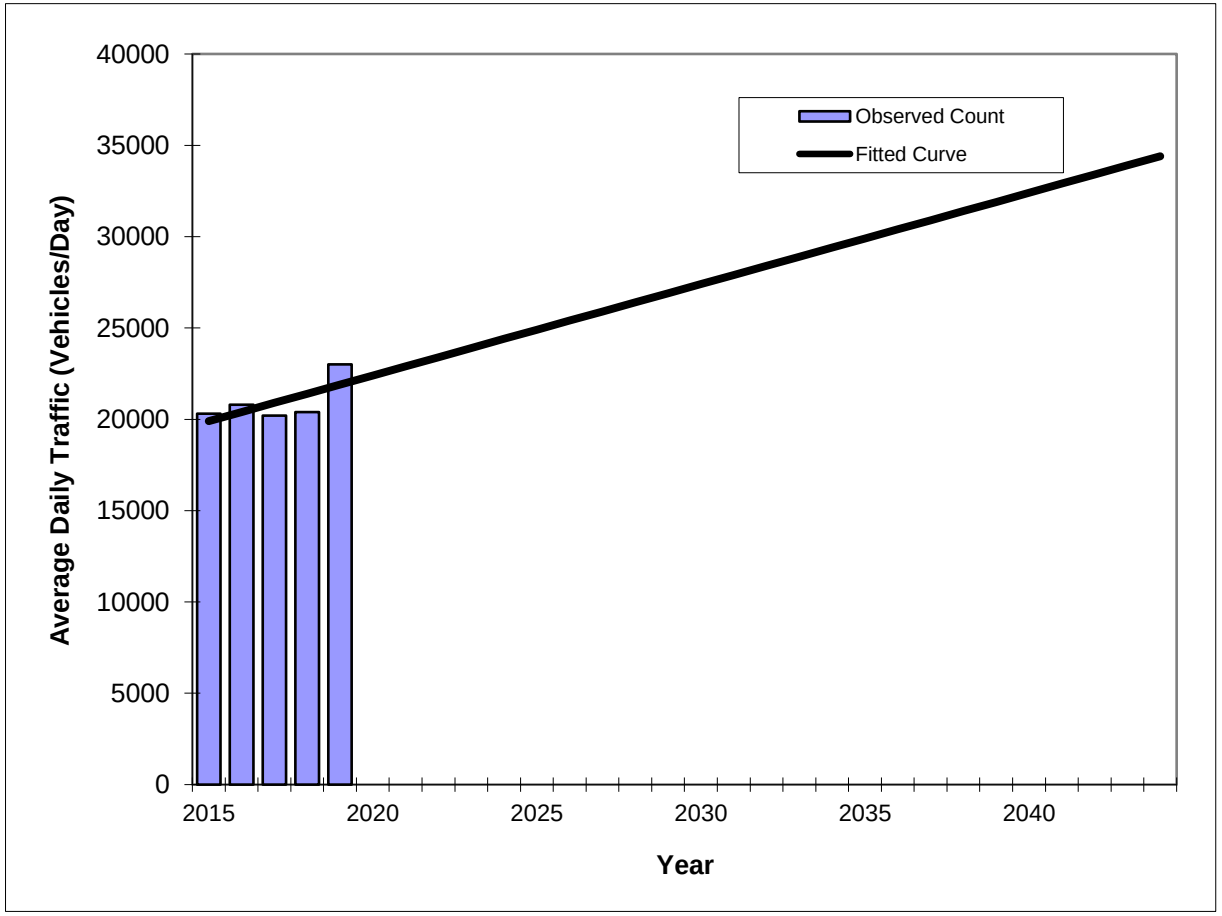
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	14200 C	N 6500	S 7700	9.00	55.00	3.30
2020	14100 C	N 7100	S 7000	9.00	56.00	10.70
2019	23000 C	N 11000	S 12000	9.00	56.00	2.40
2018	20400 C	N 11500	S 8900	9.00	54.30	2.50
2017	20200 C	N 9200	S 11000	9.00	59.30	2.40
2016	20800 C	N 9800	S 11000	9.00	56.10	1.90
2015	20300 C	N 9800	S 10500	9.00	57.40	17.50
2014	21000 C	N 10000	S 11000	9.00	59.30	13.90
2013	18700 F	N 9200	S 9500	9.00	58.90	16.20
2012	18700 C	N 9200	S 9500	9.00	59.70	16.00

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

Traffic Trends

WASHINGTON AVENUE -- 200 FEET NORTH OF 12TH STREET

County:	Miami-Dade (87)
Station #:	8414
Highway:	WASHINGTON AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2015	20300	19900
2016	20800	20400
2017	20200	20900
2018	20400	21400
2019	23000	21900

Trend R-squared:	45.36%
Trend Annual Historic Growth Rate:	2.51%
Printed:	12-Sep-22

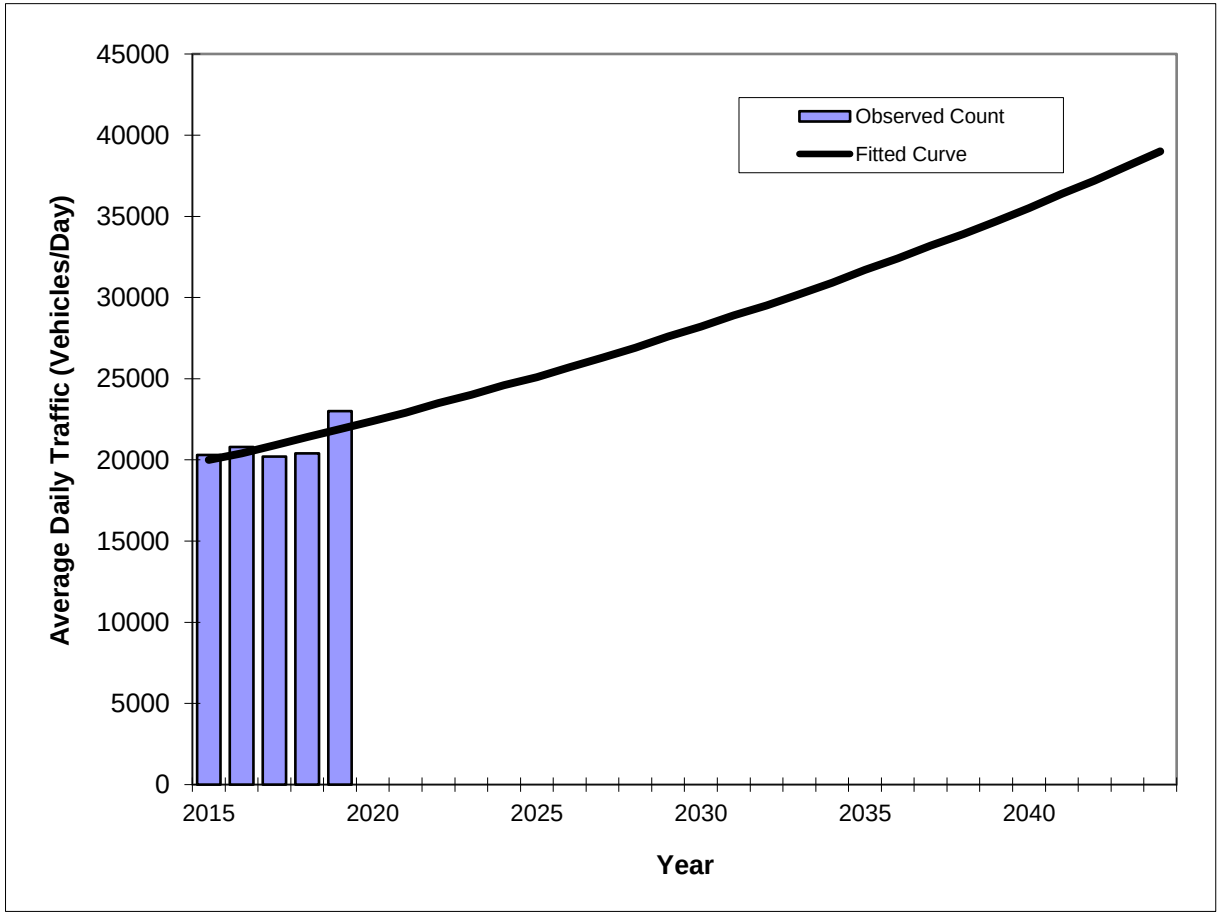
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

WASHINGTON AVENUE -- 200 FEET NORTH OF 12TH STREET

County:	Miami-Dade (87)
Station #:	8414
Highway:	WASHINGTON AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	20300	20000
2016	20800	20400
2017	20200	20900
2018	20400	21400
2019	23000	21900

Trend R-squared:	45.02%
Compounded Annual Historic Growth Rate:	2.29%
Printed:	12-Sep-22

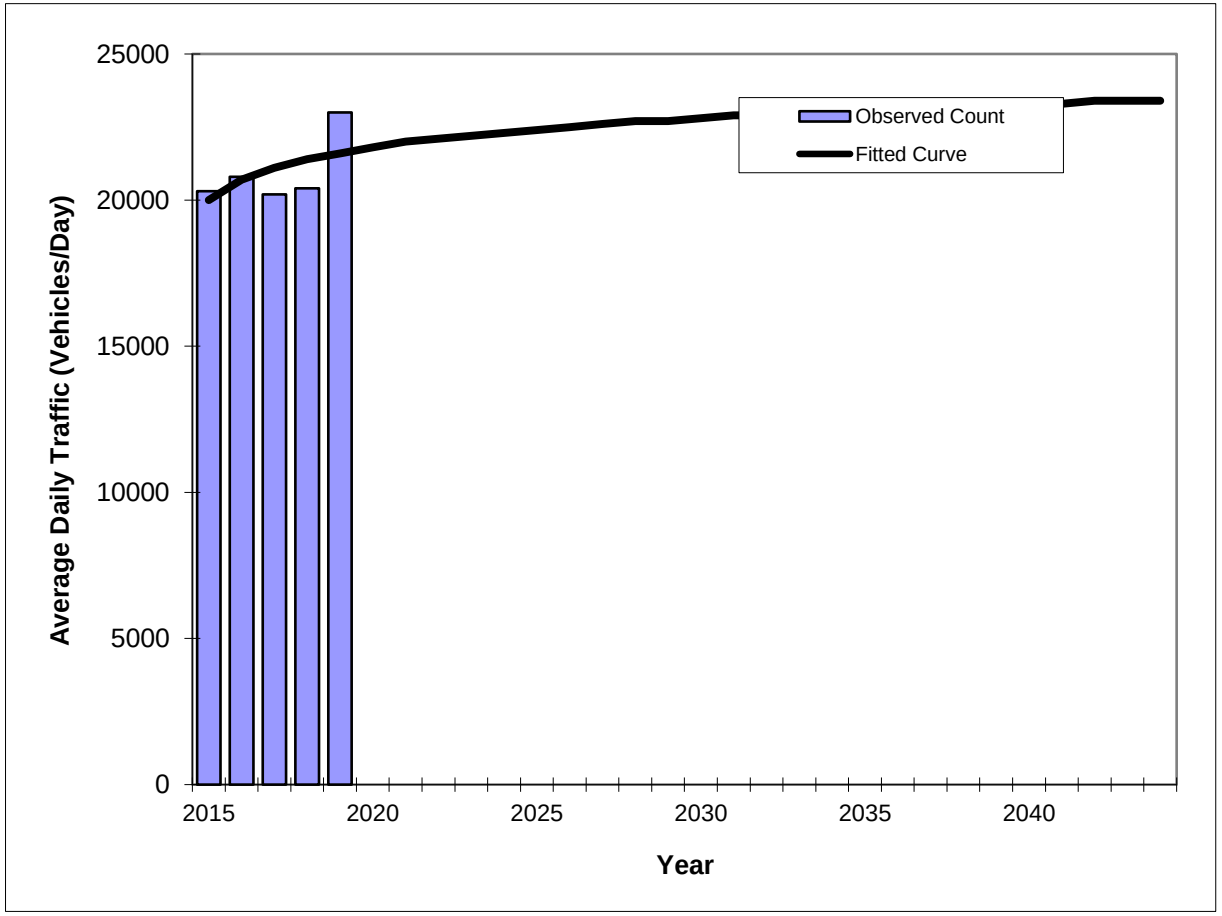
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

WASHINGTON AVENUE -- 200 FEET NORTH OF 12TH STREET

County:	Miami-Dade (87)
Station #:	8414
Highway:	WASHINGTON AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2015	20300	20000
2016	20800	20700
2017	20200	21100
2018	20400	21400
2019	23000	21600

Trend R-squared:	30.83%
Compounded Annual Historic Growth Rate:	1.94%
Printed:	12-Sep-22

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8531 - 17TH ST, 200' EAST OF MERIDIAN AVE (2011 OFF SYSTEM CYCLE)

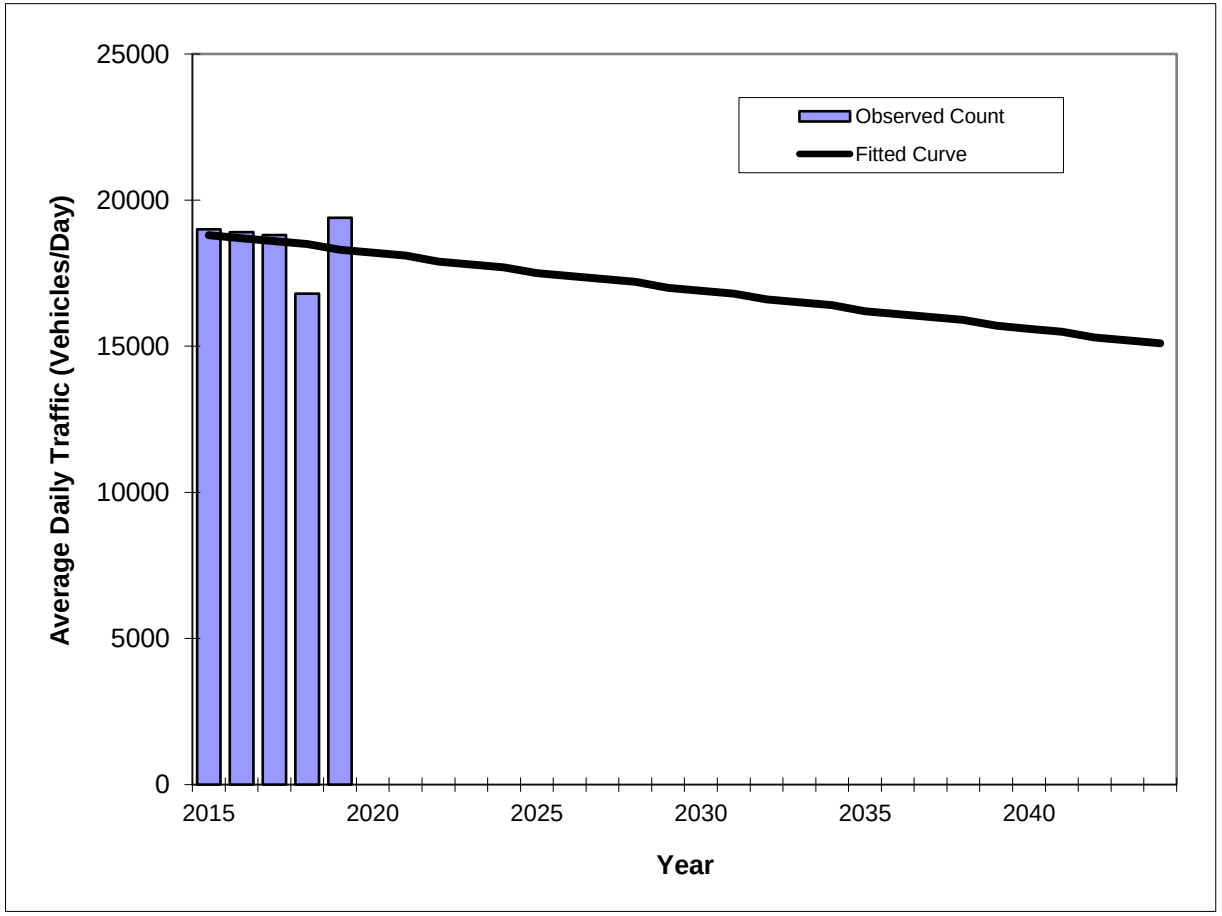
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	16500 S	E 8300	W 8200	9.00	55.00	2.90
2020	17300 F	E 8700	W 8600	9.00	56.00	4.40
2019	19400 C	E 9800	W 9600	9.00	56.00	4.00
2018	16800 T	E 7400	W 9400	9.00	54.30	3.00
2017	18800 S	E 8300	W 10500	9.00	59.30	2.50
2016	18900 F	E 8400	W 10500	9.00	56.10	5.10
2015	19000 C	E 8500	W 10500	9.00	57.40	7.10
2014	18700 S	E 9600	W 9100	9.00	59.30	10.70
2013	18900 F	E 9700	W 9200	9.00	58.90	16.20
2012	19000 C	E 9800	W 9200	9.00	59.70	16.00

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

Traffic Trends

17TH STREET -- 200 FEET EAST OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8531
Highway:	17TH STREET



Year	Traffic (ADT/AADT) Count*	Trend**
2015	19000	18800
2016	18900	18700
2017	18800	18600
2018	16800	18500
2019	19400	18300

Trend R-squared:	4.05%
Trend Annual Historic Growth Rate:	-0.66%
Printed:	12-Sep-22

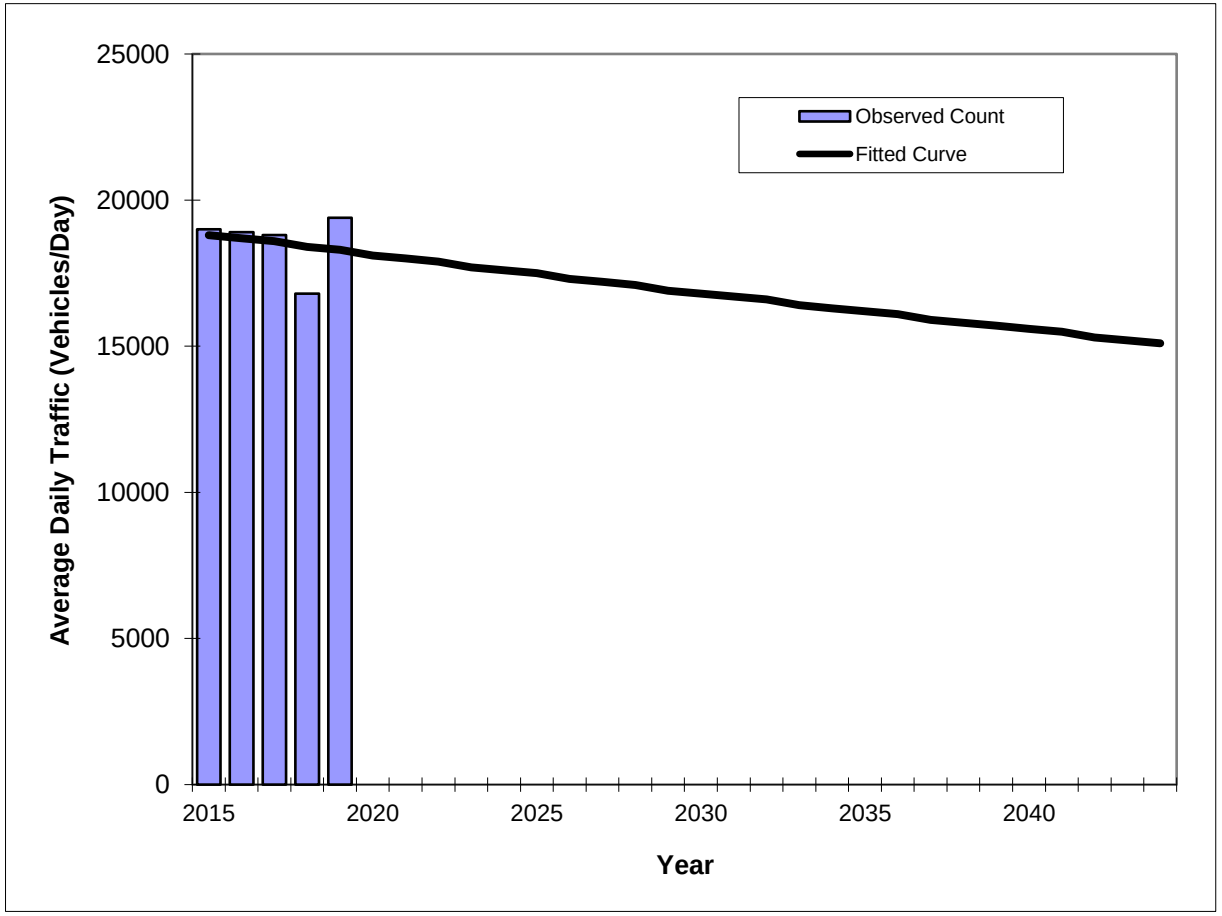
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

17TH STREET -- 200 FEET EAST OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8531
Highway:	17TH STREET



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	18800
2016	18900	18700
2017	18800	18600
2018	16800	18400
2019	19400	18300

Trend R-squared:	4.48%
Compounded Annual Historic Growth Rate:	-0.67%
Printed:	12-Sep-22

