## Terminal Island M I A M I B E A C H <br> Traffic Study

## Terminal Island



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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 / $5^{\text {th }}$ 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 $/ 5^{\text {th }}$ 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 $/ 5^{\text {th }}$ 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.


Project Location

## Exhibit 1

NORTH
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 MiamiDade 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, $10^{\text {th }}$ 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 transportations. 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 sixlane, 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.

## $5^{\text {th }}$ 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 onstreet 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 35 mph .

### 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 om) peak periods of a typical weekday and the $\mathrm{AM}(10 \mathrm{am}-12 \mathrm{pm})$ and $\mathrm{PM}(2: 30 \mathrm{pm}-4: 30 \mathrm{pm})$ 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
(00) PM

Project Location
Exhibit 2
Existing Weekday AM \& PM Peak Traffic Volumes
$\qquad$


00 AM
(00) PM
00 AM
(00) PM
Project Location
Exhibit 3
Existing Weekend AM \& PM Peak Traffic Volumes
Existing Neekend AM \& M Peak Traffic Volumes
NORTH


Project Location
Exhibit 4

### 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 $/ 5^{\text {th }}$ 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 $5^{\text {th }}$ 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 <br> Peak <br> LOS | Delay (Sec) | PM <br> Peak <br> LOS | Delay (Sec) | LOS <br> Standard |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MacArthur <br> Causeway / Bridge <br> Road (Star Island) | S | NB SB EB <br> WB Overall | $\begin{aligned} & \mathrm{F} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 124.1 \\ 108.1 \\ 8.0 \\ 8.5 \\ 9.5 \end{gathered}$ | $\begin{aligned} & \mathrm{F} \\ & \mathrm{~F} \\ & \mathrm{~B} \\ & \mathrm{~B} \\ & \boldsymbol{B} \end{aligned}$ | $\begin{gathered} 128.9 \\ 100.4 \\ 11.1 \\ 17.1 \\ \mathbf{1 6 . 7} \end{gathered}$ | $\begin{gathered} \mathrm{D}+50 \\ \mathrm{D} \\ \mathrm{D}+50 \\ \mathrm{D}+50 \\ \mathrm{D}+ \end{gathered}$ |
| MacArthur <br> Causeway / <br> Terminal Isle | S | NB ${ }_{\text {FPL }}$ <br> $\mathrm{NWB}_{\text {T.I }}$ <br> EBCswy. WBLcswy. Overall | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+27 \\ \mathrm{~B} \\ \mathrm{~F} \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} 0.0 \\ 69.8 \\ 15.6 \\ 84.0 \\ 17.6 \end{gathered}$ | $\begin{gathered} \mathrm{A} \\ \mathrm{~F} \\ \mathrm{~B} \\ \mathrm{D}+42 \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} 0.0 \\ 91.9 \\ 12.1 \\ 78.2 \\ \mathbf{1 7 . 9} \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| Alton Road / <br> $5^{\text {th }}$ Street | S | NB <br> SB <br> EB <br> WB <br> Overall | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 84.3 \\ & 25.5 \\ & 31.9 \\ & 21.2 \\ & 33.6 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 91.5 \\ & 26.3 \\ & 24.0 \\ & 22.5 \\ & 34.5 \end{aligned}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| MacArthur <br> Causeway / <br> 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 $/ 5^{\text {th }}$ 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 <br> Peak <br> LOS | Delay (Sec) | PM <br> Peak <br> LOS | Delay (Sec) | LOS <br> Standard |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MacArthur <br> Causeway / Bridge <br> Road (Star Island) | S | NB SB EB WB <br> Overall | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 0.0 \\ 94.6 \\ 6.1 \\ 7.3 \\ 6.8 \end{gathered}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 0.0 \\ 96.8 \\ 2.9 \\ 5.7 \\ 4.7 \end{gathered}$ | $\begin{gathered} \mathrm{D}+50 \\ \mathrm{D} \\ \mathrm{D}+50 \\ \mathrm{D}+50 \\ \mathrm{D}+ \end{gathered}$ |
| MacArthur <br> Causeway / <br> Terminal Isle | S | $\mathrm{NB}_{\text {FpL }}$ <br> $\mathrm{NWB}_{\text {T.I }}$ <br> EBCswy. WBLcswy. Overall | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+27 \\ \mathrm{~A} \\ \mathrm{D}+31 \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} 0.0 \\ 69.7 \\ 8.6 \\ 72.2 \\ 10.4 \end{gathered}$ | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+25 \\ \mathrm{~B} \\ \mathrm{D}+30 \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} \hline 0.0 \\ 68.6 \\ 10.3 \\ 71.6 \\ \mathbf{1 2 . 6} \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| Alton Road / $5^{\text {th }}$ Street | S | NB <br> SB <br> EB <br> WB <br> Overall | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{~B} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 86.0 \\ & 28.7 \\ & 27.6 \\ & 18.7 \\ & 31.9 \end{aligned}$ | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{D} \end{aligned}$ | $\begin{gathered} 114.6 \\ 27.3 \\ 29.7 \\ 22.7 \\ 114.6 \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| MacArthur <br> Causeway / <br> 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 SR5/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 ${ }^{\text {th }}$ Street and SR 907 / Alton Road Intersection Improvements Bike/Pedestrian improvements, enhanced crosswalks and sidewalk crossings
SR A1A / MacArthur Causeway and SR A1A / 5 ${ }^{\text {th }}$ 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 the 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 $/ 5^{\text {th }}$ 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 | $\begin{aligned} & \hline \text { AM } \\ & \text { Peak } \\ & \text { LOS } \end{aligned}$ | Delay (Sec) | $\begin{gathered} \hline \text { PM } \\ \text { Peak } \\ \text { LOS } \end{gathered}$ | Delay (Sec) | LOS <br> Standard |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MacArthur <br> Causeway / Bridge <br> Road (Star Island) | S | NB <br> SB <br> EB <br> WB <br> Overall | $\begin{aligned} & \mathrm{F} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 124.1 \\ 108.1 \\ 8.3 \\ 8.6 \\ 9.6 \end{gathered}$ | $\begin{aligned} & \text { F } \\ & \text { F } \\ & \text { B } \\ & \text { B } \\ & \boldsymbol{B} \end{aligned}$ | $\begin{gathered} 128.9 \\ 100.5 \\ 11.4 \\ 17.6 \\ \mathbf{1 7 . 1} \end{gathered}$ | $\begin{gathered} D+50 \\ D \\ D+50 \\ D+50 \\ D+ \end{gathered}$ |
| MacArthur <br> Causeway / <br> Terminal Isle | S | $\mathrm{NB}_{\text {FPL }}$ <br> $\mathrm{NWB}_{\text {т.I }}$ <br> EBCswy. <br> WBLcswy. <br> Overall | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+27 \\ \mathrm{~B} \\ \mathrm{~F} \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} 0.0 \\ 69.8 \\ 16.1 \\ 84.0 \\ \mathbf{1 8 . 1} \end{gathered}$ | $\begin{gathered} \mathrm{A} \\ \mathrm{~F} \\ \mathrm{~B} \\ \mathrm{D}+42 \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} 0.0 \\ 94.2 \\ 12.3 \\ 78.2 \\ 18.2 \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| Alton Road / <br> $5^{\text {th }}$ Street | S | $\begin{aligned} & \text { NB } \\ & \text { SB } \\ & \text { EB } \\ & \text { WB } \end{aligned}$ <br> Overall | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 84.4 \\ & 25.7 \\ & 32.8 \\ & 21.6 \\ & 34.2 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { C } \\ & \text { C } \\ & \text { C } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 96.1 \\ & 27.1 \\ & 24.3 \\ & 22.8 \\ & 35.6 \end{aligned}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| MacArthur <br> Causeway / <br> Terminal Isle exclusive right-turn | U | NB | D+2 | 35.7 | D | 32.2 | D+50 |

### 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 $/ 5^{\text {th }}$ 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 <br> Peak <br> LOS | Delay (Sec) | PM <br> Peak <br> LOS | Delay (Sec) | LOS <br> Standard |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MacArthur <br> Causeway / Bridge <br> Road (Star Island) | S | NB SB <br> EB <br> WB <br> Overall | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 0.0 \\ 95.1 \\ 6.3 \\ 7.4 \\ 7.0 \end{gathered}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 0.0 \\ 96.7 \\ 3.0 \\ 5.9 \\ 4.9 \end{gathered}$ | $\begin{gathered} D+50 \\ D \\ D+50 \\ D+50 \\ D+ \end{gathered}$ |
| MacArthur Causeway / Terminal Isle | S | $\mathrm{NB}_{\text {FPL }}$ <br> $\mathrm{NWB}_{\text {T.I }}$ <br> EBCswy. <br> WBLcswy. <br> Overall | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+27 \\ \mathrm{~A} \\ \mathrm{D}+31 \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} 0.0 \\ 69.7 \\ 8.9 \\ 72.0 \\ 10.7 \end{gathered}$ | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+25 \\ \mathrm{~B} \\ \mathrm{D}+30 \\ \boldsymbol{B} \end{gathered}$ | $\begin{gathered} 0.0 \\ 68.6 \\ 10.7 \\ 71.6 \\ 13.0 \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| Alton Road / <br> $5^{\text {th }}$ Street | S | NB <br> SB <br> EB <br> WB <br> Overall | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 87.5 \\ & 29.2 \\ & 28.3 \\ & 19.0 \\ & 32.6 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { C } \\ & \text { C } \\ & \text { C } \\ & \text { D } \end{aligned}$ | $\begin{gathered} 119.9 \\ 27.8 \\ 30.5 \\ 23.3 \\ 39.0 \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| MacArthur <br> Causeway / <br> Terminal Isle exclusive right-turn | U | NB | D+8 | 37.8 | D+37 | 47.8 | D+50 |

### 4.3 Project Trip Generation

Weekday trip generation for the proposed project was estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, $10^{\text {th }}$ 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 $3^{\text {rd }}$ 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 ${ }^{1}$ | Size/Units | Daily (Two-way) | AM Peak Hour Vehicle Trips |  |  | PM Peak Hour <br> Vehicle Trips |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | In | Out | Total | In | Out | Total |
| Office <br> (Land Use 710) | $\begin{gathered} 932 \\ \text { Employees } \end{gathered}$ | 2,922 | 200 | 41 | 241 | 55 | 220 | 275 |
| Restaurant (Land Use 931) | $\begin{gathered} 299 \\ \text { Seats } \end{gathered}$ | 778 | 3 | 3 | 6 | 56 | 28 | 84 |
| Gross External Trips |  | 3,700 | 203 | 44 | 247 | 111 | 248 | 359 |
| Internalization AM, PM |  | 1.6\%, 1.1\% | -2 | -2 | -4 | -2 | -2 | -4 |
| Other Modes of Transportation ${ }^{2}$ |  | 3\% | -6 | -1 | -7 | -4 | -8 | -12 |
| Pass-By Restaurant (PM) ${ }^{3}$ |  | 10\% | 0 | 0 | 0 | -4 | -4 | -8 |
| Proposed Net External Trips |  |  | 195 | 41 | 236 | 101 | 234 | 335 |

Based on ITE Trip Generation Manual, 10th Edition
${ }^{2}$ Based on US Census (Tract 9810) is $12.9 \%$, however a $3 \%$ was used.
${ }^{3}$ 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, $10^{\text {th }}$ 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.

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Exhibit 12: Saturday Peak Hour Project Trip Generation Summary

| Proposed ITE Land Use <br> Designation | Size/Units | Daily <br> (Two-way) | Peak Hour of Generator <br> Vehicle Trips |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | In | Out | Total |  |  |
| Office (Closed) <br> (Land Use 710) | 932 <br> Employees | - | - | - | - |
| Restaurant <br> (Land Use 931) | 299 Seats | 768 | 58 | 41 | 99 |
| Gross External Trips | $\mathbf{7 6 8}$ | $\mathbf{5 8}$ | $\mathbf{4 1}$ | $\mathbf{9 9}$ |  |
| Other Modes of Transportation ${ }^{3}$ | $3 \%$ | -23 | -2 | -1 | -3 |
| Proposed Net External Trips | $\mathbf{7 4 5}$ | $\mathbf{5 6}$ | $\mathbf{4 0}$ | $\mathbf{9 6}$ |  |

${ }^{1}$ Based on ITE Trip Generation Manual, 10th Edition, Saturday peak hour of generator used AM and PM trip generator for a more conservative analysis
${ }^{2}$ The office is expected to be closed on the Weekend therefore.
${ }^{3}$ 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 | $\mathbf{2 0 1 5}$ | $\mathbf{2 0 4 5}$ | $\mathbf{2 0 2 3}$ |
| :---: | :---: | :---: | :---: |
| 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.




### 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 ${ }^{\text {th }}$ 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.

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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 <br> Peak <br> LOS | Delay (Sec) | PM <br> Peak <br> LOS | Delay (Sec) | LOS <br> Standard |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MacArthur <br> Causeway / Bridge <br> Road (Star Island) | S | NB <br> SB <br> EB <br> WB <br> Overall | $\begin{aligned} & \mathrm{F} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \boldsymbol{B} \end{aligned}$ | $\begin{gathered} 124.1 \\ 106.1 \\ 9.6 \\ 9.4 \\ 10.8 \end{gathered}$ | $\begin{aligned} & \mathrm{F} \\ & \mathrm{~F} \\ & \mathrm{~B} \\ & \mathrm{~B} \\ & \boldsymbol{B} \end{aligned}$ | $\begin{gathered} 128.9 \\ 100.7 \\ 11.8 \\ 19.2 \\ \mathbf{1 8 . 1} \end{gathered}$ | $\begin{gathered} D+50 \\ \mathrm{D} \\ \mathrm{D}+50 \\ \mathrm{D}+50 \\ \mathrm{D}+ \end{gathered}$ |
| MacArthur Causeway / Terminal Isle* | S | NB ${ }_{\text {FPL }}$ <br> $\mathrm{NWB}_{\text {t.I }}$ <br> EBCswy. WBLcswy. Overall | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+25 \\ \mathrm{C} \\ \mathrm{D}+28 \\ \boldsymbol{C} \end{gathered}$ | $\begin{gathered} 0.0 \\ 68.7 \\ 28.9 \\ 70.4 \\ 31.2 \end{gathered}$ | $\begin{gathered} \mathrm{A} \\ \mathrm{~F} \\ \mathrm{C} \\ \mathrm{D}+37 \\ \boldsymbol{C} \end{gathered}$ | $\begin{gathered} 0.0 \\ 93.4 \\ 26.0 \\ 75.2 \\ 34.9 \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| Alton Road / <br> $5^{\text {th }}$ Street | S | $\begin{gathered} \text { NB } \\ \text { SB } \\ \text { EB } \\ \text { WB } \end{gathered}$ Overall | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 85.3 \\ & 24.1 \\ & 33.2 \\ & 21.9 \\ & 34.0 \end{aligned}$ | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 97.5 \\ & 26.5 \\ & 24.4 \\ & 22.9 \\ & 35.6 \end{aligned}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| MacArthur <br> Causeway / <br> 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 $95^{\text {th }}$ 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 $95^{\text {th }}$ percentile back of queues.

