

# Terminal Island

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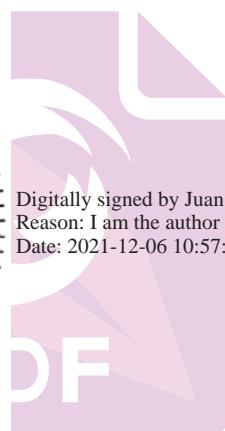
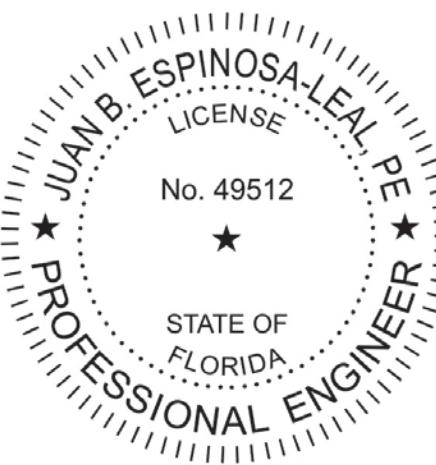
*Traffic Study*



Since 1978

# Terminal Island

M I A M I   B E A C H



**Prepared By:**  
David Plummer & Associates

**Prepared For:**  
Related Group

**Prepared In:**  
November 2021

**DPA Job #:**  
20129

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## EXECUTIVE SUMMARY

The project is located at 120 MacArthur Causeway (Terminal Island) in Miami Beach, Florida. The project proposes two new office buildings (Buildings A and B) which will contain approximately 932 employees and a 299-seat restaurant with a fully automated parking garage (incorporated into building B). The existing six boat berth marina will remain. Access to the site will be provided via the internal roadway on Terminal Island (Terminal Isle) which provides access to MacArthur Causeway. For the purpose of this traffic study, project build-out is anticipated by 2023.

An assessment of the weekday and weekend AM and PM peak hour traffic associated with the proposed Terminal Island project was performed in accordance with the approved methodology submitted to the City and the requirements of the *City of Miami Beach Comprehensive Plan*. Intersection capacity analysis was performed for the following intersections:

- MacArthur Causeway / Bridge Road (Star Island)
- MacArthur Causeway / Terminal Isle
- Alton Road / 5th Street
- MacArthur Causeway / Terminal Isle Exclusive Right-turn (east of the MacArthur Causeway / Terminal Isle signalized intersection)

The results of the intersection analysis for a typical weekday during the AM and PM peak hours show that the overall LOS for the following analyzed intersections currently operate and are projected to operate within the LOS standards established in the City of Miami Beach Comprehensive Plan for existing, future without project, and future with project conditions:

- MacArthur Causeway / Bridge Road (Star Island)
- MacArthur Causeway / Terminal Isle
- Alton Road / 5th Street
- MacArthur Causeway / Terminal Isle Exclusive Right-turn (east of the MacArthur Causeway / Terminal Isle signalized intersection)

The analysis shows adequate operations at the unsignalized project driveway.

For existing, future without project, and future with project conditions, the northbound and southbound approaches of the MacArthur Causeway / Bridge Road intersection experience delays during the AM and PM peak hours. This is an existing condition; the project adds no delay to these approaches during the AM peak hour and adds no delay to the northbound approach and less than one second of delay to the southbound approach during the PM peak hour. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection experiences delays during the AM and PM peak hours for existing, future without project, and future with project conditions. It should be noted that the project adds less than two seconds of delay to the northbound approach during the AM and PM peak hours. The westbound left approach of the Terminal Isle / MacArthur Causeway intersection experiences delays during the AM peak hour and the northwest bound approach (Terminal Isle approach) at the MacArthur Causeway / Terminal Isle intersection experiences delays during the afternoon peak hour. It should be noted that the project represents less than 5% and 6% of the total projected intersection volume during the morning and afternoon peak hours, respectively. Signal timing improvements are recommended to mitigate the effects of the project. These delays may be due to the fact that the county gives priority to vehicles travelling east / west through this area, therefore, accepting delays on cross-streets.

The results of the intersection analysis for the AM and PM peak hours of a typical weekend show that the overall LOS for the following analyzed intersections currently operate and are projected to operate within the LOS standards established in the City of Miami Beach Comprehensive Plan for existing, future without project, and future with project conditions:

- MacArthur Causeway / Bridge Road (Star Island)
- MacArthur Causeway / Terminal Isle
- Alton Road / 5<sup>th</sup> Street
- MacArthur Causeway / Terminal Isle Exclusive Right-turn (AM Peak Hour)

For existing, future without project, and future with project conditions, the southbound approach of the MacArthur Causeway / Bridge Road intersection experiences delays during the morning and afternoon peak hours. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection also experiences delays during both the morning and afternoon peak hours. This may be due to the fact that the county gives priority to vehicles travelling east / west through this area, therefore, accepting delays on cross-streets. During the existing, future without project, and future with

project conditions, the northbound approach of the MacArthur Causeway / Terminal Isle exclusive right-turn intersection experiences delays during afternoon peak hour. The project driveway was analyzed and the results show adequate operations.

As part of the study, field observations were performed at the fisher Island Ferry terminals located on the east and west ends of Terminal Island. The observations showed that the operations at the ferry terminals did not interfere with the operations along the MacArthur Causeway.

A mobility and circulation plan was completed as part of the study. The plan shows that the project area is currently served by four Miami-Dade Transit bus routes and a Miami Beach Trolley route. The project is located in an area that provides sidewalk connectivity, clearly marked crosswalks, signalized intersections that provide pedestrian signals, and bike lanes. These conditions encourage the use of other modes of transportation and reduce the vehicular impact on the roadway network.

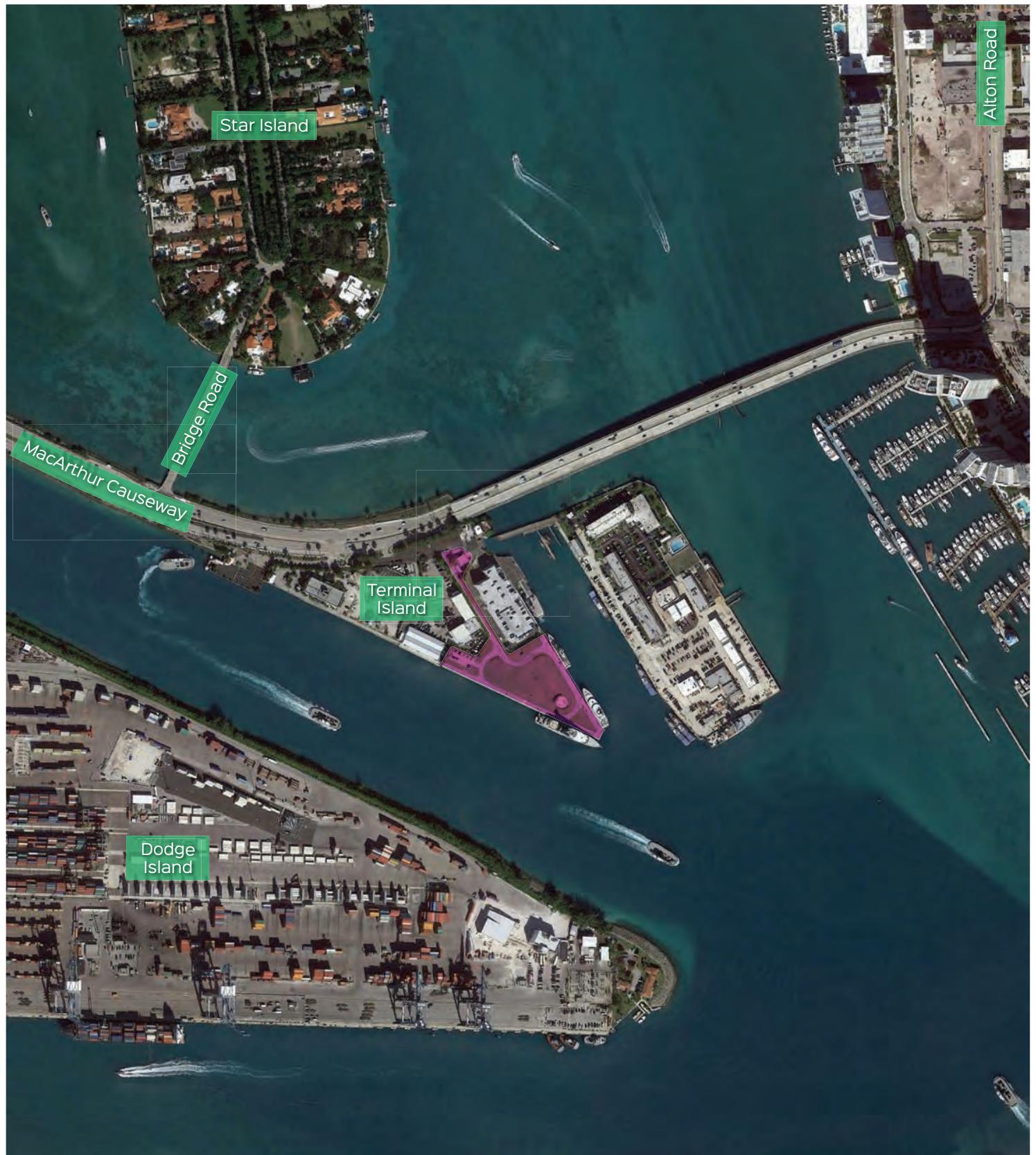
# **1.0 INTRODUCTION**

## **1.1 Project Background**

The project is located at 120 MacArthur Causeway (on Terminal Island) in Miami Beach, Florida (see Exhibit 1). The project proposes two new office buildings (Building A and B) which will contain approximately 932 employees and a 299-seat restaurant with a fully automated parking garage (located on the north side of building B). The existing six boat berth marina will remain. Access to the site will be provided via Terminal Isle (the internal roadway on Terminal Island) which provides access to MacArthur Causeway. The loading area for the two buildings is located on the west side of the basement level, which spans between both buildings, connecting the two, and acts as a shared loading and service area. Access to the loading area is provided via the project's internal roadway which connects to the two-way basement driveway ramp located on the north side of building B. The proposed site plan is included in Appendix A. For the purpose of this traffic study, project build-out is anticipated by 2023.

## **1.2 Study Objective**

The project will be applying for permits from the City. As part of this permit, the City of Miami Beach will require traffic related studies. The purpose of this study is to assess the traffic impacts associated with the proposed project and to conduct a mobility and circulation analysis.



Dodge  
Island

Terminal  
Island

Bridge Road

MacArthur Causeway

Star Island

Alton Road

Project Location

## Exhibit 1

### Location Map



## 1.3 Study Area and Methodology

The approved methodology is included in Appendix B. The following is a brief description of the study components and analysis undertaken:

- Ninety-six-hour traffic counts were collected on the MacArthur Causeway between Bridge Road and Terminal Island and Terminal Island between MacArthur Causeway and the crosswalk to the Employee and Contractor Garage and Ferry Terminal East. The 96-hour counts were used to determine the AM and PM peak hours of a regular weekday and the AM and PM peak hours of a regular Saturday.
- Traffic Counts (Intersections) – Available turning movement counts were collected during the AM and PM peak hour conditions of a regular weekday and weekend, as determined by the collected 96-hour counts and approved by the City. The counts were used to analyze the following intersections:
  - MacArthur Causeway / Bridge Road (Star Island) (Signalized)
  - MacArthur Causeway / Terminal Isle (Signalized)
  - Alton Road / 5th Street (Signalized)
  - Terminal Isle / Project Driveway (Un-signalized)
  - MacArthur Causeway / Terminal Isle Exclusive Right-turn (east of the MacArthur Causeway / Terminal Isle signalized intersection)
- Signal Location and Timing – Existing signal phasing and timing for the signalized intersections were obtained from Miami-Dade County. Signal timing plans are included in Appendix C.
- Future Transportation Projects – The *2021 Transportation Improvement Program* (TIP), the *2045 Long Range Transportation Plan* (LRTP), and the City of Miami Beach's Transportation Master Plan Final Report and Related TMP updates were reviewed and considered in the analysis at the project build-out.
- Background Traffic – Available Florida Department of Transportation (FDOT) and Miami-Dade County (MDC) traffic counts (excluding 2020 data) were consulted to determine a growth factor consistent with historical annual growth in the area. As the growth factor was

negative, a growth factor of 0.5% was applied to the existing traffic volumes to establish background traffic.

- Committed Developments – As no committed developments were found in the area a 0.5% growth rate, as approved by the City, was applied to the analysis to account for any unknown committed developments in the area.
- Project Trip Generation – Trip generation for the project was estimated using trip generation information published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition and site-specific data. Based on U.S. Census Bureau data, a 12.9% deduction for other modes of transportation may be applied. However, for a more conservative analysis and as discussed with the City reviewer, a 3% reduction was used for other modes of transportsations. Furthermore, as discussed with the City reviewer, a 10% reduction was used for pass-by trips applied to restaurant trips. Trip generation and analysis for the restaurant use will be performed for the weekend AM and PM peak period (as determined by the 96-hour counts).
- Project Trip Distribution / Trip Assignment – Net new external project vehicular trips were assigned to the adjacent street network using the appropriate cardinal distribution from the 2045 Miami-Dade Long Range Transportation Plan Update, published by the Transportation Planning Organization. Normal area traffic patterns were considered when assigning project trips. A figure showing all of the assigned project trips to the adjacent transportation network was provided as part of the study.
- Circulation Analysis / Plan – A circulation plan is provided depicting the project site, driveways, location of street signs/signals, crosswalks, sidewalks, location of bus facilities, and bike facilities in the vicinity of this project.
- Intersection Capacity Analysis – The intersection capacity analyses will be conducted for the following conditions:
  - o Existing conditions
  - o Future conditions with background traffic / Committed Developments
  - o Future conditions with Project and background traffic

Intersection analysis will be done using the Synchro software based on the Highway Capacity Manual (HCM). Figures depicting trip distribution for each of these scenarios will be provided as part of this study. In addition to the intersections identified above, all projects driveways will be analyzed. If the results of the analysis show any intersection operating below the City's Level of Service standards, specific mitigation measures will be recommended.

- An extensive Transportation Demand Management plan (TDM) will be included in the report.
- Queuing Observations were done at the east and west Fisher Island ferry terminals for the AM and PM peak hours of a typical weekday.
- Queuing Observations were done at the MacArthur Causeway / Terminal Isle intersection for the AM and PM peak hours of a typical weekday.

## 1.4 Project Site Information

The project is located at 120 MacArthur Causeway (Terminal Island) in Miami Beach, Florida. The project proposes two new office buildings (Building A and B) which will contain approximately 932 employees and a 299-seat restaurant with a fully automated parking garage (located on the north side of building B). The existing six boat berth marina will remain. Access to the site will be provided via Terminal Isle (the internal roadway on Terminal Island) which provides access to MacArthur Causeway. The loading area for the two buildings is located on the west side of the basement level, which spans between both buildings, connecting the two, and acts as a shared loading and service area. Access to the loading area is provided via the project's internal roadway which connects to the two-way basement driveway ramp located on the north side of building B. Project build-out is anticipated by 2023.

## 2.0 EXISTING CONDITIONS

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

### 2.1 Roadway Characteristics

#### MacArthur Causeway (SR A1A)

MacArthur Causeway is a principal arterial that provides east/west access. It is the only roadway connecting Terminal Island, Star Island, Palm Island, Hibiscus Island, and Watson Island to the mainland and the Miami Beach Island. Within the study area, the MacArthur Causeway is a six-lane, two-way, divided roadway with exclusive left-turn and right-turn lanes at major intersections. The causeway also provides merge lanes at intersections to incorporate left turning vehicles into the roadway. Bike lanes are provided along both sides of the roadway. FDOT has jurisdiction over this portion of the MacArthur Causeway. The posted speed limit is 40 mph.

#### Terminal Isle

Terminal Isle is the perimeter road within Terminal Island. The road is a two-lane, two-way undivided roadway east of the MacArthur Causeway intersection and a two-lane, one-way, undivided roadway west of the intersection with MacArthur Causeway. It provides access to the FPL Miami Beach Plant, the Fisher Island ferry terminals: Resident Terminal West (west ferry) and Employee and Contractor Garage and Terminal East (east ferry), and the US Coast Guard Station (located on the east side of the Terminal Island). The City of Miami Beach has jurisdiction over Terminal Isle.

#### Bridge Road

Bridge Road is a two-lane, two-way undivided roadway bridge connecting Star Island to MacArthur Causeway. Bike lanes are provided along both sides of the bridge. The City of Miami Beach has jurisdiction over Bridge Road.

### Alton Road

Alton Road, north of 5th Street, is a minor arterial that provides north/south access all along the City of Miami Beach. South of 5th Street, Alton Road is a collector roadway. Within the study area, Alton Road is a two-way, four-lane divided roadway. The posted speed limit is 30 mph. There is on-street parking provided on portions of the roadway. Bike lanes are provided along both sides of Alton Road south of 4th Street. The City of Miami Beach has jurisdiction over Alton Road south of 5th Street.

### 5<sup>th</sup> Street

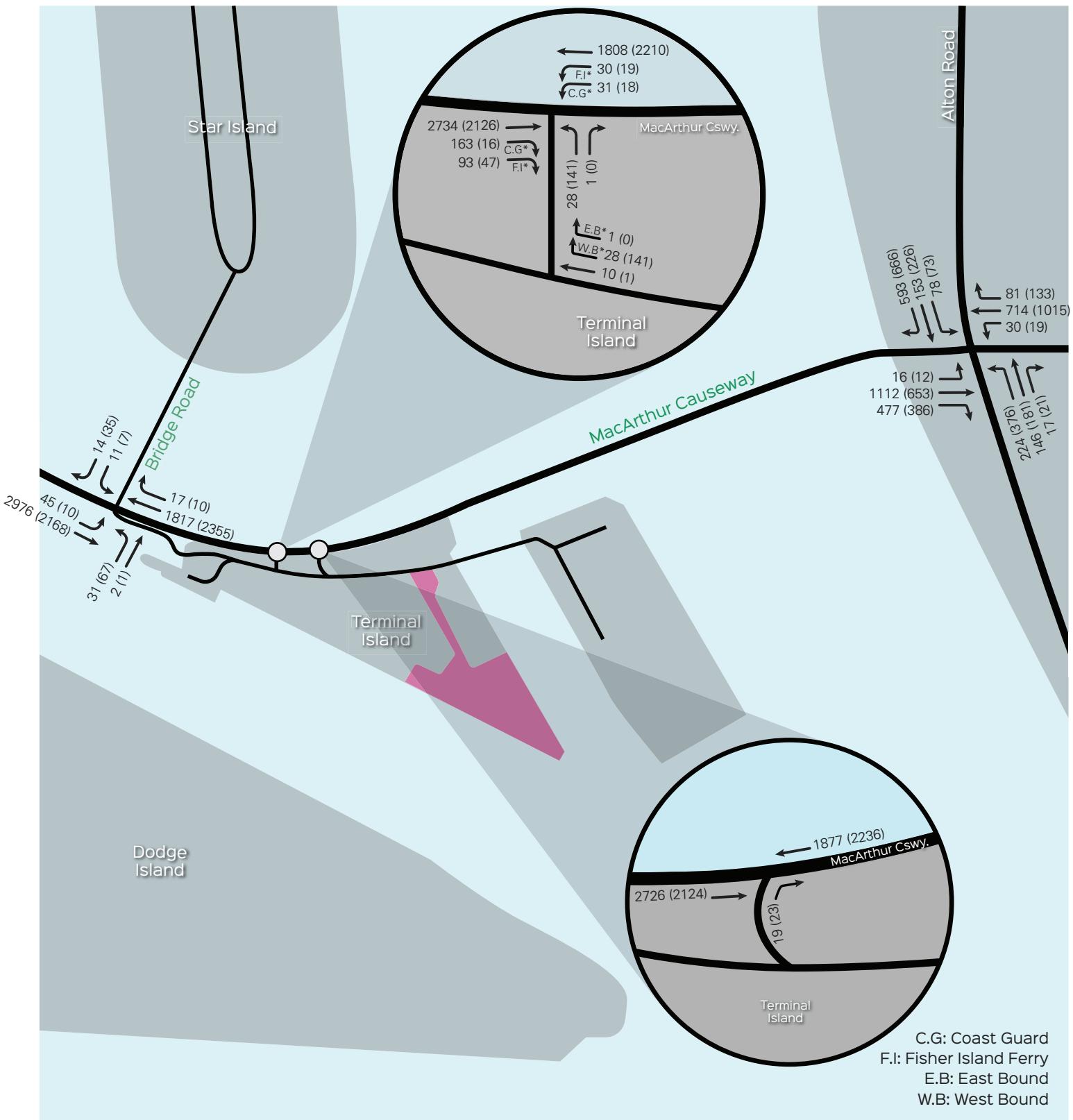
5th Street is a principal arterial that runs east/west across the City of Miami Beach between east of Ocean Drive and Alton Road. The roadway is a two-way, six-lane divided road. There is no on-street parking provided. Bike lanes are provided along both sides of 5th Street east of Lenox Avenue. FDOT has jurisdiction over 5th Street. The posted speed limit is 35mph.

## **2.2 Traffic Counts**

Consistent with the methodology submitted and approved by the City, 96-hour directional counts were collected from August 26, 2021 through August 29, 2021 (Thursday – Sunday) to determine the AM and PM peak hours of a regular weekday and the AM and PM peak hours of a weekend. The counts were collected at the MacArthur Causeway between Bridge Road and Terminal Island and on the Terminal Isle roadway between the MacArthur Causeway / Terminal Isle intersection and the crosswalk to the Employee and Contractor Garage and Terminal East ferry parking garage. Turning movement counts (TMCs) were collected at the intersections under study during the approved AM (5:30 am – 9:30 am) and PM (2:30 – 6:30 pm) peak periods of a typical weekday and the AM (10 am – 12pm) and PM (2:30 pm – 4:30 pm) peak periods of a Saturday (found via the collected 96-hour traffic counts). Traffic counts were collected on Wednesday, September 15, 2021 and Saturday, September 18, 2021. A peak seasonal conversion adjustment factor of 1.06 (Miami-Dade North) corresponding with the date of the counts were obtained from the Florida Department of Transportation (FDOT). Traffic counts are included in Appendix C. Exhibits 2 and 3 show the adjusted existing AM and PM peak hour traffic volumes at the study intersections and roadway segments.

## **2.3 Intersection Data**

Existing signal phasing and timing for all the intersections were obtained from Miami-Dade County. This information was used for the signal phasing and timing required for the intersection capacity analysis and can be seen in Appendix C. A field survey was conducted to obtain the intersection lane configurations to be used in the intersection analysis. Exhibit 4 shows the existing lane configurations at the analyzed intersections.

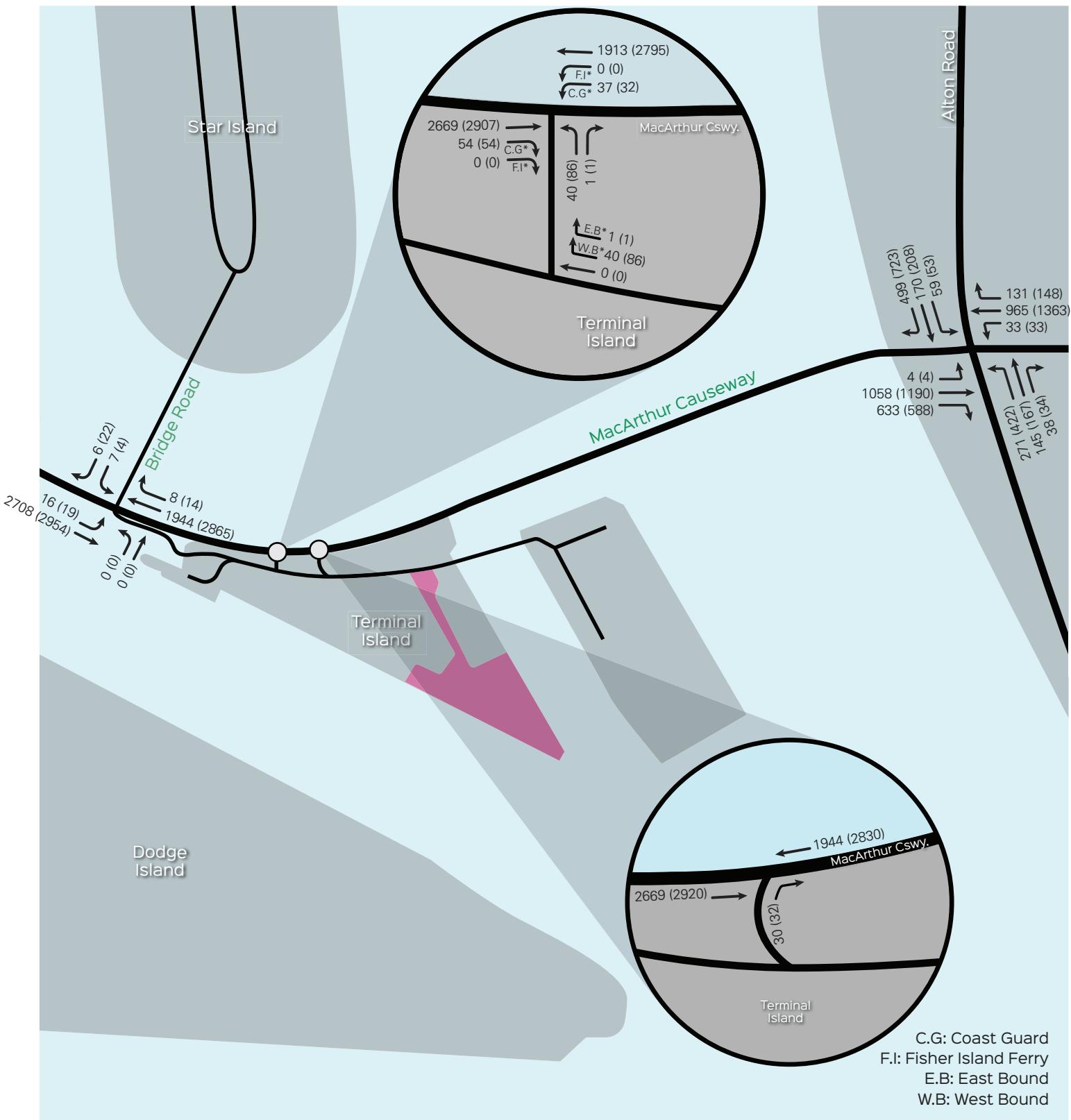


00 AM  
(00) PM

Project Location

## Exhibit 2

Existing Weekday AM & PM Peak Traffic Volumes

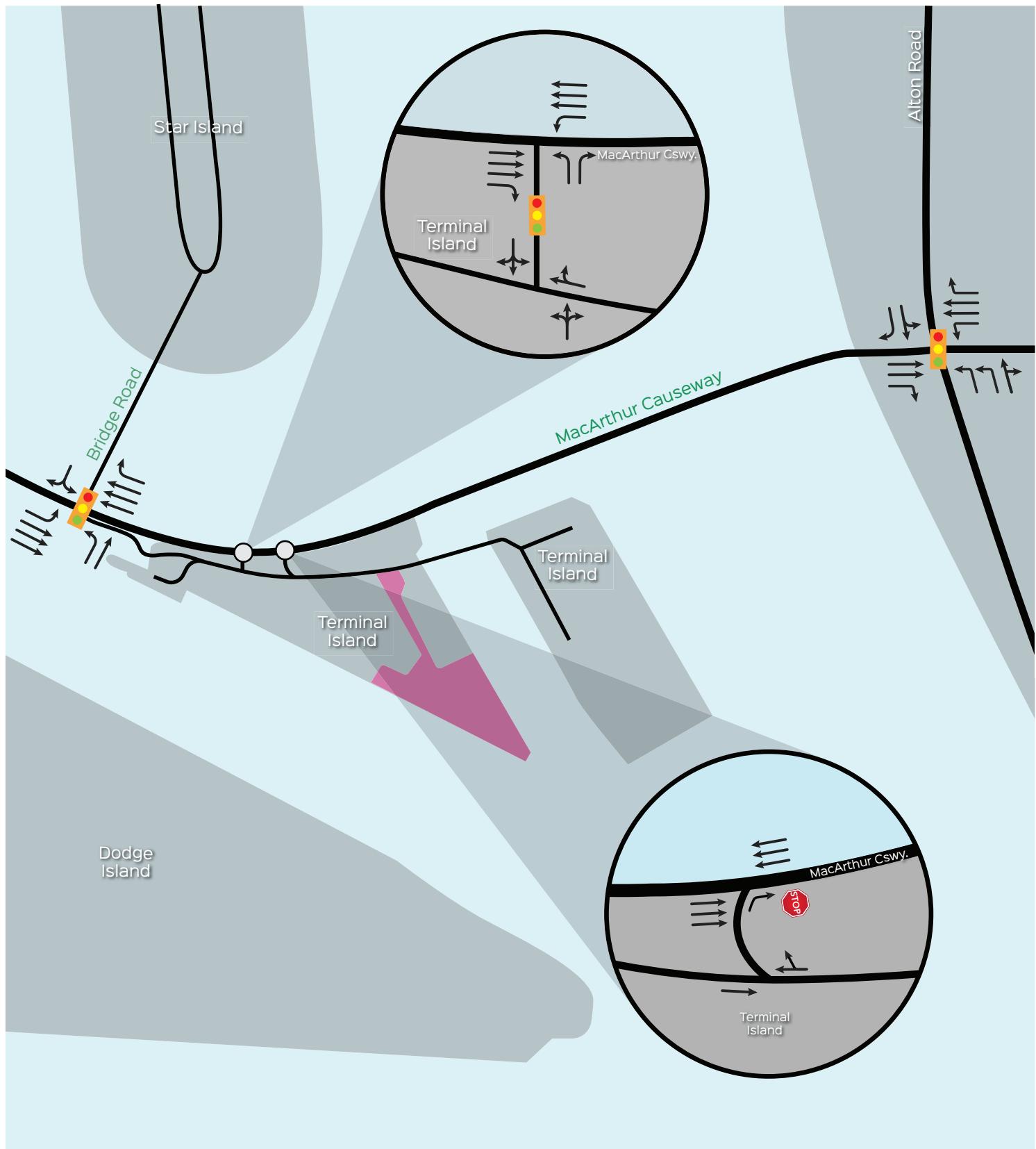


00 AM  
(00) PM

Project Location

## Exhibit 3

Existing Weekend AM & PM Peak Traffic Volumes



■ Project Location

## Exhibit 4

### Existing Lane Configurations

## 2.4 Intersection Capacity Analysis

The Synchro Software, based on procedures of the *Highway Capacity Manual*, was used to perform intersection capacity analysis at the analyzed intersections for the weekday and weekend peak hours. Synchro is a macroscopic analysis and optimization software application that implements the intersection capacity utilization method for determining intersection capacity.

### **2.4.1 Weekday Intersection Capacity Analysis**

Results for the existing weekday conditions intersection analysis show that the overall LOS for the following intersections currently operate at acceptable LOS:

- MacArthur Causeway / Bridge Road
- MacArthur Causeway / Terminal Isle
- Alton Road / 5<sup>th</sup> Street
- MacArthur Causeway / Terminal Island exclusive right-turn

The westbound left approach of the Terminal Isle / MacArthur Causeway intersection currently experiences delays during the AM peak hour. The northwest bound approach (Terminal Island approach) at the MacArthur Causeway / Terminal Isle intersection currently experience delays during the afternoon peak hour. The northbound and southbound approaches of the MacArthur Causeway / Bridge Road intersection currently experience delays during both the morning and afternoon peak hours. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection currently experiences delays during both the morning and afternoon peak hours. This may be due to the fact that the county gives priority to vehicles traveling east/west along MacArthur Causeway, therefore, accepting delays on cross-streets. Exhibit 5 shows the resulting LOS for the existing weekday AM and PM peak hour conditions. Analysis worksheets are included in Appendix D. It should be noted that field observations of the MacArthur Causeway / Terminal Isle intersection (Section 6.2) showed that on average, one cycle of green time for the MacArthur Causeway westbound left turning movement was sufficient to clear any vehicles queued in the westbound left turn lane and that it took a maximum of two cycles to clear the lane.

**Exhibit 5: Existing Weekday Intersection Capacity Analysis**  
**Weekday AM and PM Peak Hour Conditions**

Intersection	Signalized/ Un-signalized	Direction	AM Peak LOS	Delay (Sec)	PM Peak LOS	Delay (Sec)	LOS Standard
MacArthur Causeway / Bridge Road (Star Island)	S	NB	F	124.1	F	128.9	D+50
		SB	F	108.1	F	100.4	D
		EB	A	8.0	B	11.1	D+50
		WB	A	8.5	B	17.1	D+50
		<b>Overall</b>	<b>A</b>	<b>9.5</b>	<b>B</b>	<b>16.7</b>	<b>D+</b>
MacArthur Causeway / Terminal Isle	S	NB <sub>FPL</sub>	A	0.0	A	0.0	D+50
		NWB <sub>T.I.</sub>	D+27	69.8	F	91.9	D+50
		EB <sub>Cswy.</sub>	B	15.6	B	12.1	D+50
		WBL <sub>Cswy.</sub>	F	84.0	D+42	78.2	D+50
		<b>Overall</b>	<b>B</b>	<b>17.6</b>	<b>B</b>	<b>17.9</b>	<b>D+50</b>
Alton Road / 5 <sup>th</sup> Street	S	NB	F	84.3	F	91.5	D+50
		SB	C	25.5	C	26.3	D+50
		EB	C	31.9	C	24.0	D+50
		WB	C	21.2	C	22.5	D+50
		<b>Overall</b>	<b>C</b>	<b>33.6</b>	<b>C</b>	<b>34.5</b>	<b>D+50</b>
MacArthur Causeway / Terminal Isle exclusive right-turn	U	NB	D	34.4	D	30.9	D+50

Source: David Plummer & Associates

#### **2.4.2 Weekend Intersection Capacity Analysis**

Results for the weekend existing conditions intersection analysis show that the overall LOS for all of the study intersections currently operate at acceptable LOS. The southbound approach of the MacArthur Causeway / Bridge Road intersection currently experiences delays during both the morning and afternoon peak hours. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection experiences delays during the morning and afternoon peak hours. This may be due to the fact that the county gives priority to vehicles travelling east / west through this area, therefore, accepting delays on cross-streets. Exhibit 6 shows the resulting LOS for the existing weekend AM and PM peak hour conditions. Analysis worksheets are included in Appendix D.

**Exhibit 6: Existing Weekend Intersection Capacity Analysis**  
**Weekend AM and PM Peak Hour Conditions**

Intersection	Signalized/ Un-signalized	Direction	AM Peak LOS	Delay (Sec)	PM Peak LOS	Delay (Sec)	LOS Standard
MacArthur Causeway / Bridge Road (Star Island)	S	NB	A	0.0	A	0.0	D+50
		SB	F	94.6	F	96.8	D
		EB	A	6.1	A	2.9	D+50
		WB	A	7.3	A	5.7	D+50
		<b><i>Overall</i></b>	<b>A</b>	<b>6.8</b>	<b>A</b>	<b>4.7</b>	<b>D+</b>
MacArthur Causeway / Terminal Isle	S	NB <sub>FPL</sub>	A	0.0	A	0.0	D+50
		NWB <sub>T.I</sub>	D+27	69.7	D+25	68.6	D+50
		EB <sub>Cswy.</sub>	A	8.6	B	10.3	D+50
		WBL <sub>Cswy.</sub>	D+31	72.2	D+30	71.6	D+50
		<b><i>Overall</i></b>	<b>B</b>	<b>10.4</b>	<b>B</b>	<b>12.6</b>	<b>D+50</b>
Alton Road / 5 <sup>th</sup> Street	S	NB	F	86.0	F	114.6	D+50
		SB	C	28.7	C	27.3	D+50
		EB	C	27.6	C	29.7	D+50
		WB	B	18.7	C	22.7	D+50
		<b><i>Overall</i></b>	<b>C</b>	<b>31.9</b>	<b>D</b>	<b>114.6</b>	<b>D+50</b>
MacArthur Causeway / Terminal Isle exclusive right-turn	U	NB	D+4	36.3	D+30	45.4	D+50

Source: David Plummer & Associates

## **3.0 PLANNED AND PROGRAMMED ROADWAY IMPROVEMENTS**

The 2021 and 2022 Miami-Dade County *Transportation Improvement Program* (TIP) documents, the *2045 Long Range Transportation Program* (LRTP), and the City of Miami Beach's Transportation Master Plan Final Report (with updates) were reviewed to identify any programmed projects within the limits of the established study area. The following improvements were found within the study area:

### **Roadway Improvements**

**DT2511563** – Port of Miami Tunnel – New Road Construction from Port of Miami to SR 836 / I-395

**DT2516881** – SR 836/I-395 – Bridge, replace and add lanes from West of I-95 to MacArthur Causeway Bridge

### **Transit / Pedestrian Improvements**

**DT4434321** – SR A1A/MacArthur Causeway Pedestrian/ Bicycle Bike Path Trial from SR-5/Biscayne Blvd to SR-907/Alton Road

**TA4466531** – City of Miami Beach – South Beach Trolley Service Route

**TA4389421** – MDT Beach Connection South – Beach connection express bus service

**TA000109** – DTPW – Smart Plan Corridors T.R.I.P. Capital Expenditures, Transit improvements

**MDT135** – Beach Corridor – Rapid transit from Midtown Miami/Downtown to Miami Beach Convention Center

**MDT231** – Beach Express South – Implement bus express rapid transit service from downtown intermodal terminal to Miami Beach convention Center

**SR A1A / MacArthur Causeway Complete Streets Feasibility Study** – Review of multimodal feasibility alternatives along MacArthur Causeway

**SR A1A / 5<sup>th</sup> Street and SR 907 / Alton Road Intersection Improvements** – Bike/Pedestrian improvements, enhanced crosswalks and sidewalk crossings

**SR A1A / MacArthur Causeway and SR A1A / 5<sup>th</sup> Street's Feasibility Study of Adaptive Signal Controls** – Roadway adaptive signal improvements (not included in study per

discussions with reviewer and area signal engineer as project is still in planning stages and no construction / improvement schedule has been implemented)

**SR A1A / MacArthur Causeway Light Rail Connection / Shared-Use Path** – Light rail connection across the bay, bike lane and pedestrian improvements. (Still in planning stages)

These improvements show no officially programmed or planned capacity improvement projects at the study intersections prior to completion of the proposed project. Therefore, no capacity improvements were included in the analysis. Committed roadway project documentation is included in Appendix E.

## 4.0 FUTURE TRAFFIC CONDITIONS

### 4.1 Background Traffic and Committed Developments

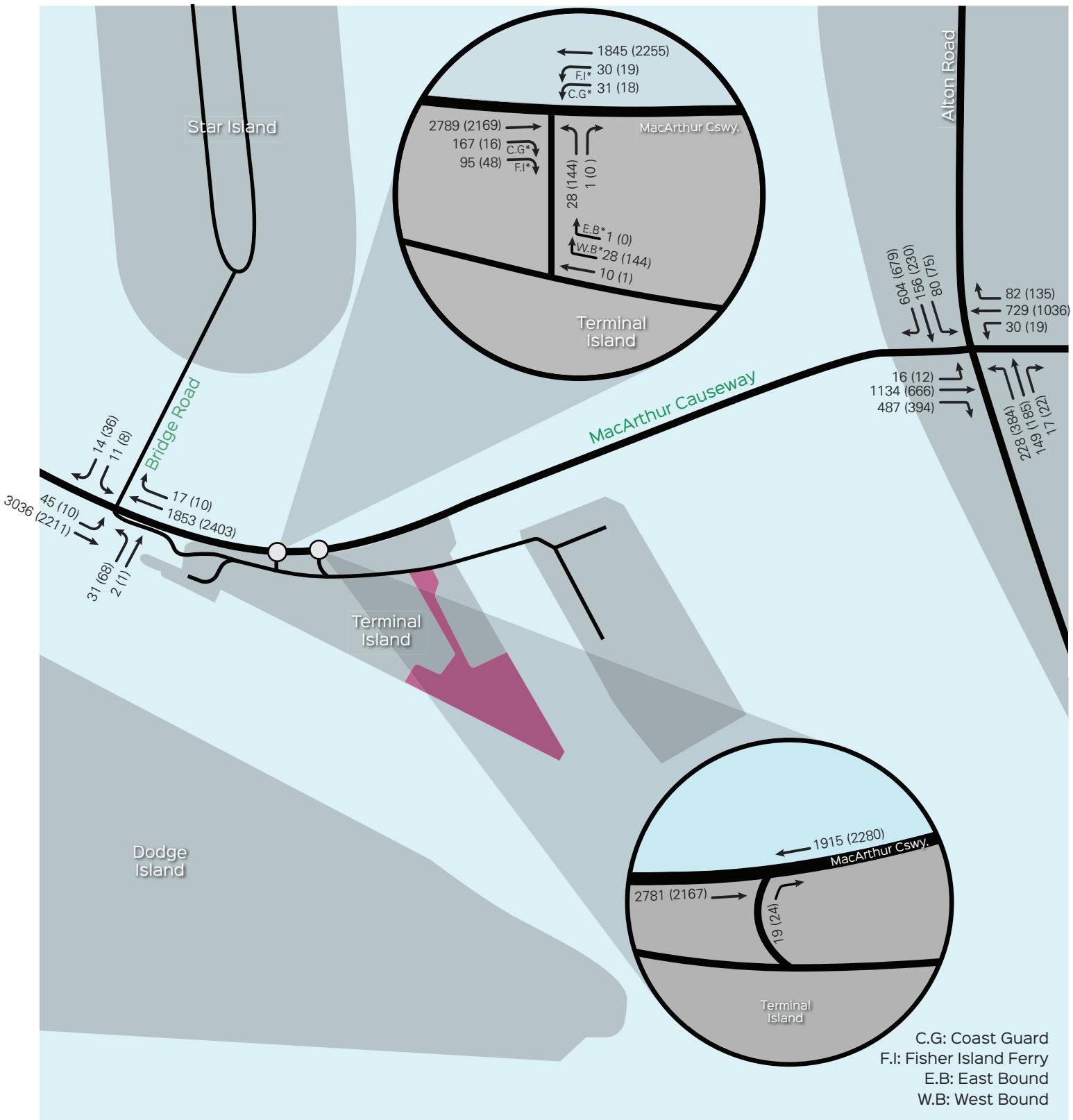
Average Daily Traffic (ADT) counts published by FDOT were reviewed to determine historic growth in the area. This analysis indicated that the annual growth rate from 2015 to 2019 is -1.3% for the past five years; year 2020 data was excluded due to the irregular traffic patterns caused by the Covid-19 pandemic. However, for a conservative analysis, an annual growth rate of 0.5% was used to project future background traffic conditions. In order to account for traffic associated with any additional, unknown committed developments in the area, an additional 0.5% of growth was applied to the growth rate used in the analysis. Historic growth rate documentation is included in Appendix C.

### 4.2 Future without Project Intersection Capacity Analysis

#### 4.2.1 Weekday Intersection Capacity Analysis

Future without project weekday turning movement volumes were obtained by applying two additional years of background growth to the existing network. Exhibit 7 shows the projected weekday AM and PM peak hour turning movement counts for future without project conditions. The Synchro Software was used to perform intersection capacity analysis at the analyzed intersections for the weekday and weekend peak hours. Results for intersection analysis for future without project weekday conditions show that the overall LOS for all of the study intersections continue to operate at acceptable LOS.

As with existing conditions, the northbound and southbound approaches of the MacArthur Causeway / Bridge Road intersection continue to experience delays during both the morning and afternoon peak hours. The westbound left approach of the Terminal Isle / MacArthur Causeway intersection is projected to experience delays during the morning peak hour. The northwest bound approach (Terminal Isle approach) at the MacArthur Causeway / Terminal Isle intersection continues to experience delays during the afternoon peak hour. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection also continues to experience delays during the morning and afternoon peak hours.



00 AM  
(00) PM

Project Location

## Exhibit 7

Future Without Project Weekday AM and PM Peak Hour Volumes

These delays may be due to the fact that the County gives priority to vehicles traveling east / west along MacArthur Causeway, therefore, accepting delays on cross streets. Exhibit 8 shows the resulting LOS for the future without project conditions during the weekday AM and PM peak hours. Analysis worksheets are included in Appendix D.

**Exhibit 8: Future without Project Weekday Intersection Capacity Analysis  
Weekday AM and PM Peak Hour Conditions**

Intersection	Signalized/ Un-signalized	Direction	AM Peak LOS	Delay (Sec)	PM Peak LOS	Delay (Sec)	LOS Standard
MacArthur Causeway / Bridge Road (Star Island)	S	NB	F	124.1	F	128.9	D+50
		SB	F	108.1	F	100.5	D
		EB	A	8.3	B	11.4	D+50
		WB	A	8.6	B	17.6	D+50
		<b>Overall</b>	<b>A</b>	<b>9.6</b>	<b>B</b>	<b>17.1</b>	<b>D+</b>
MacArthur Causeway / Terminal Isle	S	NBFPL	A	0.0	A	0.0	D+50
		NWB <sub>T.I.</sub>	D+27	69.8	F	94.2	D+50
		EB <sub>Cswy.</sub>	B	16.1	B	12.3	D+50
		WBL <sub>Cswy.</sub>	F	84.0	D+42	78.2	D+50
		<b>Overall</b>	<b>B</b>	<b>18.1</b>	<b>B</b>	<b>18.2</b>	<b>D+50</b>
Alton Road / 5 <sup>th</sup> Street	S	NB	F	84.4	F	96.1	D+50
		SB	C	25.7	C	27.1	D+50
		EB	C	32.8	C	24.3	D+50
		WB	C	21.6	C	22.8	D+50
		<b>Overall</b>	<b>C</b>	<b>34.2</b>	<b>D</b>	<b>35.6</b>	<b>D+50</b>
MacArthur Causeway / Terminal Isle exclusive right-turn	U	NB	D+2	35.7	D	32.2	D+50

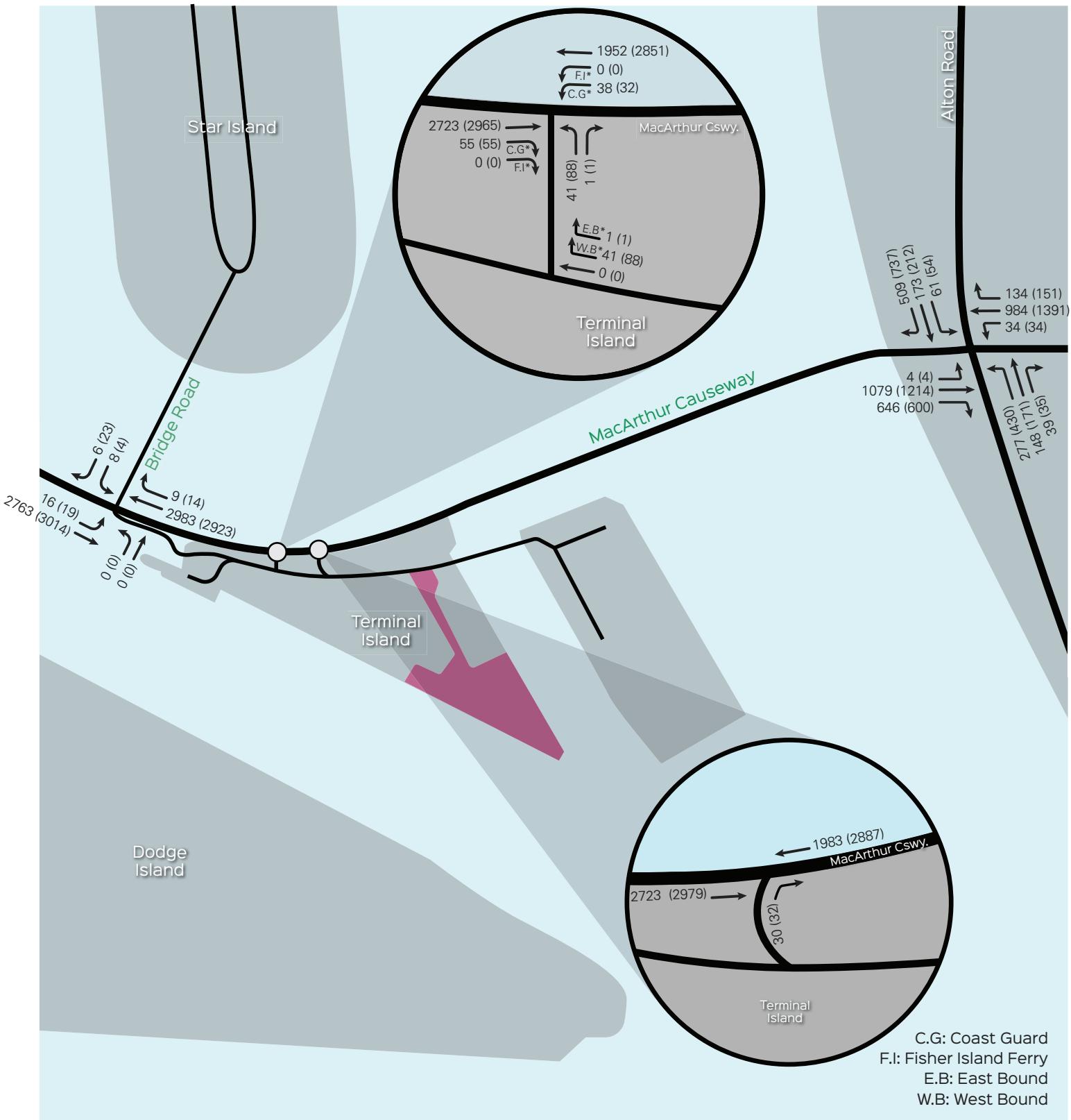
Source: David Plummer & Associates

#### **4.2.1 Weekend Intersection Capacity Analysis**

Future without project weekend turning movement volumes were obtained by applying two additional years of background growth to the existing network. Exhibit 9 shows the projected weekend AM and PM peak hour turning movement counts for future without project conditions.

The Synchro Software was used to perform intersection capacity analysis at the analyzed intersections for the weekday and weekend peak hours. Exhibit 10 shows the resulting LOS for the future without project conditions during the weekend AM and PM peak hours. Results for intersection analysis for future without project weekday conditions show that the overall LOS for all of the studied intersections continue to operate at an acceptable LOS.

As with existing conditions, the southbound approach of the MacArthur Causeway / Bridge Road intersection continues to experience delays during both the morning and afternoon peak hours. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection also continues to experience delays during both the morning and afternoon peak hours. Analysis worksheets are included in Appendix D.



00 AM  
(00) PM

Project Location

## Exhibit 9

Future Without Project Weekend AM and PM Peak Hour Volumes

**Exhibit 10: Future without Project Weekend Intersection Capacity Analysis**  
**Weekend AM and PM Peak Hour Conditions**

Intersection	Signalized/ Un-signalized	Direction	AM Peak LOS	Delay (Sec)	PM Peak LOS	Delay (Sec)	LOS Standard
MacArthur Causeway / Bridge Road (Star Island)	S	NB	A	0.0	A	0.0	D+50
		SB	F	95.1	F	96.7	D
		EB	A	6.3	A	3.0	D+50
		WB	A	7.4	A	5.9	D+50
		<b>Overall</b>	<b>A</b>	<b>7.0</b>	<b>A</b>	<b>4.9</b>	<b>D+</b>
MacArthur Causeway / Terminal Isle	S	NB <sub>FPL</sub>	A	0.0	A	0.0	D+50
		NWB <sub>T.I</sub>	D+27	69.7	D+25	68.6	D+50
		EB <sub>Cswy.</sub>	A	8.9	B	10.7	D+50
		WBL <sub>Cswy.</sub>	D+31	72.0	D+30	71.6	D+50
		<b>Overall</b>	<b>B</b>	<b>10.7</b>	<b>B</b>	<b>13.0</b>	<b>D+50</b>
Alton Road / 5 <sup>th</sup> Street	S	NB	F	87.5	F	119.9	D+50
		SB	C	29.2	C	27.8	D+50
		EB	C	28.3	C	30.5	D+50
		WB	C	19.0	C	23.3	D+50
		<b>Overall</b>	<b>C</b>	<b>32.6</b>	<b>D</b>	<b>39.0</b>	<b>D+50</b>
MacArthur Causeway / Terminal Isle exclusive right-turn	U	NB	D+8	37.8	D+37	47.8	D+50

Source: David Plummer & Associates

## 4.3 Project Trip Generation

Weekday trip generation for the proposed project was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10<sup>th</sup> Edition, which provides gross trip generation rates and/or equations by land use type. These rates and equations estimate vehicle trip ends at a free-standing site's driveways.

The proposed development plan incorporates office and restaurant land uses, which can satisfy the lunch/diner trip for some employees and visitors without making a trip off-site. An internalization matrix was developed to establish the appropriate number of internal project trips. Internal capture rates used are also included in Appendix F.

ITE research shows that a certain percent of restaurant trips are “*pass-by*” trips. These are described as trips “attracted from the traffic passing the site on an adjacent street.” These are not new trips, but trips already using the existing roadway network that stop at the proposed use and go back to their original path. Pass-by trips for this use were established based on guidelines provided in ITE’s *Trip Generation Handbook* 3<sup>rd</sup> Edition. The average pass-by rate published by ITE for Restaurant use is 44% during the PM peak hour however, as discussed with the City reviewer, a 10% reduction was used for pass-by trips applied to restaurant trips.

The study area is pedestrian and bicyclist friendly and transit is readily available (see Section 5 of this report for additional pedestrian and transit information). US Census data shows an existing 12.9% overall use of other modes of transportation in the US Census Tract 9810 where the project is located (see Appendix F). However, for a conservative analysis and as discussed with the City reviewer, a 3% reduction will be used for other modes of transportation. The weekday project trip generation summary is provided in Exhibit 11.

## Exhibit 11: Weekday AM and PM Peak Hour Project Trip Generation Summary

Proposed ITE Land Use Designation <sup>1</sup>	Size/Units	Daily (Two-way)	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Office (Land Use 710)	932 Employees	2,922	200	41	241	55	220	275
Restaurant (Land Use 931)	299 Seats	778	3	3	6	56	28	84
<b>Gross External Trips</b>	<b>3,700</b>	<b>203</b>	<b>44</b>	<b>247</b>	<b>111</b>	<b>248</b>	<b>359</b>	
Internalization AM, PM	1.6%, 1.1%	-2	-2	-4	-2	-2	-2	-4
Other Modes of Transportation <sup>2</sup>	3%	-6	-1	-7	-4	-8	-8	-12
Pass-By Restaurant (PM) <sup>3</sup>	10%	0	0	0	-4	-4	-4	-8
<b>Proposed Net External Trips</b>		<b>195</b>	<b>41</b>	<b>236</b>	<b>101</b>	<b>234</b>	<b>335</b>	

<sup>1</sup> Based on ITE Trip Generation Manual, 10th Edition

<sup>2</sup> Based on US Census (Tract 9810) is 12.9%, however a 3% was used.

<sup>3</sup> Based on ITE Trip Generation Handbook, 3rd Edition (PM pass-by) is 44%, however 10% was used.

Based on the 96-hour counts collected on the roadways, it was determined that Saturday experiences the most weekend trips to / from the island. Thus, the weekend trip generation was based on the Saturday trip generation. As only the restaurant is proposed to be open on the weekends, the office use (LU 710) was excluded from the trip generation. The weekend project trip generation summary is provided in Exhibit 12. Weekend trip generation for the proposed project was estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition, which provides gross trip generation rates and/or equations by land use type. These rates and equations estimate vehicle trip ends at a free-standing site's driveways. A 3% reduction will be used for other modes of transportation. ITE trip generation worksheets are provided in Appendix F.

### Exhibit 12: Saturday Peak Hour Project Trip Generation Summary

Proposed ITE Land Use Designation <sup>1</sup>	Size/Units	Daily (Two-way)	Peak Hour of Generator Vehicle Trips		
			In	Out	Total
Office (Closed) <sup>2</sup> (Land Use 710)	932 Employees	-	-	-	-
Restaurant (Land Use 931)	299 Seats	768	58	41	99
<b>Gross External Trips</b>			<b>768</b>	<b>58</b>	<b>41</b>
Other Modes of Transportation <sup>3</sup>	3%	-23	-2	-1	-3
<b>Proposed Net External Trips</b>			<b>745</b>	<b>56</b>	<b>40</b>
					<b>96</b>

<sup>1</sup> Based on ITE Trip Generation Manual, 10th Edition, Saturday peak hour of generator used AM and PM trip generator for a more conservative analysis

<sup>2</sup> The office is expected to be closed on the Weekend therefore.

<sup>3</sup> Transit reduction based on US Census Tract 9810 (12.9%), a 3% transit reduction was used at the City's request.

## 4.4 Project Trip Assignment

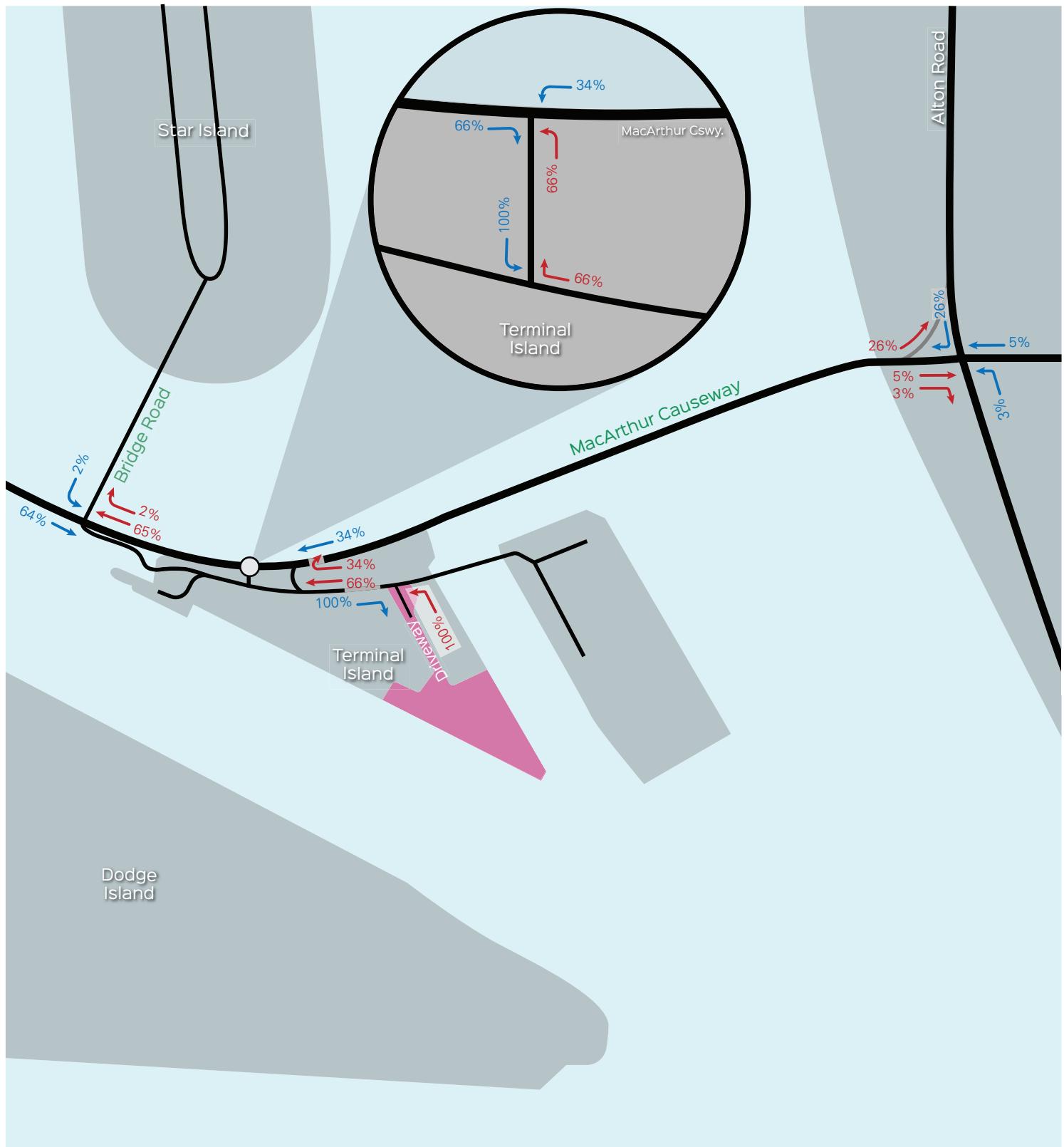
Project traffic was distributed and assigned to the study area using the Cardinal Distribution for TAZ 651 shown in Exhibit 13. The Cardinal Distribution gives a generalized distribution of trips from a TAZ to other parts of Miami-Dade County (see Appendix C). The TAZ can be summarized as 46% to the north, 1% from the south, 8% from the east, and 45% to the west.

### Exhibit 13: Cardinal Distribution (TAZ 651)

DIRECTION	2015	2045	2023
NNE	30.2%	18.6%	27.11%
ENE	2.0%	1.2%	1.79%
ESE	6.3%	4.4%	5.79%
SSE	0.0%	0.0%	0.00%
SSW	1.2%	1.6%	1.31%
WSW	13.4%	22.7%	15.88%
WNW	27.2%	35.8%	29.49%
NNW	19.6%	15.8%	18.59%

Source: Long Range Transportation Plan

For estimating trip distribution for the project traffic, consideration was given to conditions such as the roadway network accessed by the project traffic, roadways available to travel in the desired direction, and attractiveness of traveling on a specific roadway. Exhibit 14 shows the project trip distribution for the project. Exhibit 15 shows the project trip assignment for the weekday AM and PM peak hours for the project. (For a more conservative analysis, PM peak hour pass-by trips were not deducted in the analysis as the eight pass-by trips would be diverted from MacArthur Causeway onto Terminal Island). Exhibit 16 shows the project trip assignment for the weekend peak hour for the project. As previously stated, ITE LU 931 only provides one, unspecified peak hour trip generation for Saturday.