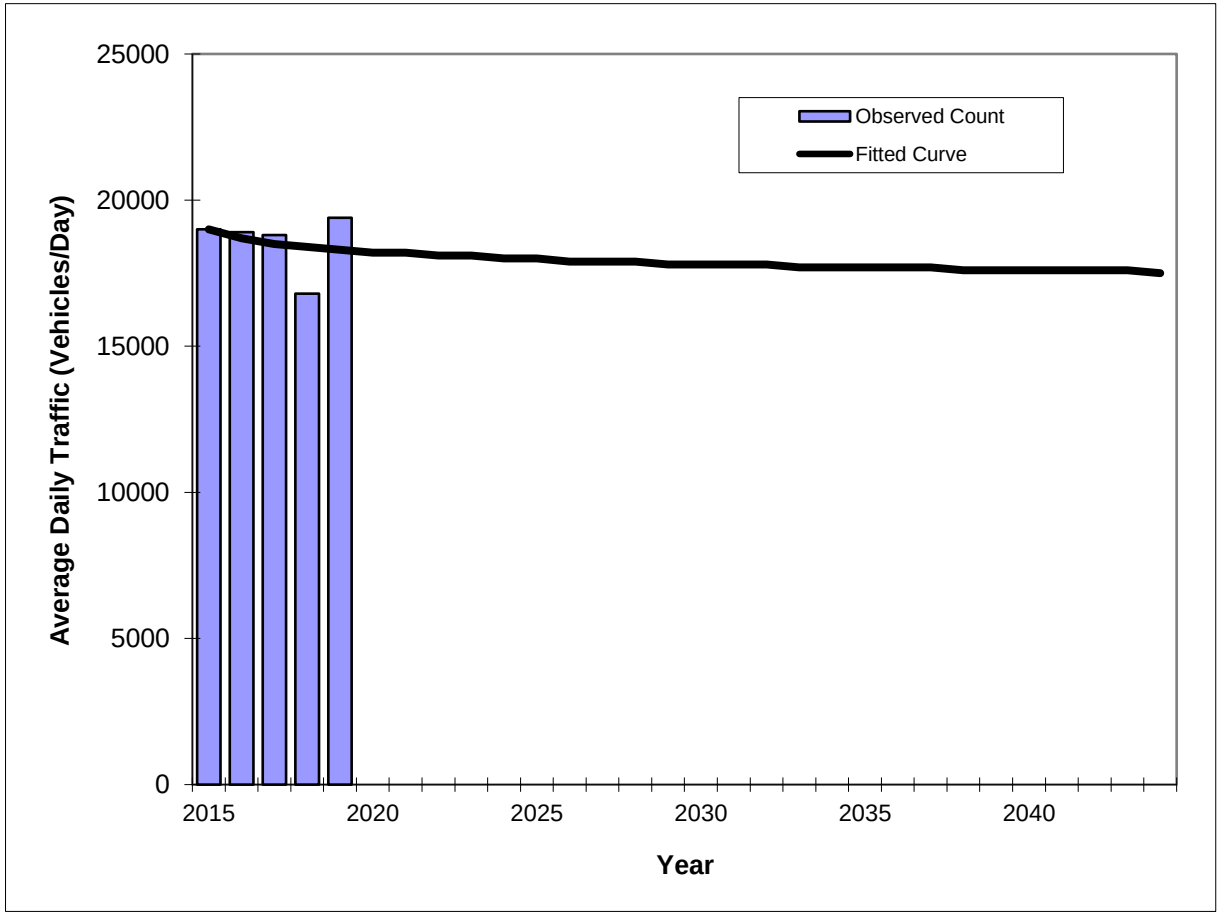
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

17TH STREET -- 200 FEET EAST OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8531
Highway:	17TH STREET



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	19000
2016	18900	18700
2017	18800	18500
2018	16800	18400
2019	19400	18300

Trend R-squared:	6.96%
Compounded Annual Historic Growth Rate:	-0.93%
Printed:	12-Sep-22

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8567 - 16 ST, 200' EAST OF MERIDIAN AVE (2011 OFF SYSTEM CYCLE)

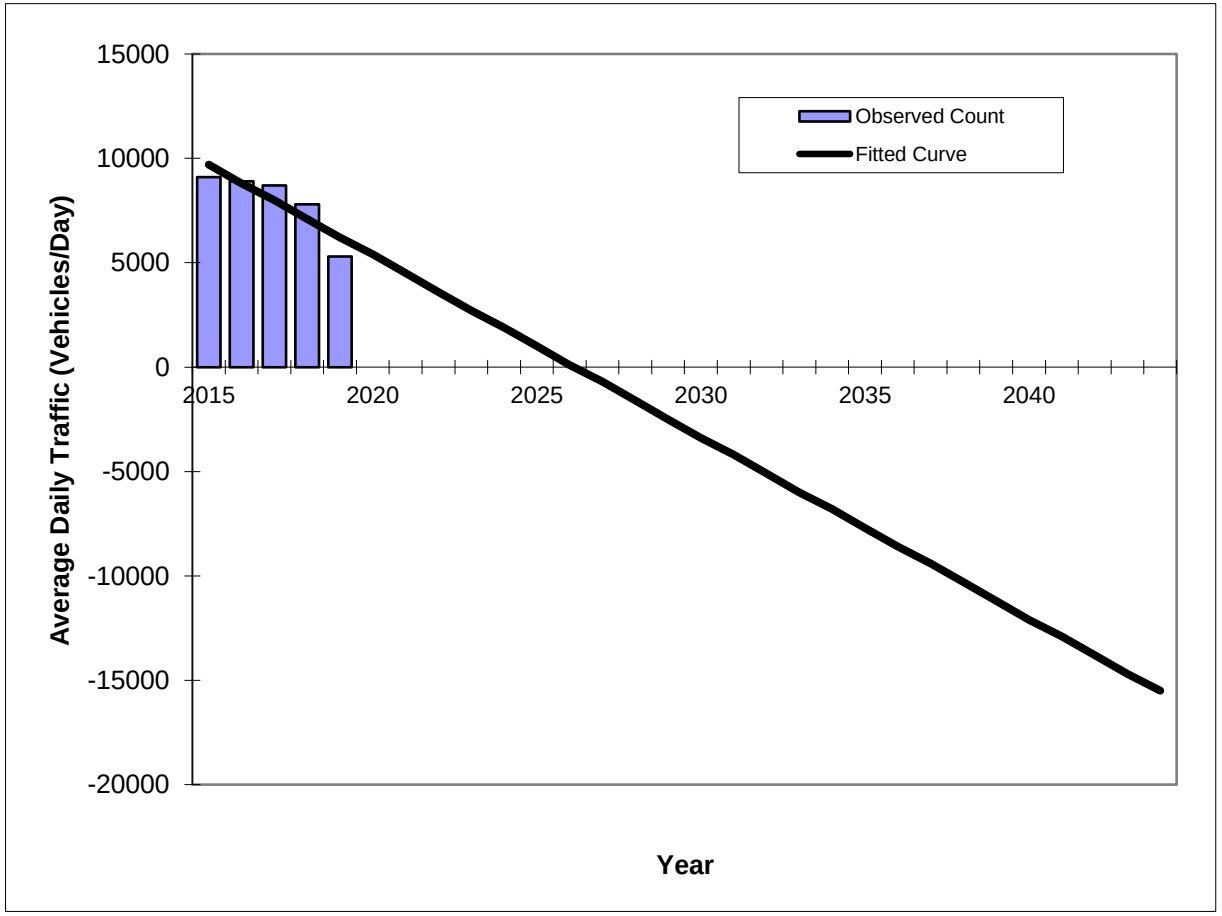
YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2021	4500 S	E	2200	W	2300	9.00	55.00	2.90
2020	4700 F	E	2300	W	2400	9.00	56.00	4.40
2019	5300 C	E	2600	W	2700	9.00	56.00	4.00
2018	7800 T	E	3800	W	4000	9.00	54.30	3.00
2017	8700 S	E	4200	W	4500	9.00	59.30	2.50
2016	8900 F	E	4300	W	4600	9.00	56.10	5.10
2015	9100 C	E	4400	W	4700	9.00	57.40	7.10
2014	9700 S					9.00	59.30	10.70
2013	9800 F		0		0	9.00	58.90	16.20
2012	9900 C	E	0	W	0	9.00	59.70	16.00

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

Traffic Trends

16TH STREET -- 200 FEET EAST OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8567
Highway:	16TH STREET



Year	Traffic (ADT/AADT) Count*	Trend**
2015	9100	9700
2016	8900	8800
2017	8700	8000
2018	7800	7100
2019	5300	6200

Trend R-squared:	76.98%
Trend Annual Historic Growth Rate:	-9.02%
Printed:	12-Sep-22

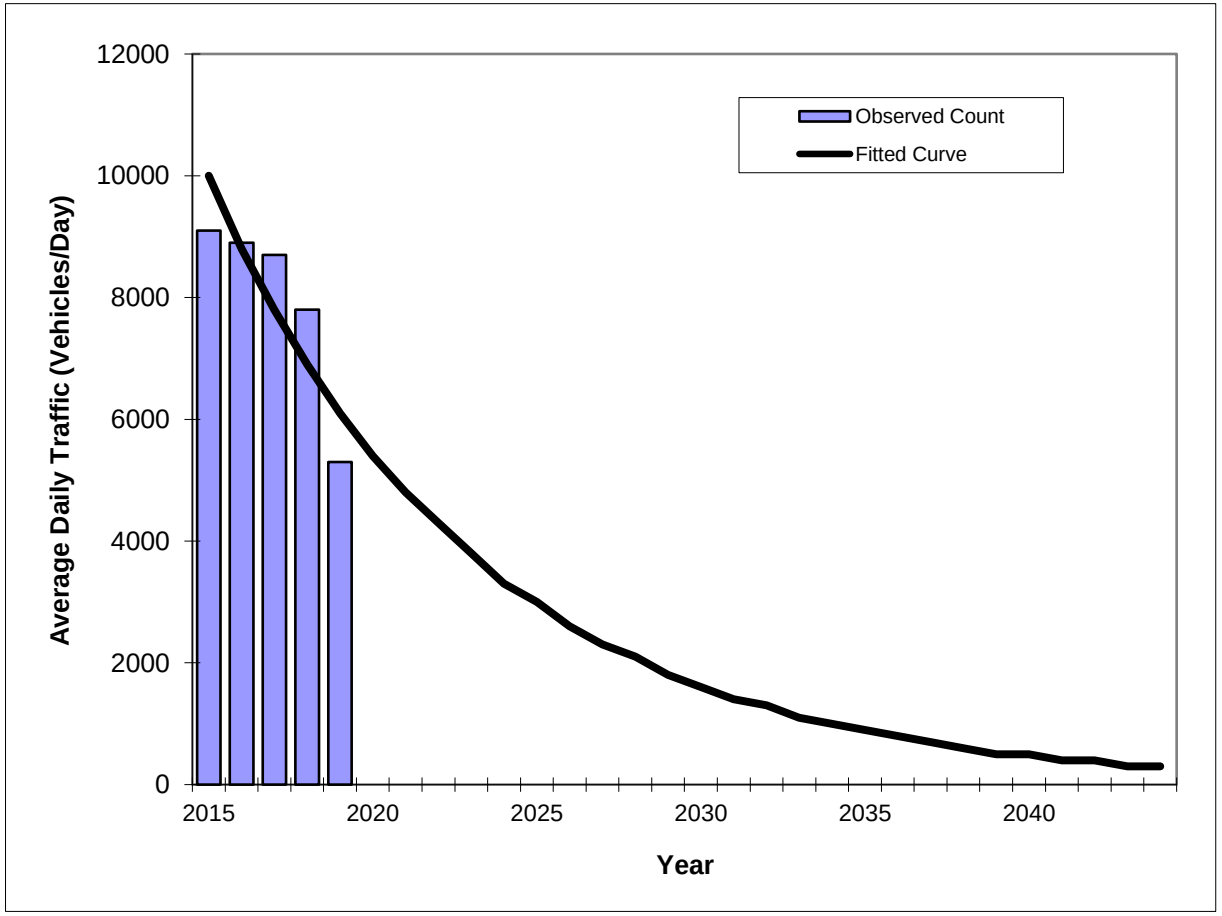
Straight Line Growth Option

***Axle-Adjusted**

Traffic Trends

16TH STREET -- 200 FEET EAST OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8567
Highway:	16TH STREET



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	9100	10000
2016	8900	8800
2017	8700	7800
2018	7800	6900
2019	5300	6100

Trend R-squared:	72.71%
Compounded Annual Historic Growth Rate:	-11.62%
Printed:	12-Sep-22

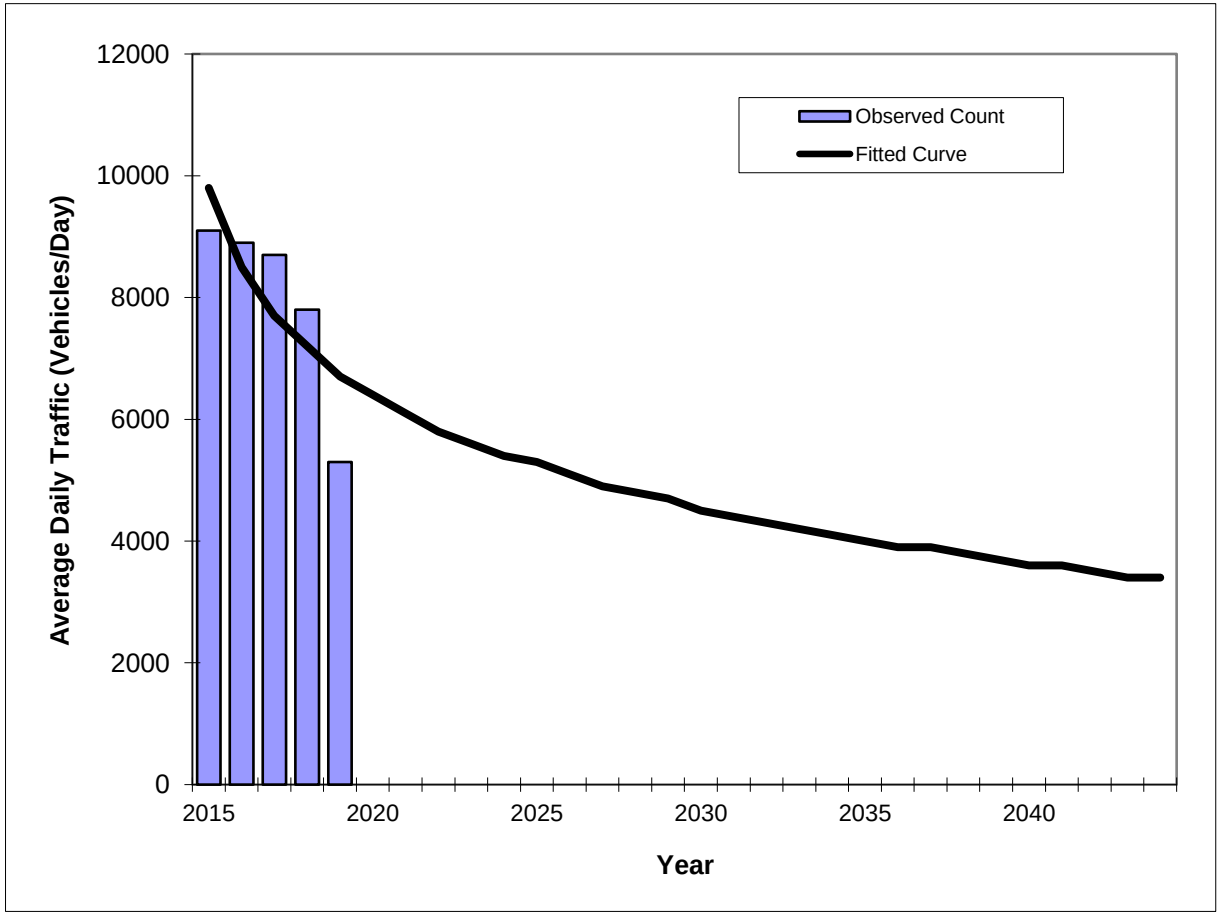
Exponential Growth Option

***Axle-Adjusted**

Traffic Trends

16TH STREET -- 200 FEET EAST OF MERIDIAN AVENUE

County:	Miami-Dade (87)
Station #:	8567
Highway:	16TH STREET



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	9100	9800
2016	8900	8500
2017	8700	7700
2018	7800	7200
2019	5300	6700

Trend R-squared:	58.12%
Compounded Annual Historic Growth Rate:	-9.07%
Printed:	12-Sep-22

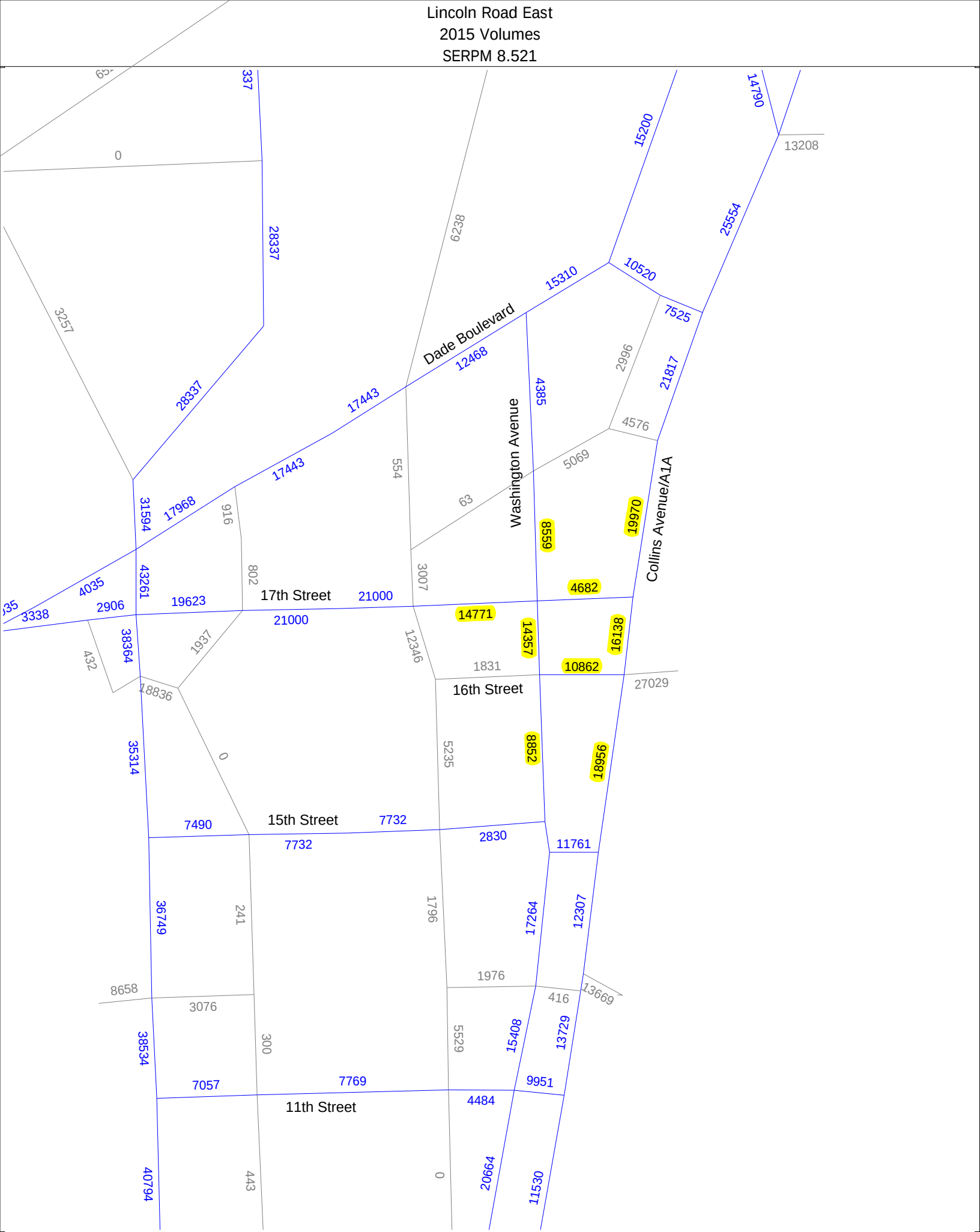
Decaying Exponential Growth Option

***Axle-Adjusted**

SERPM Analysis

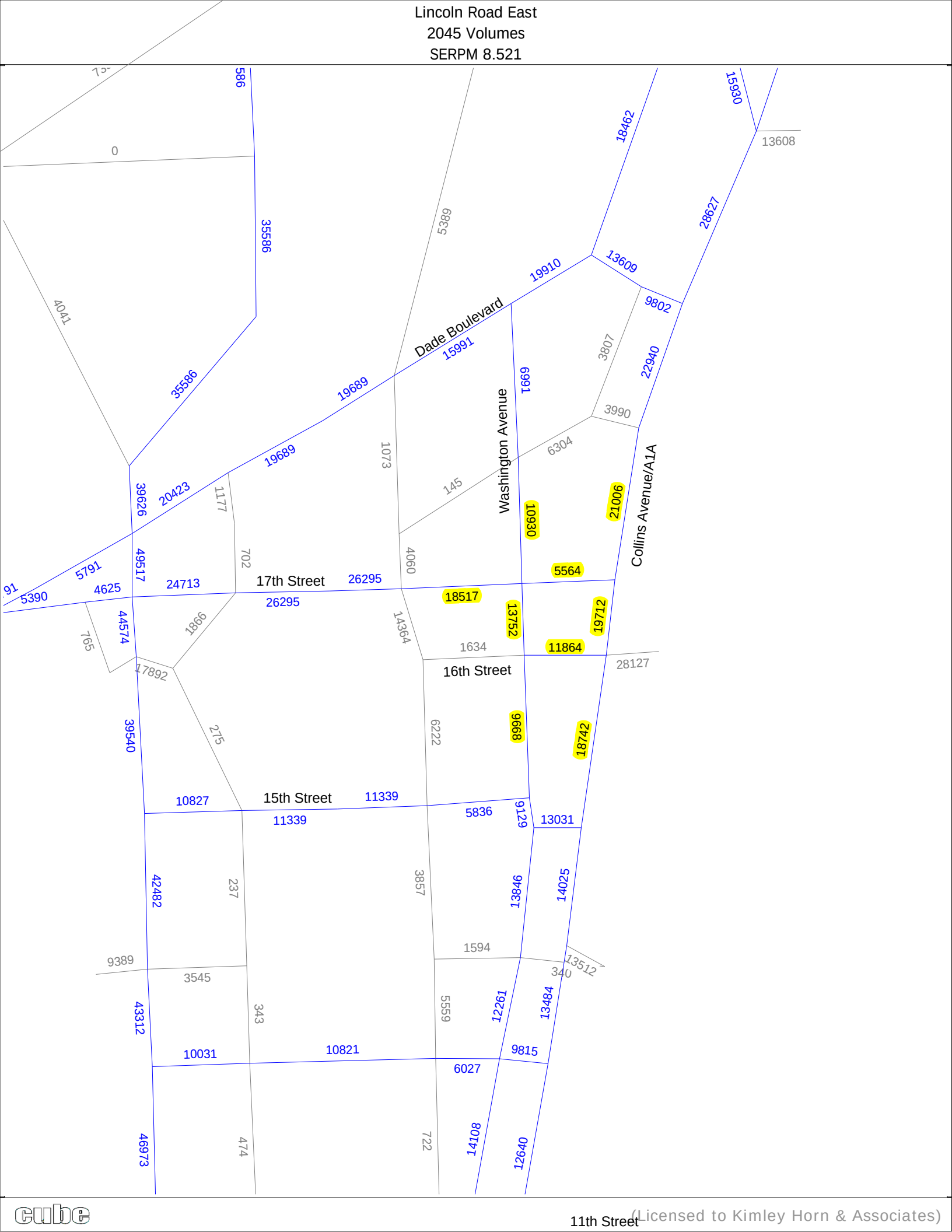
SERPM Growth Rate Summary					
Street Name	**2015**	**2045**	**Difference**	**Growth Rate**	**Annual Growth Rate**
Washington Avenue	8,559	10,930	2,371	27.70%	0.92%
	14,357	13,752	-605	-4.21%	-0.14%
	8,852	9,668	816	9.22%	0.31%
Collins Avenue/A1A	19,970	21,006	1,036	5.19%	0.17%
	16,138	19,712	3,574	22.15%	0.74%
	18,956	18,742	-214	-1.13%	-0.04%
17th Street	14,771	18,517	3,746	25.36%	0.85%
	4,682	5,564	882	18.84%	0.63%
16th Street	10,862	11,864	1,002	9.22%	0.31%
Total	**117,147**	**129,755**	**12,608**	**10.76%**	**0.36%**

