

## MEMORANDUM

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

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



Date: July 14, 2023

**Subject: 72B**  
**Response to Traffic Impact Analysis Comments**

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

1. Figure 4, Project Trip Distribution – Please explain the rationale for the 7% of the project traffic exiting at Dickens Avenue to 71<sup>st</sup> Street westbound when they could just turn right at the South Project Driveway and turn right at the intersection of 71<sup>st</sup> Street at Carlyle Avenue and be part of the 31%.

*Response: Note that based on comments from the Planning Department, project driveways and site access for the project have been modified. Additionally, the 7 percent as was reassigned to the right-turn at the intersection of 71<sup>st</sup> Street and Carlyle Avenue. Please refer to Figure 4 of the updated traffic impact analysis included in Attachment A-A.*

2. Multimodal Reduction – Due to the presence of the Five (5) Miami-Dade Transit (MDT) route, two (2) Miami Beach Trolley routes and the transit stop within the vicinity of the project, please provide sidewalk access connectivity from/to the project site accordingly.

*Response: Note that sidewalks are provided along the north and south sides of 72<sup>nd</sup> Street, the north and south sides of 71<sup>st</sup> Street, the east and west sides of Dickens Avenue, and the east and west sides of Carlyle Avenue within the vicinity of the project.*

3. Page 19, Intersection Capacity Analysis – Please provide the Synchro files for the City's review when the actual traffic study is performed after the methodology is approved.

*Response: Note that this submittal is for the traffic study. The methodology was approved by the City of Miami Beach on May 22<sup>nd</sup>, 2023. Nonetheless, synchro files are provided as an attachment in the email. Note that a SimTraffic simulation was not part of the approved methodology nor a requirement of the City of Miami Beach Code. Therefore, Synchro files were not setup or calibrated for SimTraffic simulation.*

4. Page 19, Intersection Capacity Analysis – Please explain the rationale for not performing the analysis for the North Project Driveway. Please include the analysis accordingly.

*Response: The North Project Driveway operates as an ingress only driveway and therefore will not yield any results as all movements are free flowing. Note that access to the redevelopment has been revised since the previous submittal based on input from the Planning Department. Site access now consists of one (1) ingress-only drop-off driveway and one (1) egress-only driveway for the drop-off for rideshare/food delivery. One (1) full access driveway providing access to the parking garage is now provided south of the*

*rideshare/food delivery drop-off area. Note that it is conservative to load all traffic to the one driveway. Please refer to the updated traffic impact analysis contained in response Attachment A-A.*

5. Page 19, Intersection Capacity Analysis – There are several movements where the delays are higher, v/c ratios greater than 1.0 and the queues exceed the storage length. Please address them accordingly.
  - Dickens Ave at 71<sup>st</sup> Street
    - WBT (queues exceed past the Carlyle Ave intersection)
    - SBR (queues exceed past the 72<sup>nd</sup> Street)
  - Dickens Ave at 72<sup>nd</sup> Street
    - WBL and WBR (queues exceed past the Carlyle Ave intersection)

*Response: Note that all three exclusive turn lane movements stated above are currently experiencing delays and extended queues in existing, future background, and future total conditions. Furthermore, note that a queuing analysis is not a requirement as part of the City's Code and was not included in the methodology approved by the City of Miami Beach on May 22<sup>nd</sup>, 2023. Nonetheless, in order to facilitate the review of the project, signal timings were optimized to mitigate the impact of the project such that the delay under future total conditions is less than or equal to the delay under future background conditions during the P.M. peak hour.*

6. Attachment A – Based on the site's access points as shown in the site plan located in Attachment A, please explain why no NBL project traffic is being shown for the South Project Driveway. If no NBL project traffic is assigned, please update the Maneuverability Analysis.

*Response: Note that access to the redevelopment has been revised since the previous submittal of the traffic study and now consists of one (1) ingress only driveway and one (1) egress only driveway providing access to the rideshare/food delivery drop off area, and one (1) full access driveway providing access to the parking garage. In order to provide a conservative analysis, all project traffic as assigned to the parking garage driveway. Please refer to the updated traffic impact analysis contained in response Attachment A-A. An updated Maneuverability Analysis has been included in Attachment B-B.*

7. General – Please confirm no gate is being provided for the parking garage entry points. If yes, please provide garage entry gate operational analysis.

*Response: No entry gates are proposed at the redevelopment. Therefore, an entry gate analysis was not included in the traffic impact analysis.*

8. General – Please confirm no valet is being provided as part of the project site plan. If yes, please provide valet analysis accordingly.

*Response: Valet operations are not proposed at the redevelopment. Therefore, valet analysis was not included in the traffic impact analysis.*

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

**Attachment A-A**  
Updated Traffic Study



*Traffic Impact Analysis  
for Submittal to  
the City of Miami Beach*

**72B  
MIAMI BEACH, FLORIDA**

**Kimley»Horn**

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Updated July 2023  
June 2023  
143698000

Traffic Impact Analysis  
for Submittal to  
the City of Miami Beach

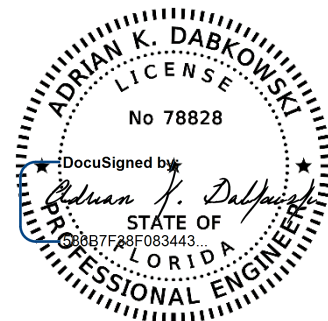
72B  
MIAMI BEACH, FLORIDA

*Prepared for:*

Lefferts Investments, LLC

*Prepared by:*

Kimley-Horn and Associates, Inc.



This item has been digitally signed and sealed by Adrian K. Dabkowski, P.E., PTOE, on 7/14/2023.

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**Kimley»Horn**

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Updated July 2023  
June 2023  
143698000

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## EXECUTIVE SUMMARY

Lefferts Investment, LLC is proposing to redevelop the property located on the northwest quadrant of the intersection of Carlyle Avenue and 71<sup>st</sup> Street/SR 934 in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by 37 multifamily (low-rise) residential units and one (1) single-family residence. The proposed redevelopment consists of approximately 13,541 square feet of retail space and 130 high-rise multifamily residential units. The project is expected to be completed by year 2026.

Access to the proposed development is provided via one (1) ingress-only (right-in/left-in) driveway and one (1) egress-only (right-out/left-out) driveway along Carlyle Avenue to serve the rideshare/food delivery area, south of 72<sup>nd</sup> Street and one (1) full access driveway along Carlyle Avenue to serve the parking garage, north of 71<sup>st</sup> Street/SR 934. Note that the limited access driveways will provide access to the rideshare/food delivery drop-off area while the full access driveway will provide access to the parking garage. Note that the Navarro Pharmacy driveway will also be reconfigured as part of this project and will provide east/west connectivity between Dickens Avenue and Carlyle Avenue.

Trip generation for the proposed redevelopment was calculated using rates contained in the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11<sup>th</sup> Edition. The project is expected to generate 37 net new weekday A.M. peak hour trips and 40 net new weekday P.M. peak hour trips.

The results of the intersection capacity analysis indicate that all study intersections are expected to operate at adopted levels of service or better during the A.M. and P.M. peak hours under all analysis scenarios.

Transportation Control Measures (TCM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network City of Miami Beach provide public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant will commit to providing secure bicycle parking spaces including 17 short-term spaces and 200 long-term spaces.

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 95 parking spaces. As part of the redevelopment, the project will provide 242 parking spaces within the proposed parking garage.

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## INTRODUCTION

Lefferts Investment, LLC is proposing to redevelop the property located on the northwest quadrant of the intersection of Carlyle Avenue and 71<sup>st</sup> Street/SR 934 in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by 37 multifamily (low-rise) residential units and one (1) single-family residence. The proposed redevelopment consists of approximately 13,541 square feet of retail space and 130 high-rise multifamily residential units. The project is expected to be completed by year 2026. A project location map is provided as Figure 1. A conceptual site plan is provided in Appendix A.

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



## EXISTING TRAFFIC

A.M. peak period (7:00 A.M. to 9:00 A.M.) and P.M. peak period (4:00 P.M. to 6:00 P.M.) turning movement counts were collected on April 26, 2023 (Wednesday) at the following intersections:

- 72<sup>nd</sup> Street and Dickens Avenue
- 72<sup>nd</sup> Street and Carlyle Avenue
- 71<sup>st</sup> Street/SR 934 and Dickens Avenue/Indian Creek Drive
- 71<sup>st</sup> Street/SR 934 and Carlyle Avenue



All traffic volumes were collected in 15-minute intervals and the peak hour was determined for each intersection. Turning movement counts also included pedestrian and bicycle data. The appropriate Florida Department of Transportation (FDOT) peak season conversion factor (PSCF) of 1.00 was applied to the turning movement counts.

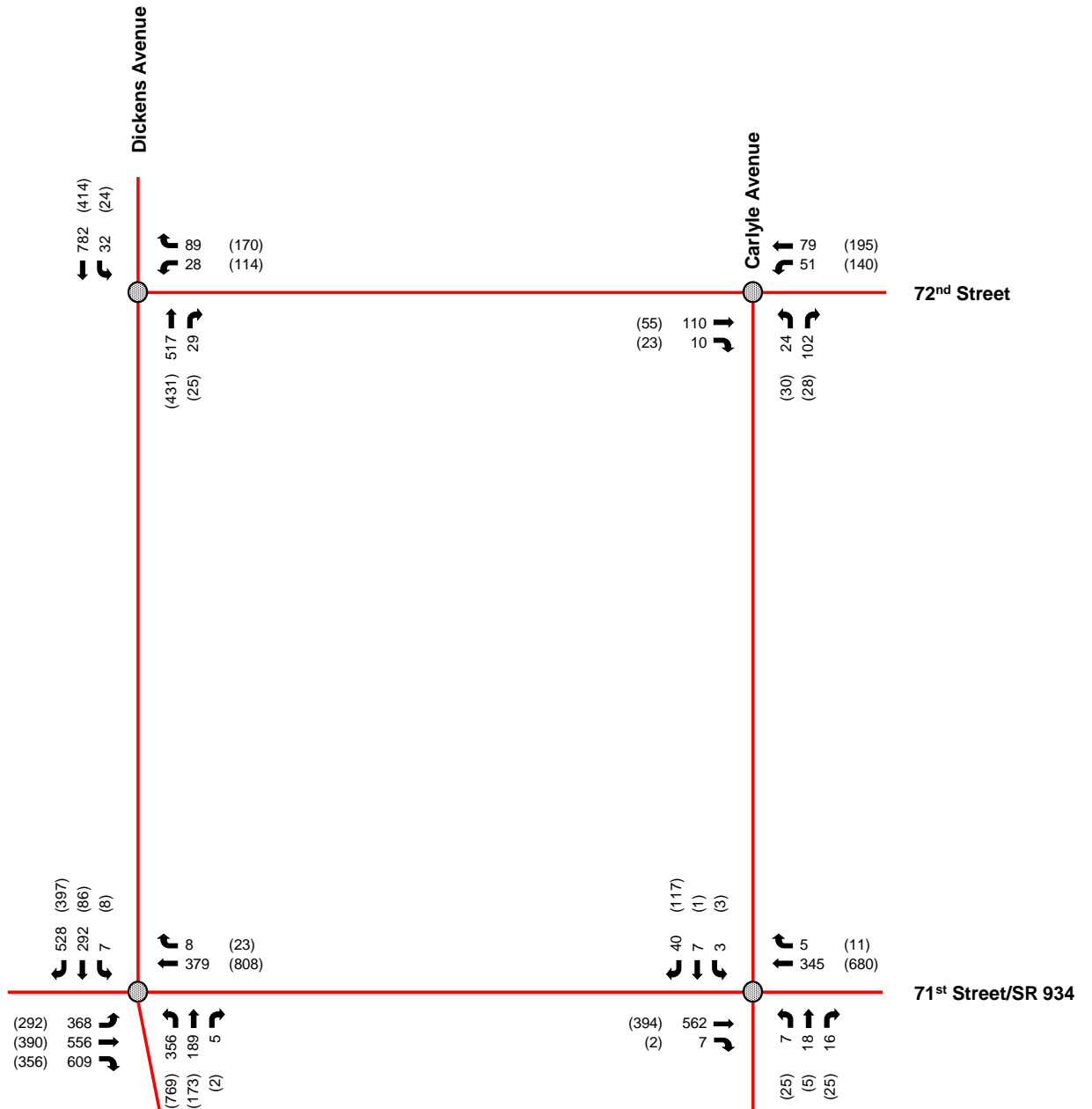
The turning movement counts, FDOT peak season factor category report, and signal timing data are included in Appendix C. Figure 2 presents the existing turning movement volumes at the study intersections during the A.M. and P.M. peak hours.



NOT TO SCALE

**Legend**

-  Study Roadway
-  Study Intersection
- XX A.M. Peak Hour Traffic
- (XX) P.M. Peak Hour Traffic



## PLANNED ROADWAY IMPROVEMENTS

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

- Installation of protected/buffered bicycle lanes and enhanced crosswalks along 72<sup>nd</sup> Street from Dickens Avenue to SR A1A/Collins Avenue.
- Feasibility study for geometric modifications (potential additional southbound lane) at the intersection of 71<sup>st</sup> Street/SR 934 and Dickens Avenue.
- Safety improvements (improved multimodal vehicular operations) along 71<sup>st</sup> Street/SR 934 from N Shore Drive to SR A1A/Collins Avenue.
- Feasibility study for geometric modifications (removal of existing dedicated left turns and potential additional westbound lane) along 71<sup>st</sup> Street/SR 934 from Carlyle Avenue to SR A1A/Collins Avenue.
- Installation of exclusive transit lanes, protected/buffered bicycle lanes, and enhanced crosswalks along 71<sup>st</sup> Street/SR 934 from Bay Drive to SR A1A/Collins Avenue.
- Installation of protected bicycle lanes along SR A1A/Indian Creek Drive from Abbott Avenue to Dickens Avenue.

Detailed information regarding planned roadway improvements can be found in Appendix D.

## FUTURE BACKGROUND TRAFFIC

Future background traffic conditions are defined as expected traffic conditions on the roadway network in the year 2026 without the completion of the proposed redevelopment. Future background traffic volumes used in the analysis are the sum of the existing traffic and additional traffic generated by growth in the study area. Refer to Figure 3 for the future background 2026 peak hour traffic volumes.

### BACKGROUND AREA GROWTH

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

- Count Station #870015: SR 934 Normandy Drive – 100 feet west of Rue Versailles
- Count Station #872541: SR A1A/Collins Avenue – 500 feet south of 63<sup>rd</sup> Street
- Count Station #875191: SR 934/NE 79<sup>th</sup> Street/North Bay Causeway/71<sup>st</sup> Street – 100 feet west of Rue Versailles
- Count Station #878433: Indian Creek Drive – 200 feet north of 77<sup>th</sup> Street /Lehrman Drive

The historical growth rate analysis, based on the FDOT count station, examined linear, exponential, and decaying exponential growth rates for the most recent five (5) year and 10-year periods. The linear growth trend yielded a growth rate of 1.21 percent (1.21%) over the most recent five (5) year period and 0.32 percent (0.32%) over the most recent 10-year period. The exponential growth trend yielded a growth rate of 0.83 percent (0.83%) over the most recent five (5) year period and 0.33 percent (0.33%) over the most recent 10-year period. The decaying exponential growth trend yielded a growth rate of 0.72 percent (0.72%) over the most recent five (5) year period and 0.82 percent (0.82%) over the most recent 10-year period. The calculated growth rate with the highest  $R^2$  value was determined to be the five (5) year decaying exponential growth trend which yielded a growth rate of 0.72 percent (0.72%).

Based on the forecasted volumes obtained from the 2015 and 2045 FSUTMS SERPM 8.524, an annual growth rate of 0.82 percent (0.82%) in the vicinity of the redevelopment was calculated.

To provide a conservative analysis, the higher growth rate of 0.82 percent (0.82%) was applied annually to the existing traffic volumes to establish future (2026) background conditions. Detailed growth calculations are contained in Appendix E.

### COMMITTED DEVELOPMENTS

The following developments were identified as a committed development to be included as a part of future traffic conditions:



- 72<sup>nd</sup> & Park
- 666 71<sup>st</sup> Street Mixed Use Project

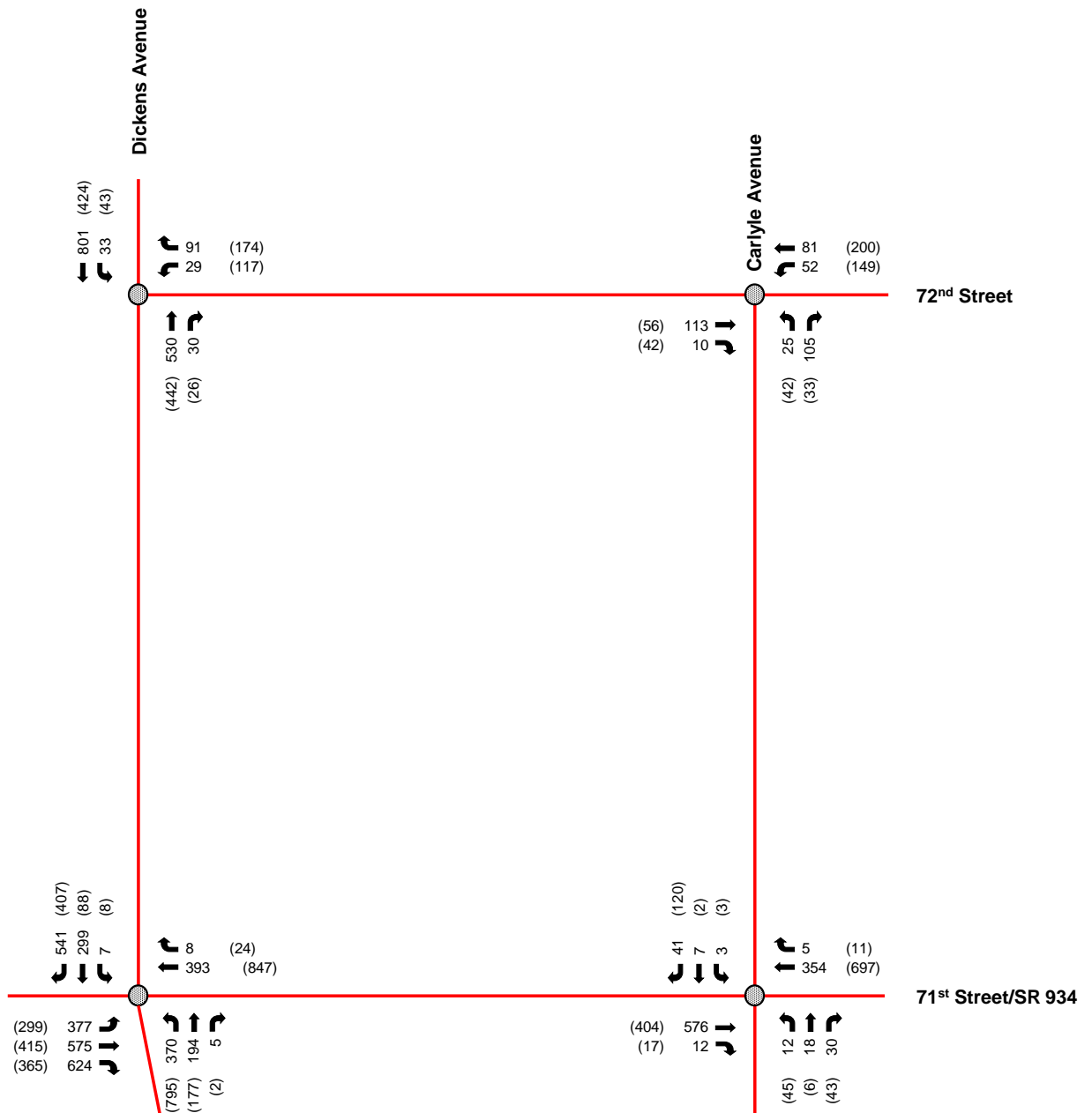
Committed development information is included in Appendix F.



NOT TO SCALE

**Legend**

-  Study Roadway
-  Study Intersection
- XX A.M. Peak Hour Traffic
- (XX) P.M. Peak Hour Traffic





## PROJECT TRAFFIC

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

### EXISTING AND PROPOSED LAND USE

Currently, the site is proposed for redevelopment is occupied by 37 multifamily (low-rise) residential units and one (1) single-family residence. The proposed redevelopment consists of approximately 13,541 square feet of retail space and 130 high-rise multifamily residential units.

### PROJECT ACCESS

Access to the proposed development is provided via one (1) ingress-only (right-in/left-in) driveway and one (1) egress-only (right-out/left-out) driveway along Carlyle Avenue to serve the rideshare/food delivery area, south of 72<sup>nd</sup> Street and one (1) full access driveway along Carlyle Avenue, north of 71<sup>st</sup> Street/SR 934 to serve the parking garage. Note that the limited access driveways will provide access to the rideshare/food delivery drop-off area while the full access driveway will provide access to the parking garage. Note that the Navarro Pharmacy driveway will also be reconfigured as part of this project and will provide east/west connectivity between Dickens Avenue and Carlyle Avenue.

### TRIP GENERATION

Trip generation calculations for the proposed project were performed using rates contained in ITE *Trip Generation Manual*, 11<sup>th</sup> Edition. The trip generation for the existing development was determined using ITE Land Use Code (LUC) 220 (Multifamily Housing [Low-Rise]) and LUC 210 (Single-Family Detached Housing). The trip generation for the proposed land uses was determined using ITE LUC 822 (Strip Retail Plaza) and LUC 222 (Multifamily Housing [High-Rise]). Project trips were estimated for the weekday A.M. peak hour and P.M. peak hour.

### MULTIMODAL REDUCTION

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tract in the vicinity of the redevelopment. The US Census data indicated that there is a 30.3 percent (30.3%) multimodal factor within the vicinity of the development. However, to provide a conservative analysis, a multimodal factor of 20.0 percent (20.0%) was applied to the trip generation calculations. It is expected that a portion of residents, guests, employees, and patrons will choose to walk, bike, or

use public transit to and from the proposed development. Detailed census information is provided in Appendix G.

Five (5) Miami-Dade Transit (MDT) route and two (2) Miami Beach Trolley Routes operate in close proximity (within ½ mile) to the site during the A.M. and P.M. peak hours.

- Route 79 operates along 71<sup>st</sup> Street/SR 934 in the vicinity of the study area with 30-minute headways in the eastbound and westbound directions during the A.M. and P.M. peak hours.
- Route 112/L operates along 71<sup>st</sup> Street/SR 934 in the vicinity of the study area with 10-minute headways in the eastbound and westbound directions during the A.M. and P.M. peak hours.
- Route 115 operates along Abbott Avenue in the vicinity of the study area with 40 to 60-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- Route 119/S operates along Abbott Avenue in the vicinity of the study area with 7.5-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- Route 120 operates along Abbott Avenue in the vicinity of the study area with 7.5-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- The City of Miami Beach Trolley Collins Express Route operates along Abbott Avenue in the vicinity of the study area with 20-minute headways in the northbound and southbound directions during the A.M. and P.M. peak hours.
- The City of Miami Beach Trolley North Beach Route operates along 71<sup>st</sup> Street/SR 934 in the vicinity of the study area with 40-minute headways in the eastbound and westbound directions during the A.M. and P.M. peak hours.

Detailed route information and headway data is provided in Appendix H.

## INTERNAL CAPTURE

A portion of trips generated by the redevelopment will be captured internally within the site. Internal capture trips were determined based upon values contained in the ITE's *Trip Generation*

Handbook, 3<sup>rd</sup> Edition. The expected internal capture rate for the proposed redevelopment is 22.8 percent (22.8%) during the P.M. peak hour.

**PASS-BY CAPTURE**

In addition to internal capture, pass-by capture trips were also determined based on average rates provided in the *Trip Generation Handbook*, 3<sup>rd</sup> Edition. The pass-by capture rate for the proposed retail building is 40 percent (40.0%) during the P.M. peak hour.

**NET NEW PROJECT TRIPS**

The net new project trips represent the additional vehicles on the roadway network. As shown in Table 1, the project is expected to generate 37 net new weekday A.M. peak hour vehicular trips and 40 net new weekday P.M. peak hour trips. Detailed calculations are contained in Appendix G.

Table 1: Trip Generation				
<i>A.M. Peak Hour (P.M. Peak Hour)</i>				
Future Land Use (ITE Code)	Scale	Net New External Trips	Entering Trips	Exiting Trips
<i>Existing Development</i>				
Multifamily Housing (Low-Rise) (220)	37 dwelling units	27 (29)	6 (19)	21 (10)
Single-Family Detached Housing (210)	1 dwelling unit	1 (1)	0 (1)	1 (0)
Subtotal		28 (30)	6 (20)	22 (10)
<i>Proposed Redevelopment</i>				
Strip Retail Plaza (822)	13,541 square feet	28 (38)	17 (21)	11 (17)
Multifamily Housing (High-Rise) (222)	130 dwelling units	37 (32)	13 (16)	24 (16)
Subtotal		65 (70)	30 (37)	35 (33)
<i>Net New Vehicle Trips</i>				
<b>Net New Vehicle Trips</b>		<b>37 (40)</b>	<b>24 (17)</b>	<b>13 (23)</b>

**TRIP DISTRIBUTION AND ASSIGNMENT**

The trip distribution was based on an interpolated cardinal trip distribution for the project site’s traffic analysis zone (TAZ) obtained from the Miami-Dade Transportation Planning Organization’s (TPO’s) *2045 Long Range Transportation Plan Directional Trip Distribution Report*. The project is located within TAZ 622. The cardinal distribution is shown in Table 2.