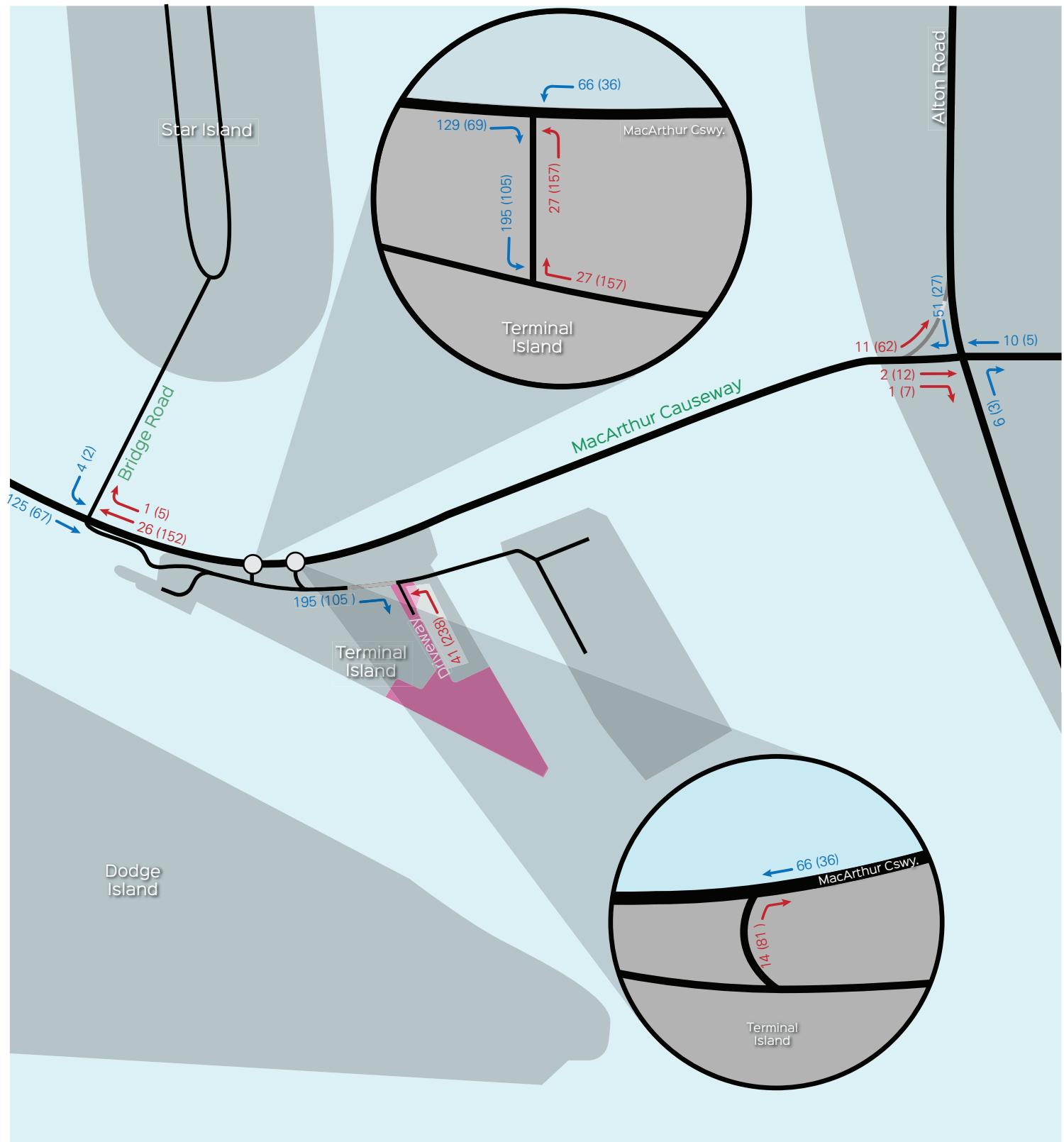


% In  
% Out

Project Location

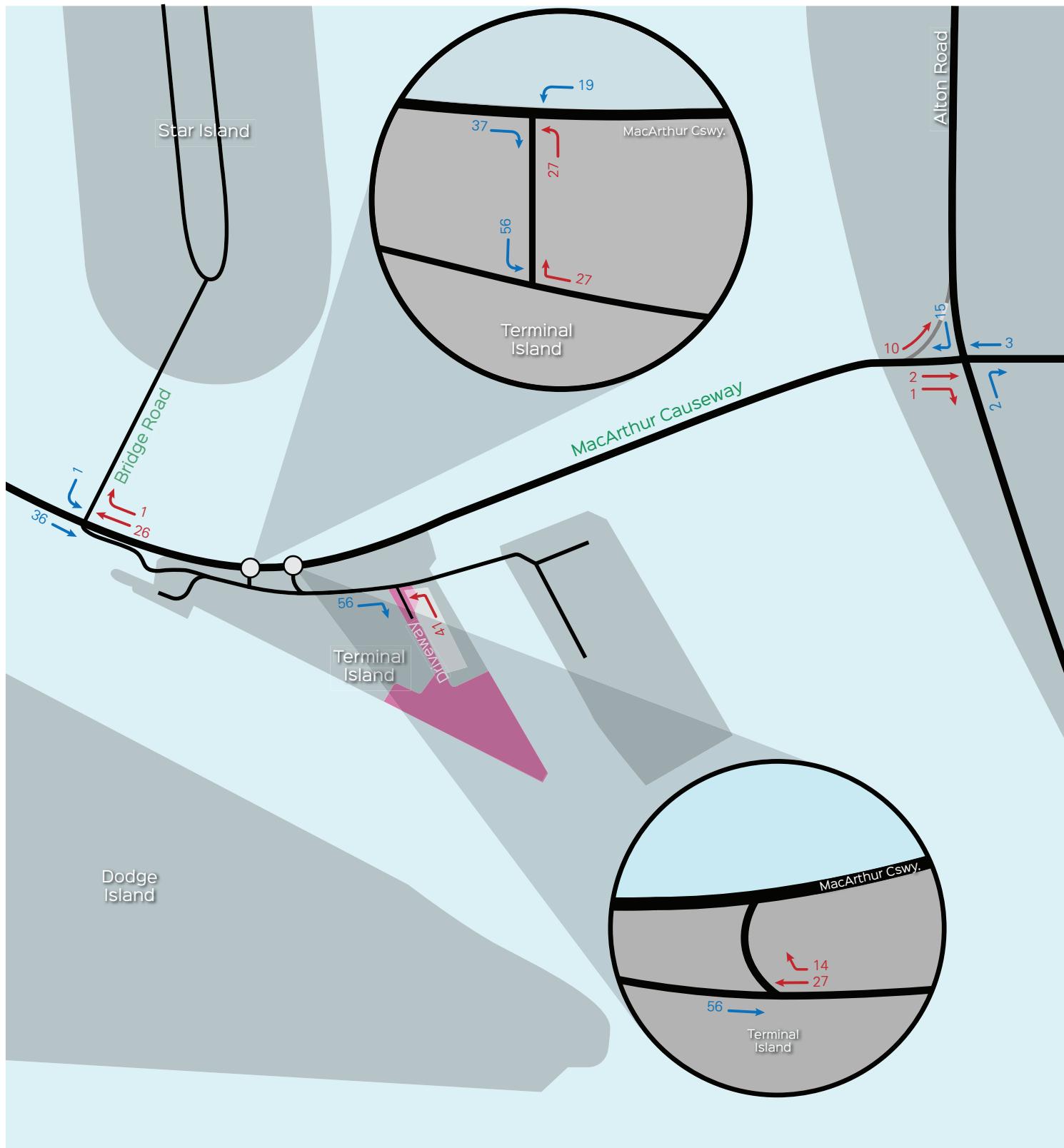
## Exhibit 14

Project Trip Distribution



## Exhibit 15

Project Trip Assignment - Weekday



## Exhibit 16

Project Trip Assignment - Weekend

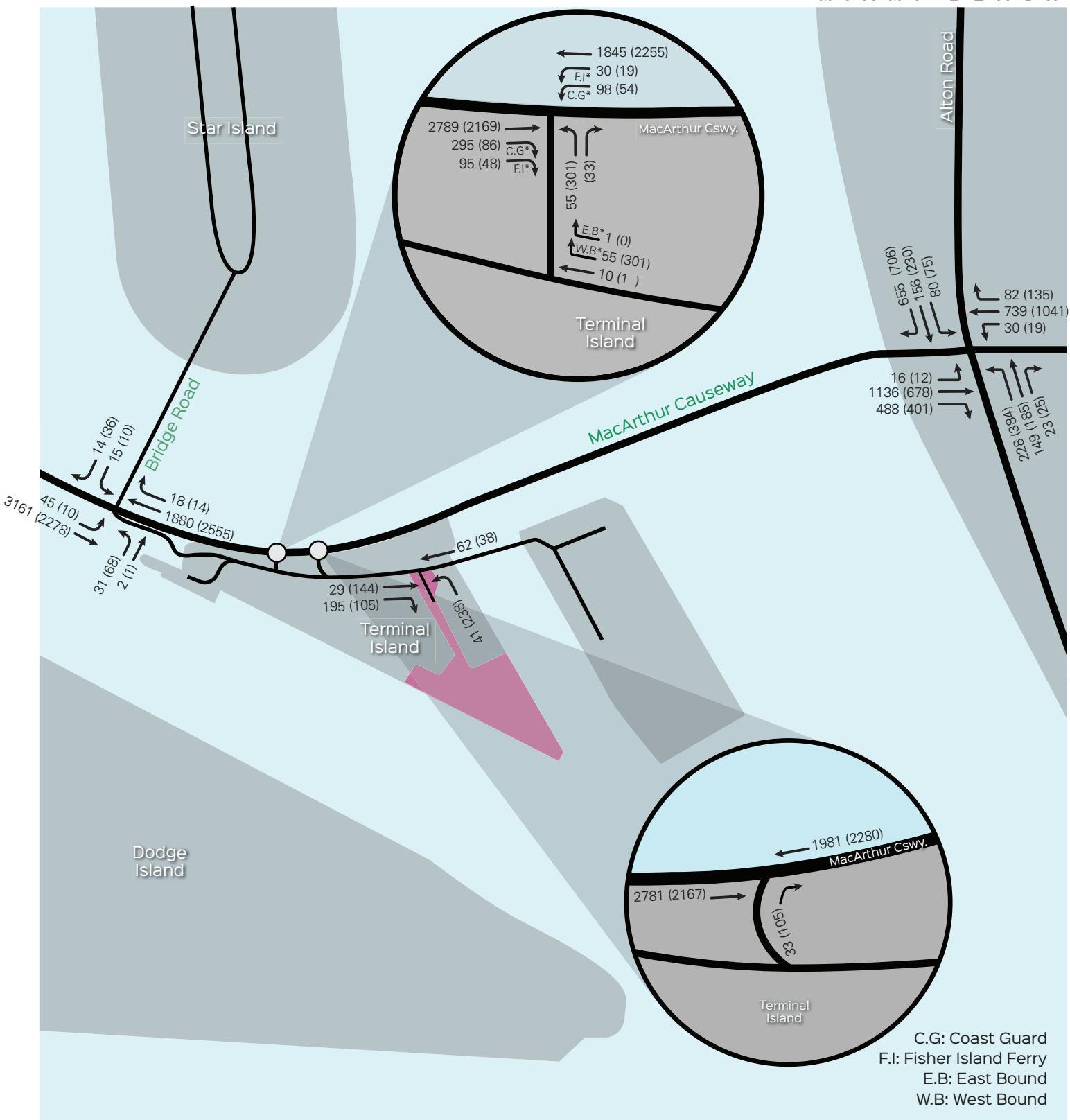


## **4.5 Future with Project Intersection Capacity Analysis**

### **4.5.1 Weekday Intersection Capacity Analysis**

Future background traffic and traffic projections for the project were combined to obtain weekday future traffic with project at the analyzed intersections. Exhibit 17 shows the projected turning movement volumes for weekday future with project conditions. Results of the future with the project conditions intersection analysis are displayed in Exhibit 18. The results show that the overall LOS for the studied intersections are projected to continue to operate within the LOS standards established by the City of Miami Beach.

As with the existing and future without project conditions, the northbound and southbound approaches of the MacArthur Causeway / Bridge Road intersection continue to experience delays during both the morning and afternoon peak hours. This is an existing condition; the project adds no delay to these approaches during the AM peak hour and adds no delay to the northbound approach and less than one second of delay to the southbound approach during the PM peak hour. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection also continues to experience delays during both the morning and afternoon peak hours. It should be noted that the project adds less than two seconds of delay to the northbound approach during the AM and PM peak hours. These delays may be due to the fact that the county gives priority to vehicles travelling east / west through this area, therefore, accepting delays on cross-streets. As with existing and future without project conditions, the westbound left approach of the Terminal Isle / MacArthur Causeway intersection continues to experience delays during the AM peak hour and the northwest bound approach (Terminal Isle approach) at the MacArthur Causeway / Terminal Isle intersection experiences delays during the afternoon peak hour. It should be noted that this is an existing condition and the project represents less than 5% and 6% of the total projected intersection volume during the morning and afternoon peak hours, respectively. Signal timing improvements are recommended to mitigate the effects of the project. Adding green time to the westbound left turning movement reduces delays and improves the intersections overall delay. The project driveway was analyzed and the results show adequate operations. Intersection capacity worksheets are included in Appendix D.



00 AM  
(00) PM

Project Location

## Exhibit 17

Future With Project Weekday AM and PM Peak Hour Volumes

**Exhibit 18: Future with Project Weekday Intersection Capacity Analysis**  
**Weekday AM and PM Peak Hour Conditions**

Intersection	Signalized/ Un-signalized	Direction	AM Peak LOS	Delay (Sec)	PM Peak LOS	Delay (Sec)	LOS Standard
MacArthur Causeway / Bridge Road (Star Island)	S	NB	F	124.1	F	128.9	D+50
		SB	F	106.1	F	100.7	D
		EB	A	9.6	B	11.8	D+50
		WB	A	9.4	B	19.2	D+50
		<i>Overall</i>	<i>B</i>	<b>10.8</b>	<b>B</b>	<b>18.1</b>	<b>D+</b>
MacArthur Causeway / Terminal Isle*	S	NBFPL	A	0.0	A	0.0	D+50
		NWB <sub>T.I.</sub>	D+25	68.7	F	93.4	D+50
		EB <sub>Cswy.</sub>	C	28.9	C	26.0	D+50
		WBL <sub>Cswy.</sub>	D+28	70.4	D+37	75.2	D+50
		<i>Overall</i>	<i>C</i>	<b>31.2</b>	<b>C</b>	<b>34.9</b>	<b>D+50</b>
Alton Road / 5 <sup>th</sup> Street	S	NB	F	85.3	F	97.5	D+50
		SB	C	24.1	C	26.5	D+50
		EB	C	33.2	C	24.4	D+50
		WB	C	21.9	C	22.9	D+50
		<i>Overall</i>	<i>C</i>	<b>34.0</b>	<b>D</b>	<b>35.6</b>	<b>D+50</b>
MacArthur Causeway / Terminal Isle exclusive right-turn	U	NB	D+14	39.9	D+26	44.1	D+50
Terminal Isle / Project Driveway	U	NB	A	9.8	B	12.6	N/A

\*LOS after PM peak hour signal timing

Source: David Plummer & Associates

The approximate existing storage length and the projected 95<sup>th</sup> percentile back of queue at all the exclusive turn lanes for the weekday AM and PM peak hour conditions are displayed in Exhibit 19. The results show that the existing storage lengths at the intersection of MacArthur Causeway and Bridge Road has enough capacity to accommodate the projected 95<sup>th</sup> percentile back of queues.

The projected 95<sup>th</sup> percentile back of queue for the eastbound right turn lane at the MacArthur Causeway / Terminal Isle intersection is currently and projected to exceed the storage length during the AM peak hour. It should be noted that the Synchro software may be overestimating the 95<sup>th</sup> percentile back of queue (BOQ) for the eastbound right turn lane. Field observations of the eastbound right turn lane made during the AM peak hour (see Section 6 for more information)

showed a maximum queue of six vehicles. However, the software is reporting an existing queue length of 273 feet, approximately 12 vehicles, during the AM peak hour. The westbound left turn lane at the MacArthur Causeway / Terminal Isle intersection is also projected to exceed the storage length during the AM and PM peak hours.

The Alton Road / 5<sup>th</sup> Street intersection eastbound right turning lane's 95<sup>th</sup> percentile back of queue is projected to exceed the existing storage length during the AM peak hour. The Alton Road / 5<sup>th</sup> Street intersection northbound left turning lane's 95<sup>th</sup> percentile back of queue is also projected to exceed the existing storage length during the PM peak hour. It should be noted that these are existing conditions, the project adds no queue to the BOQ at these turning lanes.

**Exhibit 19: Weekday Projected 95<sup>th</sup> Percentile Back of Queues and Existing Storage Length (Feet)**

Intersection	Direction	Existing		Future without Project		Future with Project		Existing Storage Length
		AM	PM	AM	PM	AM	PM	
MacArthur Causeway / Bridge Road (Star Isle)	EBL WBR SBL <sup>1</sup>	118	26	118	26	118	26	145
		0	0	0	0	0	0	110
		43	32	43	34	54	38	600+
MacArthur Causeway / Terminal Isle	EBR <sub>Cswy.</sub> WBL <sub>Cswy.</sub>	210	57	214	58	397	145 <sup>3</sup>	170
		123	85	123	85	218	140 <sup>3</sup>	170/213 <sup>4</sup>
Alton Road / 5 <sup>th</sup> Street	EBR WBL WBR NBL SBR <sup>2</sup>	316	58	332	59	332	59	260
		115	49	115	49	115	49	140
		29	32	30	32	30	32	280
		188	291	192	299	192	299	240
		0	0	0	0	0	0	350+

<sup>1</sup>SBL movement occurs from continues through lane

Source: David Plummer & Associates

<sup>2</sup>SBR movement is a through lane that becomes an exclusive turn lane

<sup>3</sup>BOQ after signal timing improvements

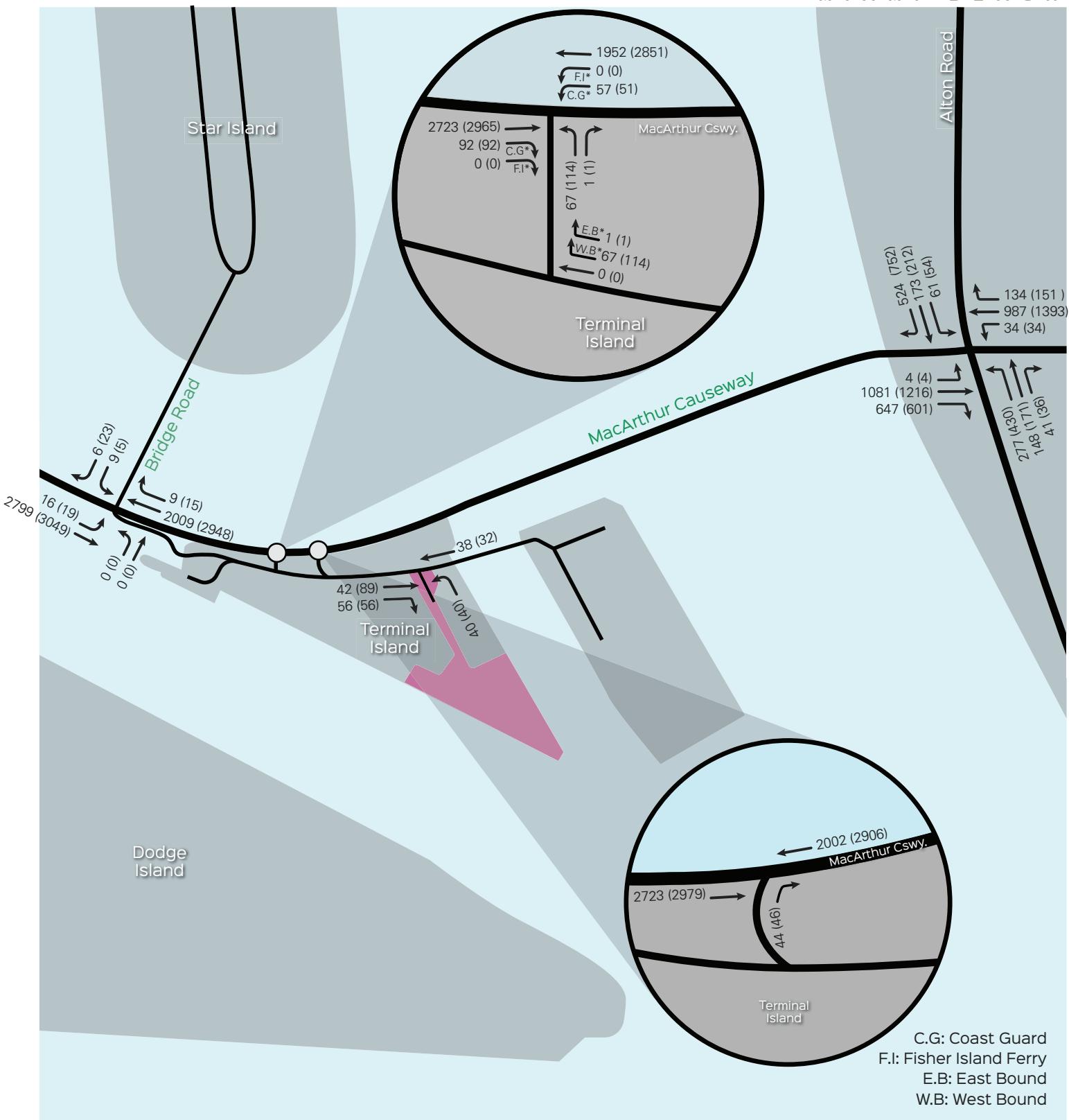
<sup>4</sup>A field review showed that vehicles can safely stack within 213 feet of the lane and taper before blocking vehicles in the through lanes

#### **4.5.2 Weekend Intersection Capacity Analysis**

Future background traffic and traffic projections for the project were combined to obtain the weekend future traffic with project at the analyzed intersections. Since the timing for the Saturday peak hour is undefined it was assumed that the restaurant would experience its peak hour at the same times of day that the roadway peaks. To provide a more conservative analysis the Saturday peak hour trips were applied to both the AM and PM weekend peak hours. Exhibit 20 shows the projected turning movement volumes for the weekend future with project conditions during the weekend AM and PM peak hours. Results of the future with the project conditions intersection analysis are displayed in Exhibit 21. The results show that the overall LOS for the following intersections are projected to operate at acceptable LOS:

- MacArthur Causeway / Bridge Road
- MacArthur Causeway / Terminal Isle
- Alton Road / 5<sup>th</sup> Street
- MacArthur Causeway / Terminal Isle exclusive right-turn (AM peak hour)

As with the existing and future without project conditions, the southbound approach of the MacArthur Causeway / Bridge Road intersection continues to experience delays during both the morning and afternoon peak hours. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection also continues to experience delays during both the morning and afternoon peak hours. This may be due to the fact that the county gives priority to vehicles travelling east / west through this area, therefore, accepting delays on cross-streets. As with existing and future without project conditions, the northbound approach of the MacArthur Causeway / Terminal Isle exclusive right-turn intersection continues to experience delays during the afternoon peak hour. The project driveway was analyzed and the results show adequate operations. Intersection capacity worksheets are included in Appendix D.



00 AM  
(00) PM

Project Location

## Exhibit 20

Future With Project Weekend AM and PM Peak Hour Volumes

**Exhibit 21: Future with Project Weekend Intersection Capacity Analysis**  
**Weekend AM and PM Peak Hour Conditions**

Intersection	Signalized/ Un-signalized	Direction	AM Peak LOS	Delay (Sec)	PM Peak LOS	Delay (Sec)	LOS Standard
MacArthur Causeway / Bridge Road (Star Island)	S	NB	A	0.0	A	0.0	D+50
		SB	F	95.5	F	97.9	D
		EB	A	6.4	A	3.1	D+50
		WB	A	7.5	A	6.0	D+50
		<i>Overall</i>	<i>A</i>	<b>7.1</b>	<i>A</i>	<b>4.9</b>	<i>D+</i>
MacArthur Causeway / Terminal Isle	S	NBFPL	A	0.0	A	0.0	D+50
		NWB <sub>T,I</sub>	D+25	68.5	D+25	68.7	D+50
		EB <sub>Cswy.</sub>	C	10.5	C	11.6	D+50
		WBL <sub>Cswy.</sub>	D+43	78.7	D+37	75.2	D+50
		<i>Overall</i>	<i>D</i>	<b>13.2</b>	<i>C</i>	<b>14.6</b>	<i>D+50</i>
Alton Road / 5 <sup>th</sup> Street	S	NB	F	88.4	F	120.4	D+50
		SB	C	28.7	C	27.4	D+50
		EB	C	28.4	C	30.6	D+50
		WB	B	19.1	C	23.3	D+50
		<i>Overall</i>	<i>C</i>	<b>32.7</b>	<i>D</i>	<b>39.0</b>	<i>D+50</i>
MacArthur Causeway / Terminal Isle exclusive right-turn	U	NB	D+21	42.5	F	56.0	D+50
Terminal Isle / Project Driveway	U	NB	A	9.3	A	9.6	N/A

Source: David Plummer & Associates

The approximate existing storage length and the projected 95<sup>th</sup> percentile back of queue (BOQ) at all the exclusive turn lanes for the weekday AM and PM peak hour conditions are displayed in Exhibit 22. The results show that the existing storage lengths at the MacArthur Causeway / Bridge Road and the MacArthur Causeway / Terminal Isle intersections have enough capacity to accommodate the projected 95<sup>th</sup> percentile back of queues.

The Alton Road / 5<sup>th</sup> Street intersection eastbound right turning lane's 95<sup>th</sup> percentile back of queue is projected to exceed the existing storage length during the AM and PM peak hours. It should be noted that this is an existing condition, the project adds only four and two feet of queue (less than

one vehicle) to this movement during the respective AM and PM peak hours. The Alton Road / 5<sup>th</sup> Street intersection northbound left turning lane's 95<sup>th</sup> percentile back of queue is also projected to exceed the existing storage length during the AM peak hour. This is an existing condition. The project adds no queue to this movement.

**Exhibit 22: Weekend Projected 95<sup>th</sup> Percentile Back of Queues and Existing Storage Length (Feet)**

Intersection	Direction	Existing		Future without Project		Future with Project		Existing Storage Length
		AM	PM	AM	PM	AM	PM	
MacArthur Causeway / Bridge Road (Star Island)	EBL	10	58	40	58	40	58	145
	WBR	0	0	0	0	0	0	110
	SBL <sup>1</sup>	28	20	32	20	36	24	600+
MacArthur Causeway / Terminal Isle	EBRSRA1A	26	25	26	25	44	42	170
	WBL <sub>SRA1A</sub>	77	71	79	71	106	99	170 / 213 <sup>3</sup>
Alton Road / 5 <sup>th</sup> Street	EBR	256	263	279	282	283	284	260
	WBL	77	74	79	77	79	77	140
	WBR	29	42	30	43	30	43	280
	NBL	202	361	207	370	207	370	240
	SBR <sup>2</sup>	0	0	0	0	0	0	350+

<sup>1</sup>SBL movement occurs from continues through lane

Source: David Plummer & Associates

<sup>2</sup>SBR movement is a through lane that becomes an exclusive turn lane

<sup>3</sup>A field review showed that vehicles can safely stack within 213 feet of the lane and taper before blocking vehicles in the through lanes

## 5.0 CIRCULATION PLAN

The project is located at 120 MacArthur Causeway (on Terminal Island) in Miami Beach, Florida. Access to the site will be provided via Terminal Isle which provides access to MacArthur Causeway. MacArthur Causeway is the only roadway connecting Terminal Island to the mainland and to the Miami Beach Island. The Terminal Isle roadway also provides access to the FPL Miami Beach Plant, the Fisher Island ferry terminals and the US Coast Guard Station all located within Terminal Island. The driveway to the project will be located on Terminal Isle between the driveway access for the Miami Beach Fleet Management and the entrance to the US Coastguard access road. The project is proposing a gated entrance to the development. Per the developer, the gate will remain open through the day with a security guard and will close at night. (The gates will also remain open during restaurant operations). At night the building and gate can only be accessed with an FOB system. A queuing analysis for the gated entrance was previously submitted to and approved by the City of Miami Beach. A revised queuing letter is available in Appendix G.

The project is also proposing a Waterfront Plaza facing the Miami Municipal Channel. The parking garage is located on the north side of building B. The project is proposing a fully automatic parking system within the garage that will enable employees to drop-off and pick-up their vehicles using a rack-rail system. (See Appendix H for the automated parking information). Access to/from the parking garage is provided via the project's internal roadway leading to an inbound entrance located on the southwest side of the garage and an outbound driveway located on the southwest side of the garage, approximately 120 feet north of the inbound entrance.

The loading area for the two buildings is located within the basement level on the north side of the western building (building A). The basement level spans between both buildings, connecting the two, and acts as a shared loading and service area. Access to the loading area is provided via the project's internal roadway which connects to the two-way basement driveway ramp located on the north side of building B. A loading plan and a maneuverability analysis of the access and loading area is provided in Appendix I.

The project area offers accommodations and access points for pedestrian and cyclist activity. MacArthur Causeway provides sidewalks on both sides of the road starting from the bus stop bays just west of Fountain Street and just west of Bridge Road. Both of the signalized intersections have clearly marked crosswalks with pedestrian refuge areas, and provide pedestrian signals. The signalized intersection with Terminal Isle has clearly marked crosswalks and provides pedestrian signals. The sidewalk along both sides of the causeway continues toward Miami Beach Island protected by a guardrail/concrete barrier across the causeway bridge, protecting pedestrians and cyclists. Starting at the mainland, MacArthur Causeway provides bike lanes on both sides of the roadway which terminate at the base of the causeway bridge (just east of the MacArthur Causeway / Terminal Isle intersection). East of the MacArthur Causeway / Terminal Isle intersection, bicyclists are directed to use the protected bridge sidewalk. The project is also offering bicycle parking on the southeast corner of the site for employees and guests and is providing a pedestrian pathway along the site that connects to Terminal Isle (the proposed pedestrian path is available in Appendix J). A mobility plan was prepared for the site (see Exhibit 23). The plan shows the project location, bike lanes, sidewalk connections, and pedestrian crosswalks.

The project area is also served by public transit. There are four bus routes that traverse this area of Miami Beach (Routes: 103, 113, 119, and 120). The closest bus stop to the project site is located on the south side of the MacArthur Causeway just east of the Terminal Isle intersection, approximately 300 feet west of the project. The City of Miami Beach Trolley provides the South Beach Loop which traverses along Alton Road. Exhibit 24 shows the available bus routes and bus stops in the area. Transit documentation is provided in Appendix J.



- |   |  |
|---|--|
| <span style="color: magenta;">■</span> Project Location | <span style="color: blue;">■</span> Sidewalk     |
|   | <span style="color: red;">■</span> Crosswalk     |
|   | <span style="color: yellow;">■</span> Bike Lanes |

## Exhibit 23

Mobility - Pedestrians



Bus Stop

Project Location

## Exhibit 24

### Mobility - Transit

Miami Beach Trolley

#### Miami-Dade Bus Routes

- 120 Beach Max
- 119 (S)
- 103 (C)
- 113 (M)



## 6.0 Field Observations

### 6.1 Fisher Island Ferry Observations

Field observations of the Terminal Island: Resident Terminal West (west ferry) and Employee and Contractor Garage and Terminal East (east ferry) were conducted on October 6, 2021 during the AM (8 – 9 am) and PM (5 – 6 pm) peak hours.

#### **6.1.1 Resident Terminal West Observations**

The Resident ferry terminal is located on the west side of Terminal Island. The terminal has three inbound lanes and two exit lanes for vehicles entering / exiting the ferry. The two outbound lanes are one-way and funnel vehicles out of terminal Island. The right lane ends as a right-turn lane onto eastbound MacArthur Causeway and the left exit lane guides vehicles to an internal westbound roadway that connects to the MacArthur Causeway / Bridge Road intersections and provides westbound access onto the MacArthur Causeway. The three inbound queuing lanes allow guests and residents to queue and enter the ferry. The lanes are segregated by passenger type:

- property owners and equity members
- resident guests and diamond passes
- and resident employees and approved passes

Once in queue, residents and members of Fisher Island have their identification verified by the guard. Visitors and employees are required to show the guard identification and have their license plate number verified.

Upon the ferry's arrival, the guards open the ferry gates to allow vehicles to exit the ferry. Once the ferry is cleared the guards load the ferry one lane at a time to avoid congestion. The data collected revealed that during the AM peak hour, the lanes with the longest queues were the guest and employee lanes with an average queue of three and four vehicles, respectively. The resident lane had an average queue of two vehicles during the morning peak hour. There were the instances during the morning observations where the inbound queue spilled onto the Terminal Isle roadway, with an average queue of two vehicles.

During the PM peak hour, the resident lane had the largest queue of seven vehicles and an average of three vehicles. At times this queue would back up onto the Terminal Isle roadway and cause an

average queue of one vehicle. The guest and employee lanes each had an average queue of one vehicle during the evening peak hour. (See Appendix K for queuing observations)

### **6.1.2 Employee and Contractor Garage & Terminal East Observations**

The ground floor of the parking garage has six queuing lanes in the northwest corner (front) for vehicles to queue within while waiting for the ferry. There is also a drop-off / pick-up lane and limited visitor parking area adjacent to the queuing lanes in the garage. Access to the drop-off area is provided along the northeast side of the garage just south of the pedestrian crosswalk between the ferry and garage.

Access to the employee parking and contractor / vehicle queues is provided on the west side of parking garage. Fisher Island employees that park within the garage and walk aboard the ferry as a pedestrian turn right into the parking area when entering the garage. Access to the area is controlled via a mechanical arm gate with a card reader. Contractors and vehicles taking the ferry turn left when entering the garage to enter the ferry queue lanes.

Garage employees control access to the garage queueing lanes and entrance to the ferry. While awaiting the ferry, guards verify the identification and permission for the vehicles / companies waiting within the ferry queue. (During high inbound demand hours, vehicles were also queued on the hashing in front of the garage as an extra queue lane). Vehicles that don't fit within the garage queue lanes are circulated around the garage into the drop-off lane that becomes a one-way roadway that wraps around the end of the garage and leads back at the employee / contractor entrance. It was also observed that the operators leave the inbound and outbound lanes clear for vehicles departing the ferry. During the morning peak hours (highest inbound hours) vehicles to board the ferry were queued within the garage and stacked within the hashing spaces to the left and right of the ferry inbound / outbound lanes to allow room for larger vehicles exiting the ferry. The highest queue at the ferry entrance was five vehicles during the AM peak hour, with an average queue of three vehicles. The queue into the terminal spilled back onto the Terminal Isle roadway with an average queue of two vehicles. The highest inbound queue along Terminal Isle was four vehicles.

Once the ferry arrives, the gate is opened and the vehicles exit the ferry. It was observed that the ferry pedestrians are held on the ferry for approximately 1-2 minutes after all vehicles have

disembarked the ferry. This helped prevent long queues on the Terminal Isle roadway and at the MacArthur Causeway / Terminal Isle intersection. The operator then allows one lane at a time to enter the ferry, while the employees embark as well. During the PM peak hour, the ferry inbound lane had an average queue of three vehicles and a largest queue of seven vehicles. The highest queue leaving the parking garage was two vehicles during the PM peak hour. The highest queue in the ferry outbound lane was one vehicle.

## **6.2 MacArthur Causeway / Terminal Island Intersection Observations**

Field observations of the eastbound right and westbound left turning lanes of the MacArthur Causeway and Terminal Isle intersection were conducted on October 7, 2021 during the AM (8 – 9 am) and PM (5 – 6 pm) peak hours. The results of the queuing field observations of the MacArthur Causeway/Terminal Isle intersection show that, during the AM peak hour, the existing inbound westbound left turning lane experiences a maximum queue of nine vehicles and an average of three vehicles. The eastbound right turning lane experiences a maximum queue of six vehicles and an average of three vehicles during the morning peak hour. The Terminal Isle roadway outbound lane had an average queue of two vehicles and a maximum queue of seven vehicles.

The data collected during the PM peak hour revealed that the westbound left turning lane had a maximum queue of three vehicles and an average of one vehicle, and the eastbound right turning lane experienced a maximum queue of two vehicles and an average of one vehicle. The Terminal Isle roadway outbound lane had an average queue of nine vehicles and a maximum queue of 21 vehicles. Occasionally, this caused an average queue of one vehicle at the ferry outbound lane. It was observed during both the afternoon and evening peak hours that on average, one cycle of green time for the MacArthur Causeway westbound left turning movement was sufficient to clear any vehicles queued in the westbound left turn lane and that it took a maximum of two cycles to clear the lane. (See Appendix K for queuing observations)

## 7.0 TRANSPORTATION MANAGEMENT PLAN

A Transportation Development Management is proposed as part of this project with the following goals:

- ***Reducing congestion*** – by encouraging patrons to shift from single occupancy vehicle trips to use other available modes of transportation.
- ***Conserving energy and reducing emissions*** - the damage caused by vehicle emissions and greenhouse gases is a major contributor to environmental degradation. Therefore, getting people to make better use of shared transportation options is one of the most important ways in which communities can do their part to encourage greener thinking.
- ***Improving community health and fitness levels*** - TDM can lead to better levels of health and fitness among community members by encouraging people to be more active as they move around town. Improving the walkability of cities and adding cycling features are two of the most important ways TDM strategies can be used to promote healthier and more active lifestyles.
- ***Boosting urban livability*** - Studies have shown that community-oriented modes of transportation can lead to significant improvements in personal satisfaction and happiness. People are more engaged when they are active stakeholders in the communities they live in. By improving social quality for residents, commuters, and visitors alike, TDM helps improve the overall livability of cities.

The development will promote the following strategies to further reduce vehicle trips:

- Encourage patrons to participate in ridesharing programs through South Florida Commuter Services. Available information will be obtained and distributed to residents and employees in the development.
- Miami-Dade County Transportation Agency current local and regional mass transit route and schedule information will be provided to potential transit users in a prominent public area of the development. The information provided and maintained on the premises will be updated, when necessary, at no less than six-month intervals.

- Promote mass transit use by encouraging employers to purchase transit passes and make them available to employees at discounted prices or no charge, or in lieu of subsidized parking.
- Encourage employers to implement staggered work hours.

Implementation of these items will generate a shift from single vehicle drivers to use other modes of transportation and, thus, reducing the peak hour vehicle trips.

## 8.0 CONCLUSIONS

An assessment of the weekday and weekend AM and PM peak hour traffic associated with the proposed Terminal Island project was performed in accordance with the approved methodology submitted to the City and the requirements of the *City of Miami Beach Comprehensive Plan*. Intersection capacity analysis was performed for the following intersections:

- MacArthur Causeway / Bridge Road (Star Island)
- MacArthur Causeway / Terminal Isle
- Alton Road / 5th Street
- MacArthur Causeway / Terminal Isle Exclusive Right-turn (east of the MacArthur Causeway / Terminal Isle signalized intersection)

The results of the intersection analysis for a typical weekday during the AM and PM peak hours show that the overall LOS for the following analyzed intersections currently operate and are projected to operate within the LOS standards established in the City of Miami Beach Comprehensive Plan for existing, future without project, and future with project conditions:

- MacArthur Causeway / Bridge Road (Star Island)
- MacArthur Causeway / Terminal Isle
- Alton Road / 5th Street
- MacArthur Causeway / Terminal Isle Exclusive Right-turn (east of the MacArthur Causeway / Terminal Isle signalized intersection)

The analysis shows adequate operations at the unsignalized project driveway.

For existing, future without project, and future with project conditions, the northbound and southbound approaches of the MacArthur Causeway / Bridge Road intersection experience delays during the AM and Pm peak hours. This is an existing condition; the project adds no delay to these approaches during the AM peak hour and adds no delay to the northbound approach and less than one second of delay to the southbound approach during the PM peak hour. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection experiences delays during the AM and PM peak hours for existing, future without project, and future with project conditions. It should be noted that the project adds less than two seconds of delay to the northbound approach during the

AM and PM peak hours. The westbound left approach of the Terminal Isle / MacArthur Causeway intersection experiences delays during the AM peak hour and the northwest bound approach (Terminal Isle approach) at the MacArthur Causeway / Terminal Isle intersection experiences delays during the afternoon peak hour. It should be noted that the project represents less than 5% and 6% of the total projected intersection volume during the morning and afternoon peak hours, respectively. Signal timing improvements are recommended to mitigate the effects of the project. These delays may be due to the fact that the county gives priority to vehicles travelling east / west through this area, therefore, accepting delays on cross-streets.

The results of the intersection analysis for the AM and PM peak hours of a typical weekend show that the overall LOS for the following analyzed intersections currently operate and are projected to operate within the LOS standards established in the City of Miami Beach Comprehensive Plan for existing, future without project, and future with project conditions:

- MacArthur Causeway / Bridge Road (Star Island)
- MacArthur Causeway / Terminal Isle
- Alton Road / 5th Street
- MacArthur Causeway / Terminal Isle Exclusive Right-turn (AM Peak Hour)

For existing, future without project, and future with project conditions, the southbound approach of the MacArthur Causeway / Bridge Road intersection experiences delays during the morning and afternoon peak hours. The northbound approach of the Alton Road / 5<sup>th</sup> Street intersection also experiences delays during both the morning and afternoon peak hours. This may be due to the fact that the county gives priority to vehicles travelling east / west through this area, therefore, accepting delays on cross-streets. During the existing, future without project, and future with project conditions, the northbound approach of the MacArthur Causeway / Terminal Isle exclusive right-turn intersection experiences delays during afternoon peak hour. The project driveway was analyzed and the results show adequate operations.

As part of the study, field observations were performed at the fisher Island Ferry terminals located on the east and west ends of Terminal Island. The observations showed that the operations at the ferry terminals did not interfere with the operations along the MacArthur Causeway. A mobility and circulation plan was completed as part of the study. The plan shows that the project area is currently served by four Miami-Dade Transit bus routes and a Miami Beach Trolley route. The

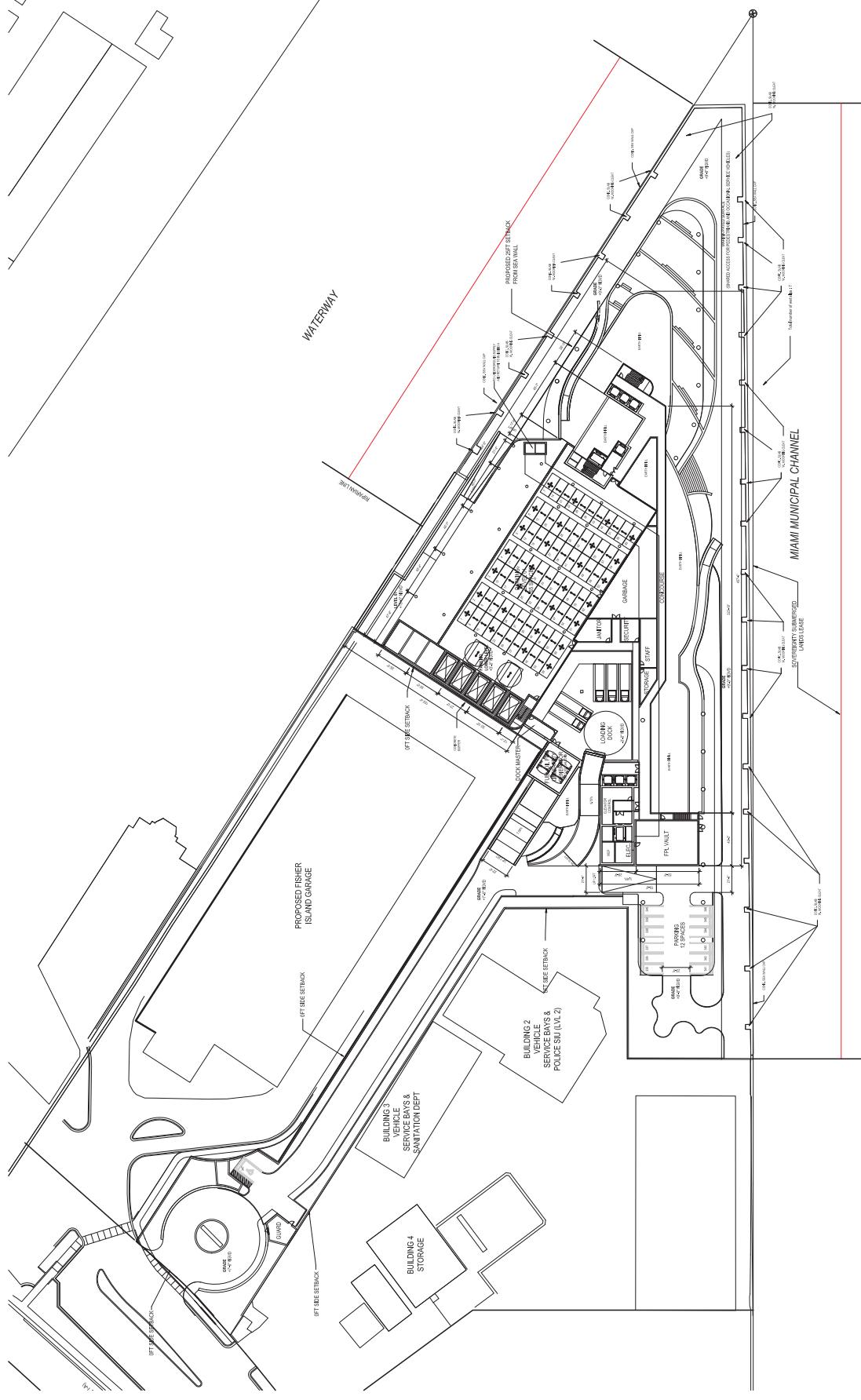
project is located in an area that provides sidewalk connectivity, clearly marked crosswalks, signalized intersections that provide pedestrian signals, and bike lanes. These conditions encourage the use of other modes of transportation and reduce the vehicular impact on the roadway network.

w:\20\20129\terminal island traffic study sept 2021\terminal island miami beach traffic study\_sept 2021.docx

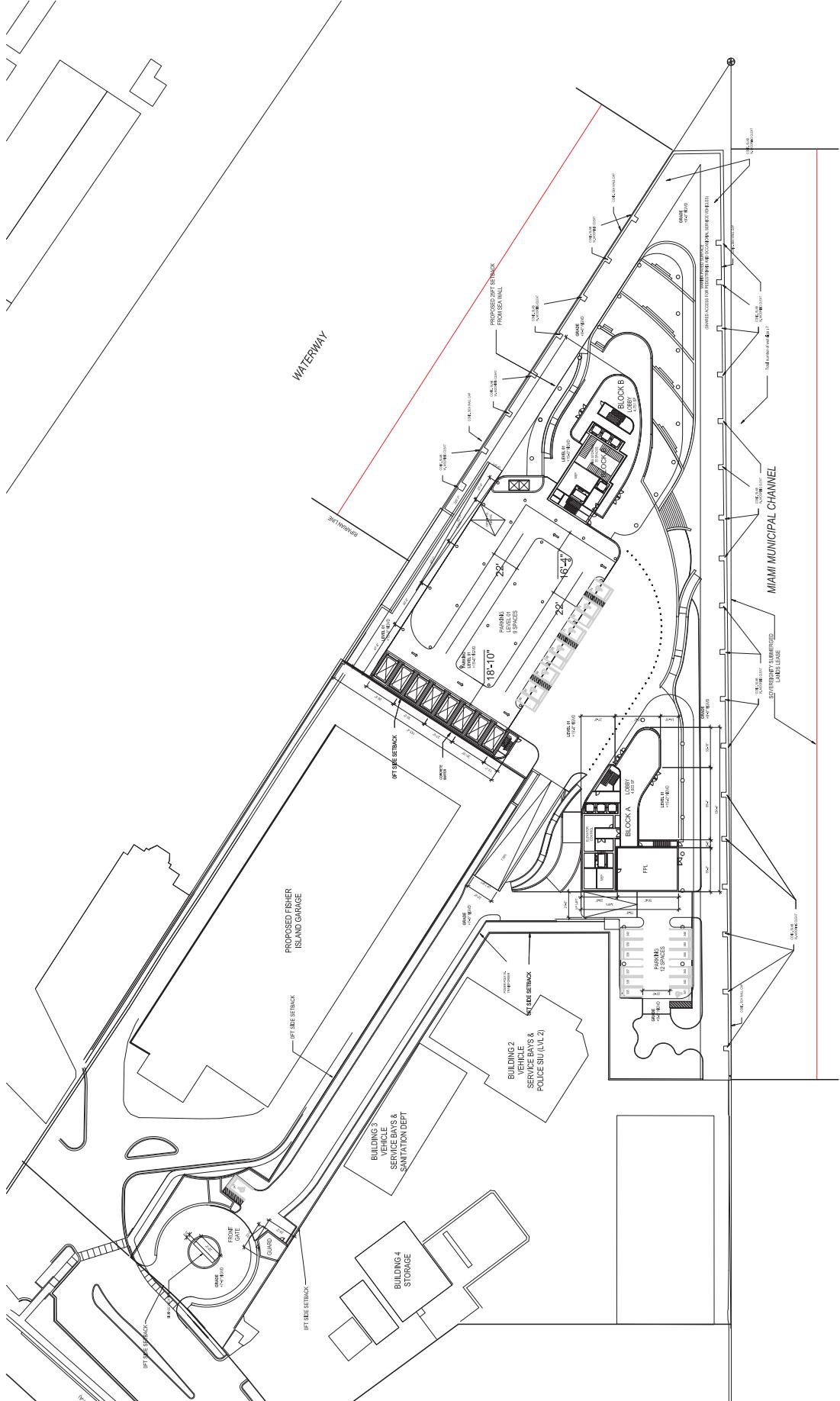
# **Appendix A**

## **Site Plan**

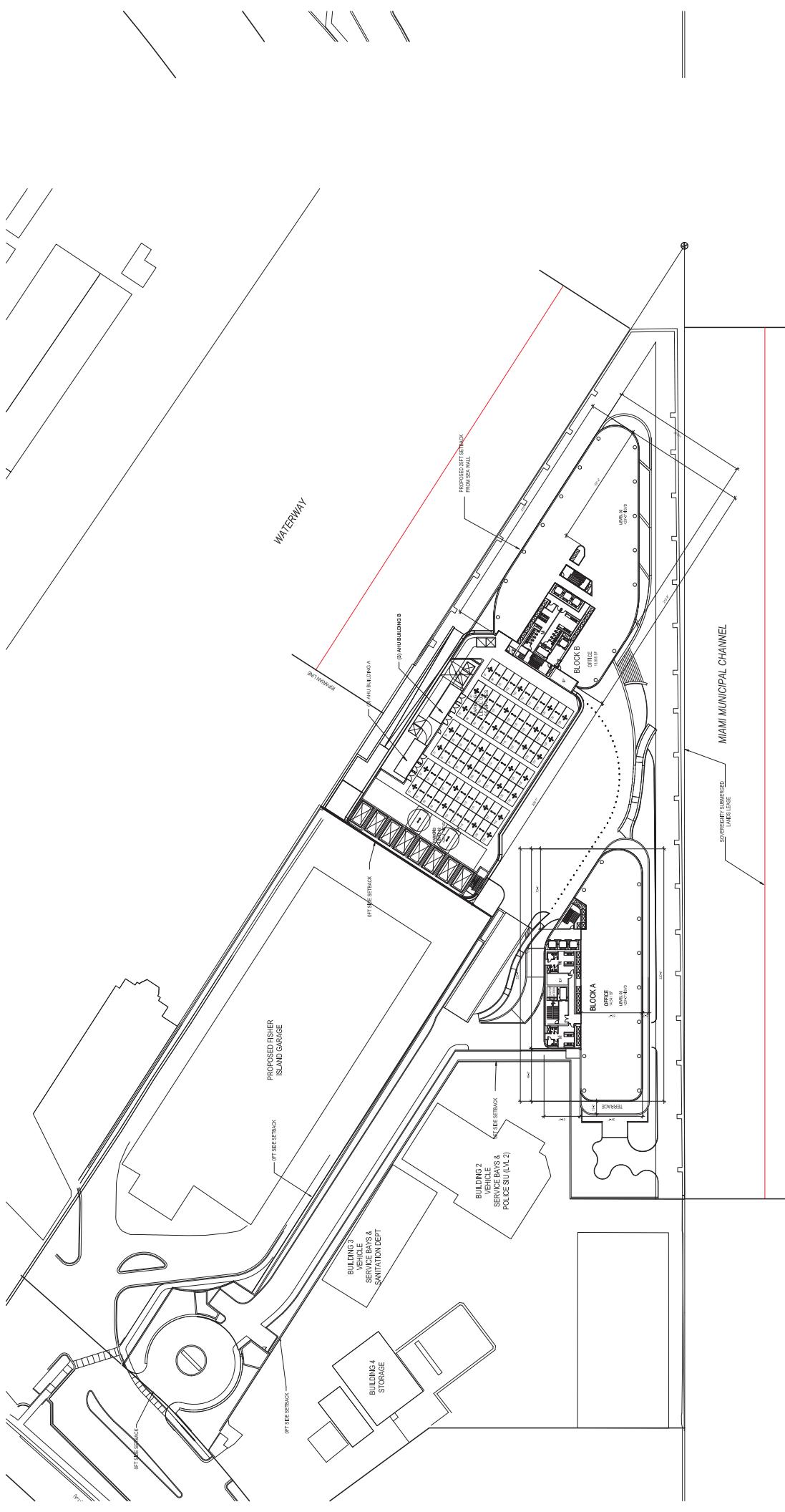
# OFFICE LOWER LEVEL / PARKING LOWER LEVEL



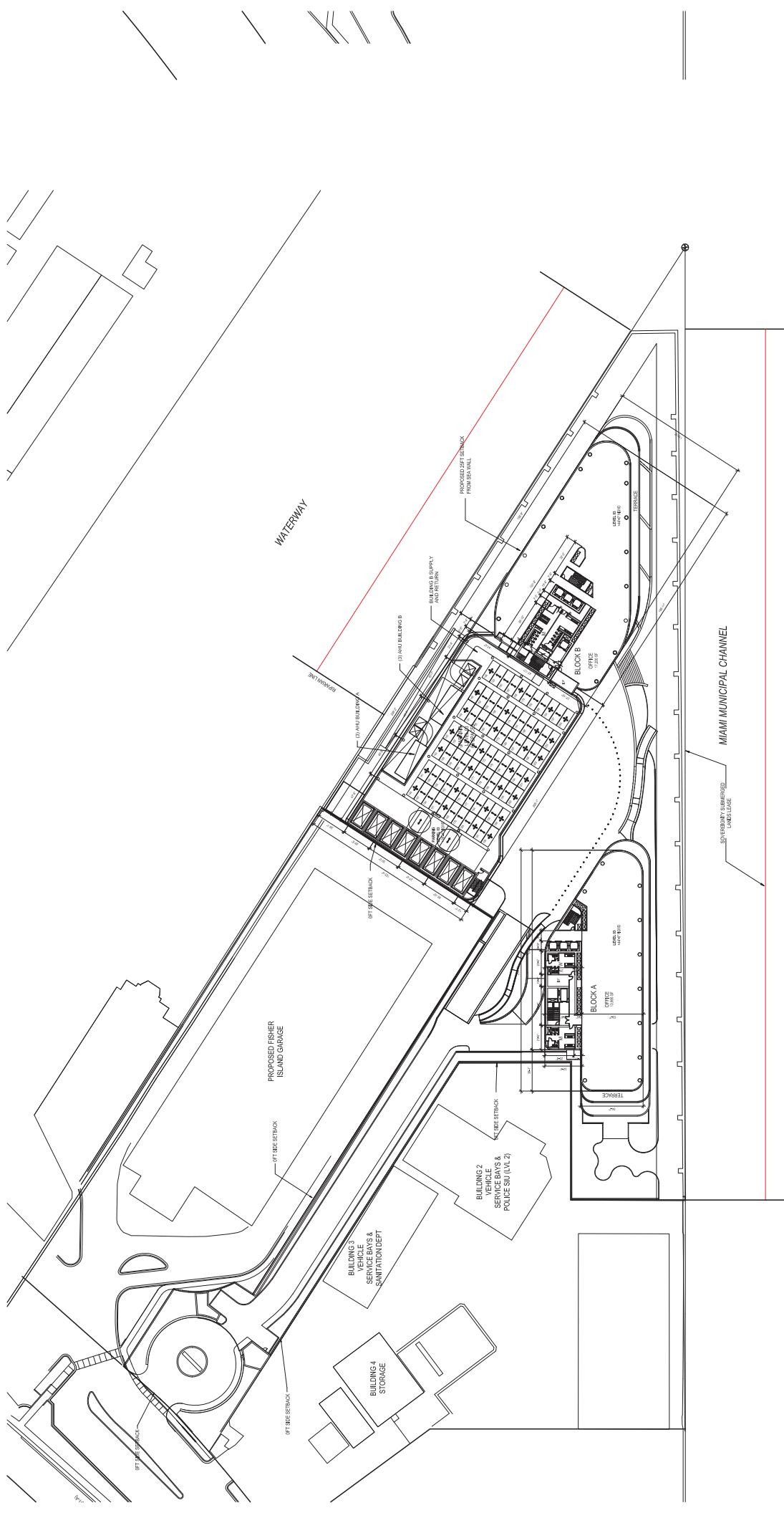
# GRADE / OFFICE LEVEL 01 / PARKING LEVEL 01



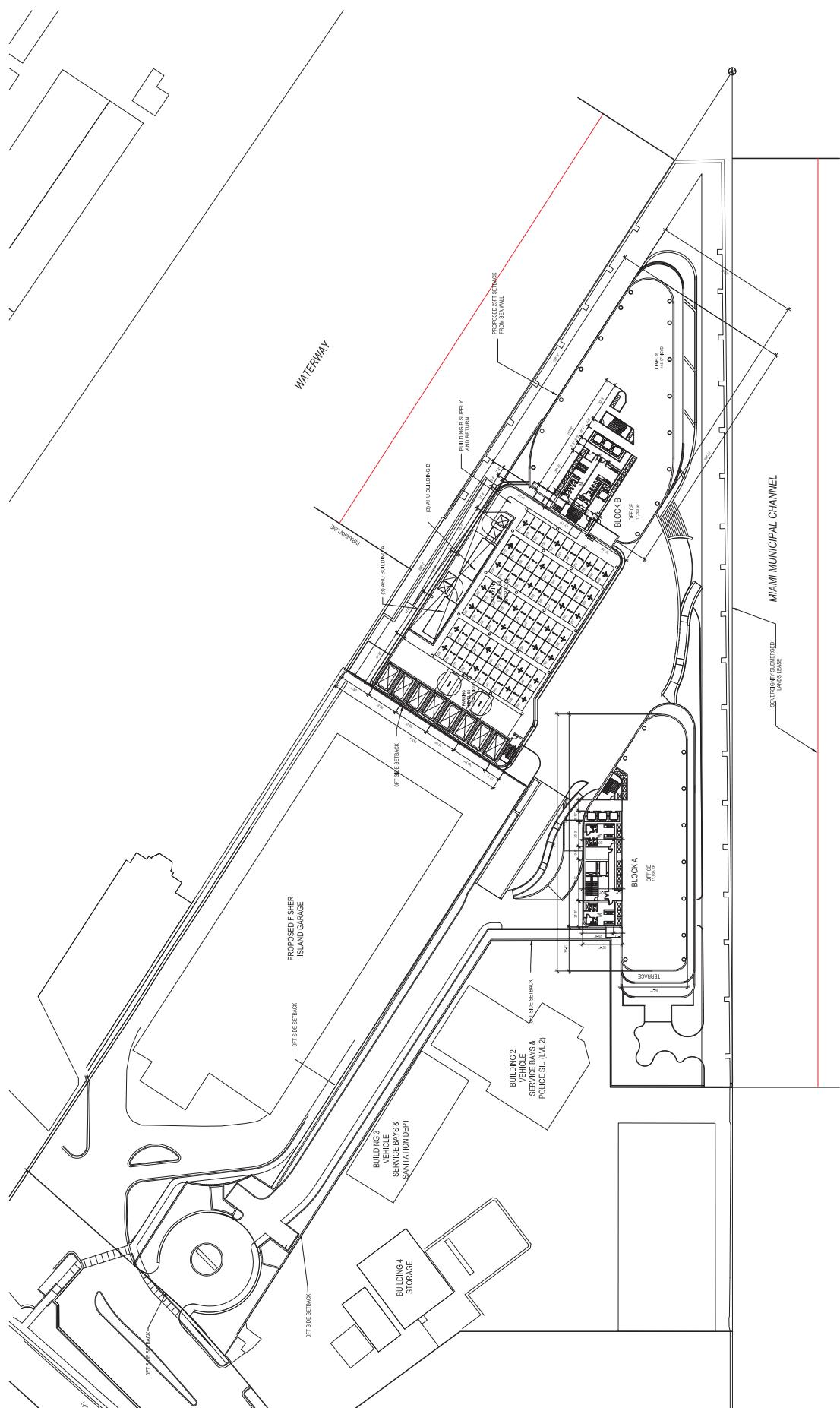
# OFFICE LEVEL 02 / PARKING LEVEL 02



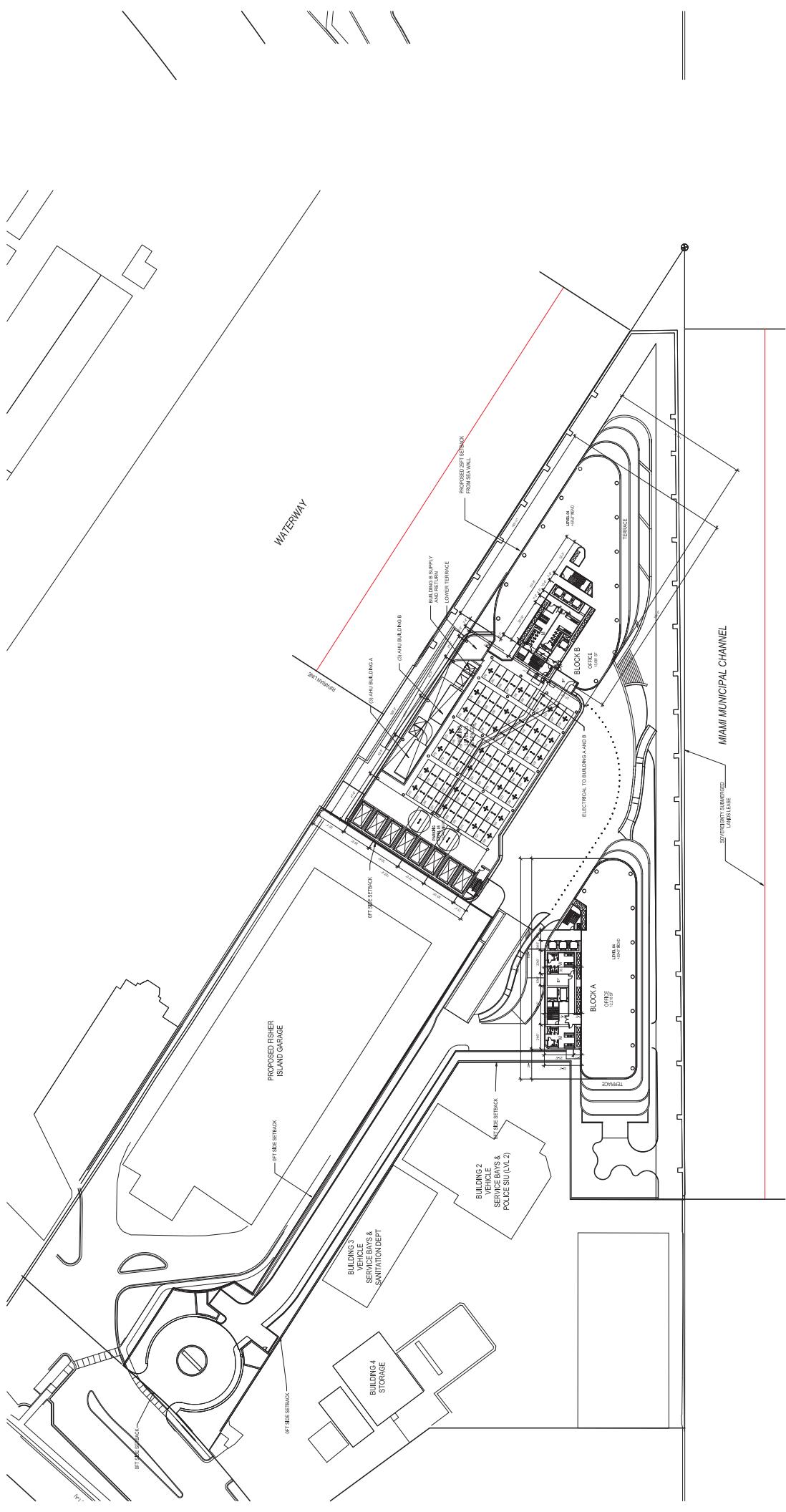
# OFFICE LEVEL 03 / PARKING LEVEL 03



# OFFICE LEVEL 03 / PARKING LEVEL 04



# OFFICE LEVEL 04 / PARKING LEVEL 05



## **Appendix B**

### **Methodology**

## Terminal Island Miami Beach Traffic Study Methodology

July 12, 2021  
August 2, 2021  
Revised August 3, 2021

### PROJECT LOCATION

The project is located at 120 MacArthur Causeway (Terminal Island) in Miami Beach, Florida. The project proposes a new office building with approximately 932 employees and a 299 seat restaurant with a fully automated parking garage. The existing six boat berth marina will remain.