The projected $95^{\text {th }}$ 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 $95^{\text {th }}$ 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)

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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 $/ 5^{\text {th }}$ Street intersection eastbound right turning lane's $95^{\text {th }}$ percentile back of queue is projected to exceed the existing storage length during the AM peak hour. The Alton Road $/ 5^{\text {th }}$ Street intersection northbound left turning lane's $95^{\text {th }}$ 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 $95{ }^{\text {th }}$ 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 <br> Causeway / Bridge Road (Star Isle) | $\begin{aligned} & \text { EBL } \\ & \text { WBR } \\ & \text { SBL }^{1} \end{aligned}$ | $\begin{gathered} 118 \\ 0 \\ 43 \end{gathered}$ | $\begin{gathered} 26 \\ 0 \\ 32 \end{gathered}$ | $\begin{gathered} 118 \\ 0 \\ 43 \end{gathered}$ | $\begin{gathered} 26 \\ 0 \\ 34 \end{gathered}$ | $\begin{gathered} 118 \\ 0 \\ 54 \end{gathered}$ | $\begin{gathered} 26 \\ 0 \\ 38 \end{gathered}$ | $\begin{gathered} 145 \\ 110 \\ 600+ \end{gathered}$ |
| MacArthur <br> Causeway / <br> Terminal Isle | EBR $_{\text {Cswy }}$ WBLcswy. | $\begin{aligned} & 210 \\ & 123 \end{aligned}$ | $\begin{aligned} & 57 \\ & 85 \end{aligned}$ | $\begin{aligned} & 214 \\ & 123 \end{aligned}$ | $\begin{aligned} & 58 \\ & 85 \end{aligned}$ | $\begin{aligned} & 397 \\ & 218 \end{aligned}$ | $\begin{aligned} & 145^{3} \\ & 140^{3} \end{aligned}$ | $\begin{gathered} 170 \\ 170 / 213^{4} \end{gathered}$ |
| Alton Road / $5^{\text {th }}$ Street | EBR <br> WBL <br> WBR <br> NBL <br> $\mathrm{SBR}^{2}$ | $\begin{gathered} 316 \\ 115 \\ 29 \\ 188 \\ 0 \end{gathered}$ | $\begin{gathered} 58 \\ 49 \\ 32 \\ 291 \\ 0 \end{gathered}$ | $\begin{gathered} 332 \\ 115 \\ 30 \\ 192 \\ 0 \end{gathered}$ | $\begin{gathered} 59 \\ 49 \\ 32 \\ 299 \\ 0 \end{gathered}$ | $\begin{gathered} 332 \\ 115 \\ 30 \\ 192 \\ 0 \end{gathered}$ | $\begin{gathered} 59 \\ 49 \\ 32 \\ 299 \\ 0 \end{gathered}$ | $\begin{gathered} 260 \\ 140 \\ 280 \\ 240 \\ 350+ \end{gathered}$ |

${ }^{1}$ SBL movement occurs from continues through lane
${ }^{2}$ SBR movement is a through lane that becomes an exclusive turn lane
${ }^{3} \mathrm{BOQ}$ after signal timing improvements
${ }^{4}$ A field review showed that vehicles can safely stack within 213 feet of the lane and taper before blocking vehicles in the through lanes

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### 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 $/ 5^{\text {th }}$ 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 $/ 5^{\text {th }}$ 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 rightturn 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 <br> Peak <br> LOS | Delay (Sec) | PM <br> Peak <br> LOS | Delay (Sec) | LOS <br> Standard |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MacArthur <br> Causeway / Bridge <br> Road (Star Island) | S | NB <br> SB <br> EB <br> WB <br> Overall | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 0.0 \\ 95.5 \\ 6.4 \\ 7.5 \\ 7.1 \end{gathered}$ | $\begin{aligned} & \mathrm{A} \\ & \mathrm{~F} \\ & \mathrm{~A} \\ & \mathrm{~A} \\ & \mathrm{~A} \end{aligned}$ | $\begin{gathered} 0.0 \\ 97.9 \\ 3.1 \\ 6.0 \\ 4.9 \end{gathered}$ | $\begin{gathered} D+50 \\ \mathrm{D} \\ \mathrm{D}+50 \\ \mathrm{D}+50 \\ \mathrm{D}+ \end{gathered}$ |
| MacArthur <br> Causeway / <br> Terminal Isle | S | NB ${ }_{\text {FPL }}$ <br> $\mathrm{NWB}_{\text {t.I }}$ <br> EBCswy. WBLcswy. Overall | $\begin{gathered} \text { A } \\ \text { D+25 } \\ \text { C } \\ \text { D+43 } \\ \boldsymbol{D} \end{gathered}$ | $\begin{gathered} 0.0 \\ 68.5 \\ 10.5 \\ 78.7 \\ 13.2 \end{gathered}$ | $\begin{gathered} \mathrm{A} \\ \mathrm{D}+25 \\ \mathrm{C} \\ \mathrm{D}+37 \\ \boldsymbol{C} \end{gathered}$ | $\begin{gathered} 0.0 \\ 68.7 \\ 11.6 \\ 75.2 \\ \mathbf{1 4 . 6} \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| Alton Road / <br> $5^{\text {th }}$ Street | S | $\begin{gathered} \text { NB } \\ \text { SB } \\ \text { EB } \\ \text { WB } \end{gathered}$ Overall | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{~B} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 88.4 \\ & 28.7 \\ & 28.4 \\ & 19.1 \\ & 32.7 \end{aligned}$ | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{D} \end{aligned}$ | $\begin{gathered} 120.4 \\ 27.4 \\ 30.6 \\ 23.3 \\ 39.0 \end{gathered}$ | $\begin{aligned} & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \\ & \mathrm{D}+50 \end{aligned}$ |
| MacArthur <br> Causeway / <br> 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 $95^{\text {th }}$ 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 $95^{\text {th }}$ percentile back of queues.

The Alton Road $/ 5^{\text {th }}$ Street intersection eastbound right turning lane's $95^{\text {th }}$ 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

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one vehicle) to this movement during the respective AM and PM peak hours. The Alton Road / $5^{\text {th }}$ Street intersection northbound left turning lane's $95^{\text {th }}$ 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 $95{ }^{\text {th }}$ 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 <br> WBR <br> SBL $^{1}$ | $\begin{gathered} 10 \\ 0 \\ 28 \end{gathered}$ | $\begin{gathered} 58 \\ 0 \\ 20 \end{gathered}$ | $\begin{gathered} 40 \\ 0 \\ 32 \end{gathered}$ | $\begin{gathered} 58 \\ 0 \\ 20 \end{gathered}$ | $\begin{gathered} 40 \\ 0 \\ 36 \end{gathered}$ | $\begin{gathered} 58 \\ 0 \\ 24 \end{gathered}$ | $\begin{gathered} 145 \\ 110 \\ 600+ \end{gathered}$ |
| MacArthur Causeway / Terminal Isle | EBRsRa1a WBLsraia | $\begin{aligned} & 26 \\ & 77 \end{aligned}$ | $\begin{aligned} & 25 \\ & 71 \end{aligned}$ | $\begin{aligned} & 26 \\ & 79 \end{aligned}$ | $\begin{aligned} & 25 \\ & 71 \end{aligned}$ | $\begin{gathered} 44 \\ 106 \end{gathered}$ | $\begin{aligned} & 42 \\ & 99 \end{aligned}$ | $\begin{gathered} 170 \\ 170 / 213^{3} \end{gathered}$ |
| Alton Road / <br> $5^{\text {th }}$ Street | EBR <br> WBL <br> WBR <br> NBL <br> $\mathrm{SBR}^{2}$ | $\begin{gathered} 256 \\ 77 \\ 29 \\ 202 \\ 0 \end{gathered}$ | $\begin{gathered} 263 \\ 74 \\ 42 \\ 361 \\ 0 \end{gathered}$ | $\begin{gathered} 279 \\ 79 \\ 30 \\ 207 \\ 0 \end{gathered}$ | $\begin{gathered} 282 \\ 77 \\ 43 \\ 370 \\ 0 \end{gathered}$ | $\begin{gathered} 283 \\ 79 \\ 30 \\ 207 \\ 0 \end{gathered}$ | $\begin{gathered} 284 \\ 77 \\ 43 \\ 370 \\ 0 \end{gathered}$ | $\begin{gathered} 260 \\ 140 \\ 280 \\ 240 \\ 350+ \end{gathered}$ |

${ }^{1}$ SBL movement occurs from continues through lane
Source: David Plummer \& Associates
${ }^{2}$ SBR movement is a through lane that becomes an exclusive turn lane
${ }^{3}$ 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 access 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.

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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.



Bus Stop
Miami-Dade Bus Routes
Project Location
Exhibit 24
Mobility - Transit


### 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

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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$9 \mathrm{am})$ and $\mathrm{PM}(5-6 \mathrm{pm})$ 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)

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### 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 ${ }^{\text {th }}$ 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 $/ 5^{\text {th }}$ 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

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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.

[^0]
## Appendix A Site Plan







# Appendix B <br> 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 $/ 5^{\text {th }}$ 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 estimated using trip generation information published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, $10^{\text {th }}$ 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 transportations. 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 ${ }^{1}$ | 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) | $932$ <br> Employees | 2,922 | 200 | 41 | 241 | 55 | 220 | 275 |
| Restaurant (Land Use 931) | $\begin{gathered} \hline 299 \\ \text { Seats } \end{gathered}$ | 778 | 3 | 3 | 6 | 56 | 28 | 84 |
| Gross External Trips |  | 3,700 | 203 | 44 | 247 | 111 | 248 | 359 |
| Internalization AM, PM |  | 1.6\%, 1.1\% | -2 | -2 | -4 | -2 | -2 | -4 |
| Other Modes of Transportation ${ }^{2}$ |  | 3\% | -6 | -1 | -7 | -4 | -8 | -12 |
| Pass-By Restaurant | PM) ${ }^{3}$ | 10\% | 0 | 0 | 0 | -4 | -4 | -8 |
| Proposed Net External Trips |  |  | 195 | 41 | 236 | 101 | 234 | 335 |

${ }^{1}$ Based on ITE Trip Generation Manual, 10th Edition
${ }^{2}$ Based on US Census (Tract 9810) is $12.9 \%$, however a $3 \%$ was used.
${ }^{3}$ 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:
o Existing conditions
o Future conditions with Committed Developments
o Future conditions with Project and Committed Development
Intersection analysis will be done using the Synchro software based on the Highway Capacity Manual (HCM $6^{\text {th }}$ 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, onstreet 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.

## QUEUING 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 $95^{\text {th }}$ 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.
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## Attachment A



| Land Use \& Data Source | Location | IV | Size | Time Period | Method | Entry | Exit | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Rate/Equation | Split\% | Split\% |  |
| 710(3) - General Office Building | General Urban/Suburban | Employees | 932 | Weekday | Best Fit (LOG) | 1461 | 1461 | 2922 |
| Data Source: Trip Gen Manual, 10th Ed |  |  |  |  | $\operatorname{Ln}(\mathrm{T})=0.80 \mathrm{Ln}(\mathrm{X})+2.51$ | 50\% | 50\% |  |
| 710(4) - General Office Building | General Urban/Suburban | Employees | 932 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Best Fit (LOG) | 200 | 41 | 241 |
| Data Source: Trip Gen Manual, 10th Ed |  |  |  |  | $\operatorname{Ln}(\mathrm{T})=0.72 \mathrm{Ln}(\mathrm{X})+0.56$ | 83\% | 17\% |  |
| 710(5) - General Office Building | General Urban/Suburban | Employees | 932 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Best Fit (LIN) | 55 | 220 | 275 |
| Data Source: Trip Gen Manual, 10th Ed |  |  |  |  | $\mathrm{T}=0.27(\mathrm{X})+23.57$ | 20\% | 80\% |  |
| 931 - Quality Restaurant | General Urban/Suburban | Seats | 299 | Weekday | Average | 389 | 389 | 778 |
| Data Source: Trip Gen Manual, 10th Ed |  |  |  |  | 2.60 | 50\% | 50\% |  |
| 931(1) - Quality Restaurant | General Urban/Suburban | Seats | 299 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Average | 3 | 3 | 6 |
| Data Source: Trip Gen Manual, 10th Ed |  |  |  |  | 0.02 | 50\% | 50\% |  |
| 931(2) - Quality Restaurant | General Urban/Suburban | Seats | 299 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Average | 56 | 28 | 84 |
| Data Source: Trip Gen Manual, 10th Ed |  |  |  |  | 0.28 | 67\% | 33\% |  |

## AM Peak Hour Trip Generation and Internalization

Terminal Island Miami Beach


## PM Peak Hour Trip Generation and Internalization

Terminal Island Miami Beach


## U.S. Census Bureau

## AMERICAN FactFinder

## 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 98 | Miami-Dade Cou | ty, Florida |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tot |  | Ma |  | 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 |  |  |  |  |  |
| W orked 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 |
| MEANS OF TRANSPORTATION TO WORK |  |
| 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 |
| W orkers 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 |
| W orked at home | +/-55.6 |
| PLACE OF WORK |  |
| W orked in state of residence | +/-100.0 |
| W orked 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 |
| W orked 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 |
| W orked 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 |
| TIME LEAVING HOME TO GO TO WORK |  |
| 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 |
|  |  |
| TRAVEL TIME TO WORK |  |
| 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 |
|  |  |


| Subject | Census Tract 9810, Miami-Dade County, Florida |
| :---: | :---: |
|  | Female |
|  | Margin of Error |
| VEHICLES AVAILABLE |  |
| Workers 16 years and over in households | +/-13 |
| No vehicle available | ** |
| 1 vehicle available | ** |
| 2 vehicles available | ** |
| 3 or more vehicles available | ** |
|  |  |
| PERCENT ALLOCATED |  |
| 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 J ersey, 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 ${ }^{\prime * * * 1}$ 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 <br> Traffic Data