Lincoln Road East
2015 Volumes
SERPM 8.521



cube
(Licensed to Kimley Horn & Associates)

Lincoln Road East
2045 Volumes
SERPM 8.521



cube
(Licensed to Kimley Horn & Associates)

Appendix F

Trip Generation Calculations

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Hotel	11	310	93	room	56%	44%	24	19	43	20.0%	9	19	15	34	0.0%	0	19	15	34	0.0%	0	19	15	34
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	24	19	43	20.0%	9	19	15	34	0.0%	0	19	15	34	0.0%	0	19	15	34
		310		Y=0.46(X)																						

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Hotel	11	310	51	room	56%	44%	13	10	23	20.0%	5	10	8	18	0.0%	0	10	8	18	0.0%	0	10	8	18
	2	Multifamily Housing (Mid-Rise)	11	221	30	du	23%	77%	3	8	11	20.0%	2	2	7	9	0.0%	0	2	7	9	0.0%	0	2	7	9
	3																									
	4																									
	5																									
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	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	16	18	34	20.0%	7	12	15	27	0.0%	0	12	15	27	0.0%	0	12	15	27
		310		Y=0.46(X)																						
		221		Y=0.37(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-7**	**0**	**-7**

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Hotel	11	310	93	room	51%	49%	28	27	55	20.0%	11	22	22	44	0.0%	0	22	22	44	0.0%	0	22	22	44
	2																									
	3																									
	4																									
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	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	28	27	55	20.0%	11	22	22	44	0.0%	0	22	22	44	0.0%	0	22	22	44
		310		Y=0.59(X)																						

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Hotel	11	310	51	room	51%	49%	15	15	30	20.0%	6	12	12	24	0.0%	0	12	12	24	0.0%	0	12	12	24
	2	Multifamily Housing (Mid-Rise)	11	221	30	du	61%	39%	7	5	12	20.0%	2	6	4	10	0.0%	0	6	4	10	0.0%	0	6	4	10
	3																									
	4																									
	5																									
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	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	22	20	42	20.0%	8	18	16	34	0.0%	0	18	16	34	0.0%	0	18	16	34
		310		Y=0.59(X)																						
		221		Y=0.39*(X)+0.34																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-4**	**-6**	**-10**

MEANS OF TRANSPORTATION TO WORK

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

(26+3+112)/(578-97)=29.3%

Census Tract 42.06, Miami-Dade County, Florida

Label	Estimate	Margin of Error
Total:	578	±161
Car, truck, or van:	323	±122
Drove alone	206	±104
Carpooled:	117	±87
In 2-person carpool	105	±82
In 3-person carpool	0	±14
In 4-person carpool	0	±14
In 5- or 6-person carpool	0	±14
In 7-or-more-person carpool	12	±18
Public transportation (excluding taxicab):	26	±31
Bus	14	±26
Subway or elevated rail	12	±15
Long-distance train or commuter rail	0	±14
Light rail, streetcar or trolley (carro público in Puerto Rico)	0	±14
Ferryboat	0	±14
Taxicab	0	±14
Motorcycle	5	±12
Bicycle	3	±8
Walked	112	±77
Other means	12	±19
Worked from home	97	±67

Table Notes

Survey/Program: American Community Survey

MEANS OF TRANSPORTATION TO WORK

Universe: Workers 16 years and over

Year: 2019

Estimates: 5-Year

Table ID: B08301

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

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

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

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

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

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

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.

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.

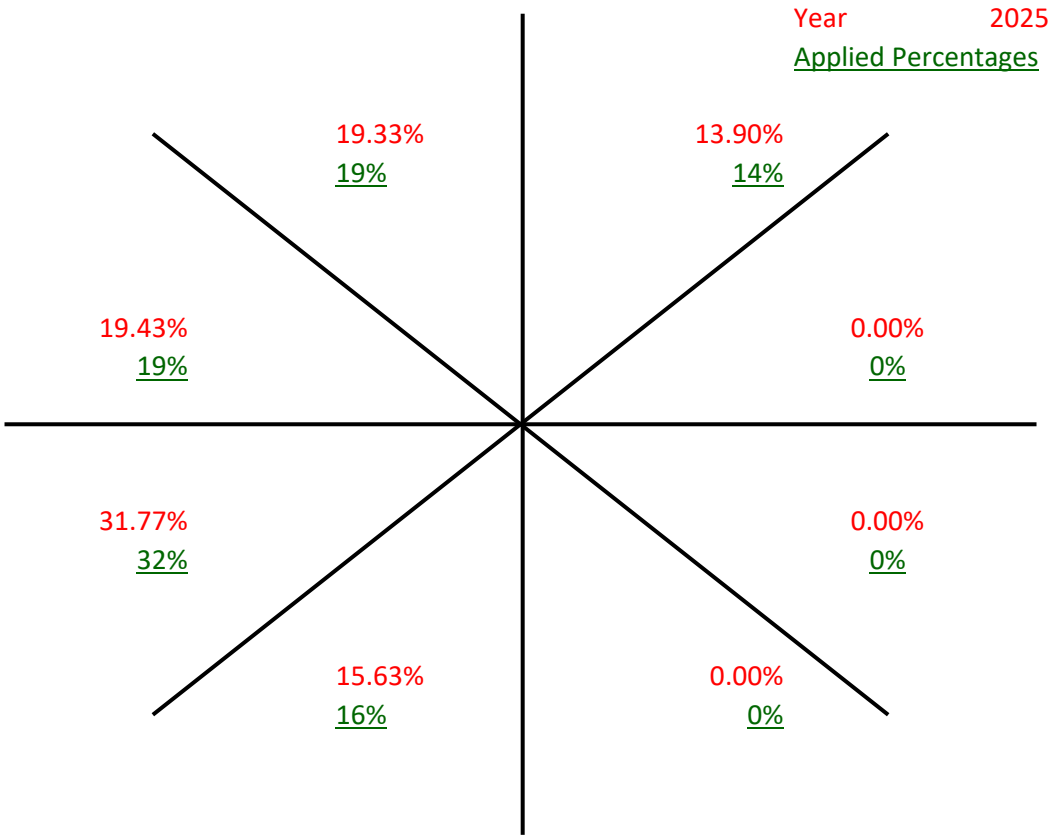
Explanation of Symbols:

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.

Appendix G

Cardinal Distribution

Cardinal Distribution for TAZ 644



Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips		2025 Interpolated	2025 Rounded
	2015	2045		
North-Northeast	14.8%	12.1%	13.9%	14.0%
East-Northeast	0.0%	0.0%	0.0%	0.0%
East-Southeast	0.0%	0.0%	0.0%	0.0%
South-Southeast	0.0%	0.0%	0.0%	0.0%
South-Southwest	16.5%	13.9%	15.6%	16.0%
West-Southwest	30.4%	34.5%	31.8%	32.0%
West-Northwest	19.0%	20.3%	19.4%	19.0%
North-Northwest	19.4%	19.2%	19.3%	19.0%
Total	**100.1%**	**100.0%**	**100.07%**	**100.00%**

MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION

2045 LRTP SUPPORTING DOCUMENTS

DIRECTIONAL TRIP DISTRIBUTION REPORT

SEPTEMBER 2019

Miami-Dade 2015 Base Year Direction Trip Distribution Summary											
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
625	3525	Trips	610	160	-	557	431	1,317	679	1,035	4,961
625	3525	Percent	12.7	3.3	-	11.6	9.0	27.5	14.2	21.6	
626	3526	Trips	122	-	-	-	2,090	2,277	1,198	2,942	9,399
626	3526	Percent	1.4	-	-	-	24.2	26.4	13.9	34.1	
627	3527	Trips	279	-	-	-	2,051	2,578	845	1,965	8,061
627	3527	Percent	3.6	-	-	-	26.6	33.4	11.0	25.5	
628	3528	Trips	298	-	49	79	984	902	332	679	3,579
628	3528	Percent	9.0	-	1.5	2.4	29.6	27.2	10.0	20.5	
629	3529	Trips	1,374	549	344	1,656	1,708	3,707	1,668	2,101	14,261
629	3529	Percent	10.5	4.2	2.6	12.6	13.0	28.3	12.7	16.0	
630	3530	Trips	952	-	210	347	1,696	2,375	794	1,114	8,135
630	3530	Percent	12.7	-	2.8	4.6	22.7	31.7	10.6	14.9	
631	3531	Trips	255	-	-	-	1,215	1,471	440	1,030	4,651
631	3531	Percent	5.8	-	-	-	27.6	33.4	10.0	23.4	
632	3532	Trips	309	-	-	-	1,242	1,751	750	635	4,880
632	3532	Percent	6.6	-	-	-	26.5	37.4	16.0	13.5	
633	3533	Trips	310	-	-	-	1,181	1,428	750	730	4,590
633	3533	Percent	7.0	-	-	-	26.9	32.5	17.1	16.6	
634	3534	Trips	1,502	112	240	837	1,718	1,928	976	1,727	9,998
634	3534	Percent	16.6	1.2	2.7	9.3	19.0	21.3	10.8	19.1	
635	3535	Trips	779	-	-	-	2,021	1,994	952	1,411	8,010
635	3535	Percent	10.9	-	-	-	28.2	27.9	13.3	19.7	
636	3536	Trips	1,041	-	-	686	1,152	2,072	911	1,071	7,384
636	3536	Percent	15.0	-	-	9.9	16.6	29.9	13.1	15.4	
637	3537	Trips	323	31	87	217	126	601	303	290	1,987
637	3537	Percent	16.4	1.6	4.4	11.0	6.4	30.4	15.3	14.7	
638	3538	Trips	152	35	87	86	114	218	162	126	999
638	3538	Percent	15.5	3.6	8.9	8.7	11.6	22.3	16.5	12.9	
639	3539	Trips	825	281	277	1,089	131	1,364	796	599	5,721
639	3539	Percent	15.4	5.2	5.2	20.3	2.4	25.4	14.9	11.2	
640	3540	Trips	344	247	868	104	43	685	405	274	3,053
640	3540	Percent	11.6	8.3	29.2	3.5	1.5	23.1	13.6	9.2	
641	3541	Trips	1,051	1,714	291	723	309	1,572	1,188	916	8,356
641	3541	Percent	13.5	22.1	3.7	9.3	4.0	20.3	15.3	11.8	
642	3542	Trips	1,849	1,404	115	1,263	457	2,697	1,962	1,518	12,299
642	3542	Percent	16.4	12.5	1.0	11.2	4.1	23.9	17.4	13.5	
643	3543	Trips	1,747	551	-	965	479	2,595	1,554	1,715	10,383
643	3543	Percent	18.2	5.7	-	10.1	5.0	27.0	16.2	17.9	
644	3544	Trips	2,022	-	-	-	2,250	4,141	2,585	2,646	15,224
644	3544	Percent	14.8	-	-	-	16.5	30.4	19.0	19.4	
645	3545	Trips	1,268	-	-	-	907	1,498	1,720	1,351	7,018
645	3545	Percent	18.8	-	-	-	13.5	22.2	25.5	20.0	
646	3546	Trips	986	-	156	520	250	1,081	1,094	1,181	5,470
646	3546	Percent	18.7	-	3.0	9.9	4.7	20.5	20.8	22.4	
647	3547	Trips	350	103	114	165	66	354	359	408	1,979
647	3547	Percent	18.2	5.4	5.9	8.6	3.5	18.5	18.7	21.2	
648	3548	Trips	1,027	434	254	401	48	903	1,001	514	4,747
648	3548	Percent	22.4	9.5	5.5	8.8	1.0	19.7	21.9	11.2	
649	3549	Trips	754	192	184	230	41	612	743	427	3,320
649	3549	Percent	23.7	6.0	5.8	7.2	1.3	19.2	23.3	13.4	
650	3550	Trips	45	80	104	0	14	155	304	133	850
650	3550	Percent	5.4	9.6	12.4	0.0	1.6	18.5	36.5	16.0	

Miami-Dade 2045 Cost Feasible Plan Direction Trip Distribution Summary											
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
625	3525	Trips	515	114	-	541	802	1,791	829	1,096	5,972
625	3525	Percent	9.1	2.0	-	9.5	14.1	31.5	14.6	19.3	
626	3526	Trips	66	-	-	-	2,417	3,260	1,417	2,993	11,237
626	3526	Percent	0.7	-	-	-	23.8	32.1	14.0	29.5	
627	3527	Trips	174	-	-	-	2,276	3,212	1,138	1,885	9,055
627	3527	Percent	2.0	-	-	-	26.2	37.0	13.1	21.7	
628	3528	Trips	238	-	23	101	1,053	1,266	390	660	4,028
628	3528	Percent	6.4	-	0.6	2.7	28.2	33.9	10.5	17.7	
629	3529	Trips	1,686	621	373	1,692	1,801	6,032	2,362	2,490	18,425
629	3529	Percent	9.9	3.6	2.2	9.9	10.6	35.4	13.9	14.6	
630	3530	Trips	888	-	326	303	1,717	3,876	1,515	1,553	11,277
630	3530	Percent	8.7	-	3.2	3.0	16.9	38.1	14.9	15.3	
631	3531	Trips	296	-	-	-	1,351	2,360	838	1,324	6,591
631	3531	Percent	4.8	-	-	-	21.9	38.3	13.6	21.5	
632	3532	Trips	343	-	-	-	1,500	2,647	1,390	1,098	7,499
632	3532	Percent	4.9	-	-	-	21.5	37.9	19.9	15.7	
633	3533	Trips	368	-	-	-	1,052	1,986	859	841	5,391
633	3533	Percent	7.2	-	-	-	20.6	38.9	16.8	16.5	
634	3534	Trips	1,404	80	149	773	1,637	2,733	1,332	1,712	10,593
634	3534	Percent	14.3	0.8	1.5	7.9	16.7	27.8	13.6	17.4	
635	3535	Trips	566	-	-	-	1,311	2,266	1,228	1,254	7,246
635	3535	Percent	8.5	-	-	-	19.8	34.2	18.5	18.9	
636	3536	Trips	1,066	-	-	607	978	3,045	1,398	1,193	8,805
636	3536	Percent	12.9	-	-	7.3	11.8	36.8	16.9	14.4	
637	3537	Trips	468	44	144	315	198	868	501	309	2,865
637	3537	Percent	16.5	1.6	5.1	11.1	6.9	30.5	17.6	10.9	
638	3538	Trips	127	33	78	94	79	401	285	185	1,342
638	3538	Percent	9.9	2.6	6.1	7.3	6.2	31.3	22.2	14.5	
639	3539	Trips	944	303	253	1,068	176	2,395	1,085	905	7,569
639	3539	Percent	13.2	4.3	3.6	15.0	2.5	33.6	15.2	12.7	
640	3540	Trips	119	74	216	10	30	177	136	147	1,166
640	3540	Percent	13.1	8.2	23.7	1.1	3.4	19.4	14.9	16.2	
641	3541	Trips	1,145	1,056	206	569	242	2,378	1,724	1,142	9,066
641	3541	Percent	13.5	12.5	2.4	6.7	2.9	28.1	20.4	13.5	
642	3542	Trips	1,701	1,196	113	964	433	3,470	2,140	1,631	12,324
642	3542	Percent	14.6	10.3	1.0	8.3	3.7	29.8	18.4	14.0	
643	3543	Trips	1,884	580	-	1,133	631	3,768	2,190	2,157	13,183
643	3543	Percent	15.3	4.7	-	9.2	5.1	30.5	17.7	17.5	
644	3544	Trips	1,948	-	-	-	2,227	5,534	3,264	3,082	17,780
644	3544	Percent	12.1	-	-	-	13.9	34.5	20.3	19.2	
645	3545	Trips	1,314	-	-	-	844	1,661	2,170	1,703	8,075
645	3545	Percent	17.1	-	-	-	11.0	21.6	28.2	22.1	
646	3546	Trips	1,025	-	125	496	263	1,741	1,656	1,299	6,976
646	3546	Percent	15.5	-	1.9	7.5	4.0	26.4	25.1	19.7	
647	3547	Trips	296	122	96	109	79	582	661	405	2,490
647	3547	Percent	12.6	5.2	4.1	4.6	3.4	24.8	28.1	17.3	
648	3548	Trips	943	278	128	313	73	1,525	1,351	576	5,397
648	3548	Percent	18.2	5.4	2.5	6.0	1.4	29.4	26.0	11.1	
649	3549	Trips	643	120	121	216	43	873	952	508	3,661
649	3549	Percent	18.5	3.4	3.5	6.2	1.3	25.1	27.4	14.6	
650	3550	Trips	60	71	65	8	14	279	312	136	969
650	3550	Percent	6.4	7.5	6.9	0.9	1.5	29.5	33.0	14.4	

Appendix H

Volume Development Worksheets

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Collins Avenue/A1A and Lincoln Road
COUNT DATE: March 2, 2023 & January 13, 2023
THURS MID-DAY PEAK HOUR FACTOR: 0.92
THURS PM PEAK HOUR FACTOR: 0.91
FRI PM PEAK HOUR FACTOR: 0.95

"THURS MID-DAY EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
THURS MID-DAY Raw Turning Movements		80	40	75		42	61	63		39	476	63		48	521	77
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
THURS MID-DAY EXISTING CONDITIONS		**80**	**40**	**75**		**42**	**61**	**63**		**39**	**476**	**63**		**48**	**521**	**77**

"THURS PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
THURS PM Raw Turning Movements		71	52	52		32	49	73		36	528	46		40	483	78
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
THURS PM EXISTING CONDITIONS		**71**	**52**	**52**		**32**	**49**	**73**		**36**	**528**	**46**		**40**	**483**	**78**

"FRI PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
FRI PM Raw Turning Movements		65	22	60		22	42	45		48	658	40		35	418	69
Peak Season Correction Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
FRI PM EXISTING CONDITIONS		**68**	**23**	**62**		**23**	**44**	**47**		**50**	**684**	**42**		**36**	**435**	**72**

"THURS MID-DAY BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
THURS MID-DAY BACKGROUND TRAFFIC GROWTH		1	0	1		0	1	1		0	5	1		0	5	1
THURS MID-DAY NON-PROJECT TRAFFIC		**81**	**40**	**76**		**42**	**62**	**64**		**39**	**481**	**64**		**48**	**526**	**78**

THURS PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
THURS PM BACKGROUND TRAFFIC GROWTH		1	1	1		0	0	1		0	5	0		0	5	1
THURS PM NON-PROJECT TRAFFIC		**72**	**53**	**53**		**32**	**49**	**74**		**36**	**533**	**46**		**40**	**488**	**79**

"FRI PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Yearly Growth Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
FRI PM BACKGROUND TRAFFIC GROWTH		1	0	1		0	0	0		1	7	0		0	4	1
FRI PM NON-PROJECT TRAFFIC		**69**	**23**	**63**		**23**	**44**	**47**		**51**	**691**	**42**		**36**	**439**	**73**

"THURS MID-DAY PROJECT DISTRIBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering														100.0%		
Distribution	Exiting								100.0%								
Net New	Entering											3.0%	45.0%		52.0%		
Distribution	Exiting						45.0%		52.0%							3.0%	

"THURS PM PROJECT DISTRIBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering														100.0%		
Distribution	Exiting								100.0%								
Net New	Entering											3.0%	45.0%		52.0%		
Distribution	Exiting						45.0%		52.0%							3.0%	

"FRI PM PROJECT DISTRIBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering														100.0%		
Distribution	Exiting								100.0%								
Net New	Entering											3.0%	45.0%		52.0%		
Distribution	Exiting						45.0%		52.0%							3.0%	

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Collins Avenue/A1A and Lincoln Road
COUNT DATE: March 2, 2023 & January 13, 2023