### PURPOSE

This methodology will provide the details of the Transportation Impact Study for the proposed development. Confirmation of this methodology will be requested from the City and/or its traffic consultant prior to performing the study.

### TRAFFIC STUDY

- Ninety-six hour traffic counts will be collected on the MacArthur Causeway between Bridge Road and Terminal Island. Or Terminal Island between MacArthur Causeway and the crosswalk to the Ferry parking garage. The 96-hour counts will be used to determine the AM and PM peak hours of a regular weekday and the AM and PM peak hour of a regular Saturday.
- Traffic Counts (Intersections) – Available turning movement counts will be collected during the AM and PM peak hour conditions of a regular weekday and **weekend**, as determined by the collected 96-hour. The counts will be used to analyze the following intersections:
  - MacArthur Causeway / Bridge Road (Star Island) (Signalized)
  - MacArthur Causeway / Terminal Island (Signalized)
  - Alton Road / 5<sup>th</sup> Street (Signalized)

- Terminal Island / Project Driveway (Un-signalized)
- MacArthur Causeway / Terminal Island Un-Signalized right-turn (east of the MacArthur Causeway / Terminal Island signalized intersection)

Traffic counts used as part of this project will be included in the appendix of the Transportation Impact Study submitted to the City.

- Trip Generation – When applicable, trip generation for the project will be estimated using trip generation information published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition, otherwise engineering judgement will be used. Based on U.S. Census Bureau data, a 12.9% deduction for other modes of transportation may be applied. However, for a conservative analysis and as previously discussed with the City reviewer, a 3% reduction will be used for other modes of transportation. Furthermore as discussed with the City reviewer, a 10% reduction will be used for pass-by applied to restaurant trips. Below is the trip generation for a typical (7 – 9) AM and (4 – 6) PM peak hour. Trip generation documentation is available in Attachment A.

### Proposed Trip Generation

Proposed ITE Land Use Designation <sup>1</sup>	Size/Units	Daily (Two-way)	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Office (Land Use 710)	932 Employees	2,922	200	41	241	55	220	275
Restaurant (Land Use 931)	299 Seats	778	3	3	6	56	28	84
<b>Gross External Trips</b>		<b>3,700</b>	<b>203</b>	<b>44</b>	<b>247</b>	<b>111</b>	<b>248</b>	<b>359</b>
Internalization AM, PM		1.6%, 1.1%	-2	-2	-4	-2	-2	-4
Other Modes of Transportation <sup>2</sup>		3%	-6	-1	-7	-4	-8	-12
Pass-By Restaurant (PM) <sup>3</sup>		10%	0	0	0	-4	-4	-8
<b>Proposed Net External Trips</b>		<b>195</b>	<b>41</b>	<b>236</b>	<b>101</b>	<b>234</b>	<b>335</b>	

<sup>1</sup> Based on ITE Trip Generation Manual, 10th Edition

<sup>2</sup> Based on US Census (Tract 9810) is 12.9%, however a 3% was used.

<sup>3</sup> Based on ITE Trip Generation Handbook, 3rd Edition (PM pass-by) is 44%, however 10% was used.

- Trip generation and analysis for the restaurant use will be performed for the weekend AM and PM peak period (as determined by the 96 hour counts).

- Signal Location and Timing – Existing signal phasing and timing for the signalized intersections will be obtained from Miami-Dade County. Signal data collected from the county will be included in the appendix of this study.
- Trip Distribution / Trip Assignment – Net new external project traffic will be assigned to the adjacent street network using the appropriate cardinal distribution from the [2045 Miami-Dade Long Range Transportation Plan Update](#), published by the [Transportation Planning Organization](#). Normal area traffic patterns will also be considered when assigning project trips. A figure showing all of the assigned trips to the adjacent transportation network will be provided as part of the study.
- Background Traffic – Available Florida Department of Transportation (FDOT) and Miami-Dade County (MDC) traffic counts ([excluding 2020 data](#)) will be consulted to determine a growth factor consistent with historical annual growth in the area. The growth factor will be applied to the existing traffic volumes to establish background traffic. This will be documented in the study.
- Committed Developments – As no committed developments were found in the area a 0.5% growth rate will be added to the analysis to account for any unknown committed developments in the area.
- Future Transportation Projects – The 2020 TIP, 2045 LRTP, [and the City of Miami Beach's Transportation Master Plan Final Report and Related TMP updates](#) will be reviewed and considered in the analysis at project build-out.
- Intersection Capacity Analysis – The intersection capacity analyses will be conducted for the following conditions:
  - Existing conditions
  - Future conditions with Committed Developments
  - Future conditions with Project and Committed Development

Intersection analysis will be done using the Synchro software based on the [Highway Capacity Manual](#) (HCM 6<sup>th</sup> Ed). Figures depicting trip distribution for each of these scenarios will be provided as part of this study. In addition to the intersections identified above, all projects

driveways will be analyzed. If the results of the analysis show any intersection operating below the City's Level of Service standards, specific mitigation measures will be recommended.

- An extensive Transportation Demand Management plan (TDM) will be included in the report.

### **CIRCULATION ANALYSIS/PLAN**

The study will provide a circulation plan depicting the parking garage circulation. The plan will also include a clear site plan defining all of the various land use categories assigned to the project site, driveways, delivery areas, location of street signs/signals, crosswalks, sidewalks, location of bus facilities, bike facilities, adjacent streets configuration (travel lanes, etc.) including names, on-street parking and any other pertinent transportation feature in the vicinity of this project.

As part of the study, any proposed/existing driveways will be analyzed. This analysis will include sight distance for vehicles entering/exiting the proposed driveway. An Auto-turn analysis will be conducted for the proposed building loading area. If deficiencies are determined, mitigation measures will be recommended.

Multimodal – Pedestrian, bicycle and transit facilities will be defined in the Circulation Plan. Existing bus routes including schedule and bus stop locations will be discussed as part of the study. An effort will be made to include bicycle parking facilities within the project site to be utilized either by employees or tenants.

### **QUEUEING ANALYSIS**

A queuing analysis will be performed at the gated entrance per the methods outlined in the Institute of Transportation Engineers (ITE) Transportation and Land Development. The vehicle queue (M) will be calculated based on processing rate, demand rate, service positions and utilization factor as necessary. The analysis will be done to ensure that there is sufficient on-site vehicle stacking so that there is no vehicle back-up onto the public right-of-way. Peak hour demand will be estimated at the project's entrances. The analysis will consider both demand and typical service times per vehicle. The gated entrances capacity will be a function of the numbers of lanes, type of service provided, and geometrics. The analysis, conclusions and recommendations will be documented in the traffic report.

## **DOCUMENTATION**

The applicant will submit an electronic copy of the report including the Synchro program output calculations for consideration/review by the consultant acting as the peer reviewer. Also included will be the latest version of the site plan, with an AutoCAD version.

### **Other Considerations from the City**

- As part of the intersection analysis, a table summarizing/comparing the 95<sup>th</sup> percentile vehicle stacking / queues and existing storage length for all exclusive turn lanes will be provided.
- The City reserves the right to request additional analyses including but not limited to, additional traffic counts and level of service analysis for any intersection City staff feels is necessary in order to complete the review process.
- The future layout of the Terminal Island Roadway configuration and intersections will be considered in the future scenario analysis if the latest FDOT plans are provided by the City reviewer.
- Per the City reviewer's request, a current copy of a signed and sealed pavement marking and signage plan prepared by a Professional Engineer in the state of Florida will be provided.
- Per the City reviewer's request, the specifications for the automated parking garage will be submitted. Case studies justifying the service times and effectiveness of the proposed parking system will be provided in the appendix of the traffic study.
- Queuing observations will be performed and documented at the terminal island ferry landing west and terminal island ferry landing east during the weekday AM and PM peak hours to observe the effects of the queues caused by the ferry landings will have on the project intersections.
- Queuing observations will be documented and performed at the terminal island road intersection with MacArthur Causeway for the weekday AM and PM peak times.
- Per the City reviewer's request, any related comments in regards to the traffic study made by MDC's DTPW, the FDOT, or any other related government agency will be provided to the City.

If you have any questions you can contact me at (305) 447-0900.

# **Attachment A**

<b>Scenario - 2</b>	Scenario Name: Terminal Island Proposed - July 9 2021	User Group:
Dev. phase: 1	No. of Years to 0	
Analyst Note:	Project Traffic :	

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

#### VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method		Entry Split%	Exit Split%	Total
					Rate/Equation	Best Fit (LOG)			
710(3) - General Office Building Data Source: Trip Gen Manual, 10th Ed	General Urban/Suburban	Employees	932	Weekday	$\ln(T) = 0.80\ln(X) + 2.51$	1461	1461	50%	2,922
710(4) - General Office Building Data Source: Trip Gen Manual ,10th Ed	General Urban/Suburban	Employees	932	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	$\ln(T) = 0.72\ln(X) + 0.56$	200	83%	17%	41
710(5) - General Office Building Data Source: Trip Gen Manual, 10th Ed	General Urban/Suburban	Employees	932	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	$\ln(T) = 0.27\ln(X) + 23.57$	55	220	80%	275
931- Quality Restaurant Data Source:Trip Gen Manual, 10th Ed	General Urban/Suburban	Seats	299	Weekday	Average	389	389	50%	778
931(1) - Quality Restaurant Data Source: Trip Gen Manual ,10th Ed	General Urban/Suburban	Seats	299	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average	3	3	50%	6
931(2) - Quality Restaurant Data Source:Trip Gen Manual, 10th Ed	General Urban/Suburban	Seats	299	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average	56	28	50%	84

## AM Peak Hour Trip Generation and Internalization

*Terminal Island Miami Beach*

Office		Restaurant		
Land Use 710		Land Use 931		
In	Out	In	Out	
200	41	3	3	247 ITE Trips
<b>UNBALANCED INTERNALIZATION</b>				
14%	63% 26	1	23% 1	
28		1		31% 1
Office		Restaurant		
In	Out	In	Out	
200	41	3	3	247 Vehicle Trips
<b>BALANCED INTERNALIZATION</b>				
-1			-1	
-1			-1	
-1	-1	-1	-1	-4 Internal
199	40	2	2	243 External Trips
0.8%			33.3%	1.6% % Internal
-6	-1	0	0	-7 -3.0% Transit/Pedestrian
193	39	2	2	236
		0	0	0 0% Passby (Restaurant)
193	39	2	2	236 Net New External Trips

## **PM Peak Hour Trip Generation and Internalization**

*Terminal Island Miami Beach*

Office Land Use 710		Restaurant Land Use 931		
932 Employees		299 Seats		
In	Out	In	Out	
55	220	56	28	359 ITE Trips
<b>UNBALANCED INTERNALIZATION</b>				
30% 17	4% 9	1	2% 1	3% 1
Office		Restaurant		
In	Out	In	Out	
55	220	56	28	359 Vehicle Trips
<b>BALANCED INTERNALIZATION</b>				
-1	-1	-1	-1	
-1				
-1	-1	-1	-1	-4 Internal
54	219	55	27	355 External Trips
0.7%		2.4%		1.1% % Internal
-2	-7	-2	-1	-12 -3.0% Transit/Pedestrian
52	212	53	26	343
		-4	-4	-8 -10% Passby (Restaurant)
52	212	49	22	335 Net New External Trips



S0801

## COMMUTING CHARACTERISTICS BY SEX

2013-2017 American Community Survey 5-Year Estimates

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.

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.

Subject	Census Tract 9810, Miami-Dade County, Florida				
	Total		Male		Female
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate
Workers 16 years and over	62	+/-21	53	+/-19	9
MEANS OF TRANSPORTATION TO WORK					
Car, truck, or van	51.6%	+/-32.9	52.8%	+/-35.4	44.4%
Drove alone	43.5%	+/-37.2	43.4%	+/-40.3	44.4%
Carpooled	8.1%	+/-14.9	9.4%	+/-17.4	0.0%
In 2-person carpool	8.1%	+/-14.9	9.4%	+/-17.4	0.0%
In 3-person carpool	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
In 4-or-more person carpool	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Workers per car, truck, or van	N	N	N	N	N
Public transportation (excluding taxicab)	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Walked	12.9%	+/-25.0	15.1%	+/-29.5	0.0%
Bicycle	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Taxicab, motorcycle, or other means	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Worked at home	35.5%	+/-27.4	32.1%	+/-29.5	55.6%
PLACE OF WORK					
Worked in state of residence	100.0%	+/-41.8	100.0%	+/-45.2	100.0%
Worked in county of residence	100.0%	+/-41.8	100.0%	+/-45.2	100.0%
Worked outside county of residence	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Worked outside state of residence	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Living in a place	100.0%	+/-41.8	100.0%	+/-45.2	100.0%
Worked in place of residence	100.0%	+/-41.8	100.0%	+/-45.2	100.0%
Worked outside place of residence	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Not living in a place	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Living in 12 selected states	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Worked in minor civil division of residence	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Worked outside minor civil division of residence	0.0%	+/-41.8	0.0%	+/-45.2	0.0%
Not living in 12 selected states	100.0%	+/-41.8	100.0%	+/-45.2	100.0%
Workers 16 years and over who did not work at home	40	+/-23	36	+/-18	4
TIME LEAVING HOME TO GO TO WORK					

Subject	Census Tract 9810, Miami-Dade County, Florida				
	Total		Male		Female
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate
12:00 a.m. to 4:59 a.m.	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
5:00 a.m. to 5:29 a.m.	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
5:30 a.m. to 5:59 a.m.	20.0%	+/-45.7	22.2%	+/-49.9	0.0%
6:00 a.m. to 6:29 a.m.	30.0%	+/-36.4	33.3%	+/-41.7	0.0%
6:30 a.m. to 6:59 a.m.	30.0%	+/-38.5	22.2%	+/-43.0	100.0%
7:00 a.m. to 7:29 a.m.	20.0%	+/-38.5	22.2%	+/-42.3	0.0%
7:30 a.m. to 7:59 a.m.	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
8:00 a.m. to 8:29 a.m.	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
8:30 a.m. to 8:59 a.m.	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
9:00 a.m. to 11:59 p.m.	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
TRAVEL TIME TO WORK					
Less than 10 minutes	42.5%	+/-51.7	36.1%	+/-57.0	100.0%
10 to 14 minutes	37.5%	+/-45.5	41.7%	+/-51.2	0.0%
15 to 19 minutes	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
20 to 24 minutes	20.0%	+/-45.7	22.2%	+/-49.9	0.0%
25 to 29 minutes	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
30 to 34 minutes	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
35 to 44 minutes	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
45 to 59 minutes	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
60 or more minutes	0.0%	+/-52.0	0.0%	+/-54.8	0.0%
Mean travel time to work (minutes)	N	N	N	N	N
VEHICLES AVAILABLE					
Workers 16 years and over in households	0	+/-13	0	+/-13	0
No vehicle available	-	**	-	**	-
1 vehicle available	-	**	-	**	-
2 vehicles available	-	**	-	**	-
3 or more vehicles available	-	**	-	**	-
PERCENT ALLOCATED					
Means of transportation to work	0.0%	(X)	(X)	(X)	(X)
Private vehicle occupancy	28.1%	(X)	(X)	(X)	(X)
Place of work	100.0%	(X)	(X)	(X)	(X)
Time leaving home to go to work	0.0%	(X)	(X)	(X)	(X)
Travel time to work	0.0%	(X)	(X)	(X)	(X)
Vehicles available	-	(X)	(X)	(X)	(X)

Subject	Census Tract 9810, Miami-Dade County, Florida
	Female
	Margin of Error
Workers 16 years and over	+/-9
<b>MEANS OF TRANSPORTATION TO WORK</b>	
Car, truck, or van	+/-55.6
Drove alone	+/-55.6
Carpooled	+/-100.0
In 2-person carpool	+/-100.0
In 3-person carpool	+/-100.0
In 4-or-more person carpool	+/-100.0
Workers per car, truck, or van	N
Public transportation (excluding taxicab)	+/-100.0
Walked	+/-100.0
Bicycle	+/-100.0
Taxicab, motorcycle, or other means	+/-100.0
Worked at home	+/-55.6
<b>PLACE OF WORK</b>	
Worked in state of residence	+/-100.0
Worked in county of residence	+/-100.0
Worked outside county of residence	+/-100.0
Worked outside state of residence	+/-100.0
Living in a place	+/-100.0
Worked in place of residence	+/-100.0
Worked outside place of residence	+/-100.0
Not living in a place	+/-100.0
Living in 12 selected states	+/-100.0
Worked in minor civil division of residence	+/-100.0
Worked outside minor civil division of residence	+/-100.0
Not living in 12 selected states	+/-100.0
Workers 16 years and over who did not work at home	+/-8
<b>TIME LEAVING HOME TO GO TO WORK</b>	
12:00 a.m. to 4:59 a.m.	+/-100.0
5:00 a.m. to 5:29 a.m.	+/-100.0
5:30 a.m. to 5:59 a.m.	+/-100.0
6:00 a.m. to 6:29 a.m.	+/-100.0
6:30 a.m. to 6:59 a.m.	+/-100.0
7:00 a.m. to 7:29 a.m.	+/-100.0
7:30 a.m. to 7:59 a.m.	+/-100.0
8:00 a.m. to 8:29 a.m.	+/-100.0
8:30 a.m. to 8:59 a.m.	+/-100.0
9:00 a.m. to 11:59 p.m.	+/-100.0
<b>TRAVEL TIME TO WORK</b>	
Less than 10 minutes	+/-100.0
10 to 14 minutes	+/-100.0
15 to 19 minutes	+/-100.0
20 to 24 minutes	+/-100.0
25 to 29 minutes	+/-100.0
30 to 34 minutes	+/-100.0
35 to 44 minutes	+/-100.0
45 to 59 minutes	+/-100.0
60 or more minutes	+/-100.0
Mean travel time to work (minutes)	N

<b>Subject</b>	<b>Census Tract 9810, Miami-Dade County, Florida</b>
	<b>Female</b>
	<b>Margin of Error</b>
<b>VEHICLES AVAILABLE</b>	
Workers 16 years and over in households	+/-13
No vehicle available	**
1 vehicle available	**
2 vehicles available	**
3 or more vehicles available	**
<b>PERCENT ALLOCATED</b>	
Means of transportation to work	(X)
Private vehicle occupancy	(X)
Place of work	(X)
Time leaving home to go to work	(X)
Travel time to work	(X)
Vehicles available	(X)

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 Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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

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

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

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions 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 definitions 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.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

#### Explanation of Symbols:

1. 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.
2. 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.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. 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.
6. An '\*\*\*\*\*' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. 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.
8. An '(X)' means that the estimate is not applicable or not available.

## **Appendix C**

### **Traffic Data**

# **Traffic Volumes**

## **Weekday Turning Movement Counts**

# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Bridge Rd & SR A1A MacArthur Causeway  
 City: Miami Beach  
 Control: Signalized

Project ID: 21-140212-001  
 Date: 9/15/2021

## Data - Total

NS/EW Streets:		Bridge Rd			Bridge Rd			SR A1A MacArthur Causeway			SR A1A MacArthur Causeway		
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
		0	0	0	0	0	0	0	0	0	0	0	0
<b>AM</b>	NL	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	1	164	0	0	88	0
5:45 AM	0	0	0	0	0	0	0	1	211	0	0	90	0
6:00 AM	0	0	0	0	0	1	0	1	266	0	0	129	0
6:15 AM	0	0	0	0	0	1	0	3	375	0	0	122	0
6:30 AM	0	0	0	0	0	1	0	3	436	0	0	197	0
6:45 AM	0	0	0	0	0	0	0	2	510	0	0	221	1
7:00 AM	11	0	0	0	2	0	0	11	484	0	0	289	1
7:15 AM	13	0	0	0	0	0	0	6	483	0	0	332	1
7:30 AM	13	0	0	0	0	0	0	11	554	0	1	364	1
7:45 AM	1	0	0	0	1	0	0	12	662	0	0	371	3
8:00 AM	11	0	0	0	1	0	0	10	742	0	1	376	2
8:15 AM	5	1	0	0	4	0	0	9	709	0	2	476	4
8:30 AM	10	1	0	0	3	0	0	9	703	0	0	449	5
8:45 AM	3	0	0	0	2	0	0	11	654	0	0	413	5
9:00 AM	8	0	0	0	2	0	0	14	719	0	0	367	2
9:15 AM	2	0	0	0	2	0	0	5	724	0	0	399	3
TOTAL VOLUMES :	NL	77	NT	NR	NU	SL	ST	SR	SU	EL	ET	EU	WL
APPROACH %'s :		97.47%	2.53%	0.00%	0.00%	30.36%	0.00%	69.64%	0.00%	109	83.96%	0	0
PEAK Hr :		<b>08:00 AM - 09:00 AM</b>				10	0	13	0	39	2808	0	3
PEAK HR VOL :	29	2	0	0	0	0.625	0.000	0.813	0.000	0.886	0.946	0.000	0.375
PEAK HR FACTOR :	0.659	0.500	0.000	0.000	0.705	0.821			0.946			0.900	0.955
<b>PM</b>	NL	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	18	0	0	0	0	4	0	15	0	0	0	0	0
2:45 PM	21	0	0	0	3	0	4	0	428	0	1	611	7
3:00 PM	9	0	0	0	5	0	0	17	0	1	0	562	6
3:15 PM	14	0	0	0	1	0	0	2	365	0	1	553	5
3:30 PM	14	1	2	0	5	0	2	0	431	0	0	488	2
3:45 PM	12	0	0	0	3	0	0	13	0	1	229	0	0
4:00 PM	23	0	0	0	8	0	9	0	1	278	0	0	558
4:15 PM	24	0	1	0	1	0	7	0	3	246	0	0	584
4:30 PM	5	0	0	0	2	0	7	0	2	323	0	0	614
4:45 PM	27	1	0	0	3	0	0	5	0	0	287	0	0
5:00 PM	17	1	1	0	2	0	6	0	3	588	0	1	605
5:15 PM	29	0	0	0	1	0	0	14	0	1	0	524	0
5:30 PM	9	0	0	0	3	0	0	11	0	1	472	0	0
5:45 PM	8	0	0	0	1	0	0	2	0	1	461	0	0
6:00 PM	20	0	0	0	2	0	6	0	3	490	0	0	501
6:15 PM	9	0	0	0	3	0	3	0	3	475	0	0	522
TOTAL VOLUMES :	NL	259	NT	NR	NU	SL	ST	SR	SU	EL	ET	EU	WL
APPROACH %'s :		97.31%	1.13%	1.50%	0.00%	27.33%	0.00%	72.67%	0.00%	31	62.51	0	7
PEAK Hr :		<b>05:00 PM - 06:00 PM</b>				7	0	33	0	6	2045	0	3
PEAK HR VOL :	63	1	1	0	0	0.583	0.000	0.589	0.000	0.500	0.869	0.000	0.750
PEAK HR FACTOR :	0.543	0.250	0.250	0.000	0.560	0.667			0.867			0.917	0.894

# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Bridge Rd & SR A1A MacArthur Causeway  
 City: Miami Beach  
 Control: Signalized

Project ID: 21-140212-001  
 Date: 9/15/2021

## Data - Cars

NS/EW Streets:		Bridge Rd			Bridge Rd			SR A1A MacArthur Causeway			SR A1A MacArthur Causeway		
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
AM	NL	0	0	0	0	0	0	EL	ET	ER	WL	WT	WR
5:30 AM	0	0	0	0	0	0	0	1	158	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	1	205	0	0	85	0
6:00 AM	0	0	0	0	0	1	0	1	252	0	0	125	0
6:15 AM	0	0	0	0	0	1	0	3	359	0	0	119	0
6:30 AM	0	0	0	0	0	1	0	3	416	0	0	194	0
6:45 AM	0	0	0	0	0	0	0	2	498	0	0	211	1
7:00 AM	11	0	0	0	0	0	0	11	458	0	0	279	1
7:15 AM	13	0	0	0	0	0	0	5	462	0	0	320	1
7:30 AM	13	0	0	0	0	0	0	10	538	0	0	352	0
7:45 AM	1	0	0	0	1	0	0	12	641	0	0	357	2
8:00 AM	11	0	0	0	1	0	0	10	722	0	1	369	2
8:15 AM	5	1	0	0	4	0	0	9	681	0	2	468	4
8:30 AM	10	1	0	0	3	0	0	8	674	0	0	428	5
8:45 AM	3	0	0	0	2	0	0	9	633	0	0	399	4
9:00 AM	8	0	0	0	2	0	0	14	683	0	0	356	2
9:15 AM	2	0	0	0	2	0	0	5	688	0	0	373	3
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	WL	WT
APPROACH %'s :	77	2	2.53%	0.00%	0.00%	17	0	34	0	104	8068	0	4523
PEAK HR VOL :	29	2	0.00% <b>08:00 AM - 09:00 AM</b>	0	10	0	12	0	36	2710	0	25	0
PEAK HR FACTOR :	0.659	0.500	0.000	0.000	0.625	0.000	0.750	0.000	0.900	0.938	0.375	0.000	0.889

NS/EW Streets:		Bridge Rd			Bridge Rd			SR A1A MacArthur Causeway			SR A1A MacArthur Causeway		
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
PM	NL	0	0	0	0	0	0	EL	ET	ER	WL	WT	WR
2:30 PM	18	0	0	0	4	0	13	0	4	419	0	0	0
2:45 PM	21	0	0	0	3	0	4	0	1	398	0	1	588
3:00 PM	9	0	0	0	5	0	15	0	2	358	0	1	537
3:15 PM	14	0	0	0	1	0	2	0	4	419	0	0	533
3:30 PM	14	0	2	0	4	0	11	0	1	218	0	0	479
3:45 PM	12	0	0	0	3	0	4	0	1	236	0	0	506
4:00 PM	23	0	0	0	8	0	9	0	1	274	0	0	546
4:15 PM	24	0	1	0	1	0	7	0	2	237	0	0	568
4:30 PM	4	0	0	0	2	0	7	0	2	314	0	0	590
4:45 PM	27	1	0	0	2	0	5	0	0	282	0	0	514
5:00 PM	17	1	1	0	2	0	6	0	3	583	0	1	593
5:15 PM	29	0	0	0	1	0	14	0	1	514	0	0	572
5:30 PM	9	0	0	0	3	0	11	0	1	465	0	1	528
5:45 PM	8	0	0	0	1	0	2	0	1	452	0	0	492
6:00 PM	20	0	0	0	2	0	6	0	3	484	0	0	510
6:15 PM	9	0	0	0	3	0	3	0	3	473	0	0	490
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	WL	WT
APPROACH %'s :	258	2	0.76%	4	0	45	0	119	0	30	6126	0	0
PEAK HR VOL :	63	1	1	0	7	0	33	0	6	2014	0	3	2185
PEAK HR FACTOR :	0.543	0.250	0.250	0.000	0.583	0.000	0.589	0.000	0.500	0.864	0.000	0.750	0.000

# National Data & Surveying Services Intersection Turning Movement Count

Location: Bridge Rd & SR A1A MacArthur Causeway  
 City: Miami Beach  
 Control: Signalized

Project ID: 21-140212-001  
 Date: 9/15/2021

## Data - HT

NS/EW Streets:	Bridge Rd				Bridge Rd				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway			
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES : APPROACH %'s</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR :</b>	<b>08:00 AM - 09:00 AM</b>				<b>08:00 AM - 09:00 AM</b>				<b>08:00 AM - 09:00 AM</b>				<b>08:00 AM - 09:00 AM</b>			
<b>PEAK HR VOL :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>PEAK HR FACTOR :</b>																
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	NL	NT	NR	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES : APPROACH %'s</b>	1	1	NR	NU	NU	SL	SL	ST	SR	SU	EL	ET	ER	EU	WL	WR
<b>PEAK HR :</b>	<b>05:00 PM - 06:00 PM</b>				<b>05:00 PM - 06:00 PM</b>				<b>05:00 PM - 06:00 PM</b>				<b>05:00 PM - 06:00 PM</b>			
<b>PEAK HR VOL :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>PEAK HR FACTOR :</b>																
NL	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	NT	NR	NU	NU	SL	SL	ST	SR	SU	EL	ET	ER	EU	WL	WR	WL
Total Cars AM Peak	29	2	0	0	10	0	13	0	39	2808	0	3	0	1714	16	0
Heavy Vehicles AM	0	0	0	0	0	0	1	0	3	98	0	0	0	50	1	0
% Heavy Vehicles AM	0	0	0	0	#DIV/0!	0	#DIV/0!	0	0	0	0	0	0	0	0	0
Total Cars AM Peak	63	1	1	0	7	0	33	0	6	2045	0	3	0	222	9	0
Heavy Vehicles AM	0	0	0	0	#DIV/0!	0	#DIV/0!	0	31	0	0	0	0	37	0	0
% Heavy Vehicles AM	0	0	0	0	#DIV/0!	0	#DIV/0!	0	0.015159	#DIV/0!	0	0.016652	0	0.771	0.944	#DIV/0!

# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Bridge Rd & SR A1A MacArthur Causeway  
 City: Miami Beach  
 Control: Signalized

Project ID: 21-140212-001  
 Date: 9/15/2021

## Data - Bikes

NS/EW Streets:		Bridge Rd			Bridge Rd			SR A1A MacArthur Causeway			SR A1A MacArthur Causeway		
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
AM	NL	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL
APPROACH %'s :					0	0	0	0	0	16	0	0	0
PEAK HR :		<b>08:00 AM - 09:00 AM</b>			0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	7	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.000	0.583

NS/EW Streets:		Bridge Rd			Bridge Rd			SR A1A MacArthur Causeway			SR A1A MacArthur Causeway		
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
PM	NL	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL
APPROACH %'s :					1	0	0	0	0	8	0	7	0
PEAK HR :		<b>05:00 PM - 06:00 PM</b>			100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	87.50%	12.50%
PEAK HR VOL :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.500	0.417
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.500	0.417



# Bridge Rd & SR A1A MacArthur Causeway

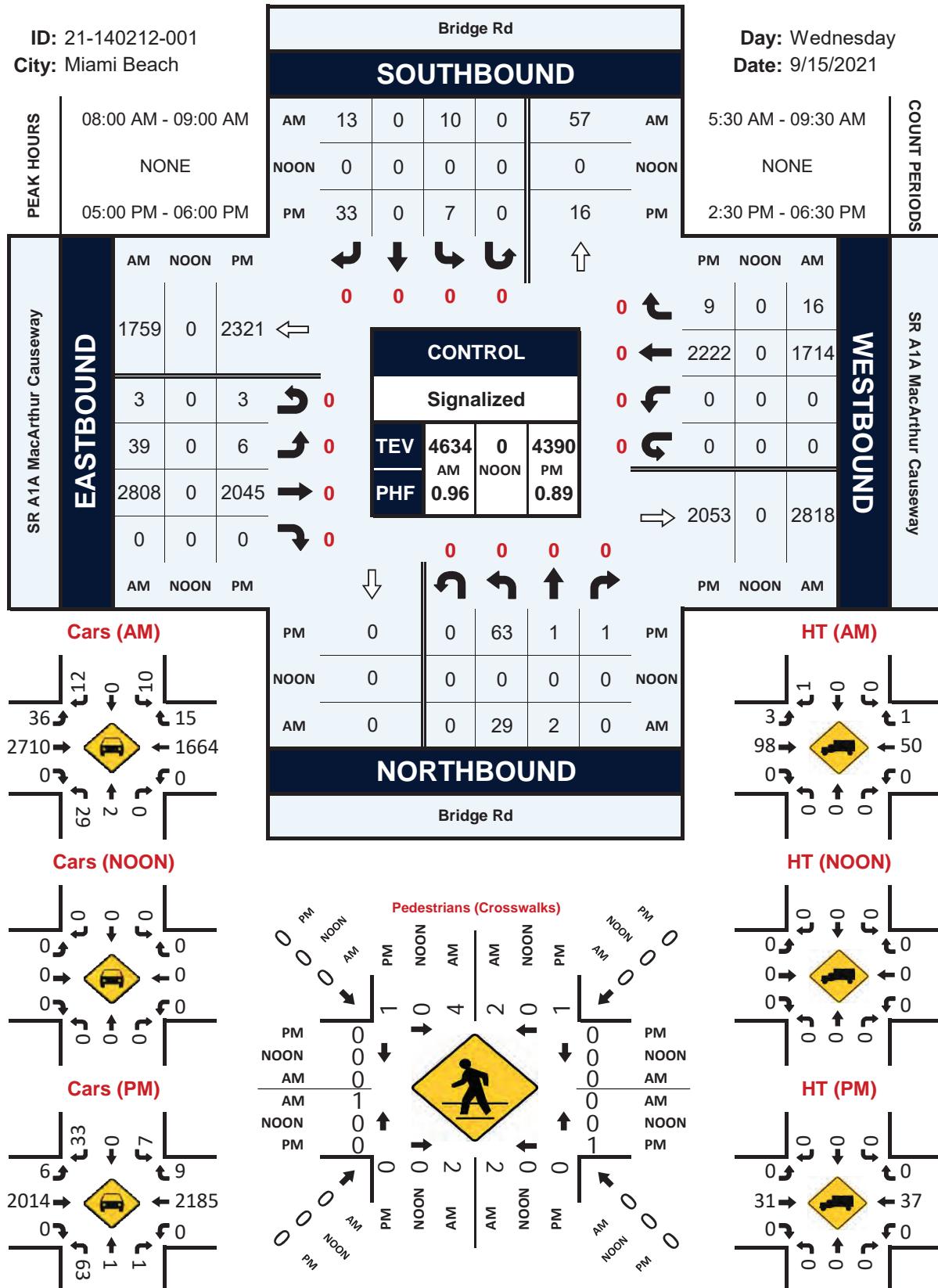
## Peak Hour Turning Movement Count

ID: 21-140212-001

City: Miami Beach

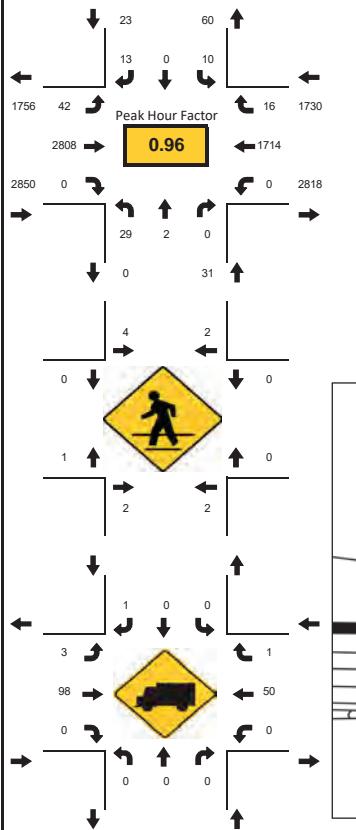
Day: Wednesday

Date: 9/15/2021



**LOCATION:** Bridge Rd & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

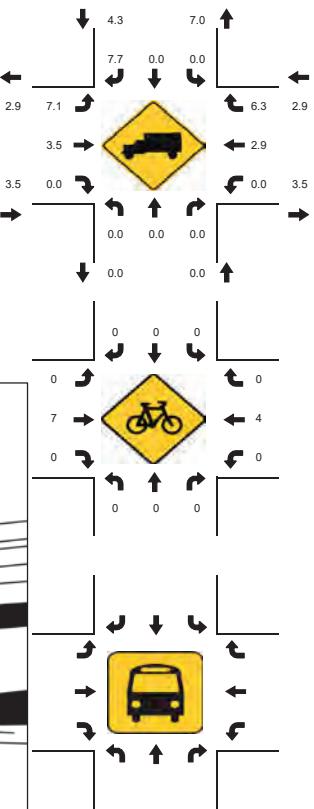
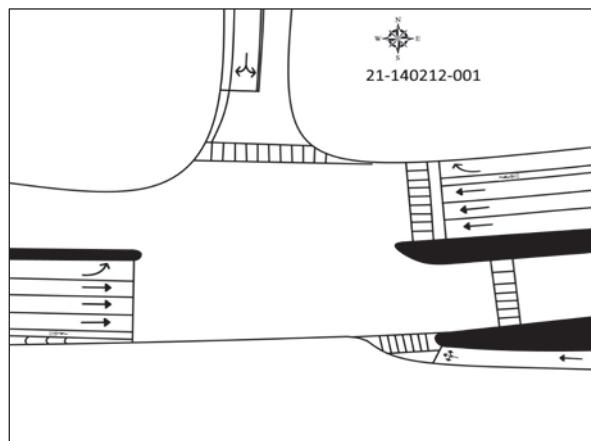
PROJECT ID: 21-140212-001  
DATE: Wed, Sep 15, 2021



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

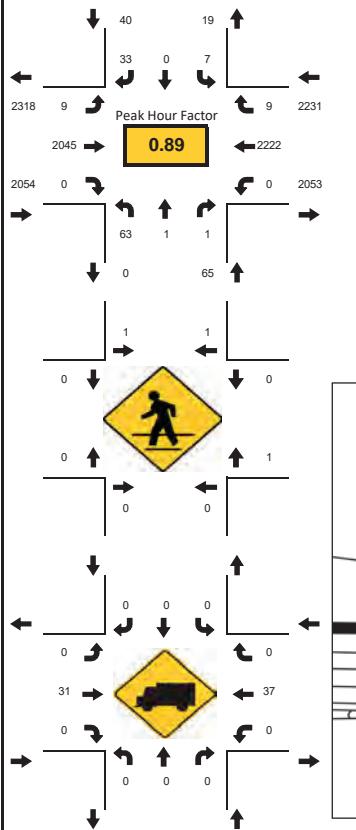


National Data & Surveying Services



**LOCATION:** Bridge Rd & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

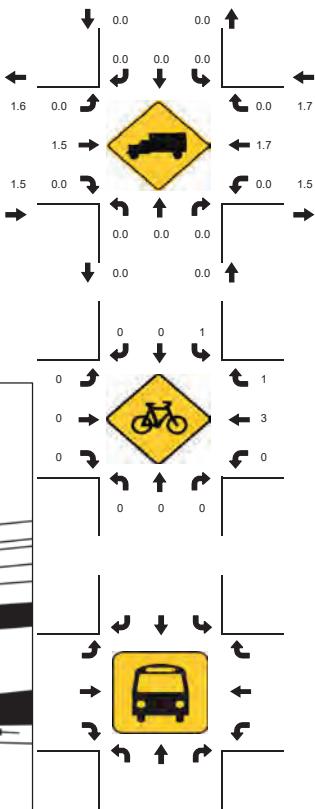
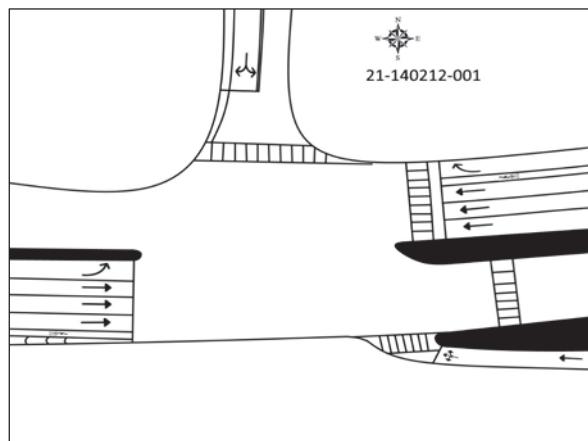
PROJECT ID: 21-140212-001  
DATE: Wed, Sep 15, 2021



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



National Data & Surveying Services





N/S Street: Bridge Rd

National Data & Surveying Services

Site Code: 21-140212-001

Date: 09/15/2021

Weather: Sunny

City: Miami Beach

County: Miami-Dade

Count Times: 05:30 - 09:30

14:30 - 16:30

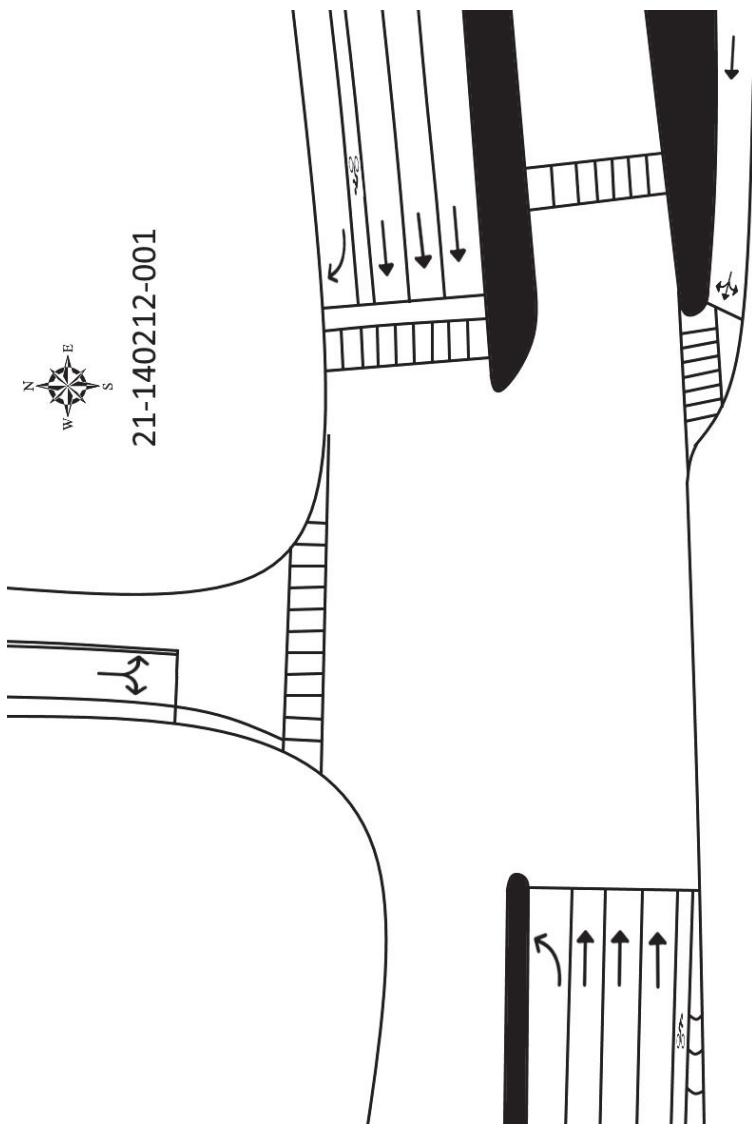
Control: Signalized

SIGNAL TIMING

PHASES	1	2	3
NL/NT	00:28	00:26	00:17
SL	00:20	-	-
ET/WT	01:33	01:55	04:21

E/W Street: SR A1A MacArthur Causeway | Speed: 25 MPH

| Speed: 40 MPH



# National Data & Surveying Services Intersection Turning Movement Count

Location: Terminal Island Entrance & SR AIA MacArthur Causeway  
City: Miami Beach

Contact: Signalized

Project ID: 21-14021-002  
Date: 9/15/2021

## Data - Total

NS/EW Streets:	Terminal Island Entrance		Terminal Island Entrance		SR AIA MacArthur Causeway				SR AIA MacArthur Causeway				Terminal Island			
	NORTHBOUND	SOUTHBOUND	NR	SL	ST	SR	SL	ST	NR	SL	ST	SR	SL	ST	NR	SL
<b>AM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	126	0	0	29	1	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	174	0	0	86	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	179	0	0	83	1	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	269	0	0	111	1	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	321	0	0	120	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	455	0	0	69	2	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	368	0	0	76	13	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	412	0	0	69	15	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	448	0	0	75	20	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	588	0	0	71	17	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	679	0	0	54	7	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	648	0	0	43	26	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	631	0	0	51	16	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	621	0	0	6	39	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	665	0	0	31	19	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	659	0	0	46	26	0	0
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	729	0	0	981	215	0	0
APPROACH %'s:	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	11.64%	0	0	450	90	0	0
PEAK HR : PEAK HR VOL :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.2599	0	0	2579	0	0	0
PEAK HR FATOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.953	0	0	71.13	0.564	0.000	0.000

PM	NORTHBOUND		SOUTHBOUND		EASTBOUND				WESTBOUND				TOTAL			
	NR	SL	NR	SL	NR	SL	NR	SL	NR	SL	NR	SL	NR	SL	NR	SL
2:30 PM	0	0	0	0	0	0	0	0	0	410	0	0	14	10	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	393	0	0	9	4	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	361	0	0	7	9	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	415	0	0	4	14	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	219	0	0	4	4	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	234	0	0	7	6	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	264	0	0	6	5	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	269	0	0	8	9	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	296	0	0	10	4	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	305	0	0	3	4	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	547	0	0	5	13	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	545	0	0	3	11	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	448	0	0	4	9	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	466	0	0	4	9	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	467	0	0	1	8	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	463	0	0	0	6	0	0
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	506	0	0	0	0	0	0
APPROACH %'s:	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	93.0	0	0	93	124	0	0
PEAK HR : PEAK HR VOL :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.9656	0	0	8056	0	0	0
PEAK HR FATOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.9177	0	0	0.9177	0.9194	0.000	0.000

## Explanation for extra leg movements

Movements entering the extra leg

E12 Movements coming from EB on SR AIA MacArthur Causeway entering into the Extra Leg (Terminal Island)

W12 Movements coming from WB on Terminal Island entering into the Extra Leg (Terminal Island)

Movements exiting the extra leg

E21 Movements exiting from WB on Terminal Island entering into SR AIA MacArthur Causeway heading WB

W21 Movements exiting from WB on Terminal Island entering into SR AIA MacArthur Causeway heading EB

W22 Movements exiting from WB on Terminal Island leaving into SR AIA MacArthur Causeway heading EB

## Explanation for extra leg movements

Movements entering the extra leg

E12 Movements coming from EB on SR AIA MacArthur Causeway entering into the Extra Leg (Terminal Island)

W12 Movements coming from WB on SR AIA MacArthur Causeway entering into the Extra Leg (Terminal Island)

Movements exiting the extra leg

E21 Movements exiting from WB on Terminal Island entering into SR AIA MacArthur Causeway heading WB

W21 Movements exiting from WB on Terminal Island entering into SR AIA MacArthur Causeway heading EB

W22 Movements exiting from WB on Terminal Island leaving into SR AIA MacArthur Causeway heading EB





National Data & Surveying ServicesIntersection Turning Movement Count

**Location:** Terminal Island Entrance & SR A/A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

Project ID: 21-140212-002  
Date: 9/15/2021

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**City:** Miami Beach

**Project ID:** 21-140212-002  
**Date:** 9/15/2021

## Data - Pedestrians (Crosswalks)

NS/EW Streets:	Terminal Island Entrance		Terminal Island Entrance		SR A1A MacArthur Causeway		SR A1A MacArthur Causeway		TOTAL
	AM		NORTH LEG		SOUTH LEG		EAST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
5:30 AM	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	2	0	0	2
6:00 AM	0	0	0	0	1	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	1	2	0	1	0	0	4
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	1	0	0	2	0	0	3
8:00 AM	0	0	1	3	0	3	0	0	7
8:15 AM	0	0	1	2	0	0	0	0	3
8:30 AM	0	0	0	2	0	2	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	1	0	1	0	0	2
9:15 AM	0	0	0	1	0	1	0	0	2
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 4	WB 12	NB 1	SB 13	NB 0	SB 0	TOTAL 30
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	2	7	0	5	0	0	14
PEAK HR FACTOR :			0.500 0.563	0.583 0.563		0.417 0.417			0.500

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:30 PM	0	0	0	0	1	0	0	0	1
2:45 PM	0	0	0	1	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	1	0	1	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	2	0	0	0	0	0	2
4:15 PM	0	0	0	0	1	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	2	1	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	1	0	0	0	1
6:15 PM	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 5	WB 3	NB 5	SB 1	NB 0	SB 0	TOTAL 14
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	0	0	0	0	1	1	0	0	2
PEAK HR FACTOR :			0.250 0.500	0.250 0.500		0.250 0.500			0.500

# Terminal Island Entrance & SR A1A MacArthur Causeway

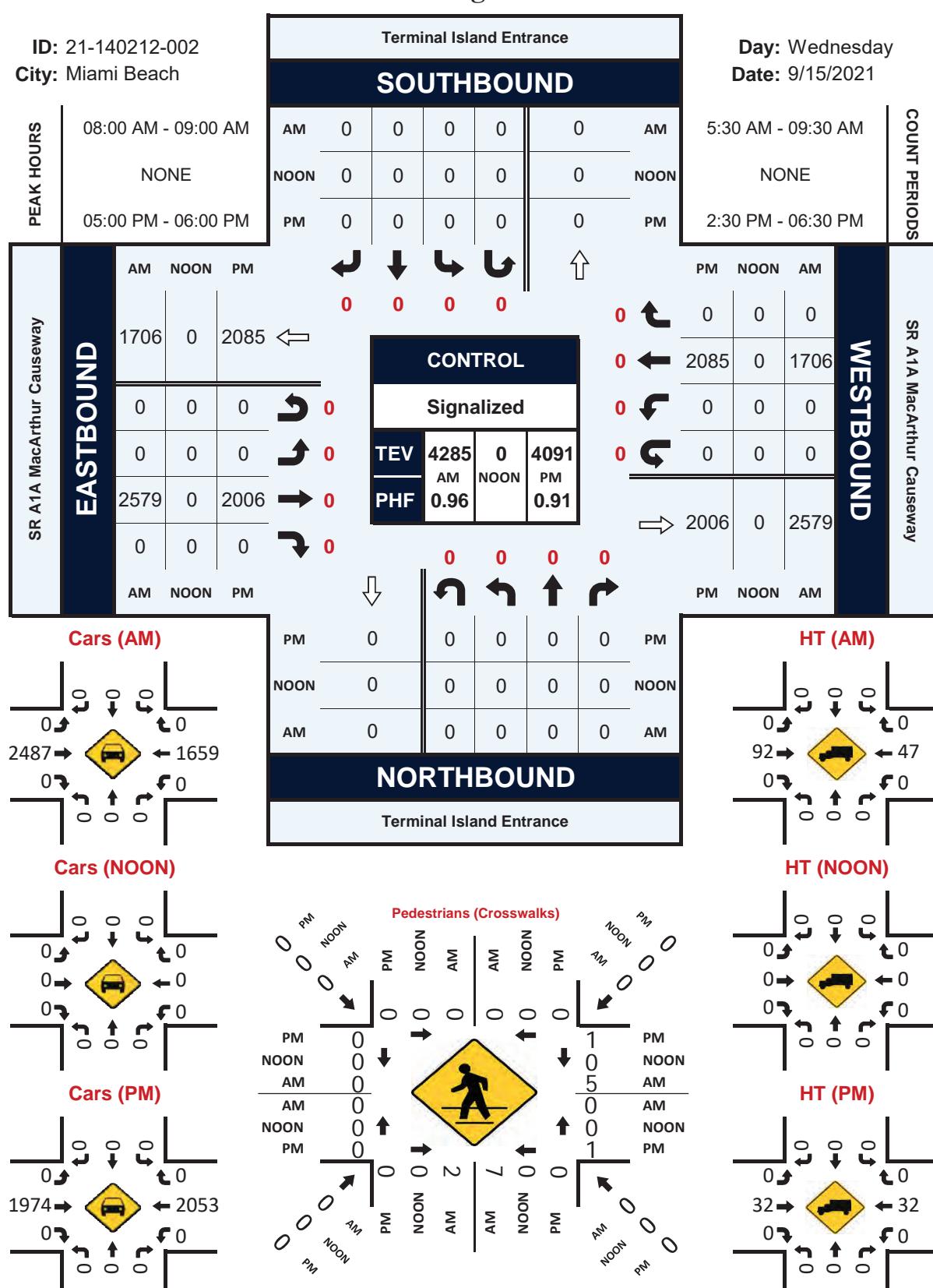
## Peak Hour Turning Movement Count

ID: 21-140212-002

City: Miami Beach

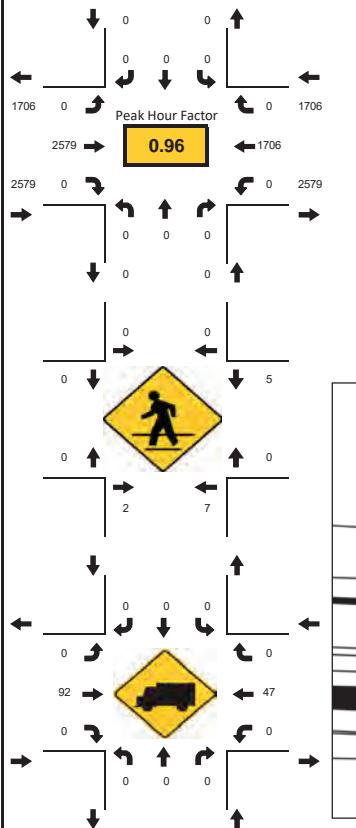
Day: Wednesday

Date: 9/15/2021



**LOCATION:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

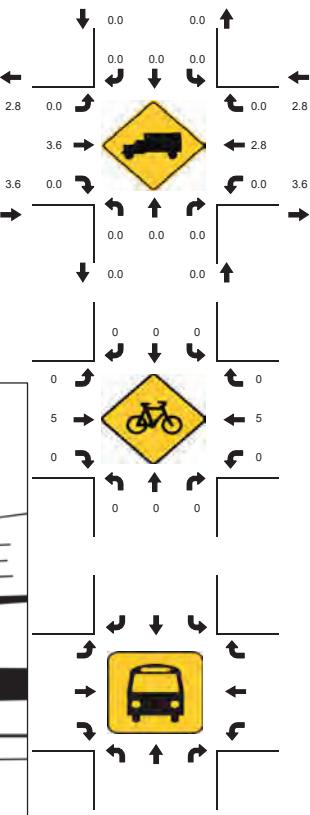
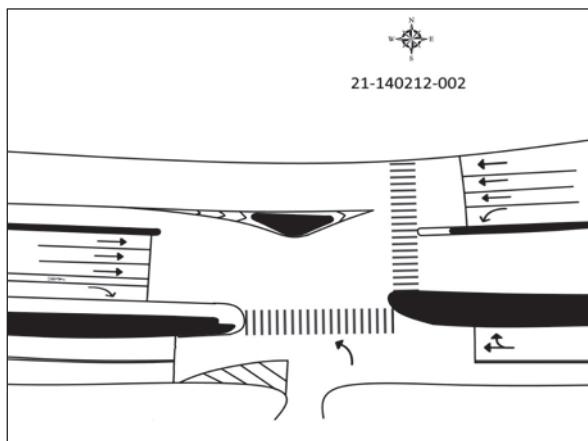
**PROJECT ID:** 21-140212-002  
**DATE:** Wed, Sep 15, 2021



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

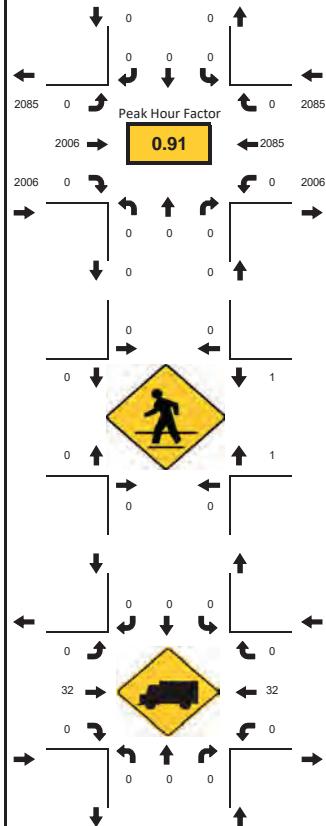


National Data & Surveying Services

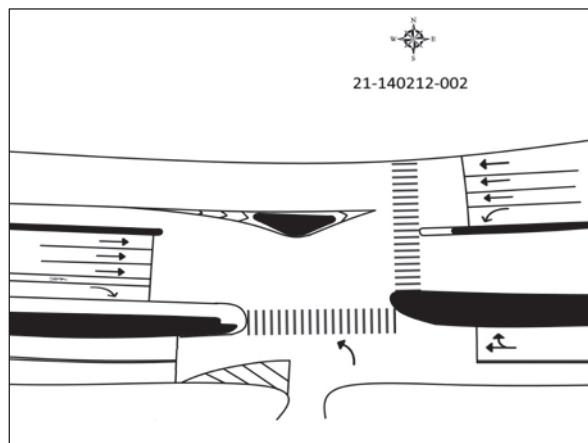
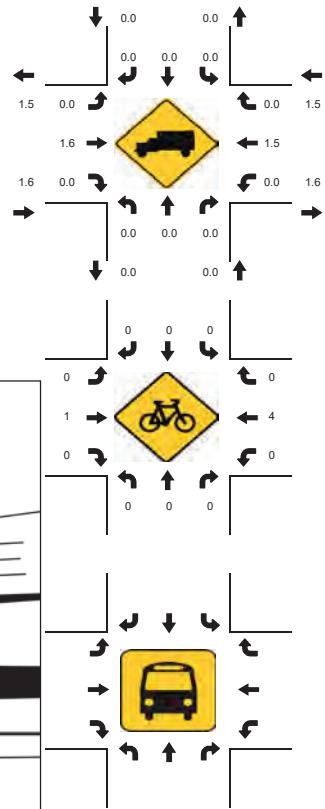


LOCATION: Terminal Island Entrance & SR A1A MacArthur Causeway  
CITY/STATE: Miami Beach, FL

PROJECT ID: 21-140212-002  
DATE: Wed, Sep 15, 2021



Peak-Hour: 05:00 PM - 06:00 PM  
Peak 15-Minute: 05:15 PM - 05:30 PM



15-Min Count Period Beginning At	Terminal Island Entrance Northbound					Terminal Island Entrance Southbound					SR A1A MacArthur Causeway Eastbound					SR A1A MacArthur Causeway 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	410	0	0	0	0	548	0	0	0	958	3595
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	393	0	0	0	0	502	0	0	0	895	3306
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	361	0	0	0	0	520	0	0	0	881	3077
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	415	0	0	0	0	446	0	0	0	861	2964
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	219	0	0	0	0	450	0	0	0	669	2901
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	244	0	0	0	0	422	0	0	0	666	3059
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	264	0	0	0	0	504	0	0	0	768	3197
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	244	0	0	0	0	554	0	0	0	798	3517
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	299	0	0	0	0	528	0	0	0	827	3832
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	295	0	0	0	0	509	0	0	0	804	3940
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	547	0	0	0	0	541	0	0	0	1088	4091
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	545	0	0	0	0	568	0	0	0	1113	3952
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	448	0	0	0	0	487	0	0	0	935	3828
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	466	0	0	0	0	489	0	0	0	955	2893
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	467	0	0	0	0	482	0	0	0	949	1938
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	483	0	0	0	0	506	0	0	0	989	989
Northbound					Southbound					Eastbound					Westbound					Total		
All Vehicles					Heavy Trucks					Pedestrians					Bicycles					Total		
Buses					Stopped Buses															4460		



National Data & Surveying Services

N/S Street: Terminal Island Entrance



Speed: N/A

E/W Street: SR A1A MacArthur Causeway Speed: 40 MPH



Site Code: 21-140212-002

Date: 09/15/2021

Weather: Sunny

City: Miami Beach

County: Miami-Dade

Count Times: 05:30 - 09:30

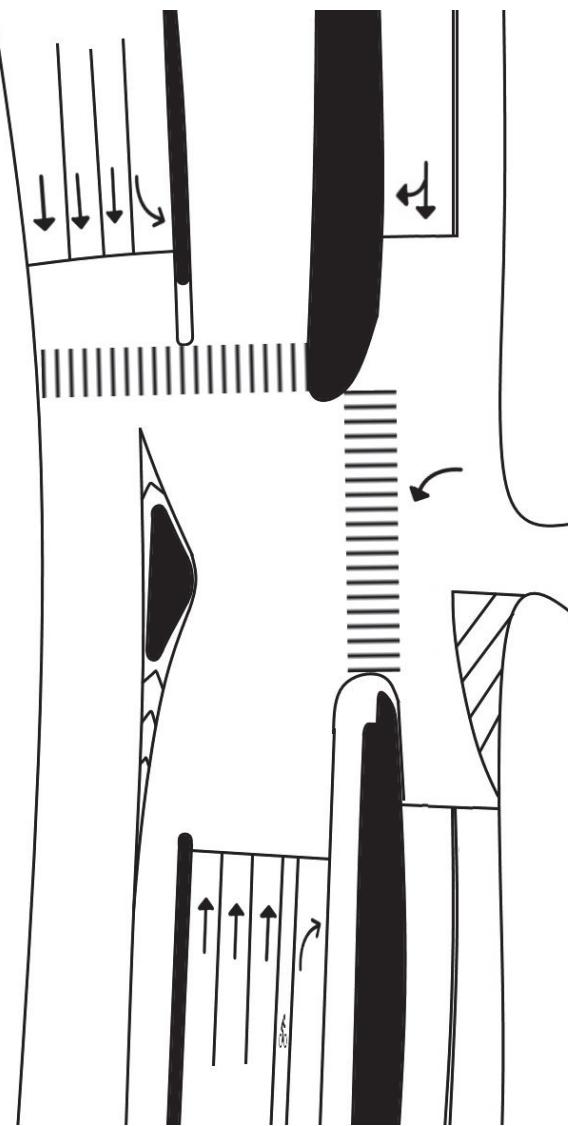
14:30 - 16:30

Control: Signalized

SIGNAL TIMING

PHASES	1	2	3
NL/WT	00:31	00:32	00:28
WL/WT	00:14	00:14	00:15
ET/WT	01:33	01:35	01:36

21-140212-002



# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Alton Rd & SR A1A/5th St/SR A1A/5th St  
 City: Miami Beach  
 Control: Signalized