Table 2: Cardinal Trip Distribution	
Cardinal Direction	Percentage of Trips
North-Northeast	9%
East-Northeast	0%
East-Southeast	0%
South-Southeast	10%
South-Southwest	19%
West-Southwest	25%
West-Northwest	13%
North-Northwest	24%
<b>Total</b>	<b>100%</b>

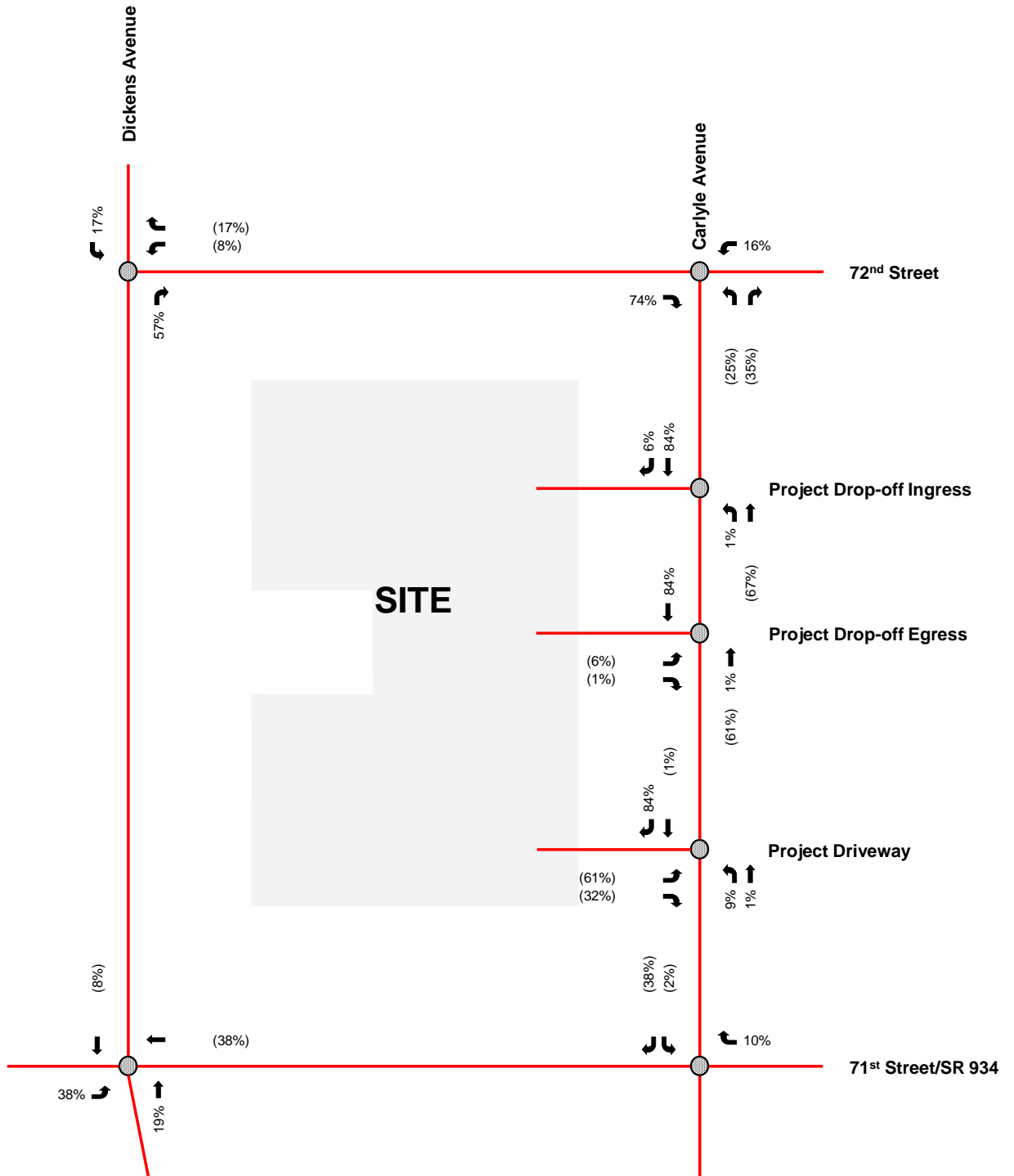
Figure 4 presents the peak hour net new trip distribution and Figure 5 presents the peak hour net new trip assignment. Figure 6 presents the P.M. peak hour pass-by trip distribution and Figure 7 presents the P.M. peak hour pass-by trip assignment. Detailed cardinal distribution calculations are contained in Appendix I.



NOT TO SCALE

**Legend**

- Study Roadway
- Study Intersection
- XX% Entering Trip Distribution
- (XX%) Entering Trip Distribution

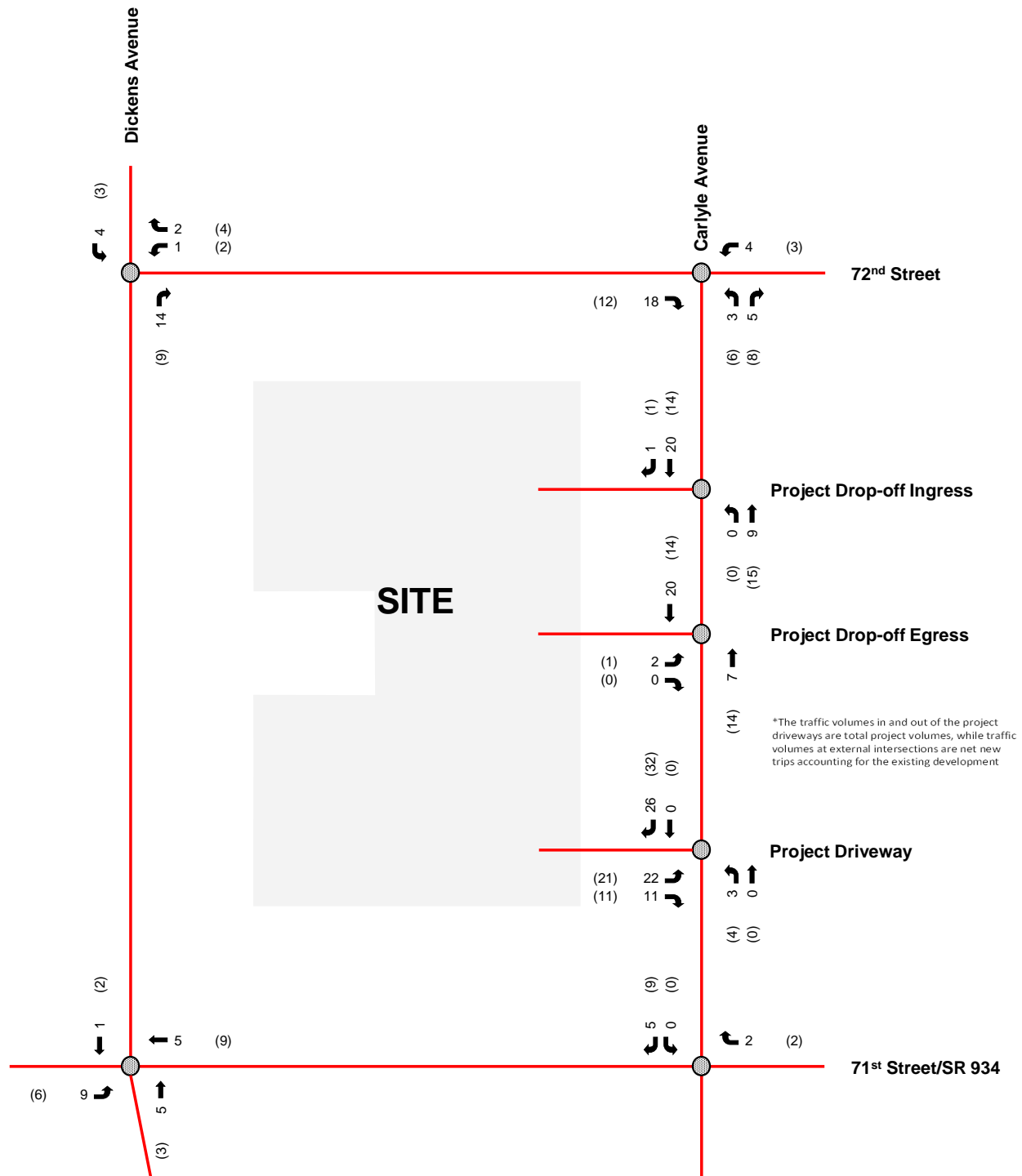




NOT TO SCALE

**Legend**

- Study Roadway
- Study Intersection
- XX A.M. Peak Hour Trip Assignment
- (XX) P.M. Peak Hour Trip Assignment





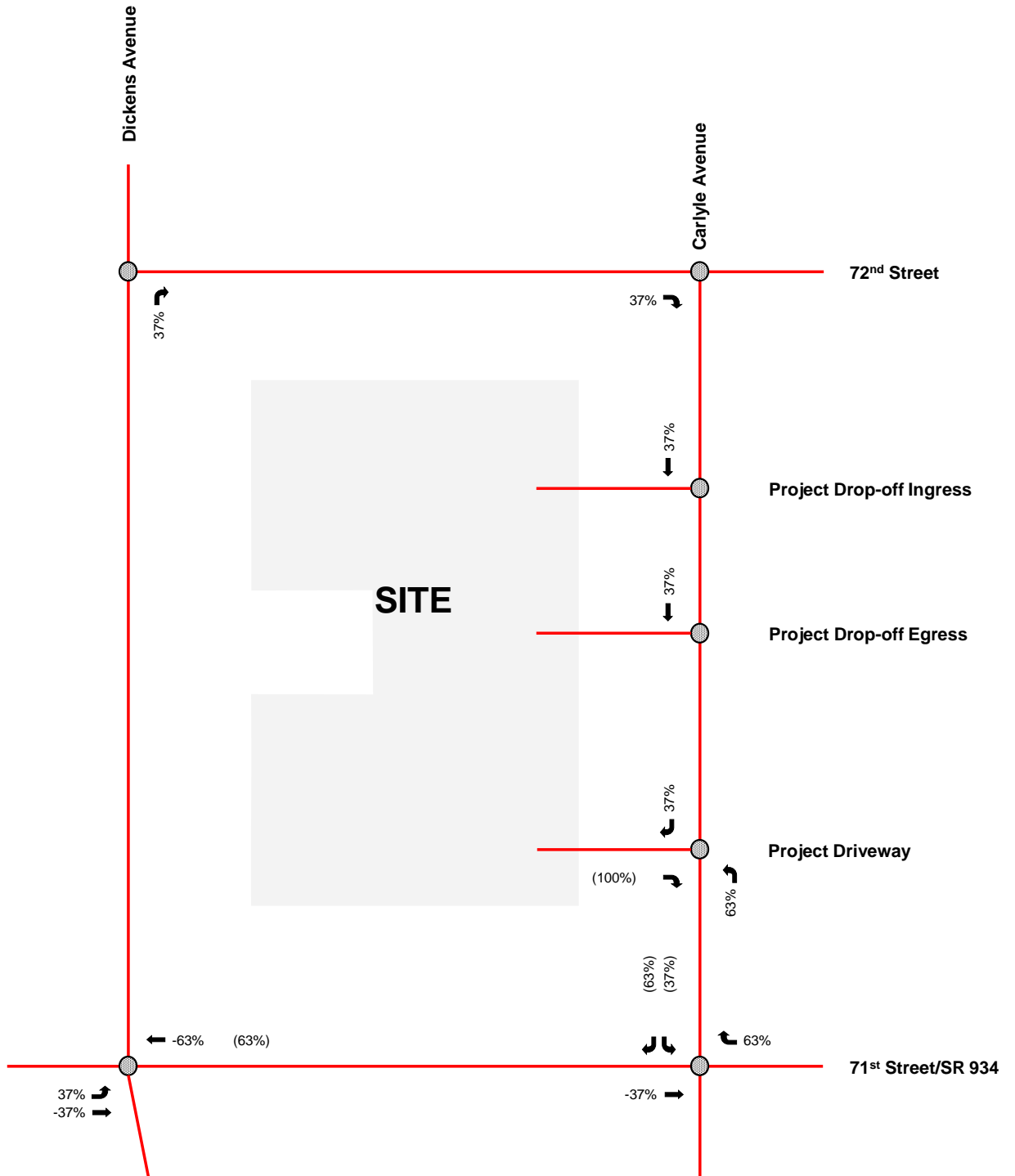
\*The traffic volumes in and out of the project driveways are total project volumes, while traffic volumes at external intersections are net new trips accounting for the existing development



NOT TO SCALE

**Legend**




-  Study Roadway
-  Study Intersection
- XX% Entering Pass-By Trip Distribution
- (XX%) Exiting Pass-By Trip Distribution

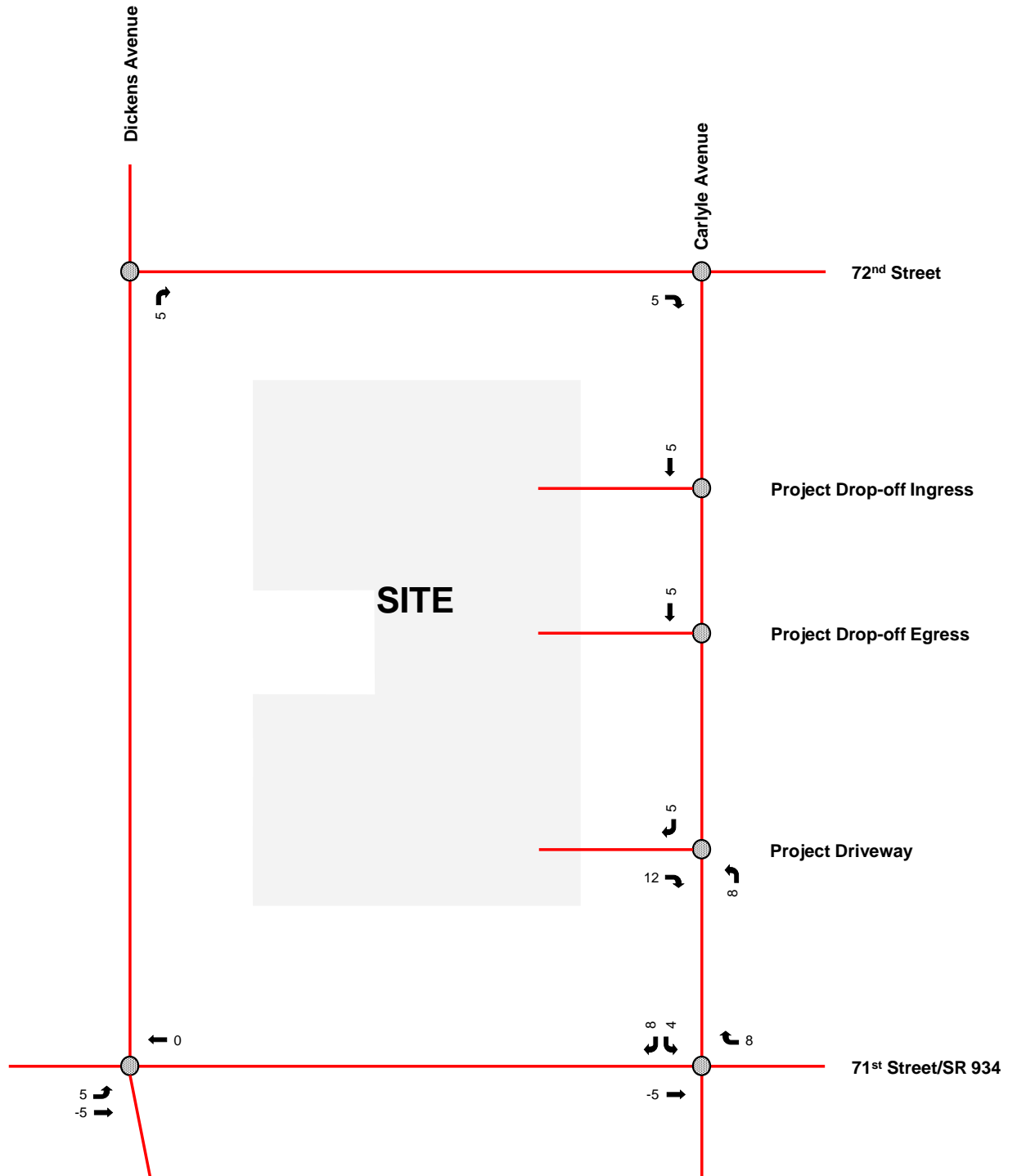




NOT TO SCALE

**Legend**

-  Study Roadway
-  Study Intersection
-  P.M. Peak Hour Pass-By Trip Assignment







## FUTURE TOTAL TRAFFIC

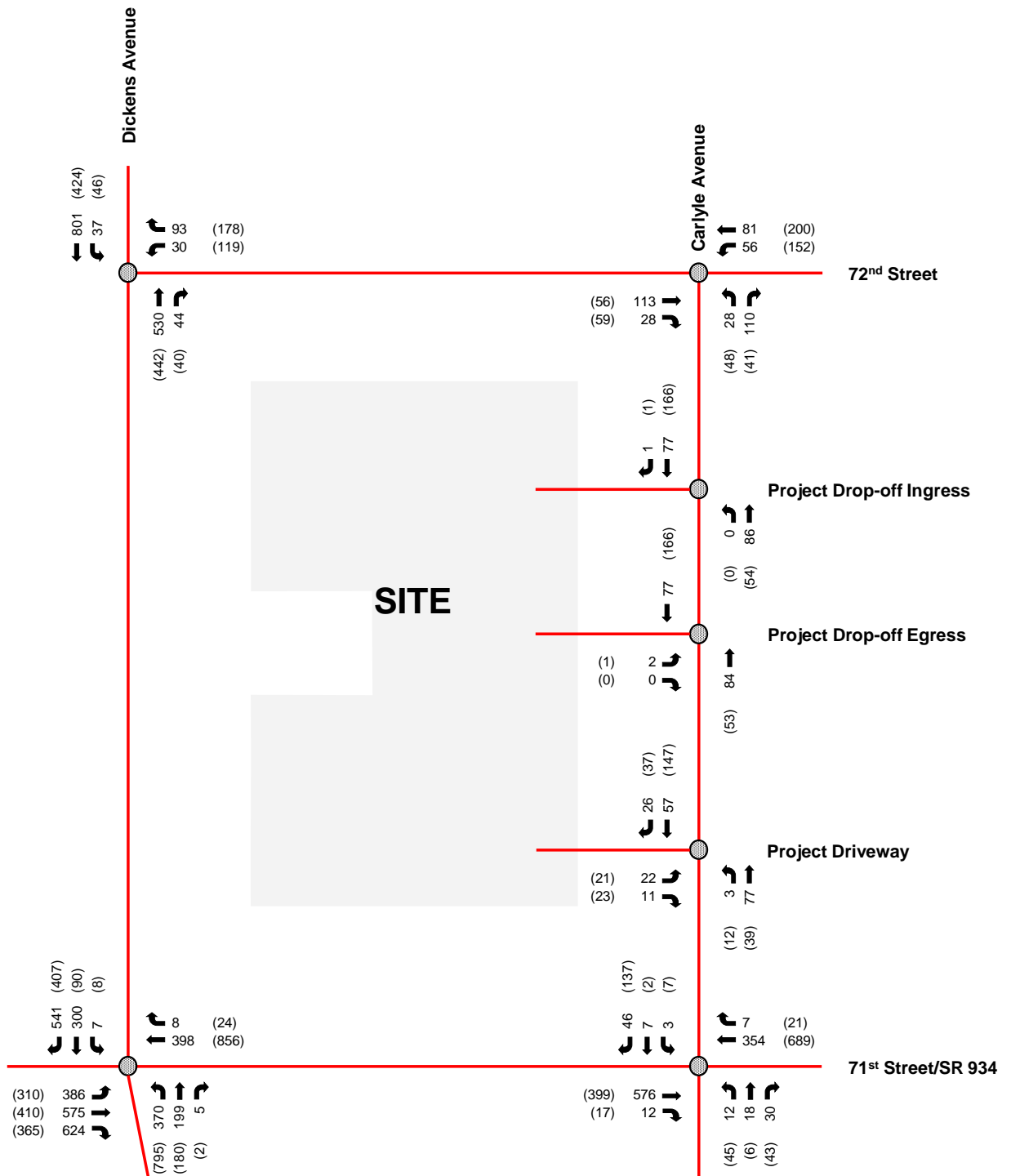
Future total traffic conditions are defined as the expected traffic conditions in the year 2026 after the opening of the project. Total traffic volumes considered in the analysis for this project are the sum of the background traffic volumes and the expected project traffic volumes. Figure 8 presents the future total turning movement volumes at the study intersections during the weekday A.M. and P.M. peak hours. Volume development worksheets for the study intersections are included in Appendix J.



NOT TO SCALE

**Legend**

-  Study Roadway
-  Study Intersection
- XX A.M. Peak Hour Traffic
- (XX) P.M. Peak Hour Traffic



## INTERSECTION CAPACITY ANALYSIS

The study area intersection operating conditions were analyzed for three (3) scenarios (existing conditions, future background conditions, and future total conditions) using Trafficware's *SYNCHRO* software, which applies methodologies outlined in the Transportation Research Board's (TRB's) *Highway Capacity Manual* (HCM) 6<sup>th</sup> Edition. Synchro worksheets for the study intersections are included in Appendix K.

A summary of the intersection analyses for the A.M. and P.M. peak hours is presented in Table 3. As Table 3 indicates, all study intersections are expected to operate at adopted levels of service or better during the A.M. and P.M. peak hours under all analysis scenarios. Note that at the request of the City of Miami Beach staff, queue lengths were reviewed and signal timing optimizations were performed at the intersection of Dickens Avenue at 72<sup>nd</sup> Street and Dickens Avenue at 71<sup>st</sup> Street/SR 934 to mitigate the impact of the project so that the delay under future total conditions is less than or equal to the delay under future background conditions during the P.M. peak hour.

Table 3: Peak Hour Intersection Capacity Analysis						
Intersection	Traffic Control	Overall LOS/Delay	Approach LOS/Delay			
			EB	WB	NB	SB
Existing Conditions (Future Background Conditions) [Future Total Conditions]						
<i>A.M. Peak Hour</i>						
Dickens Avenue and 72 <sup>nd</sup> Street	Signalized	A/5.8 sec (A/5.8 sec) [A/5.8 sec]	(3)	E (E) [E]	A (A) [A]	A (A) [A]
Carlyle Avenue and 72 <sup>nd</sup> Street	One-Way Stop Control	(1)	(2)	(2)	B (B) [B]	(3)
Dickens Avenue and 71 <sup>st</sup> Street/SR 934	Signalized	C/33.5 sec (C/34.6 sec) [C/34.9 sec]	B (B) [C]	D (D) [D]	D (D) [D]	D (D) [D]
Carlyle Avenue and 71 <sup>st</sup> Street/SR 934	Two-Way Stop Control	(1)	(2)	(2)	B (B) [B]	B (B) [B]
Carlyle Avenue and Project Drop-off Egress	One-Way Stop Control	(1)	(3) [A]	(3)	(3) [2]	(3) [2]
Carlyle Avenue and Project Driveway	One-Way Stop Control	(1)	(3) [A]	(3)	(3) [2]	(3) [2]
<i>P.M. Peak Hour</i>						
Dickens Avenue and 72 <sup>nd</sup> Street	Signalized	C/30.2 sec (C/31.0 sec) [C/23.0 sec] <sup>(4)</sup>	(3)	F (F) [F]	A (A) [A]	A (A) [A]
Carlyle Avenue and 72 <sup>nd</sup> Street	One-Way Stop Control	(1)	(2)	(2)	B (B) [B]	(3)
Dickens Avenue and 71 <sup>st</sup> Street/SR 934	Signalized	D/48.6 sec (D/52.8 sec) [D/55.0 sec] <sup>(4)</sup>	B (C) [C]	D (D) [E]	E (E) [E]	F (F) [F]
Carlyle Avenue and 71 <sup>st</sup> Street/SR 934	Two-Way Stop Control	(1)	(2)	(2)	C (C) [C]	B (B) [B]
Carlyle Avenue and Project Drop-off Egress	One-Way Stop Control	(1)	(3) [A]	(3)	(3) [2]	(3) [2]
Carlyle Avenue and Project Driveway	One-Way Stop Control	(1)	(3) [A]	(3)	(3) [2]	(3) [2]

- Notes: (1) Overall intersection LOS is not defined, as intersection operates under stop-control conditions.  
 (2) Approach operates under free-flow conditions. LOS is not defined.  
 (3) Approach does not exist.  
 (4) Signal timings optimized.

## TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Control Measures (TCM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. City of Miami Beach provides public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant will commit to providing secure bicycle parking spaces. The applicant will commit to providing secure bicycle parking spaces including 17 short-term spaces and 200 long-term spaces.

## PARKING EVALUATION

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 95 parking spaces. As part of the proposed redevelopment, the project will provide 242 parking spaces within the proposed parking garage. Refer to the detailed parking calculations prepared by others contained in Appendix A.

## CONCLUSION

Lefferts Investment, LLC is proposing to redevelop the property located on the northwest quadrant of the intersection of Carlyle Avenue and 71<sup>st</sup> Street/SR 934 in Miami Beach, Florida. Currently, the site is proposed for redevelopment is occupied by 37 multifamily (low-rise) residential units and one (1) single-family residence. The proposed redevelopment consists of approximately 13,541 square feet of retail space and 130 high-rise multifamily residential units. The project is expected to be completed by year 2026.

Access to the proposed development is provided via one (1) ingress-only (right-in/left-in) driveway and one (1) egress-only (right-out/left-out) driveway along Carlyle Avenue to serve the rideshare/food delivery area, south of 72<sup>nd</sup> Street and one (1) full access driveway along Carlyle Avenue to serve the parking garage, north of 71<sup>st</sup> Street/SR 934. Note that the limited access driveways will provide access to the rideshare/food delivery drop-off area while the full access driveway will provide access to the parking garage. Note that the Navarro Pharmacy driveway will also be reconfigured as part of this project and will provide east/west connectivity between Dickens Avenue and Carlyle Avenue.

Trip generation for the proposed redevelopment was calculated using rates contained in the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11<sup>th</sup> Edition. The project is expected to generate 37 net new weekday A.M. peak hour trips and 40 net new weekday P.M. peak hour trips.

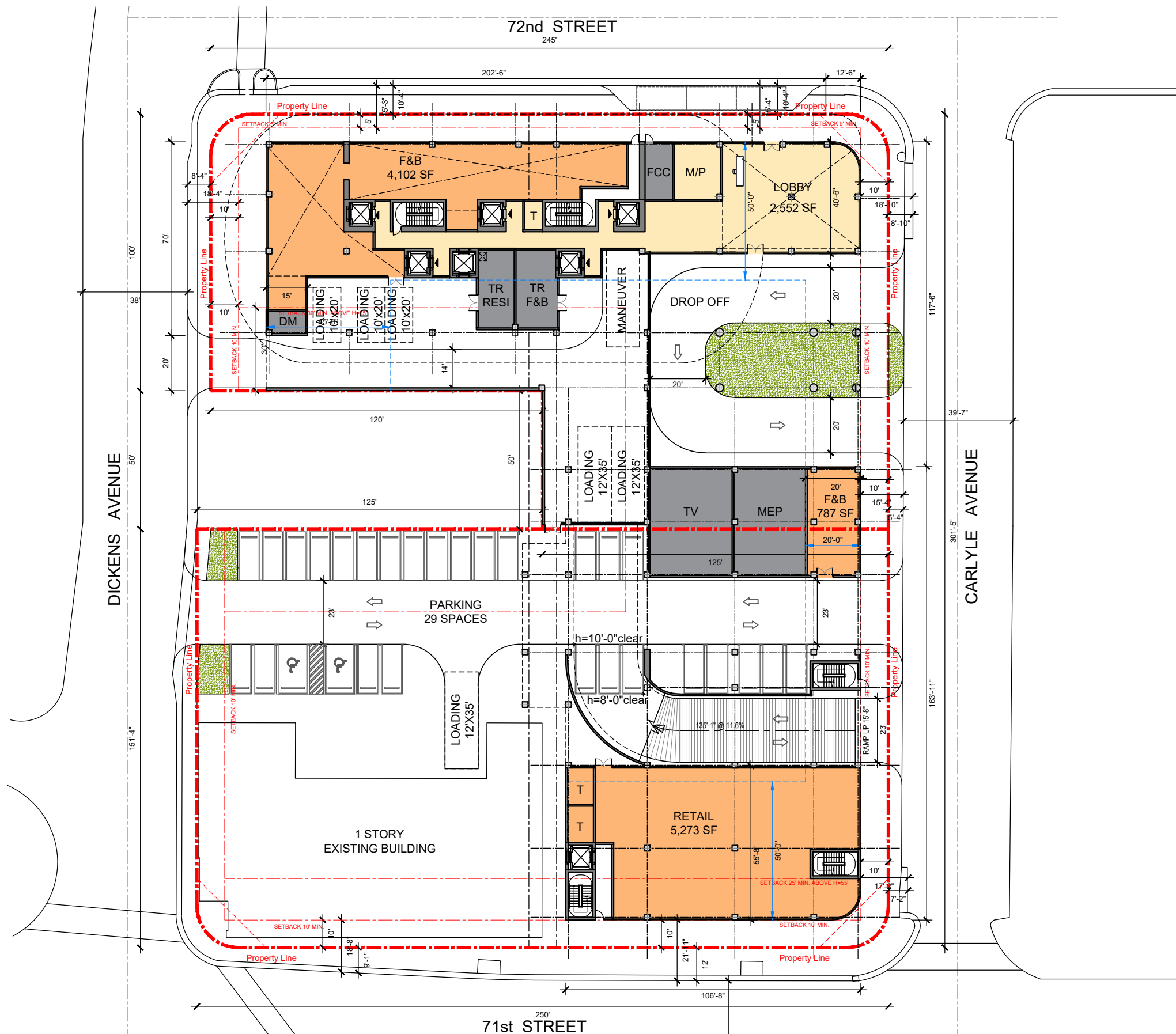
The results of the intersection capacity analysis indicate that all study intersections are expected to operate at adopted levels of service or better during the A.M. and P.M. peak hours under all analysis scenarios.