"THURS MID-DAY PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
THURS MID-DAY TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet								0						1		
	Net New						7		9			1	8		9	0	
THURS MID-DAY TOTAL PROJECT TRAFFIC			0	0	0		7	0	9		0	1	8		10	0	0
THURS MID-DAY TOTAL TRAFFIC			81	40	76		49	62	73		39	482	72		58	526	78

"THURS PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
THURS PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet								0						1		
	Net New						7		9			1	8		9	0	
THURS PM TOTAL PROJECT TRAFFIC			0	0	0		7	0	9		0	1	8		10	0	0
THURS PM TOTAL TRAFFIC			72	53	53		39	49	83		36	534	54		50	488	79

"FRI PM PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
FRI PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet								0						1		
	Net New						7		9			1	8		9	0	
FRI PM TOTAL PROJECT TRAFFIC							7		9			1	8		10		
FRI PM TOTAL TRAFFIC			69	23	63		30	44	56		51	692	50		46	439	73

Appendix I

Intersection Capacity Analysis Worksheets

Existing

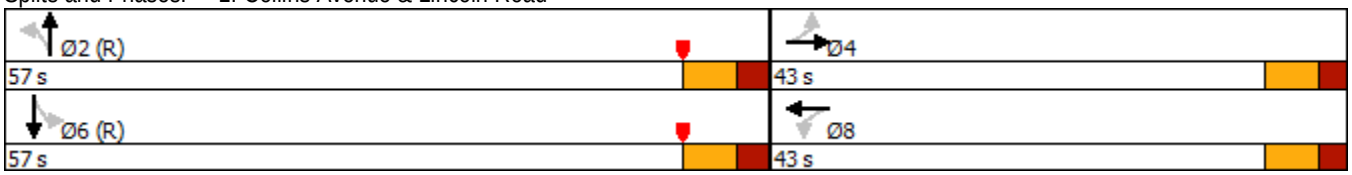
Thursday Mid-Day Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	80	40	42	61	39	476	48	521
Future Volume (vph)	80	40	42	61	39	476	48	521
Lane Group Flow (vph)	87	125	0	180	0	627	0	702
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.2	28.2	28.2	28.2	35.5	35.5	35.5	35.5
Total Split (s)	43.0	43.0	43.0	43.0	57.0	57.0	57.0	57.0
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.65	0.50		0.76		0.40		0.45
Control Delay	55.5	26.0		47.9		9.9		10.6
Queue Delay	0.0	0.0		0.0		0.0		0.0
Total Delay	55.5	26.0		47.9		9.9		10.6
Queue Length 50th (ft)	51	41		88		85		101
Queue Length 95th (ft)	95	88		149		158		185
Internal Link Dist (ft)		525		285		534		505
Turn Bay Length (ft)								
Base Capacity (vph)	225	390		375		1583		1557
Starvation Cap Reductn	0	0		0		0		0
Spillback Cap Reductn	0	0		0		0		0
Storage Cap Reductn	0	0		0		0		0
Reduced v/c Ratio	0.39	0.32		0.48		0.40		0.45

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	87	125	180	627	702
v/c Ratio	0.65	0.50	0.76	0.40	0.45
Control Delay	55.5	26.0	47.9	9.9	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	26.0	47.9	9.9	10.6
Queue Length 50th (ft)	51	41	88	85	101
Queue Length 95th (ft)	95	88	149	158	185
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	225	390	375	1583	1557
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.32	0.48	0.40	0.45

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	40	75	42	61	63	39	476	63	48	521	77
Future Volume (veh/h)	80	40	75	42	61	63	39	476	63	48	521	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.68	0.83		0.68	0.93		0.75	0.92		0.75
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1630	1630	1630	1643	1643	1643	1657	1657	1657	1670	1670	1670
Adj Flow Rate, veh/h	87	43	82	46	66	68	42	517	68	52	566	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	5	5	5	4	4	4	3	3	3
Cap, veh/h	210	84	160	80	91	77	128	1460	189	141	1426	208
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.83	0.83	0.83	0.83	0.83	0.83
Sat Flow, veh/h	1080	341	651	143	372	312	139	2328	301	159	2274	332
Grp Volume(v), veh/h	87	0	125	180	0	0	326	0	301	366	0	336
Grp Sat Flow(s),veh/h/ln	1080	0	993	827	0	0	1436	0	1332	1438	0	1327
Q Serve(g_s), s	0.0	0.0	10.9	10.9	0.0	0.0	0.0	0.0	5.3	0.0	0.0	6.3
Cycle Q Clear(g_c), s	16.1	0.0	10.9	21.7	0.0	0.0	4.4	0.0	5.3	5.1	0.0	6.3
Prop In Lane	1.00		0.66	0.26		0.38	0.13		0.23	0.14		0.25
Lane Grp Cap(c), veh/h	210	0	244	249	0	0	941	0	836	943	0	832
V/C Ratio(X)	0.41	0.00	0.51	0.72	0.00	0.00	0.35	0.00	0.36	0.39	0.00	0.40
Avail Cap(c_a), veh/h	342	0	365	371	0	0	941	0	836	943	0	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	0.0	32.5	37.0	0.0	0.0	3.5	0.0	3.5	3.5	0.0	3.6
Incr Delay (d2), s/veh	1.0	0.0	1.2	3.0	0.0	0.0	1.0	0.0	1.2	1.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	2.7	4.5	0.0	0.0	1.5	0.0	1.4	1.7	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	0.0	33.8	40.0	0.0	0.0	4.5	0.0	4.7	4.7	0.0	5.1
LnGrp LOS	D	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		212			180			627			702	
Approach Delay, s/veh		34.5			40.0			4.6			4.9	
Approach LOS		C			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.2		30.8		69.2		30.8				
Change Period (Y+Rc), s		6.5		* 6.2		6.5		* 6.2				
Max Green Setting (Gmax), s		50.5		* 37		50.5		* 37				
Max Q Clear Time (g_c+I1), s		7.3		18.1		8.3		23.7				
Green Ext Time (p_c), s		1.7		1.0		1.9		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

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

Existing

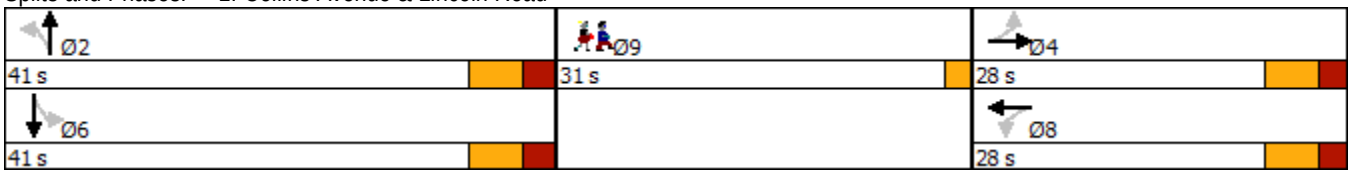
Thursday P.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	71	52	32	49	36	528	40	483	
Future Volume (vph)	71	52	32	49	36	528	40	483	
Lane Group Flow (vph)	78	114	0	169	0	671	0	661	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	31.0
Total Split (s)	28.0	28.0	28.0	28.0	41.0	41.0	41.0	41.0	31.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	41.0%	41.0%	41.0%	41.0%	31%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
v/c Ratio	0.74	0.52		0.82		0.65		0.68	
Control Delay	75.1	31.2		58.2		29.0		29.7	
Queue Delay	0.0	0.0		0.0		0.0		0.0	
Total Delay	75.1	31.2		58.2		29.0		29.7	
Queue Length 50th (ft)	45	37		76		187		185	
Queue Length 95th (ft)	#115	92		#177		268		268	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	148	290		272		1032		978	
Starvation Cap Reductn	0	0		0		0		0	
Spillback Cap Reductn	0	0		0		0		0	
Storage Cap Reductn	0	0		0		0		0	
Reduced v/c Ratio	0.53	0.39		0.62		0.65		0.68	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 89
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	78	114	169	671	661
v/c Ratio	0.74	0.52	0.82	0.65	0.68
Control Delay	75.1	31.2	58.2	29.0	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	31.2	58.2	29.0	29.7
Queue Length 50th (ft)	45	37	76	187	185
Queue Length 95th (ft)	#115	92	#177	268	268
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	148	290	272	1032	978
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.39	0.62	0.65	0.68

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	52	52	32	49	73	36	528	46	40	483	78
Future Volume (vph)	71	52	52	32	49	73	36	528	46	40	483	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2			6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.80			0.81			0.97			0.93	
Flpb, ped/bikes	0.74	1.00			0.93			0.99			0.99	
Frt	1.00	0.93			0.94			0.99			0.98	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	936	978			1007			2881			2753	
Flt Permitted	0.58	1.00			0.91			0.87			0.86	
Satd. Flow (perm)	568	978			921			2522			2375	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	78	57	57	35	54	80	40	580	51	44	531	86
RTOR Reduction (vph)	0	37	0	0	33	0	0	5	0	0	11	0
Lane Group Flow (vph)	78	77	0	0	136	0	0	666	0	0	650	0
Confl. Peds. (#/hr)	474		490	490		474	434		315	315		434
Confl. Bikes (#/hr)			13			13			14			10
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.5	16.5			16.5			36.4			36.4	
Effective Green, g (s)	16.5	16.5			16.5			36.4			36.4	
Actuated g/C Ratio	0.19	0.19			0.19			0.41			0.41	
Clearance Time (s)	6.2	6.2			6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5			2.5			1.0			1.0	
Lane Grp Cap (vph)	105	181			171			1033			973	
v/s Ratio Prot		0.08										
v/s Ratio Perm	0.14				c0.15			0.26			c0.27	
v/c Ratio	0.74	0.42			0.79			0.64			0.67	
Uniform Delay, d1	34.1	31.9			34.5			21.0			21.3	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	23.3	1.2			21.2			3.1			3.6	
Delay (s)	57.4	33.1			55.7			24.1			24.9	
Level of Service	E	C			E			C			C	
Approach Delay (s)		43.0			55.7			24.1			24.9	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	14.7
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Existing

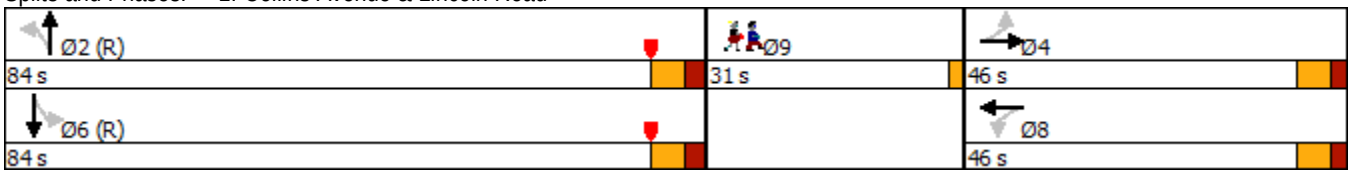
Friday P.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	68	23	23	44	50	684	36	435	
Future Volume (vph)	68	23	23	44	50	684	36	435	
Lane Group Flow (vph)	72	89	0	119	0	817	0	572	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	13.2	13.2	13.2	13.2	22.5	22.5	22.5	22.5	31.0
Total Split (s)	46.0	46.0	46.0	46.0	84.0	84.0	84.0	84.0	31.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	52.2%	52.2%	52.2%	52.2%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.91	0.48		0.72		0.56		0.42	
Control Delay	146.0	28.2		75.2		23.8		20.5	
Queue Delay	0.0	0.0		0.0		0.0		0.0	
Total Delay	146.0	28.2		75.2		23.8		20.5	
Queue Length 50th (ft)	76	23		100		268		164	
Queue Length 95th (ft)	#134	77		163		399		254	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	135	268		268		1470		1359	
Starvation Cap Reductn	0	0		0		0		0	
Spillback Cap Reductn	0	0		0		0		0	
Storage Cap Reductn	0	0		0		0		0	
Reduced v/c Ratio	0.53	0.33		0.44		0.56		0.42	

Intersection Summary

Cycle Length: 161
Actuated Cycle Length: 161
Offset: 81 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	72	89	119	817	572
v/c Ratio	0.91	0.48	0.72	0.56	0.42
Control Delay	146.0	28.2	75.2	23.8	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	146.0	28.2	75.2	23.8	20.5
Queue Length 50th (ft)	76	23	100	268	164
Queue Length 95th (ft)	#134	77	163	399	254
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	135	268	268	1470	1359
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.33	0.44	0.56	0.42

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	23	62	23	44	47	50	684	42	36	435	72
Future Volume (vph)	68	23	62	23	44	47	50	684	42	36	435	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2			6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.70			0.84			0.99			0.95	
Flpb, ped/bikes	0.74	1.00			0.93			0.99			1.00	
Frt	1.00	0.89			0.94			0.99			0.98	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	940	832			1061			2945			2812	
Flt Permitted	0.55	1.00			0.92			0.86			0.83	
Satd. Flow (perm)	540	832			986			2528			2345	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	24	65	24	46	49	53	720	44	38	458	76
RTOR Reduction (vph)	0	56	0	0	18	0	0	2	0	0	6	0
Lane Group Flow (vph)	72	33	0	0	101	0	0	815	0	0	566	0
Confl. Peds. (#/hr)	315		378	378		315	435		249	249		435
Confl. Bikes (#/hr)			10			5			14			12
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.3	23.3			23.3			94.0			94.0	
Effective Green, g (s)	23.3	23.3			23.3			94.0			94.0	
Actuated g/C Ratio	0.14	0.14			0.14			0.58			0.58	
Clearance Time (s)	6.2	6.2			6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5			2.5			1.0			1.0	
Lane Grp Cap (vph)	78	120			142			1475			1369	
v/s Ratio Prot		0.04										
v/s Ratio Perm	c0.13				0.10			c0.32			0.24	
v/c Ratio	0.92	0.28			0.71			0.55			0.41	
Uniform Delay, d1	68.0	61.4			65.6			20.6			18.4	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	75.7	0.9			14.5			1.5			0.9	
Delay (s)	143.7	62.3			80.2			22.1			19.3	
Level of Service	F	E			F			C			B	
Approach Delay (s)		98.7			80.2			22.1			19.3	
Approach LOS		F			F			C			B	

Intersection Summary

HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	161.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Future Background

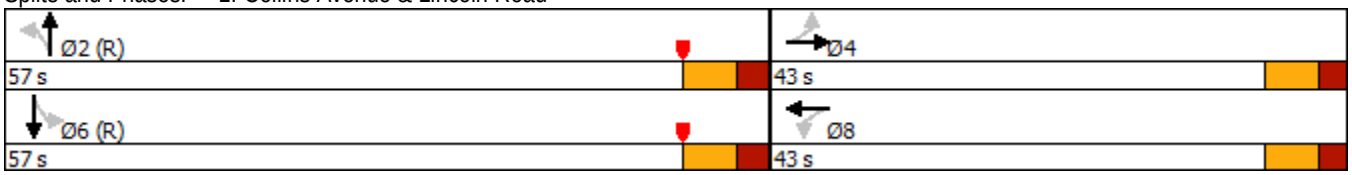
Thursday Mid-Day Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	81	40	42	62	39	481	48	526
Future Volume (vph)	81	40	42	62	39	481	48	526
Lane Group Flow (vph)	88	126	0	183	0	635	0	709
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.2	28.2	28.2	28.2	35.5	35.5	35.5	35.5
Total Split (s)	43.0	43.0	43.0	43.0	57.0	57.0	57.0	57.0
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.64	0.49		0.77		0.40		0.46
Control Delay	54.4	25.5		48.7		10.3		11.0
Queue Delay	0.0	0.0		0.0		0.0		0.0
Total Delay	54.4	25.5		48.7		10.3		11.0
Queue Length 50th (ft)	51	42		90		87		102
Queue Length 95th (ft)	95	87		151		165		192
Internal Link Dist (ft)		525		285		534		505
Turn Bay Length (ft)								
Base Capacity (vph)	225	389		369		1570		1545
Starvation Cap Reductn	0	0		0		0		0
Spillback Cap Reductn	0	0		0		0		0
Storage Cap Reductn	0	0		0		0		0
Reduced v/c Ratio	0.39	0.32		0.50		0.40		0.46

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	88	126	183	635	709
v/c Ratio	0.64	0.49	0.77	0.40	0.46
Control Delay	54.4	25.5	48.7	10.3	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	25.5	48.7	10.3	11.0
Queue Length 50th (ft)	51	42	90	87	102
Queue Length 95th (ft)	95	87	151	165	192
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	225	389	369	1570	1545
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.32	0.50	0.40	0.46

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	40	76	42	62	64	39	481	64	48	526	78
Future Volume (veh/h)	81	40	76	42	62	64	39	481	64	48	526	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.68	0.83		0.69	0.93		0.75	0.92		0.75
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1630	1630	1630	1643	1643	1643	1657	1657	1657	1670	1670	1670
Adj Flow Rate, veh/h	88	43	83	46	67	70	42	523	70	52	572	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	5	5	5	4	4	4	3	3	3
Cap, veh/h	211	84	162	80	92	79	126	1453	191	139	1423	208
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.83	0.83	0.83	0.83	0.83	0.83
Sat Flow, veh/h	1088	339	655	141	373	319	137	2324	306	157	2276	333
Grp Volume(v), veh/h	88	0	126	183	0	0	331	0	304	370	0	339
Grp Sat Flow(s),veh/h/ln	1088	0	994	833	0	0	1438	0	1329	1439	0	1326
Q Serve(g_s), s	0.0	0.0	10.9	11.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	6.5
Cycle Q Clear(g_c), s	16.4	0.0	10.9	21.9	0.0	0.0	4.6	0.0	5.5	5.3	0.0	6.5
Prop In Lane	1.00		0.66	0.25		0.38	0.13		0.23	0.14		0.25
Lane Grp Cap(c), veh/h	211	0	246	251	0	0	940	0	831	941	0	829
V/C Ratio(X)	0.42	0.00	0.51	0.73	0.00	0.00	0.35	0.00	0.37	0.39	0.00	0.41
Avail Cap(c_a), veh/h	342	0	366	372	0	0	940	0	831	941	0	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	32.4	36.9	0.0	0.0	3.5	0.0	3.6	3.6	0.0	3.7
Incr Delay (d2), s/veh	1.0	0.0	1.2	3.0	0.0	0.0	1.0	0.0	1.2	1.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	2.7	4.6	0.0	0.0	1.5	0.0	1.4	1.7	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	33.6	39.9	0.0	0.0	4.6	0.0	4.9	4.8	0.0	5.2
LnGrp LOS	D	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		214			183			635			709	
Approach Delay, s/veh		34.4			39.9			4.7			5.0	
Approach LOS		C			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.0		31.0		69.0		31.0				
Change Period (Y+Rc), s		6.5		* 6.2		6.5		* 6.2				
Max Green Setting (Gmax), s		50.5		* 37		50.5		* 37				
Max Q Clear Time (g_c+I1), s		7.5		18.4		8.5		23.9				
Green Ext Time (p_c), s		1.7		1.0		1.9		0.8				

Intersection Summary

HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

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

Future Background

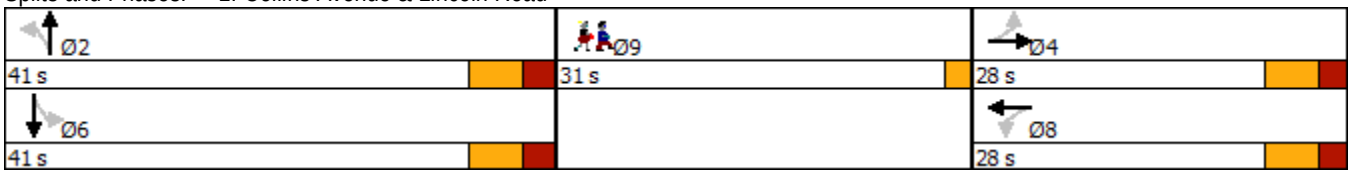
Thursday P.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	72	53	32	49	36	533	40	488	
Future Volume (vph)	72	53	32	49	36	533	40	488	
Lane Group Flow (vph)	79	116	0	170	0	677	0	667	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	31.0
Total Split (s)	28.0	28.0	28.0	28.0	41.0	41.0	41.0	41.0	31.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	41.0%	41.0%	41.0%	41.0%	31%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
v/c Ratio	0.75	0.52		0.82		0.66		0.68	
Control Delay	76.4	31.7		58.7		29.2		30.0	
Queue Delay	0.0	0.0		0.0		0.0		0.0	
Total Delay	76.4	31.7		58.7		29.2		30.0	
Queue Length 50th (ft)	46	38		76		191		188	
Queue Length 95th (ft)	#117	94		#180		272		#273	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	147	290		271		1032		977	
Starvation Cap Reductn	0	0		0		0		0	
Spillback Cap Reductn	0	0		0		0		0	
Storage Cap Reductn	0	0		0		0		0	
Reduced v/c Ratio	0.54	0.40		0.63		0.66		0.68	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 89.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	79	116	170	677	667
v/c Ratio	0.75	0.52	0.82	0.66	0.68
Control Delay	76.4	31.7	58.7	29.2	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	76.4	31.7	58.7	29.2	30.0
Queue Length 50th (ft)	46	38	76	191	188
Queue Length 95th (ft)	#117	94	#180	272	#273
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	147	290	271	1032	977
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.40	0.63	0.66	0.68