## Traffic Volumes <br> Weekday Turning Movement Counts

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

| NS/ EW Streets: | Bridge Rd |  |  |  | Bridge Rd |  |  |  | SR A1A MacArthur Causeway |  |  |  | SR A1A MacArthur Causeway |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AM | 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 | WT | WR | WU | TOTAL |
| 5:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 164 | 0 | 0 | 0 | 88 | 0 | 0 | 253 |
| 5:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 211 | 0 | 0 | 0 | 90 | 0 | 0 | 302 |
| 6:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 266 | 0 | 0 | 0 | 129 | 0 | 0 | 397 |
| 6:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 375 | 0 | 0 | 0 | 122 | 0 | 0 | 501 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 436 | 0 | 0 | 0 | 197 | 0 | 0 | 637 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 510 | 0 | 0 | 0 | 221 | 1 | 0 | 734 |
| 7:00 AM | 11 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 11 | 484 | 0 | 0 | 0 | 289 | 1 | 0 | 798 |
| 7:15 AM | 13 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 6 | 483 | 0 | 0 | 0 | 332 | 1 | 0 | 837 |
| 7:30 AM | 13 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 554 | 0 | 1 | 0 | 364 | 1 | 0 | 948 |
| 7:45 AM | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 12 | 662 | 0 | 0 | 0 | 371 | 3 | 0 | 1053 |
| 8:00 AM | 11 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 10 | 742 | 0 | 1 | 0 | 376 | 2 | 0 | 1147 |
| 8:15 AM | 5 | 1 | 0 | 0 | 4 | 0 | 3 | 0 | 9 | 709 | 0 | 2 | 0 | 476 | 4 | 0 | 1213 |
| 8:30 AM | 10 | 1 | 0 | 0 | 3 | 0 | 4 | 0 | 9 | 703 | 0 | 0 | 0 | 449 | 5 | 0 | 1184 |
| 8:45 AM | 3 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 11 | 654 | 0 | 0 | 0 | 413 | 5 | 0 | 1090 |
| 9:00 AM | 8 | 0 | 0 | 0 | 2 | 0 | 8 | 0 | 14 | 719 | 0 | 0 | 0 | 367 | 2 | 0 | 1120 |
| 9:15 AM | 2 | 0 | 0 | 0 | 2 | 0 | 6 | 0 | 5 | 724 | 0 | 0 | 0 | 399 | 3 | 0 | 1141 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES : | 77 | 2 | 0 | 0 | 17 | 0 | 39 | 0 | 109 | 8396 | 0 | 4 | 0 | 4683 | 28 | 0 | 13355 |
| APPROACH \% 's : | 97.47\% | 2.53\% | 0.00\% | 0.00\% | 30.36\% | 0.00\% | 69.64\% | 0.00\% | 1.28\% | 98.67\% | 0.00\% | 0.05\% | 0.00\% | 99.41\% | 0.59\% | 0.00\% |  |
| PEAK HR : | 08:00 AM - 09:00 AM |  |  |  | $\begin{gathered} 10 \\ 0.625 \end{gathered}$ | 0 | ${ }_{1}^{13} 0.813$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 39 \\ 0.886 \end{gathered}$ | $\begin{gathered} 2808 \\ 0.946 \\ 0 . \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \\ 6 \end{gathered}$ | $\begin{gathered} 3 \\ 0.375 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 1714 \\ 0.900 \\ 0 . \end{gathered}$ | $\begin{gathered} 16 \\ 0.800 \\ 1 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | TOTAL |
| PEAK HR VOL: | 29 | 2 | 0 | 0 |  |  |  |  |  |  |  |  |  |  |  |  | 4634 |
| PEAK HR FACTOR : | 0.659 | 0.500 | 0.000 | 0.000 |  | 0.000 |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 0.7 |  |  |  | 0.821 |  |  |  |  |  |  |  |  |  |  | 0.955 |


National Data \& Surveying ServicesIntersection Turning Movement Count


National Data \& Surveying ServicesIntersection Turning Movement Count




| Location: Bridge Rd \& SR A1A MacArthur Causeway <br> City: Miami Beach <br> Control: Signalized |  |  |  |  |  |  |  |  |  |  |  |  |  | ject ID: Date: | $\begin{aligned} & 1-140212- \\ & / 15 / 2021 \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Data - Bikes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NS/ EW Streets: | Bridge Rd |  |  |  | Bridge Rd |  |  |  | SR AIA MacArthur Causeway |  |  |  | SR A1A MacArthur Causeway |  |  |  |  |
| $A M$ | NORTHBOUND |  |  |  | SOUTHBOUND |  |  |  | EASTBOUND |  |  |  | WESTBOUND |  |  |  | TOTAL |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0EL | $\begin{gathered} 0 \\ \text { ET } \end{gathered}$ | 0 | $\begin{gathered} 0 \\ \text { EU } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WL } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WT } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WR } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WU } \\ \hline \end{gathered}$ |  |
|  | NL | NT | NR | NU | SL | ST | SR | SU |  |  | ER |  |  |  |  |  |  |
| 5:30 AM | 0 | 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 | 0 |
| 6:00 AM | 0 | 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 | 4 | 0 | 0 | 4 |
| 6:30 AM | 0 | 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 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 5 |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 8 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 3 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 4 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| 9:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 3 |
| 9:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | $0$ | 0 | 3 |  | 0 | 16 |  |  | $0$ | 19 | 2 |  | 40 |
| APPROACH \% 's : |  |  |  |  |  | 0.00\% | 100.00\% | 0.00\% |  | 100.00\% | 0.00\% |  |  | $90.48 \%$ |  |  |  |
| PEAK HR : |  | 8:00 AM | 09:00 A |  |  |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 4 | 0 | 0 | 11 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.583 | 0.000 | 0.000 | 0.000 | 0.500 | 0.000 | 0.000 |  |
|  |  |  |  |  |  |  |  |  |  | 0.5 |  |  |  |  |  |  | 0.688 |



National Data \& Surveying ServicesIntersection Turning


## City: Miami Beach

Date: 9/15/2021
Data - Pedestrians (Crosswalks)

| NS/ EW Streets: | Bridge Rd |  | Bridge Rd |  | SR A1A MacArthur Causeway |  | SR A1A MacArthur Causeway |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AM | NORTH LEG |  | SOUTH LEG |  | EAST LEG |  | WEST LEG |  |  |
|  | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 6:30 AM | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 3 | 1 | 1 | 0 | 1 | 0 | 2 | 8 |
| 7:45 AM | 1 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 7 |
| 8:00 AM | 1 | 2 | 1 | 0 | 0 | 0 |  | 0 | 5 |
| 8:15 AM | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 5 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 9:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| TOTAL VOLUMES : APPROACH \% 's: | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
|  | 6 | 6 | 12 | 3 | 0 | 2 | 4 | 2 | 35 |
|  | 50.00\% | 50.00\% | 80.00\% | 20.00\% | 0.00\% | 100.00\% | 66.67\% | 33.33\% |  |
| PEAK HR : | 08:00 AM - 09:00 AM |  | $\begin{gathered} 2 \\ 0.500 \end{gathered}$ |  |  |  |  |  | TOTAL |
| PEAK HR VOL: | 4 | 2 |  | 2 | 0 | 0 | 1 | 0 | 11 |
| PEAK HR FACTOR : | 0.500 | 0.250 |  | $0.333$ |  |  | $\begin{array}{r}0.250 \\ \\ \hline\end{array}$ |  |  |
|  | 0.500 |  |  |  |  |  |  |  | 0.550 |


| PM | NORTH LEG |  | SOUTH LEG |  | EAST LEG |  | WEST LEG |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EB | WB | EB | WB | NB | SB | NB | SB |  |
| 2:30 PM | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:45 PM | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| 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 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 4 |
| 3:45 PM | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 3 |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 7 |
| 4:30 PM | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:45 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
|  | EB | WB | EB | WB | NB |  | NB | SB |  |
| TOTAL VOLUMES : | 3 | 11 | 1 | 2 | 7 | 1 | 0 | 0 | 25 |
| APPROACH \% 's : | 21.43\% | 78.57\% | 33.33\% | 66.67\% | 87.50\% | 12.50\% |  |  |  |
| PEAK HR : | 05:00 P1 | 6:00 PM |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| PEAK HR FACTOR : | $0.2500^{0.500}$ |  |  |  | 0.250 |  |  |  | 0.375 |

Bridge Rd \& SR A1A MacArthur Causeway
Peak Hour Turning Movement Count

ID: 21-140212-001
City: Miami Beach


Cars (NOON)


Cars (PM)




SOUTHBOUND

| AM | 13 | 0 | 10 | 0 | 57 | AM |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NOON | 0 | 0 | 0 | 0 | 0 | NOON |



Day: Wednesday
Date: 9/15/2021
5:30 AM - 09:30 AM
NONE
2:30 PM - 06:30 PM


S
aNOOELSEM

saolyヨd INnoo


HT (NOON)


HT (PM)




14:30-16:30
SIGNAL TIMING

| PHASES | $\mathbf{1}$ | $\mathbf{c}$ | $\mathbf{2}$ |
| :--- | :---: | :---: | :---: |
| $\mathbf{3}$ |  |  |  |
| NL/NT | $00: 28$ | $00: 26$ | $00: 17$ |
| SL | $00: 20$ | - | - |
| ET/WT | $01: 33$ | $01: 55$ | $04: 21$ |

National Data \& Surveying ServicesIntersection Turning Movement Count

National Data \& Surveying ServicesIntersection Turning Movement Count


National Data \& Surveying ServicesIntersection Turning Movement Count

National Data \& Surveying Services Intersection Turning Movement Count


National Data \& Surveying ServicesIntersection Turning Movement Count
Location: Terminal Island Entrance \& SR A1A MacArthur Causeway Project ID: 21-140212-002 City: Miami Beach

Date: 9/15/2021
Data - Pedestrians (Crosswalks)


| 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 |
|  | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| TOTAL VOLUMES : APPROACH \% 's : | 0 | 0 | $\begin{gathered} 5 \\ 62.50 \% \end{gathered}$ | $\begin{gathered} 3 \\ 37.50 \% \end{gathered}$ | $\begin{gathered} 5 \\ 83.33 \% \end{gathered}$ | $\begin{gathered} 1 \\ 16.67 \% \end{gathered}$ | 0 | 0 | 14 |
| PEAK HR : | 05:00 | 00 PM |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL: PEAK HR FACTOR : | 0 | 0 | 0 | 0 | $\begin{gathered} 1 \\ 0.250 \end{gathered}$ | $\begin{gathered} 1 \\ 0.250 \end{gathered}$ | 0 | 0 | $\begin{gathered} 2 \\ 0.500 \end{gathered}$ |

## Terminal Island Entrance \& SR A1A MacArthur Causeway

Peak Hour Turning Movement Count

Cars (NOON)


Cars (PM)


ID: 21-140212-002
City: Miami Beach



Terminal Island Entrance
SOUTHBOUND

| AM | AM | 0 | 0 | 0 | 0 | 0 | AM |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| NOON | 0 | 0 | 0 | 0 | 0 | NOON |  |
|  | PM | 0 | 0 | 0 | 0 | 0 | PM |

Day: Wednesday
Date: 9/15/2021
5:30 AM - 09:30 AM
NONE

2:30 PM - 06:30 PM


HT (NOON)


HT (PM)


| LOCATION: Terminal Island Entrance \& SR A1A MacArthur CausewayCITY/STATE: Miami Beach, FL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | PROJECT ID: 21-140212-002DATE: Wed, Sep 15, 2021 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Peak ak 15 <br> onal | Hou <br> -Min | 08 ute: <br>  | $\qquad$ $\square$ | - 09:0 AM - 08 <br> eying $\qquad$ $\qquad$ 2 <br> \|||||| $\%$ | Ser $\begin{gathered} \text { 軨 } \\ -1402 \\ \hline \equiv \\ \hline \equiv \end{gathered}$ | M <br> ices <br> 2-00 |  | $t$ | 2.8 <br> ${ }^{2.6}$ <br>  <br>  |  |  |  |  |
| 15-Min Count Period Beginning At | Terminal Island Entrance Northbound |  |  |  |  | Terminal Island EntranceSouthbound |  |  |  |  | SR A1A MacArthur CausewayEastbound |  |  |  |  | SR A1A MacArthur CausewayWestbound |  |  |  | Total | Hourly Total |
| 05:30 AM | 0 | 0 | Rgt | U | $\mathrm{R}^{*}$ | Left | Thru | $\frac{\mathrm{Rgt}}{0}$ | U | R* | Left |  | $\frac{\mathrm{Rgt}}{0}$ | 0 | R* | Left | Thru | Rgt | U R* | 202 | 1152 |
| 05:45 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 174 | 0 | 0 |  | 0 | 86 | 0 | 0 | 260 | 1454 |
| 06:00 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 179 | 0 | 0 |  | 0 | 122 | 0 | 0 | 301 | 1841 |
| 06:15 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 269 | 0 | 0 |  | 0 | 120 | 0 | 0 | 389 | 2208 |
| 06:30 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 321 | 0 | 0 |  | 0 | 183 | 0 | 0 | 504 | 2567 |
| 06:45 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 421 | 0 | 0 |  | 0 | 226 | 0 | 0 | 647 | 2860 |
| 07:00 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 388 | 0 | 0 |  | 0 | 280 | 0 | 0 | 668 | 3173 |
| 07:15 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 412 | 0 | 0 |  | 0 | 336 | 0 | 0 | 748 | 3557 |
| 07:30 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 448 | 0 | 0 |  | 0 | 349 | 0 | 0 | 797 | 3927 |
| 07:45 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 588 | 0 | 0 |  | 0 | 372 | 0 | 0 | 960 | 4206 |
| 08:00 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 679 | 0 | 0 |  | 0 | 373 | 0 | 0 | 1052 | 4285 |
| 08:15 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 648 | 0 | 0 |  | 0 | 470 | 0 | 0 | 1118 | 4251 |
| 08:30 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 631 | 0 | 0 |  | 0 | 445 | 0 | 0 | 1076 | 4173 |
| 08:45 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 621 | 0 | 0 |  | 0 | 418 | 0 | 0 | 1039 | 3097 |
| 09:00 AM | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 665 | 0 | 0 |  | 0 | 353 | 0 | 0 | 1018 | 2058 |
| All Vehicles | 0 | 0 | 0 | 0 |  | 0 | 0 | $\frac{\mathrm{Rgt}}{0}$ | 0 |  | 0 | 2716 | $\frac{\mathrm{Rgt}}{0}$ | 0 |  | 0 | Thru | $\frac{\mathrm{Rgt}}{0}$ | 0 | Total |  |
| Heavy Trucks <br> Pedestrians Bicycles Buses Stopped Buses | 0 0 | $\begin{gathered} 0 \\ 0 \\ 16 \\ 0 \end{gathered}$ | 0 | 0 |  | 0 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ $0$ |  | 0 0 |  |  | $\begin{gathered} 104 \\ 0 \\ 8 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 0 |  | 0 | $\begin{aligned} & 76 \\ & 12 \\ & 8 \end{aligned}$ | $0$ $0$ |  |  |  |



National Data \＆Surveying ServicesIntersection＇Turning Movement Count


|  |  |  | 管会态太 |  | Oib |  | 『 ${ }_{\text {¢ }}^{\text {¢ }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ～ <br> ลิ | ๗まず <br>  <br> －のナm |  <br>  |  | $19$ Fi | $\begin{array}{llll} 3 & \infty & \stackrel{\circ}{\circ} \\ 3 & 0 & 0 \\ \hline \end{array}$ | ~ <br> へ્ત <br> か． <br> $0 \stackrel{\rightharpoonup}{0}$ |
|  |  |  <br> 욱 국 m m | ミタ゚ン ！ <br> O～뭉ํ움 | \＆Ñ すご <br> 움헉 쿡 | $-\infty$ <br> 罧 |  | - <br> 훙 <br> 0 0 0 0 0 0 0 $\approx \stackrel{\infty}{0}$ |
|  | $\stackrel{\circ}{7} \stackrel{0}{7}$ <br> $m$ 子 <br> A | 억 억 육 <br> m \＆\＆i <br> N～울 |  <br> 忈 N N № <br> へ ํㅜ쑥 | 㶽吕苜苟 <br> to $\overbrace{0}^{\circ}$ in <br> คัำ～ | or |  | $\rightarrow \stackrel{\stackrel{\circ}{N}}{0}$ <br>  <br> $\stackrel{m}{\sim}{ }_{\sim}^{\infty}$ <br> © |
|  | $\begin{array}{cc} 0 & 0 \\ m & \circ \\ 2 & m \\ n & \infty \end{array}$ |  | q俞俞 <br> 今热 $\ddagger \infty$ |  |  |  |  |
| $\sum$ |  |  |  |  | $\begin{array}{ll} \sum_{0}^{n} \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ |  |  |