Project ID: 21-140212-003  
 Date: 9/15/2021

## Data - Total

NS/EW Streets:	Alton Rd				Alton Rd				SR A1A/5th St/SR A1A/5th St				SR A1A/5th St/SR A1A/5th St			
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	9	3	2	0	1	4	28	0	0	48	21	0	0	38	5	0
5:45 AM	8	2	4	0	0	1	24	0	3	62	26	0	0	40	3	0
6:00 AM	12	1	3	0	5	6	37	0	1	49	46	0	0	62	5	0
6:15 AM	14	5	1	0	5	7	42	0	1	73	43	0	0	54	5	0
6:30 AM	20	3	3	0	8	57	0	1	111	64	0	0	87	1	0	
6:45 AM	32	11	1	0	6	19	69	0	0	126	81	0	0	83	11	0
7:00 AM	52	20	5	0	17	20	80	2	3	123	71	0	4	115	8	0
7:15 AM	50	10	2	0	11	21	131	0	0	136	55	0	2	115	9	0
7:30 AM	56	14	1	0	13	15	110	0	1	125	83	0	2	120	9	0
7:45 AM	47	22	2	0	17	27	128	0	3	191	100	0	1	147	11	0
8:00 AM	42	29	4	0	15	29	132	0	4	260	112	0	7	139	13	0
8:15 AM	64	37	6	0	22	31	150	1	5	254	125	0	6	214	29	2
8:30 AM	55	41	3	0	18	35	151	0	3	256	122	2	7	158	13	0
8:45 AM	50	31	3	0	18	49	126	0	1	279	91	0	6	163	21	0
9:00 AM	46	27	2	0	24	43	85	0	1	254	133	0	7	145	12	1
9:15 AM	48	38	2	0	17	48	104	0	2	271	137	0	5	156	22	2
TOTAL VOLUMES :	605	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
APPROACH %'s :	64.16%	31.18%	4.67%	0.00%	199	368	1454	3	29	2618	1310	2	48	1836	177	5
PEAK HR VOL :	211	138	16	0	73	144	559	1	13	1049	450	2	26	674	76	2
PEAK HR FACTOR :	0.824	0.841	0.667	0.000	0.830	0.735	0.925	0.250	0.650	0.940	0.900	0.250	0.929	0.787	0.655	0.250
TOTAL VOLUMES :	1,433	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
APPROACH %'s :	67.56%	29.23%	3.21%	0.00%	312	790	2320	6	35	2037	1179	1	74	3573	471	8
PEAK HR VOL :	355	171	20	0	68	213	628	1	11	616	364	0	16	958	125	2
PEAK HR FACTOR :	0.785	0.838	0.714	0.000	0.773	0.832	0.935	0.250	0.688	0.806	0.989	0.000	0.667	0.890	0.947	0.500

National Data & Surveying Services Intersection Turning Movement Count

**Location:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**City:** Miami Beach  
**Control:** Signalized

Project ID: 21-140212-003  
Date: 9/15/2021

Data - Cars

NS/EW Streets:	Alton Rd				Alton Rd				SR A1A/5th St/SR A1A/5th St				SR A1A/5th St/SR A1A/5th St				
	NS/EW		EW		NS		EW		NS		EW		NS		EW		
	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach	Approach
<b>AM</b>	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	0 TOTAL
5:30 AM	8	2	2	0	2	5	24	0	0	43	21	0	0	36	4	0	147
5:45 AM	7	2	4	0	1	4	27	0	1	59	26	0	0	40	3	0	174
6:00 AM	12	1	3	0	4	5	34	0	0	43	42	0	0	61	4	0	209
6:15 AM	14	5	1	0	4	7	41	0	0	68	40	0	0	53	4	0	237
6:30 AM	20	2	3	0	8	7	56	0	0	101	63	0	0	82	1	0	343
6:45 AM	32	11	1	0	5	18	65	0	0	122	80	0	0	0	11	0	422
7:00 AM	52	19	5	0	16	20	76	2	1	115	69	0	0	3	109	7	494
7:15 AM	50	10	2	0	11	21	127	0	0	130	53	0	0	2	106	8	520
7:30 AM	54	14	1	0	12	13	106	0	0	122	78	0	0	1	112	8	521
7:45 AM	46	22	2	0	17	26	123	0	0	184	99	0	0	1	143	11	674
8:00 AM	42	26	4	0	15	28	127	0	3	250	111	0	0	5	137	13	761
8:15 AM	64	35	6	0	22	28	145	1	3	247	122	0	0	6	210	29	920
8:30 AM	52	37	3	0	18	34	146	0	2	247	114	2	0	6	154	11	826
8:45 AM	48	30	3	0	18	49	120	0	1	271	87	0	0	4	159	21	811
9:00 AM	46	26	2	0	24	41	81	0	0	241	129	0	0	4	139	12	746
9:15 AM	46	33	2	0	17	46	96	0	0	258	126	0	0	4	140	21	791
<b>TOTAL VOLUMES : APPROACH %'s :</b>	593 65.02%	275 30.15%	44 4.82%	0 0.00%	194 9.98%	352 18.12%	1394 71.74%	3 0.15%	11 0.29%	2801 66.27%	1280 33.39%	2 0.05%	36 1.83%	1758 89.37%	168 8.54%	5 0.25%	<b>TOTAL 85%</b>
<b>PEAK HR :</b>	206 0.805	128 0.835	16 0.667	0 0.000	73 0.830	139 0.709	538 0.948	1 0.921	9 0.750	1015 0.936	434 0.981	2 0.250	21 0.875	660 0.786	74 0.638	2 0.250	<b>TOTAL 3318</b>
<b>PEAK HR VOL :</b>	206 0.805	128 0.833	16 0.667	0 0.000	73 0.830	139 0.709	538 0.948	1 0.921	9 0.750	1015 0.936	434 0.981	2 0.250	21 0.875	660 0.786	74 0.638	2 0.250	<b>0.902</b>

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WR	WT	WU	
2:30 PM	75	28	3	0	16	31	149	1	0	137	67	0	1	236	15	1	
2:45 PM	82	31	4	0	21	41	130	1	1	165	71	0	2	217	25	1	
3:00 PM	110	38	1	0	27	38	143	0	1	108	59	0	4	207	35	0	
3:15 PM	80	40	7	0	20	45	125	0	1	146	82	0	8	188	44	0	
3:30 PM	72	45	2	0	20	43	127	2	0	80	47	0	2	213	34	0	
3:45 PM	86	37	10	0	31	50	103	0	2	85	50	0	3	176	20	1	
4:00 PM	117	39	5	0	27	54	139	0	0	104	77	0	2	204	27	1	
4:15 PM	113	37	3	0	16	51	122	0	0	81	47	0	2	270	40	0	
4:30 PM	84	39	3	0	18	71	155	0	0	76	68	0	6	196	23	0	
4:45 PM	84	36	2	0	18	63	148	0	0	108	65	0	3	205	29	2	
5:00 PM	112	50	5	0	15	62	153	0	0	163	90	0	2	246	30	1	
5:15 PM	90	43	7	0	20	61	149	0	0	186	89	0	2	262	32	1	
5:30 PM	81	40	3	0	11	38	163	1	2	139	91	0	4	213	31	0	
5:45 PM	68	35	5	0	22	49	150	0	1	114	90	0	4	221	30	0	
6:00 PM	79	40	4	0	13	32	123	1	0	142	80	0	6	234	28	0	
6:15 PM	81	29	3	0	15	51	163	0	1	151	90	0	5	188	19	0	
TOTAL VOLUMES : APPROACH'S :	1414	607	NL	NR	NU	SL	ST	SR	6	9	1985	1163	1	56	3476	462	8
PEAK HR :	05:00 PM - 06:00 PM	67.72%	29.07%	3.21%	0.00%	9.29%	23.37%	67.17%	0.18%	0.28%	62.86%	36.83%	0.03%	1.40%	86.86%	11.54%	0.20%
PEAK HR VOL :	351	168	20	0	68	210	615	1	3	602	360	0	12	942	123	2	
PEAK HR FACTOR :	0.783	0.840	0.714	0.000	0.773	0.847	0.943	0.250	0.375	0.809	0.989	0.000	0.750	0.899	0.961	0.500	



# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Alton Rd & SR A1A/5th St/SR A1A/5th St  
 City: Miami Beach  
 Control: Signalized

Project ID: 21-140212-003  
 Date: 9/15/2021

## Data - Bikes

NS/EW Streets:	Alton Rd				Alton Rd				SR A1A/5th St/SR A1A/5th St				SR A1A/5th St/SR A1A/5th St			
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		WL		WT		WR		WU	
<b>AM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1
6:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0
7:00 AM	0	0	0	0	0	1	1	0	0	0	3	0	0	0	0	0
7:15 AM	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
7:30 AM	0	2	0	0	0	1	3	0	1	0	0	0	0	1	0	10
7:45 AM	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0
8:00 AM	0	0	0	0	0	1	1	0	1	0	2	0	0	0	0	0
8:15 AM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:30 AM	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0
9:00 AM	2	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
9:15 AM	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0
TOTAL VOLUMES :	7	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	0	0	0	0
APPROACH %'s :	43.75%	43.75%	12.50%	0.00%	6.45%	58.06%	35.48%	0.00%	41.67%	33.33%	25.00%	0.00%	0.00%	100.00%	0.00%	0.00%
PEAK HR VOL :	0	4	0	0	0	5	5	0	1	0	2	0	0	1	0	0
PEAK HR FACTOR :	0.000	0.333	0.000	0.000	0.625	0.625	0.000	0.833	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.750
<b>PM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	0	0	0	0	0
2:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2:45 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0
3:00 PM	0	1	0	0	0	1	0	0	0	0	3	0	0	0	0	5
3:15 PM	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	3
3:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	1	4
3:45 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	4
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	6
4:30 PM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	3
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	4
5:15 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	4
5:30 PM	0	4	2	0	1	3	1	0	0	0	2	0	0	0	0	15
5:45 PM	2	0	0	0	0	3	1	0	0	0	1	0	0	0	0	7
6:00 PM	0	2	1	0	0	1	0	0	2	1	1	0	0	1	0	10
6:15 PM	1	1	0	0	0	0	0	0	7	2	0	0	0	0	0	12
TOTAL VOLUMES :	3	13	9	NU	SL	ST	SR	SU	EL	ET	ER	EU	0	6	0	1
APPROACH %'s :	12.00%	52.00%	36.00%	0.00%	7.41%	51.85%	37.04%	1	41.94%	48.39%	9.68%	0.00%	0.00%	85.71%	0.00%	14.29%
PEAK HR VOL :	2	5	3	0	1	7	4	1	3	15	3	0	0	0	0	30
PEAK HR FACTOR :	0.250	0.313	0.375	0.000	0.250	0.583	0.333	0.250	0.750	0.750	0.250	0.000	0.000	0.250	0.000	0.500

# National Data & Surveying Services Intersection Turning Movement Count

Location: Alton Rd & SR A1A/5th St/SR A1A/5th St  
City: Miami Beach

Project ID: 21-140212-003  
Date: 9/15/2021

## Data - Pedestrians (Crosswalks)

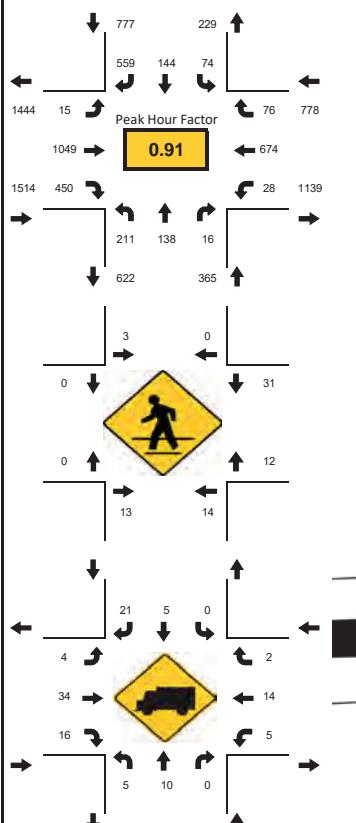
NS/EW Streets:	Alton Rd		Alton Rd		SR A1A/5th St/SR A1A/5th St		SR A1A/5th St/SR A1A/5th St		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
AM	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
5:30 AM	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	2	1	2	2	0	0	7
6:00 AM	0	1	0	1	0	1	0	0	3
6:15 AM	0	0	0	1	0	3	0	0	4
6:30 AM	0	0	0	4	2	3	0	0	9
6:45 AM	0	0	0	3	3	2	0	0	8
7:00 AM	1	1	1	3	1	7	0	0	14
7:15 AM	0	0	2	2	1	2	0	0	7
7:30 AM	0	1	6	7	5	5	0	1	25
7:45 AM	0	0	3	8	1	8	0	0	20
8:00 AM	1	0	2	4	4	13	0	0	24
8:15 AM	2	0	7	6	5	9	0	0	29
8:30 AM	0	0	3	0	2	2	0	0	7
8:45 AM	0	0	1	4	1	7	0	0	13
9:00 AM	0	0	8	5	6	5	0	1	25
9:15 AM	0	0	4	3	5	13	0	1	26
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	4	3	39	52	38	82	0	3	221
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	3	0	13	14	12	31	0	0	73
PEAK HR FACTOR :	0.375	0.375	0.464	0.583	0.600	0.596	0.632		0.629

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:30 PM	0	0	2	1	3	5	0	0	11
2:45 PM	0	0	2	1	8	3	0	0	14
3:00 PM	0	0	3	2	7	6	0	0	18
3:15 PM	0	0	4	3	4	4	0	0	15
3:30 PM	0	0	1	2	6	2	1	1	13
3:45 PM	0	0	3	6	6	5	0	1	21
4:00 PM	0	0	2	0	4	7	0	1	14
4:15 PM	0	0	6	1	4	2	1	0	14
4:30 PM	0	0	1	0	2	2	0	4	9
4:45 PM	0	0	3	1	9	1	0	0	14
5:00 PM	0	0	3	1	4	3	0	0	11
5:15 PM	0	0	6	3	9	4	0	0	22
5:30 PM	0	1	2	5	8	6	1	0	23
5:45 PM	0	0	2	12	3	14	0	1	32
6:00 PM	0	0	5	3	4	8	0	0	20
6:15 PM	0	0	2	7	3	8	0	2	22
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	1	47	48	84	80	3	10	273
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	0	1	13	21	24	27	1	1	88
PEAK HR FACTOR :	0.250	0.250	0.542	0.438	0.667	0.482	0.250	0.250	0.688
	0.250		0.607		0.750		0.500		



**LOCATION:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**CITY/STATE:** Miami Beach, FL

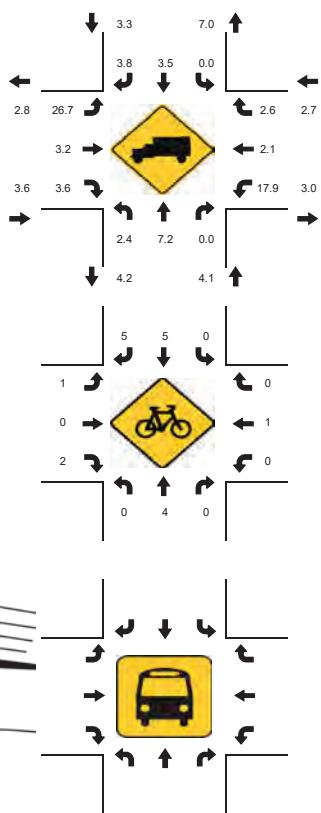
PROJECT ID: 21-140212-003  
DATE: Wed, Sep 15, 2021



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

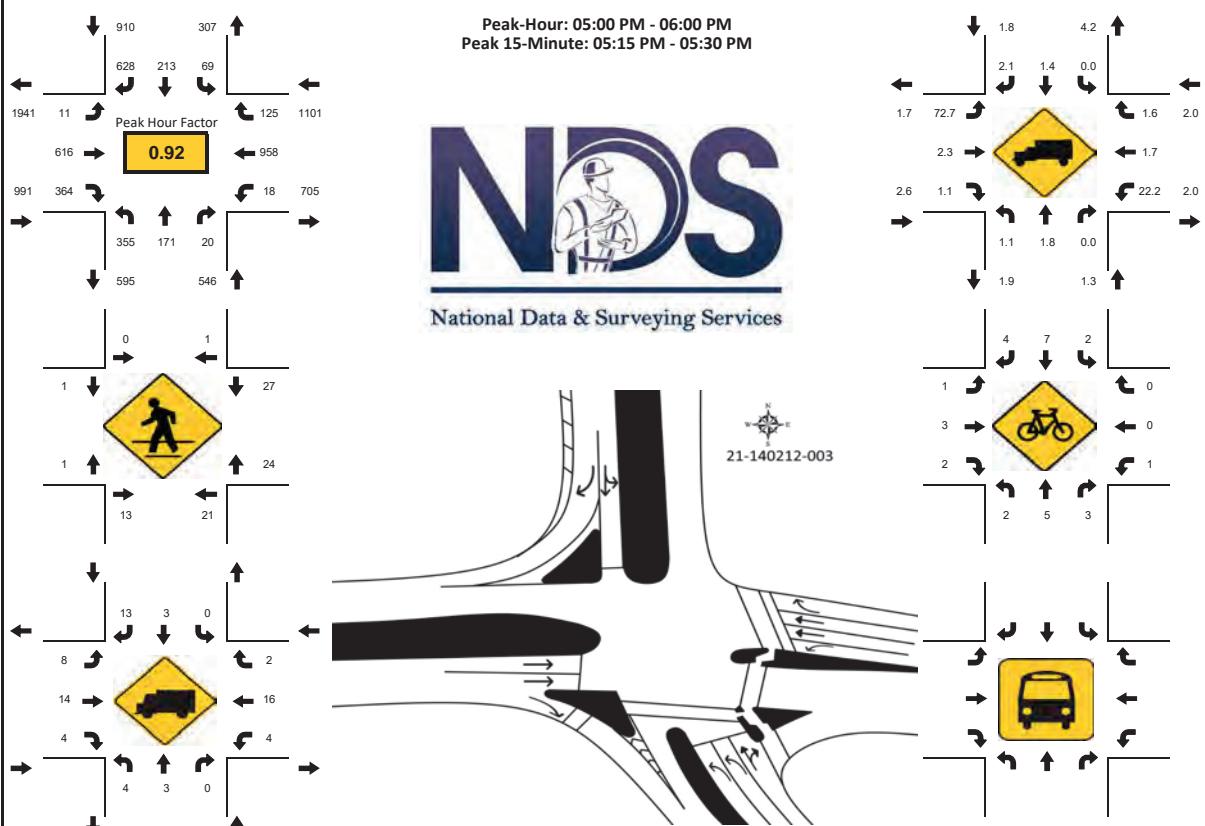


National Data & Surveying Services



**LOCATION:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**CITY/STATE:** Miami Beach, FL

PROJECT ID: 21-140212-003  
DATE: Wed, Sep 15, 2021



National Data & Surveying Services



21-140212-003



N/S Street: Alton Rd



National Data & Surveying Services

Site Code: 21-140212-003

Date: 09/15/2021

Weather: Sunny

City: Miami Beach

County: Miami-Dade

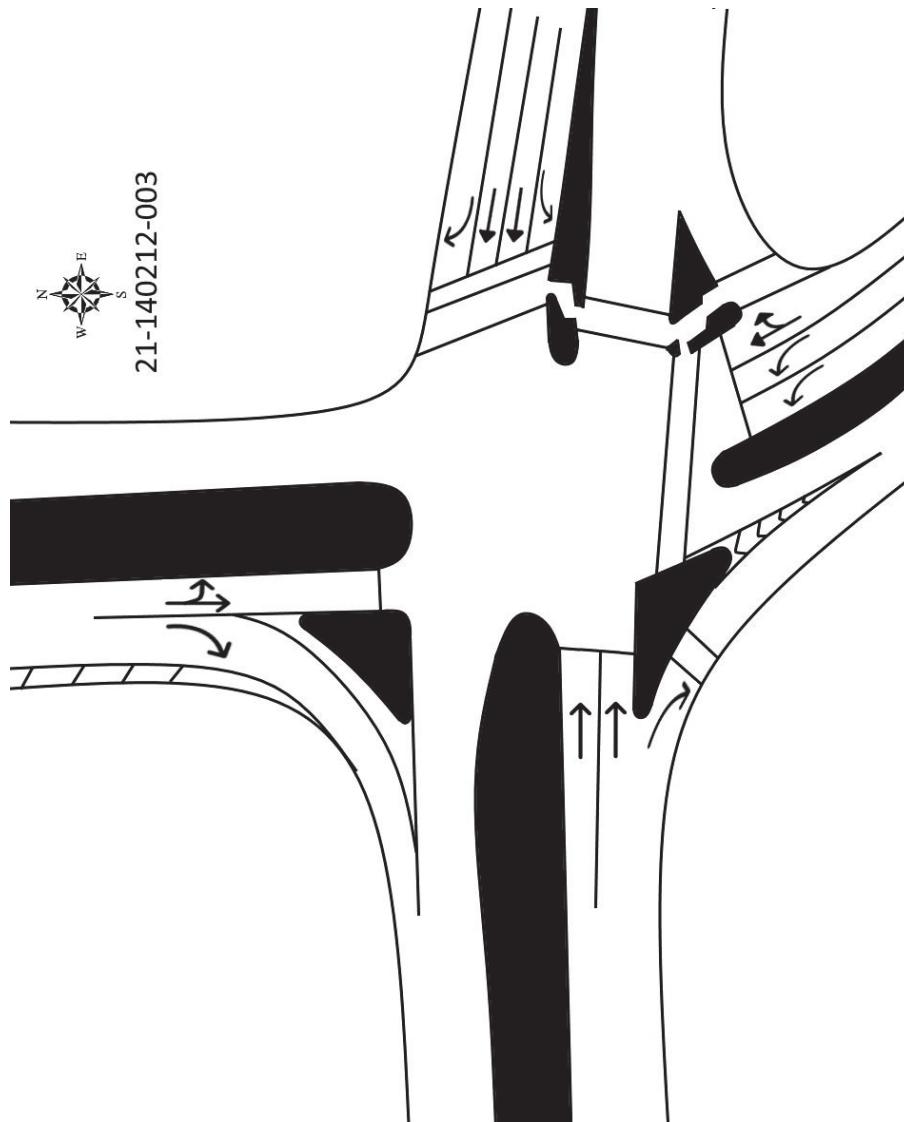
Count Times: 05:30 - 09:30

14:30 - 16:30

Control: Signalized

SIGNAL TIMING

PHASES	1	2	3
NL/NT	00:32	00:29	00:33
SL/ST	00:33	00:28	00:32
WL/WT	00:13	00:19	00:11
ET/WT	01:02	01:04	01:04



E/W Street: SR A1A/5th St/SR A1A/5th St Speed: 40 MPH

# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Terminal Island Outbound Right Turn Exit & SR A1A MacArthur Causeway  
City: Miami Beach  
Control: 1-Way Sto (NB)

Project ID: 21-140212-004  
Date: 9/15/2021

## Data - Total

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit				Terminal Island Outbound Right-Turn Exit				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WL	
<b>AM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 AM	0	0	7	0	0	0	0	0	0	133	0	0	79	0	0	0	
5:45 AM	0	0	13	0	0	0	0	0	0	161	0	0	92	0	0	0	
6:00 AM	0	0	9	0	0	0	0	0	0	192	0	0	132	0	0	0	
6:15 AM	0	0	7	0	0	0	0	0	0	259	0	0	127	0	0	0	
6:30 AM	0	0	8	0	0	0	0	0	0	330	0	0	195	0	0	0	
6:45 AM	0	0	6	0	0	0	0	0	0	411	0	0	230	0	0	0	
7:00 AM	0	0	6	0	0	0	0	0	0	399	0	0	303	0	0	0	
7:15 AM	0	0	7	0	0	0	0	0	0	404	0	0	334	0	0	0	
7:30 AM	0	0	2	0	0	0	0	0	0	456	0	0	361	0	0	0	
7:45 AM	0	0	3	0	0	0	0	0	0	582	0	0	392	0	0	0	
8:00 AM	0	0	4	0	0	0	0	0	0	685	0	0	377	0	0	0	
8:15 AM	0	0	6	0	0	0	0	0	0	631	0	0	495	0	0	0	
8:30 AM	0	0	5	0	0	0	0	0	0	650	0	0	447	0	0	0	
8:45 AM	0	0	3	0	0	0	0	0	0	606	0	0	452	0	0	0	
9:00 AM	0	0	10	0	0	0	0	0	0	674	0	0	356	0	0	0	
9:15 AM	0	0	9	0	0	0	0	0	0	663	0	0	393	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WL	
APPROACH %'s :	0.00%	0.00%	105	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR:	<b>08:00 AM - 09:00 AM</b>				0	0	0	0	0	0	2572	0	0	0	1771	0	0
PEAK HR VOL :	0	0	0	18	0	0	0	0	0.000	0.000	0.939	0.000	0.000	0.000	0.894	0.000	0.000
PEAK HR FACTOR :	0.000	0.000	0.750	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.939	0.000	0.000	0.000	0.894	0.000	0.000
NS/EW Streets:	Terminal Island Outbound Right-Turn Exit				Terminal Island Outbound Right-Turn Exit				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WL	
<b>PM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 PM	0	0	14	0	0	0	0	0	0	415	0	0	562	0	0	0	
2:45 PM	0	0	8	0	0	0	0	0	0	386	0	0	522	0	0	0	
3:00 PM	0	0	8	0	0	0	0	0	0	358	0	0	539	0	0	0	
3:15 PM	0	0	12	0	0	0	0	0	0	422	0	0	448	0	0	0	
3:30 PM	0	0	13	0	0	0	0	0	0	222	0	0	473	0	0	0	
3:45 PM	0	0	10	0	0	0	0	0	0	237	0	0	417	0	0	0	
4:00 PM	0	0	10	0	0	0	0	0	0	270	0	0	525	0	0	0	
4:15 PM	0	0	6	0	0	0	0	0	0	240	0	0	583	0	0	0	
4:30 PM	0	0	9	0	0	0	0	0	0	290	0	0	513	0	0	0	
4:45 PM	0	0	10	0	0	0	0	0	0	309	0	0	529	0	0	0	
5:00 PM	0	0	8	0	0	0	0	0	0	534	0	0	559	0	0	0	
5:15 PM	0	0	3	0	0	0	0	0	0	538	0	0	557	0	0	0	
5:30 PM	0	0	5	0	0	0	0	0	0	442	0	0	515	0	0	0	
5:45 PM	0	0	6	0	0	0	0	0	0	470	0	0	478	0	0	0	
6:00 PM	0	0	3	0	0	0	0	0	0	458	0	0	508	0	0	0	
6:15 PM	0	0	3	0	0	0	0	0	0	491	0	0	486	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WL	
APPROACH %'s :	0.00%	0.00%	128	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR:	<b>05:00 PM - 06:00 PM</b>				0	0	22	0	0	0	204	0	0	2109	0	0	0
PEAK HR VOL :	0	0	0.688	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.898	0.000	0.000	0.943	0.000	0.000	0.925
PEAK HR FACTOR :	0.000	0.000	0.688	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.898	0.000	0.000	0.943	0.000	0.000	0.925

# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
 City: Miami Beach  
 Control: 1-Way Sto (NB)

Project ID: 21-140212-004  
 Date: 9/15/2021

## Data - Cars

NS/EW Streets:		Terminal Island Outbound Right-Turn Exit		Terminal Island Outbound Right-Turn Exit		SR A1A MacArthur Causeway		SR A1A MacArthur Causeway										
		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND										
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
<b>AM</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 AM		0	0	6	0	0	0	0	0	0	127	0	0	76	0	0	0	
5:45 AM		0	0	12	0	0	0	0	0	0	156	0	0	90	0	0	0	
6:00 AM		0	0	7	0	0	0	0	0	0	179	0	0	127	0	0	0	
6:15 AM		0	0	7	0	0	0	0	0	0	245	0	0	125	0	0	0	
6:30 AM		0	0	8	0	0	0	0	0	0	317	0	0	192	0	0	0	
6:45 AM		0	0	6	0	0	0	0	0	0	401	0	0	219	0	0	0	
7:00 AM		0	0	4	0	0	0	0	0	0	381	0	0	292	0	0	0	
7:15 AM		0	0	3	0	0	0	0	0	0	383	0	0	322	0	0	0	
7:30 AM		0	0	1	0	0	0	0	0	0	442	0	0	348	0	0	0	
7:45 AM		0	0	3	0	0	0	0	0	0	565	0	0	380	0	0	0	
8:00 AM		0	0	4	0	0	0	0	0	0	655	0	0	368	0	0	0	
8:15 AM		0	0	5	0	0	0	0	0	0	606	0	0	488	0	0	0	
8:30 AM		0	0	4	0	0	0	0	0	0	623	0	0	428	0	0	0	
8:45 AM		0	0	2	0	0	0	0	0	0	587	0	0	435	0	0	0	
9:00 AM		0	0	10	0	0	0	0	0	0	642	0	0	344	0	0	0	
9:15 AM		0	0	4	0	0	0	0	0	0	630	0	0	365	0	0	0	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
APPROACH %'s :		0.00%	0.00%	100.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
<b>PEAK HR VOL :</b>		0	0	15	0	0	0	0	0	0	2481	0	0	0	1719	0	0	
<b>PEAK HR FACTOR :</b>		0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.933	0.933	0.000	0.000	0.881	0.000	0.000	0.959	
 <b>PM</b>		 NORTHBOUND	 NL	 NT	 NR	 NU	 SL	 ST	 SR	 SU	 EL	 ET	 ER	 EU	 WL	 WT	 WR	 WU
2:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM		0	0	14	0	0	0	0	0	0	406	0	0	541	0	0	0	
3:00 PM		0	0	7	0	0	0	0	0	0	374	0	0	495	0	0	0	
3:15 PM		0	0	12	0	0	0	0	0	0	351	0	0	520	0	0	0	
3:30 PM		0	0	13	0	0	0	0	0	0	410	0	0	439	0	0	0	
3:45 PM		0	0	10	0	0	0	0	0	0	230	0	0	459	0	0	0	
4:00 PM		0	0	10	0	0	0	0	0	0	266	0	0	512	0	0	0	
4:15 PM		0	0	6	0	0	0	0	0	0	231	0	0	566	0	0	0	
4:30 PM		0	0	9	0	0	0	0	0	0	284	0	0	492	0	0	0	
4:45 PM		0	0	10	0	0	0	0	0	0	302	0	0	520	0	0	0	
5:00 PM		0	0	8	0	0	0	0	0	0	529	0	0	550	0	0	0	
5:15 PM		0	0	3	0	0	0	0	0	0	547	0	0	547	0	0	0	
5:30 PM		0	0	5	0	0	0	0	0	0	436	0	0	508	0	0	0	
5:45 PM		0	0	6	0	0	0	0	0	0	461	0	0	470	0	0	0	
6:00 PM		0	0	3	0	0	0	0	0	0	452	0	0	493	0	0	0	
6:15 PM		0	0	3	0	0	0	0	0	0	489	0	0	482	0	0	0	
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
APPROACH %'s :		0.00%	0.00%	100.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
<b>PEAK HR VOL :</b>		0	0	22	0	0	0	0	0	0	5978	0	0	7998	0	0	0	
<b>PEAK HR FACTOR :</b>		0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.902	0.902	0.000	0.000	0.943	0.000	0.000	0.928	

# National Data & Surveying Services Intersection Turning Movement Count

Location: Terminal Island Out ound Right-Turn Exit & SR A1A MacArthur Causeway  
City: Miami Beach  
Control: 1-Way Sto (NB)

Project ID: 21-140212-004  
Date: 9/15/2021

## Data - HT

NS/EW Streets:			Terminal Island Out ound Right-Turn Exit			Terminal Island Out ound Right-Turn Exit			SR A1A MacArthur Causeway			SR A1A MacArthur Causeway		
AM			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
NL	NT	NR	O	O	0	SU	ST	SR	O	O	WT	WL	WR	WU
5:30 AM	0	0	1	1	0	0	0	0	6	0	3	0	0	0
5:45 AM	0	0	2	0	0	0	0	0	5	0	2	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	13	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	14	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	13	0	0	0	0
7:00 AM	0	0	2	0	0	0	0	0	0	10	0	0	0	0
7:15 AM	0	0	4	0	0	0	0	0	0	18	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	0	21	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	14	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	17	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	0	0	20	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0	0	25	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	27	0	0	0	0
9:00 AM	0	0	5	0	0	0	0	0	0	19	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	32	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	NU	SL	ST	SU	EL	ET	ER	WL	WT	WR
APPROACH %'s :	0	0	19	0	0	0	0	0	0	0	0	0	0	0
PEAK HR :	<b>08:00 AM - 09:00 AM</b>			0	0	0	0	0	0	0	0	0	0	0
PEAK HR VOL :	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PW	NL	NT	NR	NU	O	SU	ST	SR	O	EL	ET	ER	WL	WT
2:30 PM	0	0	0	0	0	0	0	0	0	0	9	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	12	0	0	0
3:00 PM	0	1	0	0	0	0	0	0	0	7	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	11	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	NU	SL	ST	SU	EL	ET	ER	WL	WT	WR
APPROACH %'s :	0	0	2	0	0	0	0	0	0	0	124	0	0	0
PEAK HR :	<b>05:00 PM - 06:00 PM</b>			0	0	0	0	0	0	0	0	0	0	0
PEAK HR VOL :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NL	NT	NR	NU	NU	SL	ST	SU	EL	ET	ER	EU	WL	WT	WR
Total Cars AM Peak	0	0	18	0	0	0	0	0	0	2572	0	0	0	0
Heavy Vehicles AM	0	0	3	0	0	0	0	0	0	91	0	0	52	0
% Heavy Vehicles AM	#DIV/0!	#DIV/0!	0.1666667	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.029362	#DIV/0!	#DIV/0!
Total Cars AM Peak	0	0	22	0	0	0	0	0	0	31	0	0	219	0
Heavy Vehicles AM	0	0	0	0	0	0	0	0	0	0	0	0	34	0
% Heavy Vehicles AM	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.015459	#DIV/0!	0.016121
Total Cars AM Peak	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles AM	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.000	0.000	0.774

# National Data & Surveying ServicesIntersection Turning Movement Count

Location: Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
 City: Miami Beach  
 Control: 1-Way Sto (NB)

Project ID: 21-140212-004  
 Date: 9/15/2021

## Data - Bikes

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit				Terminal Island Outbound Right-Turn Exit				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		WL		WT		WR		WU		
<b>AM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	5	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	5	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	5	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	5	
<b>TOTAL VOLUMES :</b>	1	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	33.33%	0.00%	66.67%	0.00%	0	0	0	0	0.00%	61.54%	30.77%	1	1	20	0	0	37
<b>PEAK HR VOL :</b>	0	0	0	1	0	0	0	0	0	0	5	0	0	0.00%	0.00%	0.00%	
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.417	0.000	0.000	0.550		
<b>PM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
2:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	
4:15 PM	0	0	2	0	0	0	0	0	0	1	0	1	1	0	0	5	
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	4	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES :</b>	0	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0	0	0	0	0.00%	62.50%	37.50%	0	11.11%	88.89%	0.00%	0.00%	23
<b>PEAK HR VOL :</b>	0	0	1	0	0	0	0	0	0.000	0.250	0.000	0	0.000	0.500	0.000	0.000	6
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.417	0.000	0.550	0.375		

# National Data & Surveying Services Intersection Turning

## Movement Count

Location: Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway Project ID: 21-140212-004

City: Miami Beach

Date: 9/15/2021

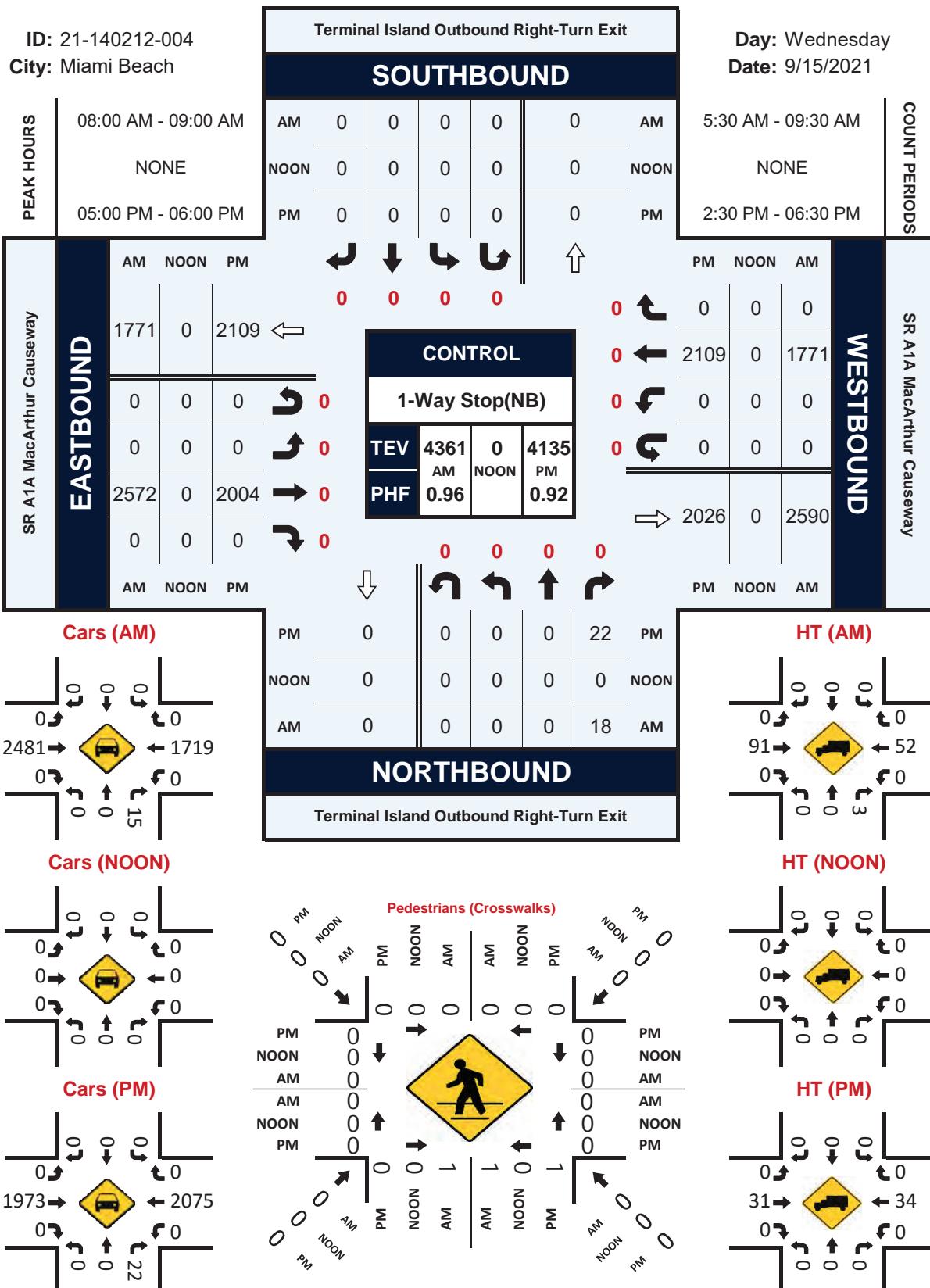
### Data - Pedestrians (Crosswalks)

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit		Terminal Island Outbound Right-Turn Exit		SR A1A MacArthur Causeway		SR A1A MacArthur Causeway		TOTAL	
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG			
AM	EB	WB	EB	WB	NB	SB	NB	SB		
5:30 AM	0	0	0	0	0	0	0	0	0	
5:45 AM	0	0	2	1	0	0	0	0	3	
6:00 AM	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	1	0	0	0	0	1	
7:45 AM	0	0	1	0	0	0	0	0	1	
8:00 AM	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	1	1	0	0	0	0	2	
8:30 AM	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 4	WB 3	NB 0	SB 0	NB 0	SB 0	TOTAL 7	
PEAK HR :	08:00 AM - 09:00 AM								TOTAL	
PEAK HR VOL :	0	0	1	1	0	0	0	0	2	
PEAK HR FACTOR :			0.250	0.250	0.250					0.250

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
2:30 PM	0	0	0	0	2	0	0	0	2	
2:45 PM	0	0	0	0	0	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	3	0	0	0	0	3	
3:45 PM	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	2	0	0	0	0	2	
4:45 PM	0	0	0	1	0	0	0	0	1	
5:00 PM	0	0	0	1	0	0	0	0	1	
5:15 PM	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	1	0	0	0	0	1	
6:15 PM	0	0	0	1	0	0	0	0	1	
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 0	WB 9	NB 2	SB 0	NB 0	SB 0	TOTAL 11	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL	
PEAK HR VOL :	0	0	0	1	0	0	0	0	1	
PEAK HR FACTOR :			0.250	0.250	0.250					0.250

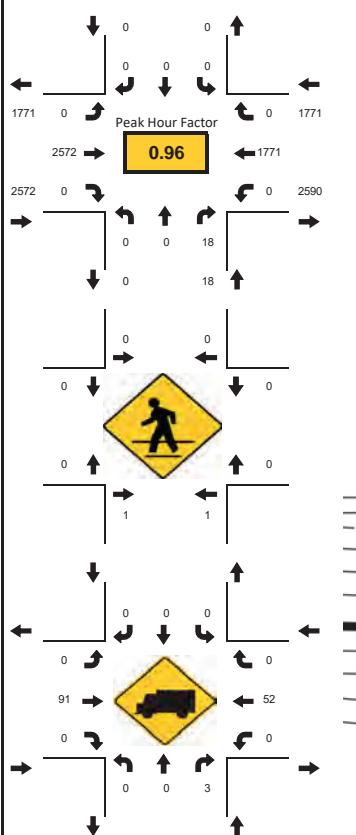
## Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway

### Peak Hour Turning Movement Count



**LOCATION:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

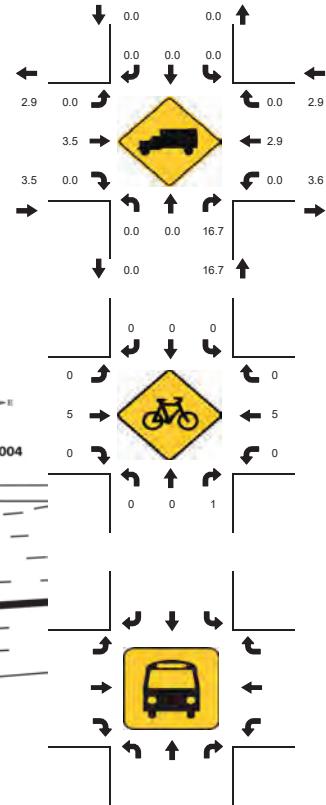
PROJECT ID: 21-140212-004  
DATE: Wed, Sep 15, 2021



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



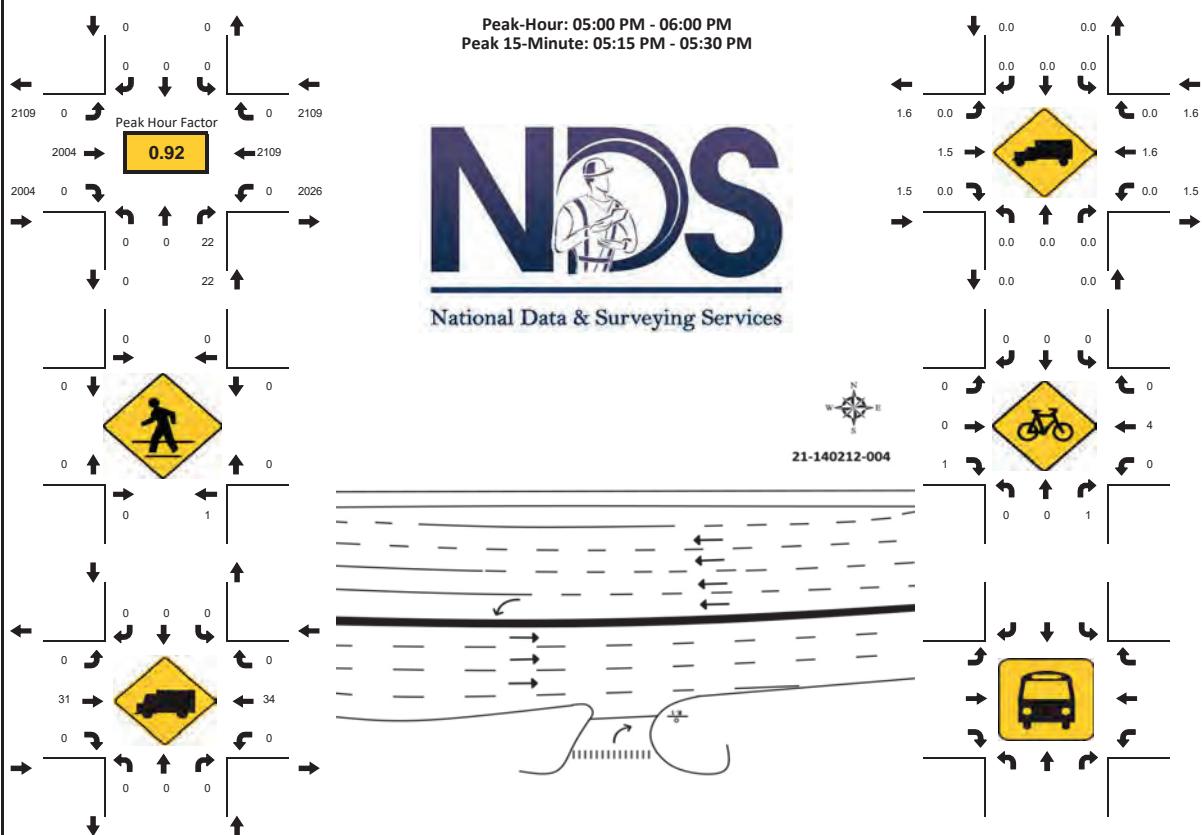
National Data & Surveying Services



21-140212-00-

**LOCATION:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

**PROJECT ID:** 21-140212-004  
**DATE:** Wed, Sep 15, 2021



National Data & Surveying Services

21-140212-004

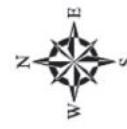


National Data & Surveying Services

N/S Street: Terminal Island Outbound Right-Turn Exit

Speed: N/A

E/W Street: SR A1A MacArthur Causeway	Speed: 40 MPH
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Site Code: 21-140212-004

Date: 09/15/2021

Weather: Sunny

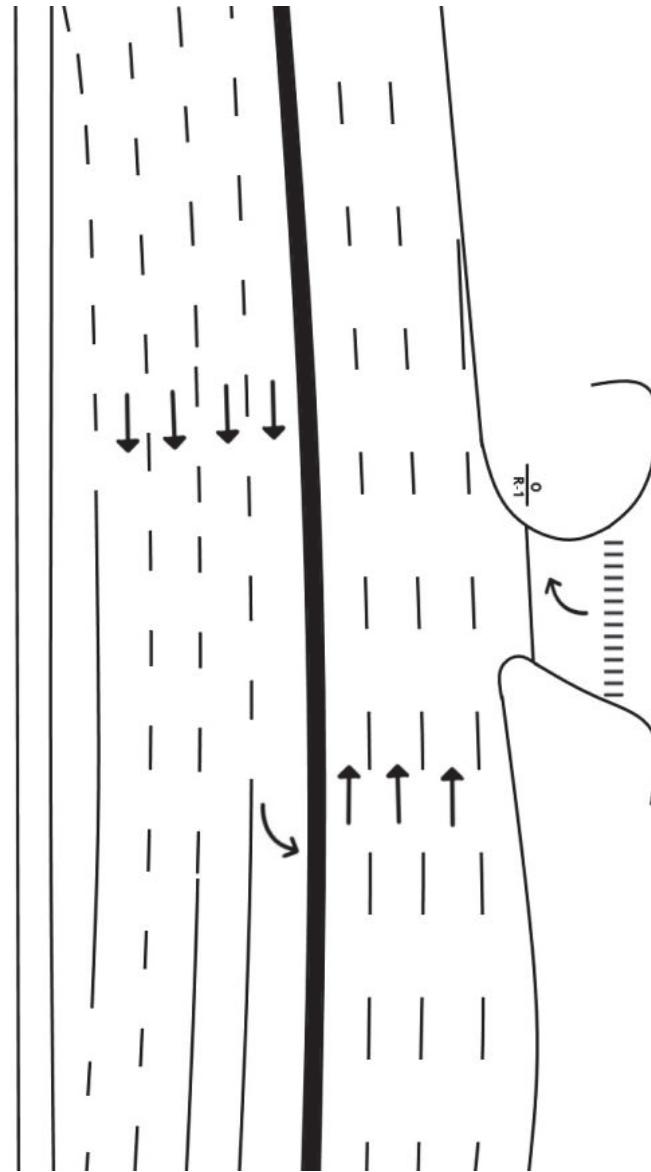
City: Miami Beach

County: Miami-Dade

Count Times: 05:30 - 09:30

14:30 - 16:30

Control: 1-Way Stop(NB)



# **Traffic Volumes**

## **Weekend Turning Movement Counts**

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Bridge Rd & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-001  
**Date:** 9/18/2021

## Data - Total

NS/EW Streets:	Bridge Rd				Bridge Rd				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	0	0	0	0	0	0	0	4	498	0	0	0	377	3	0	882
10:15 AM	0	0	0	0	0	0	2	0	0	551	0	0	0	372	1	0	926
10:30 AM	0	0	0	0	0	0	2	0	3	431	0	3	0	441	1	0	881
10:45 AM	0	0	0	0	2	0	5	0	0	594	0	2	0	434	2	0	1039
11:00 AM	0	0	0	0	2	0	0	0	4	540	0	0	0	428	3	0	977
11:15 AM	0	0	0	0	3	0	2	0	4	724	0	0	0	439	0	0	1172
11:30 AM	0	0	0	0	1	0	1	0	2	611	0	0	0	480	2	0	1097
11:45 AM	0	0	0	0	1	0	3	0	2	680	0	3	0	487	3	0	1179
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0	NT 0	NR 0	NU 0	SL 9	ST 0	SR 15	SU 0	EL 19	ET 4629	ER 0	EU 8	WL 0	WT 3458	WR 15	WU 0	TOTAL 8153
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	7	0	6	0	12	2555	0	3	0	1834	8	0	4425
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.583	0.000	0.500	0.000	0.750	0.882	0.000	0.250	0.000	0.941	0.667	0.000	0.938
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	0	0	0	0	5	0	3	0	0	620	0	1	0	619	3	0	1251
2:45 PM	0	0	0	0	0	0	1	0	2	713	0	2	0	525	2	0	1245
3:00 PM	0	0	0	0	1	0	5	0	1	686	0	2	0	609	1	0	1305
3:15 PM	0	0	0	0	0	0	2	0	0	671	0	3	0	660	2	0	1338
3:30 PM	0	0	0	0	2	0	3	0	5	738	0	1	0	726	2	0	1477
3:45 PM	0	0	0	0	1	0	5	0	5	686	0	0	0	622	6	1	1326
4:00 PM	0	0	0	0	1	0	7	0	2	665	0	1	0	673	5	0	1354
4:15 PM	0	0	0	0	0	0	6	0	3	698	0	1	0	682	0	0	1390
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0	NT 0	NR 0	NU 0	SL 10	ST 0	SR 32	SU 0	EL 18	ET 5477	ER 0	EU 11	WL 0	WT 5116	WR 21	WU 1	TOTAL 10686
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	4	0	21	0	15	2787	0	3	0	2703	13	1	5547
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.500	0.000	0.750	0.000	0.750	0.944	0.000	0.750	0.000	0.931	0.542	0.250	0.939

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Bridge Rd & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-001  
**Date:** 9/18/2021

## Data - Cars

NS/EW Streets:	Bridge Rd				Bridge Rd				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	0	0	0	0	0	0	0	4	493	0	0	0	369	3	0	869
10:15 AM	0	0	0	0	0	0	2	0	0	542	0	0	0	366	1	0	911
10:30 AM	0	0	0	0	0	0	2	0	2	423	0	3	0	434	1	0	865
10:45 AM	0	0	0	0	1	0	5	0	0	583	0	2	0	431	2	0	1024
11:00 AM	0	0	0	0	2	0	0	0	4	533	0	0	0	415	3	0	957
11:15 AM	0	0	0	0	2	0	2	0	3	711	0	0	0	431	0	0	1149
11:30 AM	0	0	0	0	1	0	1	0	2	605	0	0	0	470	2	0	1081
11:45 AM	0	0	0	0	1	0	3	0	2	669	0	2	0	476	3	0	1156
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0	NT 0	NR 0	NU 0	SL 7	ST 0	SR 15	SU 0	EL 17	ET 4559	ER 0	EU 7	WL 0	WT 3392	WR 15	WU 0	TOTAL 8012
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	6	0	6	0	11	2518	0	2	0	1792	8	0	4343
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.750	0.000	0.500	0.000	0.688	0.885	0.000	0.250	0.000	0.941	0.667	0.000	0.939
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	0	0	0	0	5	0	2	0	0	618	0	1	0	607	3	0	1236
2:45 PM	0	0	0	0	0	0	1	0	2	709	0	2	0	512	2	0	1228
3:00 PM	0	0	0	0	1	0	5	0	1	683	0	2	0	602	1	0	1295
3:15 PM	0	0	0	0	0	0	2	0	0	667	0	3	0	654	2	0	1328
3:30 PM	0	0	0	0	2	0	3	0	4	727	0	1	0	717	2	0	1456
3:45 PM	0	0	0	0	1	0	4	0	4	681	0	0	0	612	6	1	1309
4:00 PM	0	0	0	0	1	0	7	0	2	661	0	1	0	667	5	0	1344
4:15 PM	0	0	0	0	0	0	6	0	3	693	0	1	0	675	0	0	1378
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0	NT 0	NR 0	NU 0	SL 10	ST 0	SR 30	SU 0	EL 16	ET 5439	ER 0	EU 11	WL 0	WT 5046	WR 21	WU 1	TOTAL 10574
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	4	0	20	0	13	2762	0	3	0	2671	13	1	5487
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.500	0.000	0.714	0.000	0.813	0.950	0.000	0.750	0.000	0.931	0.542	0.250	0.942

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Bridge Rd & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-001  
**Date:** 9/18/2021

## Data - HT

NS/EW Streets:	Bridge Rd				Bridge Rd				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway					
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL	
10:00 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13	
10:15 AM	0	0	0	0	0	0	0	0	0	9	0	0	0	6	0	0	15	
10:30 AM	0	0	0	0	0	0	0	0	1	8	0	0	0	7	0	0	16	
10:45 AM	0	0	0	0	1	0	0	0	0	11	0	0	0	3	0	0	15	
11:00 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	13	0	0	20	
11:15 AM	0	0	0	0	1	0	0	0	1	13	0	0	0	8	0	0	23	
11:30 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	10	0	0	16	
11:45 AM	0	0	0	0	0	0	0	0	0	11	0	1	0	11	0	0	23	
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0	NT 0 0	NR 0 0	NU 0 0	SL 2 0	ST 0 0	SR 0 0	SU 0 0	EL 2 70	ET 0 0	ER 1 0	EU 1 0	WL 0 66	WT 0 0	WR 0 0	WU 0 0	TOTAL 141	
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>				100.00% 0.00% 0.00% 0.00%				2.74% 95.89% 0.00% 1.37%				0.00% 100.00% 0.00% 0.00%				TOTAL	
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	0 0.000	0 0.000	1 0.250	0 0.000	0 0.000	0 0.000	1 0.250	37 0.712	0 0.000	1 0.250	0 0.000	42 0.808	0 0.000	0 0.000	82 0.808	
<b>PEAK HR FACTOR :</b>	0.000 0.000 0.000 0.000				0.250				0.696				0.000 0.808 0.000 0.000				0.891	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL	
2:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	12	0	0	15
2:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	13	0	0	17	
3:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	7	0	0	10	
3:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	0	10	
3:30 PM	0	0	0	0	0	0	0	0	1	11	0	0	0	9	0	0	21	
3:45 PM	0	0	0	0	0	0	0	1	0	1	5	0	0	0	10	0	0	17
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	0	10	
4:15 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	0	12	
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0	NT 0 0	NR 0 0	NU 0 0	SL 0 0.00%	ST 0 0.00%	SR 2 100.00%	SU 0 0.00%	EL 2 5.00%	ET 38 95.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 70 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 112	
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>				0.00% 0.00% 100.00% 0.00%				5.00% 95.00% 0.00% 0.00%				0.00% 100.00% 0.00% 0.00%				TOTAL 60	
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	0 0.000	0 0.000	0 0.250	0 0.000	0 0.250	0 0.000	0.500	25 0.568	0 0.000	0 0.000	0 0.000	32 0.800	0 0.000	0 0.000	0.714	
<b>PEAK HR FACTOR :</b>	0.000 0.000 0.000 0.000				0.250				0.563				0.000 0.800 0.000 0.000				0.714	

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Bridge Rd & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-001  
**Date:** 9/18/2021

## Data - Bikes

NS/EW Streets:	Bridge Rd				Bridge Rd				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway					
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	
10:15 AM	0	0	0	0	2	0	0	0	0	6	0	0	0	3	4	0	15	
10:30 AM	0	0	0	0	0	0	4	0	0	32	0	0	0	6	0	0	42	
10:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	
11:00 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	5	0	0	13	
11:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	
11:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	1	2	0	6	
11:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0	NT 0	NR 0	NU 0	SL 2	ST 0	SR 6	SU 0	EL 0	ET 53	ER 0	EU 0	WL 0	WT 25	WR 8	WU 0	TOTAL 94	
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>				25.00% 0.00% 75.00% 0.00%				0.00% 100.00% 0.00% 0.00%				0.00% 75.76% 24.24% 0.00%				<b>TOTAL</b>	
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	13	0	0	0	0	12	2	0	29
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.406	0.000	0.000	0.000	0.600	0.250	0.000	0.700	0.558
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
3:15 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	3	0	0	6	
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0	NT 0	NR 0	NU 0	SL 1	ST 0	SR 0	SU 0	EL 0	ET 11	ER 0	EU 0	WL 0	WT 15	WR 0	WU 0	TOTAL 27	
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>				100.00% 0.00% 0.00% 0.00%				0.00% 100.00% 0.00% 0.00%				0.00% 100.00% 0.00% 0.00%				<b>TOTAL</b>	
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	0	12	
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.583	0.000	0.000	0.750	

# National Data & Surveying Services Intersection Turning Movement Count

Location: Bridge Rd & SR A1A MacArthur Causeway  
 City: Miami Beach

Project ID: 21-140212-001  
 Date: 9/18/2021

## Data - Pedestrians (Crosswalks)

NS/EW Streets:	Bridge Rd		Bridge Rd		SR A1A MacArthur Causeway		SR A1A MacArthur Causeway		TOTAL
	NOON		NORTH LEG		SOUTH LEG		EAST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
10:00 AM	0	0	0	0	0	1	0	0	1
10:15 AM	0	0	2	0	0	0	0	0	2
10:30 AM	2	1	3	1	0	0	0	0	7
10:45 AM	2	0	0	2	0	2	0	0	6
11:00 AM	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	1	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	2	2	0	0	0	0	4
TOTAL VOLUMES :	EB 4	WB 1	EB 7	WB 5	NB 0	SB 4	NB 0	SB 0	TOTAL 21
APPROACH %'s :	80.00%	20.00%	58.33%	41.67%	0.00%	100.00%			
PEAK HR :	:00 AM - :00 PM								TOTAL
PEAK HR VOL :	0	0	2	2	0	1	0	0	5
PEAK HR FACTOR :			0.250	0.250	0.250	0.250			0.313
PM		NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB	
2:30 PM	0	2	0	0	2	1	0	0	5
2:45 PM	0	1	0	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	1	0	0	0	0	0	0	1
3:45 PM	0	3	0	0	0	0	0	0	3
4:00 PM	0	1	1	0	0	0	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	1
TOTAL VOLUMES :	EB 0	WB 9	EB 1	WB 0	NB 2	SB 1	NB 0	SB 0	TOTAL 13
APPROACH %'s :	0.00%	100.00%	100.00%	0.00%	66.67%	33.33%			
PEAK HR :	0 : 0 PM - 0 : 0 PM								TOTAL
PEAK HR VOL :	0	6	1	0	0	0	0	0	7
PEAK HR FACTOR :		0.500	0.250	0.250					0.583