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	53	53	32	49	74	36	533	46	40	488	79
Future Volume (vph)	72	53	53	32	49	74	36	533	46	40	488	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2			6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.80			0.81			0.97			0.93	
Flpb, ped/bikes	0.74	1.00			0.93			0.99			0.99	
Frt	1.00	0.93			0.93			0.99			0.98	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	937	979			1000			2883			2752	
Flt Permitted	0.58	1.00			0.91			0.87			0.86	
Satd. Flow (perm)	568	979			915			2523			2374	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	79	58	58	35	54	81	40	586	51	44	536	87
RTOR Reduction (vph)	0	37	0	0	34	0	0	5	0	0	11	0
Lane Group Flow (vph)	79	79	0	0	136	0	0	672	0	0	656	0
Confl. Peds. (#/hr)	474		490	490		474	434		315	315		434
Confl. Bikes (#/hr)			13			13			14			10
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.6	16.6			16.6			36.4			36.4	
Effective Green, g (s)	16.6	16.6			16.6			36.4			36.4	
Actuated g/C Ratio	0.19	0.19			0.19			0.41			0.41	
Clearance Time (s)	6.2	6.2			6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5			2.5			1.0			1.0	
Lane Grp Cap (vph)	106	182			170			1033			972	
v/s Ratio Prot		0.08										
v/s Ratio Perm	0.14				c0.15			0.27			c0.28	
v/c Ratio	0.75	0.43			0.80			0.65			0.68	
Uniform Delay, d1	34.2	32.0			34.6			21.1			21.4	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	23.3	1.2			21.8			3.2			3.8	
Delay (s)	57.4	33.2			56.4			24.3			25.2	
Level of Service	E	C			E			C			C	
Approach Delay (s)		43.0			56.4			24.3			25.2	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	14.7
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Future Background

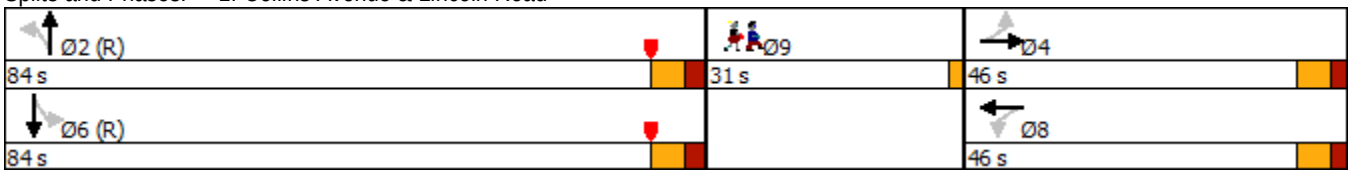
Friday P.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	69	23	23	44	51	691	36	439	
Future Volume (vph)	69	23	23	44	51	691	36	439	
Lane Group Flow (vph)	73	90	0	119	0	825	0	577	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	13.2	13.2	13.2	13.2	22.5	22.5	22.5	22.5	31.0
Total Split (s)	46.0	46.0	46.0	46.0	84.0	84.0	84.0	84.0	31.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	52.2%	52.2%	52.2%	52.2%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.91	0.49		0.72		0.56		0.43	
Control Delay	144.8	27.9		75.5		24.2		20.8	
Queue Delay	0.0	0.0		0.0		0.0		0.0	
Total Delay	144.8	27.9		75.5		24.2		20.8	
Queue Length 50th (ft)	77	23		100		273		167	
Queue Length 95th (ft)	#133	78		163		407		260	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	135	268		264		1463		1353	
Starvation Cap Reductn	0	0		0		0		0	
Spillback Cap Reductn	0	0		0		0		0	
Storage Cap Reductn	0	0		0		0		0	
Reduced v/c Ratio	0.54	0.34		0.45		0.56		0.43	

Intersection Summary

Cycle Length: 161
Actuated Cycle Length: 161
Offset: 81 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	73	90	119	825	577
v/c Ratio	0.91	0.49	0.72	0.56	0.43
Control Delay	144.8	27.9	75.5	24.2	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	144.8	27.9	75.5	24.2	20.8
Queue Length 50th (ft)	77	23	100	273	167
Queue Length 95th (ft)	#133	78	163	407	260
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	135	268	264	1463	1353
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.34	0.45	0.56	0.43

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	23	63	23	44	47	51	691	42	36	439	73
Future Volume (vph)	69	23	63	23	44	47	51	691	42	36	439	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2			6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.70			0.84			0.99			0.95	
Flpb, ped/bikes	0.75	1.00			0.93			0.99			1.00	
Frt	1.00	0.89			0.93			0.99			0.98	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	940	831			1046			2946			2811	
Flt Permitted	0.55	1.00			0.92			0.85			0.83	
Satd. Flow (perm)	541	831			972			2521			2342	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	24	66	24	46	49	54	727	44	38	462	77
RTOR Reduction (vph)	0	56	0	0	18	0	0	2	0	0	6	0
Lane Group Flow (vph)	73	34	0	0	101	0	0	823	0	0	571	0
Confl. Peds. (#/hr)	315		378	378		315	435		249	249		435
Confl. Bikes (#/hr)			10			5			14			12
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.5	23.5			23.5			93.8			93.8	
Effective Green, g (s)	23.5	23.5			23.5			93.8			93.8	
Actuated g/C Ratio	0.15	0.15			0.15			0.58			0.58	
Clearance Time (s)	6.2	6.2			6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5			2.5			1.0			1.0	
Lane Grp Cap (vph)	78	121			141			1468			1364	
v/s Ratio Prot		0.04										
v/s Ratio Perm	c0.13				0.10			c0.33			0.24	
v/c Ratio	0.94	0.28			0.72			0.56			0.42	
Uniform Delay, d1	68.0	61.2			65.6			20.8			18.5	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	79.6	0.9			14.9			1.6			0.9	
Delay (s)	147.6	62.1			80.5			22.4			19.5	
Level of Service	F	E			F			C			B	
Approach Delay (s)		100.4			80.5			22.4			19.5	
Approach LOS		F			F			C			B	

Intersection Summary

HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	161.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Future Total

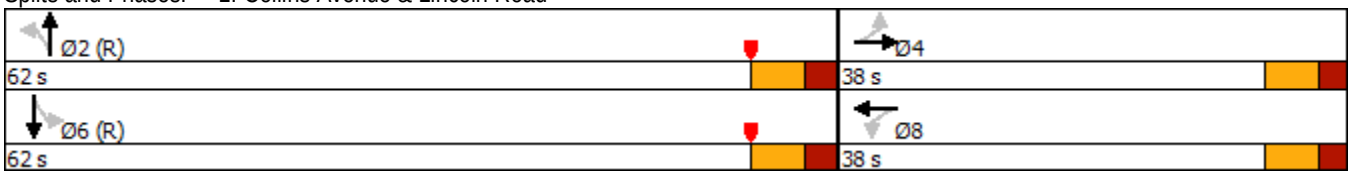
Thursday Mid-Day Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	81	40	49	62	39	482	58	526
Future Volume (vph)	81	40	49	62	39	482	58	526
Lane Group Flow (vph)	88	126	53	146	0	644	0	720
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0
Minimum Split (s)	28.2	28.2	28.2	28.2	35.5	35.5	35.5	35.5
Total Split (s)	38.0	38.0	38.0	38.0	62.0	62.0	62.0	62.0
Total Split (%)	38.0%	38.0%	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2		6.5		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.67	0.51	0.38	0.55		0.39		0.46
Control Delay	58.9	24.0	40.0	27.3		8.9		9.9
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	58.9	24.0	40.0	27.3		8.9		9.9
Queue Length 50th (ft)	51	33	29	46		87		105
Queue Length 95th (ft)	99	83	62	101		147		178
Internal Link Dist (ft)		525		285		534		505
Turn Bay Length (ft)								
Base Capacity (vph)	207	353	217	379		1648		1555
Starvation Cap Reductn	0	0	0	0		0		0
Spillback Cap Reductn	0	0	0	0		0		0
Storage Cap Reductn	0	0	0	0		0		0
Reduced v/c Ratio	0.43	0.36	0.24	0.39		0.39		0.46

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	88	126	53	146	644	720
v/c Ratio	0.67	0.51	0.38	0.55	0.39	0.46
Control Delay	58.9	24.0	40.0	27.3	8.9	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	24.0	40.0	27.3	8.9	9.9
Queue Length 50th (ft)	51	33	29	46	87	105
Queue Length 95th (ft)	99	83	62	101	147	178
Internal Link Dist (ft)		525		285	534	505
Turn Bay Length (ft)						
Base Capacity (vph)	207	353	217	379	1648	1555
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.36	0.24	0.39	0.39	0.46

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	40	76	49	62	73	39	482	72	58	526	78
Future Volume (veh/h)	81	40	76	49	62	73	39	482	72	58	526	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.84		0.68	0.82		0.68	0.93		0.85	0.95		0.75
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1630	1630	1630	1643	1643	1643	1657	1657	1657	1670	1670	1670
Adj Flow Rate, veh/h	88	43	83	53	67	79	42	524	78	63	572	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	5	5	5	4	4	4	3	3	3
Cap, veh/h	182	82	158	193	118	139	127	1470	216	164	1394	204
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.84	0.84	0.84	0.84	0.84	0.84
Sat Flow, veh/h	906	337	650	915	486	573	137	2332	342	194	2212	324
Grp Volume(v), veh/h	88	0	126	53	0	146	331	0	313	370	0	350
Grp Sat Flow(s),veh/h/ln	906	0	987	915	0	1058	1438	0	1374	1398	0	1332
Q Serve(g_s), s	9.5	0.0	11.1	5.3	0.0	12.1	0.0	0.0	5.3	0.0	0.0	6.5
Cycle Q Clear(g_c), s	21.6	0.0	11.1	16.4	0.0	12.1	4.4	0.0	5.3	5.1	0.0	6.5
Prop In Lane	1.00		0.66	1.00		0.54	0.13		0.25	0.17		0.24
Lane Grp Cap(c), veh/h	182	0	240	193	0	257	947	0	866	923	0	840
V/C Ratio(X)	0.48	0.00	0.53	0.28	0.00	0.57	0.35	0.00	0.36	0.40	0.00	0.42
Avail Cap(c_a), veh/h	250	0	314	262	0	336	947	0	866	923	0	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.7	0.0	32.9	40.0	0.0	33.3	3.3	0.0	3.4	3.4	0.0	3.5
Incr Delay (d2), s/veh	1.5	0.0	1.3	0.6	0.0	1.5	1.0	0.0	1.2	1.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	2.7	1.2	0.0	3.2	1.4	0.0	1.4	1.7	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.2	0.0	34.2	40.6	0.0	34.7	4.4	0.0	4.6	4.7	0.0	5.0
LnGrp LOS	D	A	C	D	A	C	A	A	A	A	A	A
Approach Vol, veh/h		214			199			644			720	
Approach Delay, s/veh		38.3			36.3			4.5			4.9	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.5		30.5		69.5		30.5				
Change Period (Y+Rc), s		6.5		* 6.2		6.5		* 6.2				
Max Green Setting (Gmax), s		55.5		* 32		55.5		* 32				
Max Q Clear Time (g_c+I1), s		7.3		23.6		8.5		18.4				
Green Ext Time (p_c), s		1.7		0.7		2.0		0.9				

Intersection Summary

HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Notes

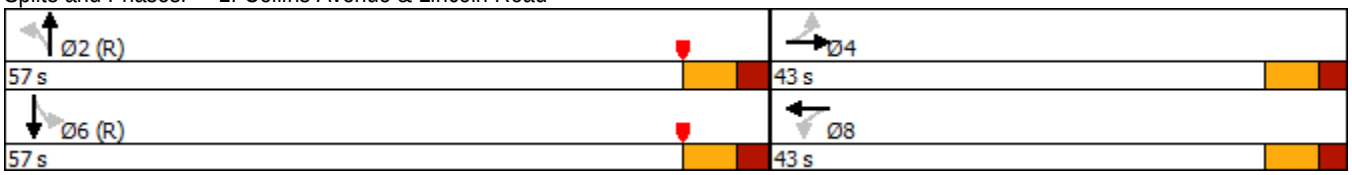
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	81	40	49	62	39	482	58	526
Future Volume (vph)	81	40	49	62	39	482	58	526
Lane Group Flow (vph)	88	126	0	199	0	644	0	720
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0
Minimum Split (s)	28.2	28.2	28.2	28.2	35.5	35.5	35.5	35.5
Total Split (s)	43.0	43.0	43.0	43.0	57.0	57.0	57.0	57.0
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.63	0.48		0.80		0.42		0.49
Control Delay	51.9	24.3		51.1		11.0		12.0
Queue Delay	0.0	0.0		0.0		0.0		0.0
Total Delay	51.9	24.3		51.1		11.0		12.0
Queue Length 50th (ft)	51	42		100		88		106
Queue Length 95th (ft)	93	85		161		176		211
Internal Link Dist (ft)		525		285		534		505
Turn Bay Length (ft)								
Base Capacity (vph)	221	389		369		1539		1478
Starvation Cap Reductn	0	0		0		0		0
Spillback Cap Reductn	0	0		0		0		0
Storage Cap Reductn	0	0		0		0		0
Reduced v/c Ratio	0.40	0.32		0.54		0.42		0.49

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	88	126	199	644	720
v/c Ratio	0.63	0.48	0.80	0.42	0.49
Control Delay	51.9	24.3	51.1	11.0	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	24.3	51.1	11.0	12.0
Queue Length 50th (ft)	51	42	100	88	106
Queue Length 95th (ft)	93	85	161	176	211
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	221	389	369	1539	1478
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.32	0.54	0.42	0.49

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	40	76	49	62	73	39	482	72	58	526	78
Future Volume (veh/h)	81	40	76	49	62	73	39	482	72	58	526	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.70	0.84		0.70	0.93		0.74	0.92		0.74
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1630	1630	1630	1643	1643	1643	1657	1657	1657	1670	1670	1670
Adj Flow Rate, veh/h	88	43	83	53	67	79	42	524	78	63	572	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	5	5	5	4	4	4	3	3	3
Cap, veh/h	220	91	175	88	92	88	121	1396	204	159	1343	197
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1082	346	667	161	348	335	133	2287	334	191	2201	322
Grp Volume(v), veh/h	88	0	126	199	0	0	339	0	305	370	0	350
Grp Sat Flow(s),veh/h/ln	1082	0	1013	845	0	0	1446	0	1308	1386	0	1328
Q Serve(g_s), s	0.0	0.0	10.5	12.9	0.0	0.0	0.0	0.0	6.4	0.0	0.0	7.7
Cycle Q Clear(g_c), s	15.7	0.0	10.5	23.4	0.0	0.0	5.3	0.0	6.4	5.9	0.0	7.7
Prop In Lane	1.00		0.66	0.27		0.40	0.12		0.26	0.17		0.24
Lane Grp Cap(c), veh/h	220	0	266	268	0	0	923	0	798	888	0	810
V/C Ratio(X)	0.40	0.00	0.47	0.74	0.00	0.00	0.37	0.00	0.38	0.42	0.00	0.43
Avail Cap(c_a), veh/h	334	0	373	373	0	0	923	0	798	888	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	31.0	36.4	0.0	0.0	4.2	0.0	4.3	4.2	0.0	4.4
Incr Delay (d2), s/veh	0.9	0.0	1.0	4.1	0.0	0.0	1.1	0.0	1.4	1.4	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	2.6	5.0	0.0	0.0	1.7	0.0	1.6	1.9	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	32.0	40.4	0.0	0.0	5.3	0.0	5.7	5.7	0.0	6.1
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		214			199			644			720	
Approach Delay, s/veh		32.7			40.4			5.5			5.9	
Approach LOS		C			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.5		32.5		67.5		32.5				
Change Period (Y+Rc), s		6.5		* 6.2		6.5		* 6.2				
Max Green Setting (Gmax), s		50.5		* 37		50.5		* 37				
Max Q Clear Time (g_c+I1), s		8.4		17.7		9.7		25.4				
Green Ext Time (p_c), s		1.7		1.0		2.0		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

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

Future Total

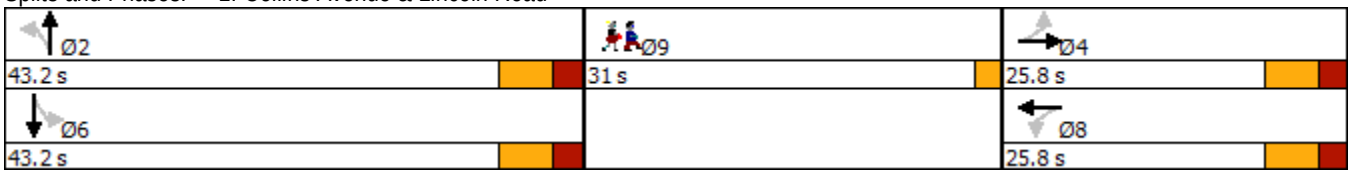
Thursday P.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	72	53	39	49	36	534	50	488	
Future Volume (vph)	72	53	39	49	36	534	50	488	
Lane Group Flow (vph)	79	116	43	145	0	686	0	678	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	31.0
Total Split (s)	25.8	25.8	25.8	25.8	43.2	43.2	43.2	43.2	31.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	43.2%	43.2%	43.2%	43.2%	31%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2	6.2	6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
v/c Ratio	0.76	0.56	0.38	0.62		0.63		0.69	
Control Delay	80.4	34.9	45.5	31.9		27.3		29.2	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	
Total Delay	80.4	34.9	45.5	31.9		27.3		29.2	
Queue Length 50th (ft)	47	40	24	39		193		195	
Queue Length 95th (ft)	#122	98	59	107		264		272	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	136	258	149	282		1090		989	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	0	0	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	0.58	0.45	0.29	0.51		0.63		0.69	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 90.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	79	116	43	145	686	678
v/c Ratio	0.76	0.56	0.38	0.62	0.63	0.69
Control Delay	80.4	34.9	45.5	31.9	27.3	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	34.9	45.5	31.9	27.3	29.2
Queue Length 50th (ft)	47	40	24	39	193	195
Queue Length 95th (ft)	#122	98	59	107	264	272
Internal Link Dist (ft)		525		285	534	505
Turn Bay Length (ft)						
Base Capacity (vph)	136	258	149	282	1090	989
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.45	0.29	0.51	0.63	0.69

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	53	53	39	49	83	36	534	54	50	488	79
Future Volume (vph)	72	53	53	39	49	83	36	534	54	50	488	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2		6.2	6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.79		1.00	0.74			0.98			0.93	
Flpb, ped/bikes	0.67	1.00		0.65	1.00			0.99			0.99	
Frt	1.00	0.93		1.00	0.91			0.99			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	851	973		896	970			2910			2764	
Flt Permitted	0.65	1.00		0.68	1.00			0.87			0.83	
Satd. Flow (perm)	583	973		643	970			2547			2299	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	79	58	58	43	54	91	40	587	59	55	536	87
RTOR Reduction (vph)	0	37	0	0	62	0	0	6	0	0	10	0
Lane Group Flow (vph)	79	79	0	43	83	0	0	680	0	0	668	0
Confl. Peds. (#/hr)	474		490	490		474	434		315	315		434
Confl. Bikes (#/hr)			13			13			14			10
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	15.8	15.8		15.8	15.8			38.5			38.5	
Effective Green, g (s)	15.8	15.8		15.8	15.8			38.5			38.5	
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.43			0.43	
Clearance Time (s)	6.2	6.2		6.2	6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5		2.5	2.5			1.0			1.0	
Lane Grp Cap (vph)	102	170		112	169			1087			981	
v/s Ratio Prot		0.08			0.09							
v/s Ratio Perm	c0.14			0.07				0.27			c0.29	
v/c Ratio	0.77	0.46		0.38	0.49			0.63			0.68	
Uniform Delay, d1	35.5	33.4		32.9	33.6			20.2			20.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	28.9	1.5		1.6	1.6			2.7			3.8	
Delay (s)	64.4	34.9		34.5	35.2			22.9			24.7	
Level of Service	E	C		C	D			C			C	
Approach Delay (s)		46.8			35.0			22.9			24.7	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.2	Sum of lost time (s)	14.7
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

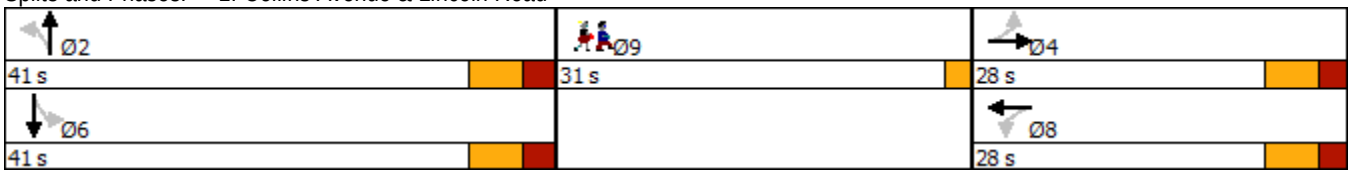
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	72	53	39	49	36	534	50	488	
Future Volume (vph)	72	53	39	49	36	534	50	488	
Lane Group Flow (vph)	79	116	0	188	0	686	0	678	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	31.0
Total Split (s)	28.0	28.0	28.0	28.0	41.0	41.0	41.0	41.0	31.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	41.0%	41.0%	41.0%	41.0%	31%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	None
v/c Ratio	0.70	0.49		0.86		0.69		0.75	
Control Delay	68.8	29.9		63.5		30.6		33.6	
Queue Delay	0.0	0.0		0.0		0.0		0.0	
Total Delay	68.8	29.9		63.5		30.6		33.6	
Queue Length 50th (ft)	46	38		89		202		205	
Queue Length 95th (ft)	#118	94		#211		277		#313	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	142	285		262		1001		902	
Starvation Cap Reductn	0	0		0		0		0	
Spillback Cap Reductn	0	0		0		0		0	
Storage Cap Reductn	0	0		0		0		0	
Reduced v/c Ratio	0.56	0.41		0.72		0.69		0.75	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 90.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	79	116	188	686	678
v/c Ratio	0.70	0.49	0.86	0.69	0.75
Control Delay	68.8	29.9	63.5	30.6	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	29.9	63.5	30.6	33.6
Queue Length 50th (ft)	46	38	89	202	205
Queue Length 95th (ft)	#118	94	#211	277	#313
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	142	285	262	1001	902
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.41	0.72	0.69	0.75