National Data \& Surveying ServicesIntersection 'Turning Movement Count


National Data \& Surveying ServicesIntersection Turning Movement Count

| Location: Alton Rd \& SR A1A/5th St/SR A1A/5th St City: Miami Beach Control: Signalized |  |  |  |  | Data - HT |  |  |  |  |  |  |  | Project ID:Date: $9115 / 2021$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
| NS/ EW Streets: | Alton Rd |  |  |  |  |  |  |  |  |  |  |  | Aton Rd |  |  |  | SR A1A55th St/sR A1A5th St |  |  |  | SR A1A5th St/SR A1A55th St |  |  |  |  |
| AM | NORTHBOUND |  |  |  | SOUTHBOUND |  |  |  | EAStBOUND |  |  |  | WESTBOUND |  |  |  | TOTAL |
|  | ${ }_{\text {NL }}$ |  | $\bigcirc$ | - | S |  | $\begin{aligned} & 0 \\ & \mathrm{SR} \end{aligned}$ | o | $\begin{aligned} & 0 \\ & 0 \\ & \text { EL } \end{aligned}$ | $\begin{aligned} & 0 \\ & \text { ET } \end{aligned}$ | $\begin{gathered} 0 \\ \text { ER } \end{gathered}$ | 0Eu | $\begin{aligned} & 0 \\ & \mathrm{wL} \end{aligned}$ | $\begin{aligned} & 0 \\ & w T \end{aligned}$ | $\begin{aligned} & 0 \\ & \text { WR } \end{aligned}$ | wo |  |
|  |  |  | NR |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5:30 AM | ${ }_{1}^{1}$ | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | WT | 1 | w | ${ }_{7}^{11}$ |
| 5:45 AM |  | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 6:00 AM | 0 | 0 |  | 0 | 1 | 1 | 3 | 0 | 1 |  | 4 | 0 | 0 | 1 | 1 |  | 18 |
| 6:15 Am | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 5 | 3 | 0 | 0 | 1 | 1 | 0 | 13 |
| 6:30 AM |  | 1 | 0 | $\bigcirc$ | ${ }_{1}$ | 1 | 1 | O | , | 10 | 1 | $\bigcirc$ | 1 | 5 | ${ }^{0}$ | $\bigcirc$ | 21 |
| 6:45 AM |  | 0 | 0 | 0 | 1 | 1 | 4 | 0 | 0 | 4 | 1 | 0 | 0 |  | 0 | 0 | 17 |
| 7:00 AM | 0 | 1 | 0 | 0 | 1 | 0 | 4 | 0 | 2 | 8 | 2 | 0 | 1 |  | 1 | 0 | 26 |
| 7:15 AM | $\stackrel{0}{0}$ | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 6 | 2 | 0 | 0 | 9 | 1 | 0 | 22 |
| 7:30 AM | 2 | 0 | 0 | 0 | 1 |  | 4 |  | 1 |  | 5 | 0 | 1 | 8 | 1 | 0 | 28 |
| 7:45 AM | ${ }_{1}^{2}$ | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 3 | 7 | 1 | 0 | 0 | 4 | 0 | 0 | 22 |
| 8:00 AM | 1 | 3 | 0 | 0 | 0 | 1 | 5 | 0 | 1 | 10 | 1 | O | 2 | 2 | 0 | 0 | 25 |
| 8:15 AM |  | 2 | 0 | 0 | 0 | 3 | 5 | 0 | 2 | 7 | 3 | 0 | 0 | 4 | 0 |  | 26 |
| 8:30 AM | 3 | 4 | 0 | 0 | 0 | 1 | 5 |  | 1 | 9 | 8 |  | 1 | 4 | 2 |  | 38 |
| 8:45 AM |  | 1 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 8 | 4 | 0 | 2 | 4 | 0 |  | 27 |
| 9:00 AM | 0 | 15 | 0 | 0 | 0 | 2 | 4 |  | 1 | ${ }^{13}$ | 4 |  | 3 | 6 | 0 |  | 34 |
| 9:15 AM | 2 |  | 0 | - | - | 2 |  | 0 |  | 13 | 11 | 0 | 1 | 16 | 1 | 0 | 61 |
|  | $\begin{gathered} \hline \mathrm{NL} \\ 12 \\ 38.71 \% \end{gathered}$ | $\begin{gathered} \mathrm{NT} \\ 19 \\ 61.29 \% \\ \hline \end{gathered}$ | NR | NU | sL | ST | SR | su | EL | ET | ER | EU | w | WT | WR |  |  |
| TOTAL VOLUMES: |  |  |  | 0 |  | 16 | 60 |  |  |  |  |  |  |  |  |  | 396 |
| APPROACH\%'s: |  |  | 0.00\% | 0.00\% | 6.17\% | 19.75\% | 74.07\% | 0.00\% | 9.73\% | 63.24\% | 27.03\% | 0.00\% | 12.12\% | 78.79\% | 9.09\% | 0.00\% |  |
| PEAK HR: | 08:00 AM - 09:00 AM |  |  |  | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| PEAK HR VOL: | $\stackrel{5}{0.417}$ | $\begin{aligned} & 10 \\ & 0.625 \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{0}^{0}$ | 116 |
| PEAK HR FACTOR : |  |  | ${ }_{36}^{0.000}$ | 0.000 |  | ${ }^{0.417}{ }_{0.8}$ | 0.875 | 0.000 | 0.500 | ${ }^{0.850} 0$ | $0.500$ | 0.000 | 0.625 | ${ }_{0.875}^{0.7}$ | $0^{0.250}$ | 0.000 | 0.763 |



National Data \& Surveying ServicesIntersection Turning Movement Count

| Location: Alton Rd \& SR A1A/5th St/SR A1A/5th St <br> City: Miami Beach <br> Control: Signalized |  |  |  |  |  |  |  |  |  |  |  |  | Project ID: 21-140212-003Date: $9 / 15 / 2021$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NS/ EW Streets: | Alton Rd |  |  |  | Alton Rd |  |  |  | SR A1A/5th St/SR A1A/5th St |  |  |  | SR A1A/5th St/SR A1A/5th St |  |  |  |  |
| AM | NORTHBOUND |  |  |  | SOUTHBOUND |  |  |  | EASTBOUND |  |  |  | WESTBOUND |  |  |  | TOTAL |
|  | - ${ }_{\text {NL }}$ | - ${ }_{\text {NT }}$ | $\begin{gathered} 0 \\ 0 \\ \text { NR } \end{gathered}$ | $\begin{gathered} 0 \\ \text { NU } \end{gathered}$ | $\begin{aligned} & 0 \\ & \mathrm{SL} \end{aligned}$ | 0ST | $\begin{aligned} & 0 \\ & \text { SR } \end{aligned}$ | $\begin{aligned} & 0 \\ & \text { su } \end{aligned}$ | $\begin{array}{r} 0 \\ \text { EL } \\ \hline \end{array}$ |  | $\stackrel{0}{\text { ER }}$ | 0 | $\begin{gathered} 0 \\ \text { wL } \end{gathered}$ | - ${ }_{\text {W }}^{\text {WT }}$ | $\stackrel{0}{\text { WR }}$ | wu |  |
|  |  |  |  |  |  |  |  |  |  |  |  | EU |  |  |  |  |  |
| 5:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | WT | 0 | 0 | 0 |
| 5:45 AM | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 6:00 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 5 |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 7:15 AM | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 7:30 AM | o | 2 | 2 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 10 |
| 7:45 AM | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| 8:15 Am | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 6 |
| 8:30 Am | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8:45 AM | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 9:00 AM | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| 9:15 AM | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | wU | TOTAL |
| TOTAL VOLUMES : | 7 | 7 | 2 | 0 | 2 | 18 | 11 | 0 | 5 | 4 | 3 | 0 | 0 | 9 | 0 | 0 | 68 |
| 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: |  | 8:00 AM | 9:00 AM |  |  |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL: | 0 | 4 | 0 | 0 | 0 | 5 | 5 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 18 |
| PEAK HR FACTOR : | 0.000 | 0.333 | 0.000 | 0.000 | 0.000 | 0.625 | 0.625 | 0.000 | 0.250 | 0.000 | 0.250 | 0.000 | 0.000 | 0.250 | 0.000 | 0.000 |  |
|  |  | 0. |  |  |  | 0.8 |  |  |  |  |  |  |  | 0.2 |  |  | 0.750 |



National Data \& Surveying ServicesIntersection Turning Movement Count
Location: Alton Rd \& SR A1A/5th St/SR A1A/5th St
City: Miami Beach Date: 9/15/2021
Data - Pedestrians (Crosswalks)


| 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 |
|  | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| TOTAL VOLUMES : | 0 | 1 | 47 | 48 | 84 | 80 | 3 | 10 | 273 |
| APPROACH \% 's : | 0.00\% | 100.00\% | 49.47\% | 50.53\% | 51.22\% | 48.78\% | 23.08\% | 76.92\% |  |
| PEAK HR : | 05:00 P | 06:00 PM |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 0 | 1 | 13 | 21 | 24 | 27 | 1 | 1 | 88 |
| PEAK HR FACTOR : |  | 0.250 | 0.542 | 0.438 | 0.667 | 0.482 | 0.250 | 0.250 |  |
|  | 0.250 |  | 0.607 |  | 0.750 |  | 0.500 |  | 0.688 |

Prepared by National Data \& Surveying Services

## Alton Rd \& SR A1A/5th St/SR A1A/5th St

Peak Hour Turning Movement Count

ID: 21-140212-003
City: Miami Beach

SOUTHBOUND

| AM | 559 | 144 | 73 | 1 | 228 | AM |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NOON | 0 | 0 | 0 | 0 | 0 | NOON |

Day: Wednesday
Date: 9/15/2021


HT (NOON)


HT (PM)




National Data \& Surveying ServicesIntersection Turning Movement Count

| Location: Terminal Island Out ound Right-Turn Exit \& SR A1A MacArthur Causeway <br> City: Miami Beach <br> Control: 1-Way Sto (NB) |  |  |  |  |  |  |  |  |  |  |  |  |  | ject ID: Date: | $\begin{aligned} & 1-140212 \\ & / 15 / 2021 \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Data - Total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 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 |  |  |  |  |
|  | 0 | 0 | 0 | 0 | $\begin{aligned} & 0 \\ & \text { SL } \end{aligned}$ | $\begin{gathered} 0 \\ \text { ST } \\ \hline \end{gathered}$ | $\begin{gathered} 0 \\ \text { SR } \\ \hline \end{gathered}$ | $\begin{gathered} 0 \\ \text { SU } \end{gathered}$ | $\begin{gathered} 0 \\ \text { EL } \\ \hline \end{gathered}$ | $\begin{gathered} 0 \\ \text { ET } \end{gathered}$ | $\begin{gathered} 0 \\ \text { ER } \end{gathered}$ | $\begin{gathered} 0 \\ \text { EU } \\ \hline \end{gathered}$ | $\begin{gathered} 0 \\ \text { WL } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WT } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WR } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WU } \end{gathered}$ | TOTAL |
|  | NL | NT | NR | NU |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5:30 AM | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 133 | 0 | 0 | 0 | 79 | 0 | 0 | 219 |
| 5:45 AM | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 161 | 0 | 0 | 0 | 92 | 0 | 0 | 266 |
| 6:00 AM | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 192 | 0 | 0 | 0 | 132 | 0 | 0 | 333 |
| 6:15 AM | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 259 | 0 | 0 | 0 | 127 | 0 | 0 | 393 |
| 6:30 AM | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 330 | 0 | 0 | 0 | 195 | 0 | 0 | 533 |
| 6:45 AM | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 411 | 0 | 0 | 0 | 230 | 0 | 0 | 647 |
| 7:00 AM | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 399 | 0 | 0 | 0 | 303 | 0 | 0 | 708 |
| 7:15 AM | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 404 | 0 | 0 | 0 | 334 | 0 | 0 | 745 |
| 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 456 | 0 | 0 | 0 | 361 | 0 | 0 | 819 |
| 7:45 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 582 | 0 | 0 | 0 | 392 | 0 | 0 | 977 |
| 8:00 AM | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 685 | 0 | 0 | 0 | 377 | 0 | 0 | 1066 |
| 8:15 AM | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 631 | 0 | 0 | 0 | 495 | 0 | 0 | 1132 |
| 8:30 AM | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 650 | 0 | 0 | 0 | 447 | 0 | 0 | 1102 |
| 8:45 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 606 | 0 | 0 | 0 | 452 | 0 | 0 | 1061 |
| 9:00 AM | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 674 | 0 | 0 | 0 | 356 | 0 | 0 | 1040 |
| 9:15 AM | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 663 | 0 | 0 | 0 | 393 | 0 | 0 | 1065 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES : | 0 | 0 | 105 | 0 | 0 | 0 | 0 | 0 | 0 | 7236 | 0 | 0 | 0 | 4765 | 0 | 0 | 12106 |
| APPROACH \% 's : | 0.00\% | 0.00\% | 100.00\% | 0.00\% |  |  |  |  | 0.00\% | 100.00\% | 0.00\% | 0.00\% | 0.00\% | 100.00\% | 0.00\% | 0.00\% |  |
| PEAK HR : |  | 8:00 AM | 09:00 AM |  |  |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 2572 | 0 | 0 | 0 | 1771 | 0 | 0 | 4361 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 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 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.8 |  |  | 0.963 |


| $\begin{gathered} \stackrel{1}{5} \\ \circ \\ \hdashline \end{gathered}$ | 명 | $\stackrel{\sim}{\circ}$ |  |  | OO ঃ ঃo |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $: \begin{array}{lll} 0 & 0 \\ 0 & 0 \\ \mathrm{~N} & \mathrm{~N} \\ \mathrm{ON} \\ \mathrm{~N} \end{array}$ | $000 \circ$ <br> 꾹 ํํㄱ | $\circ \circ 0 \circ$ <br> Nin min in in <br> $\circ 000$ | $\circ \circ \circ \circ$ <br>  <br> 0000 | $\circ \circ$ <br> io <br> $\circ \circ$ |  |  |
|  |  | 0000 <br> $\mathfrak{m}$ <br> 0000 | $\circ \circ 0 \circ$ <br> 우N 우N 웅 <br> $\circ \circ \circ \circ$ | 0000 <br>  <br> 0000 | $\circ \circ$ <br> 品 <br> $\circ \circ$ |  |  |
|  | $\left\{\begin{array}{lll} 0 & 0 & 0 \\ 0 & 0 \end{array}\right.$ | $\circ 000$ <br> 0000 <br> 0000 |  |  | $\circ \circ$ <br> $\circ 0$ <br> 00 |  | - <br> - 8 <br> - 8 <br> - 8 |
|  |  | $\left\|\begin{array}{llll} 0 & 0 & 0 & 0 \\ \infty & n & \cdots & 0 \\ 0 & 0 & 0 & 0 \end{array}\right\|$ | O- $\circ$ の | $\infty m$ n $\quad$ <br> 0000 <br> 0000 | m m <br> $\circ \circ$ <br> $\circ \circ$ | $\begin{array}{ccc}  & & 0.0 \\ & 0 & 0 \\ \hline \end{array}$ |  |
| $\sum$ | $\begin{aligned} & \sum_{n} \sum_{n}^{n} \\ & \dot{M} \\ & \underset{\sim}{N} \\ & \dot{N} \end{aligned}$ | $\begin{array}{ll} \sum_{n} & \sum_{0} \\ \sum_{n} & \sum_{n} \\ O_{n}^{n} & 0 \\ \dot{m} & \dot{n} \\ \ddot{m} & \underset{m}{m} \\ \ddot{m} \end{array}$ |  |  |  |  |  |