# Bridge Rd & SR A1A MacArthur Causeway

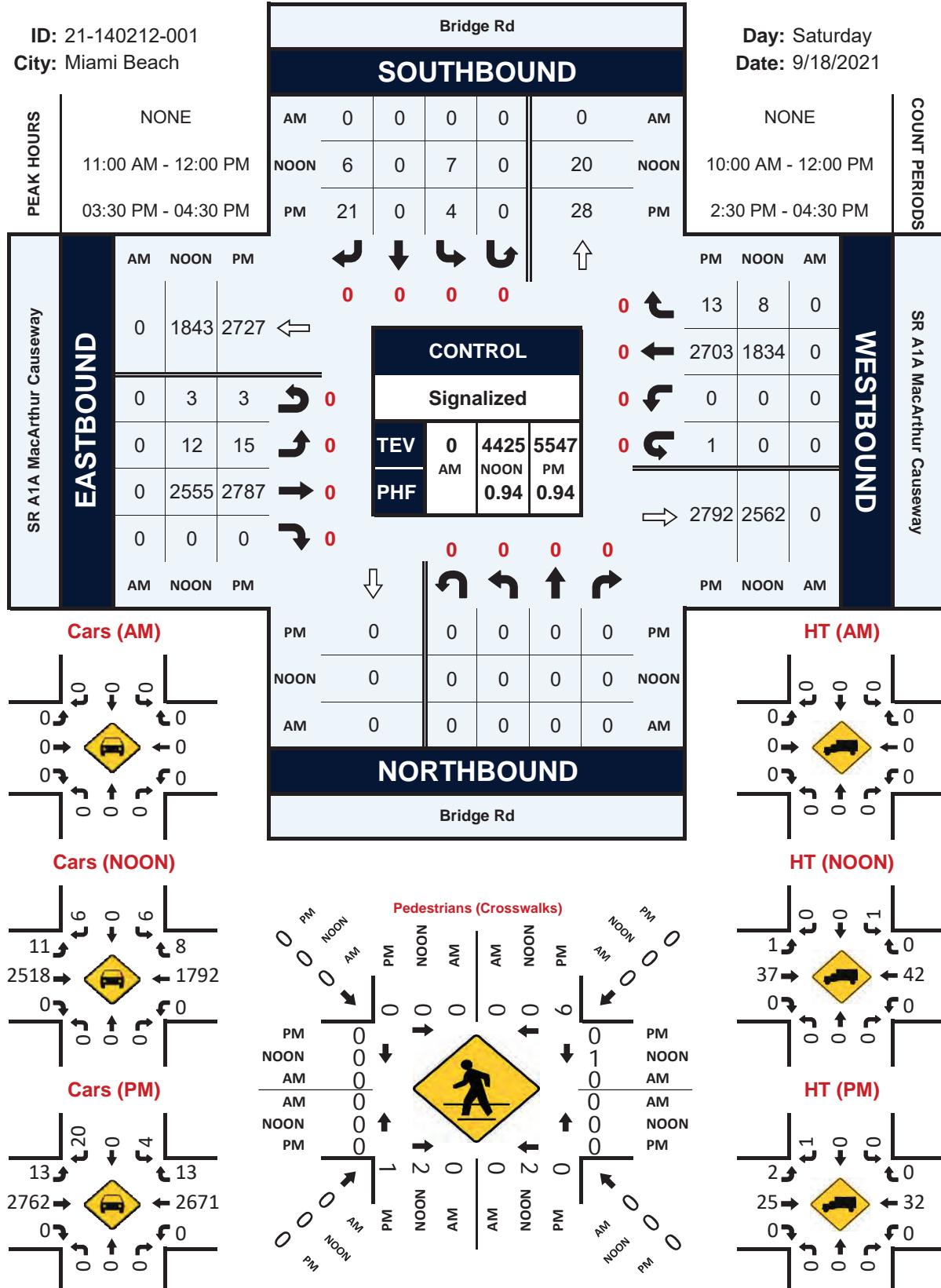
## Peak Hour Turning Movement Count

ID: 21-140212-001

City: Miami Beach

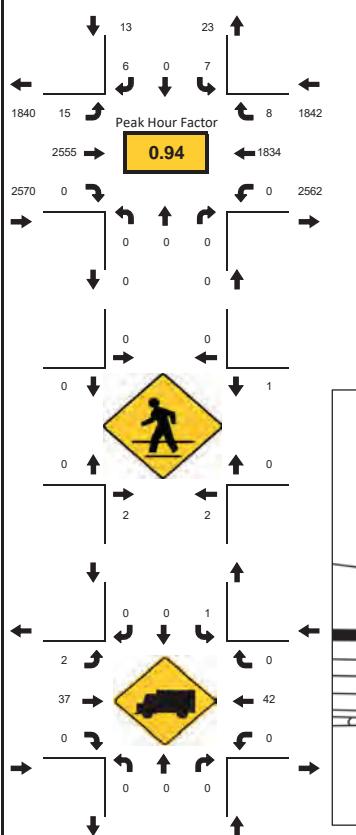
Day: Saturday

Date: 9/18/2021



**LOCATION:** Bridge Rd & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

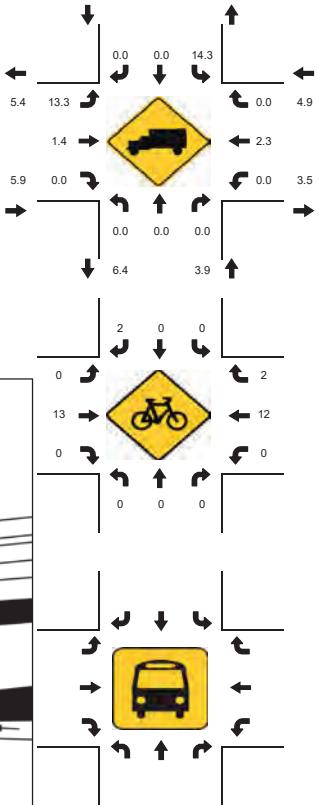
**PROJECT ID:** 21-140212-001  
**DATE:** Sat, Sep 18, 2021



**Peak-Hour: 11:00 AM - 12:00 PM**  
**Peak 15-Minute: 11:45 AM - 12:00 PM**

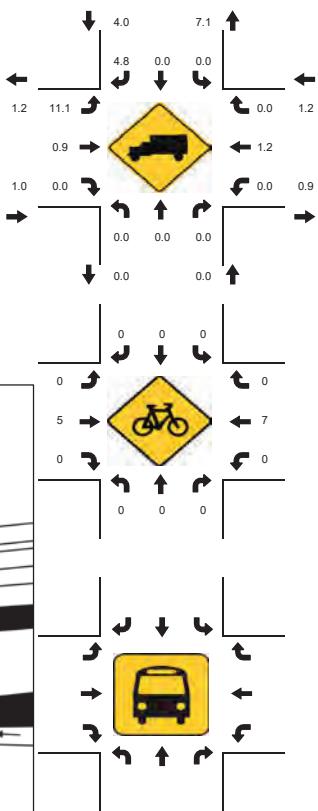
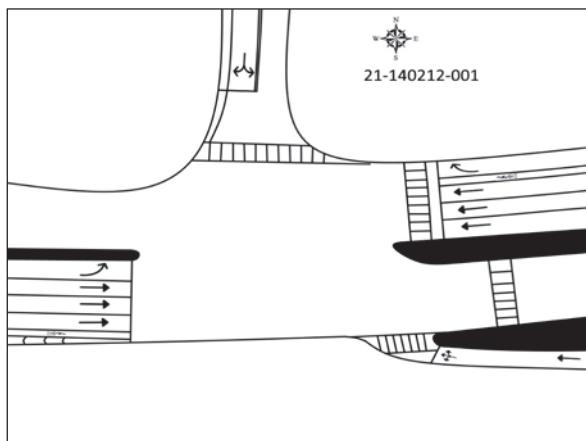
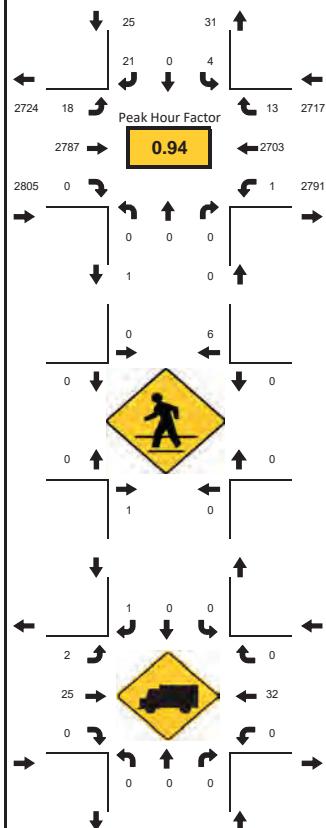


National Data & Surveying Services



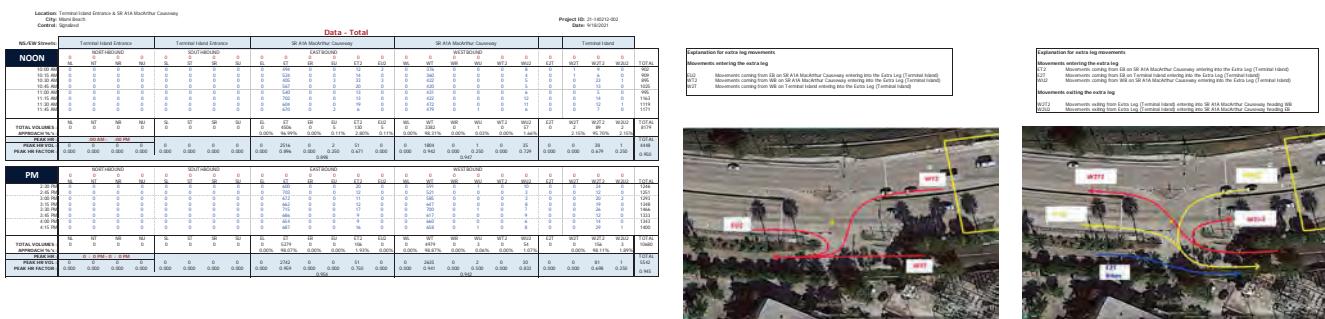
LOCATION: Bridge Rd & SR A1A MacArthur Causeway  
CITY/STATE: Miami Beach, FL

PROJECT ID: 21-140212-001  
DATE: Sat, Sep 18, 2021



15-Min Count Period Beginning At	Bridge Rd Northbound					Bridge Rd Southbound					SR A1A MacArthur Causeway Eastbound					SR A1A MacArthur Causeway 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	5	0	3	0	0	0	620	0	1	0	0	619	3	0	0	1251	5139
02:45 PM	0	0	0	0	0	0	0	1	0	2	2	713	0	2	0	0	525	2	0	0	1245	5365
03:00 PM	0	0	0	0	0	1	0	5	0	1	1	686	0	2	0	0	609	1	0	0	1305	5446
03:15 PM	0	0	0	0	0	0	0	2	0	0	0	671	0	3	0	0	660	2	0	0	1338	5495
03:30 PM	0	0	0	0	0	2	0	3	0	5	5	738	0	1	0	0	726	2	0	0	1477	5547
03:45 PM	0	0	0	0	0	1	0	5	0	5	5	686	0	0	0	0	622	6	1	0	1326	4070
04:00 PM	0	0	0	0	0	1	0	7	0	2	2	665	0	1	0	0	673	5	0	0	1354	2744
04:15 PM	0	0	0	0	0	0	0	6	0	3	3	698	0	1	0	0	682	0	0	0	1390	1390
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	0	0	0	0	0	8	0	28	0	20	2952	0	4	0	0	2904	24	4	0	5944		
Heavy Trucks	0	0	0	0	0	0	0	4	0	4	44	0	0	0	0	40	0	0	0	92		
Pedestrians	4	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	16		
Bicycles	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	12	0	0	0	24		
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

National Data & Surveying Services Intersection Turning Movement Count



# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

Project ID: 21-140212-002

Date: 9/18/2021

## Data - Cars

NS/EW Streets:	Terminal Island Entrance				Terminal Island Entrance				SR A1A MacArthur Causeway						SR A1A MacArthur Causeway						Terminal Island					
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND			
NOON	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WR2	WU2	EZT	W2T	W2T2	W2U2	TOTAL
10:00 AM	0	0	0	0	0	0	0	0	0	468	0	0	12	0	0	370	0	0	8	0	0	0	0	0	0	890
10:15 AM	0	0	0	0	0	0	0	0	0	517	0	0	14	0	0	354	0	0	0	0	0	0	1	6	0	896
10:30 AM	0	0	0	0	0	0	0	0	0	396	0	3	32	3	0	415	0	0	0	5	0	0	0	23	1	878
10:45 AM	0	0	0	0	0	0	0	0	0	557	0	0	18	0	0	416	0	0	0	5	0	0	0	13	0	1009
11:00 AM	0	0	0	0	0	0	0	0	0	533	0	0	13	0	0	419	0	0	0	4	0	0	0	5	0	976
11:15 AM	0	0	0	0	0	0	0	0	0	489	0	0	13	0	0	414	0	0	0	11	0	0	0	13	0	1140
11:30 AM	0	0	0	0	0	0	0	0	0	599	0	0	17	0	0	463	0	0	0	10	0	0	0	12	1	1102
11:45 AM	0	0	0	0	0	0	0	0	0	660	0	2	5	0	0	468	0	1	0	6	0	0	0	6	0	1148
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WR2	WU2	EZT	W2T	W2T2	W2U2	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	4439	0	5	124	5	0	3319	0	1	0	53	0	0	0	0	0	8037
PEAK HR VOL :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2481	0	2	48	0	0	1764	0	1	0	31	0	0	0	36	1	4364
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.900	0.000	0.250	0.706	0.000	0.000	0.942	0.000	0.250	0.000	0.705	0.000	0.000	0.692	0.250	0.950	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				EASTBOUND				WESTBOUND				TOTAL	
2:30 PM	0	0	0	0	0	0	0	0	0	597	0	0	20	0	0	585	0	0	9	0	0	0	18	0	1229	
2:45 PM	0	0	0	0	0	0	0	0	0	699	0	0	12	0	0	508	0	0	0	3	0	0	0	12	0	1234
3:00 PM	0	0	0	0	0	0	0	0	0	669	0	0	11	0	0	578	0	0	0	1	0	0	0	20	2	1281
3:15 PM	0	0	0	0	0	0	0	0	0	458	0	0	12	0	0	641	0	0	0	8	0	0	0	19	0	1135
3:30 PM	0	0	0	0	0	0	0	0	0	705	0	0	17	0	0	691	0	1	0	6	0	0	0	24	0	1444
3:45 PM	0	0	0	0	0	0	0	0	0	680	0	0	9	0	0	609	0	0	0	9	0	0	0	12	0	1319
4:00 PM	0	0	0	0	0	0	0	0	0	650	0	0	9	0	0	653	0	0	0	6	0	0	0	14	0	1332
4:15 PM	0	0	0	0	0	0	0	0	0	662	0	0	16	0	0	652	0	1	0	8	0	0	0	29	1	1389
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WR2	WU2	EZT	W2T	W2T2	W2U2	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	5340	0	0	106	0	0	4917	0	2	0	50	0	0	0	148	3	10566
PEAK HR VOL :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.05%	0.000	0.000	1.95%	0.000	0.000	98.95%	0.000	0.04%	0.000	1.81%	0	0.00%	98.01%	1.99%	0.949	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2717	0	0	51	0	0	2605	0	2	0	29	0	0	0	79	1	5484

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

Project ID: 21-140212-002

Date: 9/18/2021

## Data - HT

NS/EW Streets:	Terminal Island Entrance				Terminal Island Entrance				SR A1A MacArthur Causeway						SR A1A MacArthur Causeway						Terminal Island					
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND		EASTBOUND		WESTBOUND			
NOON	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WR2	WU2	EZT	W2T	W2T2	W2U2	TOTAL
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
TOTAL VOLUMES : APPROACH %'s :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WR2	WU2	EZT	W2T	W2T2	W2U2	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142	
PEAK HR FATOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.673	0.000	0.000	0.375	0.000	0.000	0.833	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.913		
PEAK HR :	<b>00 AM - :00 PM</b>																								<b>TOTAL</b>	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				EASTBOUND				WESTBOUND				TOTAL	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
TOTAL VOLUMES : APPROACH %'s :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WR2	WU2	EZT	W2T	W2T2	W2U2	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	
PEAK HR FATOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.25	0.000	0.000	0.000	0.000	0.000	0.833	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.659		
PEAK HR :	<b>0 PM - 0 :0 PM</b>																								<b>TOTAL</b>	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	
PEAK HR FATOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.775	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.659		

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** Signalized

Project ID: 21-140212-002  
 Date: 9/18/2021

## Data - Bikes

NS/EW Streets:	Terminal Island Entrance				Terminal Island Entrance				SR A1A MacArthur Causeway								SR A1A MacArthur Causeway								Terminal Island				
	NORTHBOUND		SOUTHBOUND		EASTBOUND				WESTBOUND				EASTBOUND				WESTBOUND				W2T		W2T2		W2U2		TOTAL		
NOON	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WU2	EZT	W2T	0	0	0	0	0	0	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES : APPROACH %'s :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WU2	EZT	W2T	W2T2	W2U2	TOTAL	90			
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.614		
PEAK HR :	<b>00 AM - :00 PM</b>																												TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				EASTBOUND				W2T		W2T2		W2U2		TOTAL		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
TOTAL VOLUMES : APPROACH %'s :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ET2	EU2	WL	WT	WR	WU	WT2	WU2	EZT	W2T	W2T2	W2U2	TOTAL	28			
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750		
PEAK HR :	<b>0 PM - 0 PM</b>																												TOTAL

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**City:** Miami Beach

**Project ID:** 21-140212-002  
**Date:** 9/18/2021

## Data - Pedestrians (Crosswalks)

NS/EW Streets:	Terminal Island Entrance		Terminal Island Entrance		SR A1A MacArthur Causeway		SR A1A MacArthur Causeway		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
NOON									
10:00 AM	0	0	1	0	0	1	0	0	2
10:15 AM	0	0	2	0	0	1	0	0	3
10:30 AM	0	0	2	1	0	0	0	0	3
10:45 AM	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	2	0	0	0	0	2
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 5	WB 3	NB 0	SB 2	NB 0	SB 0	TOTAL 10
PEAK HR :	:00 AM - :00 PM		62.50%		0.00%		100.00%		TOTAL 2
PEAK HR VOL :	0	0	0	2	0	0	0	0	
PEAK HR FACTOR :			0.250		0.250		0.250		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:30 PM	0	0	1	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	2	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	1	1	0	0	0	0	2
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 3	WB 1	NB 2	SB 0	NB 0	SB 0	TOTAL 6
PEAK HR :	0 : 0 PM - 0 : 0 PM		75.00%		25.00%		100.00%		TOTAL 3
PEAK HR VOL :	0	0	2	1	0	0	0	0	
PEAK HR FACTOR :			0.500		0.250		0.375		

# Terminal Island Entrance & SR A1A MacArthur Causeway

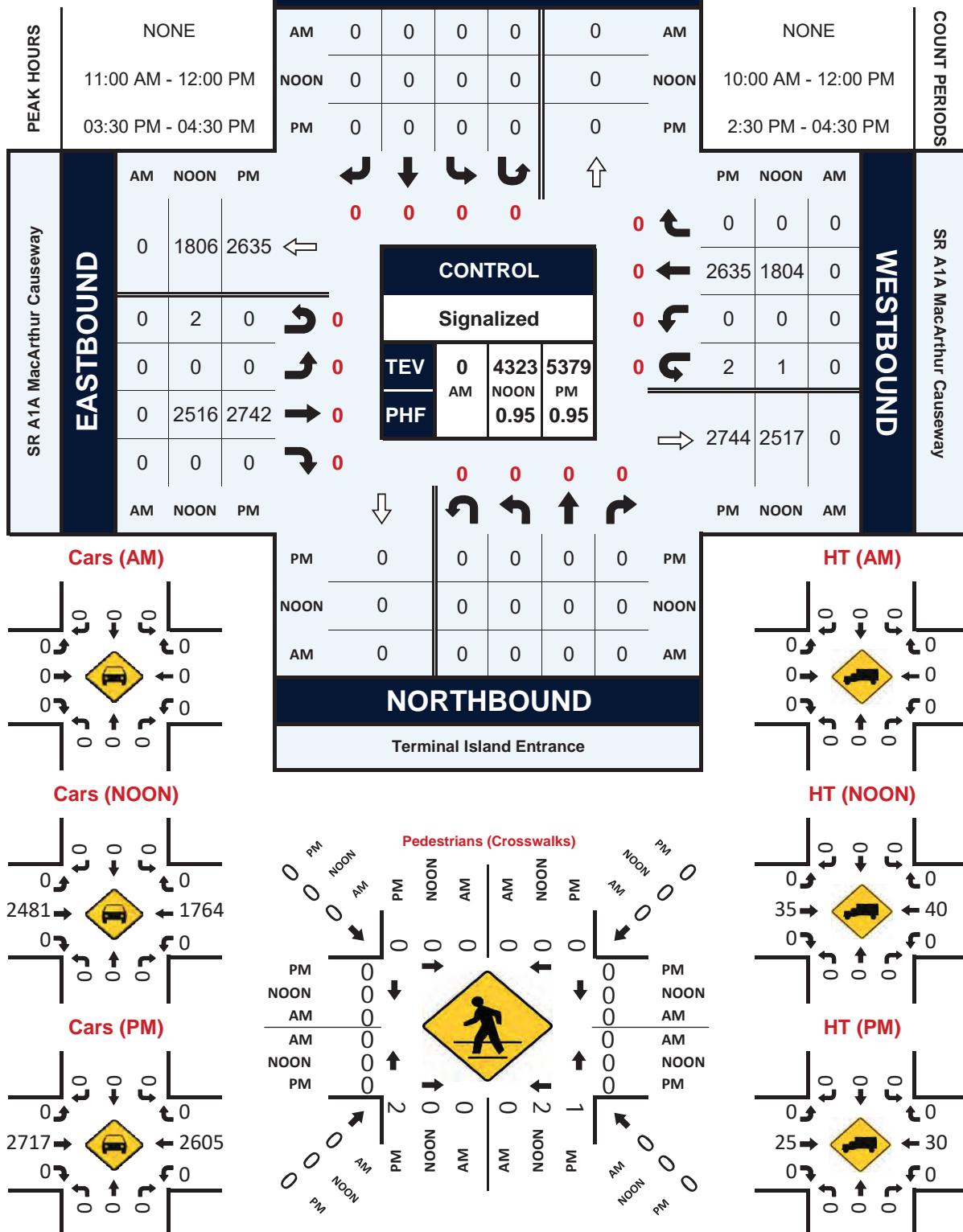
## Peak Hour Turning Movement Count

ID: 21-140212-002

City: Miami Beach

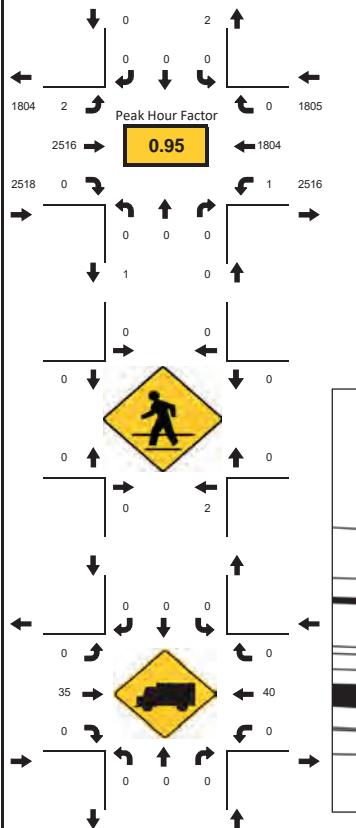
Day: Saturday

Date: 9/18/2021



**LOCATION:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

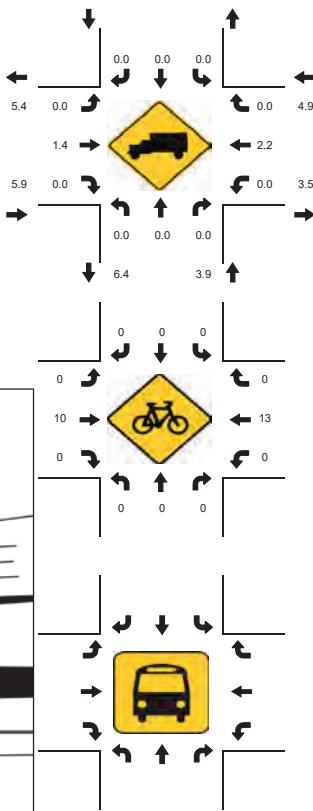
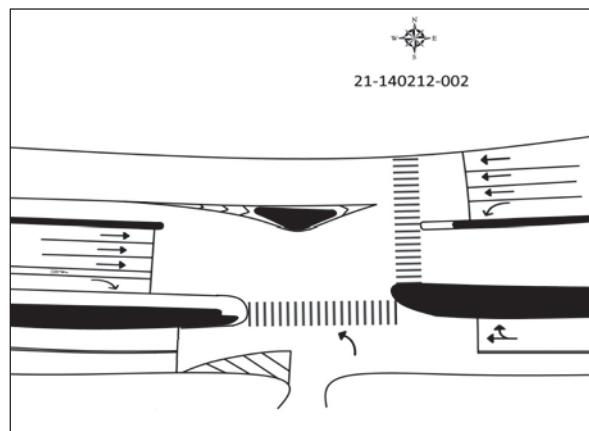
PROJECT ID: 21-140212-002  
DATE: Sat, Sep 18, 2021



**Peak-Hour: 11:00 AM - 12:00 PM**  
**Peak 15-Minute: 11:45 AM - 12:00 PM**

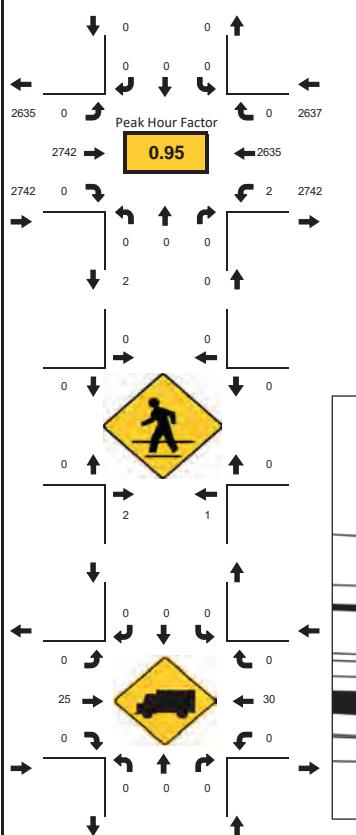


National Data & Surveying Services



**LOCATION:** Terminal Island Entrance & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

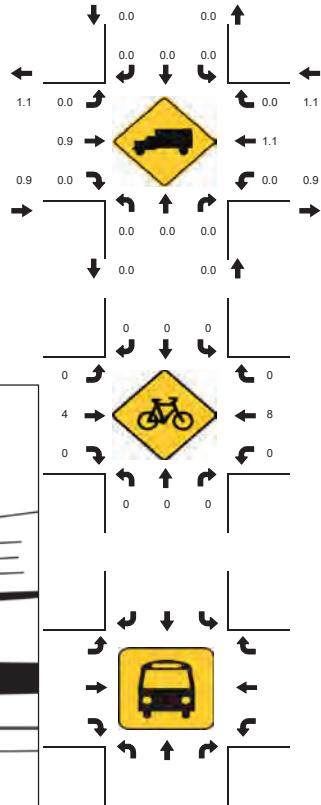
PROJECT ID: 21-140212-002  
DATE: Sat, Sep 18, 2021



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



National Data & Surveying Services



# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-003  
**Date:** 9/18/2021

## Data - Total

NS/EW Streets:	Alton Rd				Alton Rd				SR A1A/5th St/SR A1A/5th St				SR A1A/5th St/SR A1A/5th St				
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND										
<b>NOON</b>	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	50 NL	36 NT	7 NR	0 NU	10 SL	38 ST	123 SR	0 SU	0 EL	194 ET	112 ER	0 EU	5 WL	178 WT	19 WR	0 WU	772
10:15 AM	79 NL	31 NT	5 NR	0 NU	14 SL	24 ST	107 SR	0 SU	1 EL	229 ET	110 ER	0 EU	3 WL	156 WT	28 WR	0 WU	787
10:30 AM	60 NL	30 NT	7 NR	0 NU	17 SL	46 ST	93 SR	0 SU	0 EL	128 ET	63 ER	0 EU	6 WL	188 WT	26 WR	0 WU	664
10:45 AM	62 NL	21 NT	5 NR	0 NU	18 SL	51 ST	99 SR	1 SU	3 EL	249 ET	141 ER	0 EU	9 WL	227 WT	27 WR	0 WU	913
11:00 AM	69 NL	38 NT	9 NR	0 NU	9 SL	28 ST	116 SR	0 SU	1 EL	206 ET	124 ER	0 EU	4 WL	223 WT	27 WR	0 WU	854
11:15 AM	53 NL	35 NT	4 NR	0 NU	14 SL	40 ST	116 SR	0 SU	1 EL	259 ET	180 ER	0 EU	11 WL	208 WT	26 WR	1 WU	948
11:30 AM	77 NL	31 NT	19 NR	0 NU	17 SL	57 ST	127 SR	0 SU	0 EL	241 ET	141 ER	0 EU	8 WL	228 WT	38 WR	0 WU	984
11:45 AM	57 NL	33 NT	4 NR	0 NU	16 SL	35 ST	112 SR	0 SU	2 EL	292 ET	152 ER	0 EU	7 WL	251 WT	33 WR	0 WU	994
<b>TOTAL VOLUMES :</b>	<b>NL</b>	<b>NT</b>	<b>NR</b>	<b>NU</b>	<b>SL</b>	<b>ST</b>	<b>SR</b>	<b>SU</b>	<b>EL</b>	<b>ET</b>	<b>ER</b>	<b>EU</b>	<b>WL</b>	<b>WT</b>	<b>WR</b>	<b>WU</b>	<b>TOTAL</b>
<b>APPROACH %'s :</b>	507 61.68%	255 31.02%	60 7.30%	0 0.00%	115 8.66%	319 24.02%	893 67.24%	1 0.08%	8 0.28%	1798 63.56%	1023 36.16%	0 0.00%	53 2.74%	1659 85.65%	224 11.56%	1 0.05%	6916
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	256 0.831	137 0.901	36 0.474	0 0.000	56 0.824	160 0.702	471 0.927	0 0.000	4 0.500	998 0.854	597 0.829	0 0.000	30 0.682	910 0.906	124 0.816	1 0.250	3780 0.951
<b>PEAK HR FACTOR :</b>	0.844				0.854				0.896				0.915				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	91 NL	35 NT	9 NR	0 NU	18 SL	44 ST	170 SR	0 SU	0 EL	241 ET	131 ER	0 EU	9 WL	291 WT	28 WR	1 WU	1068
2:45 PM	89 NL	40 NT	12 NR	0 NU	12 SL	52 ST	127 SR	0 SU	2 EL	253 ET	157 ER	0 EU	3 WL	249 WT	37 WR	0 WU	1033
3:00 PM	101 NL	42 NT	10 NR	0 NU	8 SL	52 ST	156 SR	0 SU	2 EL	313 ET	127 ER	0 EU	7 WL	299 WT	44 WR	2 WU	1163
3:15 PM	92 NL	32 NT	9 NR	0 NU	10 SL	51 ST	171 SR	1 SU	0 EL	252 ET	147 ER	0 EU	8 WL	326 WT	33 WR	1 WU	1133
3:30 PM	114 NL	45 NT	7 NR	0 NU	17 SL	54 ST	173 SR	0 SU	2 EL	257 ET	128 ER	0 EU	7 WL	324 WT	37 WR	0 WU	1165
3:45 PM	91 NL	39 NT	6 NR	0 NU	14 SL	39 ST	182 SR	0 SU	0 EL	301 ET	153 ER	0 EU	6 WL	337 WT	26 WR	0 WU	1194
4:00 PM	100 NL	46 NT	2 NR	0 NU	18 SL	50 ST	169 SR	1 SU	1 EL	244 ET	136 ER	0 EU	8 WL	302 WT	38 WR	0 WU	1115
4:15 PM	97 NL	36 NT	9 NR	0 NU	16 SL	35 ST	202 SR	1 SU	1 EL	264 ET	123 ER	1 EU	12 WL	325 WT	27 WR	1 WU	1150
<b>TOTAL VOLUMES :</b>	<b>NL</b>	<b>NT</b>	<b>NR</b>	<b>NU</b>	<b>SL</b>	<b>ST</b>	<b>SR</b>	<b>SU</b>	<b>EL</b>	<b>ET</b>	<b>ER</b>	<b>EU</b>	<b>WL</b>	<b>WT</b>	<b>WR</b>	<b>WU</b>	<b>TOTAL</b>
<b>APPROACH %'s :</b>	775 67.16%	315 27.30%	64 5.55%	0 0.00%	113 6.13%	377 20.46%	1350 73.25%	3 0.16%	8 0.25%	2125 65.67%	1102 34.05%	1 0.03%	60 2.15%	2453 87.98%	270 9.68%	5 0.18%	9021
<b>PEAK HR :</b>	<b>0 :00 PM - 0 :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	398 0.873	158 0.878	32 0.800	0 0.000	49 0.721	196 0.907	682 0.937	1 0.250	4 0.500	1123 0.897	555 0.907	0 0.000	28 0.875	1286 0.954	140 0.795	3 0.375	4655 0.975
<b>PEAK HR FACTOR :</b>	0.886				0.951				0.926				0.987				

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-003  
**Date:** 9/18/2021

## Data - Cars

NS/EW Streets:	Alton Rd				Alton Rd				SR A1A/5th St/SR A1A/5th St				SR A1A/5th St/SR A1A/5th St				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	50	34	6	0	10	38	120	0	0	194	111	0	4	176	17	0	760
10:15 AM	77	29	4	0	14	23	104	0	0	224	109	0	1	155	28	0	768
10:30 AM	59	29	7	0	16	45	91	0	0	127	63	0	4	185	26	0	652
10:45 AM	62	20	5	0	18	51	97	1	2	247	136	0	8	225	26	0	898
11:00 AM	68	36	9	0	9	28	109	0	0	204	123	0	3	218	24	0	831
11:15 AM	53	34	4	0	14	39	113	0	0	254	178	0	10	202	26	1	928
11:30 AM	73	30	19	0	17	56	125	0	0	239	141	0	6	223	36	0	965
11:45 AM	55	31	4	0	15	34	107	0	1	286	151	0	6	246	33	0	969
<b>TOTAL VOLUMES :</b>	<b>497</b>	<b>243</b>	<b>58</b>	<b>0</b>	<b>SL</b>	<b>ST</b>	<b>SR</b>	<b>SU</b>	<b>EL</b>	<b>ET</b>	<b>ER</b>	<b>EU</b>	<b>WL</b>	<b>WT</b>	<b>WR</b>	<b>WU</b>	<b>TOTAL</b>
<b>APPROACH %'s :</b>	<b>62.28%</b>	<b>30.45%</b>	<b>7.27%</b>	<b>0.00%</b>	<b>8.73%</b>	<b>24.27%</b>	<b>66.92%</b>	<b>0.08%</b>	<b>0.11%</b>	<b>63.62%</b>	<b>36.27%</b>	<b>0.00%</b>	<b>2.22%</b>	<b>86.29%</b>	<b>11.43%</b>	<b>0.05%</b>	<b>6771</b>
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	<b>249</b>	<b>131</b>	<b>36</b>	<b>0</b>	<b>55</b>	<b>157</b>	<b>454</b>	<b>0</b>	<b>1</b>	<b>983</b>	<b>593</b>	<b>0</b>	<b>25</b>	<b>889</b>	<b>119</b>	<b>1</b>	<b>3693</b>
<b>PEAK HR FACTOR :</b>	<b>0.853</b>	<b>0.910</b>	<b>0.474</b>	<b>0.000</b>	<b>0.809</b>	<b>0.701</b>	<b>0.908</b>	<b>0.000</b>	<b>0.250</b>	<b>0.859</b>	<b>0.833</b>	<b>0.000</b>	<b>0.625</b>	<b>0.903</b>	<b>0.826</b>	<b>0.250</b>	<b>0.953</b>
<b>0.852</b>	<b>0.841</b>	<b>0.900</b>															
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	90	35	9	0	18	43	167	0	0	241	130	0	7	288	27	1	1056
2:45 PM	89	39	12	0	10	52	123	0	1	251	155	0	3	245	37	0	1017
3:00 PM	101	41	10	0	8	52	152	0	1	313	127	0	5	297	43	2	1152
3:15 PM	91	30	9	0	10	51	169	1	0	249	147	0	7	322	33	1	1120
3:30 PM	114	45	7	0	17	52	169	0	0	252	128	0	6	319	37	0	1146
3:45 PM	91	38	6	0	14	39	179	0	0	297	153	0	5	330	26	0	1178
4:00 PM	98	46	2	0	18	49	167	1	0	243	135	0	7	300	37	0	1103
4:15 PM	96	35	9	0	16	35	199	1	0	261	123	1	10	323	26	1	1136
<b>TOTAL VOLUMES :</b>	<b>770</b>	<b>309</b>	<b>64</b>	<b>0</b>	<b>SL</b>	<b>ST</b>	<b>SR</b>	<b>SU</b>	<b>EL</b>	<b>ET</b>	<b>ER</b>	<b>EU</b>	<b>WL</b>	<b>WT</b>	<b>WR</b>	<b>WU</b>	<b>TOTAL</b>
<b>APPROACH %'s :</b>	<b>67.37%</b>	<b>27.03%</b>	<b>5.60%</b>	<b>0.00%</b>	<b>6.13%</b>	<b>20.58%</b>	<b>73.12%</b>	<b>0.17%</b>	<b>0.06%</b>	<b>65.68%</b>	<b>34.23%</b>	<b>0.03%</b>	<b>1.82%</b>	<b>88.31%</b>	<b>9.69%</b>	<b>0.18%</b>	<b>8908</b>
<b>PEAK HR :</b>	<b>0 :00 PM - 0 :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	<b>397</b>	<b>154</b>	<b>32</b>	<b>0</b>	<b>49</b>	<b>194</b>	<b>669</b>	<b>1</b>	<b>1</b>	<b>1111</b>	<b>555</b>	<b>0</b>	<b>23</b>	<b>1268</b>	<b>139</b>	<b>3</b>	<b>4596</b>
<b>PEAK HR FACTOR :</b>	<b>0.871</b>	<b>0.856</b>	<b>0.800</b>	<b>0.000</b>	<b>0.721</b>	<b>0.933</b>	<b>0.934</b>	<b>0.250</b>	<b>0.250</b>	<b>0.887</b>	<b>0.907</b>	<b>0.000</b>	<b>0.821</b>	<b>0.961</b>	<b>0.808</b>	<b>0.375</b>	<b>0.975</b>
	<b>0.878</b>	<b>0.959</b>								<b>0.926</b>				<b>0.987</b>			

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-003  
**Date:** 9/18/2021

## Data - HT

NS/EW Streets:	Alton Rd				Alton Rd				SR A1A/5th St/SR A1A/5th St				SR A1A/5th St/SR A1A/5th St				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
<b>NOON</b>																	
10:00 AM	0	2	1	0	0	0	3	0	0	1	0	0	1	2	2	0	12
10:15 AM	2	2	1	0	0	1	3	0	1	5	1	0	2	1	0	0	19
10:30 AM	1	1	0	0	1	1	2	0	0	1	0	0	2	3	0	0	12
10:45 AM	0	1	0	0	0	0	2	0	1	2	5	0	1	2	1	0	15
11:00 AM	1	2	0	0	0	0	7	0	1	2	1	0	1	5	3	0	23
11:15 AM	0	1	0	0	0	1	3	0	1	5	2	0	1	6	0	0	20
11:30 AM	4	1	0	0	0	1	2	0	0	2	0	0	2	5	2	0	19
11:45 AM	2	2	0	0	1	1	5	0	1	6	1	0	1	5	0	0	25
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	41.67%	50.00%	8.33%	0.00%	5.88%	14.71%	79.41%	0.00%	12.82%	58.97%	28.21%	0.00%	22.92%	60.42%	16.67%	0.00%	145
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
PEAK HR VOL :	7	6	0	0	1	3	17	0	3	15	4	0	5	21	5	0	87
PEAK HR FACTOR :	0.438	0.750	0.000	0.000	0.250	0.750	0.607	0.000	0.750	0.625	0.500	0.000	0.625	0.875	0.417	0.000	0.870
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:30 PM	1	0	0	0	0	1	3	0	0	0	1	0	2	3	1	0	12
2:45 PM	0	1	0	0	2	0	4	0	1	2	2	0	0	4	0	0	16
3:00 PM	0	1	0	0	0	0	4	0	1	0	0	0	2	2	1	0	11
3:15 PM	1	2	0	0	0	0	2	0	0	3	0	0	1	4	0	0	13
3:30 PM	0	0	0	0	0	2	4	0	2	5	0	0	1	5	0	0	19
3:45 PM	0	1	0	0	0	0	3	0	0	4	0	0	1	7	0	0	16
4:00 PM	2	0	0	0	0	1	2	0	1	1	1	0	1	2	1	0	12
4:15 PM	1	1	0	0	0	0	3	0	1	3	0	0	2	2	1	0	14
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	45.45%	54.55%	0.00%	0.00%	6.45%	12.90%	80.65%	0.00%	21.43%	64.29%	14.29%	0.00%	23.26%	67.44%	9.30%	0.00%	113
<b>PEAK HR :</b>	<b>0 :00 PM - 0 :00 PM</b>																<b>TOTAL</b>
PEAK HR VOL :	1	4	0	0	0	2	13	0	3	12	0	0	5	18	1	0	59
PEAK HR FACTOR :	0.250	0.500	0.000	0.000	0.000	0.250	0.813	0.000	0.375	0.600	0.000	0.000	0.625	0.643	0.250	0.000	0.776

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**City:** Miami Beach  
**Control:** Signalized

**Project ID:** 21-140212-003  
**Date:** 9/18/2021

## Data - Bikes

NS/EW Streets:	Alton Rd				Alton Rd				SR A1A/5th St/SR A1A/5th St				SR A1A/5th St/SR A1A/5th St				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	2	5	0	0	11	3	0	0	0	0	0	0	2	0	0	23
10:15 AM	1	6	0	0	0	7	9	0	4	0	2	0	0	1	0	0	30
10:30 AM	0	1	0	0	0	0	6	0	0	5	2	0	0	0	0	0	14
10:45 AM	0	1	1	0	1	2	1	0	0	2	1	0	0	0	0	0	9
11:00 AM	0	2	0	0	0	5	1	0	1	1	0	0	0	0	1	0	11
11:15 AM	1	3	0	0	0	12	0	0	0	1	1	0	2	4	0	0	24
11:30 AM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
11:45 AM	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	0	4
<b>TOTAL VOLUMES :</b> <b>APPROACH %'s:</b>	NL 2 7.69%	NT 18 69.23%	NR 6 23.08%	NU 0 0.00%	SL 1 1.69%	ST 38 64.41%	SR 20 33.90%	SU 0 0.00%	EL 6 28.57%	ET 9 42.86%	ER 6 28.57%	EU 0 0.00%	WL 3 27.27%	WT 7 63.64%	WR 1 9.09%	WU 0 0.00%	TOTAL 117 0.00%
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	1 0.250	8 0.667	0 0.000	0 0.000	0 0.000	18 0.375	1 0.250	0 0.000	2 0.500	2 0.500	1 0.250	0 0.000	3 0.375	4 0.250	1 0.250	0 0.000	41 0.427
<b>PEAK HR FACTOR :</b>	0.563				0.396				0.625				0.333				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	0	0	0	0	0	1	1	0	1	2	0	0	0	2	0	0	7
2:45 PM	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	4
3:00 PM	2	0	0	0	2	5	1	0	0	5	1	0	0	1	1	0	18
3:15 PM	1	3	0	0	0	0	0	0	0	1	1	0	0	1	1	0	8
3:30 PM	1	1	0	0	0	2	0	0	0	1	0	0	0	2	0	0	7
3:45 PM	0	0	1	0	0	1	0	0	0	2	1	0	0	6	1	0	12
4:00 PM	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	4
4:15 PM	0	2	0	0	0	0	0	0	0	4	0	0	0	2	0	0	8
<b>TOTAL VOLUMES :</b> <b>APPROACH %'s:</b>	NL 4 33.33%	NT 7 58.33%	NR 1 8.33%	NU 0 0.00%	SL 2 11.11%	ST 11 61.11%	SR 5 27.78%	SU 0 0.00%	EL 1 5.00%	ET 15 75.00%	ER 4 20.00%	EU 0 0.00%	WL 0 0.00%	WT 15 83.33%	WR 3 16.67%	WU 0 0.00%	TOTAL 68 0.00%
<b>PEAK HR :</b>	<b>0 :00 PM - 0 :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	4 0.500	4 0.333	1 0.250	0 0.000	2 0.250	8 0.400	1 0.250	0 0.000	0 0.000	9 0.450	3 0.750	0 0.000	0 0.000	10 0.417	3 0.750	0 0.000	45 0.625
<b>PEAK HR FACTOR :</b>	0.563				0.344				0.500				0.464				

# National Data & Surveying Services Intersection Turning Movement Count

Location: Alton Rd & SR A1A/5th St/SR A1A/5th St  
City: Miami Beach

Project ID: 21-140212-003  
Date: 9/18/2021

## Data - Pedestrians (Crosswalks)

NS/EW Streets:	Alton Rd		Alton Rd		SR A1A/5th St/SR A1A/5th St		SR A1A/5th St/SR A1A/5th St		TOTAL
	NOON		NORTH LEG		SOUTH LEG		EAST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
10:00 AM	0	0	5	4	3	2	1	0	15
10:15 AM	0	0	12	9	13	8	1	0	43
10:30 AM	0	0	2	2	4	7	0	0	15
10:45 AM	0	0	8	4	9	8	0	0	29
11:00 AM	0	0	6	3	12	12	0	1	34
11:15 AM	0	0	5	6	2	10	0	1	24
11:30 AM	0	0	7	7	5	8	0	0	27
11:45 AM	0	0	7	5	4	5	0	0	21
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	52	40	52	60	2	2	208
PEAK HR :	:00 AM - :00 PM		56.52%		43.48%		46.43%		TOTAL
PEAK HR VOL :	0	0	25	21	23	35	0	2	106
PEAK HR FACTOR :			0.893	0.750	0.479	0.729	0.604	0.500	0.779

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:30 PM	0	0	10	1	9	2	0	0	22
2:45 PM	0	0	10	3	3	10	0	1	27
3:00 PM	0	0	1	1	7	3	0	0	12
3:15 PM	0	0	8	1	6	1	0	0	16
3:30 PM	0	0	1	4	2	5	1	0	13
3:45 PM	0	0	6	9	9	9	1	0	34
4:00 PM	0	0	6	3	4	1	0	0	14
4:15 PM	0	0	2	2	0	7	0	0	11
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	44	24	40	38	2	1	149
PEAK HR :	0 :00 PM - 0 :00 PM		64.71%		35.29%		51.28%		TOTAL
PEAK HR VOL :	0	0	16	15	24	18	2	0	75
PEAK HR FACTOR :			0.500	0.417	0.667	0.500	0.500	0.500	0.551

## Alton Rd &amp; SR A1A/5th St/SR A1A/5th St

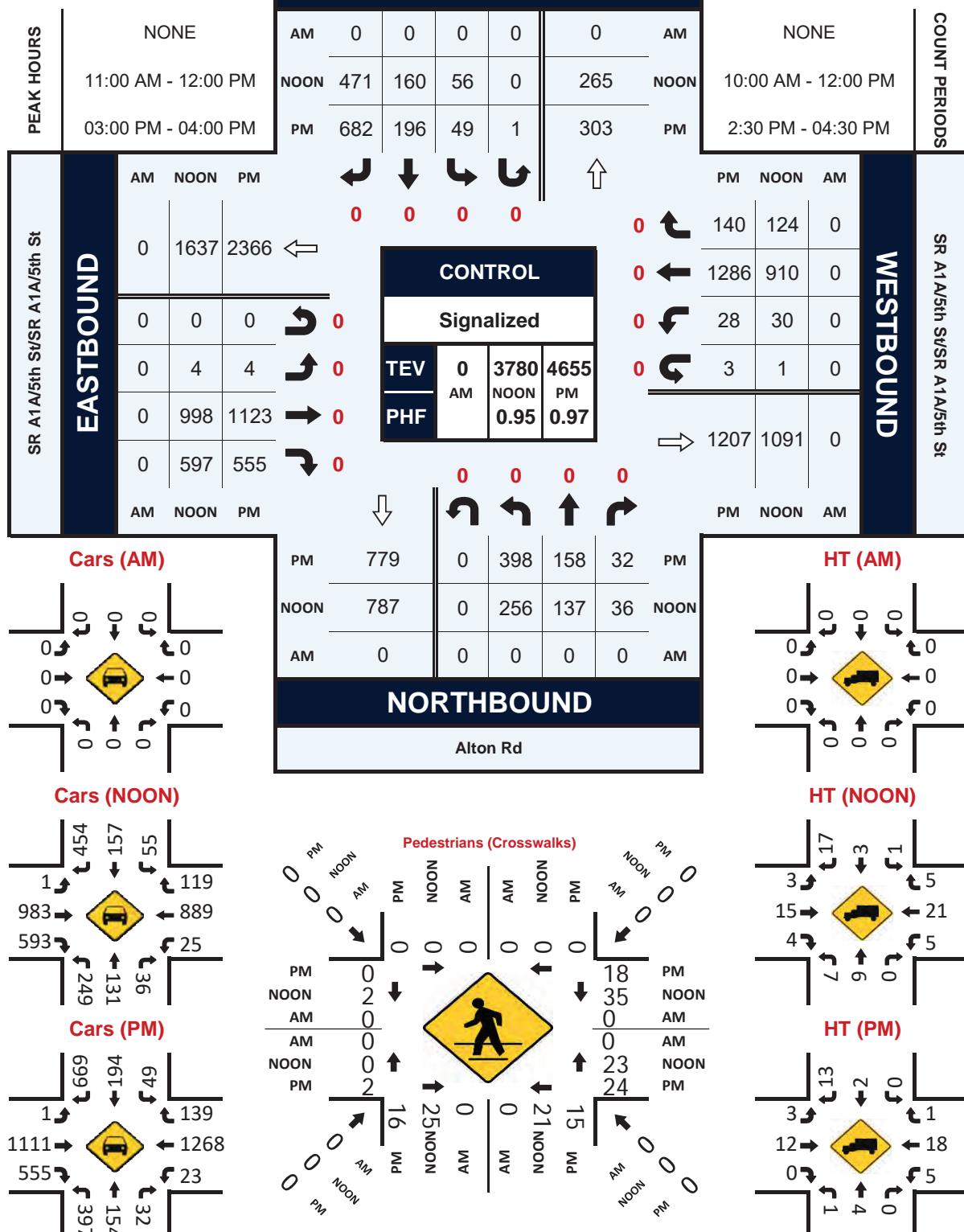
## Peak Hour Turning Movement Count

ID: 21-140212-003

City: Miami Beach

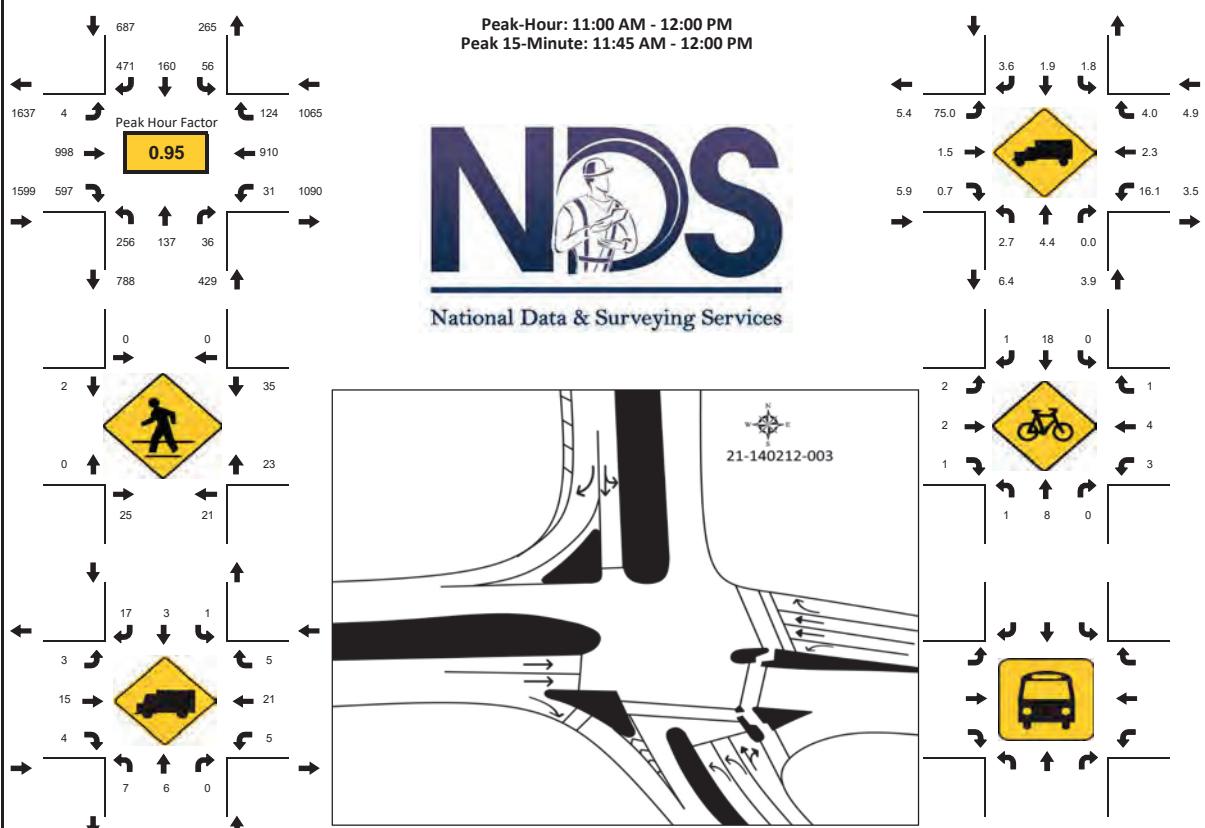
Day: Saturday

Date: 9/18/2021

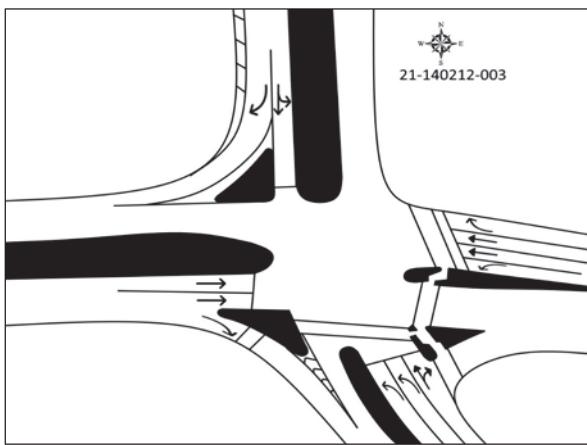


**LOCATION:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**CITY/STATE:** Miami Beach, FL

PROJECT ID: 21-140212-003  
DATE: Sat, Sep 18, 2021

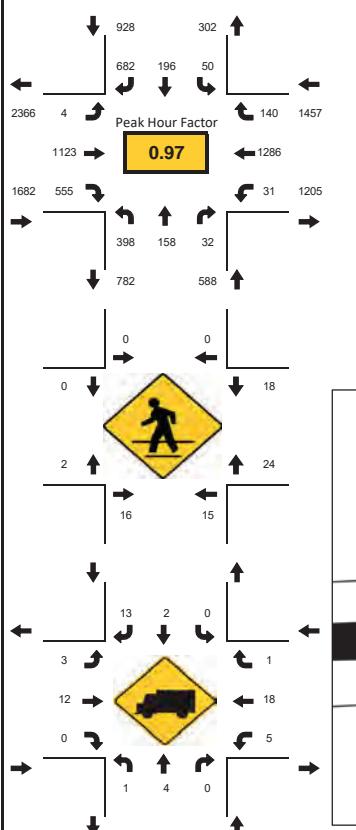


National Data & Surveying Services



**LOCATION:** Alton Rd & SR A1A/5th St/SR A1A/5th St  
**CITY/STATE:** Miami Beach, FL

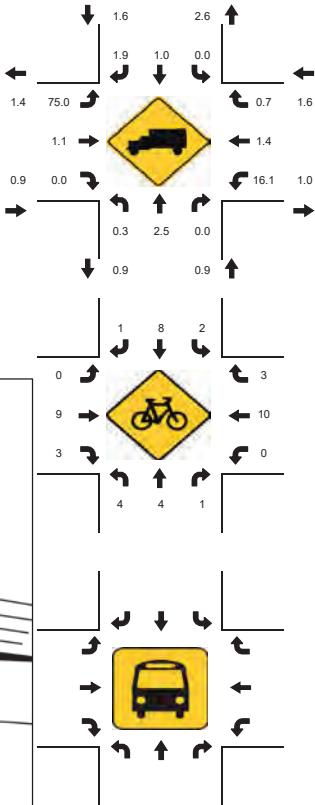
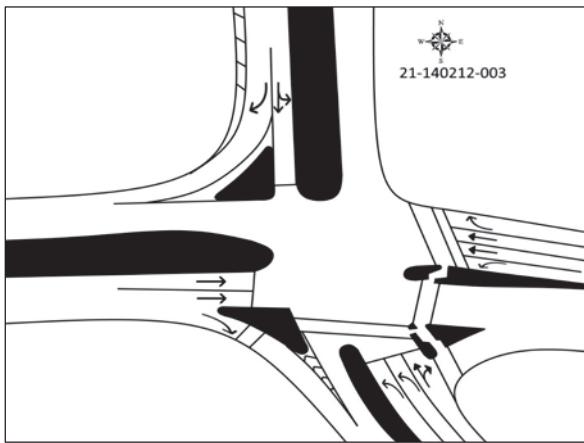
PROJECT ID: 21-140212-003  
DATE: Sat, Sep 18, 2021



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



National Data & Surveying Services



# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** 1-Way Sto (NB)

**Project ID:** 21-140212-004  
**Date:** 9/18/2021

## Data - Total

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit				Terminal Island Outbound Right-Turn Exit				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	0	2	0	0	0	0	0	0	487	0	0	0	391	0	0	880
10:15 AM	0	0	6	0	0	0	0	0	0	533	0	0	0	355	0	0	894
10:30 AM	0	0	6	0	0	0	0	0	0	393	0	0	0	443	0	0	842
10:45 AM	0	0	11	0	0	0	0	0	0	574	0	0	0	413	0	0	998
11:00 AM	0	0	5	0	0	0	0	0	0	539	0	0	0	442	0	0	986
11:15 AM	0	0	8	0	0	0	0	0	0	699	0	0	0	425	0	0	1132
11:30 AM	0	0	9	0	0	0	0	0	0	610	0	0	0	487	0	0	1106
11:45 AM	0	0	6	0	0	0	0	0	0	670	0	0	0	480	0	0	1156
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0.00%	NT 0 0.00%	NR 53 100.00%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 4505 100.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 3436 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 7994 0.00%
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	28 0.778	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	2518 0.901	0 0.000	0 0.000	0 0.000	1834 0.941	0 0.000	0 0.000	4380 0.941
<b>PEAK HR FACTOR :</b>	0.778																0.947
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	0	0	8	0	0	0	0	0	0	606	0	0	0	598	0	0	1212
2:45 PM	0	0	12	0	0	0	0	0	0	696	0	0	0	533	0	0	1241
3:00 PM	0	0	7	0	0	0	0	0	0	681	0	0	0	579	0	0	1267
3:15 PM	0	0	5	0	0	0	0	0	0	652	0	0	0	663	0	0	1320
3:30 PM	0	0	10	0	0	0	0	0	0	722	0	0	0	701	0	0	1433
3:45 PM	0	0	9	0	0	0	0	0	0	689	0	0	0	630	0	0	1328
4:00 PM	0	0	5	0	0	0	0	0	0	647	0	0	0	665	0	0	1317
4:15 PM	0	0	6	0	0	0	0	0	0	697	0	0	0	674	0	0	1377
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0.00%	NT 0 0.00%	NR 62 100.00%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 5390 100.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 5043 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 10495 0.00%
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	30 0.750	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	2755 0.954	0 0.000	0 0.000	0 0.000	2670 0.952	0 0.000	0 0.000	5455 0.952
<b>PEAK HR FACTOR :</b>	0.750																0.952

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** 1-Way Sto (NB)

**Project ID:** 21-140212-004  
**Date:** 9/18/2021

## Data - Cars

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit				Terminal Island Outbound Right-Turn Exit				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	0	2	0	0	0	0	0	0	482	0	0	0	384	0	0	868
10:15 AM	0	0	5	0	0	0	0	0	0	525	0	0	0	349	0	0	879
10:30 AM	0	0	6	0	0	0	0	0	0	389	0	0	0	432	0	0	827
10:45 AM	0	0	11	0	0	0	0	0	0	562	0	0	0	410	0	0	983
11:00 AM	0	0	5	0	0	0	0	0	0	533	0	0	0	427	0	0	965
11:15 AM	0	0	6	0	0	0	0	0	0	682	0	0	0	420	0	0	1108
11:30 AM	0	0	9	0	0	0	0	0	0	604	0	0	0	477	0	0	1090
11:45 AM	0	0	5	0	0	0	0	0	0	660	0	0	0	470	0	0	1135
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0.00%	NT 0 0.00%	NR 49 100.00%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 4437 100.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 3369 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 7855 0.00%
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	25 0.694	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	2479 0.909	0 0.000	0 0.000	0 0.000	1794 0.940	0 0.000	0 0.000	4298 0.947
<b>PEAK HR FACTOR :</b>	0.694																
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	0	0	8	0	0	0	0	0	0	603	0	0	0	590	0	0	1201
2:45 PM	0	0	12	0	0	0	0	0	0	691	0	0	0	520	0	0	1223
3:00 PM	0	0	7	0	0	0	0	0	0	678	0	0	0	570	0	0	1255
3:15 PM	0	0	5	0	0	0	0	0	0	648	0	0	0	656	0	0	1309
3:30 PM	0	0	8	0	0	0	0	0	0	712	0	0	0	692	0	0	1412
3:45 PM	0	0	9	0	0	0	0	0	0	684	0	0	0	622	0	0	1315
4:00 PM	0	0	5	0	0	0	0	0	0	642	0	0	0	657	0	0	1304
4:15 PM	0	0	6	0	0	0	0	0	0	693	0	0	0	669	0	0	1368
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0.00%	NT 0 0.00%	NR 60 100.00%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 5351 100.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 4976 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 10387 0.00%
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	28 0.778	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	2731 0.959	0 0.000	0 0.000	0 0.000	2640 0.954	0 0.000	0 0.000	5399 0.956
<b>PEAK HR FACTOR :</b>	0.778																

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** 1-Way Sto (NB)