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	53	53	39	49	83	36	534	54	50	488	79
Future Volume (vph)	72	53	53	39	49	83	36	534	54	50	488	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2			6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.80			0.81			0.96			0.93	
Flpb, ped/bikes	0.76	1.00			0.93			0.99			0.99	
Frt	1.00	0.93			0.93			0.99			0.98	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	958	987			1002			2864			2748	
Flt Permitted	0.56	1.00			0.89			0.87			0.81	
Satd. Flow (perm)	560	987			907			2503			2238	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	79	58	58	43	54	91	40	587	59	55	536	87
RTOR Reduction (vph)	0	37	0	0	34	0	0	7	0	0	11	0
Lane Group Flow (vph)	79	79	0	0	154	0	0	679	0	0	667	0
Confl. Peds. (#/hr)	474		490	490		474	434		315	315		434
Confl. Bikes (#/hr)			13			13			14			10
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.4	18.4			18.4			36.2			36.2	
Effective Green, g (s)	18.4	18.4			18.4			36.2			36.2	
Actuated g/C Ratio	0.20	0.20			0.20			0.40			0.40	
Clearance Time (s)	6.2	6.2			6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5			2.5			1.0			1.0	
Lane Grp Cap (vph)	113	200			184			1001			895	
v/s Ratio Prot		0.08										
v/s Ratio Perm	0.14				c0.17			0.27			c0.30	
v/c Ratio	0.70	0.40			0.84			0.68			0.75	
Uniform Delay, d1	33.5	31.2			34.6			22.4			23.2	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	16.0	0.9			26.2			3.7			5.6	
Delay (s)	49.4	32.2			60.8			26.1			28.8	
Level of Service	D	C			E			C			C	
Approach Delay (s)		39.2			60.8			26.1			28.8	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Future Total

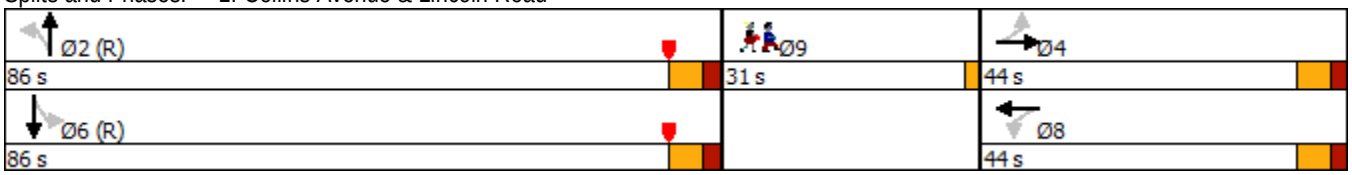
Friday P.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	69	23	30	44	51	692	46	439	
Future Volume (vph)	69	23	30	44	51	692	46	439	
Lane Group Flow (vph)	73	90	32	105	0	835	0	587	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	13.2	13.2	13.2	13.2	22.5	22.5	22.5	22.5	31.0
Total Split (s)	44.0	44.0	44.0	44.0	86.0	86.0	86.0	86.0	31.0
Total Split (%)	27.3%	27.3%	27.3%	27.3%	53.4%	53.4%	53.4%	53.4%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2	6.2	6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.85	0.49	0.33	0.56		0.57		0.45	
Control Delay	126.3	28.4	66.8	50.4		24.1		21.2	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	
Total Delay	126.3	28.4	66.8	50.4		24.1		21.2	
Queue Length 50th (ft)	76	23	31	67		276		173	
Queue Length 95th (ft)	130	78	62	125		411		268	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	140	257	159	281		1472		1297	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	0	0	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	0.52	0.35	0.20	0.37		0.57		0.45	

Intersection Summary

Cycle Length: 161
Actuated Cycle Length: 161
Offset: 81 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	73	90	32	105	835	587
v/c Ratio	0.85	0.49	0.33	0.56	0.57	0.45
Control Delay	126.3	28.4	66.8	50.4	24.1	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.3	28.4	66.8	50.4	24.1	21.2
Queue Length 50th (ft)	76	23	31	67	276	173
Queue Length 95th (ft)	130	78	62	125	411	268
Internal Link Dist (ft)		525		285	534	505
Turn Bay Length (ft)						
Base Capacity (vph)	140	257	159	281	1472	1297
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.35	0.20	0.37	0.57	0.45

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	23	63	30	44	56	51	692	50	46	439	73
Future Volume (vph)	69	23	63	30	44	56	51	692	50	46	439	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2		6.2	6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.70		1.00	0.79			0.99			0.95	
Flpb, ped/bikes	0.70	1.00		0.66	1.00			0.99			1.00	
Frt	1.00	0.89		1.00	0.92			0.99			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	877	830		902	1041			2953			2816	
Flt Permitted	0.62	1.00		0.67	1.00			0.85			0.79	
Satd. Flow (perm)	572	830		633	1041			2525			2231	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	24	66	32	46	59	54	728	53	48	462	77
RTOR Reduction (vph)	0	56	0	0	32	0	0	2	0	0	6	0
Lane Group Flow (vph)	73	34	0	32	73	0	0	833	0	0	581	0
Confl. Peds. (#/hr)	315		378	378		315	435		249	249		435
Confl. Bikes (#/hr)			10			5			14			12
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.2	23.2		23.2	23.2			94.1			94.1	
Effective Green, g (s)	23.2	23.2		23.2	23.2			94.1			94.1	
Actuated g/C Ratio	0.14	0.14		0.14	0.14			0.58			0.58	
Clearance Time (s)	6.2	6.2		6.2	6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5		2.5	2.5			1.0			1.0	
Lane Grp Cap (vph)	82	119		91	150			1475			1303	
v/s Ratio Prot		0.04			0.07							
v/s Ratio Perm	c0.13			0.05				c0.33			0.26	
v/c Ratio	0.89	0.28		0.35	0.49			0.56			0.45	
Uniform Delay, d1	67.6	61.5		62.1	63.4			20.7			18.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	63.8	0.9		1.7	1.8			1.6			1.1	
Delay (s)	131.5	62.4		63.8	65.3			22.3			19.9	
Level of Service	F	E		E	E			C			B	
Approach Delay (s)		93.3			64.9			22.3			19.9	
Approach LOS		F			E			C			B	

Intersection Summary

HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	161.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

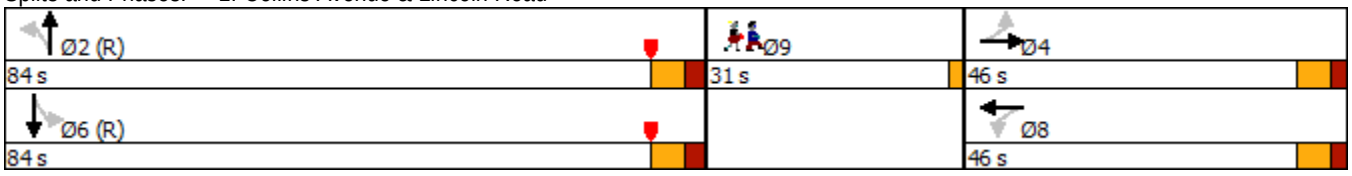
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	69	23	30	44	51	692	46	439	
Future Volume (vph)	69	23	30	44	51	692	46	439	
Lane Group Flow (vph)	73	90	0	137	0	835	0	587	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	
Protected Phases		4		8		2		6	9
Permitted Phases	4		8		2		6		
Detector Phase	4	4	8	8	2	2	6	6	
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	1.0
Minimum Split (s)	13.2	13.2	13.2	13.2	22.5	22.5	22.5	22.5	31.0
Total Split (s)	46.0	46.0	46.0	46.0	84.0	84.0	84.0	84.0	31.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	52.2%	52.2%	52.2%	52.2%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0	
Total Lost Time (s)	6.2	6.2		6.2		6.5		6.5	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.91	0.47		0.82		0.58		0.46	
Control Delay	143.8	27.0		87.2		25.1		22.1	
Queue Delay	0.0	0.0		0.0		0.0		0.0	
Total Delay	143.8	27.0		87.2		25.1		22.1	
Queue Length 50th (ft)	77	22		120		281		176	
Queue Length 95th (ft)	#139	77		188		421		275	
Internal Link Dist (ft)		525		285		534		505	
Turn Bay Length (ft)									
Base Capacity (vph)	130	268		259		1440		1269	
Starvation Cap Reductn	0	0		0		0		0	
Spillback Cap Reductn	0	0		0		0		0	
Storage Cap Reductn	0	0		0		0		0	
Reduced v/c Ratio	0.56	0.34		0.53		0.58		0.46	

Intersection Summary

Cycle Length: 161
Actuated Cycle Length: 161
Offset: 81 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Collins Avenue & Lincoln Road



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	73	90	137	835	587
v/c Ratio	0.91	0.47	0.82	0.58	0.46
Control Delay	143.8	27.0	87.2	25.1	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	143.8	27.0	87.2	25.1	22.1
Queue Length 50th (ft)	77	22	120	281	176
Queue Length 95th (ft)	#139	77	188	421	275
Internal Link Dist (ft)		525	285	534	505
Turn Bay Length (ft)					
Base Capacity (vph)	130	268	259	1440	1269
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.34	0.53	0.58	0.46

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	23	63	30	44	56	51	692	50	46	439	73
Future Volume (vph)	69	23	63	30	44	56	51	692	50	46	439	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	12
Total Lost time (s)	6.2	6.2			6.2			6.5			6.5	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.71			0.84			0.98			0.95	
Flpb, ped/bikes	0.76	1.00			0.92			0.99			0.99	
Frt	1.00	0.89			0.94			0.99			0.98	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	962	837			1041			2934			2809	
Flt Permitted	0.52	1.00			0.90			0.85			0.79	
Satd. Flow (perm)	526	837			950			2509			2217	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	24	66	32	46	59	54	728	53	48	462	77
RTOR Reduction (vph)	0	56	0	0	19	0	0	3	0	0	6	0
Lane Group Flow (vph)	73	34	0	0	118	0	0	832	0	0	581	0
Confl. Peds. (#/hr)	315		378	378		315	435		249	249		435
Confl. Bikes (#/hr)			10			5			14			12
Heavy Vehicles (%)	12%	12%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Parking (#/hr)	0	0	0	0	0	0						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.5	24.5			24.5			92.8			92.8	
Effective Green, g (s)	24.5	24.5			24.5			92.8			92.8	
Actuated g/C Ratio	0.15	0.15			0.15			0.58			0.58	
Clearance Time (s)	6.2	6.2			6.2			6.5			6.5	
Vehicle Extension (s)	2.5	2.5			2.5			1.0			1.0	
Lane Grp Cap (vph)	80	127			144			1446			1277	
v/s Ratio Prot		0.04										
v/s Ratio Perm	c0.14				0.12			c0.33			0.26	
v/c Ratio	0.91	0.27			0.82			0.58			0.46	
Uniform Delay, d1	67.2	60.3			66.1			21.6			19.6	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	71.4	0.8			29.4			1.7			1.2	
Delay (s)	138.6	61.2			95.5			23.3			20.8	
Level of Service	F	E			F			C			C	
Approach Delay (s)		95.8			95.5			23.3			20.8	
Approach LOS		F			F			C			C	

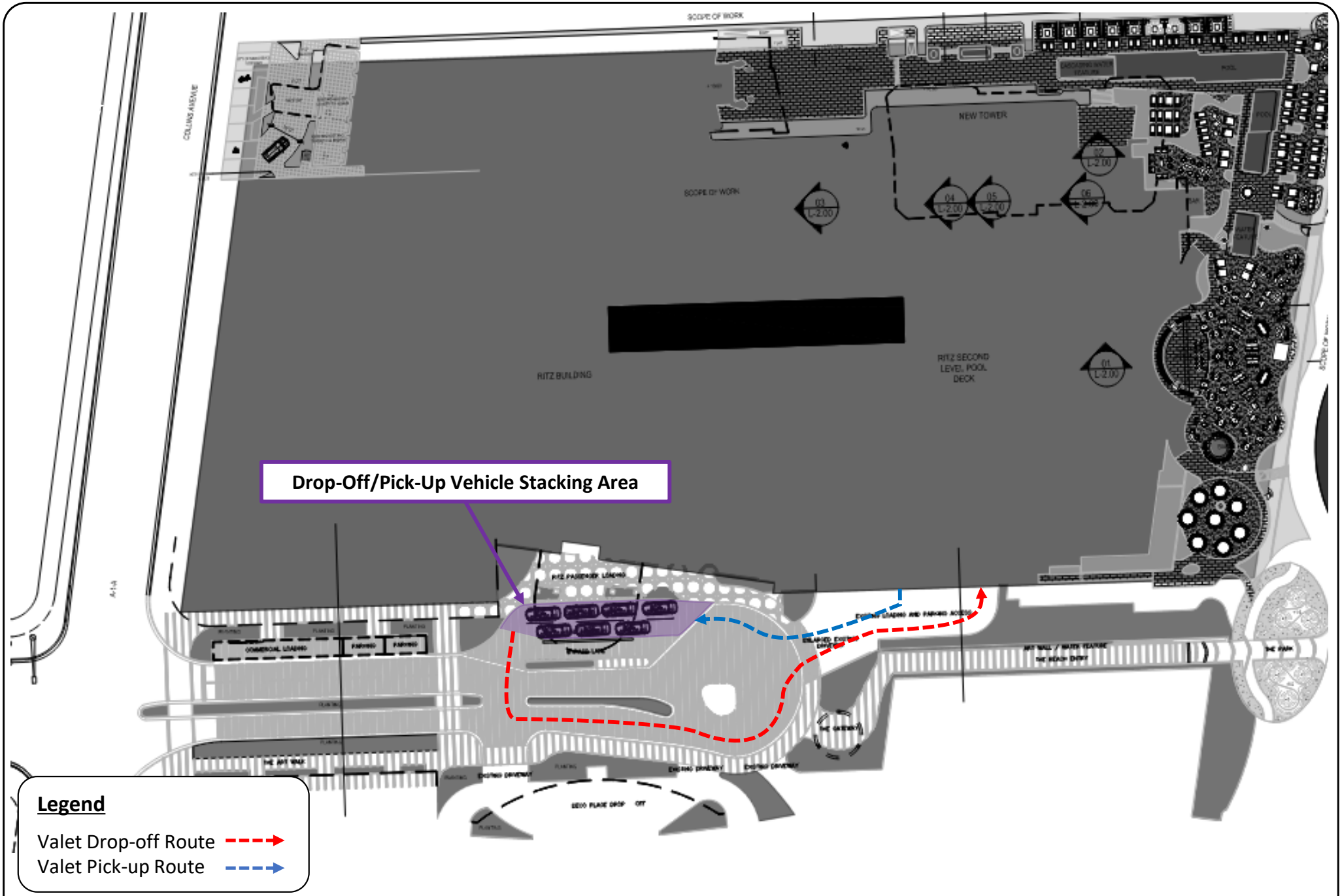
Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	161.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Appendix J

Valet Analysis

Valet Routing



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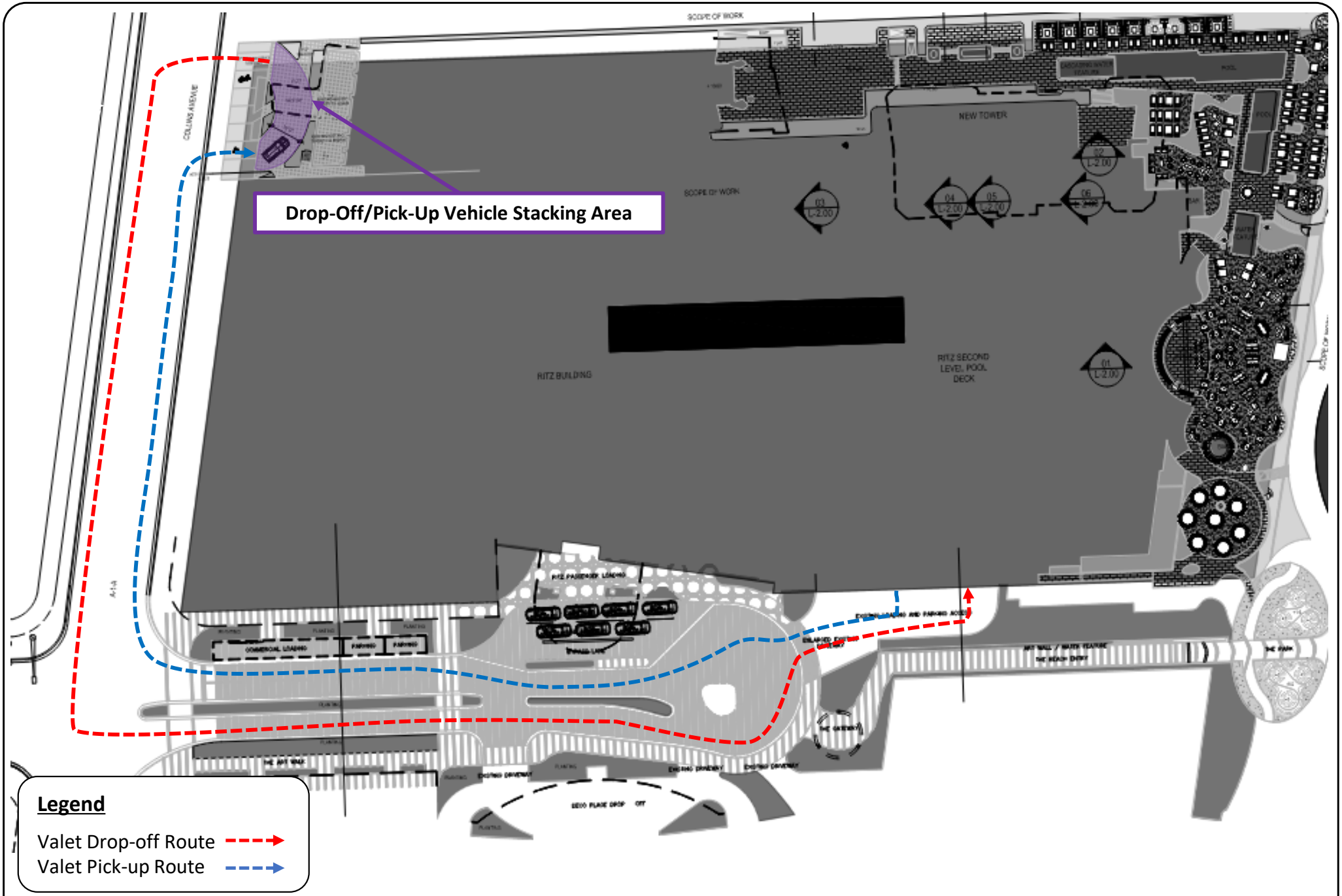
Valet Routing
Ritz Carlton/Sagamore Hotel
Miami Beach, Florida



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Valet Routing
Sagamore Resident Guests
Miami Beach, Florida

Tandem Processing Scenarios

Vehicle Processing Scenarios

Tandem Space Layout	

Vehicle B - Drop-Off		
1.	Attendant drives into space	10
		10 sec
Vehicle B - Pick-Up (Vehicle A not Parked)		
1.	Attendant drives out of space	10
		10 sec
Vehicle B - Pick-Up (Vehicle A Parked)		
1.	Attendant enters Vehicle A	5
2.	Attendant moves Vehicle A to drive aisle	10
3.	Attendant exits Vehicle A	5
4.	Attendant enters Vehicle B and drives to drive aisle	15
5.	Attendant exits Vehicle B	5
6.	Attendant re-enters Vehicle A and drives into position B	15
7.	Attendant exits Vehicle A	5
8.	Attendant re-enters Vehicle B	5
		65 sec
Vehicle A - Drop-Off		
1.	Attendant drives into space	10
		10 sec
Vehicle A - Pick-Up		
1.	Attendant drives out of space	10
		10 sec

Average Drop-off Processing Time	10 sec
Average Pick-up Processing Time	28 sec

Valet Processing Time

Sagamore Residential Guest Valet Drop-off Calculated Average Travel Time					
VALET DROP-OFF					
VEHICLE TRAVEL TIME					
Travel Times (Assume)	15	mph speed)	Travel Times (Assume)	5	ft/s speed)
To Drop-Off Vehicle (In vehicle)			**Return to Valet Drop-off Area (Walk/Run**		
Distance		Travel Time	Distance		Travel Time
0.25	miles	**1 minutes**	0.07	miles	**1.2 minutes**
Double Tandem Processing Time	**0.2 Minutes**				
Controlled Delay	**1.5 Minutes**				
Total Time	**3.9 Minutes**				

Sagamore Residential Guest Valet Pick-up Calculated Average Travel Time					
VALET PICK-UP					
VALET ATTENDANT TRAVEL TIME			**VEHICLE TRAVEL TIME**		
Travel Times (Assume)	5	ft/s speed)	Travel Times (Assume)	15	mph speed)
To Pick-Up Vehicle (Walk/Run)					
Distance		Travel Time	Distance		Travel Time
0.07	miles	**1.2 minutes**	0.20	miles	**0.8 minutes**
			Double Tandem Processing Time	**0.5 Minutes**	
			Controlled Delay	**1.5 Minutes**	
			Total Time	**4.0 Minutes**	

Valet Analysis

A.M. Peak Hour Valet Analysis

Arrival Rate

IN	OUT	
0	1	veh/hr

Service Rate

IN	OUT	
3.90	4.00	mins/veh

Service Time = 4.00 mins/veh

Number of Valet Attendants (N) =	1	
Level of Confidence =	0.95	
Storage Provided On-Site =	3	vehicles
Total Entering and Exiting Vehicles(q) =	1	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	15.00	veh/hr/pos
Average Service Rate (t) =	4.00	mins/veh
rho (t/Q) =	0.067	

Expected (avg.) number of vehicles in the system	E(m)=	0.00	
Expected (avg.) number of vehicles waiting in queue	E(n)=	0.07	
Mean time in the queue	E(w)=	0.29	mins
Mean time in system	E(t)=	4.29	mins

Proportion of customers who wait (P) (E(w) > 0)=	6.67%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