National Data \＆Surveying ServicesIntersection Turning Movement Count
Location：Terminal Island Out ound Right－Turn Exit \＆SR AIA MacArthur Causeway
City：Miami Beach
Control：1－Way Sto（NB）

| 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 |  |  |  |  |
|  | 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 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 127 | 0 | 0 | 0 | 76 | 0 | 0 | 209 |
| 5：45 AM | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 156 | 0 | 0 | 0 | 90 | 0 | 0 | 258 |
| 6：00 AM | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 179 | 0 | 0 | 0 | 127 | 0 | 0 | 313 |
| 6：15 AM | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 245 | 0 | 0 | 0 | 125 | 0 | 0 | 377 |
| 6：30 AM | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 317 | 0 | 0 | 0 | 192 | 0 | 0 | 517 |
| 6：45 AM | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 401 | 0 | 0 | 0 | 219 | 0 | 0 | 626 |
| 7：00 AM | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 381 | 0 | 0 | 0 | 292 | 0 | 0 | 677 |
| 7：15 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 383 | 0 | 0 | 0 | 322 | 0 | 0 | 708 |
| 7：30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 442 | 0 | 0 | 0 | 348 | 0 | 0 | 791 |
| 7：45 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 565 | 0 | 0 | 0 | 380 | 0 | 0 | 948 |
| 8：00 AM | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 665 | 0 | 0 | 0 | 368 | 0 | 0 | 1037 |
| 8：15 AM | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 606 | 0 | 0 | 0 | 488 | 0 | 0 | 1099 |
| 8：30 AM | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 623 | 0 | 0 | 0 | 428 | 0 | 0 | 1055 |
| 8：45 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 587 | 0 | 0 | 0 | 435 | 0 | 0 | 1024 |
| 9：00 AM | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 642 | 0 | 0 | 0 | 344 | 0 | 0 | 996 |
| 9：15 AM | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 630 | 0 | 0 | 0 | 365 | 0 | 0 | 999 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES ： | 0 | 0 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 6949 | 0 | 0 | 0 | 4599 | 0 | 0 | 11634 |
| APPROACH \％＇s： | 0．00\％ | 0．00\％ | 100．00\％ | 0．00\％ |  |  |  |  | 0．00\％ | 100．00\％ | 0．00\％ | 0．00\％ | 0．00\％ | 100．00\％ | 0．00\％ | 0．00\％ |  |
| PEAK HR ： | 08：00 AM－09：00 AM |  |  |  | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{aligned} & 2481 \\ & 0.933 \end{aligned}$$0.93$ | $\begin{gathered} 0 \\ 0.000 \\ 3 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{aligned} & 1719 \\ & 0.881 \end{aligned}$$0 .$ | 0 0 <br> 0.000 0.000 |  | TOTAL |
| PEAK HR VOL ： | 0 | 0 | 15 | 0 |  |  |  |  |  |  |  |  |  |  |  |  | 4215 |
| PEAK HR FACTOR ： | 0.000 | 0.000 | 0.750 | 0.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.959 |


| $\begin{gathered} \stackrel{1}{5} \\ \circ \\ \vdash \end{gathered}$ | Col |  |  |  | ơ Nু |  |  |
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|  |  | 0000 <br> 소 M M す | $\circ \circ \circ \circ$ <br> Ň o No <br> $\circ 000$ |  | $\circ \circ$ <br> が O <br> $\circ \circ$ |  |  |
|  | $\begin{array}{lll} 0 & 0 \\ 0 & 0 \\ 0 & \frac{H}{2} \\ \vdots & \mathrm{~m} \\ 0 & 0 \end{array}$ | $\circ 000$ 乲 악 | $\circ \circ \circ \circ$ <br>  <br> 0000 | 0000 <br> Nif i̛ M <br> 0000 | $\circ \circ$ <br> N <br> $\circ 0$ |  |  |
|  | $: \begin{array}{lll} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{array}$ | $\circ 000$ <br> 0000 <br> 0000 |  | $\circ 000$ <br> 0000 <br> 0000 | $\circ \circ$ <br> $\circ \circ$ <br> 00 |  | - <br> － 8 <br> － 8 <br> － 8 |
|  | $: \begin{array}{ll} 0 & 0 \\ 0 & \wedge \\ 0 & 0 \\ 0 & 0 \end{array}$ | ヘ ヘップ | O－$\circ$ の | $\infty m$ n $\sigma$ <br> 0000 <br> 0000 | m m <br> $\circ \circ$ <br> $\circ \circ$ |  |  |
| $\sum$ | $\begin{aligned} & \sum_{n}^{N} \sum_{n}^{2} \\ & 0 \\ & \underset{\sim}{n} \\ & \underset{\sim}{\dot{N}} \end{aligned}$ |  |  |  |  |  |  |

National Data \＆Surveying ServicesIntersection Turning Movement Count


| $\begin{aligned} & \vec{t} \\ & \stackrel{\rightharpoonup}{\circ} \end{aligned}$ |  |  |  | － 6 | 芯 N | Ј |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 00000000 <br> ののはウグウスの | 0000 <br> の | $\circ \circ$ $\stackrel{n}{n}$ |  | $\bigcirc \stackrel{\circ}{0}$ <br> － 8 ד <br> － 8 |
|  | $\left\lvert\, \begin{array}{lll} 0 & 0 \\ 0 & 0 \\ 0 & n \\ 0 & 0 \end{array}\right.$ | 00000000 <br> 00000000 <br> ヘベベャのート <br> 00000000 |  | $\circ \circ$ <br> $\circ \circ$ <br> 0 N <br> $\circ \circ$ |  | $\bigcirc$ <br> $-8$ m $\bigcirc \stackrel{\circ}{0}$ |
|  | $: \begin{array}{ll} 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{array}$ | 00000000 <br> 00000000 <br> 00000000 <br> 00000000 | 00000 <br> 00000 <br> 00000 <br> 00000 | $\circ \circ$ <br> $\circ \circ$ <br> $\circ \circ$ |  | － 8 <br> － 8 <br> － <br> － 8 |
|  | $: \begin{array}{lll} 0 & 0 \\ 0 & -1 \\ 0 & 0 \\ 0 & 0 \end{array}$ | 00000000 <br> н००00000 <br> 00000000 <br> 00000000 | 00000 <br> 00000 <br> 00000 <br> 00000 | $\circ \circ$ <br> $\circ \circ$ <br> $\circ \circ$ | $\left\lvert\, \begin{array}{ccc} z & 0 & 0 \\ z & 0 \\ 0 \end{array}\right.$ |  |
| $\sum$ |  |  |  |  |  |  |


National Data \& Surveying ServicesIntersection Turning Movement Count

| Location: Terminal Island Out ound Right-Turn Exit \& SR A1A MacArthur Causeway <br> City: Miami Beach <br> Control: 1-Way Sto (NB) |  |  |  |  |  |  |  |  |  |  |  |  |  | ect ID: Date: | $\begin{aligned} & 1-140212-15 / 2021 \\ & \hline 15 \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Data - Bikes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 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 |  |  |  | TOTAL |
|  | $\begin{gathered} 0 \\ \mathrm{NL} \end{gathered}$ | NT | 0 | $\begin{gathered} 0 \\ \mathrm{NU} \\ \hline \end{gathered}$ | SL | $\begin{gathered} 0 \\ \text { ST } \end{gathered}$ | $\begin{gathered} 0 \\ \text { SR } \end{gathered}$ | $\begin{gathered} 0 \\ \text { su } \end{gathered}$ | $\begin{gathered} 0 \\ \text { EL } \end{gathered}$ | $\begin{gathered} 0 \\ \text { ET } \end{gathered}$ | $\begin{gathered} 0 \\ \text { ER } \end{gathered}$ | $\begin{gathered} 0 \\ \text { EU } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WL } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WT } \end{gathered}$ | WR | WU |  |
|  |  |  | NR |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5:30 AM | 0 | 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 | 0 |
| 6:00 AM | 0 | 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 | 4 | 0 | 0 | 4 |
| 6:30 AM | 0 | 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 | 2 | 0 | 0 | 2 | 0 | 0 | 5 |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 5 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 3 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 5 |
| 9:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 5 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES : | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 4 | 1 | 1 | 20 | 0 | 0 | 37 |
| APPROACH \% 's : | 33.33\% | 0.00\% | 66.67\% | 0.00\% |  |  |  |  | 0.00\% | 61.54\% | 30.77\% | 7.69\% | 4.76\% | 95.24\% | 0.00\% | 0.00\% |  |
| PEAK HR : |  | 8:00 AM | 9:00 AM |  |  |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 11 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.250 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.625 | 0.000 | 0.000 | 0.000 | 0.417 | 0.000 | 0.000 |  |
|  |  | 0.2 |  |  |  |  |  |  |  |  |  |  |  | 0.4 |  |  | 0.550 |


| $\begin{aligned} & \stackrel{1}{\mathrm{t}} \\ & \stackrel{1}{\mathrm{~A}} \end{aligned}$ | No | O NON | m n No | -Orサ | Ho | $\underset{\sim}{\stackrel{\rightharpoonup}{\hat{k}}} \underset{\sim}{n}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\circ \circ$ <br> $\circ \circ$ <br> 00 |  |  |  | $\circ \circ$ <br> Ho <br> $\circ \circ$ |  | - 8 <br> $\circ 8$ $\begin{array}{r} 0 \\ +80 \\ +8_{0}^{0} \\ 0 \\ 0 \\ 0 \end{array}$ <br> - 8 |
|  | HO <br> $0 \circ$ <br> 00 |  |  |  | $\circ \circ$ <br> $\circ \circ$ <br> $\circ \circ$ |  | - 8 <br> $-\stackrel{\stackrel{\circ}{N}}{0}$ <br>  <br> 08. <br> - 8 |
|  | $0: 100$ | 0000 <br> 0000 <br> 0000 |  |  | $\circ \circ$ <br> 00 <br> $\circ \circ$ |  | - 8 <br> - 8 <br> - 8 <br> - 8 |
|  | $1 \mathrm{HO}$ <br> $0 \circ$ <br> 00 | ○ 00 r <br> 0000 <br> 0000 |  |  | $\circ 0$ <br> $\circ \circ$ <br> $\circ \circ$ |  |  |
| $\underset{\Omega}{ }$ | $\begin{aligned} & \sum_{0} \underset{n}{n} \\ & \stackrel{n}{n} \\ & \underset{\sim}{\sim} \underset{\sim}{\sim} \end{aligned}$ |  |  |  |  |  |  |

National Data \& Surveying ServicesIntersection Turning Movement Count
Location: Terminal Island Out ound Right-Turn Exit \& SR AIA MacArthur Cau: Project ID: 21-140212-004
City: Miami Beach Date: 9/15/2021
Data - Pedestrians (Crosswalks)


| $P M$ | 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 |
|  | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| TOTAL VOLUMES : APPROACH \% 's : | 0 | 0 | $\begin{gathered} 0 \\ 0.00 \% \end{gathered}$ | $\begin{gathered} 9 \\ 100.00 \% \end{gathered}$ | $\begin{gathered} 2 \\ 100.00 \% \end{gathered}$ | $\begin{gathered} 0 \\ 0.00 \% \end{gathered}$ | 0 | 0 | 11 |
| PEAK HR : | 05:00 | :00 PM |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL: PEAK HR FACTOR: | 0 | 0 |  | $0^{\begin{array}{c} 1 \\ 0.250 \end{array}}$ | 0 | 0 | 0 | 0 | $\begin{gathered} 1 \\ 0.250 \end{gathered}$ |

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





## Traffic Volumes <br> Weekend Turning Movement Counts

# National Data \& Surveying ServicesIntersection Turning Movement Count 



# National Data \& Surveying ServicesIntersection Turning Movement Count 



# National Data \& Surveying ServicesIntersection Turning Movement Count 




# National Data \& Surveying ServicesIntersection Turning Movement Count 

| Location: Bridge Rd \& SR A1A MacArthur Causeway <br> City: Miami Beach <br> Control: Signalized |  |  |  |  | Data - Bikes |  |  |  |  |  |  |  | Project ID: $21-140212-001$Date: $9 / 18 / 2021$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
| NS/ EW Streets: | Bridge Rd |  |  |  |  |  |  |  |  |  |  |  | Bridge Rd |  |  |  | SR A1A MacArthur Causeway |  |  |  | SR A1A MacArthur Causeway |  |  |  |  |
| NOON | NORTHBOUND |  |  |  | $0{ }_{0} 0$ |  |  |  | EASTBOUND |  |  |  | WESTBOUND |  |  |  |  |
|  | ${ }_{\text {NL }}^{0}$ | $\stackrel{0}{\mathrm{NT}}$ | O | $\begin{gathered} 0 \\ \mathrm{NU} \end{gathered}$ |  |  |  |  | $\begin{aligned} & 0 \\ & E L \end{aligned}$ | ETET | ¢ | 0 | $\begin{gathered} 0 \\ \text { WL } \end{gathered}$ | $\stackrel{0}{W T}$ | $\stackrel{0}{W R}$ | wu |  |
|  |  |  |  |  | 0 SL | ST | SR | $\begin{aligned} & 0 \\ & \text { su } \end{aligned}$ |  |  |  | EU |  |  |  |  |  |
| 10:00 AM |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ET | 0 | 0 | WL | WT | 2 | 0 | TOTAL |
| 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 | 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 | O | 0 | 3 |  | 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 | 3 | 0 | , | 4 |
| TOTAL VOLUMES : APPROACH \% 's | NL | $\begin{gathered} \text { NT } \\ 0 \end{gathered}$ | $\begin{gathered} \hline \text { NR } \\ 0 \end{gathered}$ | $\begin{gathered} N U \\ 0 \end{gathered}$ | $\begin{gathered} \text { SL } \\ 2 \\ 25.00 \% \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \text { ST } \\ & 0 . \\ & 0.00 \% \\ & \hline \end{aligned}$ | $\begin{gathered} \hline \text { SR } \\ 6 \\ 75.00 \% \\ \hline \end{gathered}$ | $\begin{array}{l\|} \hline \text { SU } \\ 0 \\ 0.00 \% \end{array}$ | $\begin{aligned} & \hline \text { EL } \\ & 0 \\ & 0.00 \% \end{aligned}$ | $\begin{gathered} \mathrm{ET} \\ 53 \\ 100.00 \% \end{gathered}$ | $\begin{aligned} & \hline \text { ER } \\ & 0 \\ & 0.00 \% \end{aligned}$ | $\begin{array}{l\|} \hline \text { EU } \\ 0 \\ 0.00 \% \end{array}$ | $\begin{aligned} & \hline \text { WL } \\ & 0 \\ & 0.00 \% \end{aligned}$ | $\begin{aligned} & \text { WT } \\ & 25 \\ & 75.76 \% \end{aligned}$ | $\begin{gathered} \hline \text { WR } \\ 8 \\ 24.24 \% \end{gathered}$ | $\begin{aligned} & \text { WU } \\ & 0 \\ & 0.00 \% \end{aligned}$ | $\begin{gathered} \hline \text { TOTAL } \\ 94 \end{gathered}$ |
|  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PEAK HR: | :00 AM- :00 PM |  |  |  | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{array}{cc} 0 & 2 \\ 0.000 & 0.250 \end{array}$ |  | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ |  |  |  | ${ }_{0}^{0.000}$ |  |  |  | TOTAL |
| PEAK HR VOL: | 0 | 0 | 0 | 0 |  |  |  | 130.406 |  | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $0$ | 120.600 |  |  |  | 29 |  |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.000 | 0.000 |  |  |  | 0.000 0.600 <br> 0.700  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | 0.558 |  |  |  |  |  |