**Project ID:** 21-140212-004  
**Date:** 9/18/2021

## Data - HT

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit				Terminal Island Outbound Right-Turn Exit				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	0	12
10:15 AM	0	0	1	0	0	0	0	0	0	8	0	0	0	6	0	0	15
10:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	11	0	0	15
10:45 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	3	0	0	15
11:00 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	15	0	0	21
11:15 AM	0	0	2	0	0	0	0	0	0	17	0	0	0	5	0	0	24
11:30 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	10	0	0	16
11:45 AM	0	0	1	0	0	0	0	0	0	10	0	0	0	10	0	0	21
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0.00%	NT 0 0.00%	NR 4 100.00%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 68 100.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 67 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 139 0.854
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	3 0.375	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	39 0.574	0 0.000	0 0.000	0 0.000	40 0.667	0 0.000	0 0.000	<b>82 0.854</b>
<b>PEAK HR FACTOR :</b>	0.375																
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	8	0	0	11
2:45 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	13	0	0	18
3:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	9	0	0	12
3:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	7	0	0	11
3:30 PM	0	0	2	0	0	0	0	0	0	10	0	0	0	9	0	0	21
3:45 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13
4:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	9
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0.00%	NT 0 0.00%	NR 2 100.00%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 39 100.00%	ER 0 0.00%	EU 0 0.00%	WL 0 0.00%	WT 67 100.00%	WR 0 0.00%	WU 0 0.00%	TOTAL 108 0.667
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>																<b>TOTAL 56 0.667</b>
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	2 0.250	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	24 0.600	0 0.000	0 0.000	0 0.000	30 0.833	0 0.000	0 0.000	<b>56 0.667</b>
<b>PEAK HR FACTOR :</b>	0.250																

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**City:** Miami Beach  
**Control:** 1-Way Sto (NB)

**Project ID:** 21-140212-004  
**Date:** 9/18/2021

## Data - Bikes

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit				Terminal Island Outbound Right-Turn Exit				SR A1A MacArthur Causeway				SR A1A MacArthur Causeway				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7
10:15 AM	0	0	1	0	0	0	0	0	0	8	0	0	1	5	0	0	15
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
10:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3
11:00 AM	0	0	2	0	0	0	0	0	0	3	4	0	0	4	0	0	13
11:15 AM	0	0	1	0	0	0	0	0	0	2	1	0	0	5	0	0	9
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
11:45 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	3	0	0	5
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 0 0.00%	NT 0 0.00%	NR 6 100.00%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 13 68.42%	ER 6 31.58%	EU 0 0.00%	WL 1 3.03%	WT 32 96.97%	WR 0 0.00%	WU 0 0.00%	TOTAL 58 0.558
<b>PEAK HR :</b>	<b>:00 AM - :00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0 0.000	0 0.000	4 0.500	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	5 0.417	6 0.375	0 0.000	0 0.000	14 0.700	0 0.000	0 0.000	29 0.558
<b>PEAK HR FACTOR :</b>	0.500																
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	2	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	5
3:00 PM	1	0	3	0	0	0	0	0	0	0	3	0	1	1	0	0	9
3:15 PM	1	0	1	0	0	0	0	0	0	2	1	0	1	1	0	0	7
3:30 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	3	0	0	5
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:00 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
4:15 PM	0	0	2	0	0	0	0	0	0	3	0	0	0	1	0	0	6
<b>TOTAL VOLUMES : APPROACH %'s :</b>	NL 6 42.86%	NT 0 0.00%	NR 8 57.14%	NU 0 0.00%	SL 0 0.00%	ST 0 0.00%	SR 0 0.00%	SU 0 0.00%	EL 0 0.00%	ET 2 20.00%	ER 8 80.00%	EU 0 0.00%	WL 4 33.33%	WT 8 66.67%	WR 0 0.00%	WU 0 0.00%	TOTAL 36 0.625
<b>PEAK HR :</b>	<b>0 : 0 PM - 0 : 0 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	2 0.250	0 0.000	3 0.375	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	0 0.000	4 0.333	0 0.000	0 0.000	6 0.500	0 0.000	0 0.000	15 0.625
<b>PEAK HR FACTOR :</b>	0.625																

# National Data & Surveying Services Intersection Turning Movement Count

Location: Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
 City: Miami Beach

## Data - Pedestrians (Crosswalks)

NS/EW Streets:	Terminal Island Outbound Right-Turn Exit		Terminal Island Outbound Right-Turn Exit		SR A1A MacArthur Causeway		SR A1A MacArthur Causeway		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
10:00 AM	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	1	0	0	0	0	0	1
10:30 AM	0	0	4	1	0	0	0	0	5
10:45 AM	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	5	2	71.43%	28.57%	0	0	7
PEAK HR :	10:30 AM - 10:45 AM								TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	0	1
PEAK HR FACTOR :			0.250		0.250				0.250
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:30 PM	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	1	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	4	1	0	0	0	0	5
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	1	1	0	0	0	0	2
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	7	2	77.78%	22.22%	0	0	9
PEAK HR :	0 : 0 PM - 0 : 0 PM								TOTAL
PEAK HR VOL :	0	0	2	1	0	0	0	0	3
PEAK HR FACTOR :			0.500		0.250		0.375		0.375

## Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway

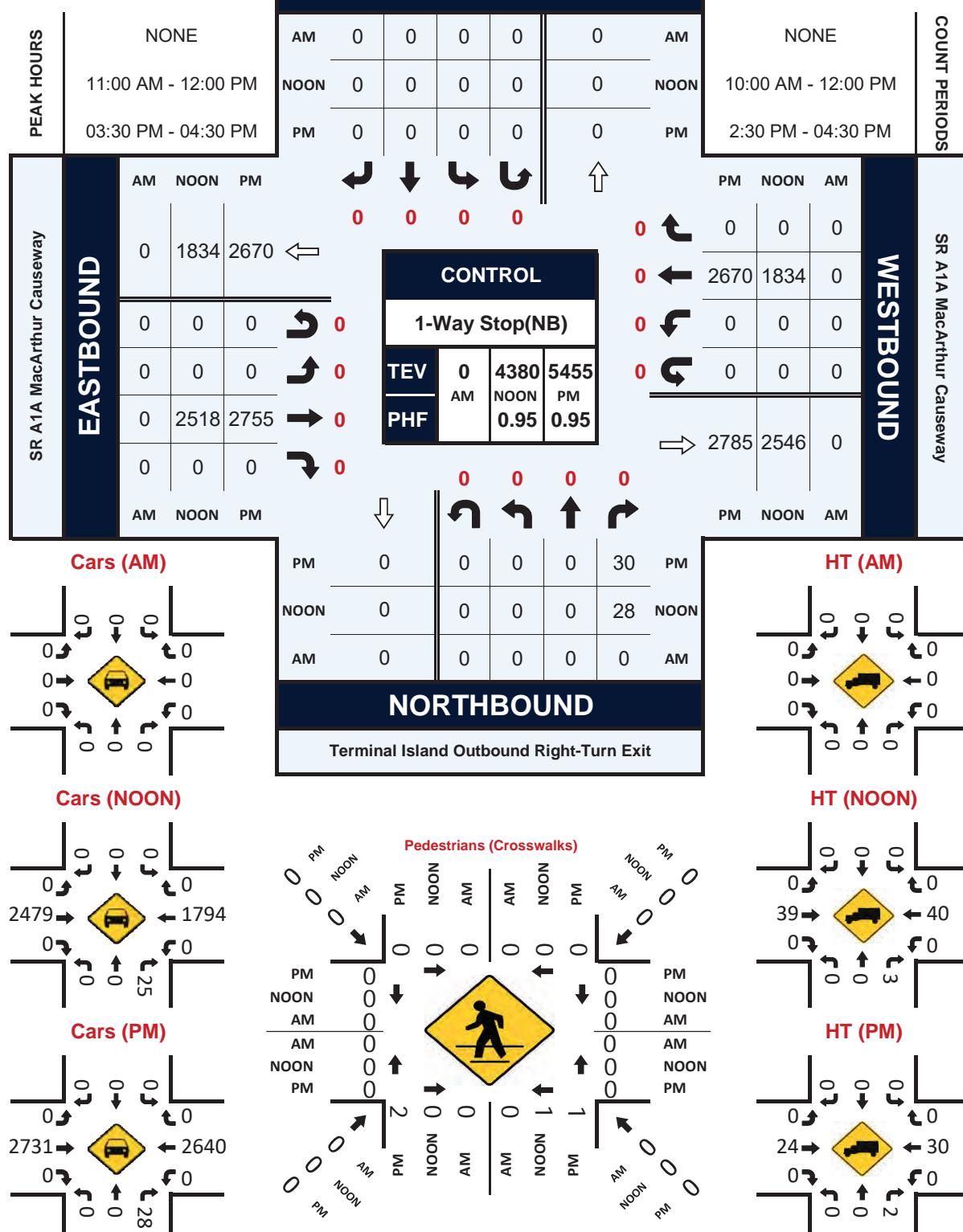
### Peak Hour Turning Movement Count

ID: 21-140212-004

City: Miami Beach

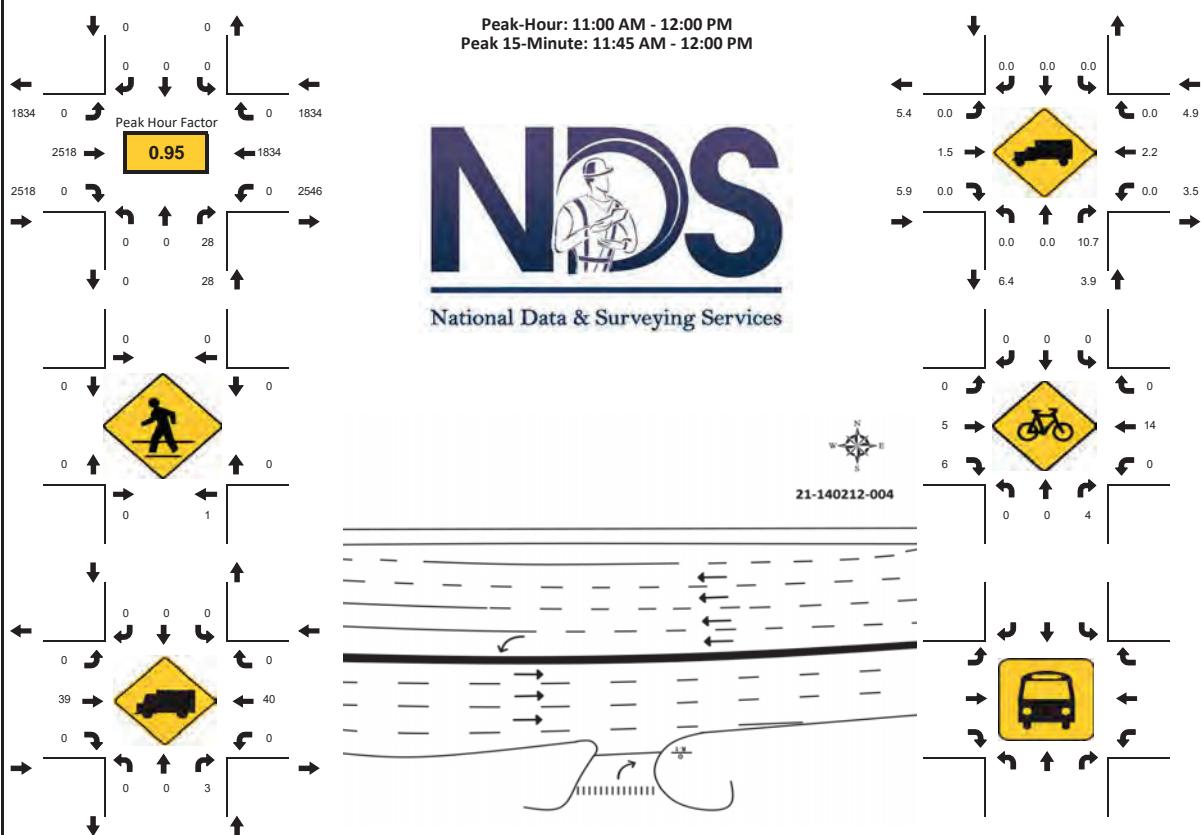
Day: Saturday

Date: 9/18/2021



**LOCATION:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

PROJECT ID: 21-140212-004  
DATE: Sat, Sep 18, 2021



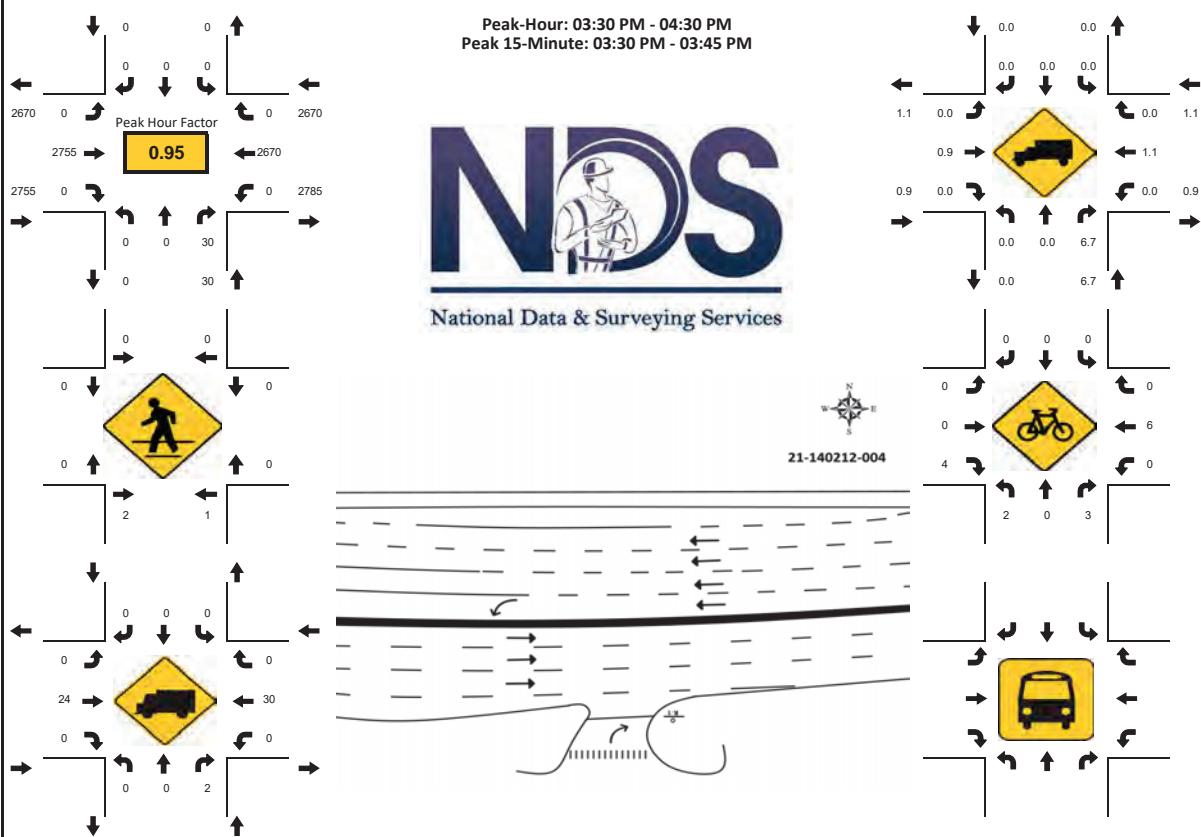
National Data & Surveying Services



21-140313-004

**LOCATION:** Terminal Island Outbound Right-Turn Exit & SR A1A MacArthur Causeway  
**CITY/STATE:** Miami Beach, FL

PROJECT ID: 21-140212-004  
DATE: Sat, Sep 18, 2021



National Data & Surveying Services

21-140212-004

# **Traffic Volumes**

## **our Counts**

**VOLUME**

MacArthur Causeway Bet. Bridge Rd &amp; Terminal Island

Day: Thursday  
Date: 8/26/2021City: Miami Beach  
Project #: FL21\_140183\_001

DAILY TOTALS				NB 0	SB 0	EB 36,706	WB 32,079				Total 68,785	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			136	257	393	12:00			462	474	936	
00:15			117	197	314	12:15			468	475	943	
00:30			110	202	312	12:30			436	439	875	
00:45		92	455	161	817	12:45			445	1811	889	3643
01:00			81	136	217	13:00			457	441	898	
01:15			88	114	202	13:15			462	472	934	
01:30			65	118	183	13:30			526	440	966	
01:45		52	286	104	472	13:45			568	2013	478	3844
02:00			61	103	164	14:00			553	502	1055	
02:15			57	81	138	14:15			611	561	1172	
02:30			43	72	115	14:30			654	539	1193	
02:45		47	208	64	320	14:45			517	2335	514	4451
03:00			40	62	102	15:00			573	540	1113	
03:15			43	52	95	15:15			554	532	1086	
03:30			47	53	100	15:30			555	503	1058	
03:45		47	177	48	215	15:45			569	2251	443	4269
04:00			52	41	93	16:00			558	449	1007	
04:15			56	54	110	16:15			527	502	1029	
04:30			71	52	123	16:30			566	488	1054	
04:45		68	247	78	225	16:45			591	2242	457	4138
05:00			82	71	153	17:00			594	517	1111	
05:15			123	76	199	17:15			523	505	1028	
05:30			184	96	280	17:30			517	448	965	
05:45		223	612	94	337	17:45			592	2226	492	4188
06:00			210	107	317	18:00			548	516	1064	
06:15			324	130	454	18:15			604	508	1112	
06:30			377	181	558	18:30			572	486	1058	
06:45		438	1349	210	628	18:45			505	2229	457	4196
07:00			362	283	645	19:00			544	488	1032	
07:15			426	288	714	19:15			543	475	1018	
07:30			473	336	809	19:30			448	444	892	
07:45		505	1766	332	1239	19:45			546	2081	457	3945
08:00			509	347	856	20:00			490	483	973	
08:15			536	377	913	20:15			462	444	906	
08:30			586	385	971	20:30			460	413	873	
08:45		521	2152	374	1483	20:45			471	1883	401	3624
09:00			514	345	859	21:00			409	385	794	
09:15			551	357	908	21:15			393	390	783	
09:30			534	356	890	21:30			376	371	747	
09:45		527	2126	377	1435	21:45			359	1537	359	3042
10:00			511	336	847	22:00			430	379	809	
10:15			483	344	827	22:15			415	371	786	
10:30			526	412	938	22:30			398	371	769	
10:45		500	2020	412	1504	22:45			379	1622	346	3089
11:00			427	421	848	23:00			347	382	729	
11:15			458	428	886	23:15			302	391	693	
11:30			478	460	938	23:30			307	345	652	
11:45		502	1865	458	1767	23:45			257	1213	320	2651
TOTALS			13263	10442	23705	TOTALS			23443	21637	45080	
SPLIT %			56.0%	44.0%	34.5%	SPLIT %			52.0%	48.0%	65.5%	

DAILY TOTALS	NB 0	SB 0	EB 36,706	WB 32,079	Total 68,785
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AM Peak Hour	08:30	11:30	11:30	PM Peak Hour	13:45	14:15	14:15
AM Pk Volume	2172	1867	3777	PM Pk Volume	2386	2154	4509
Pk Hr Factor	0.927	0.983	0.984	Pk Hr Factor	0.912	0.960	0.945
7 - 9 Volume	0	0	3918	4 - 6 Volume	0	0	8326
7 - 9 Peak Hour			08:00	4 - 6 Peak Hour		16:15	16:15
7 - 9 Pk Volume	0	0	2152	4 - 6 Pk Volume	0	0	4242
Pk Hr Factor	0.000	0.000	0.918	Pk Hr Factor	0.000	0.000	0.955

**VOLUME**

MacArthur Causeway Bet. Bridge Rd &amp; Terminal Island

Day: Friday  
Date: 8/27/2021City: Miami Beach  
Project #: FL21\_140183\_001

DAILY TOTALS				NB 0	SB 0	EB 36,975	WB 34,990				Total 71,965			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			157	249	406	12:00			440	486	926			
00:15			168	230	398	12:15			457	509	966			
00:30			150	240	390	12:30			511	508	1019			
00:45			140	615	914	12:45			424	1832	470	1973	894	3805
01:00			138	181	319	13:00			480	465	945			
01:15			110	167	277	13:15			474	469	943			
01:30			100	148	248	13:30			514	497	1011			
01:45			92	440	142	13:45			492	1960	508	1939	1000	3899
02:00			75	121	196	14:00			515	572	1087			
02:15			93	97	190	14:15			468	548	1016			
02:30			89	121	210	14:30			474	580	1054			
02:45			76	333	96	14:45			502	1959	551	2251	1053	4210
03:00			66	85	151	15:00			514	533	1047			
03:15			70	69	139	15:15			510	607	1117			
03:30			61	80	141	15:30			492	527	1019			
03:45			60	257	94	15:45			521	2037	380	2047	901	4084
04:00			61	74	135	16:00			519	453	972			
04:15			69	78	147	16:15			494	457	951			
04:30			68	84	152	16:30			491	438	929			
04:45			110	308	71	16:45			494	1998	554	1902	1048	3900
05:00			120	81	201	17:00			504	542	1046			
05:15			130	97	227	17:15			516	599	1115			
05:30			141	109	250	17:30			493	526	1019			
05:45			207	598	97	17:45			491	2004	434	2101	925	4105
06:00			206	124	330	18:00			471	468	939			
06:15			293	150	443	18:15			505	531	1036			
06:30			364	201	565	18:30			474	454	928			
06:45			434	1297	202	18:45			561	2011	467	1920	1028	3931
07:00			425	280	705	19:00			473	497	970			
07:15			462	318	780	19:15			532	476	1008			
07:30			461	314	775	19:30			500	480	980			
07:45			517	1865	326	19:45			504	2009	442	1895	946	3904
08:00			572	356	928	20:00			472	497	969			
08:15			562	386	948	20:15			452	452	904			
08:30			563	391	954	20:30			500	446	946			
08:45			628	2325	354	20:45			454	1878	458	1853	912	3731
09:00			580	375	955	21:00			470	404	874			
09:15			531	372	903	21:15			444	445	889			
09:30			608	378	986	21:30			442	441	883			
09:45			552	2271	368	21:45			442	1798	422	1712	864	3510
10:00			532	370	902	22:00			428	451	879			
10:15			548	403	951	22:15			428	449	877			
10:30			569	439	1008	22:30			454	450	904			
10:45			548	2197	490	22:45			419	1729	404	1754	823	3483
11:00			484	500	984	23:00			371	553	924			
11:15			408	539	947	23:15			389	483	872			
11:30			450	518	968	23:30			339	458	797			
11:45			480	1822	520	23:45			333	1432	469	1963	802	3395
TOTALS			14328	11680	26008	TOTALS			22647	23310	45957			
SPLIT %			55.1%	44.9%	36.1%	SPLIT %			49.3%	50.7%	63.9%			

DAILY TOTALS	NB 0	SB 0	EB 36,975	WB 34,990	Total 71,965
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AM Peak Hour	08:45	11:00	10:15	PM Peak Hour	18:45	14:30	14:30
AM Pk Volume	2347	2077	3981	PM Pk Volume	2066	2271	4271
Pk Hr Factor	0.934	0.963	0.959	Pk Hr Factor	0.921	0.935	0.956
7 - 9 Volume	0	0	4190	7 - 9 Peak Hour	0	0	8005
7 - 9 Peak Hour			2725	08:00	08:00	16:45	16:45
7 - 9 Pk Volume	0	0	6915	4 - 6 Peak Hour			4228
Pk Hr Factor	0.926	0.951	0.970	4 - 6 Pk Volume	0	0	0.948
				Pk Hr Factor	0.972	0.927	

**VOLUME**

MacArthur Causeway Bet. Bridge Rd &amp; Terminal Island

Day: Saturday  
Date: 8/28/2021City: Miami Beach  
Project #: FL21\_140183\_001

DAILY TOTALS				NB 0	SB 0	EB 37,891	WB 38,039				Total 75,930	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			315	454	769	12:00			545	463	1008	
00:15			314	417	731	12:15			563	474	1037	
00:30			303	433	736	12:30			541	495	1036	
00:45			263	1195	1692	12:45			557	2206	500 1932	1057 4138
01:00			226	388	614	13:00			514	532	1046	
01:15			235	344	579	13:15			565	591	1156	
01:30			203	323	526	13:30			606	525	1131	
01:45			213	877	277 1332	13:45			526	2211	535 2183	1061 4394
02:00			176	302	478	14:00			513	535	1048	
02:15			170	272	442	14:15			550	541	1091	
02:30			171	247	418	14:30			509	568	1077	
02:45			152	669	239 1060	14:45			523	2095	576 2220	1099 4315
03:00			152	215	367	15:00			507	658	1165	
03:15			156	165	321	15:15			524	656	1180	
03:30			156	214	370	15:30			545	612	1157	
03:45			124	588	198 792	15:45			488	2064	513 2439	1001 4503
04:00			137	250	387	16:00			509	454	963	
04:15			117	236	353	16:15			503	520	1023	
04:30			144	209	353	16:30			481	506	987	
04:45			121	519	175 870	16:45			518	2011	537 2017	1055 4028
05:00			114	163	277	17:00			462	498	960	
05:15			111	158	269	17:15			521	499	1020	
05:30			133	140	273	17:30			546	475	1021	
05:45			139	497	121 582	17:45			522	2051	475 1947	997 3998
06:00			147	158	305	18:00			527	452	979	
06:15			166	115	281	18:15			487	550	1037	
06:30			267	148	415	18:30			578	502	1080	
06:45			312	892	133 554	18:45			574	2166	492 1996	1066 4162
07:00			234	186	420	19:00			492	529	1021	
07:15			220	200	420	19:15			564	473	1037	
07:30			259	172	431	19:30			517	576	1093	
07:45			304	1017	178 736	19:45			500	2073	546 2124	1046 4197
08:00			302	214	516	20:00			526	548	1074	
08:15			304	219	523	20:15			504	558	1062	
08:30			340	256	596	20:30			467	579	1046	
08:45			412	1358	254 943	20:45			490	1987	514 2199	1004 4186
09:00			349	303	652	21:00			458	502	960	
09:15			390	291	681	21:15			467	486	953	
09:30			424	340	764	21:30			489	490	979	
09:45			498	1661	363 1297	21:45			515	1929	464 1942	979 3871
10:00			520	347	867	22:00			459	497	956	
10:15			466	367	833	22:15			455	452	907	
10:30			557	366	923	22:30			456	473	929	
10:45			539	2082	427 1507	22:45			443	1813	526 1948	969 3761
11:00			510	436	946	23:00			453	503	956	
11:15			557	443	1000	23:15			433	528	961	
11:30			589	451	1040	23:30			455	471	926	
11:45			552	2208	449 1779	23:45			381	1722	446 1948	827 3670
TOTALS			13563	13144	26707	TOTALS			24328	24895	49223	
SPLIT %			50.8%	49.2%	35.2%	SPLIT %			49.4%	50.6%	64.8%	

DAILY TOTALS	NB 0	SB 0	EB 37,891	WB 38,039	Total 75,930
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AM Peak Hour	11:30	11:45	11:30	PM Peak Hour	12:45	14:45	14:45	
AM Pk Volume	2249	1881	4086	PM Pk Volume	2242	2502	4601	
Pk Hr Factor	0.955	0.950	0.982	Pk Hr Factor	0.925	0.951	0.975	
7 - 9 Volume	0	0	2375	1679	4054	4 - 6 Volume	0	0
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour		
7 - 9 Pk Volume	0	0	1358	943	2301	4 - 6 Pk Volume	0	0
Pk Hr Factor	0.000	0.000	0.824	0.921	0.864	Pk Hr Factor	0.000	0.000
							0.939	0.959
							0.959	0.961

**VOLUME**

MacArthur Causeway Bet. Bridge Rd &amp; Terminal Island

Day: Sunday  
Date: 8/29/2021City: Miami Beach  
Project #: FL21\_140183\_001

DAILY TOTALS				NB 0	SB 0	EB 36,317	WB 37,425					Total 73,742
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			415	467	882	12:00			614	482	1096	
00:15			349	489	838	12:15			566	506	1072	
00:30			346	464	810	12:30			536	482	1018	
00:45			331	1441	411 1831	12:45			614	2330	507 1977	1121 4307
01:00			285	398	683	13:00			581	519	1100	
01:15			271	380	651	13:15			574	517	1091	
01:30			273	366	639	13:30			570	462	1032	
01:45			199	1028	360 1504	13:45			584	2309	516 2014	1100 4323
02:00			216	336	552	14:00			560	533	1093	
02:15			212	317	529	14:15			570	515	1085	
02:30			179	320	499	14:30			570	506	1076	
02:45			165	772	313 1286	14:45			643	2343	530 2084	1173 4427
03:00			179	296	475	15:00			604	572	1176	
03:15			137	244	381	15:15			451	532	983	
03:30			160	241	401	15:30			519	556	1075	
03:45			149	625	256 1037	15:45			465	2039	652 2312	1117 4351
04:00			146	260	406	16:00			541	586	1127	
04:15			120	275	395	16:15			595	657	1225	
04:30			151	261	412	16:30			533	698	1231	
04:45			120	537	243 1039	16:45			517	2186	675 2616	1192 4802
05:00			127	236	363	17:00			434	611	1045	
05:15			131	208	339	17:15			467	586	1053	
05:30			145	167	312	17:30			462	510	972	
05:45			157	560	161 772	17:45			497	1860	482 2189	979 4049
06:00			158	165	323	18:00			481	466	947	
06:15			183	144	327	18:15			492	496	988	
06:30			230	146	376	18:30			476	473	949	
06:45			253	824	123 578	18:45			483	1932	490 1925	973 3857
07:00			222	182	404	19:00			470	497	967	
07:15			171	159	330	19:15			442	469	911	
07:30			230	159	389	19:30			483	494	977	
07:45			259	882	151 651	19:45			493	1888	467 1927	960 3815
08:00			225	196	421	20:00			452	487	939	
08:15			255	188	443	20:15			441	545	986	
08:30			253	201	454	20:30			410	464	874	
08:45			324	1057	202 787	20:45			429	1732	435 1931	864 3663
09:00			337	215	552	21:00			351	489	840	
09:15			364	252	616	21:15			382	385	767	
09:30			425	270	695	21:30			396	441	837	
09:45			424	1550	254 991	21:45			416	1545	392 1707	808 3252
10:00			445	317	762	22:00			360	417	777	
10:15			450	298	748	22:15			373	400	773	
10:30			496	362	858	22:30			354	418	772	
10:45			548	1939	370 1347	22:45			334	1421	399 1634	733 3055
11:00			600	428	1028	23:00			312	456	768	
11:15			585	374	959	23:15			320	375	695	
11:30			579	446	1025	23:30			302	396	698	
11:45			552	2316	447 1695	23:45			267	1201	364 1591	631 2792
TOTALS			13531	13518	27049	TOTALS			22786	23907	46693	
SPLIT %			50.0%	50.0%	36.7%	SPLIT %			48.8%	51.2%	63.3%	

DAILY TOTALS				NB 0	SB 0	EB 36,317	WB 37,425					Total 73,742
AM Peak Hour			11:15	11:45	11:30	PM Peak Hour			14:15	16:15	16:00	
AM Pk Volume			2330	1917	4192	PM Pk Volume			2387	2641	4802	
Pk Hr Factor			0.949	0.947	0.956	Pk Hr Factor			0.928	0.946	0.959	
7 - 9 Volume	0	0	1939	1438	3377	4 - 6 Volume	0	0	4046	4805	8851	
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:00	16:15	16:00	
7 - 9 Pk Volume	0	0	1057	787	1844	4 - 6 Pk Volume	0	0	2186	2641	4802	
Pk Hr Factor	0.000	0.000	0.816	0.974	0.876	Pk Hr Factor	0.000	0.000	0.918	0.946	0.959	

**VOLUME**

Terminal Island Bet. MacArthur Causeway &amp; Crosswalk to the Ferry Parking Garage

Day: Thursday  
Date: 8/26/2021City: Miami Beach  
Project #: FL21\_140183\_002

DAILY TOTALS				NB 0	SB 0	EB 1,981	WB 1,421			Total 3,402	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			3	6	9	12:00			18	26	44
00:15			2	2	4	12:15			31	21	52
00:30			6	7	13	12:30			20	24	44
00:45			6	17	19	12:45			18	87	98
01:00			1	3	4	13:00			20	20	40
01:15			3	1	4	13:15			26	39	65
01:30			0	0	0	13:30			23	42	65
01:45			0	4	4	13:45			16	85	148
02:00			2	0	2	14:00			17	42	59
02:15			1	1	2	14:15			21	47	68
02:30			0	1	1	14:30			21	35	56
02:45			3	6	2	14:45			7	66	175
03:00			1	1	2	15:00			16	35	51
03:15			2	1	3	15:15			1	1	2
03:30			3	1	4	15:30			0	0	0
03:45			4	10	5	15:45			2	19	46
04:00			8	1	9	16:00			18	33	51
04:15			12	3	15	16:15			15	51	66
04:30			17	3	20	16:30			15	36	51
04:45			28	65	4	16:45			8	56	158
05:00			23	3	26	17:00			7	23	30
05:15			45	9	54	17:15			6	27	33
05:30			31	6	37	17:30			8	24	32
05:45			43	142	23	17:45			4	25	97
06:00			71	7	78	18:00			4	9	13
06:15			108	11	119	18:15			12	14	26
06:30			105	11	116	18:30			9	12	21
06:45			71	355	8	18:45			12	37	79
07:00			73	5	78	19:00			13	19	32
07:15			90	8	98	19:15			11	17	28
07:30			69	18	87	19:30			10	21	31
07:45			60	292	10	19:45			6	40	11
08:00			79	16	95	20:00			11	68	108
08:15			44	18	62	20:15			16	17	33
08:30			51	13	64	20:30			14	10	24
08:45			31	205	20	20:45			4	43	49
09:00			47	8	55	21:00			14	9	18
09:15			26	9	35	21:15			8	10	18
09:30			34	14	48	21:30			9	11	20
09:45			31	138	18	21:45			11	42	47
10:00			23	15	38	22:00			12	11	23
10:15			25	15	40	22:15			10	16	26
10:30			22	19	41	22:30			8	6	14
10:45			18	88	16	22:45			12	42	48
11:00			29	12	41	23:00			7	9	16
11:15			22	13	35	23:15			6	9	15
11:30			28	20	48	23:30			2	8	10
11:45			19	98	24	23:45			4	19	35
<b>TOTALS</b>			1420	410	1830	<b>TOTALS</b>			561	1011	<b>1572</b>
<b>SPLIT %</b>			77.6%	22.4%	53.8%	<b>SPLIT %</b>			35.7%	64.3%	<b>46.2%</b>

DAILY TOTALS				NB 0	SB 0	EB 1,981	WB 1,421	Total 3,402		
AM Peak Hour		06:15	11:45	06:00	PM Peak Hour			12:15	13:30	13:30
AM Pk Volume		357	95	392	PM Pk Volume			89	178	255
Pk Hr Factor		0.826	0.913	0.824	Pk Hr Factor			0.718	0.947	0.938
7 - 9 Volume	0	0	497	108	605	4 - 6 Volume	0	81	255	336
7 - 9 Peak Hour		07:15	08:00	07:15	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	298	67	350	4 - 6 Pk Volume	0	56	158	214
Pk Hr Factor	0.000	0.000	0.828	0.838	0.893	Pk Hr Factor	0.000	0.778	0.775	0.811

**VOLUME**

Terminal Island Bet. MacArthur Causeway &amp; Crosswalk to the Ferry Parking Garage

Day: Friday  
Date: 8/27/2021City: Miami Beach  
Project #: FL21\_140183\_002

DAILY TOTALS				NB 0	SB 0	EB 1,824	WB 1,460				Total 3,284
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			3	7	10	12:00			22	21	43
00:15			6	4	10	12:15			19	25	44
00:30			7	8	15	12:30			22	28	50
00:45			3	19	1 20	12:45			11	74	102
01:00			1	2	3	13:00			21	33	54
01:15			1	4	5	13:15			22	20	42
01:30			0	0	0	13:30			14	28	42
01:45			2	4	1 7	13:45			14	71	97
02:00			0	0	0	14:00			23	42	65
02:15			2	1	3	14:15			21	33	54
02:30			4	3	7	14:30			23	22	45
02:45			0	6	0 4	14:45			13	80	136
03:00			1	0	1	15:00			18	25	43
03:15			2	0	2	15:15			13	44	57
03:30			5	2	7	15:30			16	60	76
03:45			5	13	2 4	15:45			17	64	158
04:00			5	2	7	16:00			16	36	52
04:15			15	5	20	16:15			10	35	45
04:30			18	2	20	16:30			16	23	39
04:45			11	49	6 15	16:45			7	49	128
05:00			30	5	35	17:00			7	25	32
05:15			37	11	48	17:15			8	32	40
05:30			31	7	38	17:30			15	33	48
05:45			42	140	12 35	17:45			6	36	103
06:00			61	8	69	18:00			6	12	18
06:15			87	12	99	18:15			6	15	21
06:30			81	6	87	18:30			10	15	25
06:45			66	295	6 32	18:45			10	32	55
07:00			60	13	73	19:00			8	16	24
07:15			67	11	78	19:15			14	15	29
07:30			67	14	81	19:30			12	15	27
07:45			44	238	10 48	19:45			9	43	95
08:00			63	24	87	20:00			11	7	18
08:15			43	19	62	20:15			8	14	22
08:30			42	12	54	20:30			10	7	17
08:45			34	182	9 64	20:45			7	36	12 40
09:00			35	9	44	21:00			12	9	21
09:15			30	9	39	21:15			13	7	20
09:30			37	11	48	21:30			9	11	20
09:45			25	127	14 43	21:45			6	40	9 36
10:00			20	13	33	22:00			15	13	28
10:15			23	21	44	22:15			6	7	13
10:30			27	21	48	22:30			16	18	34
10:45			15	85	34 89	22:45			6	43	18 56
11:00			19	28	47	23:00			1	12	13
11:15			13	24	37	23:15			5	9	14
11:30			21	22	43	23:30			7	15	22
11:45			27	80	17 91	23:45			5	18	6 42
<b>TOTALS</b>			1238	452	1690	<b>TOTALS</b>			586	1008	<b>1594</b>
<b>SPLIT %</b>			73.3%	26.7%	51.5%	<b>SPLIT %</b>			36.8%	63.2%	<b>48.5%</b>

DAILY TOTALS				NB 0	SB 0	EB 1,824	WB 1,460				Total 3,284
AM Peak Hour				06:00	10:45	06:15	PM Peak Hour				

AM Peak Hour				295	108	331	PM Peak Hour				
Pk Hr Factor				0.848	0.794	0.836	Pk Hr Factor				
7 - 9 Volume	0	0		420	112	532	4 - 6 Volume	0	0		
7 - 9 Peak Hour				07:15	07:30	07:15	4 - 6 Peak Hour				
7 - 9 Pk Volume	0	0		241	67	300	4 - 6 Pk Volume	0	0		
Pk Hr Factor	0.000	0.000		0.899	0.698	0.862	Pk Hr Factor	0.000	0.000		

**VOLUME**

Terminal Island Bet. MacArthur Causeway &amp; Crosswalk to the Ferry Parking Garage

Day: Saturday  
Date: 8/28/2021City: Miami Beach  
Project #: FL21\_140183\_002

DAILY TOTALS				NB 0	SB 0	EB 1,344	WB 1,110					Total 2,454
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			6	11	17	12:00			20	10	30	
00:15			3	9	12	12:15			19	16	35	
00:30			5	9	14	12:30			13	11	24	
00:45			3	17	6 35	12:45			31	83	39 128	
01:00			3	3	6	13:00			26	23	49	
01:15			3	1	4	13:15			13	10	23	
01:30			2	1	3	13:30			26	16	42	
01:45			3	11	3 8	13:45			16	81	9 139	
02:00			2	1	3	14:00			24	20	44	
02:15			3	2	5	14:15			20	21	41	
02:30			1	0	1	14:30			23	27	50	
02:45			3	9	1 4	14:45			17	84	13 81 30 165	
03:00			2	3	5	15:00			25	34	59	
03:15			3	0	3	15:15			16	20	36	
03:30			2	4	6	15:30			21	25	46	
03:45			5	12	2 9	15:45			27	89	16 95 43 184	
04:00			9	3	12	16:00			12	10	22	
04:15			13	5	18	16:15			15	14	29	
04:30			14	8	22	16:30			18	24	42	
04:45			6	42	3 19	16:45			9	54	19 67 28 121	
05:00			9	8	17	17:00			9	16	25	
05:15			24	10	34	17:15			17	14	31	
05:30			14	9	23	17:30			15	19	34	
05:45			16	63	9 36	17:45			16	57	13 62 29 119	
06:00			12	7	19	18:00			9	12	21	
06:15			19	8	27	18:15			11	20	31	
06:30			21	11	32	18:30			17	14	31	
06:45			24	76	8 34	18:45			15	52	22 68 37 120	
07:00			18	7	25	19:00			11	23	34	
07:15			22	9	31	19:15			15	18	33	
07:30			16	5	21	19:30			11	25	36	
07:45			21	77	4 25	19:45			11	48	10 76 21 124	
08:00			22	12	34	20:00			14	13	27	
08:15			24	13	37	20:15			7	15	22	
08:30			35	12	47	20:30			8	14	22	
08:45			14	95	15 52	20:45			6	35	6 48 12 83	
09:00			14	14	28	21:00			10	7	17	
09:15			29	9	38	21:15			13	11	24	
09:30			22	9	31	21:30			13	18	31	
09:45			14	79	8 40	21:45			9	45	8 44 17 89	
10:00			19	10	29	22:00			4	8	12	
10:15			19	10	29	22:15			12	13	25	
10:30			22	15	37	22:30			10	21	31	
10:45			26	86	17 52	22:45			10	36	23 65 33 101	
11:00			17	13	30	23:00			9	4	13	
11:15			29	12	41	23:15			9	14	23	
11:30			18	16	34	23:30			6	7	13	
11:45			21	85	11 52	23:45			4	28	10 35 14 63	
<b>TOTALS</b>			652	366	1018	<b>TOTALS</b>			692	744	<b>1436</b>	
<b>SPLIT %</b>			64.0%	36.0%	41.5%	<b>SPLIT %</b>			48.2%	51.8%	<b>58.5%</b>	

DAILY TOTALS				NB 0	SB 0	EB 1,344	WB 1,110				Total 2,454
AM Peak Hour			07:45	10:45	10:30	PM Peak Hour			12:45	14:15	15:00
AM Pk Volume			102	58	151	PM Pk Volume			96	95	184
Pk Hr Factor			0.729	0.853	0.878	Pk Hr Factor			0.774	0.699	0.780
7 - 9 Volume	0	0	172	77	249	4 - 6 Volume	0	0	111	129	240
7 - 9 Peak Hour			07:45	08:00	08:00	4 - 6 Peak Hour			17:00	16:15	16:30
7 - 9 Pk Volume	0	0	102	52	147	4 - 6 Pk Volume	0	0	57	73	126
Pk Hr Factor	0.000	0.000	0.729	0.867	0.782	Pk Hr Factor	0.000	0.000	0.838	0.760	0.750

**VOLUME**

Terminal Island Bet. MacArthur Causeway &amp; Crosswalk to the Ferry Parking Garage

Day: Sunday  
Date: 8/29/2021City: Miami Beach  
Project #: FL21\_140183\_002

DAILY TOTALS				NB 0	SB 0	EB 1,108	WB 935					Total 2,043
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			2	8	10	12:00			10	8	18	
00:15			4	8	12	12:15			16	15	31	
00:30			5	10	15	12:30			23	13	36	
00:45			4	15	31	12:45			23	72	48	
01:00			2	5	7	13:00			17	18	35	
01:15			1	4	5	13:15			25	9	34	
01:30			3	0	3	13:30			26	13	39	
01:45			1	7	14	13:45			19	87	54	
02:00			2	2	4	14:00			15	9	24	
02:15			1	0	1	14:15			21	16	37	
02:30			5	1	6	14:30			22	13	35	
02:45			0	8	3	14:45			16	74	52	
03:00			1	3	4	15:00			22	23	45	
03:15			1	0	1	15:15			8	17	25	
03:30			2	1	3	15:30			18	17	35	
03:45			3	7	11	15:45			16	64	69	
04:00			2	0	2	16:00			8	15	23	
04:15			7	3	10	16:15			8	12	20	
04:30			11	3	14	16:30			16	19	35	
04:45			4	24	35	16:45			19	51	79	
05:00			7	4	11	17:00			11	20	31	
05:15			13	11	24	17:15			9	15	24	
05:30			11	3	14	17:30			9	16	25	
05:45			10	41	63	17:45			11	40	70	
06:00			9	7	16	18:00			7	17	24	
06:15			18	6	24	18:15			19	12	31	
06:30			16	7	23	18:30			14	12	26	
06:45			15	58	82	18:45			13	53	48	
07:00			12	7	19	19:00			7	14	21	
07:15			20	6	26	19:15			11	14	25	
07:30			17	8	25	19:30			15	13	28	
07:45			17	66	94	19:45			8	41	51	
08:00			17	8	25	20:00			14	13	27	
08:15			17	6	23	20:15			3	7	10	
08:30			18	7	25	20:30			13	11	24	
08:45			13	65	92	20:45			5	35	40	
09:00			20	8	28	21:00			8	22	30	
09:15			18	6	24	21:15			3	6	9	
09:30			21	12	33	21:30			3	15	18	
09:45			19	78	110	21:45			8	22	56	
10:00			20	9	29	22:00			7	16	23	
10:15			16	11	27	22:15			10	12	22	
10:30			19	9	28	22:30			6	17	23	
10:45			10	65	99	22:45			11	34	55	
11:00			27	14	41	23:00			5	6	11	
11:15			13	11	24	23:15			6	15	21	
11:30			22	10	32	23:30			4	12	16	
11:45			20	82	122	23:45			4	19	43	
<b>TOTALS</b>			516	270	786	<b>TOTALS</b>			592	665	<b>1257</b>	
<b>SPLIT %</b>			65.6%	34.4%	38.5%	<b>SPLIT %</b>			47.1%	52.9%	<b>61.5%</b>	

DAILY TOTALS				NB 0	SB 0	EB 1,108	WB 935				Total 2,043
AM Peak Hour			11:00	11:45	11:00	PM Peak Hour			12:45	16:30	14:15
AM Pk Volume			82	41	122	PM Pk Volume			91	87	147
Pk Hr Factor			0.759	0.683	0.744	Pk Hr Factor			0.875	0.659	0.817
7 - 9 Volume	0	0	131	55	186	4 - 6 Volume	0	0	91	149	240
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:30	16:30	16:30
7 - 9 Pk Volume	0	0	71	29	100	4 - 6 Pk Volume	0	0	55	87	142
Pk Hr Factor	0.000	0.000	0.888	0.906	0.962	Pk Hr Factor	0.000	0.000	0.724	0.659	0.683

## **Signal Timings**

**TOD Schedule Report  
for 2640: Alton Rd&5 St**

Print Date:  
**5/8/2020**

Print Time:  
**2:04 AM**

Asset	Intersection		TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
	PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8		
WBL	EBT	NBT	SBT	-	WBT	-	-	-		
5	45	18	28	0	56	0	0			



Active Phase Bank:

Phase Bank 3

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red	Last In Service Date:	unknown
1	2	3	1	2	3	1	2	3	1	2
WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	25 - 20 - 7	4	2.3		
2 EBT	7 - 7 - 7	22 - 22 - 22	5 - 5 - 5	1 - 1 - 1	30 - 30 - 30	0 - 30 - 30	4	2		
3 NBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	3 - 3 - 3	18 - 18 - 16	33 - 30 - 30	4	2		
4 SBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	3.5 - 3.5 - 3.5	15 - 17 - 8	38 - 38 - 28	4	2		
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0		
6 WBT	7 - 7 - 7	22 - 22 - 22	5 - 5 - 5	1 - 1 - 1	30 - 30 - 30	0 - 30 - 30	4	2		
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0		
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0		

Permitted Phases
12345678
Default
External Permit 0
1234-6--
1234-6--
External Permit 1
External Permit 2
1234-6--

**TOD Schedule Report**  
**for 2640: Alton Rd&5 St**

Print Date:  
5/8/2020

Print Time:  
2:04 AM

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	Green Time						<u>Offset</u>	
			1	2	3	4	5	6	7	
1		170	10	90	19	27	0	106	0	0
2		150	5	64	30	27	0	75	0	0
3		120	5	45	18	28	0	56	0	0
4		150	5	80	16	25	0	91	0	0
5		150	5	67	20	34	0	78	0	0
6		180	5	86	27	38	0	97	0	0
7		170	5	78	30	33	0	89	0	0
8		160	5	68	30	33	0	79	0	0
10		160	10	80	20	26	0	96	0	0
14		120	5	45	20	26	0	56	0	0
15		130	5	51	27	23	0	62	0	0
16		120	5	45	20	26	0	56	0	0
21		220	10	138	20	28	0	154	0	0
22		110	5	35	18	28	0	46	0	0
23		110	5	35	18	28	0	46	0	0
24		160	5	73	30	28	0	84	0	0
25		140	5	65	18	28	0	76	0	0
26		200	5	113	30	28	0	124	0	0
27		140	5	65	18	28	0	76	0	0
28		220	10	138	20	28	0	154	0	0

**Current Time of Day Function**

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8---3---	SuM T W ThF S
0000	TOD LOCAL MULTIFU	-----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFU	-----	SuM T W ThF S
0700	TOD OUTPUTS	-----	M T W ThF
1000	TOD OUTPUTS	-----2-	SuM T W ThF
1500	TOD OUTPUTS	-----	SuM T W ThF
1800	TOD OUTPUTS	8---2-	M T W ThF
1800	PED RECALL	8---4---	M T W ThF
2200	PED RECALL	-----	Su M T W ThF
2359	PED RECALL	-----	Su M T W ThF

**Local Time of Day Function**

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	8---3---	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	-----4---	SuM T W ThF S
0000	PED RECALL	8---4---	Su M T W ThF
0500	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S
0700	TOD OUTPUTS	-----	M T W ThF
0700	TOD OUTPUTS	-----	SuM T W ThF
0800	TOD OUTPUTS	-----	Su M T W ThF
1000	TOD OUTPUTS	-----	SuM T W ThF
1500	TOD OUTPUTS	-----	SuM T W ThF
1800	TOD OUTPUTS	8---2-	M T W ThF
2000	TOD OUTPUTS	8---2-	Su M T W ThF
2200	PED RECALL	-----	Su M T W ThF
2359	PED RECALL	-----	Su M T W ThF

**\* 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

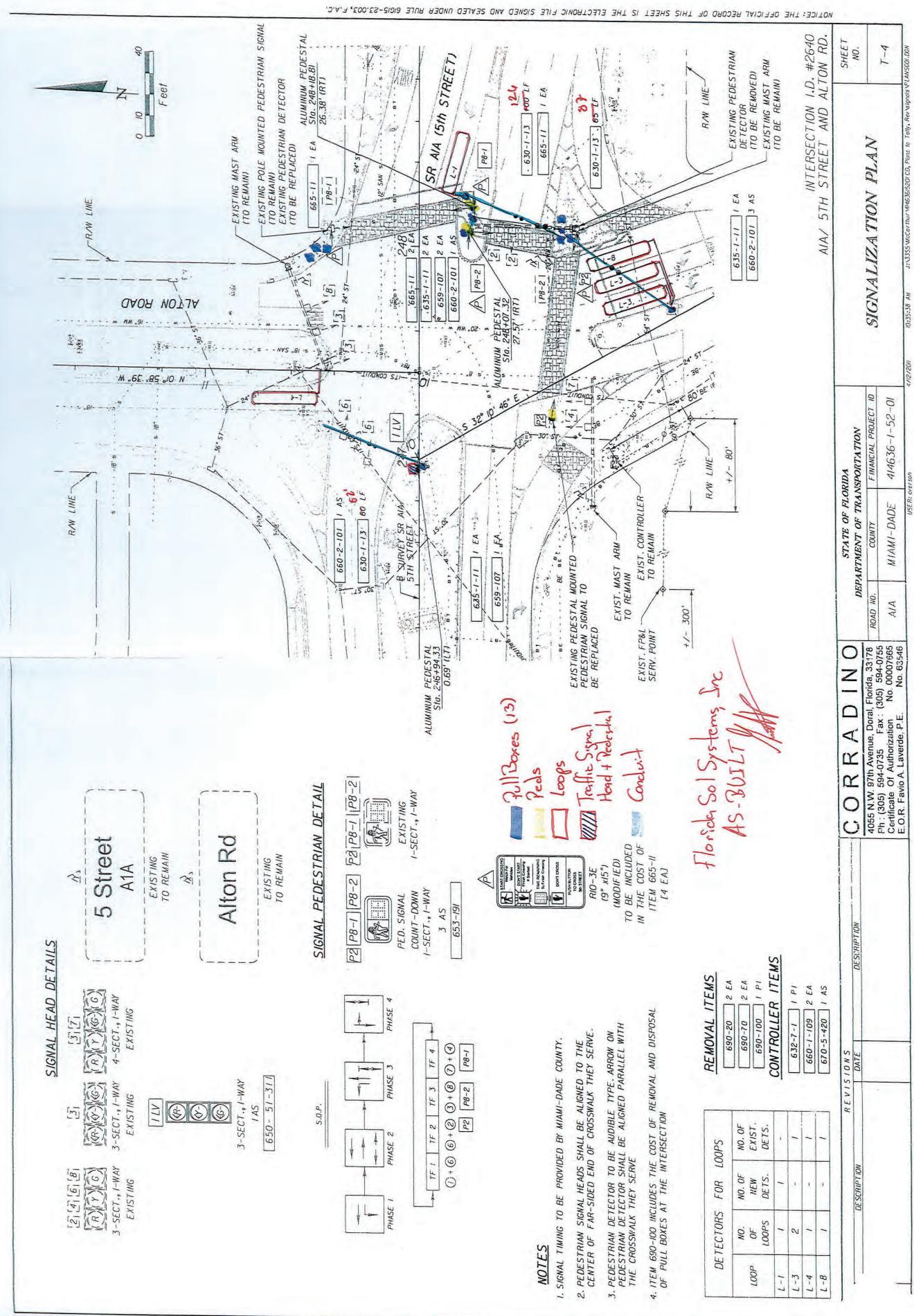
# SIGNAL OPERATING PLAN

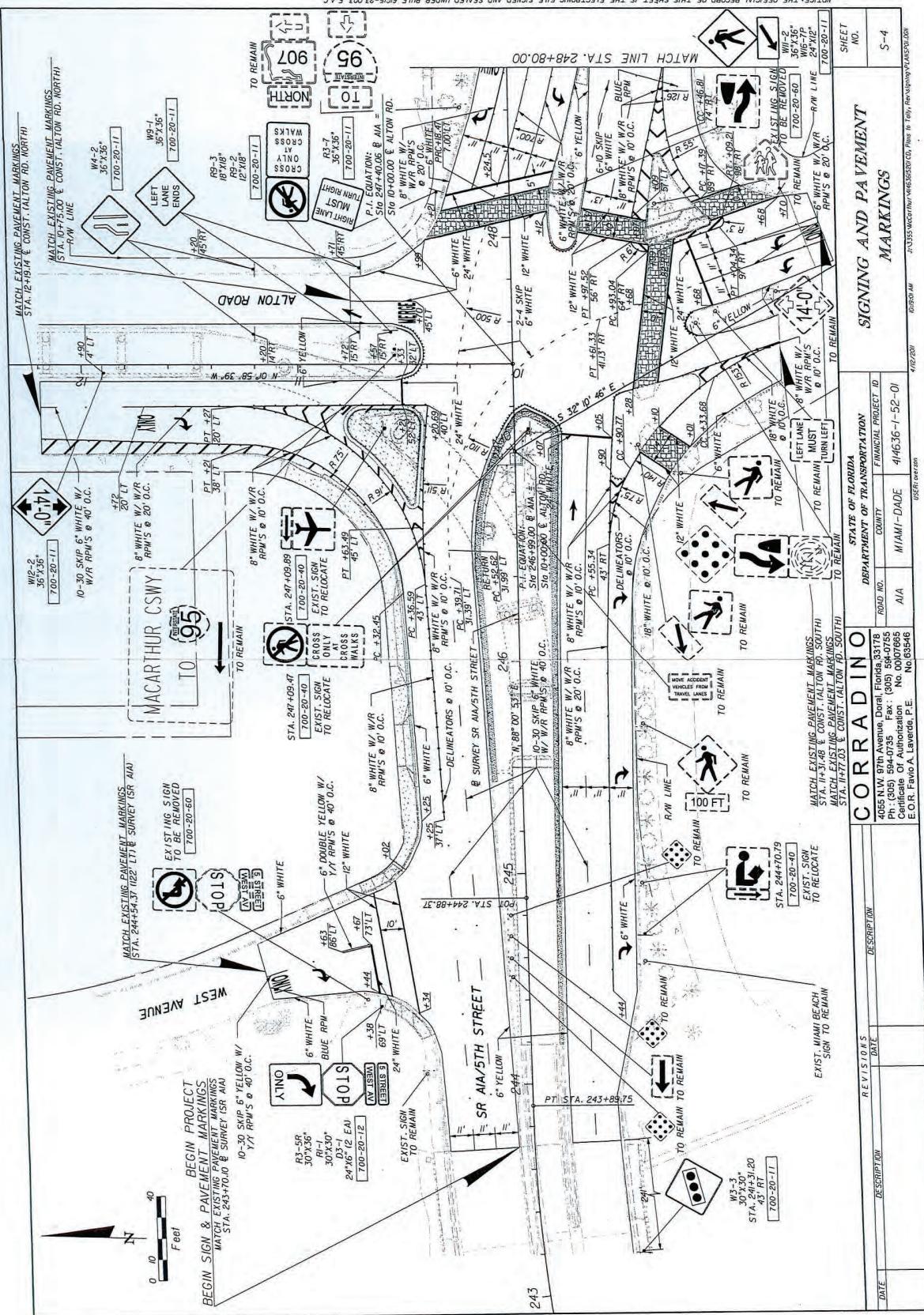
N

	Direction	WB		EB	NB			SB		Ped Heads			Movements/Display/Actuation
Timing Phases	Head No.	1 LV	6	2	3	3/8	8	7/4	4	P2	P8-2	P8-1	
(1+6) WB 5 STREET (ACTUATED)	Dwell	<G	G	R	<R	R	R	R	R	DW	DW	DW	
	2+6	<Y	G	R	<R	R	R	R	R	DW	DW	DW	
	3	<Y	Y	R	<R	R	R	R	R	DW	DW	DW	
	4	<Y	Y	R	<R	R	R	R	R	DW	DW	DW	
(2+6) E/WB 5 STREET (RECALL)	Dwell	<R	G	G	<R	R	R	R	R	W/F	DW	DW	
	3	<R	Y	Y	<R	R	R	R	R	DW	DW	DW	
	4	<R	Y	Y	<R	R	R	R	R	DW	DW	DW	
(3) NB ALTON RD (ACTUATED)	Dwell	<R	R	R	<G	<G/G	G	R	R	DW	DW	W/F	
	3	<R	R	R	<Y	Y	Y	R	R	DW	DW	DW	
	4	<R	R	R	<Y	Y	Y	R	R	DW	DW	DW	
	1+6	<R	R	R	<Y	Y	Y	R	R	DW	DW	DW	
	2+6	<R	R	R	<Y	Y	Y	R	R	DW	DW	DW	
(4) NB ALTON RD (ACTUATED)	Dwell	<R	R	R	<R	R	R	<G/G	G	DW	W/F	DW	
	1+6	<R	R	R	<R	R	R	Y	Y	DW	DW	DW	
	2+6	<R	R	R	<R	R	R	Y	Y	DW	DW	DW	
	Dwell												
Flashing Operation		F<R	FY	FY	F<R	FR	FR	FR	FR				Page 1 of 1

**Miami-Dade County Public Works Department**

Drawn William Rivera-Paz	Date 2/3/2012	ALTON RD & 5 STREET			Placed in Service	Phasing No.	Asset Number
Checked H. Rivera-Paz	Date 2/13/12	Date 3/25/12	By FSS		5		2640







Print Date:  
5/8/2020

## TOD Schedule Report

for 2736: Mac Arthur Cswy&Terminal Isle  
Print Time: 2:06 AM

Asset	Intersection	TOD		Op Mode	Plan #	Cycle	Offset	TOD	
		Schedule	Mode					Setting	PhaseBank
2736	Mac Arthur Cswy&Terminal Isle	DOW-6	[03] AM PEAK	EBT	WU-SERV	120	37	N/A	3

### Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	WL+PED	-	WBL	EBT	WU-SERV	NBT
0	96	23	71	53	36	7	18



### Active Phase Bank:

#### Phase Bank 3

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
1	2	3	1	2	3	1	2	3
2 WBT	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0
3 WL+	0 - 0 - 0	0 - 0 - 0	20 - 20 - 20	1 - 1 - 1	30 - 50 - 60	0 - 98 - 60	4.8	2.5
4 -	0 - 4 - 4	19 - 19 - 19	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0
5 WBL	0 - 0 - 0	0 - 0 - 0	10 - 10 - 10	3 - 3 - 3	10 - 12 - 12	26 - 22 - 26	4	2
6 EBT	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	12 - 12 - 12	4.8	2
7 WU-	0 - 0 - 0	0 - 0 - 0	20 - 20 - 20	1 - 1 - 1	30 - 50 - 60	0 - 98 - 60	4.8	2.5
8 NBT	0 - 0 - 0	0 - 0 - 0	10 - 10 - 10	3 - 3 - 3	7 - 7 - 7	7 - 7 - 7	4	2

Last In Service Date: 06/24/2010 14:16

Permitted Phases	
1	2345678
2	12345678
3	Default
4	External Permit 0
5	External Permit 1
6	External Permit 2

**TOD Schedule Report**  
**for 2736: Mac Arthur Cswy&Terminal Isle**

Print Date:  
**5/8/2020**

Print Time:  
**2:06 AM**

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	Green Time						<u>Offset</u>	
			1	2	3	4	5	6	7	
WBL	WBL	WL+	-	WBL	EBT	WU-	NBT	Ring_Offset		
1	170	0	79	23	10	12	60	7	26	0
2	150	0	74	23	2	10	57	7	19	0
3	120	0	96	23	71	53	36	7	18	0
4	150	0	74	23	2	10	57	7	19	0
5	150	0	74	23	2	10	57	7	19	0
6	180	0	89	23	10	12	70	7	26	0
7	170	0	74	23	10	9	58	7	31	0
8	160	0	126	23	101	65	54	11	34	0
9	140	0	116	23	91	53	56	7	18	0
10	160	0	69	23	10	12	50	7	26	0
15	150	0	74	23	2	10	57	7	19	0
20	140	0	116	23	91	53	56	7	18	0
21	200	0	104	23	10	9	88	7	31	0
25	180	0	84	23	10	12	65	7	31	0
26	200	0	104	23	10	9	88	7	31	0
27	180	0	84	23	10	12	65	7	31	0
28	220	0	124	23	10	12	105	7	31	0

**Local TOD Schedule**

<u>Time</u>	<u>DOW</u>	<u>Plan</u>
0000	Su M T W Th F	S
0500	M T W Th F	S
0500	Su	S
0800	M T W Th F	S
1000	M T W Th F	S
1000	Su	S
1300	M T W Th F	S
1615	M T W Th F	S
1800	M T W Th F	S
2200	M T W Th F	S

**Local Time of Day Function**

<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----3--	M T W Th F	-----3--	M T W Th F
0000	TOD LOCAL MULTIFU	-----4--	Su M T W Th F S	-----	Su
0500	TOD OUTPUTS	-----	M T W Th F	0000	Su M T W Th F S
0500	TOD LOCAL MULTIFU	-----	Su M T W Th F S	0100	Su M T W Th F S
0630	TOD OUTPUTS	-----2-	M T W Th F	0500	Su M T W Th F S
0930	TOD OUTPUTS	-----	M T W Th F	0600	Su M T W Th F S
1445	TOD OUTPUTS	-----4--	M T W Th F	0630	Su M T W Th F S
1615	TOD OUTPUTS	-----2-	M T W Th F	0930	Su M T W Th F S
1845	TOD OUTPUTS	-----	M T W Th F	1000	Su M T W Th F S

**Current Time of Day Function**

<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----3--	M T W Th F
0000	TOD LOCAL MULTIFU	-----4--	Su M T W Th F S
0500	TOD OUTPUTS	-----	M T W Th F
0500	TOD LOCAL MULTIFU	-----	Su M T W Th F S
0630	TOD OUTPUTS	-----2-	M T W Th F
0930	TOD OUTPUTS	-----	M T W Th F
1445	TOD OUTPUTS	-----4--	M T W Th F
1615	TOD OUTPUTS	-----2-	M T W Th F
1845	TOD OUTPUTS	-----	M T W Th F

**\* 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



Controller Programming Request Form Rev 09/2019

Department of Transportation and Public Works  
Traffic Signals and Signs Division  
7100 NW 36th Street • Miami, Florida 33166 • 305-679-0040

**RECEIVED**

SEP 20 2019

**TRAFFIC SIGNALS  
& SIGNS DIVISION****Controller Programming Request**

Asset ID:	2736	Location:	Macarthur Cswy and Terminal Isle
-----------	------	-----------	----------------------------------

<input checked="" type="checkbox"/> MDC Signal Const. Permit <input type="checkbox"/> FDOT Project <input type="checkbox"/> MDC Project	Contractor	Contractor Contact	Phone No.
2019005480	Signal Technology Inc	Robert Perez	561-719-9188

The Controller Programming Request form must be submitted to by a TSS approved signal contractor to TSS Construction Office for programming/signal modification request for Traffic Signals, HAWKs, or School Zone, Flasher Time Clocks (TC). Contractor should provide School Zone Flasher Time Clock (optional) with this programming request. For new intersections, communication device (Digi) must be delivered to TSS with this programming request. For new intersections or intersections that are offline, the contractor must bring a new CPU (for D170 Controllers) or a new 2070LX Controller. Power and Communication must be available at the cabinet prior to inspection.