Transportation Control Measures (TCM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network City of Miami Beach provide public transit in close proximity to the project site. In addition, other measures are under consideration to encourage people to use public transportation, use bicycles and walk, and find alternatives to the typical workday hours. The applicant will commit to providing secure bicycle parking spaces. The applicant will commit to providing secure bicycle parking spaces including 17 short-term spaces and 200 long-term spaces.

The required parking for the site, based on the City of Miami Beach Code of Ordinances, is 95 parking spaces. As part of the redevelopment, the project will provide 242 parking spaces within the proposed parking garage.

**Appendix A**  
Site Plan





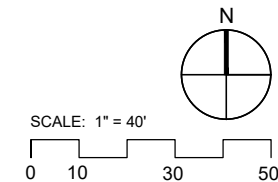
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**DRC SUBMITTAL**  
 650 - 600 72ND ST,  
 7134 - 7130 - 7116 CARLYLE AVE,  
 MIAMI BEACH, FL 33141

**72B**  
**GROUND LEVEL**



DATE:  
 07/11/2023

**A1-03**

### Zoning Information

**Lot addresses :** 650 72nd St; 600 72nd St; 7134 Carlyle Ave; 7130 Carlyle Ave; 7121 Dickens Ave; 621 71st St; 601 71st St; 7116 Carlyle Ave

**Folio numbers :** 02-3211-002-0170; 02-3211-002-0250; 02-3211-002-0240; 02-3211-002-0230; 02-3211-002-0190; 02-3211-002-0200; 02-3211-002-0210; 02-3211-002-0220

**Zoning District :** North Beach Town Center (TC-C) / Parking District #8

1_Lot Occupation	Required	Allowed	Provided
Lot Area			<b>68,407 SF</b>
FAR	3.5 FAR max.	68,407 SF x 3.5 = 239,424 SF	<b>225,043 SF</b>
DUA	150 DUA	150 DUA = 235 Units	<b>125 Units</b>

3_Building Setbacks	Required		Allowed	Provided
	Building height at which Setback occurs	Min. Setack from property line		
72nd Street	Grade to max. height	5'-0" / 20'-0" min. from back of curb line		<b>10'-0"</b>
Carlyle Avenue	Grade to max. height	10'-0"		<b>10'-0"</b>
Dickens Avenue	Grade to max. height	10'-0"		<b>20'-0"</b>
71st Street	Grade to 55'-0"	10'-0"		<b>10'-0"</b>
	55'-0" to max. height	25'-0"		-
Interior side	Grade to 55'-0"	0'-0"		<b>0'-0"</b>
	55'-0" to max. height	30'-0"		<b>20'-0"</b>

4_Building Height	Required	Allowed	Provided
Max. building height	220'-0"		<b>220'-0"</b>

\*Section 142-743 (b) (2) b - For lots greater than 45,000 SF the maximum building height is 200 feet

Parking District #8			
8_Parking Requirements	Required	Allowed	Provided
Residential	Units b/w 550 SF and 850 SF : 0.5 space / unit	32 Units x 0.5 = 16 Spaces	<b>242 Spaces</b>
	Units b/w 851 SF and 1,250 SF : 0.75 space / unit	58 Units x 0.75 = 44 Spaces	
	Units above d 1,250 SF : 1 space / unit	35 Units x 1 = 35 Spaces	
	<b>Total residential parking requirement</b>	<b>95 Spaces</b>	
Retail	No required parking	No required parking	<b>No required parking</b>

9_Bicycle Parking Requirements			
Short-term bicycle space	Required	Allowed	Provided
Residential	1 Space / 10 Units	125 Units / 10 = 13 Spaces	13 Spaces
Retail	4 Spaces / Project	4 Spaces	4 Spaces
<b>Total</b>		<b>17 spaces</b>	<b>17 Spaces</b>
Long-term bicycle space	Required	Allowed	Provided
Residential	1 Space / 1 Unit	125 Spaces (125 Units)	149 Spaces
Retail	2 Spaces / 5,000 SF	6 Spaces (14,438 SF)	6 Spaces
<b>Total</b>		<b>131 Spaces</b>	<b>155 Spaces</b>
<b>Total (Short-term + Long-term)</b>		<b>165 Spaces</b>	<b>189 Spaces</b>

10>Loading Requirements	Required	Allowed	Provided
Residential	Over 100 Units but no more than 200 Units: 3 Spaces (10' x 20' min.)	3	<b>3</b>
Retail	Over 10,000 SF but no over 20,000 SF: 2 Spaces	2	<b>2</b>
<b>Total</b>		<b>5 Loading bays</b>	<b>5 Loading bays</b>

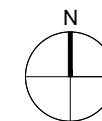
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DRC SUBMITTAL  
650 - 600 72ND ST,  
7134 - 7130 - 7116 CARLYLE AVE,  
MIAMI BEACH, FL 33141

72B  
ZONING DATA



DATE:  
07/11/2023

**A0-03**

## **Appendix B**

### Methodology Correspondence

Hussaini, Danish

---

From: Rodriguez, Otniel <OtnielRodriguez@miamibeachfl.gov>  
Sent: Monday, May 22, 2023 8:11 AM  
To: Dabkowski, Adrian; Gutierrez, Samira; vickersd@gtlaw.com; Bartley Jr, Franklin; Selanikio, Raquel  
Cc: wassermane@gtlaw.com; Gonzalez, Jose R.; Guy Ravnof; Hussaini, Danish  
Subject: RE: New North Beach Project | Traffic Study Methodology  
Attachments: 72B Traffic Study Methodology \_comments.docx

Good morning Adrian,

Please see comments attached on the methodology. The methodology is approved as long as the attached comments are incorporated on the traffic study.

If you have any questions, please let me know.

Sincerely,

**MIAMI BEACH**

Otniel Rodriguez, E.I., Assistant Director  
TRANSPORTATION & MOBILITY DEPARTMENT  
1700 Convention Center Drive, Miami Beach, FL 33139  
Tel: 305-673-7514 [www.miamibeachfl.gov](http://www.miamibeachfl.gov)

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 *Please do not print this e-mail unnecessarily*

---

From: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>  
Sent: Wednesday, May 10, 2023 8:15 AM  
To: Rodriguez, Otniel <OtnielRodriguez@miamibeachfl.gov>; Gutierrez, Samira <SamiraGutierrez@miamibeachfl.gov>; vickersd@gtlaw.com; Bartley Jr, Franklin <FranklinBartleyJr@miamibeachfl.gov>; Selanikio, Raquel <Raquel.Selanikio@kimley-horn.com>  
Cc: wassermane@gtlaw.com; Gonzalez, Jose R. <JoseGonzalez@miamibeachfl.gov>; Guy Ravnof <guy.ravnof@lefferts.com>; Hussaini, Danish <Danish.Hussaini@kimley-horn.com>  
Subject: RE: New North Beach Project | Traffic Study Methodology

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

Good morning Otniel:  
I need to follow up with you on the traffic study methodology for 72B. Please let us know if they City has any comments.

Thank you  
Adrian

Please note that I will be on personal leave May 4 to May 14. I will have very limited or no access to email and voicemail during this time.

**Adrian K. Dabkowski, P.E., PTOE**

**Kimley-Horn** | 8201 Peters Road, Suite 2200, Plantation, FL 33324

Direct: 954-535-5144 | Mobile: 303-990-2761

---

From: Dabkowski, Adrian

Sent: Monday, April 24, 2023 3:29 PM

To: Rodriguez, Otniel <[OtnielRodriguez@miamibeachfl.gov](mailto:OtnielRodriguez@miamibeachfl.gov)>; Gutierrez, Samira <[SamiraGutierrez@miamibeachfl.gov](mailto:SamiraGutierrez@miamibeachfl.gov)>; [vickersd@gtlaw.com](mailto:vickersd@gtlaw.com); Bartley Jr, Franklin <[FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)>; Selanikio, Raquel <[Raquel.Selanikio@kimley-horn.com](mailto:Raquel.Selanikio@kimley-horn.com)>

Cc: [wassermane@gtlaw.com](mailto:wassermane@gtlaw.com); Gonzalez, Jose R. <[JoseGonzalez@miamibeachfl.gov](mailto:JoseGonzalez@miamibeachfl.gov)>

Subject: RE: New North Beach Project | Traffic Study Methodology

Thanks Otniel. Our proposed traffic study methodology is attached. Please let us know if the City has any comments.

Thank you

Adrian

Please note that I will be on personal leave April 25 to April 30 and May 4 to May 14. I will have very limited or no access to email and voicemail during this time.

**Adrian K. Dabkowski, P.E., PTOE**

**Kimley-Horn** | 8201 Peters Road, Suite 2200, Plantation, FL 33324

Direct: 954-535-5144 | Mobile: 303-990-2761

---

From: Rodriguez, Otniel <[OtnielRodriguez@miamibeachfl.gov](mailto:OtnielRodriguez@miamibeachfl.gov)>

Sent: Monday, April 24, 2023 12:30 PM

To: Dabkowski, Adrian <[Adrian.Dabkowski@Kimley-horn.com](mailto:Adrian.Dabkowski@Kimley-horn.com)>; Gutierrez, Samira <[SamiraGutierrez@miamibeachfl.gov](mailto:SamiraGutierrez@miamibeachfl.gov)>; [vickersd@gtlaw.com](mailto:vickersd@gtlaw.com); Bartley Jr, Franklin <[FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)>

Cc: [wassermane@gtlaw.com](mailto:wassermane@gtlaw.com); Gonzalez, Jose R. <[JoseGonzalez@miamibeachfl.gov](mailto:JoseGonzalez@miamibeachfl.gov)>

Subject: RE: New North Beach Project - Transportation Meeting

Good afternoon Adrian,

Please see attached checklist for the traffic study. Please submit the revised methodology for review. Per our meeting today, the goal is to take this to the 9/5/23 DRB meeting.

If you have any questions, please let me know.

Sincerely,

**MIAMI BEACH**

Otniel Rodriguez, E.I., *Assistant Director*  
TRANSPORTATION & MOBILITY DEPARTMENT  
1700 Convention Center Drive, Miami Beach, FL 33139  
Tel: 305-673-7514 [www.miamibeachfl.gov](http://www.miamibeachfl.gov)

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---

From: Dabkowski, Adrian <[Adrian.Dabkowski@Kimley-horn.com](mailto:Adrian.Dabkowski@Kimley-horn.com)>

Sent: Monday, April 17, 2023 10:55 AM

To: Gutierrez, Samira <[SamiraGutierrez@miamibeachfl.gov](mailto:SamiraGutierrez@miamibeachfl.gov)>; [vickersd@gtlaw.com](mailto:vickersd@gtlaw.com); Bartley Jr, Franklin

<[FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)>

Cc: Transportation <[Transportation@miamibeachfl.gov](mailto:Transportation@miamibeachfl.gov)>; [wassermane@gtlaw.com](mailto:wassermane@gtlaw.com)

Subject: RE: New North Beach Project - Transportation Meeting

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

I'm available 4/24 9-9:30 AM.

Thank you

Adrian

Please note that I will be on personal leave April 25 to April 30 and May 4 to May 14. I will have very limited or no access to email and voicemail during this time.

**Adrian K. Dabkowski, P.E., PTOE**

**Kimley-Horn** | 8201 Peters Road, Suite 2200, Plantation, FL 33324

Direct: 954-535-5144 | Mobile: 303-990-2761

---

From: Gutierrez, Samira <[SamiraGutierrez@miamibeachfl.gov](mailto:SamiraGutierrez@miamibeachfl.gov)>

Sent: Monday, April 17, 2023 10:51 AM

To: [vickersd@gtlaw.com](mailto:vickersd@gtlaw.com); Bartley Jr, Franklin <[FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)>

Cc: Transportation <[Transportation@miamibeachfl.gov](mailto:Transportation@miamibeachfl.gov)>; [wassermane@gtlaw.com](mailto:wassermane@gtlaw.com); Dabkowski, Adrian

<[Adrian.Dabkowski@Kimley-horn.com](mailto:Adrian.Dabkowski@Kimley-horn.com)>

Subject: RE: New North Beach Project - Transportation Meeting

Good morning Devon,

Hope your Monday is going great so far.

Please review my team's availability below:

4/24 – 9-9:30am

4/25 – 1-1:30pm

4/27 – 1-1:30pm

Let me know if additional dates are needed.

Thanks!

## MIAMIBEACH

**Samira Gutierrez**

Office Associate V

Transportation & Mobility Department

1700 Convention Center Drive, 3<sup>rd</sup> Floor

Miami Beach, FL 33139

Main: 305.673.7514

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---

From: [vickersd@gtlaw.com](mailto:vickersd@gtlaw.com) <[vickersd@gtlaw.com](mailto:vickersd@gtlaw.com)>

Sent: Monday, April 17, 2023 10:30 AM

To: Bartley Jr, Franklin <[FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)>

Cc: Transportation <[Transportation@miamibeachfl.gov](mailto:Transportation@miamibeachfl.gov)>; [wassermane@gtlaw.com](mailto:wassermane@gtlaw.com); [Adrian.Dabkowski@Kimley-horn.com](mailto:Adrian.Dabkowski@Kimley-horn.com)

Subject: RE: New North Beach Project - Transportation Meeting

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

Good morning and Happy Monday Franklin – hope you had a great weekend!

I have copied our traffic engineer, Adrian, to this email so we can move forward with setting up a meeting for the new North Beach project. Please let us know what information you may need to get this scheduled.

Thank you,

Devon Vickers  
Associate

Greenberg Traurig, P.A.  
333 S.E. 2nd Avenue |  
Suite 4400 | Miami, FL 33131  
T +1 305.579.0827 | F +1 305.961.5566  
[vickersd@gtlaw.com](mailto:vickersd@gtlaw.com) | [www.gtlaw.com](http://www.gtlaw.com) | [View GT Biography](#)



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From: Vickers, Devon (Assoc-MIA-LDZ-RE)  
Sent: Tuesday, April 11, 2023 12:34 PM  
To: 'Bartley Jr, Franklin' <[FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)>  
Cc: Transportation <[Transportation@miamibeachfl.gov](mailto:Transportation@miamibeachfl.gov)>; Wasserman, Ethan B. (Shld-Mia-LDZ-RE) <[wassermane@gtlaw.com](mailto:wassermane@gtlaw.com)>  
Subject: RE: New North Beach Project - Transportation Meeting

Good morning Franklin,

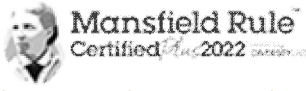
Thank you for taking my call. I have copied my colleague, Ethan Wasserman, to this email. I will add our traffic engineers to this email momentarily.

Thank you,

Devon Vickers  
Associate

Greenberg Traurig, P.A.  
333 S.E. 2nd Avenue |  
Suite 4400 | Miami, FL 33131  
T +1 305.579.0827 | F +1 305.961.5566  
[vickersd@gtlaw.com](mailto:vickersd@gtlaw.com) | [www.gtlaw.com](http://www.gtlaw.com) | [View GT Biography](#)





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From: Bartley Jr, Franklin <[FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)>  
Sent: Tuesday, April 11, 2023 11:35 AM  
To: Vickers, Devon (Assoc-MIA-LDZ-RE) <[vickersd@gtlaw.com](mailto:vickersd@gtlaw.com)>  
Cc: Transportation <[Transportation@miamibeachfl.gov](mailto:Transportation@miamibeachfl.gov)>  
Subject: RE: New North Beach Project - Transportation Meeting

\*EXTERNAL TO GT\*

Good Morning Devon,

Kindly send those emails to me when you get a moment.

Best,



Franklin Bartley Jr, EIT  
Transportation Engineer  
Transportation and Mobility Department  
1700 Convention Center Driver, 3<sup>rd</sup> floor, Miami Beach, FL 33139  
Office: 305-673-7000 ext 26215  
Email: [FranklinBartleyJr@miamibeachfl.gov](mailto:FranklinBartleyJr@miamibeachfl.gov)

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---

From: [vickersd@gtlaw.com](mailto:vickersd@gtlaw.com) <[vickersd@gtlaw.com](mailto:vickersd@gtlaw.com)>  
Sent: Monday, April 10, 2023 2:31 PM  
To: Transportation <[Transportation@miamibeachfl.gov](mailto:Transportation@miamibeachfl.gov)>  
Subject: FW: New North Beach Project - Transportation Meeting

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

Good afternoon,

I am reaching out to you to schedule a transportation meeting for a new project in North Beach. The project will require Design Review Board application/submittal. I know the first stop is meeting with Transportation. Please let me know what information is needed on your end to set up this meeting.

Thank you,

Devon Vickers  
Associate

Greenberg Traurig, P.A.  
333 S.E. 2nd Avenue |  
Suite 4400 | Miami, FL 33131  
T +1 305.579.0827 | F +1 305.961.5566  
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## MEMORANDUM

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

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



Date: May 22, 2023

**Subject: 72B**

***Response to Traffic Impact Analysis Methodology Comments***

We have received comments provided by the City of Miami Beach's Transportation Department on May 22, 2023. We offer the following responses to the comments:

1. Page 2, Background Traffic – Calculate the background growth rate based on the higher rate of 5 and 10-year historic volumes from FDOT Count stations along with the volume comparisons from the latest approved 2015 and 2045 Southeast Florida Regional Planning Model (SERPM).

*Response: Comment noted.*

2. Page 2, Capacity Analysis – Please provide the Synchro files for the City's review when the actual traffic study is performed after the methodology is approved.

*Response: Comment noted.*

3. Attachment A – Please provide a breakdown of the site's access points, referencing the site plan. Provide more detail in the site plan located in Attachment A, including the site's driveways.

*Response: Comment noted. Site access points and an updated site plan will be included as part of the submitted Traffic Impact Analysis.*

4. Attachment A – Please zoom out the project location map and add the study area intersections to be analyzed on the map as well as any committed developments.

*Response: Comment noted. An updated project location map will be provided as part of the submitted Traffic Impact Analysis.*

5. Attachment A – Does the project have Phase II based on the parking information provided in the attachment.

*Response: Please note that Phase 2 of the development is currently undefined. As the development is unknown at this time, Phase 2 of the development will be submitted as a separate application.*

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

**Attachment A-1**  
Traffic Study Methodology

## MEMORANDUM

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

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



Date: April 24, 2023

### **Subject: 72B Traffic Study Methodology**

The purpose of this memorandum is to summarize the traffic study methodology for the redevelopment located on the northwest quadrant of the intersection of Carlyle Avenue and 71<sup>st</sup> Street/SR 934 in Miami Beach, Florida. The parcel proposed for redevelopment is currently occupied by 38 residential units including one (1) single-family residence and 37 multi-family residential units. The proposed redevelopment consists of approximately 14,275 square feet of retail space and 114 high-rise multifamily residential units. A conceptual site plan and location map are included in Attachment A. The following sections summarize our proposed methodology.

### **TRIP GENERATION**

Trip generation calculations for the existing development and proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11<sup>th</sup> Edition. The trip generation for the existing land use was determined using ITE Land Use Code LUC 220 (Multifamily Housing [Low-Rise]) and LUC 210 (Single-Family Detached Housing). The trip generation for the proposed land uses was determined using ITE LUC 822 (Strip Retail Plaza) and LUC 222 (Multifamily Housing [High-Rise]).

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tract in the vicinity of the redevelopment. The US Census data indicated that there is a 30.3 percent (30.3%) multimodal factor within the vicinity of the development. However, to provide a conservative analysis, a multimodal factor of 20.0 percent (20.0%) was applied to the trip generation calculations. It is expected that patrons and visitors will choose to walk, bike, or use public transit to and from the proposed development. Transit route information will be documented in the report. Detailed trip generation calculations and US Census *Means of Transportation to Work* data are included in Attachment B.

The project is expected to generate 35 net new vehicle trips during the weekday A.M. peak hour and 38 net new vehicle trips during the P.M. peak hour. Detailed trip generation calculations are included as Attachment C.

### **STUDY AREA**

The following intersections in addition to the project driveway, are proposed to be analyzed.

1. 72<sup>nd</sup> Street and Dickens Avenue
2. 72<sup>nd</sup> Street and Carlyle Avenue
3. 71<sup>st</sup> Street and Dickens Avenue/Indian Creek Drive
4. 71<sup>st</sup> Street and Carlyle Avenue

Turning movement counts will include pedestrians and bicyclists.

## DATA COLLECTION

Weekday A.M. (7:00 to 9:00 A.M.) and P.M. (4:00 to 6:00 P.M.) peak period turning movement counts will be collected at all identified study intersections on a typical weekday (Tuesday, Wednesday, or Thursday). All traffic counts will be adjusted to peak season conditions using the appropriate Florida Department of Transportation (FDOT) peak season conversion factors for Miami Beach. Turning movement counts will be collected in 15-minute intervals during the analysis peak period and will include pedestrian and bicycle counts and heavy vehicle percentages. Signal timing information will be obtained from Miami-Dade County Department of Transportation and Public Works – Traffic Signals and Signs Division. All collected traffic data will be provided in the Appendix of the traffic impact study.

## TRIP DISTRIBUTION

Trip distribution will be determined based on turning movements counts collected at the study area intersections as well as the location of parking facilities used by the proposed redevelopment. Additionally, the distribution will be based on an interpolated cardinal trip distribution for the project site's traffic analysis zones (TAZs) obtained from the Miami-Dade Transportation Planning Organization's 2045 L RTP Directional Trip Distribution Report travel demand model 2015 and 2045 data. The trip distribution for the anticipated build-out year of 2026 was interpolated from the 2015 and 2045 data. The project is located within TAZ 623. The detailed cardinal distribution is provided in Attachment C.

## BACKGROUND GROWTH RATE/MAJOR COMMITTED DEVELOPMENT

A background growth rate will be calculated based on historic growth trends at nearby Florida Department of Transportation (FDOT) traffic count stations. Additionally, growth rates based on Miami-Dade Transportation Planning Organization's (TPO) projected 2015 and 2045 model network volumes will be examined. The higher of the two (2) growth rates will be used in the analysis. Documentation will be provided in the Appendix of the traffic impact study.

The following developments will be included in background conditions as a committed project.

1. 72<sup>nd</sup> & Park
2. 666 71<sup>st</sup> Street Mixed Use Project

## CAPACITY ANALYSIS

Capacity analyses will be conducted for the analysis period for the study intersections. Intersection analyses will be performed using Trafficware's *Synchro* traffic engineering analysis software which applies the Transportation Research Board's (TRB's), *Highway Capacity Manual* (HCM), 2000 and 6<sup>th</sup> Edition methodologies. Capacity analyses will be conducted for three (3) scenarios: existing, build-out without project, and build-out with project.

The following figures will be included for the study intersections:

- Existing conditions
- Future background traffic conditions (with growth rate)
- Trip distribution
- Trip assignment
- Future total traffic conditions (with project)

## PROGRAMMED ROADWAY IMPROVEMENTS

Local transportation plans will be reviewed in order to gather information about planned and programmed transportation improvements in the study area. The purpose of the plan review is to identify programmed capacity improvements for consideration in the analysis. The City of Miami Beach *Transportation Master Plan* will be reviewed.

## TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

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

## PARKING EVALUATION

A summary of the proposed parking supply will be prepared and included as part of the traffic study based on parking calculations prepared by others. Additionally, an inventory of the on-street parking spaces that will be impacted by the proposed redevelopment will also be documented in the traffic study.

## GARAGE ENTRY GATE OPERATIONS ANALYSIS

A 95<sup>th</sup> percentile entry gate analysis will be prepared for parking garage entry points, if entry gates are provided. The entry gate queuing analysis will be prepared for the weekday A.M. and P.M. peak hours. Entry gate queuing analysis will be conducted consistent with the procedures outlined in ITE's *Transportation and Land Development*, 1988. The purpose of this analysis is to determine any future queue storage deficiencies at the entry gates and provide preliminary recommendations for mitigating these deficiencies.

## DOCUMENTATION

The results of the traffic analysis will be summarized in a report. The report will include supporting documents including signal timings, lane geometry, and software output sheets. The report will also include text and graphics necessary to summarize the assumptions and analysis.

## MANEUVERABILITY ANALYSIS

A maneuverability analysis for the parking garage and loading areas of the proposed redevelopment will be performed utilizing Transoft Solutions' *AutoTURN* software. Deficiencies related to maneuverability, traffic flow, and vehicular conflicts will be documented in a technical memorandum.

O:\adabkowski\72B\72B Traffic Study Methodology.docx

Methodology Attachments removed to eliminate duplicate information.