| 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 | WT | WR | 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 |  | 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 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 11 | 0 |  |  | 15 |  |  | 27 |
| APPROACH \% 's : |  |  |  |  | 100.00\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% | 100.00\% | 0.00\% | 0.00\% | 0.00\% | 100.00\% | 0.00\% | 0.00\% |  |
| PEAK HR : | 0 : 0PM-0 : 0 PM |  |  |  | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 5 \\ 0.417 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | 7 | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} \hline \text { TOTAL } \\ 12 \\ 0.750 \end{gathered}$ |
| PEAK HR VOL : | 0 | 0 | 0 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.000 | 0.000 |  |  |  |  |  |  |  |  |  | 0.583 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# National Data \& Surveying ServicesIntersection Turning Movement Count <br> Location: Bridge Rd \& SR A1A MacArthur Causeway 

City: Miami Beach Date: 9/18/2021
Data - Pedestrians (Crosswalks)

| NS/ EW Streets: | Bridge Rd |  | Bridge Rd |  | SR A1A MacArthur Causeway |  | SR A1A MacArthur Causeway |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NOON | NORTH LEG |  | SOUTH LEG |  | EAST LEG |  | WEST LEG |  |  |
|  | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| 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 : APPROACH \% 's : | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
|  | 4 | 1 | 7 | 5 | 0 | 4 | 0 | 0 | 21 |
|  | 80.00\% | 20.00\% | 58.33\% | 41.67\% | 0.00\% | 100.00\% |  |  |  |
| PEAK HR : | :00 AM - | :00 PM | $\begin{gathered} 2 \\ 0.250 \end{gathered}$ |  |  |  |  |  | TOTAL |
| PEAK HR VOL: PEAK HR FACTOR : | 0 | 0 |  | 2 | 0 | 1 | 0 | 0 | 5 |
|  |  |  |  | 0.250 |  | 0.250 |  |  |  |
|  |  |  |  | 0.250 | 0.250 |  |  |  | 0.313 |



## Bridge Rd \& SR A1A MacArthur Causeway

## Peak Hour Turning Movement Count

ID: 21-140212-001
City: Miami Beach


SOUTHBOUND

| AM | 0 | 0 | 0 | 0 | 0 | AM |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| POM | AM | 6 | 0 | 7 | 0 | 20 | NOON |
|  | PM | 21 | 0 | 4 | 0 | 28 | PM |

Day: Saturday
Date: 9/18/2021


HT (NOON)


HT (PM)





| Location: Terminal Island Entrance \& SR A1A MacArthur CausewayCity: Miami Beach City: Miami Beach |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Project ID: <br> Date: $911 / 1202021212021$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Terminal Isand Entance |  |  |  | Terminal Isand Entrance |  |  |  | SR AIA M Mactriur Causeway |  |  |  |  | 1 A Macartur Causeway |  |  |  |  |  | Temminal lsand |  |  |  |
| NOON |  |  |  |  |  | Total |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\frac{\mathrm{N}}{\mathrm{NL}}$ | $\begin{aligned} & \text { Nor } \\ & \text { Nor } \end{aligned}$ | $\begin{aligned} & \text { OUNO } \\ & \text { NR } \\ & \hline \end{aligned}$ | nu |  |  |  |  |  | $\begin{aligned} & \text { si } \\ & \frac{1}{2} \end{aligned}$ |  |  |  |  | $\begin{aligned} & 0 \\ & \hline E T \end{aligned}$ |  |  |  |  |  |  |  |  | ${ }_{\text {E2T }}$ | W2T ${ }_{\text {W2T2 }}^{0}$ |  |  |
| (tan | : | 0 | 0 | 0 | $\bigcirc$ |  | ! | S |  |  | $\underset{\substack{488 \\ 517}}{ }$ |  |  |  | w | $\underset{\substack{\text { WT } \\ 354}}{\text { 30 }}$ | 0 |  |  | 8 |  |  |  |
| (10.3 ${ }^{10}$ | 0 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | : | 0 | $\bigcirc$ | \% |  | ${ }_{3}^{311}$ | $\bigcirc 3^{\circ}$ | ${ }_{38}^{14}$ | 3 | $\bigcirc$ | ${ }_{3}^{334} 415$ | $\bigcirc$ | : | ${ }_{5}^{4}$ |  |  |  |  | 878 |
| (12.0.0 |  | $\bigcirc$ | $\bigcirc$ |  | $\bigcirc$ | 0 | 0 |  |  | ${ }_{539}^{53}$ | 0 0 |  |  |  | ${ }_{4}^{49}$ |  |  |  |  |  |  |  | 1074 |
| (11.15 | : | : |  | $\bigcirc$ | : | : | : | 0 |  | cras 599 | ○ | $\begin{array}{r}13 \\ 17 \\ \hline\end{array}$ | : | : | 464 463 | : |  | ${ }_{16}^{11}$ | $\bigcirc$ | : | 13 12 |  | 1140 <br> 1102 |
|  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { TOTAL VOLUMES } \\ & \text { APPROACH \%'s } \end{aligned}$ | ${ }_{0}^{\mathrm{NL}}$ | ${ }_{0}^{\text {NT }}$ | ${ }_{\substack{\mathrm{NR} \\ 0}}$ | ${ }_{0}^{\text {No }}$ | ${ }_{0}^{\text {SL }}$ | ${ }_{0}^{\text {ST }}$ | ${ }_{0}^{5 R}$ | ${ }_{0}^{\text {Su }}$ |  |  | $\begin{array}{ll} \hline \mathrm{ER} & \mathrm{EV} \\ \hline 0.00 \% & 5.11 \\ \hline 0.0 \\ \hline \end{array}$ | $\begin{aligned} & \text { E12 } \\ & 6 \quad 124 \% \\ & \hline \quad 2.17 \% \\ & \hline \end{aligned}$ | $\begin{array}{\|c\|} \hline \mathrm{EO}_{2} \\ 5.11 \% \\ 0.01 \end{array}$ | $\begin{aligned} & \hline \text { WL } \\ & \hline 0.00 \% \\ & \hline \end{aligned}$ |  | $\begin{array}{ll} \hline W_{R} & W_{U} \\ 0.00 \% & 1.03 \% \\ 0.03 \% \\ \hline \end{array}$ | $\begin{gathered} \text { WI2 } \\ 0.00 \% \\ 0.00 \end{gathered}$ | WU253$1.57 \%$ | ${ }^{\text {E2T }}$ | $\begin{aligned} & { }^{W_{2} 2 T} \\ & 2.20 \% \% \\ & \hline 2 \end{aligned}$ |  | $\begin{aligned} & \mathbf{W}_{2} 212 \\ & 2.208 \% \end{aligned}$ |  |
|  |  |  | :OOAM - :00 |  |  | 0.000 | 0.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.00 | 0.000 | 0.000 | 0.000 |  |  |  | 0.000 |  | $\begin{aligned} & 2481 \\ & .0 .900 \\ & \hline \end{aligned}$ | ${ }_{0.0000}^{0.900^{0.250}}$ |  | $0.000$ |  |  | $0_{0.000}^{0.994 .250}$ | 0.000 | ${ }_{0} 0.71$ | 0.000 | 0.000 | 0.692 | ${ }_{0}^{1} .25$ | $\begin{aligned} & \text { Toral } \\ & \begin{array}{l} \text { ch34 } \\ 0.950 \end{array} \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PM |  |  |  |  | SL00000000 | SOUTHBUND  <br> 0  <br> ST SR <br> 0 0 <br> 0 0 <br> 0 0 <br> 0 0 <br> 0 0 <br> 0 0 <br> 0 0 <br> 0 0 |  | $\begin{aligned} & \text { su } \\ & \text { su } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{lll}0 \\ \text { EL } & \\ 0 & 5 \\ 0 & 5 \\ 0 & 6 \\ 0 & 6 \\ 0 & 6 \\ 0 & 7 \\ 0 & 6 \\ 0 & 6\end{array}$ |  | $\substack{\text { EASTBOUNO } \\ \text { ER } \\ \text { EU } \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0}$00 | $\begin{aligned} & \frac{0}{812} \\ & \hline 12 \\ & \frac{12}{11} \\ & \frac{12}{17} \\ & 9 \\ & 9 \\ & 16 \end{aligned}$ | 渞00000000 | $\begin{gathered} \hline 0 \\ \hline w L \\ \hline \vdots \\ \vdots \\ \vdots \\ \vdots \\ \vdots \\ 0 \\ 0 \end{gathered}$ |  | WESTBOUN  <br> WR  <br> WR wU <br> 0 $\vdots$ <br> 0 0 <br> 0 0 <br> 0 0 <br> 0 1 <br> 0 0 <br> 0 1 | WT2 wu2 |  | ${ }_{\text {E2T }}$ |  |  |  | total |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | \% |  |  | ${ }_{3}^{9}$ |  |  |  |  |  |  |  |  | $\bigcirc$ | 0 | ${ }_{12}^{18}$ | 0 | ${ }_{1}^{1229}$ |  |  |
| coin |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 19 |  | (1234 |  |  |
| comem |  |  |  |  |  |  |  | ${ }_{6}^{8}$ |  |  |  |  |  |  |  |  | \% | 0 | ${ }_{24}^{19}$ | : | (1338 |  |  |
| 4.00 PM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1319 <br> 1332 <br> 132 |  |  |
| 4.15 PM |  |  |  |  | 0 |  |  | 8 |  |  |  |  |  |  |  |  | 0 |  | 29 |  | 1389 |  |  |
|  |  | $\begin{array}{cccc} \mathrm{NL} & \mathrm{NT}_{0}^{\mathrm{NT}} & { }_{0}^{\mathrm{NR}} & \mathrm{NO}_{0}^{\mathrm{NU}} \end{array}$ |  |  |  | ${ }_{0}^{\text {sL }}$ | ${ }_{0}$ |  | ${ }_{0}^{\text {SR }}$ | ${ }_{0}^{50}$ | $\begin{aligned} & \begin{array}{l} \text { EL } \\ 0.00 \% \end{array} \\ & \hline \end{aligned}$ |  | $\begin{array}{ll} \hline \mathrm{ER} & \mathrm{EV} \\ \hline 0.00 \% & 0.00 \% \\ \hline \end{array}$ | $\begin{gathered} \substack{102 \\ \hline 10.6 \\ 10.95 \% \\ 1 \\ 1} \end{gathered}$ |  |  | $\begin{aligned} & \text { Wit } \\ & \hline 9017 \\ & \hline 9.954 \% \end{aligned}$ | $\begin{array}{lll}\text { WR } & \text { WU } \\ \text { O/ } \\ \text { 0.0\% } \\ 0.0 .04 \%\end{array}$ | $\begin{aligned} & \begin{array}{l} \text { Wr2 } \\ 0.00 \% \\ 0.00 \% \end{array} \end{aligned}$ | $\begin{aligned} & \text { Wu0 } \\ & \text { 501\% } \\ & 1.01 \% \end{aligned}$ | - ${ }_{0}^{2 T}$ |  | $\begin{aligned} & \text { W212 } \\ & 18.01 \% \\ & \hline 8.01 \% \end{aligned}$ | $\begin{gathered} \mathbf{W} 202^{3} \\ 1.99 \% \end{gathered}$ |  |
| Tota voumes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.000 | 0: 0 PM | O: 0 PM |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |  |  | ${ }^{0.000}{ }_{0.958}^{0.000}$ | $\begin{gathered} 51 \\ 0.750 \end{gathered}$ |  |  |  | $\begin{array}{cc} 0.0 \\ 0.000 \\ 0.944 .500 \\ \hline \end{array}$ | $0.00$ |  |  | $\begin{array}{lll} 0.000 & \begin{array}{c} 79 \\ 0.681 \end{array} & 0.150 \\ 0.250 \end{array}$ |  |  | $\begin{aligned} & 5484 \\ & 0.949 \end{aligned}$ |
| PEAK HR FACTOR: |  | 0.000 | 0.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.806 | 0.000 |  |  |  |  |  |  |




National Data \& Surveying ServicesIntersection Turning Movement Count


## Terminal Island Entrance \& SR A1A MacArthur Causeway

Peak Hour Turning Movement Count

ID: 21-140212-002
City: Miami Beach


Cars (NOON)


Cars (PM)



SOUTHBOUND

| AM | 0 | 0 | 0 | 0 | 0 | AM |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NOON | 0 | 0 | 0 | 0 | 0 | NOON |  |
|  | PM | 0 | 0 | 0 | 0 | 0 | PM |

Day: Saturday
Date: 9/18/2021


HT (NOON)


HT (PM)




# National Data \& Surveying ServicesIntersection Turning Movement Count 



# National Data \& Surveying ServicesIntersection Turning Movement Count 



| PM | NORTHBOUND |  |  |  | SOUTHBOUND |  |  |  | EASTBOUND |  |  |  | WESTBOUND |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0$N L$ | - 0 | $\begin{gathered} 0 \\ 0 \\ \text { NR } \end{gathered}$ | $\begin{gathered} 0 \\ \mathrm{NU} \end{gathered}$ | 0SL | 0ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\begin{array}{lll}0 & 0 & 0\end{array}$ |  |  |  |
|  |  |  |  |  |  |  | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU |  |
| 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 |
|  | NL | NT | NR | NU | SL | ST | SR |  | EL | ET | ER |  | WL | WT | WR | WU |  |
| TOTAL VOLUMES : | 770 | 309 | 64 | 0 | 111 | 373 | 1325 | 3 | 2 | 2107 | 1098 | 1 | 50 | 2424 | 266 |  | 8908 |
| APPROACH \% 's : | 67.37\% | 27.03\% | 5.60\% | 0.00\% | 6.13\% | 20.58\% | 73.12\% | 0.17\% | 0.06\% | 65.68\% | 34.23\% | 0.03\% | 1.82\% | 88.31\% | 9.69\% | 0.18\% |  |
| PEAK HR : |  | :00 PM | :00 PM |  |  |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 397 | 154 | 32 | 0 | 49 | 194 | 669 | 1 | 1 | 1111 | 555 | 0 | 23 | 1268 | 139 | 3 | 4596 |
| PEAK HR FACTOR : | 0.871 | 0.856 | 0.800 | 0.000 | 0.721 | 0.933 | 0.934 | 0.250 | 0.250 | 0.887 | 0.907 | 0.000 | 0.821 | 0.961 | 0.808 | 0.375 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.975 |