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

P.M. Peak Hour Valet Analysis

Arrival Rate

IN	OUT	
1	0	veh/hr

Service Rate

IN	OUT	
3.90	4.00	mins/veh

Service Time = 3.9 mins/veh

Number of Valet Attendants (N) =	1		
Level of Confidence =	0.95		
Storage Provided On-Site =	3	vehicles	
Total Entering and Exiting Vehicles(q) =	1	veh/hr	
Service Capacity per N (60 mins/Service Rate) (Q) =	15.38	veh/hr/pos	
Average Service Rate (t) =	3.90	mins/veh	
rho (t/Q) =	0.065		

Expected (avg.) number of vehicles in the system	E(m)=	0.00	
Expected (avg.) number of vehicles waiting in queue	E(n)=	0.07	
Mean time in the queue	E(w)=	0.27	mins
Mean time in system	E(t)=	4.17	mins

Proportion of customers who wait (P) (E(w) > 0)=	6.50%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

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

Valet Queuing Data

RITZ CARLTON PORTE-COCHERE QUEUE ANALYSIS

	Hotel Rooms	Maximum Queue Observed	Required Valet Attendants
Existing	373	5	4
Increase Factor	1.136		
Proposed	424	6	5

Prepared by National Data & Surveying Services

Snapshot Queue Study

Location: The Ritz-Carlton, South Beach Hotel, 1 Lincoln Rd
City: Miami Beach, FL
Day: Thursday
Date: 7/21/2022

Time	Snapshot Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
12:00 PM	2	1	3	
12:01 PM	2	1	3	
12:02 PM	2	1	3	
12:03 PM	2	2	4	
12:04 PM	2	2	4	
12:05 PM	2	2	4	
12:06 PM	2	2	4	
12:07 PM	2	2	4	
12:08 PM	2	2	4	
12:09 PM	3	2	5	<--- MAX
12:10 PM	1	2	3	
12:11 PM	1	2	3	
12:12 PM	1	2	3	
12:13 PM	1	2	3	
12:14 PM	1	2	3	
12:15 PM	1	1	2	
12:16 PM	1	2	3	
12:17 PM	1	2	3	
12:18 PM	1	2	3	
12:19 PM	1	2	3	
12:20 PM	1	2	3	
12:21 PM	1	2	3	
12:22 PM	1	2	3	
12:23 PM	1	1	2	
12:24 PM	2	1	3	
12:25 PM	1	1	2	
12:26 PM	1	1	2	
12:27 PM	1	1	2	
12:28 PM	1	0	1	
12:29 PM	1	1	2	
12:30 PM	1	1	2	
12:31 PM	1	1	2	
12:32 PM	0	1	1	
12:33 PM	1	1	2	
12:34 PM	0	1	1	
12:35 PM	0	1	1	
12:36 PM	0	1	1	
12:37 PM	0	1	1	
12:38 PM	0	1	1	
12:39 PM	1	1	2	
12:40 PM	1	1	2	
12:41 PM	4	1	5	<--- MAX
12:42 PM	1	0	1	
12:43 PM	2	0	2	
12:44 PM	2	0	2	
12:45 PM	2	0	2	
12:46 PM	2	0	2	
12:47 PM	2	1	3	
12:48 PM	2	1	3	
12:49 PM	1	0	1	
12:50 PM	1	0	1	
12:51 PM	1	0	1	
12:52 PM	2	0	2	
12:53 PM	1	0	1	
12:54 PM	3	0	3	
12:55 PM	1	0	1	
12:56 PM	1	0	1	
12:57 PM	1	0	1	
12:58 PM	1	0	1	
12:59 PM	2	0	2	
1:00 PM	2	0	2	

Time	Snapshot Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
1:01 PM	3	1	4	
1:02 PM	3	1	4	
1:03 PM	1	1	2	
1:04 PM	1	1	2	
1:05 PM	2	1	3	
1:06 PM	3	1	4	
1:07 PM	3	1	4	
1:08 PM	3	1	4	
1:09 PM	2	1	3	
1:10 PM	2	1	3	
1:11 PM	3	1	4	
1:12 PM	3	1	4	
1:13 PM	4	1	5	<--- MAX
1:14 PM	3	0	3	
1:15 PM	3	0	3	
1:16 PM	3	0	3	
1:17 PM	2	0	2	
1:18 PM	3	0	3	
1:19 PM	1	0	1	
1:20 PM	1	0	1	
1:21 PM	1	1	2	
1:22 PM	2	1	3	
1:23 PM	2	0	2	
1:24 PM	2	0	2	
1:25 PM	2	0	2	
1:26 PM	1	0	1	
1:27 PM	1	0	1	
1:28 PM	2	0	2	
1:29 PM	3	1	4	
1:30 PM	2	1	3	
1:31 PM	2	0	2	
1:32 PM	2	0	2	
1:33 PM	2	1	3	
1:34 PM	2	1	3	
1:35 PM	2	1	3	
1:36 PM	2	1	3	
1:37 PM	2	1	3	
1:38 PM	1	1	2	
1:39 PM	1	1	2	
1:40 PM	1	1	2	
1:41 PM	1	1	2	
1:42 PM	1	1	2	
1:43 PM	1	1	2	
1:44 PM	1	0	1	
1:45 PM	1	1	2	
1:46 PM	1	1	2	
1:47 PM	1	1	2	
1:48 PM	3	1	4	
1:49 PM	3	1	4	
1:50 PM	3	1	4	
1:51 PM	2	1	3	
1:52 PM	2	1	3	
1:53 PM	1	1	2	
1:54 PM	1	0	1	
1:55 PM	0	1	1	
1:56 PM	2	1	3	
1:57 PM	2	0	2	
1:58 PM	2	0	2	
1:59 PM	1	0	1	
2:00 PM	1	0	1	
Totals	195	101	296	

Time	Maximum Queue Observed	Valet Attendants required
12:09 PM	5	5
12:41 PM	5	5
1:13 PM	5	5

Prepared by National Data & Surveying Services

Max Queue Study

Location: The Ritz-Carlton, South Beach Hotel, 1 Lincoln Rd
City: Miami Beach, FL
Day: Thursday
Date: 7/21/2022

Time	Max Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
12:00 PM	2	1	3	
12:01 PM	2	1	3	
12:02 PM	2	2	4	
12:03 PM	2	2	4	
12:04 PM	2	2	4	
12:05 PM	3	2	5	<--- MAX
12:06 PM	2	2	4	
12:07 PM	2	2	4	
12:08 PM	3	2	5	<--- MAX
12:09 PM	3	2	5	<--- MAX
12:10 PM	1	2	3	
12:11 PM	1	2	3	
12:12 PM	1	2	3	
12:13 PM	1	2	3	
12:14 PM	2	2	4	
12:15 PM	1	2	3	
12:16 PM	1	2	3	
12:17 PM	1	2	3	
12:18 PM	1	2	3	
12:19 PM	1	2	3	
12:20 PM	1	2	3	
12:21 PM	1	2	3	
12:22 PM	2	2	4	
12:23 PM	2	1	3	
12:24 PM	2	1	3	
12:25 PM	1	1	2	
12:26 PM	1	1	2	
12:27 PM	1	1	2	
12:28 PM	1	1	2	
12:29 PM	1	2	3	
12:30 PM	1	1	2	
12:31 PM	1	1	2	
12:32 PM	1	1	2	
12:33 PM	1	1	2	
12:34 PM	0	1	1	
12:35 PM	0	1	1	
12:36 PM	0	1	1	
12:37 PM	0	1	1	
12:38 PM	1	1	2	
12:39 PM	2	1	3	
12:40 PM	3	1	4	
12:41 PM	4	1	5	<--- MAX
12:42 PM	2	0	2	
12:43 PM	2	0	2	
12:44 PM	2	0	2	
12:45 PM	2	0	2	
12:46 PM	2	1	3	
12:47 PM	3	1	4	
12:48 PM	2	1	3	
12:49 PM	1	0	1	
12:50 PM	1	0	1	
12:51 PM	2	0	2	
12:52 PM	2	0	2	
12:53 PM	3	0	3	
12:54 PM	3	0	3	
12:55 PM	1	0	1	
12:56 PM	1	0	1	
12:57 PM	1	0	1	
12:58 PM	2	0	2	
12:59 PM	2	0	2	
1:00 PM	3	1	4	

Time	Max Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
1:01 PM	3	1	4	
1:02 PM	3	1	4	
1:03 PM	1	1	2	
1:04 PM	2	1	3	
1:05 PM	3	1	4	
1:06 PM	3	1	4	
1:07 PM	3	1	4	
1:08 PM	3	1	4	
1:09 PM	2	1	3	
1:10 PM	3	1	4	
1:11 PM	3	1	4	
1:12 PM	4	1	5	<--- MAX
1:13 PM	4	1	5	<--- MAX
1:14 PM	3	0	3	
1:15 PM	3	0	3	
1:16 PM	3	0	3	
1:17 PM	3	0	3	
1:18 PM	3	0	3	
1:19 PM	1	0	1	
1:20 PM	1	1	2	
1:21 PM	2	1	3	
1:22 PM	2	1	3	
1:23 PM	2	0	2	
1:24 PM	2	0	2	
1:25 PM	2	0	2	
1:26 PM	1	0	1	
1:27 PM	2	0	2	
1:28 PM	3	1	4	
1:29 PM	3	1	4	
1:30 PM	2	1	3	
1:31 PM	2	0	2	
1:32 PM	2	1	3	
1:33 PM	2	1	3	
1:34 PM	2	1	3	
1:35 PM	2	1	3	
1:36 PM	2	1	3	
1:37 PM	3	1	4	
1:38 PM	1	1	2	
1:39 PM	1	1	2	
1:40 PM	1	1	2	
1:41 PM	1	1	2	
1:42 PM	1	1	2	
1:43 PM	1	1	2	
1:44 PM	1	1	2	
1:45 PM	1	1	2	
1:46 PM	2	1	3	
1:47 PM	3	1	4	
1:48 PM	3	1	4	
1:49 PM	3	1	4	
1:50 PM	3	1	4	
1:51 PM	3	1	4	
1:52 PM	2	1	3	
1:53 PM	2	1	3	
1:54 PM	1	1	2	
1:55 PM	2	1	3	
1:56 PM	2	1	3	
1:57 PM	2	0	2	
1:58 PM	2	0	2	
1:59 PM	1	1	2	
2:00 PM	1	1	2	
Totals	228	114	342	

Time	Maximum Queue Observed	Valet Attendants required
12:05 PM	5	5
12:08 PM	5	5
12:09 PM	5	5
12:41 PM	5	5
1:12 PM	5	5
1:13 PM	5	5

Prepared by National Data & Surveying Services

Snapshot Queue Study

Location: The Ritz-Carlton, South Beach Hotel, 1 Lincoln Rd
City: Miami Beach, FL
Day: Saturday
Date: 7/23/2022

Time	Snapshot Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
4:30 PM	0	0	0	
4:31 PM	2	0	2	
4:32 PM	1	1	2	
4:33 PM	1	1	2	
4:34 PM	2	1	3	
4:35 PM	1	1	2	
4:36 PM	1	1	2	
4:37 PM	1	0	1	
4:38 PM	2	0	2	
4:39 PM	2	1	3	
4:40 PM	2	1	3	
4:41 PM	0	1	1	
4:42 PM	0	1	1	
4:43 PM	0	1	1	
4:44 PM	0	1	1	
4:45 PM	0	1	1	
4:46 PM	0	1	1	
4:47 PM	0	1	1	
4:48 PM	0	1	1	
4:49 PM	1	1	2	
4:50 PM	1	1	2	
4:51 PM	2	1	3	
4:52 PM	2	1	3	
4:53 PM	2	1	3	
4:54 PM	2	1	3	
4:55 PM	3	1	4	<--- MAX
4:56 PM	1	1	2	
4:57 PM	2	1	3	
4:58 PM	2	1	3	
4:59 PM	1	1	2	
5:00 PM	1	1	2	
5:01 PM	1	1	2	
5:02 PM	1	0	1	
5:03 PM	1	0	1	
5:04 PM	2	0	2	
5:05 PM	3	0	3	
5:06 PM	3	0	3	
5:07 PM	3	0	3	
5:08 PM	3	1	4	<--- MAX
5:09 PM	3	1	4	<--- MAX
5:10 PM	1	1	2	
5:11 PM	2	1	3	
5:12 PM	2	1	3	
5:13 PM	1	2	3	
5:14 PM	0	2	2	
5:15 PM	1	2	3	
5:16 PM	2	2	4	<--- MAX
5:17 PM	2	2	4	<--- MAX
5:18 PM	1	2	3	
5:19 PM	1	2	3	
5:20 PM	1	1	2	
5:21 PM	2	1	3	
5:22 PM	1	1	2	
5:23 PM	1	1	2	
5:24 PM	1	1	2	
5:25 PM	1	1	2	
5:26 PM	1	1	2	
5:27 PM	1	1	2	
5:28 PM	3	0	3	
5:29 PM	1	1	2	
5:30 PM	1	0	1	

Time	Snapshot Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
5:31 PM	0	1	1	
5:32 PM	2	1	3	
5:33 PM	3	1	4	<--- MAX
5:34 PM	3	0	3	
5:35 PM	2	0	2	
5:36 PM	2	1	3	
5:37 PM	3	0	3	
5:38 PM	2	1	3	
5:39 PM	1	1	2	
5:40 PM	3	1	4	<--- MAX
5:41 PM	2	1	3	
5:42 PM	0	1	1	
5:43 PM	0	1	1	
5:44 PM	0	1	1	
5:45 PM	1	1	2	
5:46 PM	1	1	2	
5:47 PM	0	1	1	
5:48 PM	0	1	1	
5:49 PM	0	1	1	
5:50 PM	0	0	0	
5:51 PM	0	0	0	
5:52 PM	0	0	0	
5:53 PM	0	0	0	
5:54 PM	0	0	0	
5:55 PM	0	0	0	
5:56 PM	0	0	0	
5:57 PM	0	0	0	
5:58 PM	0	1	1	
5:59 PM	1	0	1	
6:00 PM	0	0	0	
6:01 PM	0	0	0	
6:02 PM	1	0	1	
6:03 PM	0	0	0	
6:04 PM	1	0	1	
6:05 PM	1	0	1	
6:06 PM	1	1	2	
6:07 PM	1	0	1	
6:08 PM	1	0	1	
6:09 PM	1	0	1	
6:10 PM	1	0	1	
6:11 PM	1	0	1	
6:12 PM	1	0	1	
6:13 PM	0	0	0	
6:14 PM	1	0	1	
6:15 PM	0	0	0	
6:16 PM	1	0	1	
6:17 PM	1	0	1	
6:18 PM	1	0	1	
6:19 PM	2	0	2	
6:20 PM	1	0	1	
6:21 PM	0	0	0	
6:22 PM	0	0	0	
6:23 PM	0	0	0	
6:24 PM	1	0	1	
6:25 PM	0	0	0	
6:26 PM	0	0	0	
6:27 PM	0	0	0	
6:28 PM	1	0	1	
6:29 PM	1	0	1	
6:30 PM	0	0	0	
Totals	128	74	202	

Time	Maximum Queue Observed	Valet Attendants required
4:55 PM	4	4
5:08 PM	4	4
5:09 PM	4	4
5:16 PM	4	4
5:17 PM	4	4
5:33 PM	4	4
5:40 PM	4	4

Prepared by National Data & Surveying Services

Max Queue Study

Location: The Ritz-Carlton, South Beach Hotel, 1 Lincoln Rd
City: Miami Beach, FL
Day: Saturday
Date: 7/23/2022

Time	Max Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
4:30 PM	1	0	1	
4:31 PM	2	0	2	
4:32 PM	1	1	2	
4:33 PM	1	1	2	
4:34 PM	2	1	3	
4:35 PM	2	1	3	
4:36 PM	1	1	2	
4:37 PM	2	1	3	
4:38 PM	3	0	3	
4:39 PM	2	1	3	
4:40 PM	2	1	3	
4:41 PM	2	1	3	
4:42 PM	0	1	1	
4:43 PM	0	1	1	
4:44 PM	0	1	1	
4:45 PM	0	1	1	
4:46 PM	0	1	1	
4:47 PM	0	1	1	
4:48 PM	0	1	1	
4:49 PM	1	1	2	
4:50 PM	1	1	2	
4:51 PM	2	1	3	
4:52 PM	2	1	3	
4:53 PM	2	1	3	
4:54 PM	2	1	3	
4:55 PM	3	1	4	<--- MAX
4:56 PM	3	1	4	<--- MAX
4:57 PM	2	1	3	
4:58 PM	2	1	3	
4:59 PM	2	1	3	
5:00 PM	2	1	3	
5:01 PM	1	1	2	
5:02 PM	1	1	2	
5:03 PM	2	0	2	
5:04 PM	2	0	2	
5:05 PM	3	0	3	
5:06 PM	3	0	3	
5:07 PM	3	0	3	
5:08 PM	3	1	4	<--- MAX
5:09 PM	3	1	4	<--- MAX
5:10 PM	3	1	4	<--- MAX
5:11 PM	2	1	3	
5:12 PM	2	1	3	
5:13 PM	2	2	4	<--- MAX
5:14 PM	2	2	4	<--- MAX
5:15 PM	1	2	3	
5:16 PM	2	2	4	<--- MAX
5:17 PM	2	2	4	<--- MAX
5:18 PM	2	2	4	<--- MAX
5:19 PM	2	2	4	<--- MAX
5:20 PM	1	2	3	
5:21 PM	2	1	3	
5:22 PM	2	1	3	
5:23 PM	2	1	3	
5:24 PM	2	1	3	
5:25 PM	1	1	2	
5:26 PM	1	1	2	
5:27 PM	2	1	3	
5:28 PM	3	1	4	<--- MAX
5:29 PM	2	2	4	<--- MAX
5:30 PM	1	1	2	

Time	Max Queue Length (Number of Vehicles)			
	VALET RAMP (Inner)	VALET RAMP (Outer)	Total	Notes
5:31 PM	1	0	1	
5:32 PM	1	1	2	
5:33 PM	3	1	4	<--- MAX
5:34 PM	3	1	4	<--- MAX
5:35 PM	3	1	4	<--- MAX
5:36 PM	2	1	3	
5:37 PM	3	1	4	<--- MAX
5:38 PM	3	1	4	<--- MAX
5:39 PM	2	1	3	
5:40 PM	3	1	4	<--- MAX
5:41 PM	3	1	4	<--- MAX
5:42 PM	2	1	3	
5:43 PM	0	1	1	
5:44 PM	0	1	1	
5:45 PM	2	1	3	
5:46 PM	2	1	3	
5:47 PM	1	1	2	
5:48 PM	1	1	2	
5:49 PM	0	1	1	
5:50 PM	0	1	1	
5:51 PM	0	0	0	
5:52 PM	0	0	0	
5:53 PM	1	0	1	
5:54 PM	0	0	0	
5:55 PM	1	0	1	
5:56 PM	1	0	1	
5:57 PM	1	0	1	
5:58 PM	0	1	1	
5:59 PM	1	1	2	
6:00 PM	1	0	1	
6:01 PM	0	0	0	
6:02 PM	1	0	1	
6:03 PM	1	0	1	
6:04 PM	1	0	1	
6:05 PM	1	0	1	
6:06 PM	1	1	2	
6:07 PM	2	2	4	<--- MAX
6:08 PM	1	0	1	
6:09 PM	1	0	1	
6:10 PM	1	0	1	
6:11 PM	1	0	1	
6:12 PM	1	0	1	
6:13 PM	1	0	1	
6:14 PM	1	0	1	
6:15 PM	1	0	1	
6:16 PM	1	0	1	
6:17 PM	1	0	1	
6:18 PM	1	0	1	
6:19 PM	2	0	2	
6:20 PM	2	0	2	
6:21 PM	1	0	1	
6:22 PM	1	0	1	
6:23 PM	0	0	0	
6:24 PM	1	0	1	
6:25 PM	1	0	1	
6:26 PM	0	0	0	
6:27 PM	0	0	0	
6:28 PM	1	0	1	
6:29 PM	1	0	1	
6:30 PM	0	0	0	
Totals	174	86	260	

Time	Maximum Queue Observed	Valet Attendants required
4:55 PM	4	4
4:56 PM	4	4
5:08 PM	4	4
5:09 PM	4	4
5:10 PM	4	4
5:13 PM	4	4
5:14 PM	4	4
5:16 PM	4	4
5:17 PM	4	4
5:18 PM	4	4
5:19 PM	4	4
5:28 PM	4	4
5:29 PM	4	4
5:33 PM	4	4
5:34 PM	4	4
5:35 PM	4	4
5:37 PM	4	4
5:38 PM	4	4
5:40 PM	4	4
5:41 PM	4	4
6:07 PM	4	4

Appendix K

Pedestrian Crossing Calculations

PEDESTRIAN CROSSING EVALUATION

Pedestrian Comparsion at Collins Avenue/A1A and Lincoln Road

	East Leg	West Leg	North Leg	South Leg
Raw July 2022 Mid-Day Pedestrians	232	311	395	315
PSCF	1.06			
Growth Rate	0.50%			
Calculated 2023 Peak Season Mid-Day Pedestrians	247	331	421	336
Raw 2023 Mid-Day Pedestrians	241	299	336	363
PSCF	1.00			
2023 Peak Season Mid-Day Pedestrians	241	299	336	363
Pedestrian Factor	**0.98**	**0.90**	**0.80**	**1.08**
Thursday Mid-Day Pedestrian Factor	**0.94**			

Thursday Mid-Day Peak Hour

Pedestrian Crossing Calculations

	Ritz-Carlton Loading Driveway		External Pedestrians		Ritz-Carlton Pedestrians	
	From the Beach	To the Beach	From the Beach	To the Beach	Enter Ritz-Carlton	Exit Ritz-Carlton
Raw 2022 Pedestrians	95	119	22	55	73	64
PSCF	1.06					
2022 Pedestrians	101	126	23	58	77	68
Pedestrian Factor	1.00					
2023 Pedestrians	101	126	23	58	77	68
Pedestrians Along N Side	227					