## **Appendix C**

### Traffic Data

# Turning Movement Counts



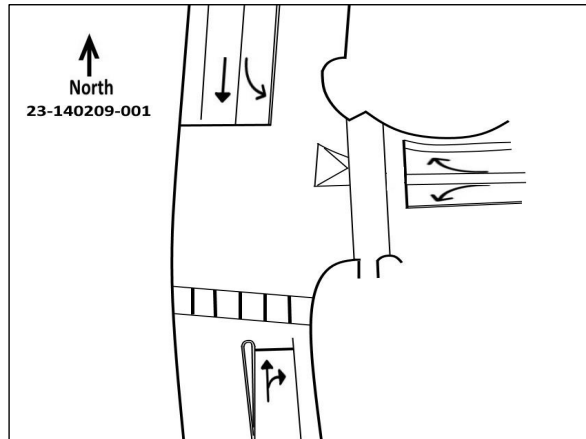
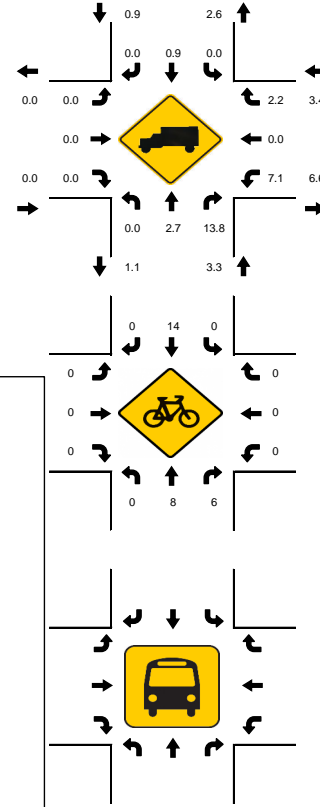
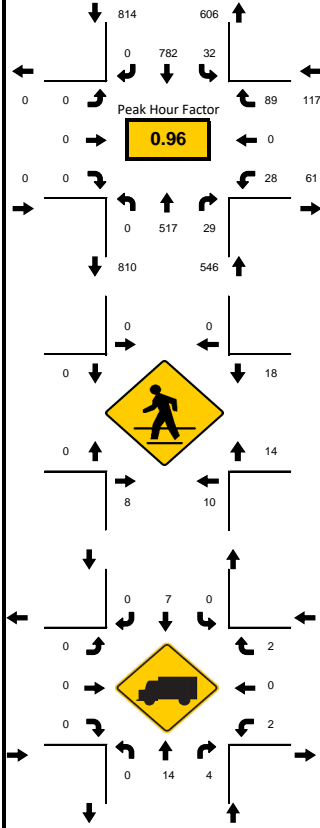
LOCATION: Dickens Ave & 72nd St  
 CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140209-001  
 DATE: Wed, Apr 26, 2023

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



National Data & Surveying Services



15-Min Count Period Beginning At	Dickens Ave Northbound					Dickens Ave Southbound					72nd St Eastbound					72nd St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	70	20	0		11	105	0	0		0	0	0	0		22	0	8	0		236	1146
07:15 AM	0	98	27	0		10	102	0	0		0	0	0	0		20	0	12	0		269	1294
07:30 AM	0	103	18	0		8	161	0	0		0	0	0	0		9	0	12	0		311	1391
07:45 AM	0	142	8	0		7	148	0	0		0	0	0	0		6	0	19	0		330	1452
08:00 AM	0	139	5	0		7	192	0	0		0	0	0	0		5	0	36	0		384	1477
08:15 AM	0	134	6	0		10	177	0	0		0	0	0	0		8	0	31	0		366	1093
08:30 AM	0	123	12	0		7	206	0	0		0	0	0	0		7	0	17	0		372	727
08:45 AM	0	121	6	0		8	207	0	0		0	0	0	0		8	0	5	0		355	355
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	0	556	48	0		40	828	0	0		0	0	0	0		32	0	144	0		1648	
Heavy Trucks	0	20	8	0		0	16	0	0		0	0	0	0		4	0	8	0		56	
Pedestrians																					0	
Bicycles	0	12	16	0		0	20	0	0		0	0	0	0		0	0	0	0		48	
Buses																						
Stopped Buses																						

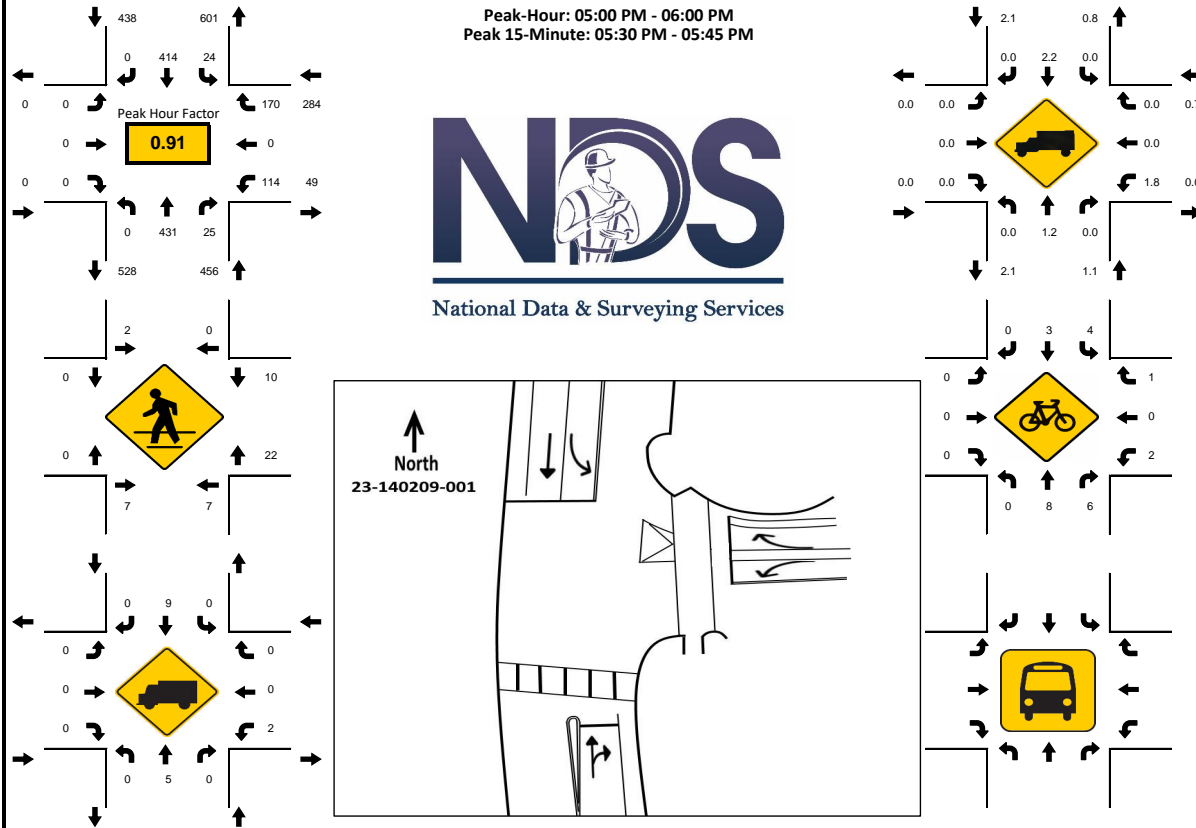
LOCATION: Dickens Ave & 72nd St  
 CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140209-001  
 DATE: Wed, Apr 26, 2023

Peak-Hour: 05:00 PM - 06:00 PM  
 Peak 15-Minute: 05:30 PM - 05:45 PM



National Data & Surveying Services

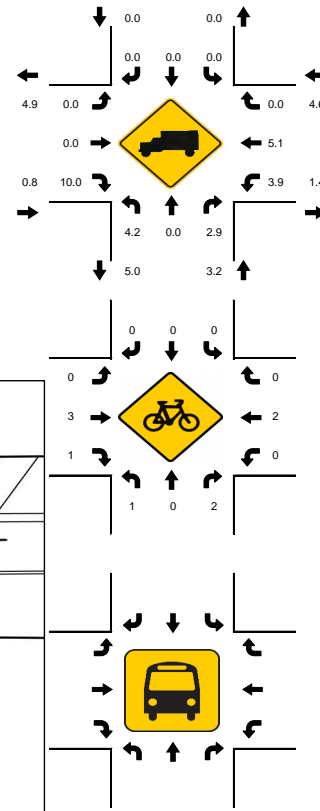
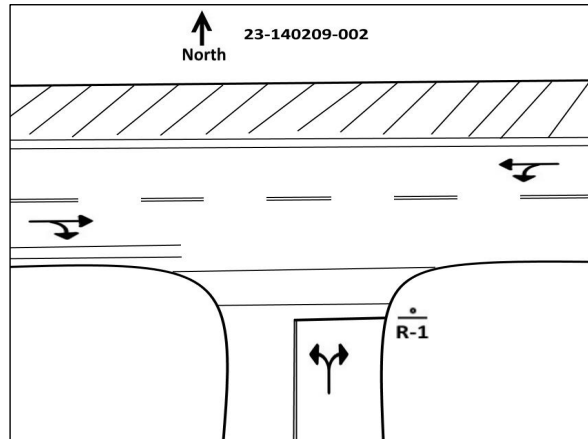
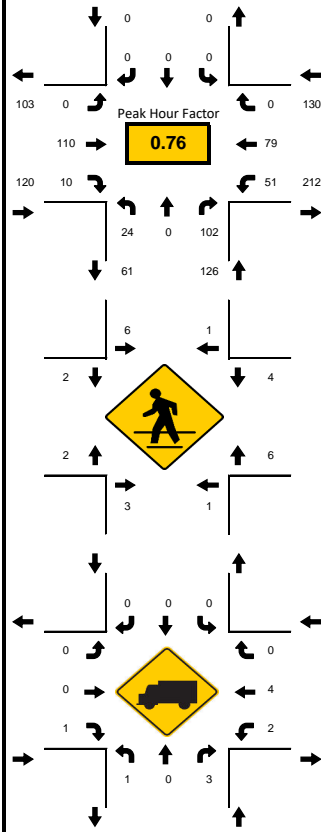
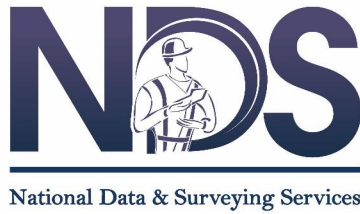


15-Min Count Period Beginning At	Dickens Ave Northbound					Dickens Ave Southbound					72nd St Eastbound					72nd St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	116	5	1		5	113	0	1		0	0	0	0		20	0	41	0		302	1130
04:15 PM	0	113	7	0		4	105	0	0		0	0	0	0		27	0	34	0		290	1100
04:30 PM	0	108	6	0		5	100	0	0		0	0	0	0		34	0	32	0		285	1095
04:45 PM	0	88	11	0		5	83	0	1		0	0	0	0		33	0	32	0		253	1133
05:00 PM	0	93	7	0		5	101	0	0		0	0	0	0		28	0	38	0		272	1178
05:15 PM	0	101	6	0		4	99	0	1		0	0	0	0		31	0	43	0		285	906
05:30 PM	0	111	8	0		9	109	0	0		0	0	0	0		33	0	51	2		323	621
05:45 PM	0	126	4	0		5	105	0	0		0	0	0	0		20	0	38	0		298	298
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	0	504	32	0		36	436	0	4		0	0	0	0		132	0	204	8		1356	
Heavy Trucks	0	16	0	0		0	16	0	0		0	0	0	0		4	0	0	0		36	
Pedestrians																					0	
Bicycles	0	12	12	0		8	4	0	0		0	0	0	0		4	0	4	0		44	
Buses																						
Stopped Buses																						

LOCATION: Carlyle Ave & 72nd St  
 CITY/STATE: Miami Beach, FL

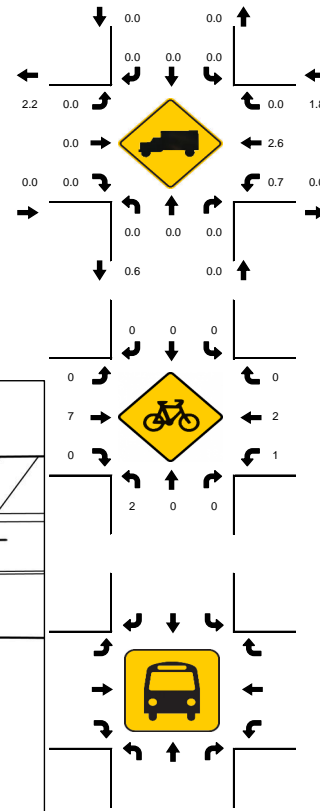
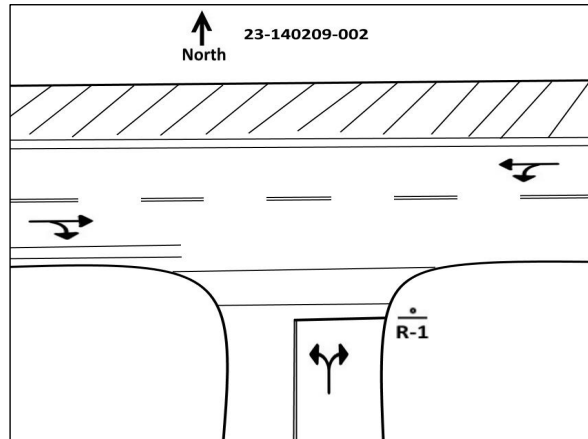
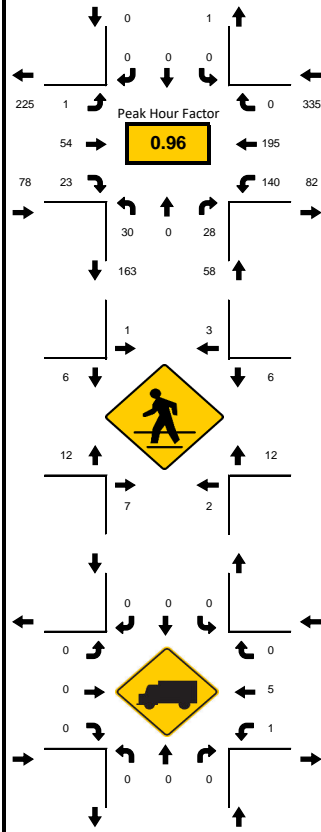
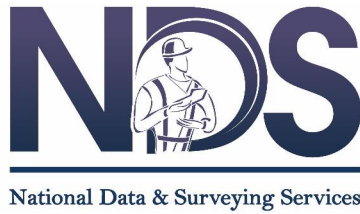
PROJECT ID: 23-140209-002  
 DATE: Wed, Apr 26, 2023

Peak-Hour: 07:00 AM - 08:00 AM  
 Peak 15-Minute: 07:00 AM - 07:15 AM



15-Min Count Period Beginning At	Carlyle Ave Northbound					Carlyle Ave Southbound					72nd St Eastbound				72nd St Westbound				Total	Hourly Total		
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt			U	R*
07:00 AM	3	0	41	0	0	0	0	0	0	0	0	33	1	0	18	27	0	0	123	376		
07:15 AM	4	0	26	0	0	0	0	0	0	0	0	38	2	0	15	25	0	0	110	323		
07:30 AM	5	0	34	0	0	0	0	0	0	0	0	25	2	0	12	15	0	1	94	280		
07:45 AM	12	0	1	0	0	0	0	0	0	0	0	14	5	0	5	12	0	0	49	244		
08:00 AM	18	0	6	1	0	0	0	0	0	0	0	15	0	0	3	26	1	0	70	242		
08:15 AM	13	0	6	0	0	0	0	0	0	0	0	14	2	0	9	23	0	0	67	172		
08:30 AM	8	0	5	0	0	0	0	0	0	0	0	15	7	0	7	16	0	0	58	105		
08:45 AM	2	0	5	1	0	1	0	0	0	0	1	14	2	0	15	6	0	0	47	47		
<b>Peak 15-Min Flowrates</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Total</b>	
All Vehicles	48	0	164	0	0	0	0	0	0	0	0	152	20	0	72	108	0	4	568			
Heavy Trucks	4	0	12	0	0	0	0	0	0	0	0	0	4	0	8	8	0	0	36			
Pedestrians																			0			
Bicycles	4	0	8	0	0	0	0	0	0	0	0	8	4	0	0	8	0	0	32			
Buses																						
Stopped Buses																						

Peak-Hour: 04:15 PM - 05:15 PM  
 Peak 15-Minute: 04:45 PM - 05:00 PM



15-Min Count Period Beginning At	Carlyle Ave Northbound					Carlyle Ave Southbound					72nd St Eastbound					72nd St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	11	0	5	0		0	0	0	0		0	11	4	1		28	51	0	0		111	464
04:15 PM	8	0	9	0		0	0	0	0		0	8	6	0		41	43	0	0		115	471
04:30 PM	9	0	7	0		0	0	0	0		0	11	5	0		30	53	0	0		115	449
04:45 PM	5	0	6	0		0	0	0	0		0	17	9	0		33	53	0	0		123	469
05:00 PM	8	0	6	0		0	0	0	0		0	18	3	1		36	46	0	0		118	459
05:15 PM	7	0	5	0		0	0	0	0		0	7	3	0		23	48	0	0		93	341
05:30 PM	4	0	3	0		0	0	1	0		0	24	11	1		27	63	1	0		135	248
05:45 PM	7	0	3	0		0	0	2	0		0	15	3	0		29	53	1	0		113	113
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	36	0	36	0		0	0	0	0		0	72	36	4		164	212	0	0		<b>560</b>	
Heavy Trucks	0	0	0	0		0	0	0	0		0	0	0	0		4	8	0	0		<b>12</b>	
Pedestrians																					<b>0</b>	
Bicycles	4	0	0	0		0	0	0	0		0	20	0	0		4	4	0	0		<b>32</b>	
Buses																						
Stopped Buses																						

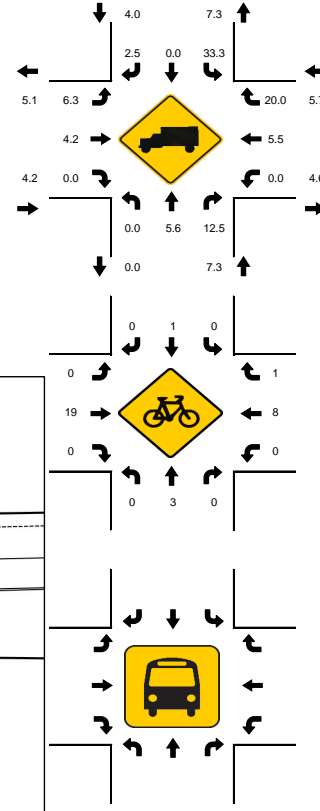
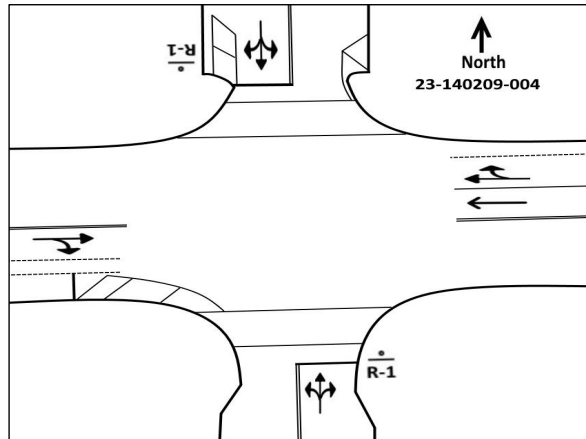
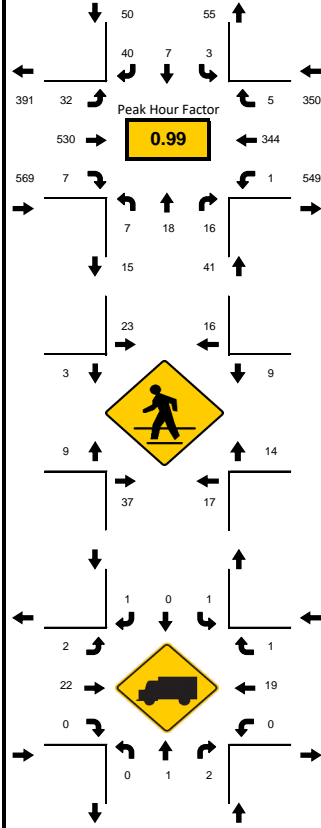
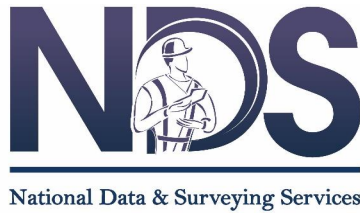




LOCATION: Carlyle Ave & 71st St  
 CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140209-004  
 DATE: Wed, Apr 26, 2023

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

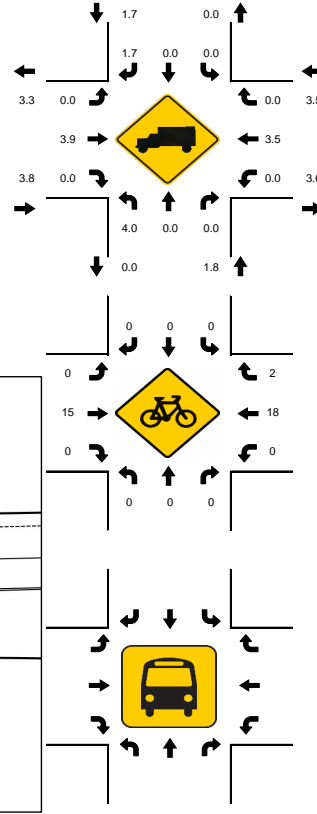
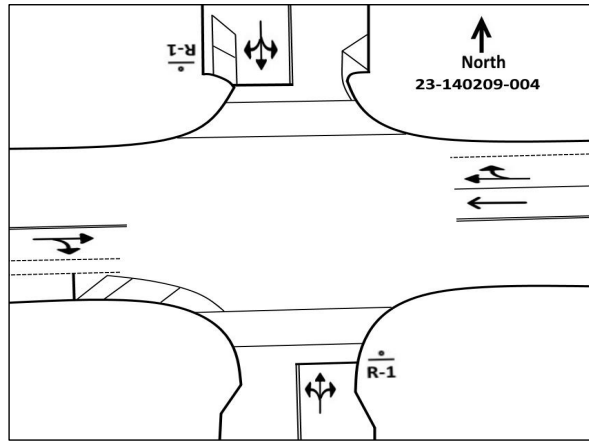
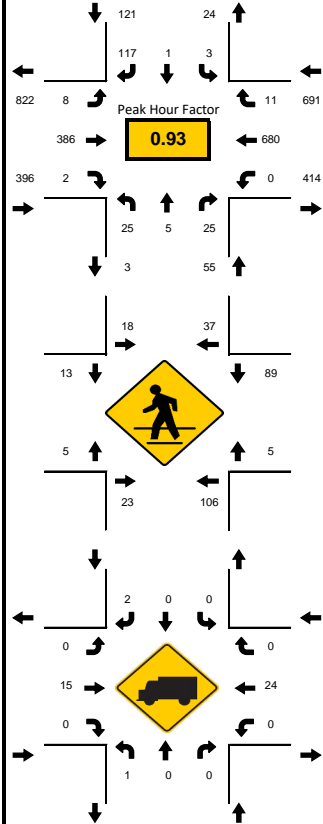
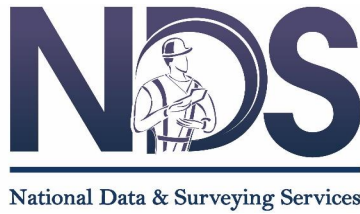


15-Min Count Period Beginning At	Carlyle Ave Northbound					Carlyle Ave Southbound					71st St Eastbound					71st St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	1	8	0	0		0	6	12	0		34	0	16	0		1	4	0	0		82	520
07:15 AM	1	6	0	0		0	1	16	0		25	0	21	0		0	3	1	0		74	690
07:30 AM	2	3	1	1		1	3	10	0		30	42	11	0		0	38	3	0		145	870
07:45 AM	1	3	5	0		0	2	10	0		6	126	1	0		1	59	5	0		219	978
08:00 AM	2	8	4	0		2	0	4	0		12	130	2	0		0	88	0	0		252	1010
08:15 AM	1	7	6	0		0	2	10	0		10	135	1	0		0	80	2	0		254	758
08:30 AM	3	2	5	0		0	2	11	0		8	127	3	0		1	89	2	0		253	504
08:45 AM	1	1	1	0		1	3	15	0		2	138	1	0		0	87	1	0		251	251
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	12	32	24	0		8	12	60	0		48	552	12	0		4	356	8	0		1128	
Heavy Trucks	0	4	8	0		4	0	4	0		4	32	0	0		0	20	4	0		80	
Pedestrians																					0	
Bicycles	0	4	0	0		0	4	0	0		0	36	0	0		0	12	4	0		60	
Buses																						
Stopped Buses																						

LOCATION: Carlyle Ave & 71st St  
 CITY/STATE: Miami Beach, FL

PROJECT ID: 23-140209-004  
 DATE: Wed, Apr 26, 2023

Peak-Hour: 04:00 PM - 05:00 PM  
 Peak 15-Minute: 04:00 PM - 04:15 PM



15-Min Count Period Beginning At	Carlyle Ave Northbound					Carlyle Ave Southbound					71st St Eastbound					71st St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	5	1	5	0		1	0	32	0		2	117	0	0		0	175	3	0		341	1263
04:15 PM	5	2	11	0		0	1	28	0		2	92	2	0		0	167	1	0		311	1213
04:30 PM	10	2	9	0		2	0	34	0		3	97	0	0		0	152	5	0		314	1205
04:45 PM	5	0	0	0		0	0	23	0		1	80	0	0		0	186	2	0		297	1189
05:00 PM	5	0	0	0		0	0	28	0		1	77	0	0		0	178	2	0		291	1196
05:15 PM	5	0	3	0		1	0	32	0		1	99	3	0		0	158	1	0		303	905
05:30 PM	1	1	3	0		1	0	21	1		2	106	2	0		0	159	1	0		298	602
05:45 PM	2	0	4	0		0	1	32	0		2	113	5	0		1	141	3	0		304	304
<b>Peak 15-Min Flowrates</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Left</b>	<b>Thru</b>	<b>Rgt</b>	<b>U</b>	<b>R*</b>	<b>Total</b>	
All Vehicles	40	8	44	0		8	4	136	0		12	468	8	0		0	744	20	0		1492	
Heavy Trucks	4	0	0	0		0	0	4	0		0	24	0	0		0	32	0	0		64	
Pedestrians																					0	
Bicycles	0	0	0	0		0	0	0	0		0	40	0	0		0	40	8	0		88	
Buses																						
Stopped Buses																						



# Peak Season Category Report

2022 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL  
 CATEGORY: 8700 MIAMI-DADE NORTH