# National Data \& Surveying ServicesIntersection Turning Movement Count 



# National Data \& Surveying ServicesIntersection Turning Movement Count 



| PM | NORTHBOUND |  |  |  | SOUTHBOUND |  |  |  | EASTBOUND |  |  |  | WESTBOUND |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0$N L$ | NT | 0NR | $\begin{gathered} 0 \\ \mathrm{NU} \\ \hline \end{gathered}$ | 0SL | 0ST | $\begin{gathered} 0 \\ \text { SR } \end{gathered}$ | 0SU | $\begin{gathered} 0 \\ \text { EL } \end{gathered}$ | 0ET | $\begin{gathered} 0 \\ \text { ER } \end{gathered}$ | $\begin{gathered} 0 \\ E U \end{gathered}$ | $\begin{gathered} 0 \\ \text { WL } \end{gathered}$ | 0WT | 0 | WU |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | WR |  |  |
| 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 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES : | 4 | 7 | 1 | 0 | 2 | 11 | 5 | 0 | 1 | 15 | 4 | 0 | 0 | 15 | 3 | 0 | 68 |
| APPROACH \% 's : | 33.33\% | 58.33\% | 8.33\% | 0.00\% | 11.11\% | 61.11\% | 27.78\% | 0.00\% | 5.00\% | 75.00\% | 20.00\% | 0.00\% | 0.00\% | 83.33\% | 16.67\% | 0.00\% |  |
| PEAK HR : |  | :00 PM | :00 PM |  |  |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL: | 4 | 4 | 1 |  |  |  | 1 | 0 | 0 | 9 | 3 | 0 | 0 | 10 | 3 |  | 45 |
| PEAK HR FACTOR : | 0.500 | 0.333 | 0.250 | 0.000 | 0.250 | 0.400 | 0.250 | 0.000 | 0.000 | 0.450 | 0.750 | 0.000 | 0.000 | 0.417 | 0.750 | 0.000 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.625 |

# National Data \& Surveying ServicesIntersection Turning Movement Count <br> Location: Alton Rd \& SR A1A/5th St/SR AIA/5th St 

 City: Miami Beach Date: 9/18/2021Data - Pedestrians (Crosswalks)


| 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 |
|  | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| TOTAL VOLUMES : APPROACH \% 's : | 0 | 0 | $\begin{gathered} 44 \\ 64.71 \% \end{gathered}$ | $\begin{gathered} 24 \\ 35.29 \% \end{gathered}$ | $\begin{gathered} 40 \\ 51.28 \% \end{gathered}$ | $\begin{gathered} 38 \\ 48.72 \% \end{gathered}$ | $\begin{gathered} 2 \\ 66.67 \% \end{gathered}$ | $\begin{gathered} 1 \\ 33.33 \% \end{gathered}$ | 149 |
| PEAK HR : | 0 :00 | :00 PM |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 0 | 0 | $16$ | $15$ | $24$ | $18$ | $2$ | 0 | 75 |
| PEAK HR FACTOR : |  |  | $0.500$ | $0.417$ | $0.667$ | $0.500$ | $0.500$ |  | 0.551 |

Prepared by National Data \& Surveying Services

## Alton Rd \& SR A1A/5th St/SR A1A/5th St

## Peak Hour Turning Movement Count

ID: 21-140212-003
City: Miami Beach


Cars (NOON)


Cars (PM)



HT (PM)




# National Data \& Surveying ServicesIntersection Turning Movement Count 



# National Data \& Surveying ServicesIntersection Turning Movement Count 



# National Data \& Surveying ServicesIntersection Turning Movement Count 



# National Data \& Surveying ServicesIntersection Turning Movement Count 

| Location: Terminal Island Out ound Right-Turn Exit \& SR A1A MacArthur Causeway City: Miami Beach <br> Control: 1-Way Sto (NB) |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { ject ID: } \\ & \text { Date: } \end{aligned}$ | 1-140212 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Data - Bikes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 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 |  |  |  |  |
| NOON | NORTHBOUND |  |  |  | SOUTHBOUND |  |  |  | EASTBOUND |  |  |  | WESTBOUND |  |  |  | TOTAL |
|  | , | NT | 0 | 0NU | ${ }_{\text {S }}^{0}$ | ${ }_{\text {ST }}^{0}$ | SR | SU | 0 | O | 0 | O | $\begin{gathered} 0 \\ \text { wL } \end{gathered}$ | $\begin{gathered} 0 \\ \text { wT } \end{gathered}$ | WR | wu |  |
|  | NL |  | NR |  |  |  |  |  |  |  | ER |  |  |  |  |  |  |
| 10:00 AM | 0 | 0 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 7 | 0 | 0 |  |
| 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 |  | 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 |  |
| 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 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 5 |
|  | NL0$0.00 \%$ | NT00$0.00 \%$ | $\begin{gathered} \hline \text { NR } \\ 6 \\ 100.00 \% \end{gathered}$ | $\begin{aligned} & \hline N U \\ & 0.00 \% \\ & \hline \end{aligned}$ | SL | ST0 | $\begin{gathered} \text { SR } \\ 0 \end{gathered}$ | $\begin{gathered} \text { su } \\ 0 \end{gathered}$ | $\begin{aligned} & \hline \text { EL } \\ & 0 \\ & 0.00 \% \\ & \hline \end{aligned}$ | $\begin{gathered} \hline \text { ET } \\ 13 \\ 68.42 \% \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { ER } \\ 6 \\ 31.58 \% \\ \hline \end{gathered}$ | $\begin{array}{l\|} \hline \text { EU } \\ 0.00 \% \\ 0.00 \% \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { WL } \\ & 1.03 \% \\ & \hline \end{aligned}$ | $\begin{gathered} \text { WT } \\ 32 \\ 96.97 \% \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \text { WR } \\ & 0.00 \% \\ & 0.00 \end{aligned}$ | $\begin{aligned} & \hline \text { WU } \\ & 0 . \\ & 0.00 \% \\ & \hline \end{aligned}$ | $\begin{gathered} \hline \text { TOTAL } \\ 58 \end{gathered}$ |
| TOTAL VOLUMES: APPROACH \% 's |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PEAK HR: | :00 AM - :00 PM |  |  |  | ${ }_{0}^{0} 000$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ | ${ }_{0}^{0.000}$ | ${ }_{0}^{5}$ |  |  | ${ }_{0}^{0} 0000$ |  | $\begin{gathered} 0 \\ 0.000 \\ \hline \end{gathered}$ |  | TOTAL |
| PEAK HR VOL: | 0 | 0 | 4 | 0 |  |  |  |  |  |  | $\begin{gathered} 6 \\ 0.375 \end{gathered}$ | $\begin{gathered} 0 \\ 0.000 \end{gathered}$ |  | ${ }^{14}{ }^{14} 0$ |  |  | 29 |
| PEAK HR FACTOR : | 0.000 | 0.000 | 0.500 | 0.000 |  |  |  |  |  |  |  |  |  |  |  | 0.000 | 0.558 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.700 |  |


| PM | NORTHBOUND |  |  |  | SOUTHBOUND |  |  |  | EASTBOUND |  |  |  | WESTBOUND |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0$N L$ | NT | $\begin{gathered} 1,0 \\ 0 \\ \text { NR } \\ \hline \end{gathered}$ | $\begin{gathered} 0 \\ \mathrm{NU} \end{gathered}$ | $\begin{gathered} 0 \\ \text { SL } \end{gathered}$ | ST | $\begin{gathered} 0 \\ \text { SR } \end{gathered}$ | $\begin{gathered} 0 \\ \text { SU } \end{gathered}$ | $\begin{gathered} 0 \\ E L \end{gathered}$ | 0ET | $\begin{gathered} 0 \\ \text { ER } \end{gathered}$ | $\begin{gathered} 0 \\ E U \end{gathered}$ | $\begin{gathered} 0 \\ \text { WL } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WT } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WR } \end{gathered}$ | $\begin{gathered} 0 \\ \text { WU } \end{gathered}$ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | , | 0 | 0 | 0 | 0 | 0 | 0 | 0 | TOTAL |
| 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 | 0 | 1 | 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 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 6 |
|  | NL | NT | NR | NU | SL | ST | SR | SU | EL | ET | ER | EU | WL | WT | WR | WU | TOTAL |
| TOTAL VOLUMES : | 6 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 8 |  | 4 | 8 |  |  | 36 |
| APPROACH \% 's : | 42.86\% | 0.00\% | 57.14\% | 0.00\% |  |  |  |  | 0.00\% | 20.00\% | 80.00\% | 0.00\% | 33.33\% | 66.67\% | 0.00\% | 0.00\% |  |
| PEAK HR : |  | : 0 PM | : 0 PM |  |  |  |  |  |  |  |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 6 | 0 | 0 | 15 |
| PEAK HR FACTOR : | 0.250 | 0.000 | 0.375 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.333 | 0.000 | 0.000 | 0.500 | 0.000 | 0.000 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.625 |

# National Data \& Surveying ServicesIntersection Turning Movement Count <br> Location: Terminal Island Out ound Right-Turn Exit \& SR AIA MacArthur Cau: Project ID: 21-140212-004 

City: Miami Beach
Date: 9/18/2021

Data - Pedestrians (Crosswalks)

| NS/ EW Streets: | Terminal Rig | Out ound Exit | Terminal Island Out ound Right-Turn Exit |  | SR A1A MacArthur Causeway |  | SR A1A MacArthur Causeway |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NOON | NORTH LEG |  | SOUTH LEG |  | EAST LEG |  | WEST LEG |  |  |
|  | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| 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 |
|  | EB | WB | EB | WB | NB | SB | NB | SB | TOTAL |
| TOTAL VOLUMES : APPROACH \% 's : | 0 | 0 | $\begin{gathered} 5 \\ 71.43 \% \end{gathered}$ | $\begin{gathered} 2 \\ 28.57 \% \end{gathered}$ | 0 | 0 | 0 | 0 | 7 |
| PEAK HR : | :00 | :00 AM |  |  |  |  |  |  | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| PEAK HR FACTOR : |  |  |  | $0.250$ |  |  |  |  | 0.250 |



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

## Peak Hour Turning Movement Count

ID: 21-140212-004 City: Miami Beach


Cars (NOON)


Cars (PM)

 Terminal Island Outbound Right-Turn Exit

SOUTHBOUND

| E | AM | 0 | 0 | 0 | 0 | 0 | AM |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2:00 PM | Noon | 0 | 0 | 0 | 0 | 0 | NOON |
| 4:30 PM | PM | 0 | 0 | 0 | 0 | 0 | PM |
| OON PM |  |  |  |  |  | § |  |

Day: Saturday
Date: 9/18/2021


HT (NOON)


HT (PM)




## Traffic Volumes our Counts

## VOLUME

MacArthur Causeway Bet. Bridge Rd \& Terminal Island
Day: Thursday
Date: 8/26/2021

| DAILY TOTALS |  |  |  | $\frac{\mathrm{NB}}{\mathrm{~N}}$ | SB |  |  | EB |  | WB |  |  |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 0 |  |  | 36,706 |  | 32,079 |  |  |  |  | 68,785 |  |
| AM Period | NB | EB |  | WB |  |  | TAL | PM Period | NB | SB | EB |  | WB |  | TO | TAL |
| 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 | 253 | 1272 | 12:45 |  |  | 445 | 1811 | 444 | 1832 | 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 | 156 | 758 | 13:45 |  |  | 568 | 2013 | 478 | 1831 | 1046 | 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 | 111 | 528 | 14:45 |  |  | 517 | 2335 | 514 | 2116 | 1031 | 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 | 95 | 392 | 15:45 |  |  | 569 | 2251 | 443 | 2018 | 1012 | 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 | 146 | 472 | 16:45 |  |  | 591 | 2242 | 457 | 1896 | 1048 | 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 | 317 | 949 | 17:45 |  |  | 592 | 2226 | 492 | 1962 | 1084 | 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 | 648 | 1977 | 18:45 |  |  | 505 | 2229 | 457 | 1967 | 962 | 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 | 837 | 3005 | 19:45 |  |  | 546 | 2081 | 457 | 1864 | 1003 | 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 | 895 | 3635 | 20:45 |  |  | 471 | 1883 | 401 | 1741 | 872 | 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 | 904 | 3561 | 21:45 |  |  | 359 | 1537 | 359 | 1505 | 718 | 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 | 912 | 3524 | 22:45 |  |  | 379 | 1622 | 346 | 1467 | 725 | 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 | 960 | 3632 | 23:45 |  |  | 257 | 1213 | 320 | 1438 | 577 | 2651 |
| TOTALS |  |  | 13263 |  | 10442 |  | 23705 | TOTALS |  |  |  | 23443 |  | 21637 |  | 45080 |
| SPLIT \% |  |  | 56.0\% |  | 44.0\% |  | 34.5\% | SPLIT \% |  |  |  | 52.0\% |  | 48.0\% |  | 65.5\% |



## VOLUME

MacArthur Causeway Bet. Bridge Rd \& Terminal Island

Day: Friday
Date: 8/27/2021

City: Miami Beach
Project \#: FL21_140183_001



## VOLUME

MacArthur Causeway Bet. Bridge Rd \& Terminal Island
Day: Saturday
Date: 8/28/2021



## VOLUME

MacArthur Causeway Bet. Bridge Rd \& Terminal Island

Day: Sunday
Date: 8/29/2021

City: Miami Beach
Project \#: FL21_140183_001



VOLUME
Terminal Island Bet. MacArthur Causeway \& Crosswalk to the Ferry Parking Garage

Day: Thursday
Date: 8/26/2021

City: Miami Beach
Project \#: FL21_140183_002


VOLUME
Terminal Island Bet. MacArthur Causeway \& Crosswalk to the Ferry Parking Garage

Day: Friday
Date: 8/27/2021

City: Miami Beach
Project \#: FL21_140183_002


VOLUME
Terminal Island Bet. MacArthur Causeway \& Crosswalk to the Ferry Parking Garage

Day: Saturday
Date: 8/28/2021

City: Miami Beach
Project \#: FL21_140183_002


VOLUME
Terminal Island Bet. MacArthur Causeway \& Crosswalk to the Ferry Parking Garage