Pedestrian Comparsion at Collins Avenue/A1A and Lincoln Road

	East Leg	West Leg	North Leg	South Leg
Raw 2022 Mid-Day Pedestrians	221	413	451	345
PSCF	1.06			
Growth Rate	0.50%			
Calculated 2023 Peak Season Mid-Day Pedestrians	235	440	480	368
Raw 2023 Mid-Day Pedestrians	315	434	474	490
PSCF	1.00			
2023 Peak Season Mid-Day Pedestrians	315	434	474	490
Pedestrian Factor	**1.34**	**0.99**	**0.99**	**1.33**
Thursday PM Pedestrian Factor	**1.16**			

Thursday PM Peak Hour

Pedestrian Crossing Calculations

	Ritz-Carlton Loading Driveway		External Pedestrians		Ritz-Carlton Pedestrians	
	From the Beach	To the Beach	From the Beach	To the Beach	Enter Ritz-Carlton	Exit Ritz-Carlton
Raw 2022 Pedestrians	163	126	120	108	43	18
PSCF	1.06					
2022 Pedestrians	173	134	127	114	46	19
Pedestrian Factor	1.16					
2023 Pedestrians	201	155	148	133	53	22
Pedestrians Along N Side	356					

Pedestrian Comparsion at Collins Avenue/A1A and Lincoln Road

	East Leg	West Leg	North Leg	South Leg
Raw 2022 Mid-Day Pedestrians	260	476	429	433
PSCF	1.06			
Growth Rate	0.50%			
Calculated 2023 Peak Season Mid-Day Pedestrians	277	507	457	461
Raw 2023 Mid-Day Pedestrians	249	435	315	378
PSCF	1.04			
2023 Peak Season Mid-Day Pedestrians	259	452	328	393
Pedestrian Factor	**0.93**	**0.89**	**0.72**	**0.85**
Friday PM Pedestrian Factor	**0.85**			

Friday PM Peak Hour

Pedestrian Crossing Calculations

	Ritz-Carlton Loading Driveway		External Pedestrians		Ritz-Carlton Pedestrians	
	From the Beach	To the Beach	From the Beach	To the Beach	Enter Ritz-Carlton	Exit Ritz-Carlton
Raw 2022 Pedestrians	133	152	64	112	69	40
PSCF	1.06					
2022 Pedestrians	141	161	68	119	73	42
Pedestrian Factor	1.00					
2023 Pedestrians	141	161	68	119	73	42
Pedestrians Along N Side	**302**					

Appendix L

Maneuverability Analysis

Passenger Vehicles

SHADED AREA NOT
PART OF SCOPE

EXISTING RITZ CARLTON
BUILDING

NEW GENERAL PEDESTRIAN WALKWAYS

EXISTING LOADING
AND PARKING ACCESS

EXISTING LOADING AND PARKING ACCESS +7.00

ENLARGED EXISTING
DRIVEWAY
+7.52

PEDESTRIAN
VEHICLE
CROSSING
SIDEWALK
+8.00

THE
GATEWAY

49.13

THE BEACH ENTRY

EXISTING SURFACE
PARKING LOT
NOT IN SCOPE

DECOPLAGE EAST PROPERTY LINE

EXISTING
DRIVEWAY

EXISTING
DRIVEWAY

DECOPLAGE NORTH PROPERTY LINE

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

DECO PLAGE DROP-OFF

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

A-1-A

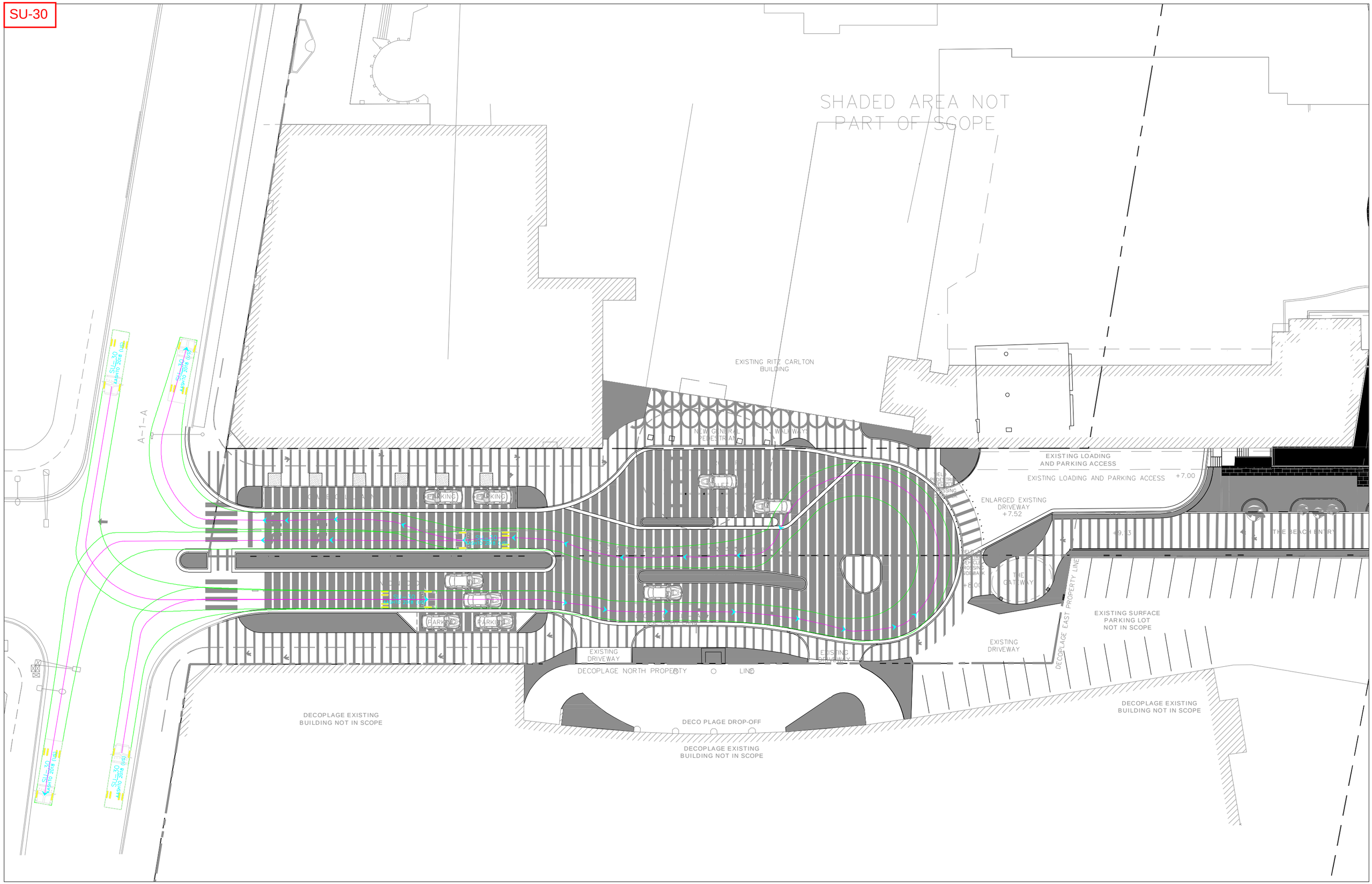
PARKING

PARKING

PARKING

PARKING

SU-30


SHADED AREA NOT PART OF SCOPE
EXISTING RITZ CARLTON BUILDING
NEW GENERAL PEDESTRIAN WALKWAYS
EXISTING LOADING AND PARKING ACCESS
EXISTING LOADING AND PARKING ACCESS
+7.00
ENLARGED EXISTING DRIVEWAY +7.52
THE BEACH ENTRY
THE GATEWAY
EXISTING SURFACE PARKING LOT NOT IN SCOPE
EXISTING DRIVEWAY
DECOPLAGE EAST PROPERTY LINE
EXISTING DRIVEWAY
EXISTING DRIVEWAY
DECOPLAGE NORTH PROPERTY LINE
DECOPLAGE EXISTING BUILDING NOT IN SCOPE
DECO PLAGE DROP-OFF
DECOPLAGE EXISTING BUILDING NOT IN SCOPE
DECOPLAGE EXISTING BUILDING NOT IN SCOPE
A-1-A
SU-30
SU-30
SU-30
SU-30

SU-40

SHADED AREA NOT
PART OF SCOPE

EXISTING RITZ CARLTON
BUILDING

NEW GENERAL PEDESTRIAN WALKWAYS

EXISTING LOADING
AND PARKING ACCESS

EXISTING LOADING AND PARKING ACCESS

ENLARGED EXISTING
DRIVEWAY
+7.52

+7.00

49.3

THE BEACH ENTRY

THE
GATEWAY

EXISTING SURFACE
PARKING LOT
NOT IN SCOPE

DECOPLAGE EAST PROPERTY LINE

EXISTING
DRIVEWAY

EXISTING
DRIVEWAY

DECOPLAGE NORTH PROPERTY LINE

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

DECO PLAGE DROP-OFF

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

PARKING

PARKING

PARKING

PARKING

SU-40
AASHTO 2018 (US)

City of Miami Beach Emergency/Fire Rescue

SHADED AREA NOT
PART OF SCOPE

EXISTING RITZ CARLTON
BUILDING

NEW GENERAL PEDESTRIAN WALKWAYS

EXISTING LOADING
AND PARKING ACCESS

EXISTING LOADING AND PARKING ACCESS +7.00

ENLARGED EXISTING
DRIVEWAY
+7.52

49.3

THE BEACH ENTRY

THE
GATEWAY

EXISTING SURFACE
PARKING LOT
NOT IN SCOPE

DECOPLAGE EAST PROPERTY LINE

EXISTING
DRIVEWAY

EXISTING
DRIVEWAY

DECOPLAGE NORTH PROPERTY LINE

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

DECO PLAGE DROP-OFF

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

DECOPLAGE EXISTING
BUILDING NOT IN SCOPE

PARKING

PARKING

PARKING

PARKING

A-1-A

CMB Firetruck Aerial
Custom

CMB Firetruck Aerial
Custom

CMB Firetruck Aerial
Custom

CMB Firetruck Aerial
Custom

WB-62

SHADED AREA NOT
PART OF SCOPE

EXISTING RITZ CARLTON
BUILDING

NEW GENERAL
TERRESTRIAL

WALKWAYS

EXISTING LOADING
AND PARKING ACCESS

EXISTING LOADING AND PARKING ACCESS +7.00

ELECTRIC
CAR
CHARGING

ENLARGED EXISTING
DRIVEWAY
+7.52

PARKING

PARKING

PARKING

Appendix M

Parking Evaluation

EXISTING FAR TO REMAIN RITZ AND SAGAMORE BLDG

RITZ HOTEL	FAR AREA
Basement	**8,785 ****
Ground	65,715
2nd Floor	65,856
3rd Floor	60,169
4th Floor	44,244
5th Floor	26,639
6th Floor	24,397
7th Floor	24,393
8th Floor	24,397
9th Floor	24,327
10th Floor	24,387
11th Floor	24,383
Totals	**417,692**

Sagamore	FAR AREA
Basement	**0 ****
Ground	10,607
2nd Floor	11,726
3rd Floor	11,726
4th Floor	11,726
5th Floor	11,275
6th Floor	4,218
Totals	**61,278**

RITZ	LOT AREA	FAR RATIO	MAX FAR	FAR AVAILABLE
PER SURVEY	163,813	3	511,439	93,748 *

SAGAMORE	LOT AREA	FAR RATIO	MAX FAR	FAR AVAILABLE
Lot AREA	44,848	2	89696	28,418

FAR SUMMARY		
Ritz FAR	**Sagamore FAR**	**Total FAR Available**
93,748 *	28,418	**122,166**

* Includes 20,000 SF per Sec.142-246 (a) (3)

** 1/2 of the basemant included in the calcualtion

PROPOSED AREAS - NEW TOWER

LEVELS	UNITS	COMMON AREA+BOH	AMENITIES	NEW BRIDGE CONNECTION	BALCONIES & TERRACES	GFA	EFFICIENCY	FAR
ROOF		769 SQ.FT.						769 SQ.FT.
LEVEL 15	6,976 SQ.FT.	1,430 SQ.FT.			2,130 SQ.FT.	10,536 SQ.FT.	17%	8,406 SQ.FT.
LEVEL 14	7,536 SQ.FT.	1,430 SQ.FT.			2,130 SQ.FT.	11,096 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 13	7,536 SQ.FT.	1,430 SQ.FT.			2,130 SQ.FT.	11,096 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 12	7,536 SQ.FT.	1,430 SQ.FT.			2,130 SQ.FT.	11,096 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 11	7,536 SQ.FT.	1,430 SQ.FT.			2,130 SQ.FT.	11,096 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 10	7,536 SQ.FT.	1,430 SQ.FT.			1,925 SQ.FT.	10,891 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 9	7,536 SQ.FT.	1,430 SQ.FT.			1,925 SQ.FT.	10,891 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 8	7,536 SQ.FT.	1,430 SQ.FT.			1,925 SQ.FT.	10,891 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 7	7,536 SQ.FT.	1,430 SQ.FT.			1,925 SQ.FT.	10,891 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 6	7,536 SQ.FT.	1,430 SQ.FT.			3,675 SQ.FT.	12,641 SQ.FT.	16%	8,966 SQ.FT.
LEVEL 5	-	2,152 SQ.FT.	7,794 SQ.FT.		6,250 SQ.FT.	16,196 SQ.FT.	-	9,946 SQ.FT.
LEVEL 4	4,177 SQ.FT.	1,708 SQ.FT.			916 SQ.FT.	6,801 SQ.FT.	29%	5,885 SQ.FT.
LEVEL 3	4,177 SQ.FT.	1,708 SQ.FT.		512 SQ.FT.	916 SQ.FT.	7,313 SQ.FT.	27%	6,397 SQ.FT.
LEVEL 2	-	1,192 SQ.FT.		512 SQ.FT.		1,704 SQ.FT.	-	1,704 SQ.FT.
LEVEL 1	-	3,864 SQ.FT.				3,864 SQ.FT.	-	3,864 SQ.FT.
	83,154 SQ.FT.	**25,693 SQ.FT.**	**7,794 SQ.FT.**	**1,024 SQ.FT.**	**30,107 SQ.FT.**	**147,003 SQ.FT.**		**117,665 SQ.FT.**

Seating / O.C.C Chart / Parking

RITZ

Floor Level	Room Name	Area	Existing Seats/Occupants	Proposed Seats/Occupants	Parking Required
Ground	New Retail from 1999 Permit	2,819 SF			8
	Lobby Bar	In Historic Ritz	51 Occupants	52 Occupants	N/A
	New Beach Side Restaurant	In Historic Ritz	60 Seats	180 Seats	45
	Restaurant	In Historic Ritz	564 Occupants	565 Occupants	N/A
Level 2	All Day Restaurant/Pool Deck	In Historic Ritz	203 Seats	204 Seats	N/A
Totals					

SAGAMORE

Floor Level	Room Name	Area	Existing Seats/Occupants	Proposed Seats/Occupants	Parking Required
Ground	Book Store/Coffee Shop	In Historic Sagamore	N/a	10 Seats	N/A
	Cigar Lounge	In Historic Sagamore	N/A	20 Seats	N/A
	Pool Restaurant	In Historic Sagamore	N/A		
	Restaurant	In Historic Sagamore	142 Seats	60 Seats	N/A
Totals					

UNIT PARKING REQUIREMENTS

Unit Type	Proposed Density	Area	Existing Seats/Occupants		Parking Required
Hotel (Ritz)	374 Existing	New rooms from 1999 Permit	N/A	.5/unit x 173	87
Hotel (Sagamore)	60	In Historic Sagamore	N/A	N/A	N/A
550-999 SF	0	New Tower	N/A	1	0
1000-1200 SF	12	New Tower	N/A	1.5	18
+ 1200 SF	38	New Tower	N/A	2	76
Total					**234**
Grand Total					**234 Spaces**

MIAMIBEACH

Planning Department, 1700 Convention Center Drive
Miami Beach, Florida 33139, www.miamibeachfl.gov
305.673.7550

MULTIFAMILY - COMMERCIAL - ZONING DATA SHEET

ITEM #	Zoning Information				
1	Address:	1 Lincoln Road, 1671 Collins Ave, Miami Beach, FL, 33139			
2	Board and File numbers:				
3	Folio number(s):	02-3234-019-0520 | 02-3234-019-0530 | 02-3234-019-0570			
4	Year constructed:		Zoning District:	RM-3 HIGH DENSITY MULTI FAMILY RESIDENTIAL	
5	Historic Designation	Local: Ocean Drive/ Collins Ave Historic District National: Miami Beach Architectural District			
6	Flood Zone:	Flood Zone AE & Flood Zone X			
7	Base Flood Elevation:	8'-0" NGVD	Grade Value in NGVD:	6.83' NGVD	
8	Design Flood Elevation:	13'-0" NGVD			
9	Max. Wave Crest Elevation:	15'-0" NGVD			
10	Adjusted grade (Flood+Grade/2)	N/A			
11	Lot Area:	1671 COLLINS AVE = 44,848 SF/ 1 LINCOLN ROAD = 163,813 SF			208,661 SF TOTAL / 4.79 AC
12	Lot Width	350.00'	Lot Depth:	594.47'	
13	Minimum Unit Size	550 SF	Average Unit Size:	2,000 SF	
14	Existing User	HOTEL / RESTAURANT	Proposed Use:	HOTEL/ RESIDENTIAL / RESTAURANT/ RETAIL	

		ALLOWED	EXISTING	PROPOSED	DEFICIENCIES
10	Height				-
	Architectural District-New Construction	200'-0" *		182'-10"	
	Ground Floor Additions Sec. 142-246(e). (3)	25'-0" *		23'-8"	
11	Number of Stories				-
	Architectural District-New Construction	20 STORIES		15 STORY TOWER	
	Ground Floor Additions	2 STORIES			
12	FAR: 1 Lincoln Road 3.0 + 1671 Collins 2.0	601,135 SF	478,970 SF	596,635 SF	
13	Gross Square Footage	N/A	N/A		-
14	Square Footage by use	N/A	N/A	N/A	-
15	Number of Units Residential	N/A	N/A	30 UNITS	-
16	Number of Units Hotel	N/A	477	434 UNITS	-
17	Number of Seats	N/A	N/A	REFER TO SEATING/O.C.C CHART	-
18	Occupancy Load	N/A	N/A	REFER TO SEATING/O.C.C CHART	-

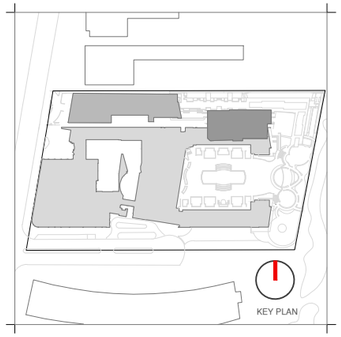
* Sec. 142-1161. - Height regulation exceptions.

	SETBACKS	REQUIRED	EXISTING	PROPOSED	DEFICIENCIES
	At-Grade Parking Lot				
19	Front Setback (Collins ave/ West):	20'-0"	N/A	N/A	-
20	Side Setback (Interior/ North):	17'-6"	N/A	N/A	-
21	Side Setback (Lincoln Rd/ South):	17'-6"	N/A	N/A	-
22	Rear Setback (East):	50' from BL	N/A	N/A	-
	Subterranean/ Pedestal Oceanfront/ LVL 0-5				
23	Front Setback (Collins ave/ West):	20'-0"	56'-9" RITZ	56'-9" RITZ	EXISTING STRUCTURES TO REMAIN
24	Side Setback (Interior/ North):	28'-0"	7'4" SAGAMORE	5'-0" SAGAMORE	EXISTING STRUCTURES TO REMAIN
25	Side Setback (Lincoln Rd/ South):	28'-0"	49'-6" RITZ	49'-6" RITZ	EXISTING STRUCTURES TO REMAIN
26	Rear Setback (East):	100'-0"	45'-8" RITZ	45'-8" RITZ	EXISTING STRUCTURES TO REMAIN
	Tower Oceanfront*				
27	Front Setback (Collins ave/ West):	100'-0"	N/A	340'-0"	-
28	Side Setback (Interior/ North):	41'-4" HABITABLE/35'-4" BALCONY	N/A	41'-4" HABITABLE SPACE / 35'-4" BALCONY PRJECTION	-
29	Side Setback (Lincoln Rd/ South):	75'-0"	N/A	231'-0"	-
30	Rear Setback (East):	100'-0"	N/A	94'-0" BALCONY PROJECTION / 100'-0" HABITABLE SPACE	-
	Detached Additions at 25 FT max height				
31	Front Setback (Collins ave/ West):	N/A	N/A	N/A	
32	Side Setback (Interior/ North):	5'-0"	N/A	N/A	
33	Side Setback (Lincoln Rd/ South):	5'-0"	N/A	N/A	
34	Rear Setback (East):	50' from BL	N/A	N/A	

* Sec. 142-246(f)(1)

** See Survey for existing conditions

	PARKING DISTRICT No 1	REQUIRED	EXISTING	PROPOSED	DEFICIENCIES
31	Parking District No 1				
32	Total # of parking spaces	234 PER CHART PROVIDED	247	236	-
33	# of parking spaces per use (Provide a separate chart for a breakdown calculation)	SEE CHART PROVIDED	N/A		-
34	Valet Drop off and pick up		N/A	ON SITE	-
35	Loading zones and Trash collection areas		N/A	ONSITE	-
36	Bike Racks	129	N/A	129	-
37	Is this a contributing building?	YES			
38	Located within a Local Historic District?	YES			
	Notes: If not applicable write N/A				
	Notes: FAR calculated per Ordinance ZBA2019-0097				
	* SEE PARKING REQUIREMENTS (A)				



Rev.	Date	Rev.	Date

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HPB

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PROJECT DATA

RITZ-SAGAMORE

Date	05-08-2023	Sheet No.	A0.03
Scale	-		
Project	2018		