MOCF: 0.96

WEEK	DATES	SF	PSCF
1	01/01/2022 - 01/01/2022	1.06	1.10
2	01/02/2022 - 01/08/2022	1.04	1.08
3	01/09/2022 - 01/15/2022	1.02	1.06
4	01/16/2022 - 01/22/2022	1.01	1.05
5	01/23/2022 - 01/29/2022	1.00	1.04
6	01/30/2022 - 02/05/2022	0.98	1.02
7	02/06/2022 - 02/12/2022	0.97	1.01
* 8	02/13/2022 - 02/19/2022	0.96	1.00
* 9	02/20/2022 - 02/26/2022	0.96	1.00
*10	02/27/2022 - 03/05/2022	0.96	1.00
*11	03/06/2022 - 03/12/2022	0.96	1.00
*12	03/13/2022 - 03/19/2022	0.96	1.00
*13	03/20/2022 - 03/26/2022	0.96	1.00
*14	03/27/2022 - 04/02/2022	0.96	1.00
*15	04/03/2022 - 04/09/2022	0.96	1.00
*16	04/10/2022 - 04/16/2022	0.95	0.99
*17	04/17/2022 - 04/23/2022	0.96	1.00
*18	04/24/2022 - 04/30/2022	0.96	1.00
*19	05/01/2022 - 05/07/2022	0.97	1.01
*20	05/08/2022 - 05/14/2022	0.97	1.01
21	05/15/2022 - 05/21/2022	0.98	1.02
22	05/22/2022 - 05/28/2022	0.99	1.03
23	05/29/2022 - 06/04/2022	0.99	1.03
24	06/05/2022 - 06/11/2022	1.00	1.04
25	06/12/2022 - 06/18/2022	1.01	1.05
26	06/19/2022 - 06/25/2022	1.01	1.05
27	06/26/2022 - 07/02/2022	1.01	1.05
28	07/03/2022 - 07/09/2022	1.02	1.06
29	07/10/2022 - 07/16/2022	1.02	1.06
30	07/17/2022 - 07/23/2022	1.02	1.06
31	07/24/2022 - 07/30/2022	1.02	1.06
32	07/31/2022 - 08/06/2022	1.01	1.05
33	08/07/2022 - 08/13/2022	1.01	1.05
34	08/14/2022 - 08/20/2022	1.01	1.05
35	08/21/2022 - 08/27/2022	1.03	1.07
36	08/28/2022 - 09/03/2022	1.04	1.08
37	09/04/2022 - 09/10/2022	1.05	1.09
38	09/11/2022 - 09/17/2022	1.07	1.11
39	09/18/2022 - 09/24/2022	1.05	1.09
40	09/25/2022 - 10/01/2022	1.03	1.07
41	10/02/2022 - 10/08/2022	1.01	1.05
42	10/09/2022 - 10/15/2022	0.99	1.03
43	10/16/2022 - 10/22/2022	1.00	1.04
44	10/23/2022 - 10/29/2022	1.01	1.05
45	10/30/2022 - 11/05/2022	1.01	1.05
46	11/06/2022 - 11/12/2022	1.02	1.06
47	11/13/2022 - 11/19/2022	1.03	1.07
48	11/20/2022 - 11/26/2022	1.04	1.08
49	11/27/2022 - 12/03/2022	1.05	1.09
50	12/04/2022 - 12/10/2022	1.05	1.09
51	12/11/2022 - 12/17/2022	1.06	1.10
52	12/18/2022 - 12/24/2022	1.04	1.08
53	12/25/2022 - 12/31/2022	1.02	1.06

\* PEAK SEASON

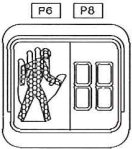
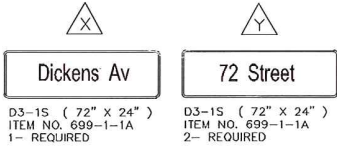
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830UPD

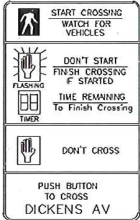
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## Signal Timings

**SIGNAL HEAD & SIGN DETAILS**



ITEM NO. 653-191  
4- REQUIRED

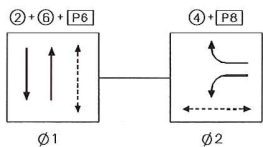


ITEM NO. R10-3n  
COST INCLUDED IN  
ITEM NO. 665-11  
2- REQUIRED

**DETECTORS FOR LOOPS**

MVM'T NO.	NO. OF LOOPS	NO. OF DETS.
4	2	1

**SIGNAL OPERATING PLAN**

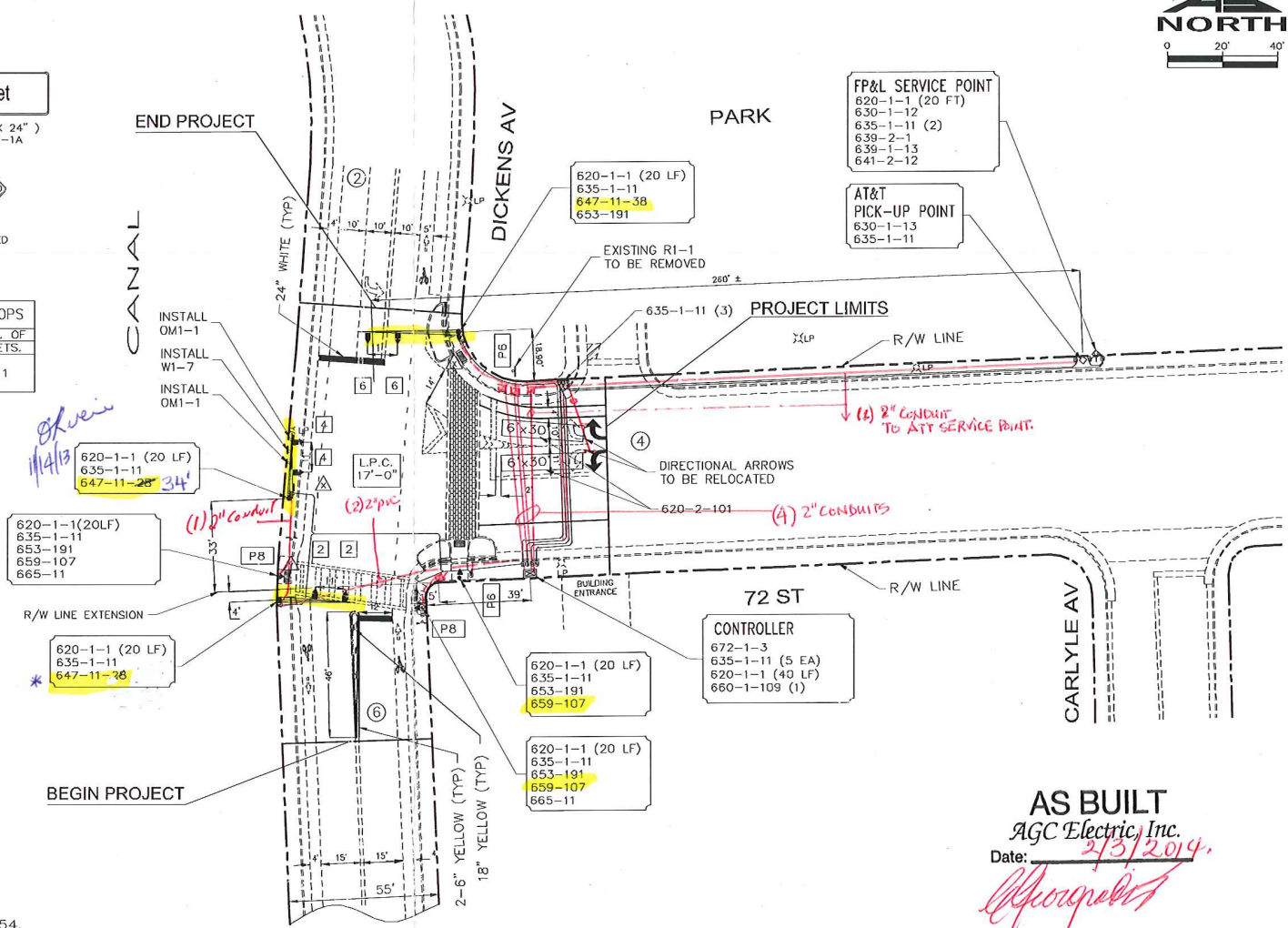


**CONTROLLER OPERATIONS**

1. Major street is DICKENS ST , Minor Street is 72 STREET.
2. Signal Operation Plan as shown.
3. Phase 2 & 1 Actuated, Phase 1 Recall.
4. Signal Coordination Phase is 1
5. Flashing Operation DICKENS AV Yellow, 72 ST Red.

**NOTES**

1. Demand wattage for this intersection is 362 watts.
2. FPL Representative is Jose Garcia, Tel. 305-442 5154.
3. AT&T Representative is Steve Massie, Tel. 305-222 8745.
4. Remove all existing signs and markings in conflict with this design.



**FP&L SERVICE POINT**  
620-1-1 (20 FT)  
630-1-12  
635-1-11 (2)  
639-2-1  
639-1-13  
641-2-12

**AT&T PICK-UP POINT**  
630-1-13  
635-1-11

**72 ST CONTROLLER**  
672-1-3  
635-1-11 (5 EA)  
620-1-1 (40 LF)  
660-1-109 (1)

620-1-1(20LF)  
635-1-11  
653-191  
659-107  
665-11

620-1-1 (20 LF)  
635-1-11  
647-11-38  
659-107  
665-11

620-1-1 (20 LF)  
635-1-11  
653-191  
659-107  
665-11



MIAMI-DADE COUNTY  
PUBLIC WORKS AND WASTE MANAGEMENT DEPARTMENT  
TRAFFIC ENGINEERING DIVISION

PROJECT No	SHEET	REV.	DATE	DESCRIPTION	BY:
20120071	7 OF 8				

**DICKENS AV & 72 ST (TRAFFIC SIGNAL)**

DESIGNER	DATE	SIGNAL INTERSECTION ID #
A. SUAREZ	09/19/13	6916

**AS BUILT**  
AGC Electric, Inc.  
Date: 2/3/2014  
*[Signature]*

**TOD Schedule Report**  
for 6916: Dickens Av&72 St

Print Date:  
10/4/2021

Print Time:  
10:01 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
6916	Dickens Av&72 St	DOW-2	TOD	[04] HEAVY AM PEAK	110	14	N/A	1	Max 2

**Splits**

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	WBT	-	NBT	-	-
0	81	0	17	0	81	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 SBT	4	4	4	19	19	19	4	4	4	1	1	1	23	23	23	0	0	0	4	2.3
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	4	4	4	12	12	12	7	7	7	2.5	2.5	2.5	7	7	7	16	16	16	4	2.3
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 NBT	4	4	4	19	19	19	4	4	4	1	1	1	23	23	23	0	0	0	4	2.3
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

Permitted Phases	
	<b>12345678</b>
Default	-2-4-6--
External Permit 0	-2-4-6--
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1	2	3	4	5	6	7	8		
	1	80	0	50	0	18	0	50	0	0	0	45
	2	140	0	111	0	17	0	111	0	0	0	135
	3	140	0	111	0	17	0	111	0	0	0	82
	4	110	0	81	0	17	0	81	0	0	0	14
	5	100	0	71	0	17	0	71	0	0	0	73
	12	120	0	91	0	17	0	91	0	0	0	82
	14	120	0	91	0	17	0	91	0	0	0	75

Local TOD Schedule		
Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	5	M T W Th F
0700	14	Su
0715	14	M T W Th F
0915	4	M T W Th F
1345	12	M T W Th F
1530	2	M T Th F
1630	2	W
2000	4	M T W Th F
2300	Free	Su M T W Th F S

**TOD Schedule Report**  
**for 6916: Dickens Av&72 St**

Print Date:  
**10/4/2021**

Print Time:  
**10:01 PM**

<b>Current Time of Day Function</b>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFU	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFU	-----	SuM T W ThF S

<b>Local Time of Day Function</b>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S

<b>* Settings</b>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

<b><i>No Calendar Defined/Enabled</i></b>
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# SIGNAL OPERATING PLAN



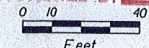
Direction	NB	SB	WB	Ped Heads	Movements/Display/Actuation
Timing Phases	Head No.	6	2	4	P6 P8
(2+6)	Dwell	G	G	R	W/F DW
N/SB DICKENS AV (RECALL)	Clear to	4	Y	Y	R DW DW
	Dwell				
4 WB 72 STREET (ACTUATED)	Clear to	(2+6)	R	R	G DW W/F
			R	R	Y DW DW
	Dwell				
	Clear to				
	Clear to				
	Clear to				
	Dwell				
	Clear to				
	Clear to				
	Clear to				
	Dwell				
	Clear to				
	Clear to				
	Clear to				
	Dwell				
	Clear to				
	Clear to				
	Clear to				

## Miami-Dade County Public Works Department

Drawn WILLIAM RIVERA PAZ	Date 11/6/2013	<b>DICKENS AV &amp; 72 STREET</b>		
Checked <i>H. HERNANDEZ</i>	Date 11/25/13	Placed in Service Date <i>2/26/14</i> By AGC	Phasing No. 1	Asset Number 6916

**COMMUNITY ASPHALT CORP. AS-BUILTS**

COMMUNITY ASPHALT CORPORATION  
 DATE 2/27/12  
 PROJECT NO. 419825-1-52-01  
 REVIEWED BY GA

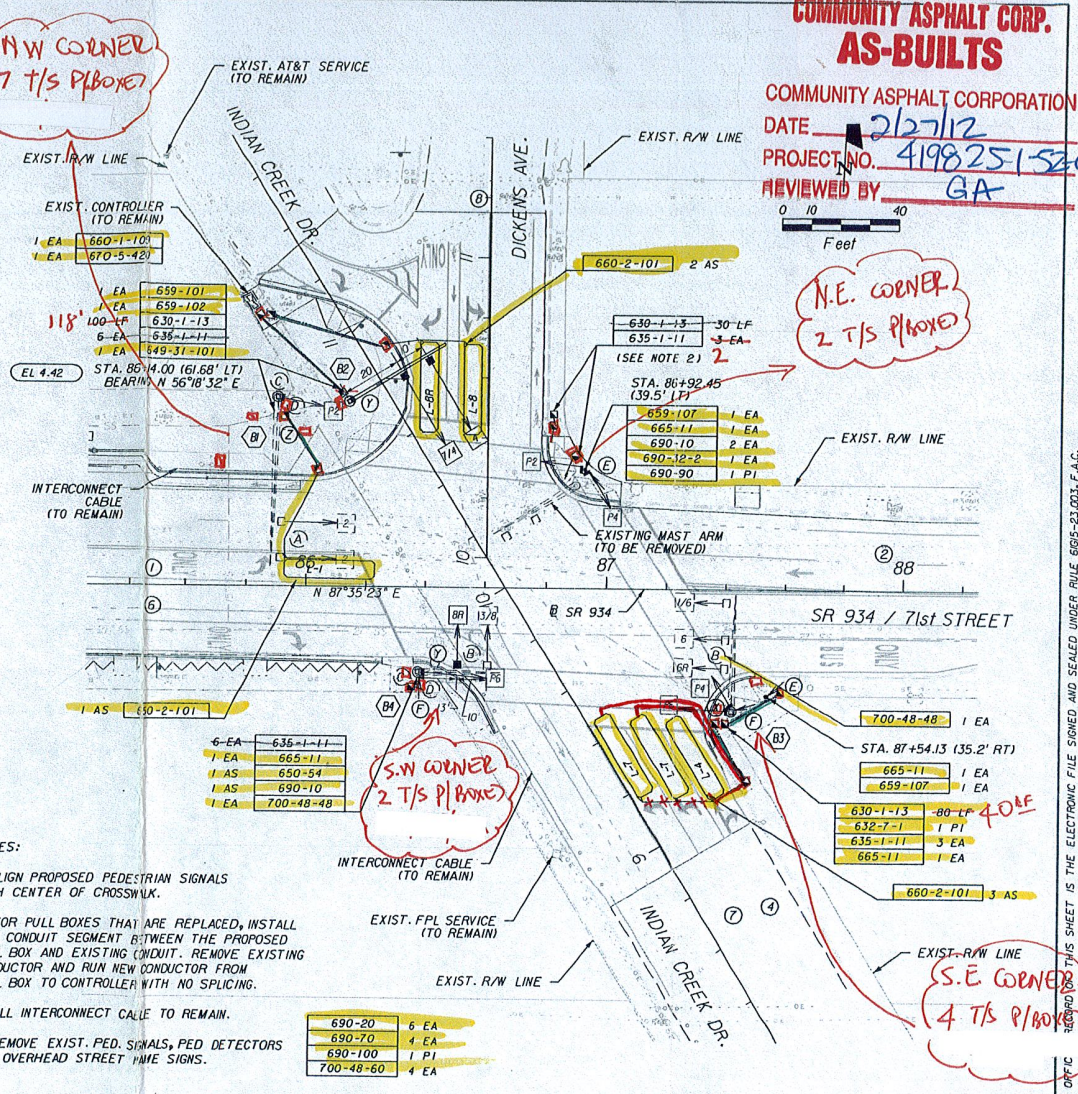
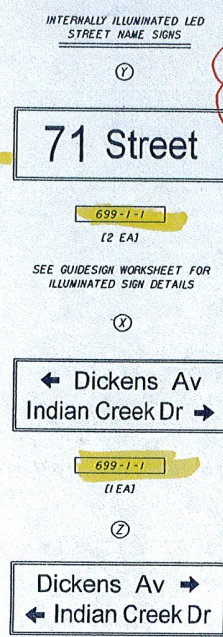
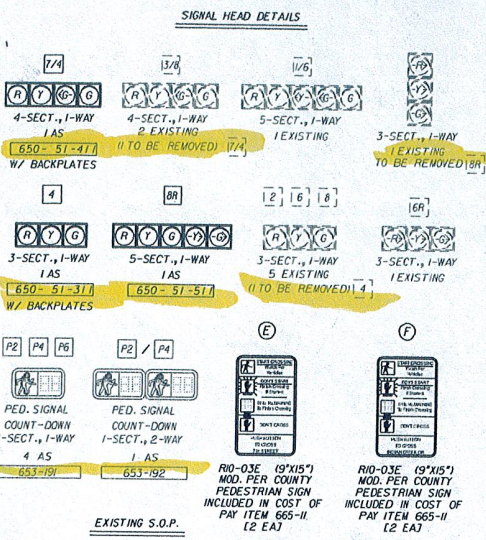


*N.W. CORNER  
7 T/S P/BOXES*

*N.E. CORNER  
2 T/S P/BOXES*

*S.W. CORNER  
2 T/S P/BOXES*

*S.E. CORNER  
4 T/S P/BOXES*



- NOTES:**
- (1) ALIGN PROPOSED PEDESTRIAN SIGNALS WITH CENTER OF CROSSWALK.
  - (2) FOR PULL BOXES THAT ARE REPLACED, INSTALL NEW CONDUIT SEGMENT BETWEEN THE PROPOSED PULL BOX AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTOR AND RUN NEW CONDUCTOR FROM PULL BOX TO CONTROLLER WITH NO SPlicing.
  - (3) ALL INTERCONNECT CABLE TO REMAIN.
  - (4) REMOVE EXIST. PED. SIGNALS, PED DETECTORS AND OVERHEAD STREET NAME SIGNS.

**DETECTORS FOR LOOPS**

LOOP	NO. OF LOOPS	NO. OF NEW DETS.	NO. OF EXIST. DETS.
L-			
L-1	1		1
L-4	1		1
L-7	2	1	
L-8	1		1
L-BR	1		1

- CONTROLLER OPERATIONS**
1. MAJOR STREET IS SR 934 / 71ST. MINOR STREET IS DICKENS AVE. / INDIAN CREEK DR.
  2. SIGNAL OPERATING PER PHASING DIAGRAM SHOWN.
  3. FLASHING OPERATION IS  
 YELLOW: MOVEMENT (2) + (6)  
 RED: MOVEMENT (1) + (2) + (3)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

<b>Alvarez Engineers, Inc.</b>		<b>STATE OF FLORIDA</b>	
FLORIDA CERTIFICATE OF AUTHORIZATION No. 7538 RAMON TESONE, P.E. No. 56070 1050 N.W. 27th Street, Suite 402 Miami, Florida 33125 Tel. (305) 690-1545 Fax (305) 690-1346 E-mail: Alvarez@alvarezeng.com		DEPARTMENT OF TRANSPORTATION	
ROAD NO.	COUNTY	FINANCIAL PROJECT ID	<b>SIGNALIZATION PLAN</b>
934	MIAMI-DADE	419825-1-52-01	

DATE	DESCRIPTION	DATE	DESCRIPTION

SHEET NO.	T-5
-----------	-----

NOTICE: THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 6B05-23.003, F.A.C.



## TOD Schedule Report for 2725: Indian Creek Dr&71 St

Print Date:  
10/4/2021

Print Time:  
3:21 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2725	Indian Creek Dr&71 St	DOW-2	TOD	N/A	0	0	N/A	0	Max 0

### Splits

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

Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red						
	Phase Bank																									
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3								
1 EBL	0	-	0	0	0	-	0	0	5	-	5	5	2	-	2	2	12	-	12	20	20	-	0	20	3.7	2
2 WBT	4	-	4	4	23	-	23	23	4	-	4	4	1	-	1	1	30	-	30	30	0	-	0	0	4	2.5
3 -	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	0
4 -	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	0
5 -	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	0
6 EBT	4	-	4	4	23	-	23	23	4	-	4	4	1	-	1	1	30	-	30	30	0	-	0	0	4	2.5
7 NBT	4	-	4	4	18	-	18	18	7	-	7	7	2.5	-	2.5	2.5	22	-	20	16	45	-	0	38	4	2.5
8 SBT	0	-	0	0	0	-	0	0	7	-	7	7	4	-	2.5	4	22	-	25	18	45	-	0	35	4	2.5

Last In Service Date: unknown

Permitted Phases	
	<b>12345678</b>
Default	12---678
External Permit 0	-2---678
External Permit 1	-2---678
External Permit 2	-2---678

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 EBL	2 WBT	3 -	4 -	5 -	6 EBT	7 NBT	8 SBT		
2		140	17	41	0	0	0	41	40	18	0	7
4		110	16	27	0	0	0	27	23	20	0	31
5		100	5	29	0	0	0	29	25	16	0	74
12		140	18	48	0	0	0	48	26	24	0	98
14		120	18	29	0	0	0	29	23	26	0	93
15		120	15	42	0	0	0	42	23	16	0	93
22		140	15	45	0	0	0	45	40	16	0	7

Local TOD Schedule		
Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	5	M T W Th F
0700	14	Su
0715	14	M T W Th F
0915	4	M T W Th F
1345	12	M T W Th F
1530	2	M T Th F
1530	15	Su
1630	2	W
2000	4	M T W Th F
2300	Free	Su M T W Th F S

**TOD Schedule Report**  
**for 2725: Indian Creek Dr&71 St**

Print Date:  
**10/4/2021**

Print Time:  
**3:21 PM**

<b>Current Time of Day Function</b>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----1	SuM T W ThF S
0000	TOD LOCAL MULTIFU	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFU	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----	M T W ThF
1430	TOD OUTPUTS	-----	M T W ThF
1600	TOD OUTPUTS	-----	M T W ThF
2300	TOD OUTPUTS	-----1	SuM T W ThF S

<b>Local Time of Day Function</b>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----1	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----	M T W ThF
0700	TOD OUTPUTS	-----	Su S
1430	TOD OUTPUTS	-----	M T W ThF
1600	TOD OUTPUTS	-----	M T W ThF
2300	TOD OUTPUTS	-----1	SuM T W ThF S

<b>* Settings</b>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

### SIGNAL OPERATING PLAN



		Direction	EB			WB	NB		SB		Ped Heads			
Timing Phases	Head No.	1/6	6	6R	2	7/4	4	3/8	8R	P6	P2	P4	Movements/Display/Actuation	
(1+6) EB 71 STREET (ACTUATED)	Dwell	G/<G	G	G>	R	R	R	R	R/G>	DW	DW	DW		
	Clear	2+6/6P	G/<Y	G	Y>	R	R	R	R	R/Y>	DW	DW		DW
	to	2+6	G/<Y	G	G>	R	R	R	R	R/Y>	DW	DW		DW
(2+6+P6) E/WB 71 STREET (ACTUATED)	Dwell	G	G	R>	G	R	R	R	R	W/F	W/F	DW		
	Clear	2+6	G	G	R>	G	R	R	R	DW	W/F	DW		
	to													
(2+6) E/WB 71 STREET (RECALL)	Dwell	G	G	G>	G	R	R	R	R	DW	W/F	DW		
	Clear	7	Y	Y	G>	Y	R	R	R	DW	DW	DW		
	to	8	Y	Y	Y>	Y	R	R	R	DW	DW	DW		
		2+6/6P	G	G	Y>	Y	R	R	R	R	DW	W/F		DW
7 NB Indian Creek Dr (ACTUATED)	Dwell	R	R	G>	R	<G/G	G	R	R	DW	DW	W/F		
	Clear	8	R	R	Y>	R	Y	Y	R	DW	DW	DW		
	to	2+6	R	R	G>	R	Y	Y	R	R	DW	DW		DW
8 SB Dickens Av (ACTUATED)	Dwell	R	R	R>	R	R	R	G/<G	G/G>	DW	DW	DW		
	Clear	1+6	R	R	R>	R	R	R	Y	Y	DW	DW		DW
	to	2+6/6P	R	R	R>	R	R	R	Y	Y	DW	DW		DW
		2+6	R	R	R>	R	R	R	Y	Y	DW	DW	DW	

Flashing Operation

FY FY FY FY FR FR FR FR

Page 1 of 1

### Miami-Dade County Public Works Department

Drawn William Rivera-Paz	Date 4/9/2014	<b>Indian Creek Dr &amp; 71 Street</b>		
Checked <i>H. Hernandez</i>	Date 6/5/14	Placed in Service Date 6/10/14	Phasing No. 13	Asset Number 2725
		By Maint		

## **Appendix D**

### Programmed Transportation Improvements

City of Miami Beach  
Transportation Master Plan

# TRANSPORTATION MASTER PLAN FINAL REPORT



# MIAMI BEACH

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## City of Miami Beach Mayor and Commissioners

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

## City of Miami Beach Management Team

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

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
3	<b>West Avenue Protected Bicycle Lanes</b>	South	Bike/Ped	6th Street	20th Street	1.3	Protected/buffered bicycle lanes (Lane repurposing), Enhanced crosswalks	West Avenue requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
4	<b>73rd Street One Way Protected Bicycle Lanes</b>	North	Bike/Ped	Dickens Avenue	Atlantic Trail	0.35	Protected/buffered bicycle lanes (Lane repurposing), Enhanced crosswalks	73rd Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
5	<b>72nd Street One Way Protected Bicycle Lanes</b>	North	Bike/Ped	Dickens Avenue	Collins Avenue	0.28	Protected/buffered bicycle lanes (Lane repurposing), Enhanced crosswalks	72 <sup>nd</sup> Street requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
18	SR A1A / 5th Street and SR 907 / Alton Road Intersection Improvements	South	Bike/Ped	N/A	N/A	N/A	Provide Enhanced Crosswalks and improved sidewalk crossings.	Improve multimodal vehicular operations will be pursued at the Intersection of SR A1A / 5th Street AND SR 907 / Alton Road
19	Dickens Avenue and SR 934 / 71 <sup>ST</sup> Street Geometric Modifications	North	Roadway	N/A	N/A	N/A	Feasibility study for Geometric Modifications including an additional Southbound Lane	This site requires examination for improved capacity and functionality. Examining the potential addition of a Southbound Lane gives the area the opportunity to improve roadway traffic.
20	SR A1A / MacArthur Causeway and SR A1A / 5th Street's Feasibility Study of Adaptive Signal Controls	South	Roadway	Fountain Street	Washington Avenue	2	Feasibility Study of Adaptive Signal Controls	Improve multimodal vehicular operations will be pursued along the corridor of SR A1A / MacArthur Causeway / 5th Street



PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
24	<b>Intersection of SR A1A / Indian Creek Drive and 63rd Street and SR A1A / Abbott Avenue's Feasibility Study of Intersection Improvements</b>	North	Roadway	N/A	N/A	N/A	Feasibility Study of Intersection Improvements	Improve multimodal vehicular operations will be pursued at the Intersection of SR A1A / Indian Creek Drive and 63rd Street and SR A1A / Abbott Avenue
25	<b>Intersection of SR 907 / Alton Road and 43<sup>rd</sup> Street/Ed Sullivan Road Feasibility Study of Intersection Improvements</b>	Middle	Roadway	N/A	N/A	N/A	Feasibility Study of Intersection Improvements	Improve multimodal vehicular operations will be pursued at the Intersection of SR 907 / Alton Road and 43 <sup>rd</sup> Street/Ed Sullivan Road
26	<b>SR 934 / 71st Street / Normandy Drive Safety Improvements</b>	North	Roadway	N Shore Drive	SR A1A / Collins Avenue	0.5	Safety Improvements	Improve multimodal vehicular operations will be pursued along the corridor of SR 934 / 71st Street / Normandy Drive

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
	<b>Trolley Route</b>			SR A1A / Indian Creek Drive				
30	<b>SR A1A / Collins Avenue and Indian Creek Drive Signal Optimization Study</b>	North	Roadway	SR 907 / 63 <sup>rd</sup> Street	SR 934 / 71 <sup>st</sup> Street	0.79	Signal Optimization Feasibility Study on SR A1A	Improve multimodal vehicular operations will be pursued along the corridor of SR A1A / Collins Avenue
31	<b>SR 934 / 71<sup>st</sup> Street Feasibility Study</b>	North	Roadway	Carlyle Avenue	SR A1A / Collins Avenue	1.02	Feasibility Study for removing existing dedicated left turns along 71 <sup>st</sup> Street and review the feasibility of adding an additional westbound lane.	This section of SR 934 / 71 <sup>st</sup> Street stands a chance of improving capacity and functionality by examine the efficiencies of Left turn lanes and their alternatives.