Day: Sunday
Date: 8/29/2021

City: Miami Beach
Project \#: FL21_140183_002


## Signal Timings


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


| Current TOD Schedule | Cycle | Green Time |  |  |  |  |  |  |  | Ring Offset | Offset |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |
|  |  | WB | EBT | NBT | SBT | - | WBT | - | - |  |  |
| 1 | 170 | 10 | 90 | 19 | 27 | 0 | 106 | 0 | 0 | 0 | 61 |
| 2 | 150 | 5 | 64 | 30 | 27 | 0 | 75 | 0 | 0 | 0 | 27 |
| 3 | 120 | 5 | 45 | 18 | 28 | 0 | 56 | 0 | 0 | 0 | 96 |
| 4 | 150 | 5 | 80 | 16 | 25 | 0 | 91 | 0 | 0 | 0 | 109 |
| 5 | 150 | 5 | 67 | 20 | 34 | 0 | 78 | 0 | 0 | 0 | 31 |
| 6 | 180 | 5 | 86 | 27 | 38 | 0 | 97 | 0 | 0 | 0 | 114 |
| 7 | 170 | 5 | 78 | 30 | 33 | 0 | 89 | 0 | 0 | 0 | 99 |
| 8 | 160 | 5 | 68 | 30 | 33 | 0 | 79 | 0 | 0 | 0 | 55 |
| 10 | 160 | 10 | 80 | 20 | 26 | 0 | 96 | 0 | 0 | 0 | 55 |
| 14 | 120 | 5 | 45 | 20 | 26 | 0 | 56 | 0 | 0 | 0 | 118 |
| 15 | 130 | 5 | 51 | 27 | 23 | 0 | 62 | 0 | 0 | 0 | 127 |
| 16 | 120 | 5 | 45 | 20 | 26 | 0 | 56 | 0 | 0 | 0 | 23 |
| 21 | 220 | 10 | 138 | 20 | 28 | 0 | 154 | 0 | 0 | 0 | 44 |
| 22 | 110 | 5 | 35 | 18 | 28 | 0 | 46 | 0 | 0 | 0 | 42 |
| 23 | 110 | 5 | 35 | 18 | 28 | 0 | 46 | 0 | 0 | 0 | 20 |
| 24 | 160 | 5 | 73 | 30 | 28 | 0 | 84 | 0 | 0 | 0 | 44 |
| 25 | 140 | 5 | 65 | 18 | 28 | 0 | 76 | 0 | 0 | 0 | 57 |
| 26 | 200 | 5 | 113 | 30 | 28 | 0 | 124 | 0 | 0 | 0 | 44 |
| 27 | 140 | 5 | 65 | 18 | 28 | 0 | 76 | 0 | 0 | 0 | 0 |
| 28 | 220 | 10 | 138 | 20 | 28 | 0 | 154 | 0 | 0 | 0 | 44 |

[^1]은)


* 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
6 - EXTERNAL PERMIT 2 7 - X-PED OMIT
8 - TBA

SIGNAL OPERATING PLAN




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

|  |  | $\begin{gathered} \text { Print Time: } \\ \text { 2:06 AM } \\ \hline \end{gathered}$ |  |
| :---: | :---: | :---: | :---: |
| Local TOD Schedule |  |  |  |
| Time | Plan | DOW |  |
| 0000 | 3 | SuM T W Th F | S |
| 0500 | 2 | M TW Th F |  |
| 0500 | 3 | Su | S |
| 0800 | 6 | M TW Th F |  |
| 1000 | 5 | M TW Th F |  |
| 1000 | 10 | Su | S |
| 1300 | 6 | M T W Th F |  |
| 1615 | 7 | M TW ThF |  |
| 1800 | 1 | M TW Th F |  |
| 1800 | 7 | Su | S |
| 2200 | 8 | M T W Th F |  |



| Green Time |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Current TOD Schedule Plan | Cycle | 1 | $\begin{gathered} 2 \\ \text { WBT } \end{gathered}$ | $\begin{gathered} 3 \\ \text { WL+ } \end{gathered}$ | 4 - | $\begin{gathered} 5 \\ \text { WBL } \end{gathered}$ | $\begin{gathered} \mathbf{6} \\ \text { EBT } \end{gathered}$ | $\begin{gathered} 7 \\ W U- \end{gathered}$ | $\begin{gathered} \mathbf{8} \\ \text { NBT } \end{gathered}$ | Ring Offset | Offset |
| 1 | 170 | 0 | 79 | 23 | 10 | 12 | 60 | 7 | 26 | 0 | 155 |
| 2 | 150 | 0 | 74 | 23 | 2 | 10 | 57 | 7 | 19 | 0 | 87 |
| 3 | 120 | 0 | 96 | 23 | 71 | 53 | 36 | 7 | 18 | 0 | 37 |
| 4 | 150 | 0 | 74 | 23 | 2 | 10 | 57 | 7 | 19 | 0 | 22 |
| 5 | 150 | 0 | 74 | 23 | 2 | 10 | 57 | 7 | 19 | 0 | 98 |
| 6 | 180 | 0 | 89 | 23 | 10 | 12 | 70 | 7 | 26 | 0 | 37 |
| 7 | 170 | 0 | 74 | 23 | 10 | 9 | 58 | 7 | 31 | 0 | 158 |
| 8 | 160 | 0 | 126 | 23 | 101 | 65 | 54 | 11 | 34 | 0 | 84 |
| 9 | 140 | 0 | 116 | 23 | 91 | 53 | 56 | 7 | 18 | 0 | 49 |
| 10 | 160 | 0 | 69 | 23 | 10 | 12 | 50 | 7 | 26 | 0 | 81 |
| 15 | 150 | 0 | 74 | 23 | 2 | 10 | 57 | 7 | 19 | 0 | 87 |
| 20 | 140 | 0 | 116 | 23 | 91 | 53 | 56 | 7 | 18 | 0 | 49 |
| 21 | 200 | 0 | 104 | 23 | 10 | 9 | 88 | 7 | 31 | 0 | 1 |
| 25 | 180 | 0 | 84 | 23 | 10 | 12 | 65 | 7 | 31 | 0 | 106 |
| 26 | 200 | 0 | 104 | 23 | 10 | 9 | 88 | 7 | 31 | 0 | 71 |
| 27 | 180 | 0 | 84 | 23 | 10 | 12 | 65 | 7 | 31 | 0 | 134 |
| 28 | 220 | 0 | 124 | 23 | 10 | 12 | 105 | 7 | 31 | 0 | 114 |

Local Time of Day Function

 -----3--
$+{ }_{0}^{1}$ C----------------$\underset{~}{~}$ 1 $+$

|  |  |
| :---: | :---: |

 Settings *

[^2]| Asset ID: | 2736 | Location: | Macarthur Cswy and Terminal Isle |
| :--- | :--- | :--- | :--- |


| ■MDC Signal Const. Permit |  |  |  |
| :---: | :---: | :---: | :---: |
| 口FDOT Project ロ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:


- 2070LX Controller
■ N/A

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

Completion of the attached tasks) 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 $11^{\prime \prime} \times 17^{\prime \prime}$, preferably in electronic form.


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


TSS Engineering released the timing request to TSS Construction
TSS Construction Received by: $\qquad$ Date: $\qquad$
ISS DIVISION RELEASE TO SIGNAL CONTRACTOR

## Contractor Company:

$\qquad$
Received by Print Name: $\qquad$ Date: $\qquad$

SIGNAL OPERATING PLAN










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

Controller Programming Request

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


| ■MDC Signal Const. Permit <br> QFDOT Project $\square$ 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:
0 D170 CPU
$\square$ 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 $11^{\prime \prime} \times 17^{\prime \prime}$, preferably in electronic form.

TSS Received by: (Print Name) $\qquad$ Date: $\qquad$

## 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.


TSS Engineering released the timing request to TSS Construction
TSS Construction Received by:
Date: $\qquad$

## TSS DIVISION RELEASE TO SIGNAL CONTRACTOR

## Contractor Company:

$\qquad$
Received by Print Name: $\qquad$ Date: $\qquad$

Page 1 of 8


SIGNAL OPERATING PLAN




## Historic Background Growth

20129 Terminal Island Miami Beach

| Station | Location | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2528 | SR A1A/Macarthur CSWY, 150' N of Meridian Ave | 39,500 | 35,500 | 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 Is 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\% |




| DIRECTION 2 | *K FACTOR | D FACTOR | T FACTOR |
| :---: | :---: | :---: | :---: |
| 0 | 9.00 | 99.90 | 7.80 |
| 0 | 9.00 | 99.90 | 3.80 |
| 0 | 9.00 | 99.90 | 3.80 |
| 0 | 9.00 | 99.90 | 5.50 |
| 0 | 9.00 | 99.90 | 5.50 |
| 0 | 9.00 | 99.90 | 18.00 |
|  | 9.00 | 99.90 | 18.00 |
| 0 | 9.00 | 99.90 | 2.20 |
| 0 | 9.00 | 99.90 | 2.20 |
| 0 | 9.00 | 99.90 | 2.70 |
| 0 | 8.98 | 99.99 | 2.70 |
| 0 | 8.99 | 99.99 | 7.70 |
| 0 | 9.09 | 99.99 | 7.70 |
| 0 | 8.01 | 99.99 | 1.40 |
| 0 | 7.97 | 99.99 | 1.40 |
| B | 8.80 | 99.90 | 2.60 |



## Cardinal Distribution

## Cardinal Distribution <br> 20129 <br> Terminal Island Miami Beach

TAZ 651

| DIRECTION | $\mathbf{2 0 1 5}$ | $\mathbf{2 0 4 5}$ | $\mathbf{2 0 2 3}$ |
| :---: | :---: | :---: | :---: |
| 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 | $19.6 \%$ | $15.8 \%$ | $18.59 \%$ |



| Miami-Dade 2015 Base Year Direction Trip Distribution Summary |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TAZ of Origin |  | Trips / Percent | Cardinal Directions |  |  |  |  |  |  |  |  |
| $\begin{gathered} \text { County } \\ \hline \text { TAZ } \end{gathered}$ | $\begin{gathered} \text { Regional } \\ \hline \text { TAZ } \end{gathered}$ |  | NNE | ENE | ESE | SSE | SSW | WSW | WNW | NNW | Trips |
| 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 |  |


| Miami-Dade 2045 Cost Feasible Plan Direction Trip Distribution Summary |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TAZ of Origin |  | Trips / Percent | Cardinal Directions |  |  |  |  |  |  |  |  |
| County TAZ | Regional TAZ |  | NNE | ENE | ESE | SSE | SSW | WSW | WNW | NNW | Trips |
| 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 |  |  |  |  | 2019 <br> Existing <br> (2019 PSCF) <br> 1.06 | 2023 | 2023 |  |  |  | 2023 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | MOVEMENT | Raw Existing |  | BACKGROUND <br> Growth rate: $1.00 \%$ <br> No. of years: 2 | $\begin{aligned} & \text { FUTURE } \\ & \text { W/O } \\ & \text { PROJECT } \end{aligned}$ | Project TripsTerminal Island Miami Beach |  |  | $\left\|\begin{array}{c} \text { FUTURE } \\ \text { WITH } \\ \text { PROJECT } \end{array}\right\|$ |
|  |  |  |  |  |  |  |  | $\begin{aligned} & \text { IN } \\ & \text { 105 } \end{aligned}$ | $\begin{aligned} & \hline \text { OUT } \\ & 238 \end{aligned}$ | $\begin{gathered} \hline \text { Total } \\ 343 \end{gathered}$ |  |
| 1. MacArthur useway / Bridge Road (S)PHF =0.89 |  |  | NBL | 63 | 67 | 68 | 68 | 0\% | 0\% | 0 | 68 |
|  |  |  | NBT | 1 | 1 | 1 | 1 | 0\% | 0\% | 0 | 1 |
|  |  |  | NBR | 1 | 1 | 1 | 1 | 0\% | 0\% | 0 |  |
|  |  |  | SBL | 7 | 7 | 8 | 8 | 2\% | 0\% | 2 | 10 |
|  |  |  | SBT | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  |  |  | SBR | 33 | 35 | 36 | 36 | 0\% | 0\% | 0 | 36 |
|  |  |  | EBL | 9 | 10 | 10 | 10 | 0\% | 0\% | 0 | 10 |
|  |  |  | EBT | 2045 | 2168 | 2211 | 2211 | 64\% | 0\% | 67 | 2278 |
|  |  |  | EBR | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  |  |  | WBL | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  |  |  | WBT | 2222 | 2355 | 2403 | 2403 | 0\% | 64\% | 152 | 2555 |
|  |  |  | WBR | 9 | 10 | 10 | 10 | 0\% | 2\% | 5 | 14 |
| TOTAL |  |  |  | 4390 | 4653 | 4747 | 4747 | 66\% | 66\% | 226 | 4973 |
| 2. MacArthur Causeway / Terminal Island (S) |  | NBL | to MacArther | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  |  | NBL2 | To WB Term Rd | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  | FPL | NBR | to MacArther | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  |  | NBR2 | To EB Term Rd | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  | Terminal | WBU | to EB MacArther | 0 | 0 | 0 | 0 | 0\% | 0\% | 0 | 0 |
|  | Island | WBT2 | to WB MacArther | 133 | 141 | 144 | 144 | 0\% | 66\% | 157 | 301 |
|  | Road (WB) | WBT | To W Term Rd | 1 | 1 | , | 1 | 0\% | 0\% | 0 | 1 |
|  | MacArthur | EBT | to EB MacArther | 2006 | 2126 | 2169 | 2169 | 0\% | 0\% | 0 | 2169 |
|  | Causeway | EBT2 | to E Term Rd | 15 | 16 | 16 | 16 | 66\% | 0\% | 69 | 86 |
|  | (EB) | EBU2 | to W Term Rd | 44 | 47 | 48 | 48 | 0\% | 0\% | 0 | 48 |
|  | MacArthur | WBU2 | to E Term Rd | 17 | 18 | 18 | 18 | 34\% | 0\% | 36 | 54 |
| PHF $=0.91$ | Causeway | WBT2 | To W Term Rd | 18 | 19 | 19 | 19 | 0\% | 0\% | 0 | 19 |
| PHF $=0.91$ | (WB) | WBT | to WB MacArther | 2085 | 2210 | 2255 | 2255 | 0\% | 0\% | 0 | 2255 |
| TOTAL |  |  |  | 4319 | 4578 | 4670 | 4670 | 100\% | 66\% | 262 | 4932 |

Terminal Island Miami Beach - PM Intersection Assignment

Terminal Island Miami Beach -Weekend AM Intersection Assignment

Terminal Island Miami Beach -Weekend AM Intersection Assignment

Terminal Island Miami Beach - PM Weekend Intersection Assignment

Terminal Island Miami Beach - PM Weekend Intersection Assignment



[^0]:    w:\20\20129\terminal island traffic study sept 2021\terminal island miami beach traffic study_sept 2021.docx

[^1]:    Local Time of Day Function

[^2]:    Current Time of Day Function
    Function
    TOD OUTPUTS
    TOD LOCAL MULTIFU
     TOD LOCAL MULTIFU TOD OUTPUTS
    TOD OUTPUTS $\circ$
    $\stackrel{\circ}{5}$
    0
    0
    0
    0
    0
    0
    
    $\stackrel{\otimes}{\square}$
    