Contractor submitted:  D170 CPU     2070LX Controller     N/A

MDC TSS approved signal contractor must provide a copy of the signal construction permit.

Completion of the attached task(s) requested by: Target Date: 09/27/2019

Allow minimum of 10 working days per location. Additional intersections within the same project will require 5 additional days per intersection. The contractor must provide a scaled copy of the construction signalization plans 11"x17", preferably in electronic form.

TSS Received by: (Print Name) Passor Rodriguez, Date: 9/20/19.

**TSS ENGINEERING OPERATIONS**

The Traffic Engineer will provide the following documents as applicable: Intersection definition sheet(s), corresponding SOP, Detection Sheet, Signalization Plans, and any other applicable documents.

Prepared by (TE): Mario Arumendos Date: \_\_\_\_\_

Approved by (Manager or Designee): Hugo Iannas Date: 10/14/2020

**TSS CONSTRUCTION**

TSS Engineering released the timing request to TSS Construction

TSS Construction Received by: \_\_\_\_\_ Date: \_\_\_\_\_

**TSS DIVISION RELEASE TO SIGNAL CONTRACTOR**

Contractor Company: \_\_\_\_\_

Received by Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

# SIGNAL OPERATING PLAN

	Direction	WB	EB	NWB	NB	Ped Heads	Movements/Display/Actuation
Timing Phases	Head No.	5 2	6	4R 4RV	4	P6 P4	
[2+5] WBL+WBT Mac ARTHUR CSWY	Dwell	<G G	R	R R	R	DW DW	
	2+6	<Y G	R	R R	R	DW DW	
	Clear to						
ACTUATED							
[2+6] WBT+EBT	Dwell	<R G	G	R R	R	W/F DW	
	3	<R Y	Y	R R	R	DW DW	
	7+2	<R Y	Y	R R	R	DW DW	
	8+2	<R Y	Y	R R	R	DW DW	
	2+5	<R Y	Y	R R	R	DW DW	
	Clear to						
RECALL							
[3+P4+7] TERMINAL EXIT OVERLAP	Dwell	<R R	R	G G	R	DW W/F	
	8+2	<R R	R	Y Y	R	DW DW	
	2+5	<R R	R	Y Y	R	DW DW	
	2+6	<R R	R	Y Y	R	DW DW	
	Clear to						
ACTUATED BY P4							
[7+2] TERMINAL EXIT OVERLAP	Dwell	<R G	R	G G	R	DW DW	
	8+2	<R G	R	Y Y	R	DW DW	
	2+5	<R G	R	Y Y	R	DW DW	
	2+6	<R G	R	Y Y	R	DW DW	
	Clear to						
ACTUATED BY VEHICLE							
[8] TERMINAL EXIT OVERLAP	Dwell	<R G	R	R R	G	DW DW	
	2+5	<R G	R	R R	Y	DW DW	
	2+6	<R G	R	R R	Y	DW DW	
	Clear to						
ACTUATED BY VEHICLE							
	Dwell						
	Clear to						
Flashing Operation	<FR FY	FY	FR FR	FR			Page 1 of 1
							MIAMI-DADE COUNTY PUBLIC WORK DEPARTMENT
MLH	Date 10/5/2020						McArthur & Terminal Island
Checked H. L.	Date 10/14/2020		Placed in Service	Phasing No.			Asset Number 2736
		Date	By	8			

## DETECTOR RACK CONNECTION STANDARDIZATION FOR "170 E" CABINETS

**ASSET #** 2736 **Locatio:** Mac Arthur & Terminal Island

Detector	VEH/MOV	SLOT#	LOOP #	TERMINALS
D1		1		TBA4-(1,3)
D2		1		TBA4-(4,6)
D3		2		TBA4-(7,9)
D4		2		TBA4-(10,12)
D5		3		TBA4-(13,15)
D6		3		TBA4-(16,18)
D7		4		TBA3-(1,3)
D8		4		TBA3-(4,6)
D9	WBL	5	3	TBA3-(7,9)
D10		5		TBA3-(10,12)
D11		6		TBA3-(13,15)
D12		6		TBA3-(16,18)
D13	NWB	7	1	TBA2-(1,3)
D14		7		TBA2-(4,6)
D15	NBT	8	2	TBA2-(7,9)
D16		8		TBA2-(10,12)
D17		9		TBA2-(13,15)
D18		9		TBA2-(16,18)

### Remarks:

This chart shall be used to achieve a standard connection of only one loop per detector channel.

When installed, loops are numbered clockwise beginning at controller site ex L1, L2, L3 etc.

All data shown is based on signal plan, field survey, or controller cabinet schematics.

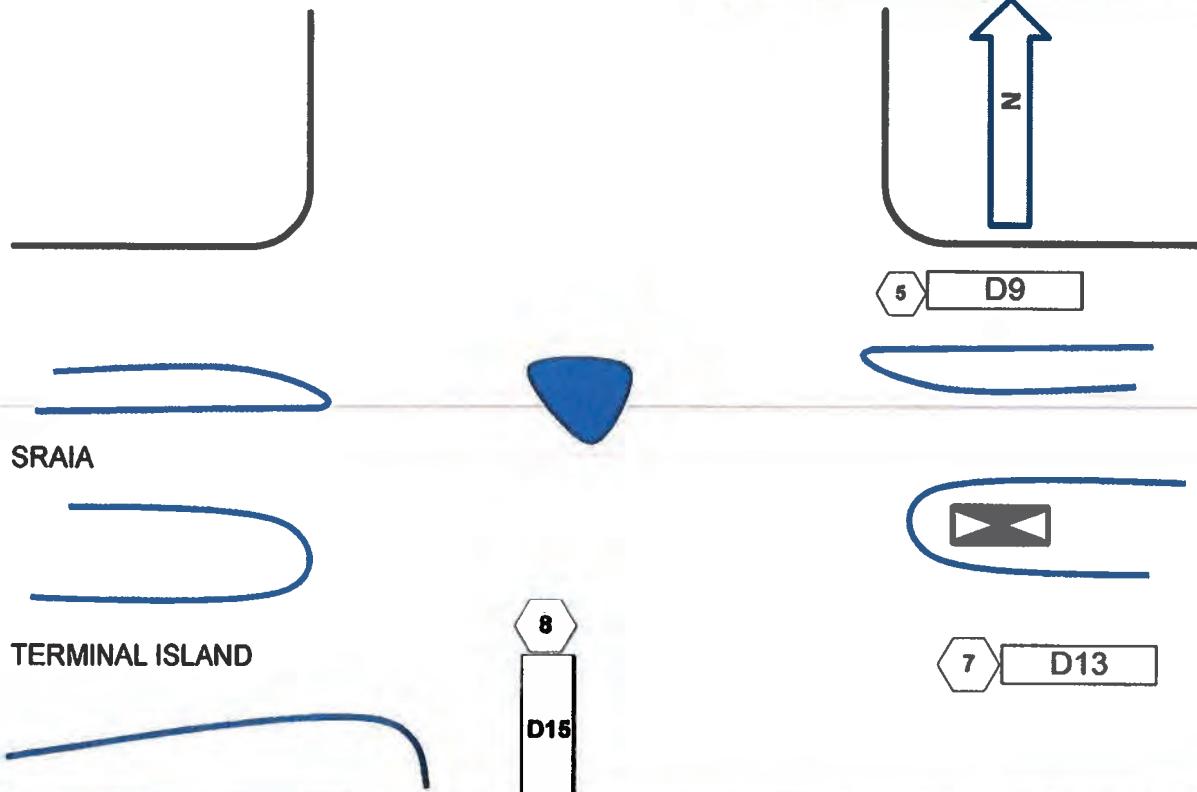
Use the "Detector Rack" table below to assign each loop the corresponding slot # / channel #. When all suggested assignments are used then use other available slot / channel. Refer to Standard Rack Connection Standardization document for more details.

### LEGEND:

DETECTOR :  D16

CABINET: 

MOVEMENT:  15



**Detector Rack 552 & 660**

Movement	1 , 8R	2	3	4	5 4R	6	7	8
SLOT #	1	2	3	4	5	6	7	8
CHANNEL #	1	3	5	7	9	11	13	15
CHANNEL #	2	4	6	8	10	12	14	16

**Asset # 2736****Location: MacArthur Cswy & Terminal Isle**

Head	2
Display	R Y G
Load SW	LS 2

4RV
R <Y <G
LS 9

4R
R Y G
LS 7

6
R Y G
LS 6

5
<R <Y <G
LS 5

Head	Display	Load SW

P4
W/F
LS P4

Head	Display	Load SW

P6
W/F
LS P6

**(P)**

**TERMINAL ISLE**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



**MacArthur CSWY**

EXIST TO REMAIN



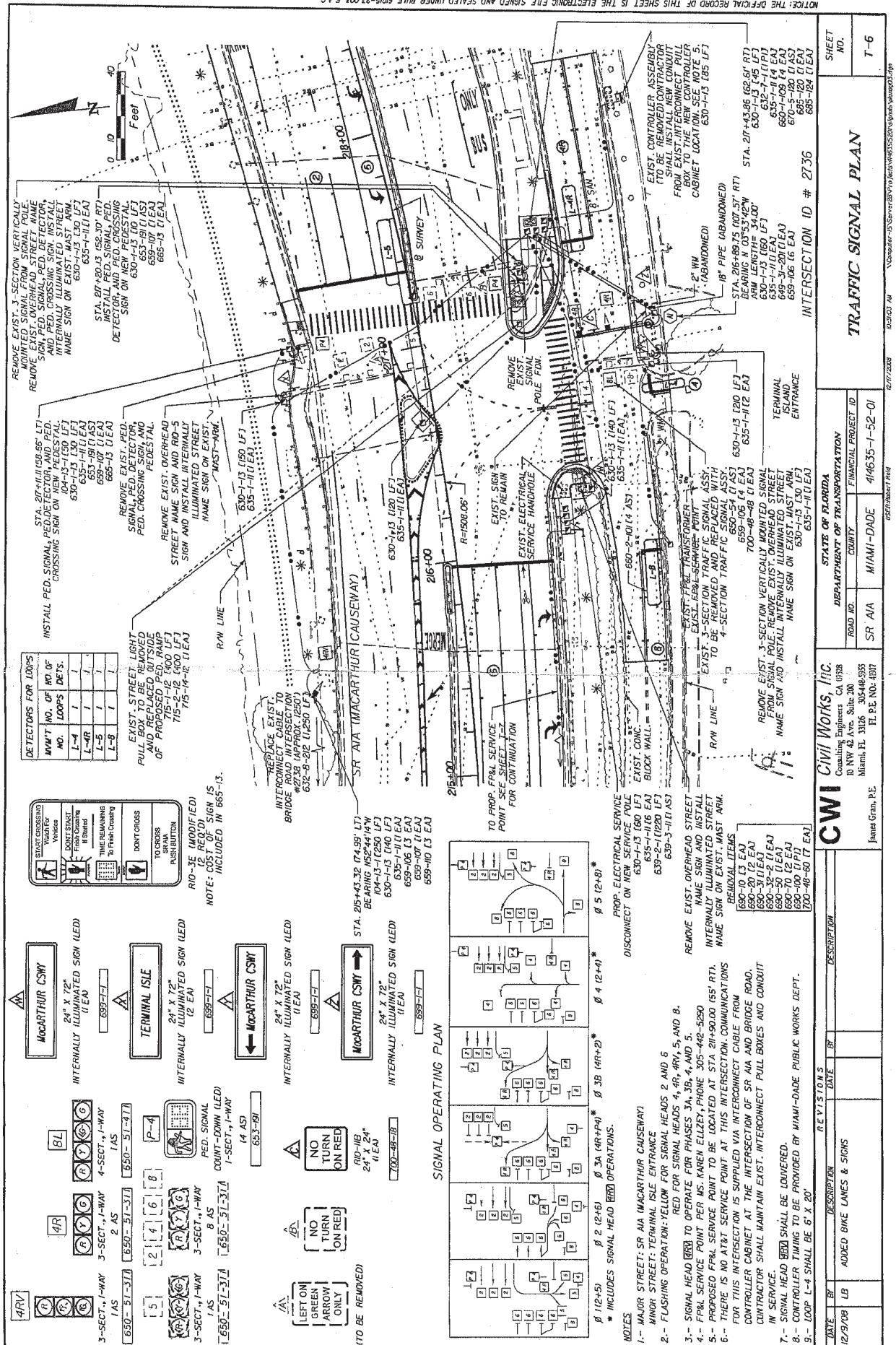
**MacArthur CSWY**

EXIST TO REMAIN



**TSS VERSION WITHOUT UTILITIES SHOWN**





Print Date:  
5/8/2020

## TOD Schedule Report

for 2738: Mac Arthur Cswy&Star Isle  
Print Time: 2:06 AM

Asset	Intersection	TOD		Op Mode	Plan #	Cycle	Offset	TOD	
		Schedule	Mode					Setting	PhaseBank
2738	Mac Arthur Cswy&Star Isle	DOW-6	[03] AM PEAK			120	44	N/A	3
									Max 2

PH1    PH2    PH3    PH4    PH5    PH6    PH7    PH8  
 EBL    WBT    EL+PED    -    -    EBT    NBT    SBT+PE



### Active Phase Bank:

Phase	Phase Bank 3			Veh Ext	Max Limit	Max 2	Yellow	Red
	Walk	Don't Walk	Min Initial					
1 EBL	5 - 5 - 5	12 - 12 - 12	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 7 - 7	25 - 14 - 22	4.8	2
2 WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	45 - 45 - 45	0 - 45 - 60	4.8	2
3 EL+P	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	45 - 45 - 45	0 - 45 - 60	4.8	2
7 NBT	5 - 5 - 5	9 - 9 - 9	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	16 - 16 - 16	0	0
8 SBT+	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3 - 2 - 2	8 - 8 - 8	22 - 14 - 22	4.8	2



Last In Service Date: unknown

Permitted Phases								
<u>12345678</u>								
Default								
External Permit 0								
External Permit 1								
External Permit 2								

**TOD Schedule Report**  
**for 2738: Mac Arthur Cswy&Star Isle**

Print Date:  
**5/8/2020**

Print Time:  
**2:06 AM**

<u>Current</u> <u>TOD Schedule</u>	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>						<u>Offset</u>
			1	2	3	4	5	6	
EBL	WBT	EL+P	-	EBT	NBT	SBT	Ring Offset		
1	170	17	104	0	0	128	14	14	0
2	150	17	84	0	0	108	14	14	0
3	120	17	54	0	0	78	14	14	0
4	150	17	84	0	0	108	14	14	0
5	150	17	84	0	0	108	14	14	0
6	180	17	114	0	0	138	14	14	0
7	170	17	104	0	0	128	14	14	0
8	160	17	94	0	0	118	14	14	0
10	160	17	94	0	0	118	14	14	0
15	150	17	84	0	0	108	14	14	0
20	140	17	74	0	0	98	14	14	0
21	200	17	134	0	0	158	14	14	0
25	180	17	114	0	0	138	14	14	0
26	200	17	134	0	0	158	14	14	0
27	180	17	114	0	0	138	14	14	0
28	220	17	154	0	0	178	14	14	0

**Current Time of Day Function**

<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----3--	SuM T W ThF S
0000	TOD LOCAL MULTIFU	-----4--	SuM T W ThF S
0500	TOD LOCAL MULTIFU	-----	SuM T W ThF S
0500	TOD OUTPUTS	-----	M T W ThF
0930	TOD OUTPUTS	-----2-	M T W ThF
1500	TOD OUTPUTS	-----	M T W ThF

**Local Time of Day Function**

<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----3--	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	-----4--	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S
0500	TOD OUTPUTS	-----	M T W ThF
0930	TOD OUTPUTS	-----2-	M T W ThF
1500	TOD OUTPUTS	-----	M T W ThF

**Local TOD Schedule**

<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000		Su M T W Th F
0500		M T W Th F
0500		Su
0800		M T W Th F
1000		Su
1130		M T W Th F
1300		M T W Th F
1615		M T W Th F
1800		M T W Th F
1800		Su
2000		Su
2200		M T W Th F

**\* Settings**

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

**No Calendar Defined/Enabled**



**Department of Transportation and Public Works**  
**Traffic Signals and Signs Division**  
**7100 NW 36th Street • Miami, Florida 33166 • 305-679-0040**

**Controller Programming Request**

Asset ID:	2738	Location:	Macarthur Cswy and Bridge Rd
-----------	------	-----------	------------------------------

<input checked="" type="checkbox"/> MDC Signal Const. Permit <input type="checkbox"/> FDOT Project <input type="checkbox"/> MDC Project	Contractor	Contractor Contact	Phone No.
2019005479	Signal Technology Inc	Robert Perez	561-719-9188

The Controller Programming Request form must be submitted to by a TSS approved signal contractor to TSS Construction Office for programming/signal modification request for Traffic Signals, HAWKs, or School Zone Flasher Time Clocks (TC). Contractor should provide School Zone Flasher Time Clock (optional) with this programming request. For new intersections, communication device (Digi) must be delivered to TSS with this programming request. For new intersections or intersections that are offline, the contractor must bring a new CPU (for D170 Controllers) or a new 2070LX Controller. Power and Communication must be available at the cabinet prior to inspection.

Contractor submitted:     D170 CPU     2070LX Controller     N/A

MDC TSS approved signal contractor must provide a copy of the signal construction permit.

Completion of the attached task(s) requested by:	Target Date:	06/15/2020
--	--------------	------------

Allow minimum of 10 working days per location. Additional intersections within the same project will require 5 additional days per intersection. The contractor must provide a scaled copy of the construction signalization plans 11"x17", preferably in electronic form.

TSS Received by: (Print Name) \_\_\_\_\_ Date: \_\_\_\_\_

**TSS ENGINEERING OPERATIONS**

The Traffic Engineer will provide the following documents as applicable: Intersection definition sheet(s), corresponding SOP, Detection Sheet, Signalization Plans, and any other applicable documents.

Prepared by (TE): Mario Hernandez Date: \_\_\_\_\_

Approved by (Manager or Designee): Stigal Date: 6/16/2020

**TSS CONSTRUCTION**

TSS Engineering released the timing request to TSS Construction

TSS Construction Received by: \_\_\_\_\_ Date: \_\_\_\_\_

**TSS DIVISION RELEASE TO SIGNAL CONTRACTOR**

Contractor Company: \_\_\_\_\_

Received by Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

# Miami-Dade County Public Works Department

## Signalization Operation Definition and Timing Report

Location: <u>Mac Arthur Cswy&amp;Star Isle</u>	Asset Number: <u>2738</u>	Page Name	Last Change
Section: <u>013 McArthur Cswy / Pair Movements</u>	<u>Phase</u>	<u>Overlap</u>	<u>Ped</u>
1: EBL	1: A	2: B	2: NorthX
2: WBT	2: C	3: D	4: ELP7S
3: EL+PED	3: E	4: F	6: SouthX
4:	5: G	6: H	8: ELP7N
Type HW/SW	6: EBT	7: NBT	8: SBT+PED
Equipment Type: BI233DA			
Cabinet Type: 552			
Addresses	Drop: 3	Phone Number: -	
Preemption	EV (Local):	RR (Local):	Route (remote): Bridge: _____
Comments	P4=P7S P8=P7N  PH 3 (Dummy) to drive PH1+P4+P6		
Comments	Last Updated by: <u>e320823</u> _____		
Zone Assignments	Zone Category	Zone	
Engineering		03 - (MH) SE Miami	Approved by: <u>E320440</u> _____
Maintenance		1- Maint-M Beach/ DTA	In Service Date: _____
Systems		Sys-Central	ATMS Migration Date: _____
Electronic Shop		Shop-Dade County	SOP/Phasing No.: _____
			Last Update: <u>10/13/2020 10:22</u> _____
			Approval Date/Time: <u>10/18/2019 14:53</u> _____



**DETECTION RACK CONNECTION STANDARDIZATION FORM FOR  
MIAMI-DADE COUNTY TRAFFIC SIGNALS 552 & 660 CABINETS**

ASSET ID:	2738						LOCATION: McArthur & Star Island	
<b>MIAMI-DADE COUNTY 552 &amp; 660 DETECTOR RACK</b>							<b>REMARKS:</b> • This chart shall be used to achieve a connection for video cameras zone for each cabinet detection rack. • All data shown is based on signal plan, field survey, or controller cabinet schematics. • Video Cameras are numbered clockwise beginning at the controller site and shall be label separate from each other.	
DETECTOR	DIRECTION	PHASE	DECT. RACK SLOT	CAMERA	VIDEO DECT. ZONE	TERMINALS		
D1	WBT	2	1	V2	VD-2.1			
D2	WBT	2		V2	VD-2.2			
D3	WBT	2	2	V2	VD-2.3			
D4	WBT	2		V2	VD-2.4/VD-2.5	TBA4-(7,9)		
D5								
D6			3					
D7	NBT	4	4	V7	VD-7.1	TBA3-(1,3)		
D8								
D9	EBL	1	5	VD1/6	VD-1.1			
D10	EBT	6		VD6	VD-6.4			
D11	EBT	6	6	VD6	VD-6.3	TBA3-(13,15)		
D12	EBT	6		VD6	VD-6.1/VD-6.2			
D13			7					
D14								
D15	SBT	8	8	VD8	VD-8.1	TBA2-(7,9)		
D16								
D17			9					
D18								

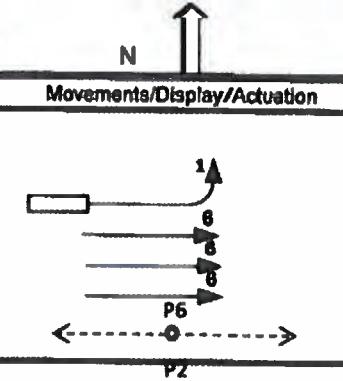
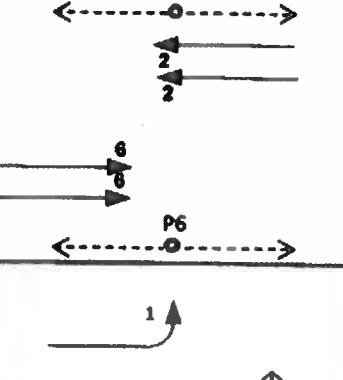
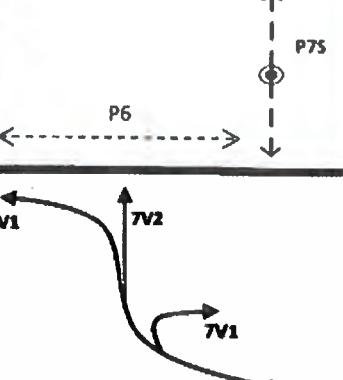
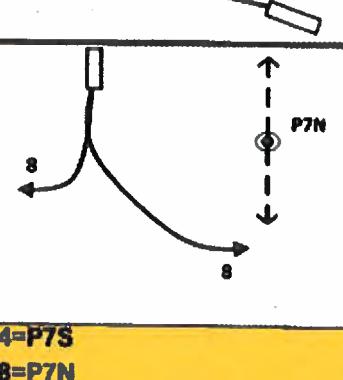
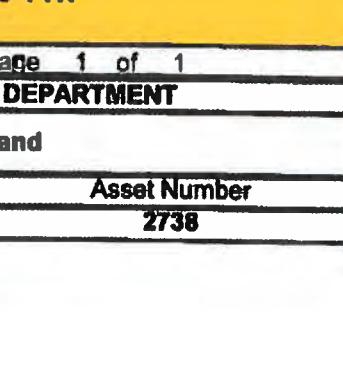
**VIDEO DETECTION ZONE:**  V1A  
**VIDEO CAMERA:**  V2  
**CABINET:**   
**MOVEMENT:**  1

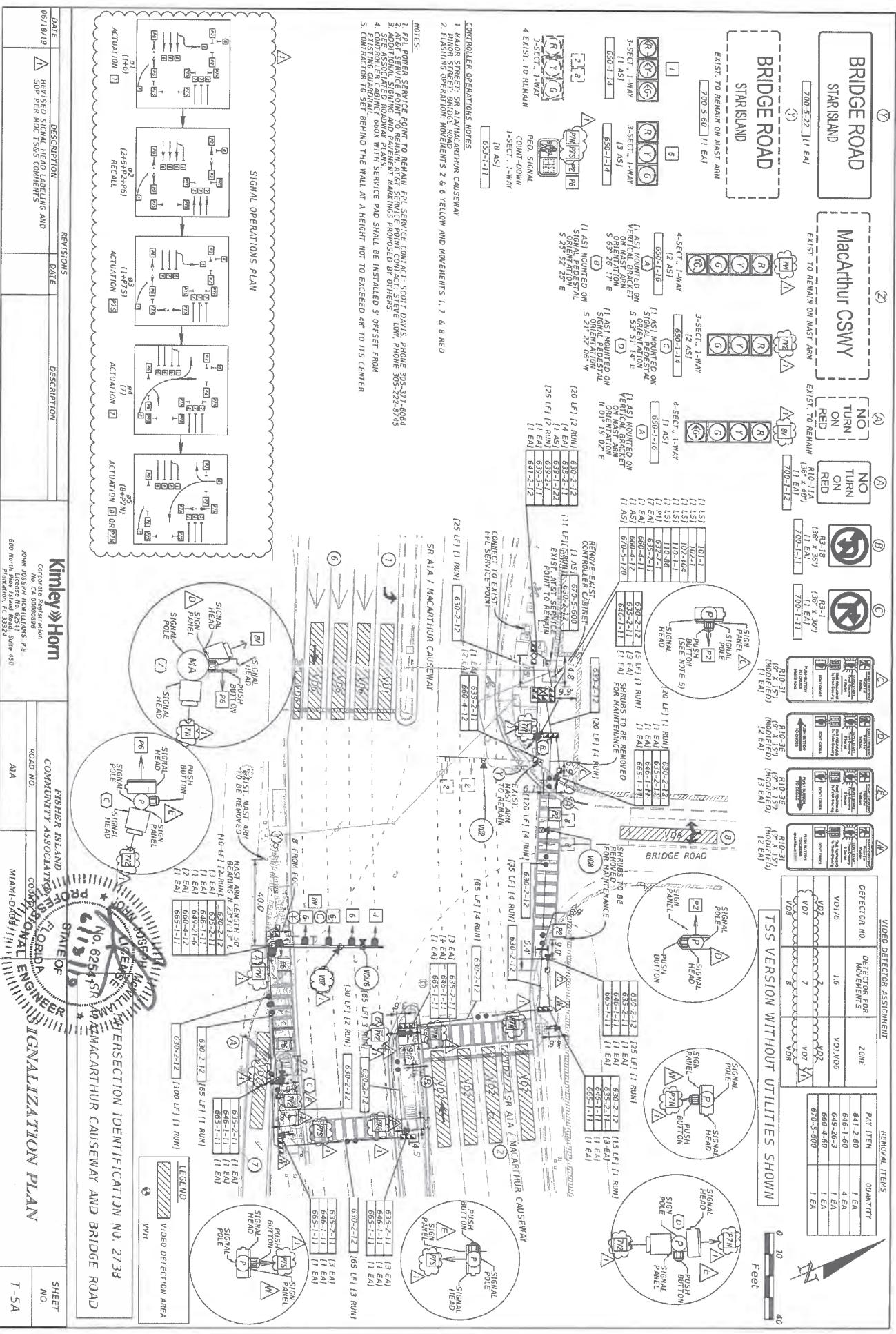
**INTERSECTION DETECTION DRAWING**

**MIAMI-DADE COUNTY TRAFFIC SIGNAL CABINETS 552 & 660 DETECTOR RACK**

MOVEMENT	(2)	(2)	2	(7)	(6)	(6)	6	(8)	SS1/SS2
DECT. SLOT	(1)	(2)	3	(4)	(5)	(6)	7	(8)	9
CHANNEL #	(1)	(3)	5	(7)	(9)	(11)	13	(15)	17
CHANNEL #	(2)	(4)	6	(8)	(10)	(12)	14	(16)	18
	VD2			VD7		VD1/6		VD8	

# SIGNAL OPERATING PLAN

Timing Phases	Direction	EB	WB		NB		SB		Ped Heads				Movements/Display/Actuation				
			Head No.	1	6	2	7V1	7V2	8V	8	P2	P6	P7S	P7N			
MC ARTHUR CSW	[1+6] EBL+EBT ACTUATED	Dwell	<G	G	R	R	R	R	R	R	DW	W/F	DW	DW			
		2+6	<Y	G	R	R	R	R	R	R	DW	W/F	DW	DW			
		3	<R	Y	Y	R	R	R	R	R	DW	DW	DW	DW			
		7	<R	Y	Y	R	R	R	R	R	DW	DW	DW	DW			
		8	<R	Y	Y	R	R	R	R	R	DW	DW	DW	DW			
		1+6	<R	Y	Y	R	R	R	R	R	DW	DW	DW	DW			
	[2+6] EBT+WBT RECALL	Dwell	<R	G	G	R	R	R	R	R	DW	W/F	DW	DW			
		7	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
		8	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
		1+6	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
		2+6	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
MC ARTHUR CSW	[3] EBL+P7S ACTUATED	Dwell	<G	R	R	R	R	R	R	R	DW	W/F	W/F	DW			
		7	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
		8	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
		1+6	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
		2+6	<Y	R	R	R	R	R	R	R	DW	DW	DW	DW			
	[7] NB BRIDGE ROAD	Dwell	<R	R	R	R	G/G	G	R	R	DW	DW	DW	DW			
		8	<R	R	R	R	Y	Y	R	R	DW	DW	DW	DW			
		1+6	<R	R	R	R	Y	Y	R	R	DW	DW	DW	DW			
		2+6	<R	R	R	R	Y	Y	R	R	DW	DW	DW	DW			
		7V1															
MC ARTHUR CSW	[8] SB+P7N ACTUATED	Dwell	<R	R	R	R	R	R	<G/G	G	DW	DW	DW	W/F			
		1+6	<R	R	R	R	R	R	Y	Y	DW	DW	DW	DW			
		2+6	<R	R	R	R	R	R	Y	Y	DW	DW	DW	DW			
		7V2															
		7V1															
	[8] SB+P7N ACTUATED	Dwell	<R	R	R	R	R	R	<G/G	G	DW	DW	DW	W/F			
		1+6	<R	R	R	R	R	R	Y	Y	DW	DW	DW	DW			
		2+6	<R	R	R	R	R	R	Y	Y	DW	DW	DW	DW			
		8															
		8															
Flashing Operation		<FR	FY	FY	FR	FR	FR	FR	FR	FR	P4=P7S P8=P7N						
MIAMI-DADE COUNTY PUBLIC WORK DEPARTMENT										Page 1 of 1							
E300974	Date	10-06-2020	McArthur & Star Island														
Checked H. L.	Date	10/13/20	Placed in Service			Phasing No.			Asset Number								





## **Historic Background Growth**

20129

## Terminal Island Miami Beach

Background Growth Rate

Station	Location	2015	2016	2017	2018	2019	2020
2528	SR A1A/MacArthur CSWY, 150' N of Meridian Ave	39,500	44,000	32,000	31,000	41,000	
5159	SR A1A/Collins Ave, 200' N 5 ST	13,800	13,100	14,600	11,800	12,900	14,500
6059	Ramp from MacArthur CSWY to NB Alton	15,500	18,500	19,000	16,500	16,500	14,500
9080	SR A1A/MacArthur CSWY, 1000' W of Palm Isl Ent	87,000	87,500	92,000	88,500	85,500	59,000
	Total	155,800	154,600	169,600	148,800	145,900	129,000
	Yearly Growth	-0.8%	9.7%	-12.3%	-1.9%	-11.6%	
	Growth Trend			-1.3%	-3.4%		

\*Growth rate of 0.5% used in Study as the -1.3% from 2019 is below 0.5% and 2020 counts reflect the impacts from the Covid-19 shutdowns

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION STATISTICS OFFICE  
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

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

YEAR	AADT	DIRECTION	1	DIRECTION	2	*K FACTOR	D FACTOR	T FACTOR
2020	41000 C	E	19000	W	22000	9.00	54.30	9.20
2019	31000 F	E	15500	W	15500	9.00	54.00	5.00
2018	32000 C	E	16000	W	16000	9.00	55.20	5.60
2017	44000 C	E	20000	W	24000	9.00	54.00	5.30
2016	35500 C	E	18500	W	17000	9.00	55.50	7.80
2015	39500 C	E	20000	W	19500	9.00	55.10	4.60
2014	33000 C	E	17000	W	16000	9.00	54.30	5.10
2013	34000 C	E	17500	W	16500	9.00	54.10	6.10
2012	32500 C	E	14500	W	18000	9.00	53.40	8.40
2011	35000 C	E	16500	W	18500	9.00	51.90	7.50
2010	35000 C	E	16500	W	18500	7.16	52.27	8.80
2009	35500 C	E	16500	W	19000	9.21	57.60	8.40
2008	34500 C	E	16000	W	18500	7.42	52.15	5.30
2007	34000 C	E	16500	W	17500	7.11	53.51	4.90
2006	40500 C	E	19500	W	21000	7.18	52.50	2.20
2005	35000 C	E	16000	W	19000	7.30	52.50	5.50

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 STANDARD, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION STATISTICS OFFICE  
2020 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
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
2005	16100 C	N 7300	S 8800	8.80	53.80	5.50

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

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION STATISTICS OFFICE  
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE:	6059 - RAMP	87037200	FRM EB	MACARTHUR CSWY TO NB ALTON RD,	300' E OF MACARTHUR CSWY			
YEAR	AADT	DIRECTION	1	DIRECTION	2			
---	---	N	14500	0	*K FACTOR			
2020	14500 C	N	14500	0	9.00			
2019	16500 F	N	0	9.00	99.90			
2018	16500 C	N	16500	0	9.00	99.90		
2017	19000 F	N	0	9.00	99.90	99.90		
2016	18500 C	N	18500	0	9.00	99.90	99.90	
2015	15500 F	N	0	9.00	99.90	99.90	99.90	
2014	15000 C	N	15000	0	9.00	99.90	99.90	99.90
2013	19000 F	N	0	9.00	99.90	99.90	99.90	99.90
2012	19500 C	N	19500	0	9.00	99.90	99.90	99.90
2011	18000 F	N	0	9.00	99.90	99.90	99.90	99.90
2010	18000 C	N	18000	0	8.98	99.99	99.99	99.99
2009	17500 F	N	0	8.99	99.99	99.99	99.99	99.99
2008	18000 C	N	18000	0	9.09	99.99	99.99	99.99
2007	20500 F	N	0	8.01	99.99	99.99	99.99	99.99
2006	20500 C	N	20500	0	7.97	99.99	99.99	99.99
2005	17500 S	N	B	8.80	1.40	1.40	1.40	1.40
					2.60	2.60	2.60	2.60

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 STANDARD, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION STATISTICS OFFICE  
2020 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE:	9080 - SR ALA/MACARTHUR CSWY,	1000' W PALM ISL ENT @R31	
YEAR	AADT	DIRECTION 1	DIRECTION 2
			*K FACTOR
2020	59000 C	E 29000	W 30000
2019	85500 C	E 43500	W 42000
2018	88500 C	E 45000	W 43500
2017	92000 C	E 46000	W 46000
2016	87500 C	E 44500	W 43000
2015	87000 C	E 43000	W 44000
2014	90000 C	E 44000	W 46000
2013	77000 C	E 41000	W 36000
2012	96500 C	E 48500	W 48000
2011	90500 C	E 45500	W 45000
2010	87000 C	E 42500	W 44500
2009	94000 C	E 49000	W 45000
2008	87500 C	E 43500	W 44000
2007	91000 C	E 45000	W 46000
2006	76000 C	E 33500	W 42500
2005	69000 C	E 35000	W 34000

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 STANDARD, PRIOR YEARS ARE K30 VALUES

# **Cardinal Distribution**

**Cardinal Distribution**  
**Terminal Island Miami Beach**

20129

TAZ 651

DIRECTION	2015	2045	2023
NNE	30.2%	18.6%	27.11%
ENE	2.0%	1.2%	1.79%
ESE	6.3%	4.4%	5.79%
SSE	0.0%	0.0%	0.00%
SSW	1.2%	1.6%	1.31%
WSW	13.4%	22.7%	15.88%
WNW	27.2%	35.8%	29.49%
NNW	19.6%	15.8%	18.59%



DIRECTIONAL TRIP DISTRIBUTION REPORT

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	
651	3551	Trips	601	40	126	-	25	267	541	390	2,069
651	3551	Percent	30.2	2.0	6.3	-	1.2	13.4	27.2	19.6	
652	3552	Trips	740	133	112	92	80	539	627	907	3,332
652	3552	Percent	22.9	4.1	3.5	2.8	2.5	16.7	19.4	28.1	
653	3553	Trips	597	120	187	238	48	604	488	661	2,984
653	3553	Percent	20.3	4.1	6.4	8.1	1.6	20.5	16.6	22.5	
654	3554	Trips	648	-	246	192	190	739	849	890	3,940
654	3554	Percent	17.3	-	6.6	5.1	5.1	19.7	22.6	23.7	
655	3555	Trips	2,579	-	-	-	1,029	2,523	3,354	2,903	13,375
655	3555	Percent	20.8	-	-	-	8.3	20.4	27.1	23.4	
656	3556	Trips	683	-	-	-	187	546	1,103	960	3,541
656	3556	Percent	19.6	-	-	-	5.4	15.7	31.7	27.6	
657	3557	Trips	223	26	3	49	34	152	244	154	913
657	3557	Percent	25.2	2.9	0.4	5.5	3.8	17.2	27.6	17.4	
658	3558	Trips	385	-	74	12	19	212	362	296	1,384
658	3558	Percent	28.3	-	5.4	0.9	1.4	15.6	26.6	21.8	
659	3559	Trips	1,748	-	-	-	186	1,331	2,542	2,823	9,143
659	3559	Percent	20.3	-	-	-	2.2	15.4	29.5	32.7	
660	3560	Trips	445	-	-	-	26	214	438	582	1,786
660	3560	Percent	26.1	-	-	-	1.5	12.5	25.7	34.1	
661	3561	Trips	561	-	-	-	29	307	686	550	2,237
661	3561	Percent	26.3	-	-	-	1.4	14.4	32.2	25.8	
662	3562	Trips	247	-	-	-	367	663	1,138	583	3,054
662	3562	Percent	8.2	-	-	-	12.3	22.1	38.0	19.4	
663	3563	Trips	28	-	-	-	80	28	129	132	397
663	3563	Percent	7.1	-	-	-	20.3	7.0	32.4	33.2	
664	3564	Trips	690	1,278	-	2	5	504	1,465	2,405	8,087
664	3564	Percent	10.9	20.1	-	0.0	0.1	7.9	23.1	37.9	
665	3565	Trips	1,047	-	-	16	12	2,003	2,621	4,069	11,382
665	3565	Percent	10.7	-	-	0.2	0.1	20.5	26.8	41.7	
666	3566	Trips	7	-	-	-	-	-	40	97	144
666	3566	Percent	4.6	-	-	-	-	-	27.9	67.5	
667	3567	Trips	69	191	371	354	52	-	-	11	1,049
667	3567	Percent	6.6	18.3	35.4	33.8	5.0	-	-	1.1	
668	3568	Trips	72	316	257	156	343	-	1	27	1,181
668	3568	Percent	6.2	27.0	21.9	13.3	29.2	-	0.1	2.3	
669	3569	Trips	708	1,153	1,379	1,013	424	-	6	148	4,982
669	3569	Percent	14.7	23.9	28.6	21.0	8.8	-	0.1	3.1	
670	3570	Trips	784	1,013	1,374	915	589	74	8	172	5,078
670	3570	Percent	15.9	20.6	27.9	18.6	11.9	1.5	0.2	3.5	
671	3571	Trips	868	1,044	1,129	712	718	1	40	169	4,757
671	3571	Percent	18.5	22.3	24.1	15.2	15.4	0.0	0.9	3.6	
672	3572	Trips	262	156	186	125	162	2	24	57	974
672	3572	Percent	26.9	16.0	19.1	12.8	16.7	0.3	2.4	5.8	
673	3573	Trips	172	261	359	224	207	12	36	140	1,412
673	3573	Percent	12.2	18.5	25.4	15.9	14.6	0.8	2.6	9.9	
674	3574	Trips	866	641	1,000	863	613	112	90	488	4,718
674	3574	Percent	18.5	13.7	21.4	18.5	13.1	2.4	1.9	10.4	
675	3575	Trips	904	864	749	472	371	46	31	226	3,703
675	3575	Percent	24.7	23.6	20.5	12.9	10.1	1.3	0.9	6.2	
676	3576	Trips	43	54	19	23	31	8	-	15	194
676	3576	Percent	22.4	27.9	9.7	11.7	16.2	4.3	-	7.9	

DIRECTIONAL TRIP DISTRIBUTION REPORT

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	
651	3551	Trips	500	33	118	-	44	610	964	424	2,777
651	3551	Percent	18.6	1.2	4.4	-	1.6	22.7	35.8	15.8	
652	3552	Trips	834	141	140	71	102	864	1,319	966	4,613
652	3552	Percent	18.8	3.2	3.2	1.6	2.3	19.5	29.7	21.8	
653	3553	Trips	563	73	181	185	40	875	1,115	522	3,691
653	3553	Percent	15.8	2.1	5.1	5.2	1.1	24.6	31.4	14.7	
654	3554	Trips	527	-	154	189	209	1,276	1,357	971	4,960
654	3554	Percent	11.3	-	3.3	4.0	4.5	27.2	29.0	20.7	
655	3555	Trips	2,507	-	-	-	984	3,119	4,529	3,116	15,245
655	3555	Percent	17.6	-	-	-	6.9	21.9	31.8	21.9	
656	3556	Trips	752	-	-	-	201	872	1,503	1,028	4,509
656	3556	Percent	17.3	-	-	-	4.6	20.0	34.5	23.6	
657	3557	Trips	255	42	13	51	17	325	482	206	1,441
657	3557	Percent	18.4	3.0	1.0	3.7	1.2	23.4	34.6	14.8	
658	3558	Trips	398	-	50	10	22	302	673	339	1,860
658	3558	Percent	22.2	-	2.8	0.6	1.2	16.8	37.5	18.9	
659	3559	Trips	1,874	-	-	-	244	1,675	3,472	2,524	10,393
659	3559	Percent	19.1	-	-	-	2.5	17.1	35.5	25.8	
660	3560	Trips	386	-	-	-	28	335	726	479	2,047
660	3560	Percent	19.8	-	-	-	1.5	17.2	37.1	24.5	
661	3561	Trips	756	-	-	-	54	536	1,539	649	3,810
661	3561	Percent	21.4	-	-	-	1.5	15.2	43.6	18.4	
662	3562	Trips	292	-	-	-	279	909	1,772	764	4,053
662	3562	Percent	7.3	-	-	-	7.0	22.6	44.1	19.0	
663	3563	Trips	23	-	-	-	29	57	119	164	393
663	3563	Percent	5.9	-	-	-	7.3	14.5	30.4	41.9	
664	3564	Trips	776	1,012	-	8	8	823	2,336	4,104	11,172
664	3564	Percent	8.6	11.2	-	0.1	0.1	9.1	25.8	45.3	
665	3565	Trips	896	-	-	16	21	1,811	3,091	5,025	12,548
665	3565	Percent	8.3	-	-	0.2	0.2	16.7	28.5	46.3	
666	3566	Trips	14	-	-	-	0	4	56	145	235
666	3566	Percent	6.4	-	-	-	0.0	2.0	25.5	66.1	
667	3567	Trips	62	202	356	394	51	-	-	12	1,076
667	3567	Percent	5.8	18.8	33.0	36.6	4.7	-	-	1.1	
668	3568	Trips	190	394	278	333	392	-	1	32	1,620
668	3568	Percent	11.7	24.3	17.2	20.6	24.2	-	0.1	2.0	
669	3569	Trips	1,117	1,381	1,871	1,307	750	-	10	135	6,631
669	3569	Percent	17.0	21.0	28.5	19.9	11.4	-	0.2	2.1	
670	3570	Trips	1,284	1,233	1,894	1,616	1,059	85	15	177	7,535
670	3570	Percent	17.4	16.8	25.7	22.0	14.4	1.2	0.2	2.4	
671	3571	Trips	1,240	959	1,638	945	797	1	46	211	5,998
671	3571	Percent	21.2	16.4	28.1	16.2	13.7	0.0	0.8	3.6	
672	3572	Trips	186	161	294	189	226	24	35	120	1,234
672	3572	Percent	15.0	13.0	23.8	15.4	18.3	1.9	2.8	9.7	
673	3573	Trips	410	361	600	469	343	30	46	233	2,524
673	3573	Percent	16.5	14.5	24.1	18.8	13.8	1.2	1.8	9.4	
674	3574	Trips	1,543	1,530	2,122	1,962	1,401	177	145	1,154	10,169
674	3574	Percent	15.4	15.3	21.2	19.6	14.0	1.8	1.4	11.5	
675	3575	Trips	896	1,067	1,015	818	747	40	74	465	5,206
675	3575	Percent	17.5	20.8	19.8	16.0	14.6	0.8	1.4	9.1	
676	3576	Trips	151	160	192	100	100	18	-	45	766
676	3576	Percent	19.8	20.9	25.1	13.1	13.0	2.3	-	5.9	

## **Appendix D**

**Intersection Volume Worksheets  
Intersection Capacity Analysis Worksheets**

# **Intersection Volume Worksheets**

Terminal Island Miami Beach - AM Intersection Assignment

Terminal Island Miami Beach - AM Intersection Assignment

## Terminal Island Miami Beach - PM Intersection Assignment

INTERSECTION	MOVEMENT	Raw Existing	Existing (2019 PSCF) 1.06	Growth rate: 1.00% No. of years: 2	FUTURE W/O PROJECT		Project Trips		FUTURE WITH PROJECT		
					TERMINAL ISLAND MIAMI BEACH		TERMINAL ISLAND		PROJECT TOTAL		
					IN	OUT	IN	OUT	Total 343		
1. MacArthur Causeway / Bridge Road (S)	NBL	63	67	68	68	1	1	0%	0%	68	
	NBT	1	1	1	1	0%	0%	0%	0%	1	
	NBR	1	1	1	1	0%	0%	0%	0%	1	
	SBL	7	7	8	8	2%	0%	0%	2	10	
	SBT	0	0	0	0	0%	0%	0%	0%	0	
	SBR	33	35	36	36	0%	0%	0%	0%	36	
	EBL	9	10	10	10	0%	0%	0%	0%	10	
	EBT	2045	2168	2211	2211	64%	0%	67	2278		
	EBR	0	0	0	0	0%	0%	0%	0%	0	
	WBL	0	0	0	0	0%	0%	0%	0%	0	
	WBT	2222	2355	2403	2403	0%	0%	64%	152	2555	
	WBR	9	10	10	10	0%	0%	2%	5	14	
	TOTAL	4390	4653	4747	4747	66%	66%	66%	226	4973	
	FPL	NBL NBL2 NBR NBR2	to MacArthur To WB Term Rd to MacArthur To EB Term Rd	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0%	0%	0	
2. MacArthur Causeway / Terminal Island (S)	Terminal Island Road (WB)	VBU WBT2 VBT	to EB MacArthur to WB MacArthur To W Term Rd	0 0 1	0 0 1	0 0 1	0 0 1	0%	0%	0	
	MacArthur Causeway (EB)	EBT EBT2 EBU2	to EB MacArthur to E Term Rd to W Term Rd	2006 15 44	2126 16 47	2169 16 48	2169 16 48	66%	0%	69	
	MacArthur Causeway (WB)	WBU2 WBT2 VBT	to E Term Rd To W Term Rd to W/B MacArthur	17 18 2085	18 19 2210	18 19 2255	18 19 2255	34%	0%	36	54
	TOTAL	4319	4578	4670	4670	100%	100%	66%	262	4932	

## Terminal Island Miami Beach - PM Intersection Assignment

INTERSECTION	MOVEMENT	2019		2021		2023		Project Trips		FUTURE WITH PROJECT
		Existing (2019 PSCF)	Growth rate: 1.00% No. of years: 2	BACKGROUNd	FUTURE W/O PROJECT	Terminal Island	Miami Beach	Total	343	
3. Alton Road / 5th Street (S)  <b>PHF = 0.92</b>	NBL	355	376	384	384	0%	0%	0	384	
	NBT	171	181	185	185	0%	0%	0	185	
	NBR	20	21	22	22	3%	3%	3	25	
	SBL	69	73	75	75	0%	0%	0	75	
	SBT	213	226	230	230	0%	0%	0	230	
	SBR	628	666	679	679	26%	0%	27	706	
	<b>EBL RAMP</b>					0%	26%	62	62	
	EBL	11	12	12	12	0%	0%	0	12	
	EBT	616	653	666	666	0%	5%	12	678	
	EBR	364	386	394	394	0%	3%	7	401	
4. Terminal Island / Project Driveway (U)  <b>PHF =0.92</b>	WBL	18	19	19	19	0%	0%	0	19	
	WBT	958	1015	1036	1036	5%	0%	5	1041	
	WBR	125	133	135	135	0%	0%	0	135	
	<b>TOTAL</b>		3548	3761	3836	3836	34%	34%	117	3953
	NBL	0	0	0	0	0%	100%	238	238	
	NBT	0	0	0	0	0%	0%	0	0	
	NBR	0	0	0	0	0%	0%	0	0	
	SBL	0	0	0	0	0%	0%	0	0	
	SBT	0	0	0	0	0%	0%	0	0	
	SBR	0	0	0	0	0%	0%	0	0	
5. MacArthur Causeway / Terminal Island right-turn (U)  <b>PHF =0.93</b>	EBL	133	141	144	144	0%	0%	0	144	
	EBT	0	0	0	0	100%	0%	105	105	
	EBR	0	0	0	0	0%	0%	0	0	
	WBL	0	0	0	0	0%	0%	0	0	
	WBT	35	37	38	38	0%	0%	0	38	
	WBR	0	0	0	0	0%	0%	0	0	
	<b>TOTAL</b>		168	178	182	182	100%	100%	343	525
	NBL	0	0	0	0	0%	0%	0	0	
	NBT	0	0	0	0	0%	0%	0	0	
	NBR	22	23	24	24	0%	34%	81	105	
Terminal Island MacArthur Cswy  <b>PHF =0.93</b>	SBL	0	0	0	0	0%	0%	0	0	
	SBT	0	0	0	0	0%	0%	0	0	
	SBR	0	0	0	0	0%	0%	0	0	
	EBT	134	142	145	145	100%	0%	105	250	
	EBR	2004	2124	2167	2167	0%	0%	0	2167	
Terminal Island MacArthur Cswy  <b>PHF =0.93</b>	WBT	32	34	35	35	0%	66%	157	192	
	WBT	2109	2236	2280	2280	34%	0%	36	2316	
	WBR	0	0	0	0	0%	0%	0	0	
	<b>TOTAL</b>		4301	4559	4651	4651	134%	100%	379	5029

## Terminal Island Miami Beach -Weekend AM Intersection Assignment

INTERSECTION	MOVEMENT	Existing (2019 PSCF) 1.06	BACKGROUND Growth rate: 1.00% No. of years: 2	2023		2023		Project Trips Terminal Island Miami Beach IN 56 OUT 40 Total 96		FUTURE WITH PROJECT
				FUTURE W/O PROJECT	IN 56	OUT 40	Total 96			
1. MacArthur Causeway / Bridge Road (S)	NBL	0	0	0	0%	0%	0	0	0	0
	NBT	0	0	0	0%	0%	0	0	0	0
	NBR	0	0	0	0%	0%	0	0	0	0
	SBL	7	8	8	2%	0%	1	9	9	9
	SBT	0	0	0	0%	0%	0	0	0	0
	SBR	6	6	6	0%	0%	0	6	6	6
	EBL	16	16	16	0%	0%	0	16	16	16
	EBT	2708	2763	2763	64%	0%	36	2799	2799	2799
	EBR	0	0	0	0%	0%	0	0	0	0
	WBU	0	0	0	0%	0%	0	0	0	0
	WBT	1944	1983	1983	0%	0%	0	0	0	0
	WBR	8	9	9	0%	0%	2%	1	9	9
	TOTAL	4691	4785	4785	66%	66%	63	4848	4848	4848
	FPL	NBL NBL2 NBR NBR2	to MacArthur To WB Term Rd to MacArthur To EB Term Rd	0 0 0 0	0 0 0 0	0 0 0 0	0%	0	0	0
2. MacArthur Causeway / Terminal Island Road (WB)	WBU	to EB MacArthur	1	1	1	0%	0%	0	0	0
	WBT2	to WB MacArthur	40	41	41	0%	0%	0	1	1
	WBT	To W Term Rd	0	0	0	0%	0%	0	0	0
	EBT	to EB MacArthur	2669	2723	2723	0%	0%	0	2723	2723
	EBT2	to E Term Rd	54	55	55	66%	0%	37	92	92
	EBU2	to W Term Rd	0	0	0	0%	0%	0	0	0
	EBR	To E Term Rd	37	38	38	34%	0%	19	57	57
	WBU2	To W Term Rd	0	0	0	0%	0%	0	0	0
	WBT2	To WB MacArthur	1913	1952	1952	0%	0%	0	1952	1952
	WBT	Total	4715	4810	4810	100%	66%	82	4892	4892

## Terminal Island Miami Beach -Weekend AM Intersection Assignment

INTERSECTION	MOVEMENT	Existing PSCF) 1.06	BACKGROUND Growth rate: 1.00% No. of years: 2	2023		2023		Project Trips Terminal Island Miami Beach		FUTURE WITH PROJECT	
				IN 56	OUT 40	IN 56	OUT 40	Total 96	Total 96		
3. Alton Road / 5th Street (S)	NBL	271	277	277	0%	0%	0%	0	277		
	NBT	145	148	148	0%	0%	0%	0	148		
	NBR	38	39	39	3%	0%	0%	2	41		
	SBL	59	61	61	0%	0%	0%	0	61		
	SBT	170	173	173	0%	0%	0%	0	173		
	SBR	499	509	509	26%	0%	15	524	524	10	
	EBL_RAMP				0%	26%	10				
	EBL	4	4	4	0%	0%	0%	0	4		
	EBT	1058	1079	1079	0%	5%	2	1081			
	EBC	633	646	646	0%	3%	1	647			
PHF =0.95	WBL	33	34	34	0%	0%	0%	0	34		
	WBT	965	984	984	5%	0%	3	987			
	WBR	131	134	134			0	134			
	TOTAL	4007	4087	4087	34%	34%	33	4120			
4. Terminal Island / Project Driveway (U)	NBL	0	0	0	0%	100%	40	40			
	NBT	0	0	0	0%	0%	0	0	0		
	NBR	0	0	0	0%	0%	0	0	0		
	SBL	0	0	0	0%	0%	0	0	0		
	SBT	0	0	0	0%	0%	0	0	0		
	SBR	0	0	0	0%	0%	0	0	0		
	EBL	0	0	0	0%	0%	0	0	0		
	EBT	41	42	42	0%	0%	0	42			
	EBC	0	0	0	100%	0%	56	56			
	WBL	0	0	0	0%	0%	0	0			
PHF =0.92	WBT	37	38	38	0%	0%	0	38			
	WBR	0	0	0	0%	0%	0	0			
	TOTAL	78	80	80	100%	100%	96	176			
5. MacArthur Causeway / Terminal Island right-turn (U)	NBL	0	0	0	0%	0%	0	0	0		
	NBT	0	0	0	0%	0%	0	0	0		
	NBR	30	30	30	0%	34%	14	44			
	SBL	0	0	0	0%	0%	0	0	0		
	SBT	0	0	0	0%	0%	0	0	0		
	SBR	0	0	0	0%	0%	0	0	0		
	EBT	41	42	42	100%	0%	56	98			
	EBT	2669	2723	2723	0%	0%	0	2723			
	EBC	0	0	0	0%	0%	0	0			
	WBT	91	93	93	0%	66%	26	119			
PHF =0.95	WBT	1944	1983	1983	34%	0%	19	2002			
	WBR	0	0	0	0%	0%	0	0			
	TOTAL	4775	4871	4871	134%	100%	115	4986			

## Terminal Island Miami Beach - PM Weekend Intersection Assignment

## Terminal Island Miami Beach - PM Weekend Intersection Assignment

INTERSECTION	MOVEMENT	Existing (2019 PSCF) 1.06	BACKGROUND Growth rate: 1.00% No. of years: 2	FUTURE W/O PROJECT	Terminal Island Miami Beach			FUTURE WITH PROJECT
					IN 56	OUT 40	Total 96	
3. Alton Road / 5th Street  <span style="color: red;">PHF = 0.98</span>	NBL	422	430	430	0%	0%	0	430
	NBT	167	171	171	0%	0%	0	171
	NBR	34	35	35	3%	0%	2	36
	SBL	53	54	54	0%	0%	0	54
	SBT	208	212	212	0%	0%	0	212
	SBR	723	737	737	26%	0%	15	752
	EBL RAMP				0%	26%	10	
	EBL	4	4	4	0%	0%	0	4
	EBT	1190	1214	1214	0%	5%	2	1216
	EBR	588	600	600	0%	3%	1	601
4. Terminal Island / Project Driveway  <span style="color: red;">PHF =0.92</span>	WBL	33	34	34	0%	0%	0	34
	WBT	1363	1391	1391	5%	0%	3	1393
	WBR	148	151	151	0%	0%	0	151
	TOTAL	4934	5033	5033	34%	34%	33	5056
					0%	100%	40	40
					0%	0%	0	0
5. MacArthur Causeway / Terminal Island right-turn  <span style="color: red;">PHF =0.95</span>	NBL	0	0	0	0%	0%	0	0
	NBT	0	0	0	0%	0%	0	0
	NBR	0	0	0	0%	0%	0	0
	SBL	0	0	0	0%	0%	0	0
	SBT	0	0	0	0%	0%	0	0
	SBR	0	0	0	0%	0%	0	0
	EBL	0	0	0	0%	0%	0	0
	EBT	87	89	89	0%	0%	0	89
	EBR	0	0	0	100%	0%	56	56
	WBL	0	0	0	0%	0%	0	0
	WBT	32	32	32	0%	0%	0	32
	WBR	0	0	0	0%	0%	0	0
	TOTAL	119	121	121	100%	100%	96	217
					0%	0%	0	0
					0%	34%	14	46
					0%	0%	0	0
					0%	0%	0	0
					0%	0%	56	145
					0%	0%	0	2979
					0%	66%	26	114
					0%	34%	19	2906
					0%	0%	0	0
					134%	100%	115	6190
	TOTAL	5955	6075	6075				

# **Intersection Capacity Analysis Worksheets**

**OBJECTIVE 1: LEVEL OF SERVICE** (please see Glossary of terms)

**To provide for a safe, convenient, balanced, efficient and effective multi-modal transportation system with a Level of Service (LOS) for multiple transportation modes.**

**Policy 1.1 Basic Level of Service**

The following minimum Level of Service standards shall apply to all State, County and local roads except for designated Federal Interstate Highway System (FIHS), Strategic Intermodal System (SIS), and Transportation Regional Incentive Program (TRIP) (please see Glossary of terms) funded facilities which shall be subject to the Florida Department of Transportation's (FDOT) Level of Service Standards.

- Local roads – LOS Standard D
- Collector roads – LOS Standard D
- Arterial roads - LOS Standard D
- Limited access roads - LOS Standard D

**Policy 1.2: Level of Service for Transportation Concurrency Management Areas**

The following level of service standards shall be established for roadways with certain characteristics as per this policy, and for roadways located within the City's Transportation Concurrency Management Areas (TCMA's):

- a. Where no mass transit service exists, roadways shall operate at or above LOS D;
- b. Where mass transit service having headways of 20 minutes or less is provided within ¼ mile distance, parallel roadways shall operate at no greater than 120 percent of LOS D; (please see glossary of terms)
- c. Where extraordinary transit service classified as Local Circulator or express or peak-hour limited stop bus service having headways of 10 minutes exists, parallel roadways within 1/4 mile, shall operate at no greater than 150 percent of LOS D (please see glossary of terms).