PROJECT NUMBER	PROJECT NAME	CITY AREA	PROJECT TYPE	FROM	TO	PROJECT LENGTH (MILES)	PROJECT DESCRIPTION	PURPOSE & NEED
7	<b>SR 934 / 71st Street / Normandy Drive Exclusive Transit Lanes/ Protected/buffered bicycle lanes</b>	North	Bike/Ped	Bay Drive	SR A1A Collins Avenue	2.6	Exclusive Transit Lanes Protected/buffered bicycle lanes <i>(Lane repurposing and/or roadway widening)</i> Enhanced crosswalks	SR 934 / 71st Street / Normandy Drive requires an improvement towards local non-motorized transportation infrastructure connectivity. Develop a safe, complete, and accessible multi-user citywide bicycle and pedestrian network. Promote non-motorized transportation as a reliable mode of travel within the City.
8	<b>SR 907 / Alton Road AND SR 112 / 41st Street's Safety Feasibility Study</b>	North	Bike/Ped	SR 907 / Alton Road	SR 112 / 41st Street	N/A	Safety Feasibility Study	Improve multimodal vehicular operations will be pursued at this intersection of SR 907 / Alton Road AND SR 112 / 41st Street
9	<b>SR 112 / 41st Street and Pine Tree Drive Safety Feasibility Study</b>	North	Bike/Ped	SR 112 / 41st Street	Pine Tree Drive	N/A	Safety Feasibility Study	Improve multimodal vehicular operations along the corridor of SR 112 / 41st Street AND Pine Tree Drive

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

# **Appendix E**

## Growth Rate Calculations

# FDOT Historic Growth Trends

**FDOT Growth Rate Summary**

Station Number	Location	Historical Growth- Linear				Historical Growth- Exponential				Historical Growth- Decaying Exponential			
		5-year	R-squared	10-year	R-squared	5-year	R-squared	10-year	R-squared	5-year	R-squared	10-year	R-squared
0115	SR 934/Normandy Drive -- 100 feet west of Rue Versailles	-0.53%	0.39%	-0.18%	0.25%	-0.94%	0.86%	-0.30%	0.67%	-0.27%	0.07%	-0.06%	0.00%
2541	SR A1A/Collins Avenue -- 500 feet south of 63rd Street	-1.98%	30.77%	1.43%	15.83%	-2.04%	30.03%	1.53%	18.26%	-2.15%	31.52%	2.39%	38.94%
5191	SR 934/NE 79th Street/North Bay Causeway/71st Street -- 100 feet west of Rue Versailles	-1.61%	36.00%	-0.30%	1.76%	-1.65%	34.66%	-0.25%	1.37%	-2.05%	51.71%	0.12%	0.18%
8433	Indian Creek Drive -- 200 feet north of 77th Street/Lehrman Drive	8.96%	71.44%	-	-	7.96%	71.89%	-	-	7.33%	58.32%	-	-
<b>Total</b>		<b>1.21%</b>	<b>34.65%</b>	<b>0.32%</b>	<b>5.95%</b>	<b>0.83%</b>	<b>34.36%</b>	<b>0.33%</b>	<b>6.77%</b>	<b>0.72%</b>	<b>35.41%</b>	<b>0.82%</b>	<b>13.04%</b>

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 0115 - SR 934/NORMANDY DR. WB. 100' W RUE VERSAILLES.

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----	-----	-----	-----	-----
2022	24000 C	W	24000	0	9.00	99.90	6.80
2021	17500 C	W	17500	0	9.00	99.90	8.70
2020	18500 C	W	18500	0	9.00	99.90	7.60
2019	20000 C	W	20000	0	9.00	99.90	10.20
2018	14500 C	W	14500	0	9.00	99.90	8.50
2017	21000 C	W	21000	0	9.00	99.90	6.90
2016	19500 C	W	19500	0	9.00	99.90	7.20
2015	18000 C	W	18000	0	9.00	99.90	11.80
2014	17500 C	W	17500	0	9.00	99.90	10.40
2013	18500 C	W	18500	0	9.00	99.90	9.00
2012	21500 C	W	21500	0	9.00	99.90	10.50
2011	18000 C	W	18000	0	9.00	99.90	10.50
2010	18000 C	W	18000	0	8.98	99.99	9.50
2009	16000 C	W	16000	0	8.99	99.99	8.40
2008	16500 C	W	16500	0	9.09	99.99	9.60
2007	18000 C	W	18000	0	8.01	99.99	6.60

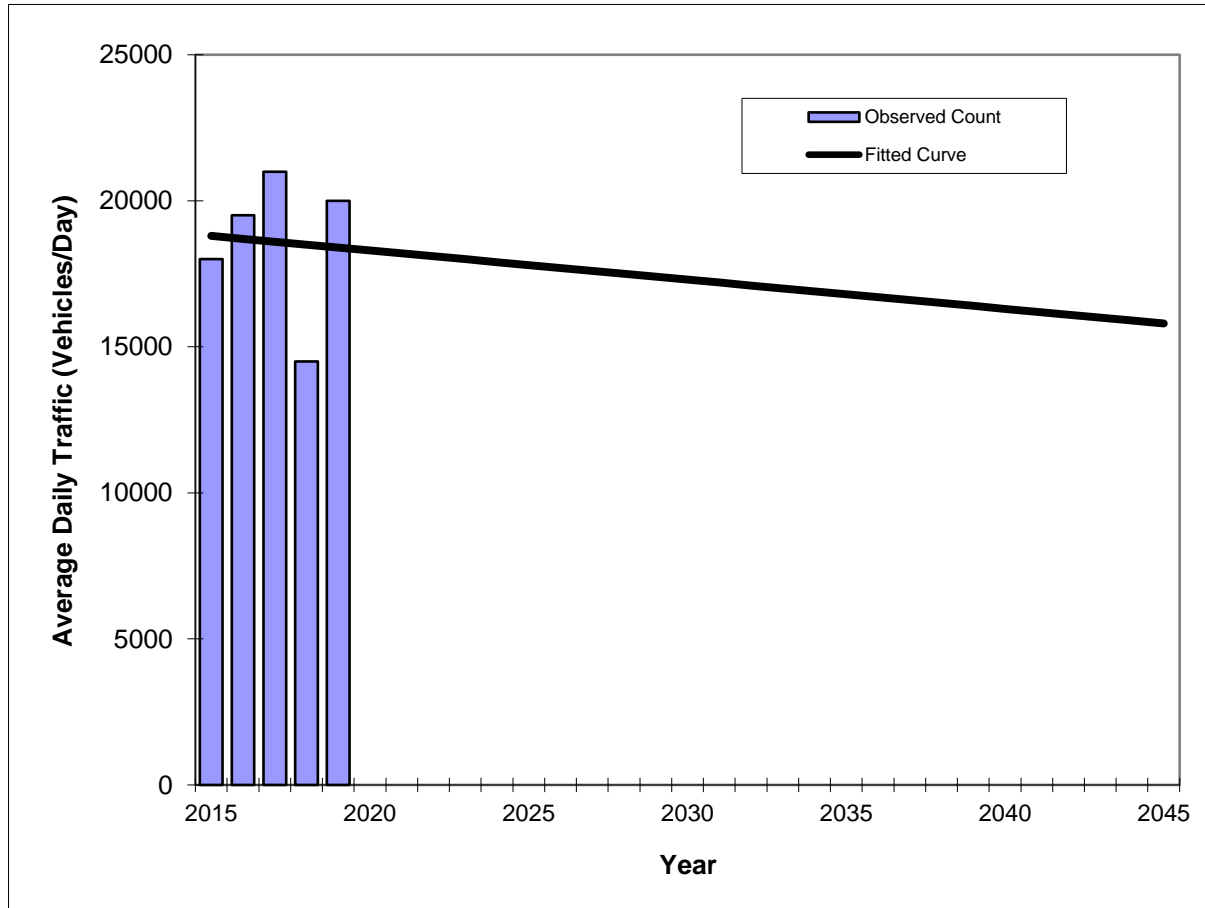
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN  
 \*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES



## Traffic Trends

**SR 934/NORMANDY DRIVE -- 100 FEET WEST OF RUE VERSAILLES**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	0115
<b>Highway:</b>	SR 934/NORMANDY DRIVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	18000	18800
2016	19500	18700
2017	21000	18600
2018	14500	18500
2019	20000	18400

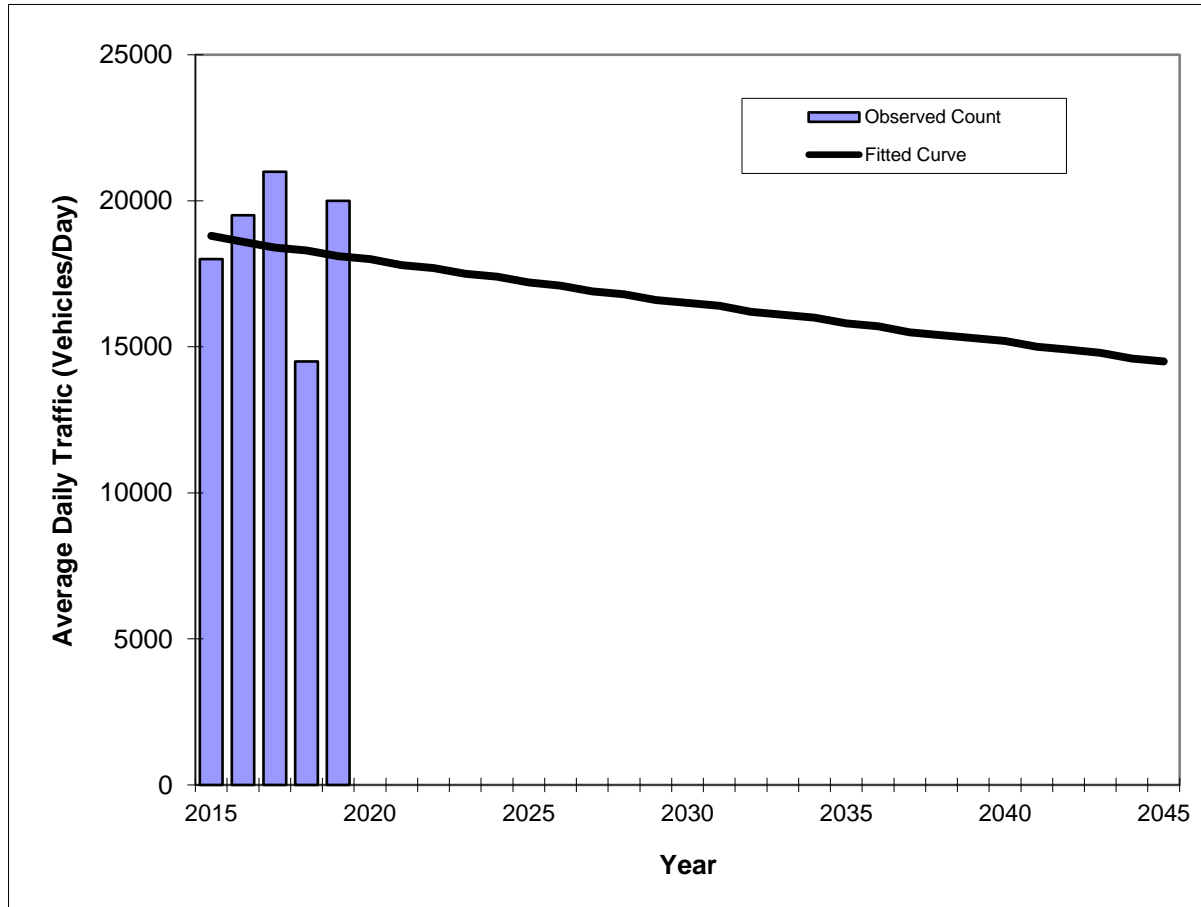
Trend R-squared:	0.39%
Trend Annual Historic Growth Rate:	-0.53%
Printed:	5-May-23
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR 934/NORMANDY DRIVE -- 100 FEET WEST OF RUE VERSAILLES**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	0115
<b>Highway:</b>	SR 934/NORMANDY DRIVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	18000	18800
2016	19500	18600
2017	21000	18400
2018	14500	18300
2019	20000	18100

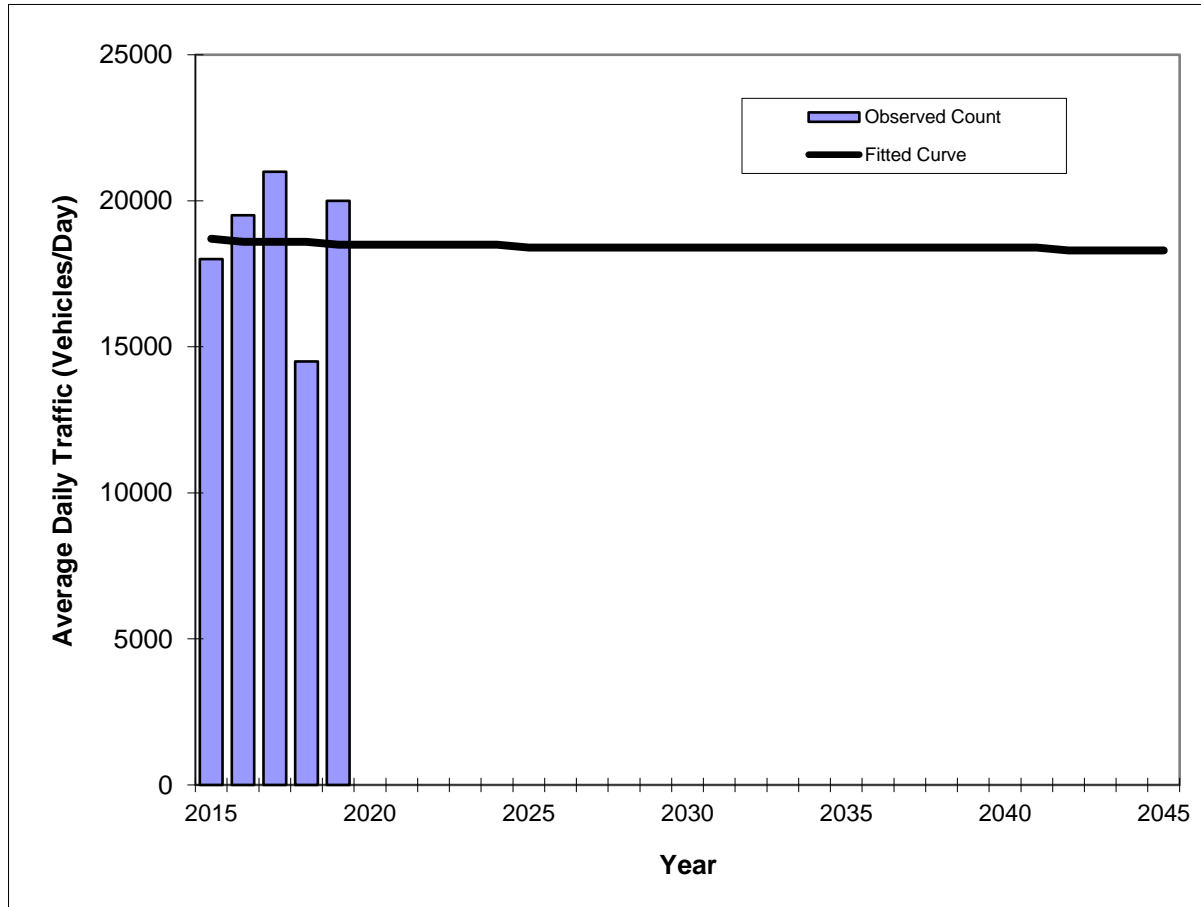
Trend R-squared:	0.86%
Compounded Annual Historic Growth Rate:	-0.94%
Printed:	5-May-23
<b>Exponential Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR 934/NORMANDY DRIVE -- 100 FEET WEST OF RUE VERSAILLES**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	0115
<b>Highway:</b>	SR 934/NORMANDY DRIVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	18000	18700
2016	19500	18600
2017	21000	18600
2018	14500	18600
2019	20000	18500

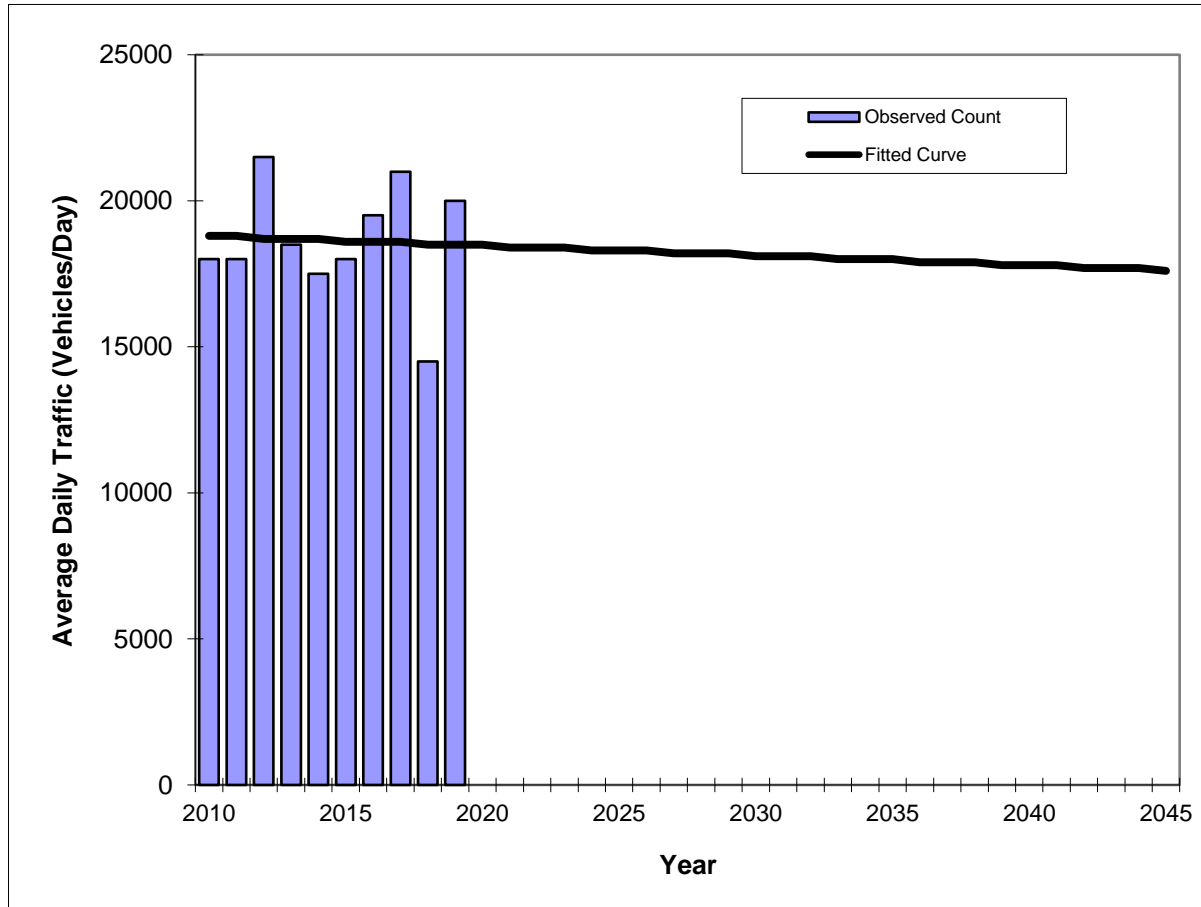
Trend R-squared:	0.07%
Compounded Annual Historic Growth Rate:	-0.27%
Printed:	5-May-23
<b>Decaying Exponential Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR 934/NORMANDY DRIVE -- 100 FEET WEST OF RUE VERSAILLES**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	0115
<b>Highway:</b>	SR 934/NORMANDY DRIVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	18000	18800
2011	18000	18800
2012	21500	18700
2013	18500	18700
2014	17500	18700
2015	18000	18600
2016	19500	18600
2017	21000	18600
2018	14500	18500
2019	20000	18500

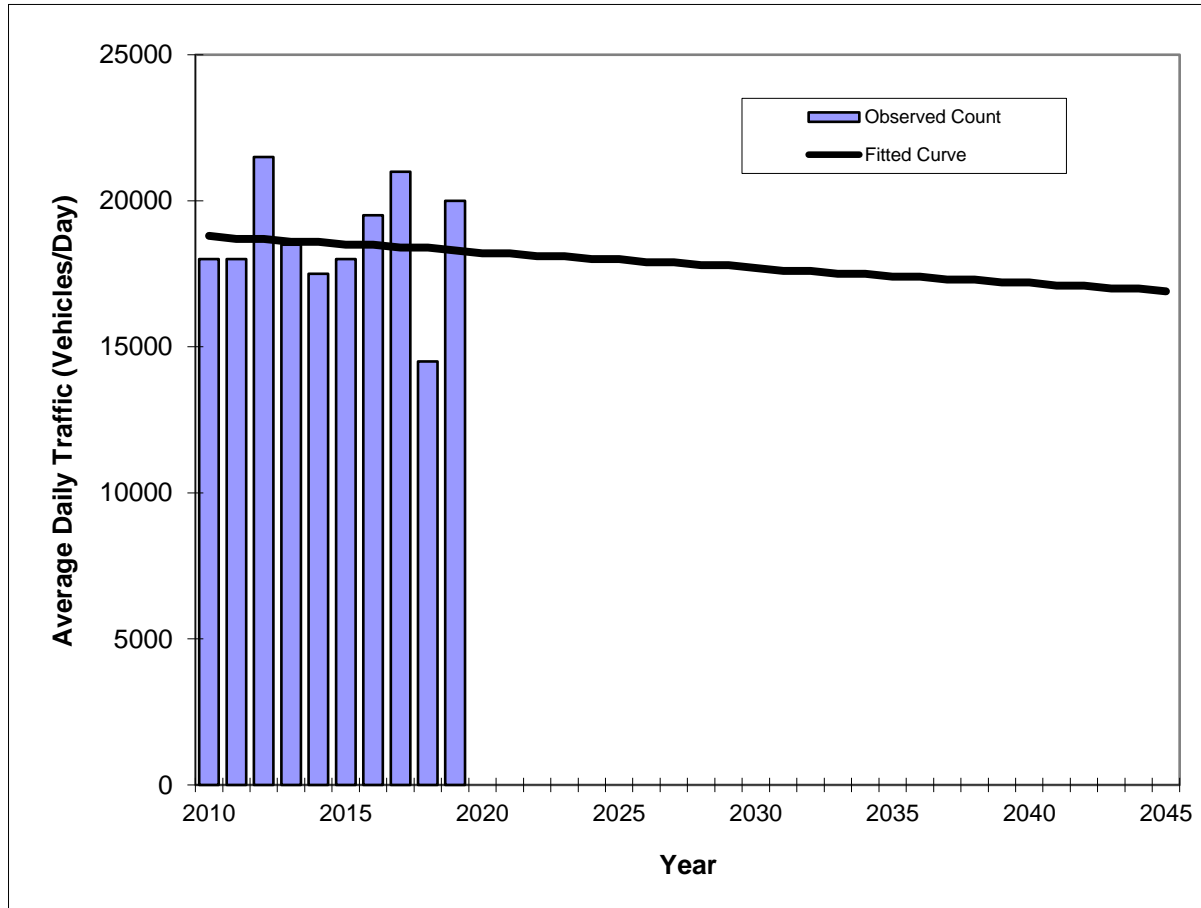
Trend R-squared:	0.25%
Trend Annual Historic Growth Rate:	-0.18%
Printed:	5-May-23
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR 934/NORMANDY DRIVE -- 100 FEET WEST OF RUE VERSAILLES**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	0115
<b>Highway:</b>	SR 934/NORMANDY DRIVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	18000	18800
2011	18000	18700
2012	21500	18700
2013	18500	18600
2014	17500	18600
2015	18000	18500
2016	19500	18500
2017	21000	18400
2018	14500	18400
2019	20000	18300

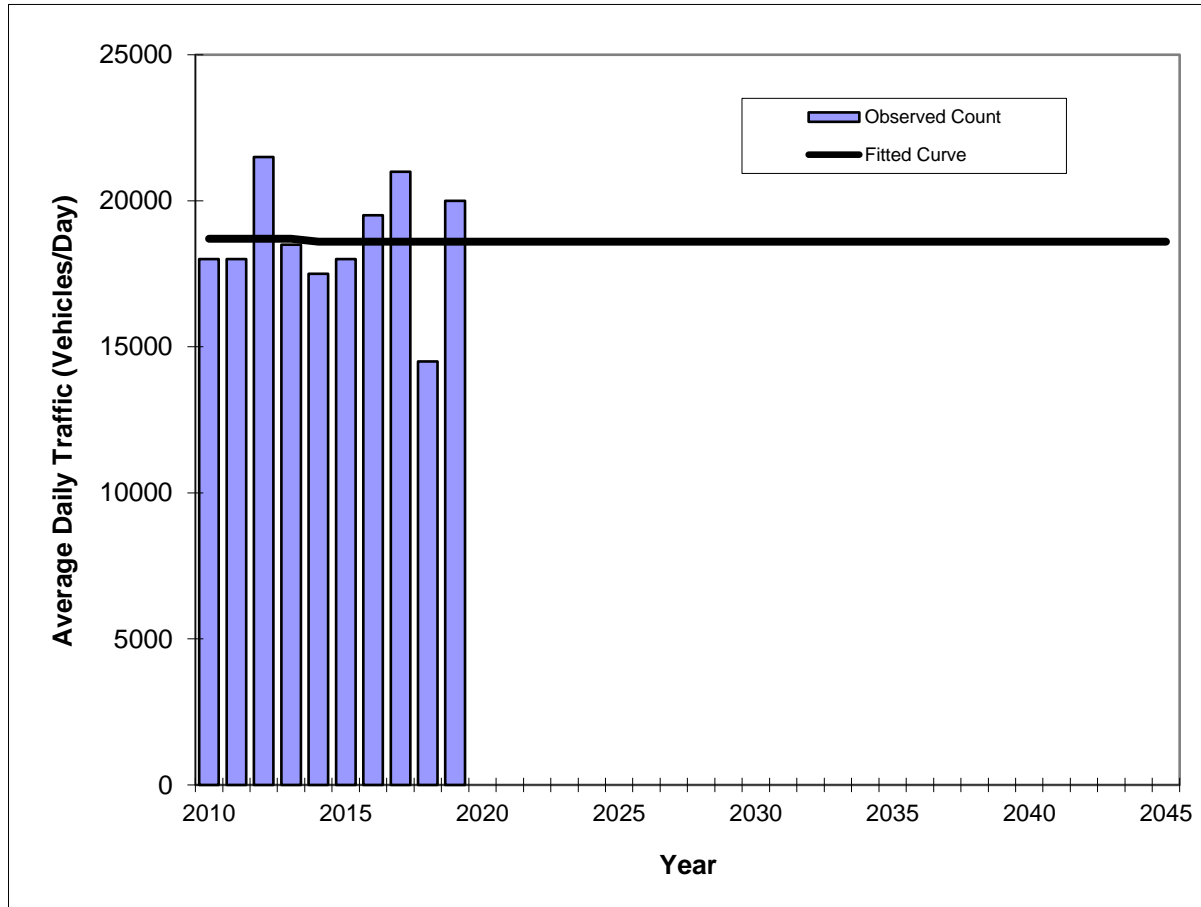
Trend R-squared:	0.67%
Compounded Annual Historic Growth Rate:	-0.30%
Printed:	5-May-23
<b>Exponential Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR 934/NORMANDY DRIVE -- 100 FEET WEST OF RUE VERSAILLES**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	0115
<b>Highway:</b>	SR 934/NORMANDY DRIVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	18000	18700
2011	18000	18700
2012	21500	18700
2013	18500	18700
2014	17500	18600
2015	18000	18600
2016	19500	18600
2017	21000	18600
2018	14500	18600
2019	20000	18600

Trend R-squared:	0.00%
Compounded Annual Historic Growth Rate:	-0.06%
Printed:	5-May-23
<b>Decaying Exponential Growth Option</b>	

\*Axle-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 2541 - SR A1A/COLLINS AVE, 500' S OF 63 ST (MIAMI BEACH)

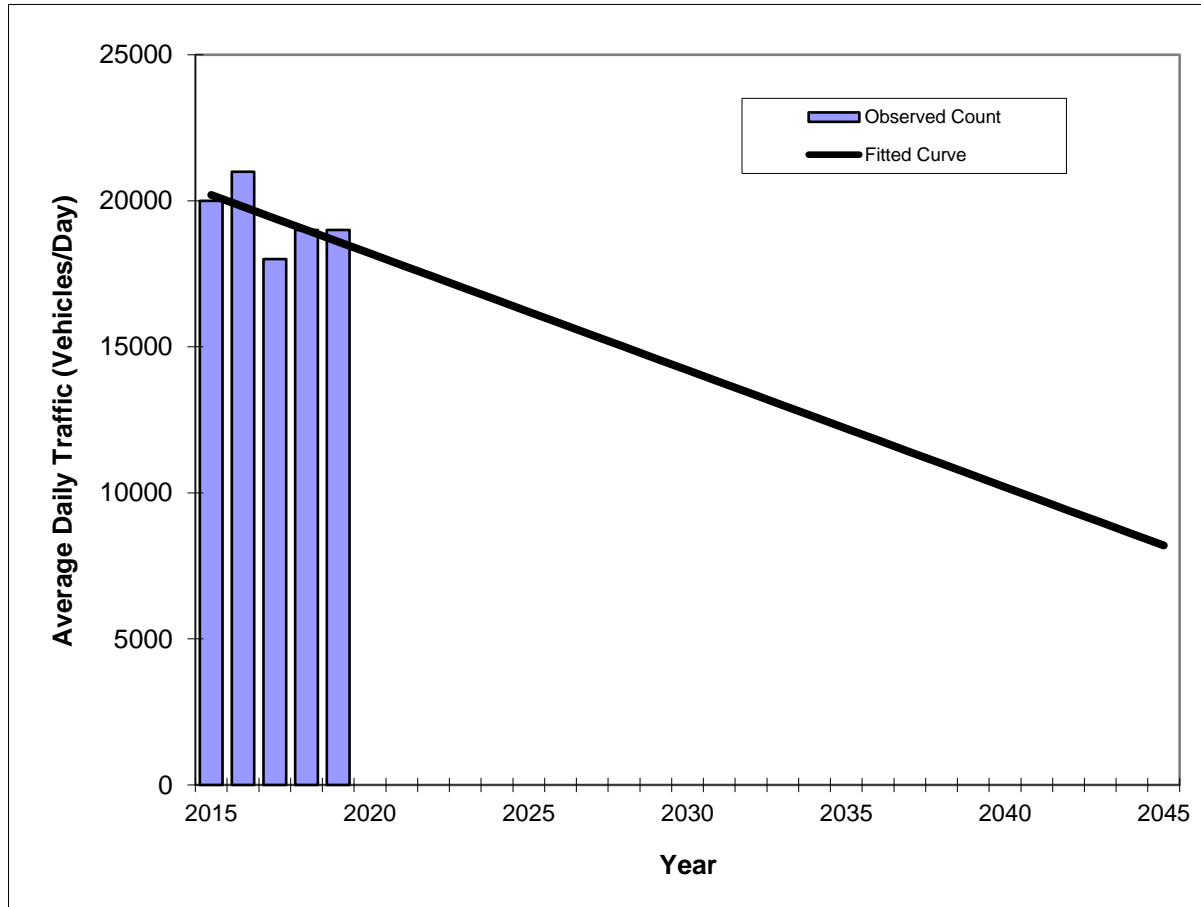
YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----	-----	-----	-----	-----
2022	19000 C	N	19000	0	9.00	99.90	4.50
2021	17000 C	N	17000	0	9.00	99.90	5.40
2020	12500 C	N	12500	0	9.00	99.90	9.20
2019	19000 C	N	19000	0	9.00	99.90	5.00
2018	19000 C	N	19000	0	9.00	99.90	5.60
2017	18000 C	N	18000	0	9.00	99.90	5.30
2016	21000 C	N	21000	0	9.00	99.90	7.80
2015	20000 C	N	20000	0	9.00	99.90	4.60
2014	21500 C	N	21500	0	9.00	99.90	5.10
2013	21000 C	N	21000	0	9.00	99.90	6.10
2012	19000 C	N	19000	0	9.00	99.90	8.40
2011	17000 C	N	17000	0	9.00	99.90	7.50
2010	15000 C	N	15000	0	8.98	99.99	8.80
2009	21000 C	N	21000	0	8.99	99.99	8.40
2008	18000 C	N	18000	0	9.09	99.99	5.30
2007	16000 S		0	0	8.01	99.99	4.90

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

## Traffic Trends

**SR A1A/COLLINS AVENUE -- 500 FEET SOUTH OF 63RD STREET**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	2541
<b>Highway:</b>	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	20000	20200
2016	21000	19800
2017	18000	19400
2018	19000	19000
2019	19000	18600

Trend R-squared:	30.77%
Trend Annual Historic Growth Rate:	-1.98%
Printed:	5-May-23
<b>Straight Line Growth Option</b>	

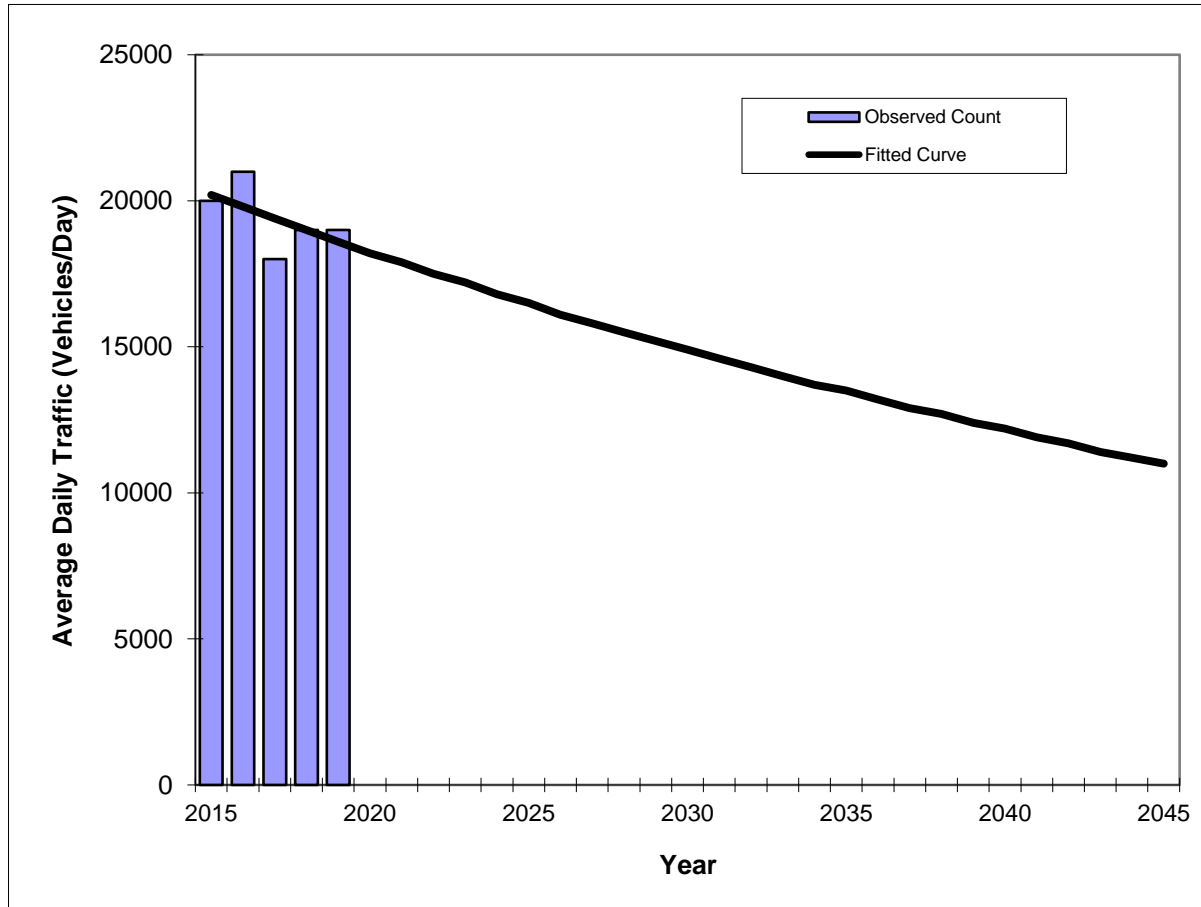
\*Axle-Adjusted



## Traffic Trends

**SR A1A/COLLINS AVENUE -- 500 FEET SOUTH OF 63RD STREET**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	2541
<b>Highway:</b>	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	20000	20200
2016	21000	19800
2017	18000	19400
2018	19000	19000
2019	19000	18600

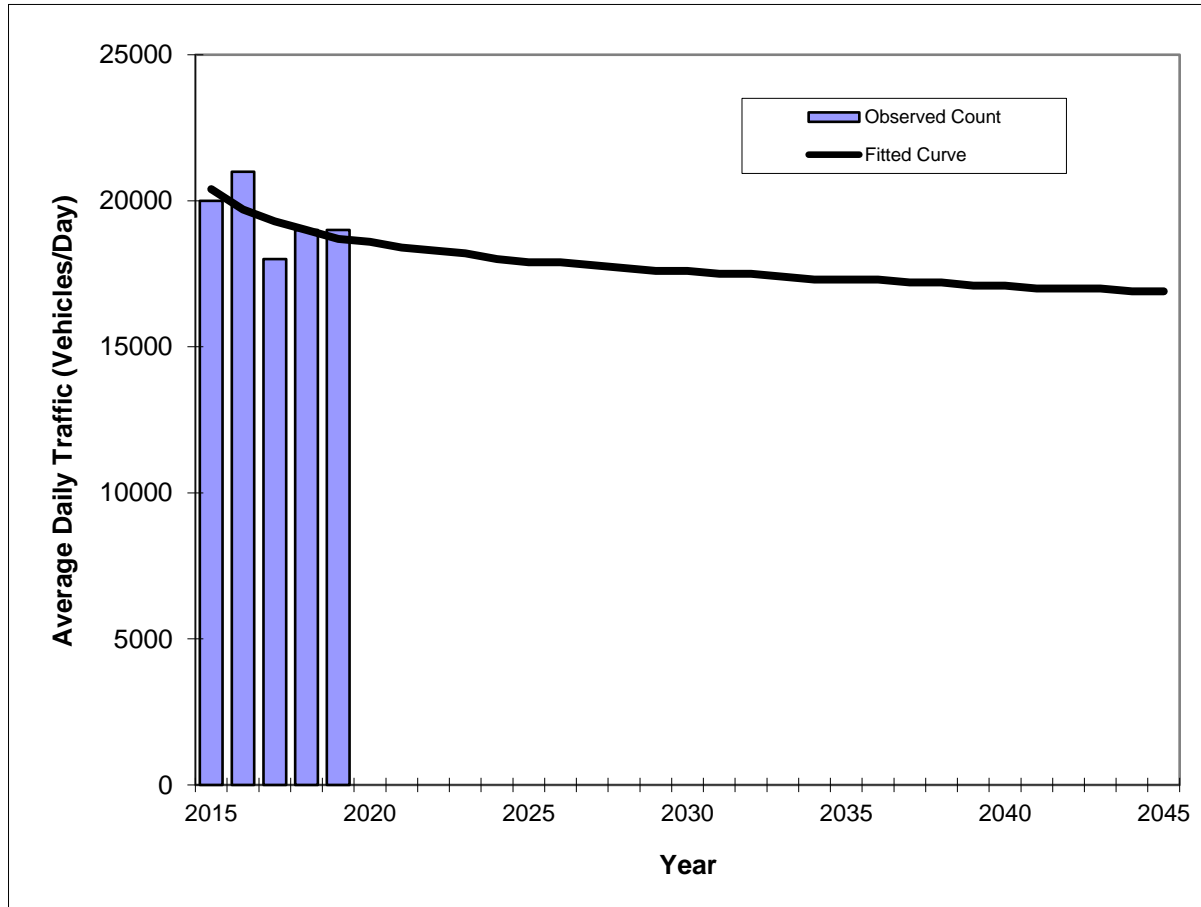
Trend R-squared:	30.03%
Compounded Annual Historic Growth Rate:	-2.04%
Printed:	5-May-23
<b>Exponential Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR A1A/COLLINS AVENUE -- 500 FEET SOUTH OF 63RD STREET**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	2541
<b>Highway:</b>	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	20000	20400
2016	21000	19700
2017	18000	19300
2018	19000	19000
2019	19000	18700

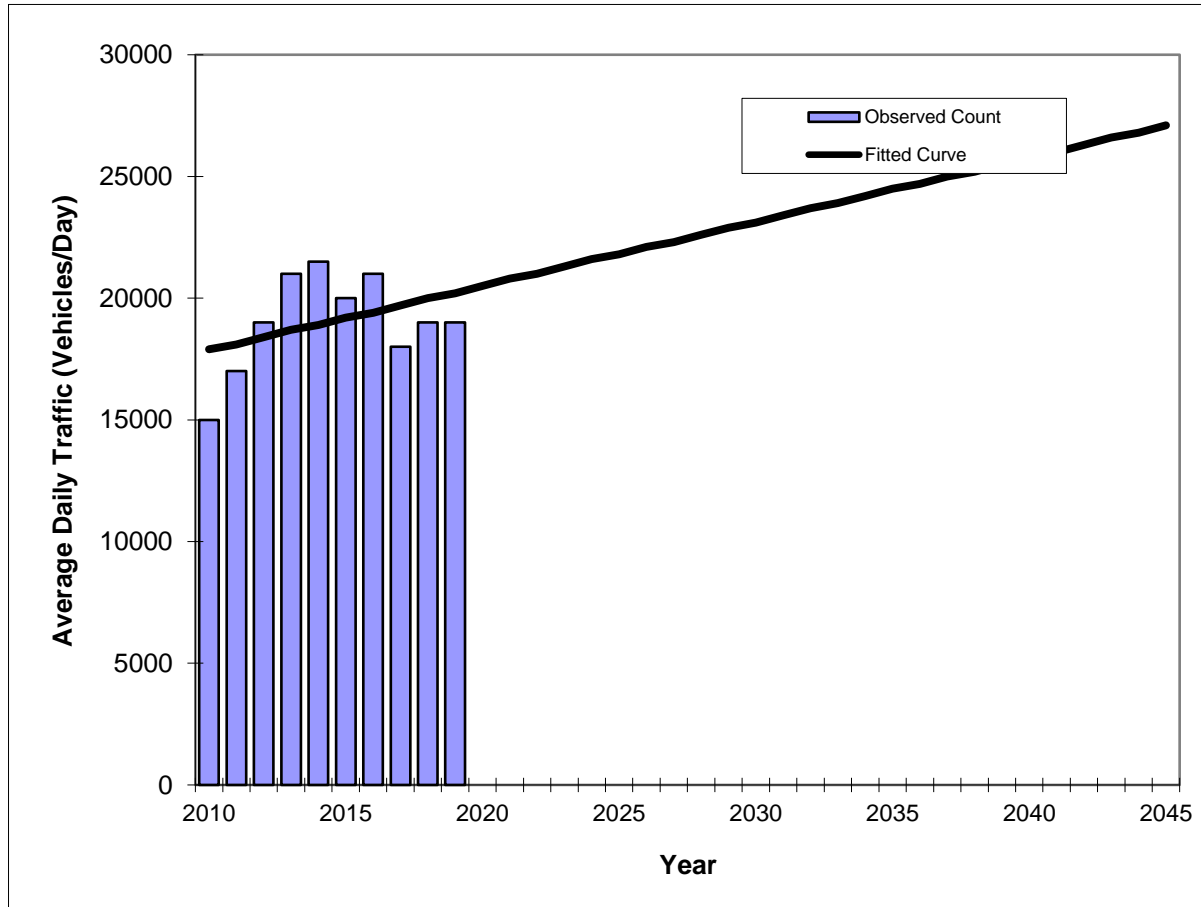
Trend R-squared:	31.52%
Compounded Annual Historic Growth Rate:	-2.15%
Printed:	5-May-23
<b>Decaying Exponential Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR A1A/COLLINS AVENUE -- 500 FEET SOUTH OF 63RD STREET**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	2541
<b>Highway:</b>	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	15000	17900
2011	17000	18100
2012	19000	18400
2013	21000	18700
2014	21500	18900
2015	20000	19200
2016	21000	19400
2017	18000	19700
2018	19000	20000
2019	19000	20200

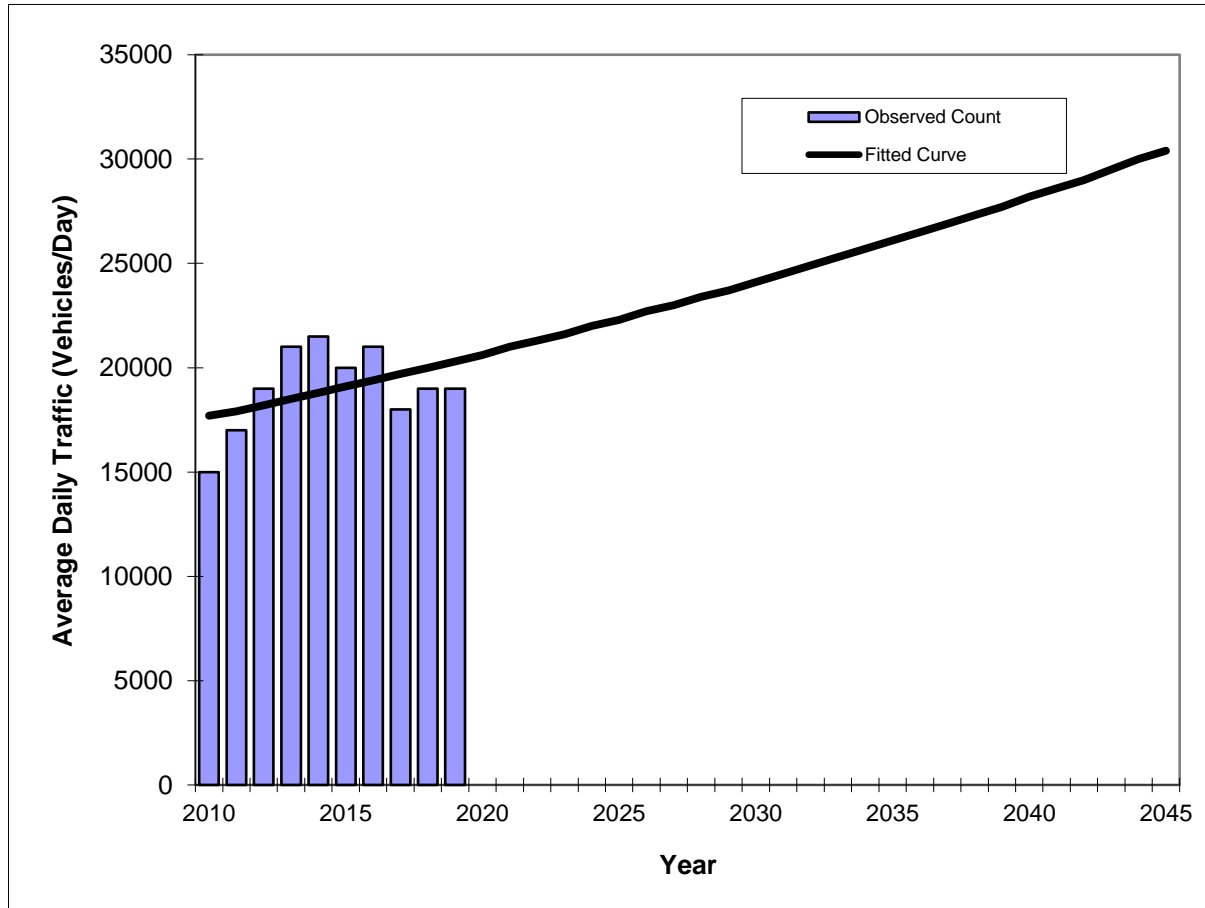
Trend R-squared:	15.83%
Trend Annual Historic Growth Rate:	1.43%
Printed:	5-May-23
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR A1A/COLLINS AVENUE -- 500 FEET SOUTH OF 63RD STREET**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	2541
<b>Highway:</b>	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	15000	17700
2011	17000	17900
2012	19000	18200
2013	21000	18500
2014	21500	18800
2015	20000	19100
2016	21000	19400
2017	18000	19700
2018	19000	20000
2019	19000	20300

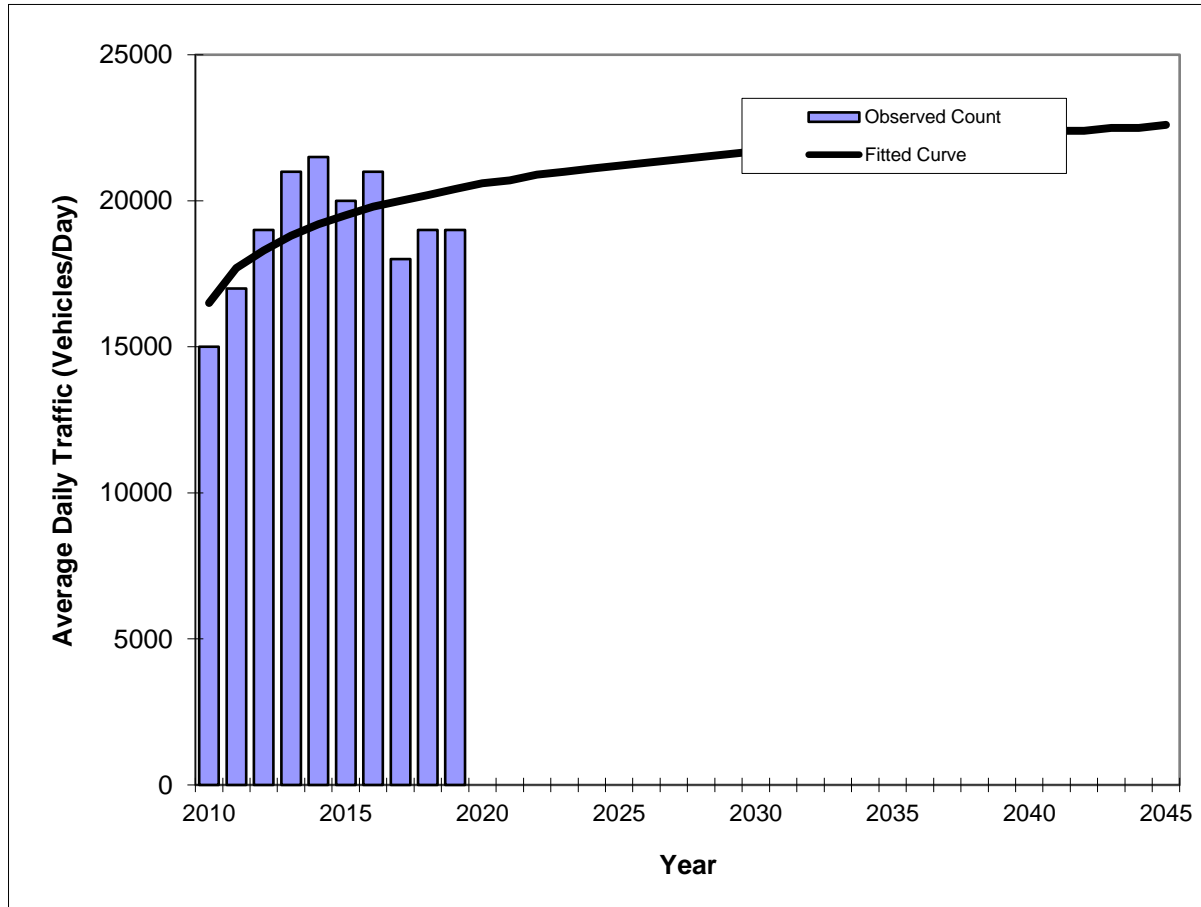
Trend R-squared:	18.26%
Compounded Annual Historic Growth Rate:	1.53%
Printed:	5-May-23
<b>Exponential Growth Option</b>	