**Policy 1.3: Adhering to Level of Service**

The City shall ensure that no development approvals are issued that would result in traffic volumes surpassing the cumulative allowable areawide service volume based on the sum of the individual roadways' Level of Service Standard within the Transportation Concurrency Management Areas.

## **Weekday Existing Conditions**

HCM Signalized Intersection Capacity Analysis  
1: Ferry Exit/Bridge Road & MacArthur Causeway

Existing (Weekday) AM

10/05/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↑			↑↑↑	↑		↔		↑		
Traffic Volume (vph)	45	2976	0	0	1817	17	31	2	0	11	0	14
Future Volume (vph)	45	2976	0	0	1817	17	31	2	0	11	0	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8			6.8	6.8		6.8		6.8	4.0	
Lane Util. Factor	1.00	0.91			0.91	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00		1.00	0.93	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		0.99		1.00	1.00	
Fr <sub>t</sub>	1.00	1.00			1.00	0.85		1.00		1.00	0.86	
Flt Protected	0.95	1.00			1.00	1.00		0.96		0.95	1.00	
Satd. Flow (prot)	1671	5036			5036	1484		1797		1805	0	
Flt Permitted	0.95	1.00			1.00	1.00		0.96		0.95	1.00	
Satd. Flow (perm)	1671	5036			5036	1484		1797		1805	0	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	47	3100	0	0	1893	18	32	2	0	11	0	15
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	15	0
Lane Group Flow (vph)	47	3100	0	0	1893	14	0	34	0	11	0	0
Confl. Peds. (#/hr)	6		4	4		6	1					1
Confl. Bikes (#/hr)			7			4						
Heavy Vehicles (%)	8%	3%	0%	0%	3%	6%	0%	0%	0%	0%	0%	8%
Turn Type	Prot	NA			NA	Perm	Perm	NA		Prot		
Protected Phases	1 3	6			2			7		8		
Permitted Phases					2		7					
Actuated Green, G (s)	9.7	181.3			164.8	164.8		6.0		3.3	0.0	
Effective Green, g (s)	9.7	181.3			164.8	164.8		6.0		3.3	0.0	
Actuated g/C Ratio	0.05	0.86			0.78	0.78		0.03		0.02	0.00	
Clearance Time (s)		6.8			6.8	6.8		6.8		6.8		
Vehicle Extension (s)		1.0			1.0	1.0		0.2		3.0		
Lane Grp Cap (vph)	76	4327			3933	1159		51		28	0	
v/s Ratio Prot	0.03	c0.62			0.38					c0.01		
v/s Ratio Perm						0.01		0.02				
v/c Ratio	0.62	0.72			0.48	0.01		0.67		0.39	0.00	
Uniform Delay, d1	98.8	5.4			8.1	5.1		101.5		102.9	105.5	
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	12.1	1.0			0.4	0.0		22.6		8.9	0.0	
Delay (s)	111.0	6.5			8.5	5.1		124.1		111.7	105.5	
Level of Service	F	A			A	A		F		F	F	
Approach Delay (s)		8.0			8.5			124.1			108.1	
Approach LOS		A			A			F			F	
Intersection Summary												
HCM 2000 Control Delay		9.5			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.76										
Actuated Cycle Length (s)		211.0			Sum of lost time (s)			34.0				
Intersection Capacity Utilization		Err%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

## Timings

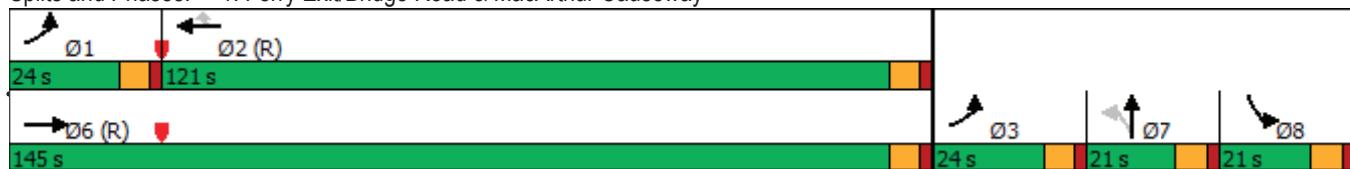
## 1: Ferry Exit/Bridge Road &amp; MacArthur Causeway

Existing (Weekday) AM

10/07/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Configurations	↑	↑↑↑			↑↑↑	↑		↔		↑		
Traffic Volume (vph)	45	2976	0	0	1817	17	31	2	0	11	0	14
Future Volume (vph)	45	2976	0	0	1817	17	31	2	0	11	0	14
Confl. Peds. (#/hr)	6		4	4		6	1					1
Confl. Bikes (#/hr)						4						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	8%	3%	0%	0%	3%	6%	0%	0%	0%	0%	0%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	3100	0	0	1893	18	0	34	0	11	15	0
Turn Type	Prot	NA			NA	Perm	Perm	NA		Prot		
Protected Phases	1 3	6			2			7		8		
Permitted Phases						2	7					
Detector Phase	1	6			2	2	7	7		8		
Switch Phase												
Minimum Initial (s)		18.0			18.0	18.0	1.0	1.0		5.0		
Minimum Split (s)		24.8			24.8	24.8	14.0	14.0		20.8		
Total Split (s)		145.0			121.0	121.0	21.0	21.0		21.0		
Total Split (%)		68.7%			57.3%	57.3%	10.0%	10.0%		10.0%		
Yellow Time (s)		4.8			4.8	4.8	4.8	4.8		4.8		
All-Red Time (s)		2.0			2.0	2.0	2.0	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.8			6.8	6.8	6.8	6.8		6.8		
Lead/Lag					Lag	Lag	Lag	Lag				
Lead-Lag Optimize?					Yes	Yes	Yes	Yes				
Recall Mode		C-Max			C-Max	C-Max	None	None		None		
v/c Ratio	0.53	0.69			0.46	0.01	0.61	0.19	0.09			
Control Delay	118.2	6.0			8.4	0.0	140.5	105.9	0.0			
Queue Delay	0.0	0.0			0.5	0.0	0.0	0.0	0.0	0.0		
Total Delay	118.2	6.0			8.8	0.0	140.5	105.9	0.0			
Queue Length 50th (ft)	65	293			246	0	48	15	0			
Queue Length 95th (ft)	118	704			460	0	94	43	0			
Internal Link Dist (ft)		886			389		350			366		
Turn Bay Length (ft)	150				100							
Base Capacity (vph)	136	4490			4129	1237	121	121	160			
Starvation Cap Reductn	0	0			1563	0	0	0	0	0		
Spillback Cap Reductn	0	0			0	0	0	0	0	0		
Storage Cap Reductn	0	0			0	0	0	0	0	0		
Reduced v/c Ratio	0.35	0.69			0.74	0.01	0.28	0.09	0.09			
<b>Intersection Summary</b>												
Cycle Length: 211												
Actuated Cycle Length: 211												
Offset: 58 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green												
Natural Cycle: 150												
Control Type: Actuated-Coordinated												

Splits and Phases: 1: Ferry Exit/Bridge Road &amp; MacArthur Causeway



Timings  
1: Ferry Exit/Bridge Road & MacArthur Causeway

Existing (Weekday) AM

10/07/2021

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	1.0
Minimum Split (s)	13.8	23.8
Total Split (s)	24.0	24.0
Total Split (%)	11%	11%
Yellow Time (s)	4.8	4.8
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

HCM Signalized Intersection Capacity Analysis  
1: Ferry Exit/Bridge Road & MacArthur Causeway

Existing (Weekday) PM

10/08/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2168	0	0	2355	10	67	1	1	7	0	35
Future Volume (vph)	10	2168	0	0	2355	10	67	1	1	7	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8			6.8	6.8			6.8	6.8	4.0	
Lane Util. Factor	1.00	0.91			0.91	1.00			1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.98			1.00	1.00	0.94	
Flpb, ped/bikes	1.00	1.00			1.00	1.00			1.00	1.00	1.00	
Fr <sub>t</sub>	1.00	1.00			1.00	0.85			1.00	1.00	0.86	
Flt Protected	0.95	1.00			1.00	1.00			0.95	0.95	1.00	
Satd. Flow (prot)	1770	5085			5085	1546			1773	1770	0	
Flt Permitted	0.95	1.00			1.00	1.00			0.95	0.95	1.00	
Satd. Flow (perm)	1770	5085			5085	1546			1773	1770	0	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	11	2436	0	0	2646	11	75	1	1	8	0	39
RTOR Reduction (vph)	0	0	0	0	0	3	0	0	0	0	39	0
Lane Group Flow (vph)	11	2436	0	0	2646	8	0	77	0	8	0	0
Confl. Peds. (#/hr)	2				2				1	1		
Confl. Bikes (#/hr)					4						1	
Turn Type	Prot	NA		NA	Perm	Perm	NA		Prot			
Protected Phases	1 3	6		2			7		8			
Permitted Phases				2	7							
Actuated Green, G (s)	6.2	155.3		145.7	145.7		10.9		4.2	0.0		
Effective Green, g (s)	6.2	155.3		145.7	145.7		10.9		4.2	0.0		
Actuated g/C Ratio	0.03	0.77		0.72	0.72		0.05		0.02	0.00		
Clearance Time (s)		6.8		6.8	6.8		6.8		6.8			
Vehicle Extension (s)		1.0		1.0	1.0		0.2		3.0			
Lane Grp Cap (vph)	54	3928		3685	1120		96		36	0		
v/s Ratio Prot	c0.01	c0.48		c0.52					c0.00			
v/s Ratio Perm				0.01	0.04							
v/c Ratio	0.20	0.62		0.72	0.01		0.80		0.22	0.00		
Uniform Delay, d1	95.0	10.0		15.9	7.6		94.0		96.8	100.5		
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	1.00		
Incremental Delay, d2	1.4	0.7		1.2	0.0		34.9		3.1	0.0		
Delay (s)	96.4	10.7		17.1	7.7		128.9		99.9	100.5		
Level of Service	F	B		B	A		F		F	F		
Approach Delay (s)		11.1		17.1			128.9			100.4		
Approach LOS		B		B			F			F		
Intersection Summary												
HCM 2000 Control Delay		16.7		HCM 2000 Level of Service				B				
HCM 2000 Volume to Capacity ratio		0.71										
Actuated Cycle Length (s)		201.0		Sum of lost time (s)				34.0				
Intersection Capacity Utilization		Err%		ICU Level of Service				H				
Analysis Period (min)		15										
c Critical Lane Group												

## Timings

Existing (Weekday) PM

## 1: Ferry Exit/Bridge Road &amp; MacArthur Causeway

10/08/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations	↑	↑↑↑			↑↑↑	↑		↔		↑		
Traffic Volume (vph)	10	2168	0	0	2355	10	67	1	1	7	0	35
Future Volume (vph)	10	2168	0	0	2355	10	67	1	1	7	0	35
Confl. Peds. (#/hr)	2					2			1	1		
Confl. Bikes (#/hr)						4						1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	2436	0	0	2646	11	0	77	0	8	39	0
Turn Type	Prot	NA			NA	Perm	Perm	NA		Prot		
Protected Phases	1 3	6			2			7		8		
Permitted Phases						2	7					
Detector Phase	1	6			2	2	7	7		8		
Switch Phase												
Minimum Initial (s)	18.0				18.0	18.0	1.0	1.0		5.0		
Minimum Split (s)	24.8				24.8	24.8	14.0	14.0		20.8		
Total Split (s)	135.0				111.0	111.0	21.0	21.0		21.0		
Total Split (%)	67.2%				55.2%	55.2%	10.4%	10.4%		10.4%		
Yellow Time (s)	4.8				4.8	4.8	4.8	4.8		4.8		
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0		2.0		
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0		0.0		
Total Lost Time (s)	6.8				6.8	6.8	6.8	6.8		6.8		
Lead/Lag					Lag	Lag	Lag	Lag				
Lead-Lag Optimize?					Yes	Yes	Yes	Yes				
Recall Mode		C-Max			C-Max	C-Max	None	None		None		
v/c Ratio	0.12	0.58			0.66	0.01		0.80		0.12	0.23	
Control Delay	75.2	9.9			15.3	0.0		142.9		94.9	0.0	
Queue Delay	0.0	0.0			1.9	0.0		0.0		0.0	0.0	
Total Delay	75.2	9.9			17.2	0.0		142.9		94.9	0.0	
Queue Length 50th (ft)	14	226			267	0		103		11	0	
Queue Length 95th (ft)	26	816			1153	0		166		32	0	
Internal Link Dist (ft)		886			389			350			366	
Turn Bay Length (ft)	150				100							
Base Capacity (vph)	181	4170			4030	1250		125		125	168	
Starvation Cap Reductn	0	0			1165	0		0		0	0	
Spillback Cap Reductn	0	0			0	0		0		0	0	
Storage Cap Reductn	0	0			0	0		0		0	0	
Reduced v/c Ratio	0.06	0.58			0.92	0.01		0.62		0.06	0.23	

## Intersection Summary

Cycle Length: 201

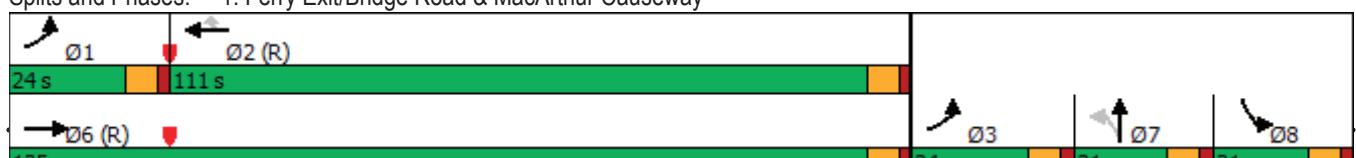
Actuated Cycle Length: 201

Offset: 9 (4%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Ferry Exit/Bridge Road &amp; MacArthur Causeway



Timings  
1: Ferry Exit/Bridge Road & MacArthur Causeway

Existing (Weekday) PM

10/08/2021

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	1.0
Minimum Split (s)	13.8	23.8
Total Split (s)	24.0	24.0
Total Split (%)	12%	12%
Yellow Time (s)	4.8	4.8
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

HCM Signalized Intersection Capacity Analysis  
2: Terminal Isle & FPL Miami Beach Plant & MacArthur Causeway

Existing (Weekday) AM

10/11/2021



Movement	EBT	EBR	EBR2	WBL2	WBL	NBL	NWL2	NWL	NWR
Lane Configurations									
Traffic Volume (vph)	2734	163	93	31	30	0	10	28	1
Future Volume (vph)	2734	163	93	31	30	0	10	28	1
Ideal Flow (vphpl)	1950	1900	1950	1950	1900	1950	1900	1900	1900
Lane Width	12	12	12	8	12	12	12	12	12
Total Lost time (s)	7.3	7.3			6.8			6.0	
Lane Util. Factor	0.91	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.97			1.00			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00	
Fr <sub>t</sub>	1.00	0.85			1.00			1.00	
Flt Protected	1.00	1.00			0.95			0.95	
Satd. Flow (prot)	5119	1512			1662			1620	
Flt Permitted	1.00	1.00			0.95			0.95	
Satd. Flow (perm)	5119	1512			1662			1620	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2848	170	97	32	31	0	10	29	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	36	0
Lane Group Flow (vph)	2848	267	0	0	63	0	0	4	0
Confl. Peds. (#/hr)					9	9		9	5
Confl. Bikes (#/hr)		7	7						
Heavy Vehicles (%)	4%	5%	2%	17%	0%	0%	2%	15%	2%
Turn Type	NA	Perm		Prot	Prot	Prot	Prot	Prot	
Protected Phases	6			5	5	8	37	37	
Permitted Phases		6							
Actuated Green, G (s)	122.9	122.9			10.8			16.2	
Effective Green, g (s)	122.9	122.9			10.8			16.2	
Actuated g/C Ratio	0.72	0.72			0.06			0.10	
Clearance Time (s)	7.3	7.3			6.8				
Vehicle Extension (s)	1.0	1.0			2.0				
Lane Grp Cap (vph)	3700	1093			105			154	
v/s Ratio Prot	c0.56				c0.04			c0.00	
v/s Ratio Perm		0.18							
v/c Ratio	0.77	0.24			0.60			0.02	
Uniform Delay, d1	14.7	7.9			77.5			69.7	
Progression Factor	1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.6	0.5			6.5			0.1	
Delay (s)	16.3	8.5			84.0			69.8	
Level of Service	B	A			F			E	
Approach Delay (s)	15.6				0.0			69.8	
Approach LOS	B				A			E	

Intersection Summary

HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	32.1
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

## Timings

## 2: Terminal Isle &amp; FPL Miami Beach Plant &amp; MacArthur Causeway

Existing (Weekday) AM

10/11/2021



Lane Group	EBT	EBR	EBR2	WBL2	WBL	NBL	NWL2	NWL	NWR	Ø2	Ø3	Ø7
Lane Configurations	↑↑↑	↓			↓	↓		↓				
Traffic Volume (vph)	2734	163	93	31	30	0	10	28	1			
Future Volume (vph)	2734	163	93	31	30	0	10	28	1			
Confl. Peds. (#/hr)				9	9			9	5			
Confl. Bikes (#/hr)		7	7									
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Heavy Vehicles (%)	4%	5%	2%	17%	0%	0%	2%	15%	2%			
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2848	267	0	0	63	0	0	40	0			
Turn Type	NA	Perm		Prot	Prot	Prot	Prot	Prot				
Protected Phases	6			5	5	8	3 7	3 7		2	3	7
Permitted Phases		6										
Detector Phase	6	6		5	5	8	7	7				
Switch Phase												
Minimum Initial (s)	20.0	20.0		5.0	5.0	10.0				20.0	1.0	7.0
Minimum Split (s)	27.3	27.3		12.3	12.3	16.0				27.3	29.0	13.0
Total Split (s)	77.0	77.0		19.0	19.0	32.0				141.0	29.0	13.0
Total Split (%)	45.3%	45.3%		11.2%	11.2%	18.8%				83%	17%	8%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.0				4.8	4.0	4.0
All-Red Time (s)	2.5	2.5		2.0	2.0	2.0				2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0							
Total Lost Time (s)	7.3	7.3		6.8	6.0							
Lead/Lag	Lead	Lead		Lag	Lag	Lead						Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Recall Mode	C-Max	C-Max		None	None	None				C-Max	None	None
v/c Ratio	0.73	0.23			0.60				0.18			
Control Delay	15.8	9.2			99.2				1.7			
Queue Delay	0.0	0.0			0.0				0.0			
Total Delay	15.8	9.2			99.2				1.7			
Queue Length 50th (ft)	521	72			70				0			
Queue Length 95th (ft)	1143	210			123				0			
Internal Link Dist (ft)	231					430			189			
Turn Bay Length (ft)		175										
Base Capacity (vph)	3880	1139			127				223			
Starvation Cap Reductn	0	0			0				0			
Spillback Cap Reductn	0	0			0				0			
Storage Cap Reductn	0	0			0				0			
Reduced v/c Ratio	0.73	0.23			0.50				0.18			

## Intersection Summary

Cycle Length: 170

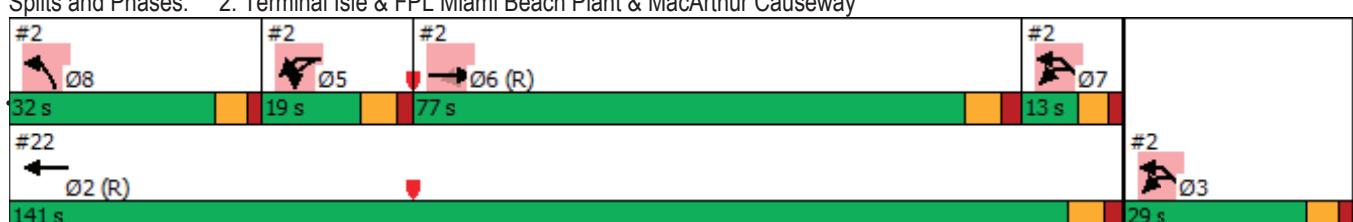
Actuated Cycle Length: 170

Offset: 37 (22%), Referenced to phase 6:EBT and 2:, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 2: Terminal Isle &amp; FPL Miami Beach Plant &amp; MacArthur Causeway



HCM Signalized Intersection Capacity Analysis  
2: Terminal Isle & FPL Miami Beach Plant & MacArthur Causeway

Existing (Weekday) PM

10/11/2021



Movement	EBT	EBR	EBR2	WBL2	WBL	NBL	NWL2	NWL
Lane Configurations	↑↑↑	↗			↖	↘		↖
Traffic Volume (vph)	2126	16	47	18	19	0	1	141
Future Volume (vph)	2126	16	47	18	19	0	1	141
Ideal Flow (vphpl)	1950	1900	1950	1950	1900	1950	1900	1900
Lane Width	12	12	12	8	12	12	12	12
Total Lost time (s)	7.3	7.3			6.8			6.0
Lane Util. Factor	0.91	1.00			1.00			1.00
Frpb, ped/bikes	1.00	0.98			1.00			1.00
Flpb, ped/bikes	1.00	1.00			1.00			1.00
Fr <sub>t</sub>	1.00	0.85			1.00			1.00
Flt Protected	1.00	1.00			0.95			0.95
Satd. Flow (prot)	5219	1550			1703			1753
Flt Permitted	1.00	1.00			0.95			0.95
Satd. Flow (perm)	5219	1550			1703			1753
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2336	18	52	20	21	0	1	155
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	2336	70	0	0	41	0	0	156
Confl. Peds. (#/hr)								
Confl. Bikes (#/hr)		1		1				
Heavy Vehicles (%)	2%	2%	2%	6%	6%	2%	2%	3%
Turn Type	NA	Perm		Prot	Prot	Prot	Prot	Prot
Protected Phases	6			5	5	8	37	37
Permitted Phases		6						
Actuated Green, G (s)	115.0	115.0			7.3			17.6
Effective Green, g (s)	115.0	115.0			7.3			17.6
Actuated g/C Ratio	0.72	0.72			0.05			0.11
Clearance Time (s)	7.3	7.3			6.8			
Vehicle Extension (s)	1.0	1.0			2.0			
Lane Grp Cap (vph)	3751	1114			77			192
v/s Ratio Prot	c0.45				c0.02			c0.09
v/s Ratio Perm		0.05						
v/c Ratio	0.62	0.06			0.53			0.81
Uniform Delay, d1	11.5	6.6			74.7			69.6
Progression Factor	1.00	1.00			1.00			1.00
Incremental Delay, d2	0.8	0.1			3.5			22.4
Delay (s)	12.2	6.7			78.2			91.9
Level of Service	B	A			E			F
Approach Delay (s)	12.1				0.0			91.9
Approach LOS	B				A			F

Intersection Summary

HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	32.1
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

## Timings

Existing (Weekday) PM

## 2: Terminal Isle &amp; FPL Miami Beach Plant &amp; MacArthur Causeway

10/11/2021



Lane Group	EBT	EBR	EBR2	WBL2	WBL	NBL	NWL2	NWL	Ø2	Ø3	Ø7
Lane Configurations	↑↑↑	↗			↘	↖	↙	↗			
Traffic Volume (vph)	2126	16	47	18	19	0	1	141			
Future Volume (vph)	2126	16	47	18	19	0	1	141			
Confl. Peds. (#/hr)											
Confl. Bikes (#/hr)		1	1								
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Heavy Vehicles (%)	2%	2%	2%	6%	6%	2%	2%	3%			
Shared Lane Traffic (%)											
Lane Group Flow (vph)	2336	70	0	0	41	0	0	156			
Turn Type	NA	Perm		Prot	Prot	Prot	Prot	Prot			
Protected Phases	6			5	5	8	3 7	3 7	2	3	7
Permitted Phases		6									
Detector Phase	6	6		5	5	8	7	7			
Switch Phase											
Minimum Initial (s)	20.0	20.0		5.0	5.0	10.0			20.0	1.0	7.0
Minimum Split (s)	27.3	27.3		12.3	12.3	16.0			27.3	29.0	13.0
Total Split (s)	65.0	65.0		16.0	16.0	37.0			131.0	29.0	13.0
Total Split (%)	40.6%	40.6%		10.0%	10.0%	23.1%			82%	18%	8%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.0			4.8	4.0	4.0
All-Red Time (s)	2.5	2.5		2.0	2.0	2.0			2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0						
Total Lost Time (s)	7.3	7.3		6.8	6.0						
Lead/Lag	Lead	Lead		Lag	Lag	Lead				Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes				Yes	
Recall Mode	C-Max	C-Max		None	None	None			C-Max	None	None
v/c Ratio	0.59	0.06			0.47				1.11		
Control Delay	11.9	8.1			89.4				169.4		
Queue Delay	0.0	0.0			0.0				0.0		
Total Delay	11.9	8.1			89.4				169.4		
Queue Length 50th (ft)	316	15			43				~255		
Queue Length 95th (ft)	724	57			85				215		
Internal Link Dist (ft)	231					430			189		
Turn Bay Length (ft)		175									
Base Capacity (vph)	3950	1171			104				140		
Starvation Cap Reductn	0	0			0				0		
Spillback Cap Reductn	0	0			0				0		
Storage Cap Reductn	0	0			0				0		
Reduced v/c Ratio	0.59	0.06			0.39				1.11		

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 158 (99%), Referenced to phase 6:EBT and 2:, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

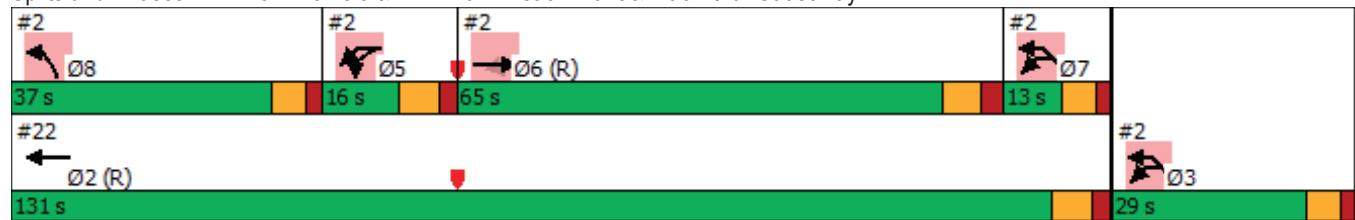
Timings

Existing (Weekday) PM

2: Terminal Isle & FPL Miami Beach Plant & MacArthur Causeway

10/11/2021

Splits and Phases: 2: Terminal Isle & FPL Miami Beach Plant & MacArthur Causeway



## HCM Signalized Intersection Capacity Analysis

3: Alton Road &amp; 5th Street

Existing (Weekday) AM

10/12/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑	↑	↑↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	16	1112	477	30	714	81	224	146	17	78	153	593
Future Volume (vph)	16	1112	477	30	714	81	224	146	17	78	153	593
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0		4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	0.97	1.00		1.00		1.00
Frpb, ped/bikes		1.00	0.94	1.00	1.00	0.98	1.00	0.98		1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00
Fr <sub>t</sub>		1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.98		1.00
Satd. Flow (prot)		3504	1455	1517	3539	1544	3433	1732		1832		1553
Flt Permitted		0.93	1.00	0.95	1.00	1.00	0.95	1.00		0.98		1.00
Satd. Flow (perm)		3266	1455	1517	3539	1544	3433	1732		1832		1553
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)	18	1222	524	33	785	89	246	160	19	86	168	652
RTOR Reduction (vph)	0	0	142	0	0	35	0	3	0	0	0	0
Lane Group Flow (vph)	0	1240	382	33	785	54	246	176	0	0	254	652
Confl. Peds. (#/hr)	3		27	27		3			43	43		
Confl. Bikes (#/hr)			4			5			1			
Heavy Vehicles (%)	0%	3%	4%	19%	2%	3%	2%	7%	0%	0%	3%	4%
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2		1	6		3	3		4	4	
Permitted Phases	2		2			6						Free
Actuated Green, G (s)	96.8	96.8	6.2	109.0	109.0	22.7	22.7			30.3	180.0	
Effective Green, g (s)	96.8	96.8	6.2	109.0	109.0	22.7	22.7			30.3	180.0	
Actuated g/C Ratio	0.54	0.54	0.03	0.61	0.61	0.13	0.13			0.17	1.00	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0		
Vehicle Extension (s)	1.0	1.0	2.0	1.0	1.0	3.0	3.0			3.5		
Lane Grp Cap (vph)	1756	782	52	2143	934	432	218			308	1553	
v/s Ratio Prot			0.02	0.22		0.07	c0.10			c0.14		
v/s Ratio Perm	c0.38	0.26			0.03						c0.42	
v/c Ratio	0.71	0.49	0.63	0.37	0.06	0.57	0.81			0.82	0.42	
Uniform Delay, d1	31.0	26.1	85.8	18.0	14.5	74.0	76.5			72.3	0.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	2.2	17.1	0.5	0.1	1.7	19.4			16.6	0.8	
Delay (s)	33.4	28.3	102.9	18.5	14.6	75.8	95.9			88.9	0.8	
Level of Service	C	C	F	B	B	E	F			F	A	
Approach Delay (s)	31.9			21.2			84.3			25.5		
Approach LOS	C			C			F			C		
<b>Intersection Summary</b>												
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service						C				
HCM 2000 Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	180.0	Sum of lost time (s)						24.0				
Intersection Capacity Utilization	82.4%	ICU Level of Service						E				
Analysis Period (min)	15											
c Critical Lane Group												

Timings  
3: Alton Road & 5th Street

Existing (Weekday) AM

10/12/2021

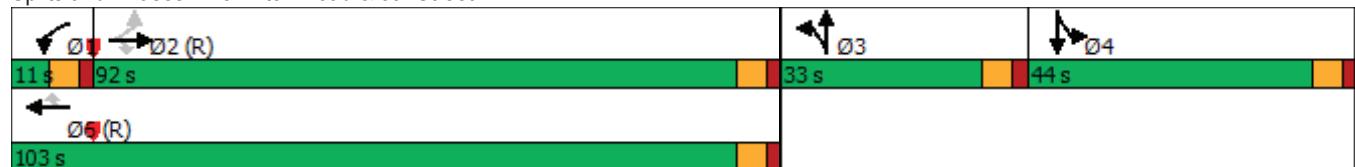
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↑↑	↑	↑	↑↑	↑	↑↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	16	1112	477	30	714	81	224	146	17	78	153	593
Future Volume (vph)	16	1112	477	30	714	81	224	146	17	78	153	593
Confl. Peds. (#/hr)	3		27	27		3			43	43		
Confl. Bikes (#/hr)						5			1			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	4%	19%	2%	3%	2%	7%	0%	0%	3%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1240	524	33	785	89	246	179	0	0	254	652
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2		1	6		3	3		4	4	
Permitted Phases	2		2			6						Free
Detector Phase	2	2	2	1	6	6	3	3		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	35.0	35.0	35.0	11.0	13.0	13.0	23.0	23.0		31.0	31.0	
Total Split (s)	92.0	92.0	92.0	11.0	103.0	103.0	33.0	33.0		44.0	44.0	
Total Split (%)	51.1%	51.1%	51.1%	6.1%	57.2%	57.2%	18.3%	18.3%		24.4%	24.4%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lead				Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				Yes	Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
v/c Ratio	0.70	0.56	0.53	0.37	0.09	0.57	0.81			0.82	0.42	
Control Delay	35.3	14.2	110.3	19.8	3.5	78.8	101.6			93.3	0.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	
Total Delay	35.3	14.2	110.3	19.8	3.5	78.8	101.6			93.3	0.8	
Queue Length 50th (ft)	596	172	39	243	0	142	205			294	0	
Queue Length 95th (ft)	740	316	#115	335	29	188	293			386	0	
Internal Link Dist (ft)	300			275				278		324		
Turn Bay Length (ft)		225	125									
Base Capacity (vph)	1776	931	62	2142	969	514	262			386	1553	
Starvation Cap Reductn	0	0	0	0	0	0	0			0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0			0	0	
Storage Cap Reductn	0	0	0	0	0	0	0			0	0	
Reduced v/c Ratio	0.70	0.56	0.53	0.37	0.09	0.48	0.68			0.66	0.42	
<b>Intersection Summary</b>												
Cycle Length: 180												
Actuated Cycle Length: 180												
Offset: 37 (21%), Referenced to phase 2:EBTL and 6:WBT, Start of Green												
Natural Cycle: 110												
Control Type: Actuated-Coordinated												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Timings  
3: Alton Road & 5th Street

Existing (Weekday) AM

10/12/2021

Splits and Phases: 3: Alton Road & 5th Street



# HCM Signalized Intersection Capacity Analysis

3: Alton Road & 5th Street

Existing (Weekday) PM

10/12/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑	↑	↑↑	↑↑	↑	↑	↑	↑
Traffic Volume (vph)	12	653	386	19	1015	133	376	181	21	73	226	666
Future Volume (vph)	12	653	386	19	1015	133	376	181	21	73	226	666
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	4.0	
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	0.97	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.94	1.00	1.00	0.99	1.00	0.98		1.00	0.98	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Fr <sub>t</sub>		1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.99	1.00	
Satd. Flow (prot)		3492	1484	1480	3539	1563	3433	1805		1840	1559	
Flt Permitted		0.92	1.00	0.95	1.00	1.00	0.95	1.00		0.99	1.00	
Satd. Flow (perm)		3223	1484	1480	3539	1563	3433	1805		1840	1559	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	710	420	21	1103	145	409	197	23	79	246	724
RTOR Reduction (vph)	0	0	216	0	0	65	0	3	0	0	0	0
Lane Group Flow (vph)	0	723	204	21	1103	80	409	217	0	0	325	724
Confl. Peds. (#/hr)	1		34	34		1	2		51	51		2
Confl. Bikes (#/hr)			6			1			10			13
Heavy Vehicles (%)	73%	2%	2%	22%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2			1	6		3	3		4	4
Permitted Phases	2		2			6						Free
Actuated Green, G (s)	67.9	67.9	3.0	76.9	76.9	18.0	18.0				27.1	140.0
Effective Green, g (s)	67.9	67.9	3.0	76.9	76.9	18.0	18.0				27.1	140.0
Actuated g/C Ratio	0.49	0.49	0.02	0.55	0.55	0.13	0.13				0.19	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0				6.0	
Vehicle Extension (s)	1.0	1.0	2.0	1.0	1.0	3.0	3.0				3.5	
Lane Grp Cap (vph)		1563	719	31	1943	858	441	232			356	1559
v/s Ratio Prot				0.01	c0.31		0.12	c0.12			c0.18	
v/s Ratio Perm	0.22	0.14				0.05					c0.46	
v/c Ratio	0.46	0.28	0.68	0.57	0.09	0.93	0.94				0.91	0.46
Uniform Delay, d1	23.9	21.5	68.0	20.7	15.0	60.4	60.4				55.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	1.0	1.0	37.4	1.2	0.2	25.5	41.6				27.3	1.0
Delay (s)	24.9	22.5	105.4	21.9	15.2	85.9	102.0				82.6	1.0
Level of Service	C	C	F	C	B	F	F				F	A
Approach Delay (s)	24.0				22.5			91.5			26.3	
Approach LOS	C				C			F			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		34.5			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		140.0			Sum of lost time (s)			24.0				
Intersection Capacity Utilization		86.2%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

Timings  
3: Alton Road & 5th Street

Existing (Weekday) PM

10/12/2021

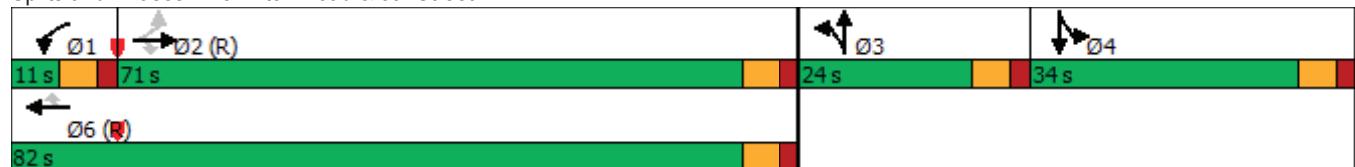
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↑↑	↑	↑	↑↑	↑	↑↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	12	653	386	19	1015	133	376	181	21	73	226	666
Future Volume (vph)	12	653	386	19	1015	133	376	181	21	73	226	666
Confl. Peds. (#/hr)	1		34	34		1	2		51	51		2
Confl. Bikes (#/hr)			6			1			10			13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	73%	2%	2%	22%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	723	420	21	1103	145	409	220	0	0	325	724
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	Free
Protected Phases		2		1	6		3	3		4	4	
Permitted Phases	2		2			6						Free
Detector Phase	2	2	2	1	6	6	3	3		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	35.0	35.0	35.0	11.0	13.0	13.0	23.0	23.0		31.0	31.0	
Total Split (s)	71.0	71.0	71.0	11.0	82.0	82.0	24.0	24.0		34.0	34.0	
Total Split (%)	50.7%	50.7%	50.7%	7.9%	58.6%	58.6%	17.1%	17.1%		24.3%	24.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lead				Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				Yes	Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
v/c Ratio	0.45	0.44	0.40	0.57	0.16	0.93	0.94			0.91	0.46	
Control Delay	24.4	3.5	88.4	22.3	2.7	88.1	104.3			85.2	1.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	
Total Delay	24.4	3.5	88.4	22.3	2.7	88.1	104.3			85.2	1.0	
Queue Length 50th (ft)	235	0	19	339	0	192	199			291	0	
Queue Length 95th (ft)	292	58	#49	406	32	#291	#364			#461	0	
Internal Link Dist (ft)	300			275				278				324
Turn Bay Length (ft)		225	125									
Base Capacity (vph)	1618	954	52	1944	923	441	234			368	1559	
Starvation Cap Reductn	0	0	0	0	0	0	0			0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0			0	0	
Storage Cap Reductn	0	0	0	0	0	0	0			0	0	
Reduced v/c Ratio	0.45	0.44	0.40	0.57	0.16	0.93	0.94			0.88	0.46	
<b>Intersection Summary</b>												
Cycle Length: 140												
Actuated Cycle Length: 140												
Offset: 57 (41%), Referenced to phase 2:EBTL and 6:WBT, Start of Green												
Natural Cycle: 100												
Control Type: Actuated-Coordinated												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Timings  
3: Alton Road & 5th Street

Existing (Weekday) PM

10/12/2021

Splits and Phases: 3: Alton Road & 5th Street



## Intersection

Int Delay, s/veh 0.1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations ↑↑↑↑↑↑

Traffic Vol, veh/h 2726 0 0 1877 0 19

Future Vol, veh/h 2726 0 0 1877 0 19

Conflicting Peds, #/hr 0 2 2 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - - 0

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 96 96 96 96 96 96

Heavy Vehicles, % 4 0 0 3 0 17

Mvmt Flow 2840 0 0 1955 0 20

Major/Minor Major1 Major2 Minor1

Conflicting Flow All 0 - - - - 1420

Stage 1 - - - - - -

Stage 2 - - - - - -

Critical Hdwy - - - - - 6.4

Critical Hdwy Stg 1 - - - - - -

Critical Hdwy Stg 2 - - - - - -

Follow-up Hdwy - - - - - 4.0615

Pot Cap-1 Maneuver - 0 0 - 0 142

Stage 1 - 0 0 - 0 -

Stage 2 - 0 0 - 0 -

Platoon blocked, % - - -

Mov Cap-1 Maneuver - - - - - 142

Mov Cap-2 Maneuver - - - - - -

Stage 1 - - - - - -

Stage 2 - - - - - -

Approach EB WB NB

HCM Control Delay, s 0 0 34.4

HCM LOS D

Minor Lane/Major Mvmt NBLn1 EBT WBT

Capacity (veh/h) 142 - -

HCM Lane V/C Ratio 0.139 - -

HCM Control Delay (s) 34.4 - -

HCM Lane LOS D - -

HCM 95th %tile Q(veh) 0.5 - -

**Intersection**

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	2124	0	0	37	0	23
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Future Vol, veh/h	2124	0	0	37	0	23
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Conflicting Peds, #/hr	0	0	0	0	0	1
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	-	0
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	2309	0	0	40	0	25
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	-	-	-	-	1156
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Stage 1	-	-	-	-	-	-
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Stage 2	-	-	-	-	-	-
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Critical Hdwy	-	-	-	-	-	7.13
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Critical Hdwy Stg 1	-	-	-	-	-	-
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Critical Hdwy Stg 2	-	-	-	-	-	-
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Follow-up Hdwy	-	-	-	-	-	3.919
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Pot Cap-1 Maneuver	-	0	0	-	0	164
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Stage 1	-	0	0	-	0	-
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Stage 2	-	0	0	-	0	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	-	-	-	164
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Mov Cap-2 Maneuver	-	-	-	-	-	-
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Stage 1	-	-	-	-	-	-
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Stage 2	-	-	-	-	-	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0	30.9
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HCM LOS			D
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Minor Lane/Major Mvmt	NBLn1	EBT	WBT
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Capacity (veh/h)	164	-	-
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HCM Lane V/C Ratio	0.152	-	-
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HCM Control Delay (s)	30.9	-	-
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HCM Lane LOS	D	-	-
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HCM 95th %tile Q(veh)	0.5	-	-
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# **Weekday Future without Project Conditions**

HCM Signalized Intersection Capacity Analysis  
1: Ferry Exit/Bridge Road & MacArthur Causeway

Future without Project (Weekday) AM

10/05/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↑			↑↑↑	↑		↔		↑		
Traffic Volume (vph)	45	3036	0	0	1853	17	31	2	0	11	0	14
Future Volume (vph)	45	3036	0	0	1853	17	31	2	0	11	0	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8			6.8	6.8		6.8		6.8	4.0	
Lane Util. Factor	1.00	0.91			0.91	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00		1.00	0.93	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		0.99		1.00	1.00	
Frt	1.00	1.00			1.00	0.85		1.00		1.00	0.86	
Flt Protected	0.95	1.00			1.00	1.00		0.96		0.95	1.00	
Satd. Flow (prot)	1671	5036			5036	1484		1797		1805	0	
Flt Permitted	0.95	1.00			1.00	1.00		0.96		0.95	1.00	
Satd. Flow (perm)	1671	5036			5036	1484		1797		1805	0	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	47	3162	0	0	1930	18	32	2	0	11	0	15
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	15	0
Lane Group Flow (vph)	47	3163	0	0	1930	14	0	34	0	11	0	0
Confl. Peds. (#/hr)	6		4	4		6	1					1
Confl. Bikes (#/hr)			7			4						
Heavy Vehicles (%)	8%	3%	0%	0%	3%	6%	0%	0%	0%	0%	0%	8%
Turn Type	Prot	NA			NA	Perm	Perm	NA		Prot		
Protected Phases	1 3	6			2			7		8		
Permitted Phases					2		7					
Actuated Green, G (s)	9.7	181.3			164.8	164.8		6.0		3.3	0.0	
Effective Green, g (s)	9.7	181.3			164.8	164.8		6.0		3.3	0.0	
Actuated g/C Ratio	0.05	0.86			0.78	0.78		0.03		0.02	0.00	
Clearance Time (s)		6.8			6.8	6.8		6.8		6.8		
Vehicle Extension (s)		1.0			1.0	1.0		0.2		3.0		
Lane Grp Cap (vph)	76	4327			3933	1159		51		28	0	
v/s Ratio Prot	0.03	c0.63			0.38					c0.01		
v/s Ratio Perm						0.01		0.02				
v/c Ratio	0.62	0.73			0.49	0.01		0.67		0.39	0.00	
Uniform Delay, d1	98.8	5.6			8.2	5.1		101.5		102.9	105.5	
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	12.1	1.1			0.4	0.0		22.6		8.9	0.0	
Delay (s)	111.0	6.7			8.6	5.1		124.1		111.7	105.5	
Level of Service	F	A			A	A		F		F	F	
Approach Delay (s)		8.3			8.6			124.1			108.1	
Approach LOS		A			A			F			F	
Intersection Summary												
HCM 2000 Control Delay		9.6			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.78										
Actuated Cycle Length (s)		211.0			Sum of lost time (s)			34.0				
Intersection Capacity Utilization		Err%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

## Timings

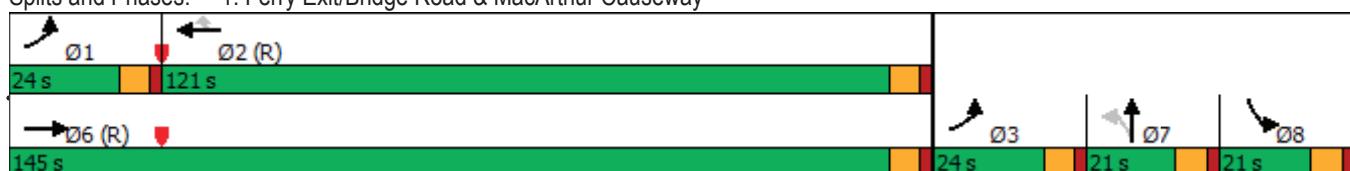
1: Ferry Exit/Bridge Road &amp; MacArthur Causeway

Future without Project (Weekday) AM

10/05/2021

	↑	→	↓	↶	←	↗	↖	↑	↗	↖	↓	↶
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↑			↑↑↑	↑		↔		↑		
Traffic Volume (vph)	45	3036	0	0	1853	17	31	2	0	11	0	14
Future Volume (vph)	45	3036	0	0	1853	17	31	2	0	11	0	14
Confl. Peds. (#/hr)	6		4	4		6	1					1
Confl. Bikes (#/hr)			7			4						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	8%	3%	0%	0%	3%	6%	0%	0%	0%	0%	0%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	3163	0	0	1930	18	0	34	0	11	15	0
Turn Type	Prot	NA			NA	Perm	Perm	NA		Prot		
Protected Phases	1 3	6			2			7		8		
Permitted Phases					2	7						
Detector Phase	1	6			2	2	7	7		8		
Switch Phase												
Minimum Initial (s)		18.0			18.0	18.0	1.0	1.0		5.0		
Minimum Split (s)		24.8			24.8	24.8	14.0	14.0		20.8		
Total Split (s)		145.0			121.0	121.0	21.0	21.0		21.0		
Total Split (%)		68.7%			57.3%	57.3%	10.0%	10.0%		10.0%		
Yellow Time (s)		4.8			4.8	4.8	4.8	4.8		4.8		
All-Red Time (s)		2.0			2.0	2.0	2.0	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.8			6.8	6.8	6.8	6.8		6.8		
Lead/Lag					Lag	Lag	Lag	Lag				
Lead-Lag Optimize?					Yes	Yes	Yes	Yes				
Recall Mode		C-Max			C-Max	C-Max	None	None		None		
v/c Ratio	0.53	0.70			0.47	0.01	0.61	0.19	0.09			
Control Delay	118.2	6.3			8.5	0.0	140.5	105.9	0.0			
Queue Delay	0.0	0.0			0.5	0.0	0.0	0.0	0.0	0.0		
Total Delay	118.2	6.3			9.0	0.0	140.5	105.9	0.0			
Queue Length 50th (ft)	65	308			254	0	48	15	0			
Queue Length 95th (ft)	118	741			474	0	94	43	0			
Internal Link Dist (ft)		886			389		350			366		
Turn Bay Length (ft)	150				100							
Base Capacity (vph)	136	4490			4129	1237	121	121	160			
Starvation Cap Reductn	0	0			1544	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.35	0.70			0.75	0.01	0.28	0.09	0.09			
<b>Intersection Summary</b>												
Cycle Length: 211												
Actuated Cycle Length: 211												
Offset: 58 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green												
Natural Cycle: 150												
Control Type: Actuated-Coordinated												

Splits and Phases: 1: Ferry Exit/Bridge Road &amp; MacArthur Causeway



## Timings

1: Ferry Exit/Bridge Road &amp; MacArthur Causeway

Future without Project (Weekday) AM

10/05/2021

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	1.0
Minimum Split (s)	13.8	23.8
Total Split (s)	24.0	24.0
Total Split (%)	11%	11%
Yellow Time (s)	4.8	4.8
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

HCM Signalized Intersection Capacity Analysis  
1: Ferry Exit/Bridge Road & MacArthur Causeway

Future without Project (Weekday) PM

10/06/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2211	0	0	2403	10	68	1	1	8	0	36
Future Volume (vph)	10	2211	0	0	2403	10	68	1	1	8	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8			6.8	6.8			6.8	6.8	4.0	
Lane Util. Factor	1.00	0.91			0.91	1.00			1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.98			1.00	1.00	0.94	
Flpb, ped/bikes	1.00	1.00			1.00	1.00			1.00	1.00	1.00	
Fr <sub>t</sub>	1.00	1.00			1.00	0.85			1.00	1.00	0.86	
Flt Protected	0.95	1.00			1.00	1.00			0.95	0.95	1.00	
Satd. Flow (prot)	1770	5085			5085	1546			1773	1770	0	
Flt Permitted	0.95	1.00			1.00	1.00			0.95	0.95	1.00	
Satd. Flow (perm)	1770	5085			5085	1546			1773	1770	0	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	11	2484	0	0	2700	11	76	1	1	9	0	40
RTOR Reduction (vph)	0	0	0	0	0	3	0	0	0	0	40	0
Lane Group Flow (vph)	11	2484	0	0	2700	8	0	78	0	9	0	0
Confl. Peds. (#/hr)	2				2				1	1		
Confl. Bikes (#/hr)					4						1	
Turn Type	Prot	NA		NA	Perm	Perm	NA		Prot			
Protected Phases	1 3	6		2			7		8			
Permitted Phases					2	7						
Actuated Green, G (s)	6.2	155.2		145.6	145.6		11.0		4.2	0.0		
Effective Green, g (s)	6.2	155.2		145.6	145.6		11.0		4.2	0.0		
Actuated g/C Ratio	0.03	0.77		0.72	0.72		0.05		0.02	0.00		
Clearance Time (s)		6.8		6.8	6.8		6.8		6.8			
Vehicle Extension (s)		1.0		1.0	1.0		0.2		3.0			
Lane Grp Cap (vph)	54	3926		3683	1119		97		36	0		
v/s Ratio Prot	c0.01	c0.49		c0.53					c0.01			
v/s Ratio Perm					0.01		0.04					
v/c Ratio	0.20	0.63		0.73	0.01		0.80		0.25	0.00		
Uniform Delay, d1	95.0	10.2		16.3	7.7		93.9		96.8	100.5		
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	1.00		
Incremental Delay, d2	1.4	0.8		1.3	0.0		34.9		3.6	0.0		
Delay (s)	96.4	11.0		17.6	7.7		128.9		100.5	100.5		
Level of Service	F	B		B	A		F		F	F		
Approach Delay (s)		11.4		17.6			128.9			100.5		
Approach LOS		B		B			F			F		
Intersection Summary												
HCM 2000 Control Delay		17.1		HCM 2000 Level of Service				B				
HCM 2000 Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		201.0		Sum of lost time (s)				34.0				
Intersection Capacity Utilization		Err%		ICU Level of Service				H				
Analysis Period (min)		15										
c Critical Lane Group												

## Timings

1: Ferry Exit/Bridge Road &amp; MacArthur Causeway

Future without Project (Weekday) PM

10/06/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations	↑	↑↑↑			↑↑↑	↑		↔		↑		
Traffic Volume (vph)	10	2211	0	0	2403	10	68	1	1	8	0	36
Future Volume (vph)	10	2211	0	0	2403	10	68	1	1	8	0	36
Confl. Peds. (#/hr)	2					2			1	1		
Confl. Bikes (#/hr)						4						1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	2484	0	0	2700	11	0	78	0	9	40	0
Turn Type	Prot	NA			NA	Perm	Perm	NA		Prot		
Protected Phases	1 3	6			2			7		8		
Permitted Phases						2	7					
Detector Phase	1	6			2	2	7	7		8		
Switch Phase												
Minimum Initial (s)	18.0				18.0	18.0	1.0	1.0		5.0		
Minimum Split (s)	24.8				24.8	24.8	14.0	14.0		20.8		
Total Split (s)	135.0				111.0	111.0	21.0	21.0		21.0		
Total Split (%)	67.2%				55.2%	55.2%	10.4%	10.4%		10.4%		
Yellow Time (s)	4.8				4.8	4.8	4.8	4.8		4.8		
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0		2.0		
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0		0.0		
Total Lost Time (s)	6.8				6.8	6.8	6.8	6.8		6.8		
Lead/Lag					Lag	Lag	Lag	Lag				
Lead-Lag Optimize?					Yes	Yes	Yes	Yes				
Recall Mode		C-Max			C-Max	C-Max	None	None		None		
v/c Ratio	0.12	0.60			0.67	0.01		0.80		0.13	0.24	
Control Delay	75.2	10.2			15.6	0.0		142.7		95.4	0.0	
Queue Delay	0.0	0.0			2.2	0.0		0.0		0.0	0.0	
Total Delay	75.2	10.2			17.8	0.0		142.7		95.4	0.0	
Queue Length 50th (ft)	14	235			280	0		104		12	0	
Queue Length 95th (ft)	26	846			1201	0		167		34	0	
Internal Link Dist (ft)		886			389			350			366	
Turn Bay Length (ft)	150				100							
Base Capacity (vph)	181	4165			4026	1249		125		125	168	
Starvation Cap Reductn	0	0			1137	0		0		0	0	
Spillback Cap Reductn	0	0			0	0		0		0	0	
Storage Cap Reductn	0	0			0	0		0		0	0	
Reduced v/c Ratio	0.06	0.60			0.93	0.01		0.62		0.07	0.24	

## Intersection Summary

Cycle Length: 201

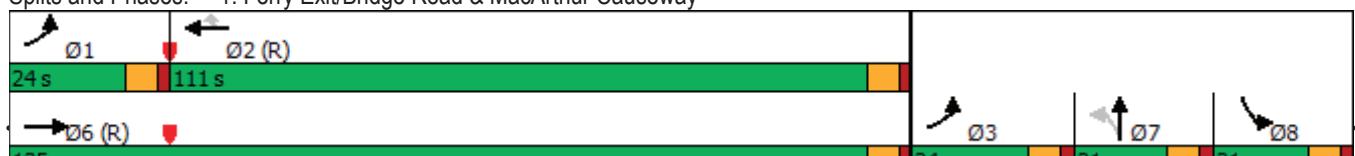
Actuated Cycle Length: 201

Offset: 9 (4%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Ferry Exit/Bridge Road &amp; MacArthur Causeway



## Timings

1: Ferry Exit/Bridge Road &amp; MacArthur Causeway

Future without Project (Weekday) PM

10/06/2021

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	1.0
Minimum Split (s)	13.8	23.8
Total Split (s)	24.0	24.0
Total Split (%)	12%	12%
Yellow Time (s)	4.8	4.8
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	None
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		



Movement	EBT	EBR	EBR2	WBL2	WBL	NBL	NWL2	NWL	NWR
Lane Configurations	↑↑↑	↗			↖	↘		↖	↗
Traffic Volume (vph)	2789	167	95	31	30	0	10	28	1
Future Volume (vph)	2789	167	95	31	30	0	10	28	1
Ideal Flow (vphpl)	1950	1900	1950	1950	1900	1950	1900	1900	1900
Lane Width	12	12	12	8	12	12	12	12	12
Total Lost time (s)	7.3	7.3			6.8			6.0	
Lane Util. Factor	0.91	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.97			1.00			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00	
Fr <sub>t</sub>	1.00	0.85			1.00			1.00	
Flt Protected	1.00	1.00			0.95			0.95	
Satd. Flow (prot)	5119	1512			1662			1620	
Flt Permitted	1.00	1.00			0.95			0.95	
Satd. Flow (perm)	5119	1512			1662			1620	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2905	174	99	32	31	0	10	29	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	36	0
Lane Group Flow (vph)	2905	273	0	0	63	0	0	4	0
Confl. Peds. (#/hr)					9	9		9	5
Confl. Bikes (#/hr)		7	7						
Heavy Vehicles (%)	4%	5%	2%	17%	0%	0%	2%	15%	2%
Turn Type	NA	Perm		Prot	Prot	Prot	Prot	Prot	
Protected Phases	6			5	5	8	37	37	
Permitted Phases		6							
Actuated Green, G (s)	122.9	122.9			10.8			16.2	
Effective Green, g (s)	122.9	122.9			10.8			16.2	
Actuated g/C Ratio	0.72	0.72			0.06			0.10	
Clearance Time (s)	7.3	7.3			6.8				
Vehicle Extension (s)	1.0	1.0			2.0				
Lane Grp Cap (vph)	3700	1093			105			154	
v/s Ratio Prot	c0.57				c0.04			c0.00	
v/s Ratio Perm		0.18							
v/c Ratio	0.79	0.25			0.60			0.02	
Uniform Delay, d1	15.1	8.0			77.5			69.7	
Progression Factor	1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.7	0.5			6.5			0.1	
Delay (s)	16.8	8.5			84.0			69.8	
Level of Service	B	A			F			E	
Approach Delay (s)	16.1				0.0			69.8	
Approach LOS	B				A			E	

**Intersection Summary**

HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	32.1
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

## Timings

Future without Project (Weekday) AM

2: Terminal Isle &amp; FPL Miami Beach Plant &amp; MacArthur Causeway

10/11/2021



Lane Group	EBT	EBR	EBR2	WBL2	WBL	NBL	NWL2	NWL	NWR	Ø2	Ø3	Ø7
Lane Configurations	↑↑↑	↗			↖	↘		↖				
Traffic Volume (vph)	2789	167	95	31	30	0	10	28	1			
Future Volume (vph)	2789	167	95	31	30	0	10	28	1			
Confl. Peds. (#/hr)				9	9			9	5			
Confl. Bikes (#/hr)		7	7									
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Heavy Vehicles (%)	4%	5%	2%	17%	0%	0%	2%	15%	2%			
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2905	273	0	0	63	0	0	40	0			
Turn Type	NA	Perm		Prot	Prot	Prot	Prot	Prot	Prot			
Protected Phases	6			5	5	8	3 7	3 7		2	3	7
Permitted Phases		6										
Detector Phase	6	6		5	5	8	7	7				
Switch Phase												
Minimum Initial (s)	20.0	20.0		5.0	5.0	10.0				20.0	1.0	7.0
Minimum Split (s)	27.3	27.3		12.3	12.3	16.0				27.3	29.0	13.0
Total Split (s)	77.0	77.0		19.0	19.0	32.0				141.0	29.0	13.0
Total Split (%)	45.3%	45.3%		11.2%	11.2%	18.8%				83%	17%	8%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.0				4.8	4.0	4.0
All-Red Time (s)	2.5	2.5		2.0	2.0	2.0				2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0							
Total Lost Time (s)	7.3	7.3		6.8	6.0							
Lead/Lag	Lead	Lead		Lag	Lag	Lead						Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						Yes
Recall Mode	C-Max	C-Max		None	None	None				C-Max	None	None
v/c Ratio	0.75	0.24			0.60			0.18				
Control Delay	16.1	9.3			99.2			1.7				
Queue Delay	0.0	0.0			0.0			0.0				
Total Delay	16.1	9.3			99.2			1.7				
Queue Length 50th (ft)	545	74			70			0				
Queue Length 95th (ft)	#1216	214			123			0				
Internal Link Dist (ft)	231					430		189				
Turn Bay Length (ft)		175										
Base Capacity (vph)	3880	1139			127			223				
Starvation Cap Reductn	0	0			0			0				
Spillback Cap Reductn	0	0			0			0				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.75	0.24			0.50			0.18				

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 37 (22%), Referenced to phase 6:EBT and 2:, Start of Green

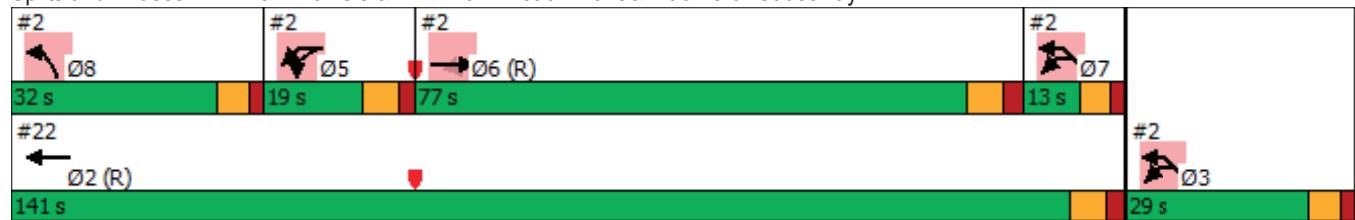
Natural Cycle: 150

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Terminal Isle & FPL Miami Beach Plant & MacArthur Causeway





Movement	EBT	EBR	EBR2	WBL2	WBL	NBL	NWL2	NWL
Lane Configurations								
Traffic Volume (vph)	2169	16	48	18	19	0	1	144
Future Volume (vph)	2169	16	48	18	19	0	1	144
Ideal Flow (vphpl)	1950	1900	1950	1950	1900	1950	1900	1900
Lane Width	12	12	12	8	12	12	12	12
Total Lost time (s)	7.3	7.3			6.8			6.0
Lane Util. Factor	0.91	1.00			1.00			1.00
Frpb, ped/bikes	1.00	0.98			1.00			1.00
Flpb, ped/bikes	1.00	1.00			1.00			1.00
Fr <sub>t</sub>	1.00	0.85			1.00			1.00
Flt Protected	1.00	1.00			0.95			0.95
Satd. Flow (prot)	5219	1550			1703			1753
Flt Permitted	1.00	1.00			0.95			0.95
Satd. Flow (perm)	5219	1550			1703			1753
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2384	18	53	20	21	0	1	158
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	2384	71	0	0	41	0	0	159
Confl. Peds. (#/hr)								
Confl. Bikes (#/hr)		1	1					
Heavy Vehicles (%)	2%	2%	2%	6%	6%	2%	2%	3%
Turn Type	NA	Perm		Prot	Prot	Prot	Prot	Prot
Protected Phases	6			5	5	8	37	37
Permitted Phases	6							
Actuated Green, G (s)	115.0	115.0			7.3			17.6
Effective Green, g (s)	115.0	115.0			7.3			17.6
Actuated g/C Ratio	0.72	0.72			0.05			0.11
Clearance Time (s)	7.3	7.3			6.8			
Vehicle Extension (s)	1.0	1.0			2.0			
Lane Grp Cap (vph)	3751	1114			77			192
v/s Ratio Prot	c0.46				c0.02			c0.09
v/s Ratio Perm		0.05						
v/c Ratio	0.64	0.06			0.53			0.83
Uniform Delay, d1	11.6	6.6			74.7			69.7
Progression Factor	1.00	1.00			1.00			1.00
Incremental Delay, d2	0.8	0.1			3.5			24.4
Delay (s)	12.5	6.7			78.2			94.2
Level of Service	B	A			E			F
Approach Delay (s)	12.3				0.0			94.2
Approach LOS	B				A			F

**Intersection Summary**

HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	32.1
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group