\*Axle-Adjusted

## Traffic Trends

**SR A1A/COLLINS AVENUE -- 500 FEET SOUTH OF 63RD STREET**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	2541
<b>Highway:</b>	SR A1A/COLLINS AVENUE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	15000	16500
2011	17000	17700
2012	19000	18300
2013	21000	18800
2014	21500	19200
2015	20000	19500
2016	21000	19800
2017	18000	20000
2018	19000	20200
2019	19000	20400

Trend R-squared:	38.94%
Compounded Annual Historic Growth Rate:	2.39%
Printed:	5-May-23
<b>Decaying Exponential Growth Option</b>	

\*Axle-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5191 - SR934/NE 79TH ST/NORTH BAY CSWY/71ST ST, 100' W OF RUE VERSAILLES

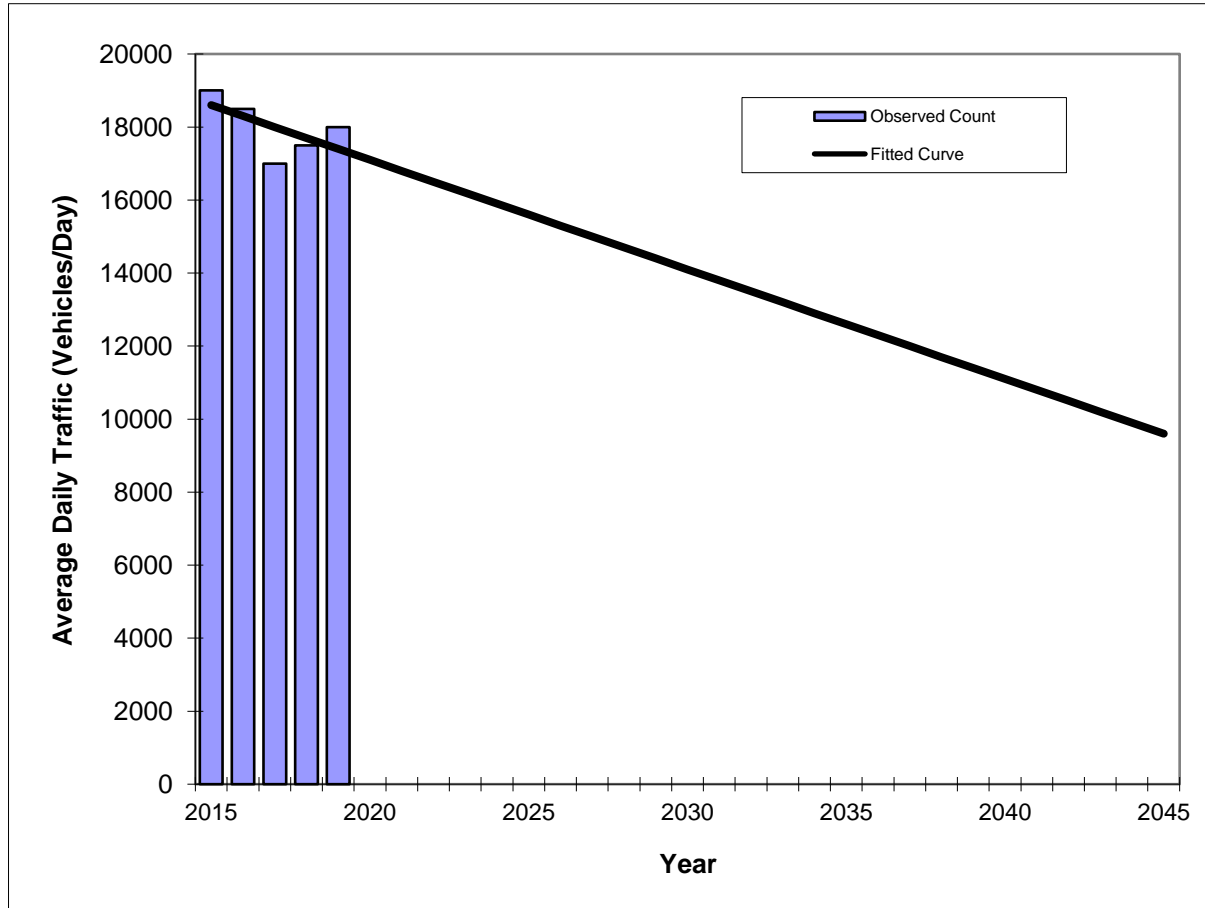
YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----	-----	-----	-----	-----
2022	17000 C	E	17000	0	9.00	99.90	6.80
2021	16000 C	E	16000	0	9.00	99.90	8.70
2020	13500 C	E	13500	0	9.00	99.90	7.60
2019	18000 C	E	18000	0	9.00	99.90	10.20
2018	17500 C	E	17500	0	9.00	99.90	8.50
2017	17000 C	E	17000	0	9.00	99.90	6.90
2016	18500 C	E	18500	0	9.00	99.90	7.20
2015	19000 C	E	19000	0	9.00	99.90	11.80
2014	16500 C	E	16500	0	9.00	99.90	10.40
2013	20500 C	E	20500	0	9.00	99.90	9.00
2012	19500 C	E	19500	0	9.00	99.90	10.50
2011	18500 C	E	18500	0	9.00	99.90	10.50
2010	16500 C	E	16500	0	8.98	99.99	9.50
2009	17500 C	E	17500	0	8.99	99.99	8.40

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

# Traffic Trends

SR 934/NE 79TH ST/NORTH BAY CAUSEWAY/71ST STREET -- 100 FEET WEST OF RUE VERSAILLES

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	5191
<b>Highway:</b>	E 79TH ST/NORTH BAY CAUSEWAY/71ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	18600
2016	18500	18300
2017	17000	18000
2018	17500	17700
2019	18000	17400

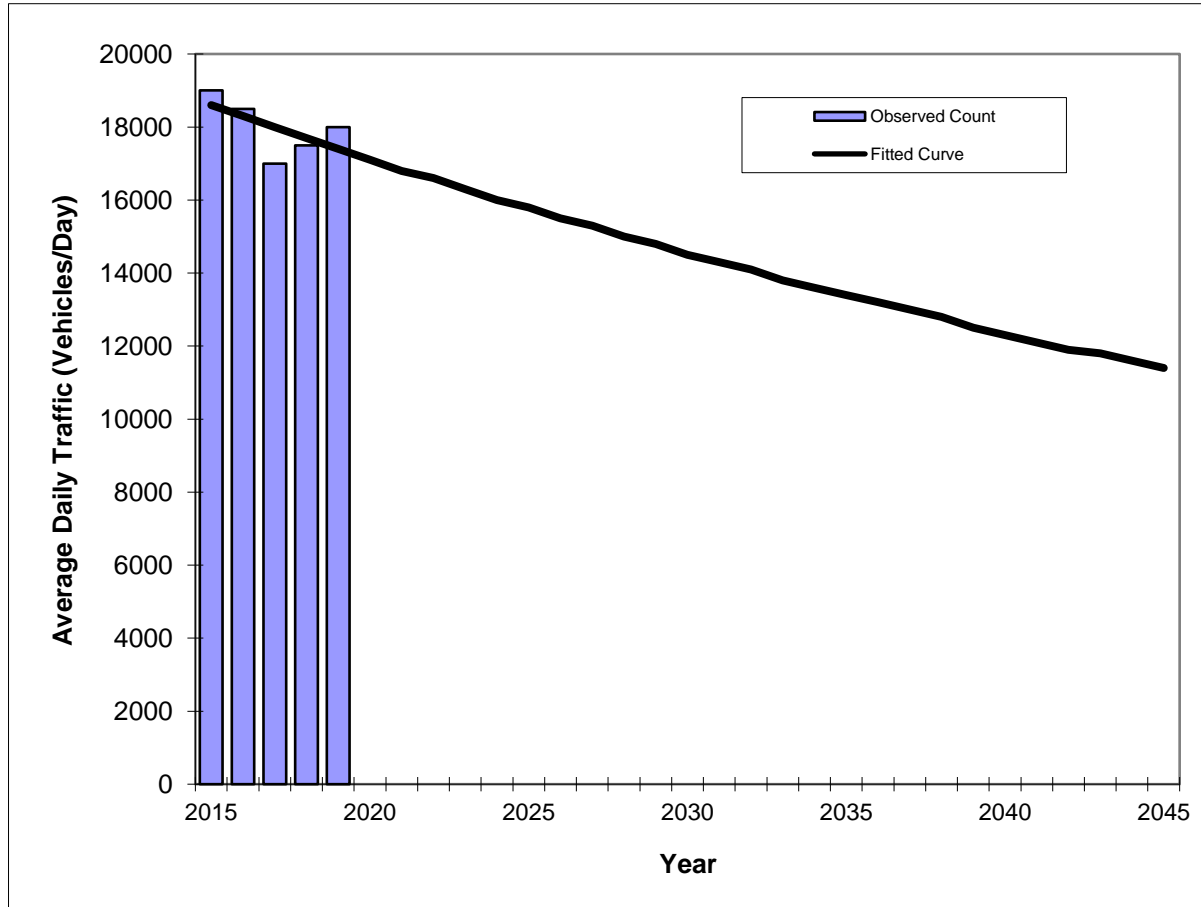
Trend R-squared: 36.00%  
 Trend Annual Historic Growth Rate: -1.61%  
 Printed: 10-May-23  
**Straight Line Growth Option**

\*Axle-Adjusted

# Traffic Trends

SR 934/NE 79TH ST/NORTH BAY CAUSEWAY/71ST STREET -- 100 FEET WEST OF RUE VERSAILLES

County:	Miami-Dade (87)
Station #:	5191
Highway:	E 79TH ST/NORTH BAY CAUSEWAY/71ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	18600
2016	18500	18300
2017	17000	18000
2018	17500	17700
2019	18000	17400

Trend R-squared: 34.66%  
 Compounded Annual Historic Growth Rate: -1.65%  
 Printed: 10-May-23  
**Exponential Growth Option**

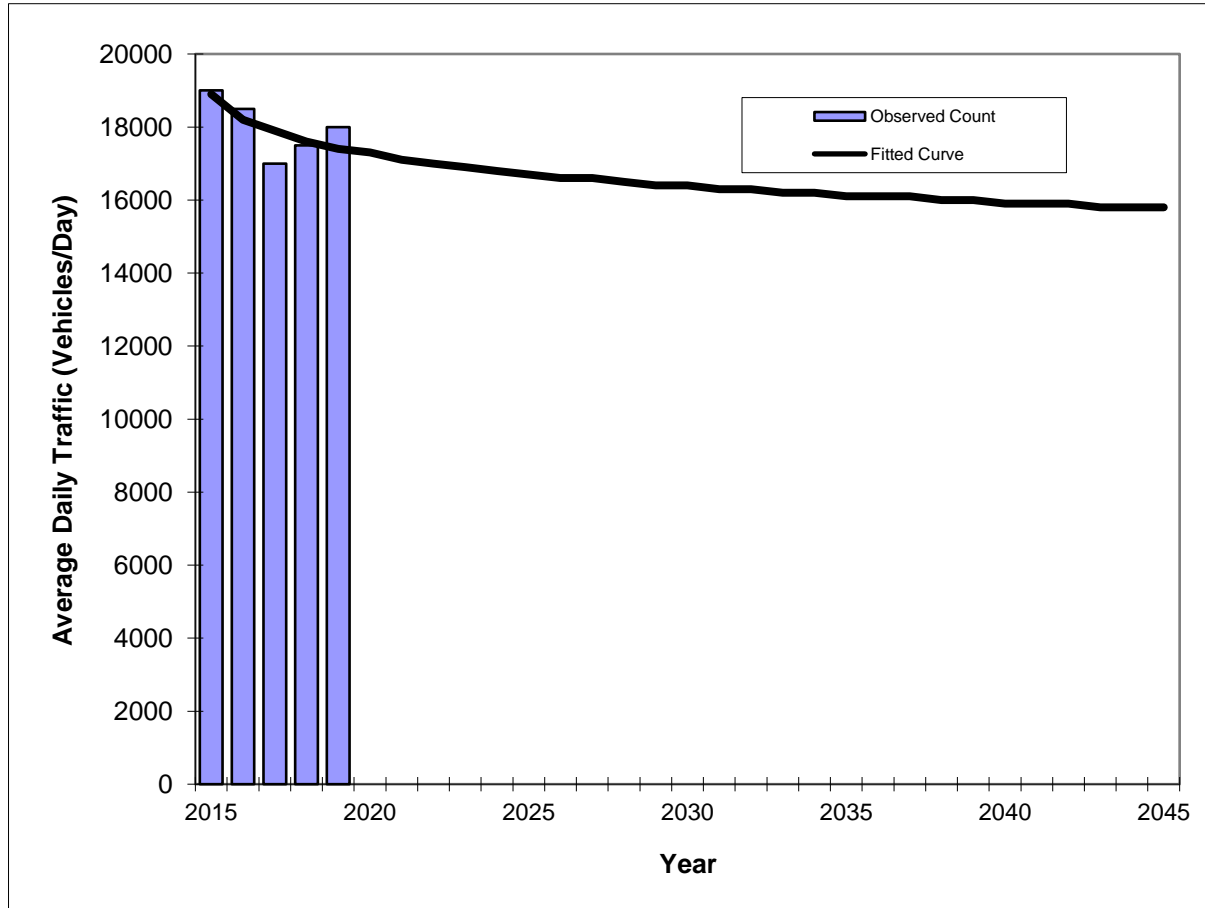
\*Axle-Adjusted



# Traffic Trends

SR 934/NE 79TH ST/NORTH BAY CAUSEWAY/71ST STREET -- 100 FEET WEST OF RUE VERSAILLES

County:	Miami-Dade (87)
Station #:	5191
Highway:	E 79TH ST/NORTH BAY CAUSEWAY/71ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19000	18900
2016	18500	18200
2017	17000	17900
2018	17500	17600
2019	18000	17400

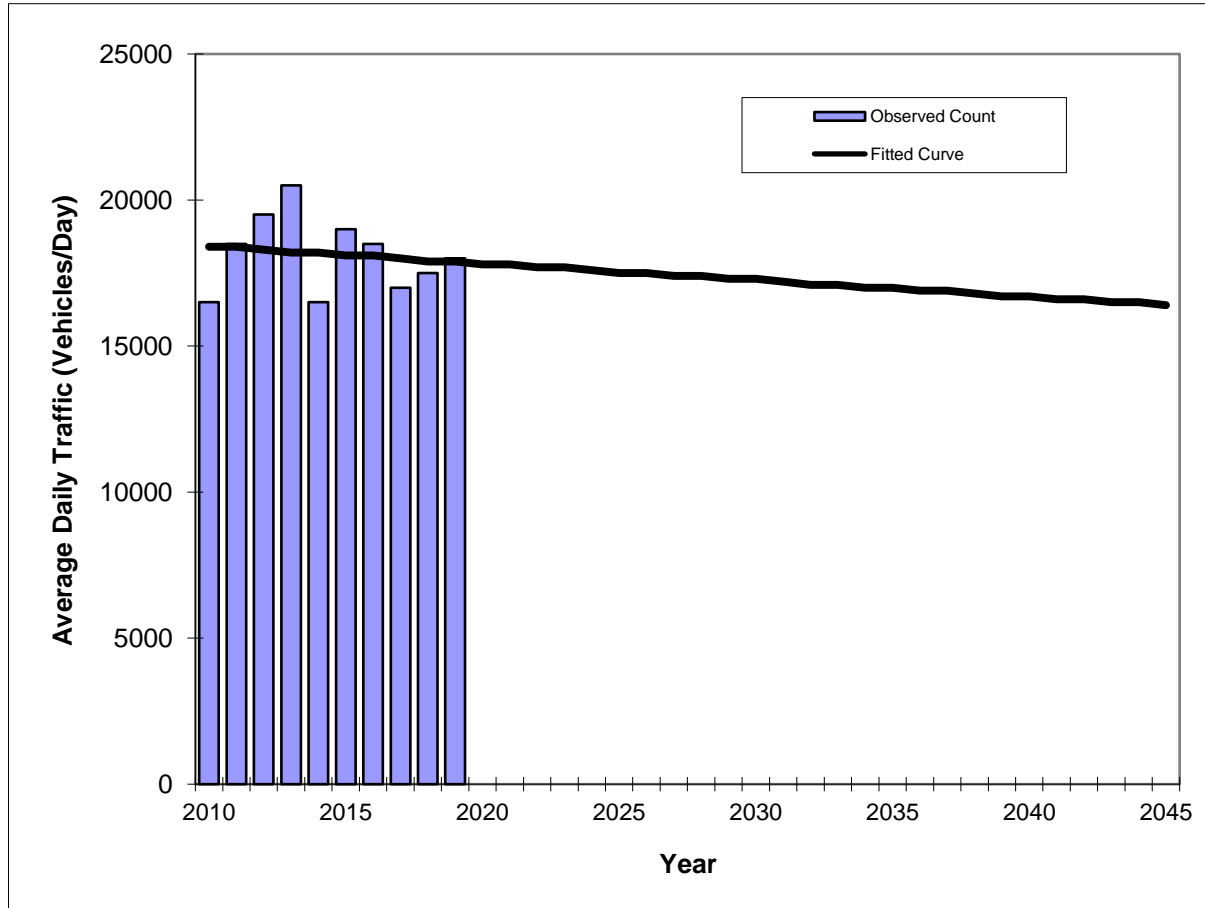
Trend R-squared: 51.71%  
 Compounded Annual Historic Growth Rate: -2.05%  
 Printed: 10-May-23  
**Decaying Exponential Growth Option**

\*Axle-Adjusted

# Traffic Trends

SR 934/NE 79TH ST/NORTH BAY CAUSEWAY/71ST STREET -- 100 FEET WEST OF RUE VERSAILLES

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	5191
<b>Highway:</b>	E 79TH ST/NORTH BAY CAUSEWAY/71ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	16500	18400
2011	18500	18400
2012	19500	18300
2013	20500	18200
2014	16500	18200
2015	19000	18100
2016	18500	18100
2017	17000	18000
2018	17500	17900
2019	18000	17900

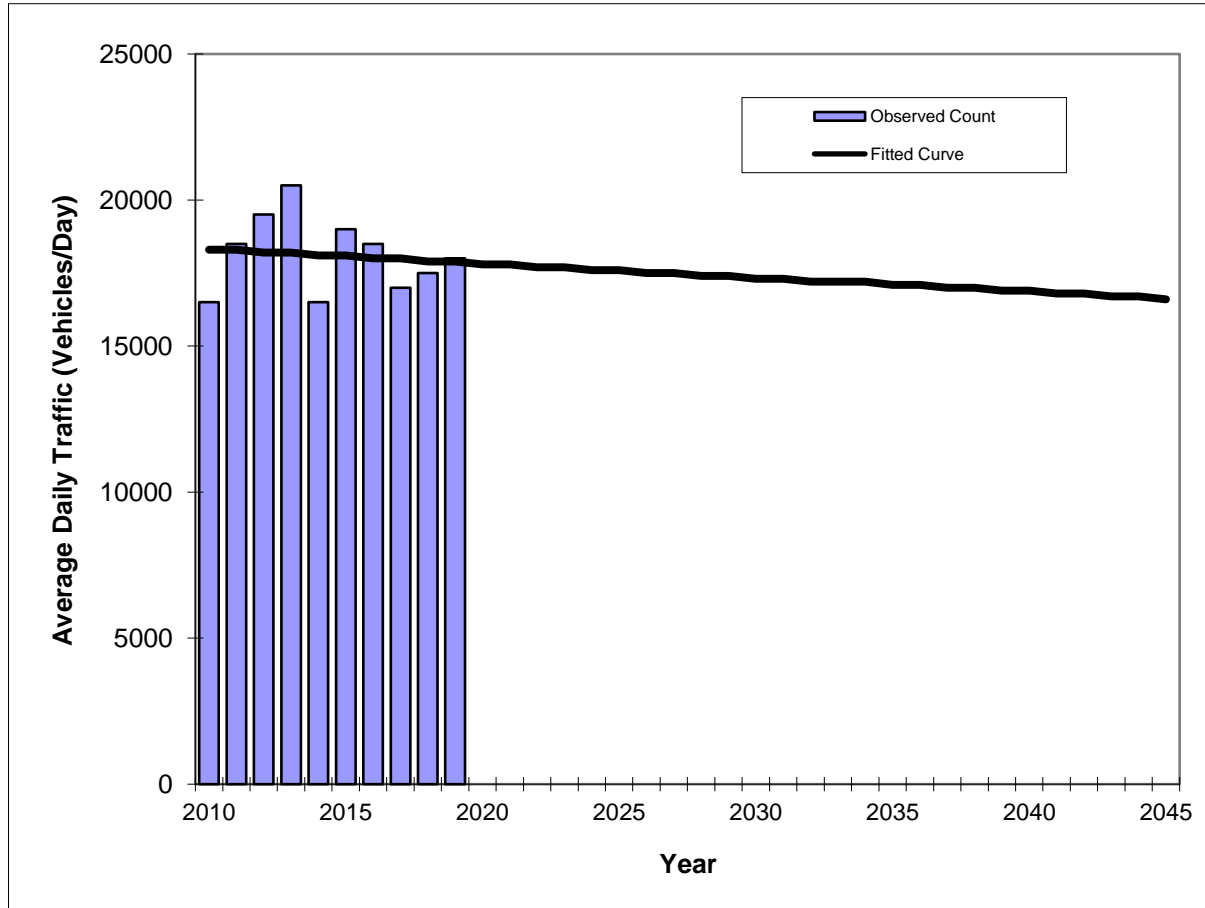
Trend R-squared: 1.76%  
 Trend Annual Historic Growth Rate: -0.30%  
 Printed: 10-May-23  
**Straight Line Growth Option**

\*Axle-Adjusted

# Traffic Trends

SR 934/NE 79TH ST/NORTH BAY CAUSEWAY/71ST STREET -- 100 FEET WEST OF RUE VERSAILLES

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	5191
<b>Highway:</b>	E 79TH ST/NORTH BAY CAUSEWAY/71ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	16500	18300
2011	18500	18300
2012	19500	18200
2013	20500	18200
2014	16500	18100
2015	19000	18100
2016	18500	18000
2017	17000	18000
2018	17500	17900
2019	18000	17900

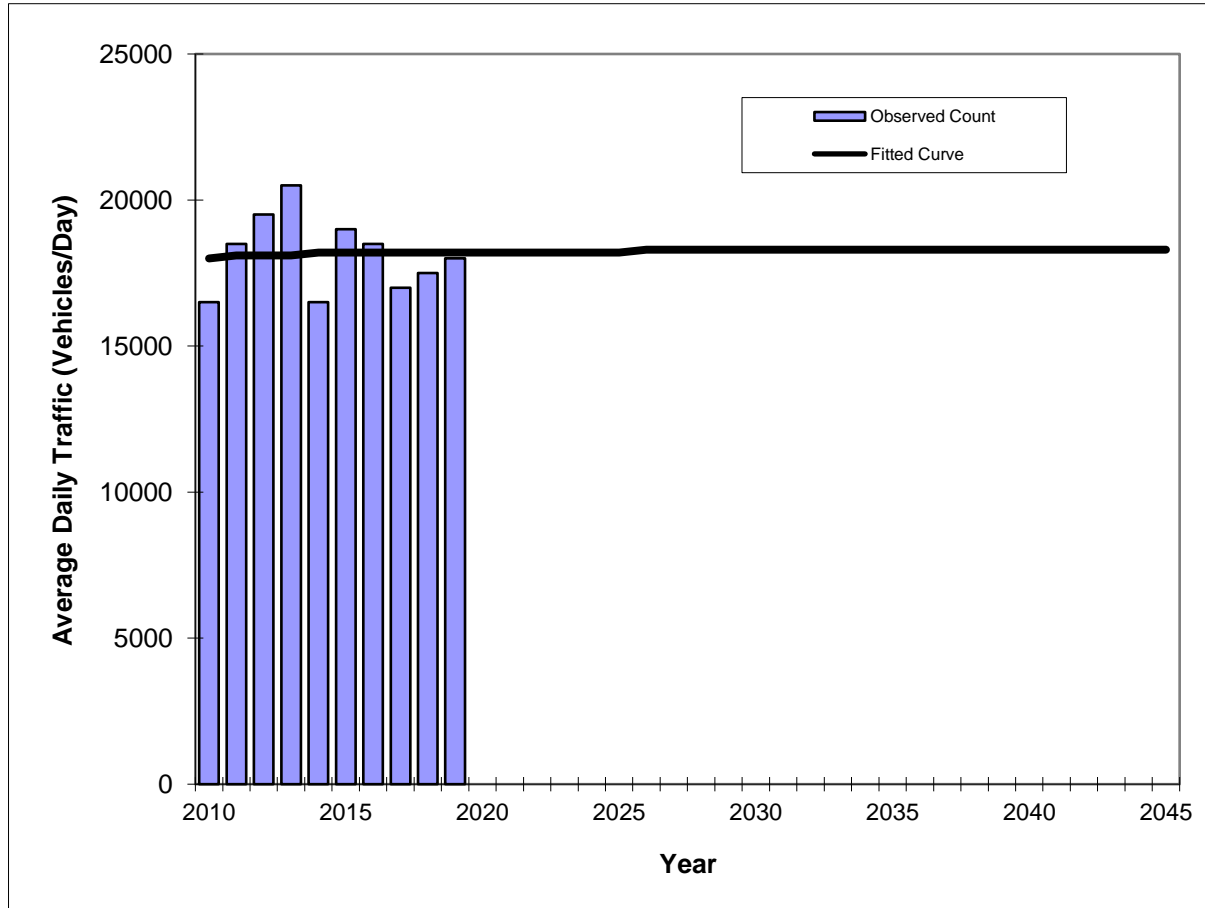
Trend R-squared:	1.37%
Compounded Annual Historic Growth Rate:	-0.25%
Printed:	10-May-23
<b>Exponential Growth Option</b>	

\*Axle-Adjusted

# Traffic Trends

SR 934/NE 79TH ST/NORTH BAY CAUSEWAY/71ST STREET -- 100 FEET WEST OF RUE VERSAILLES

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	5191
<b>Highway:</b>	E 79TH ST/NORTH BAY CAUSEWAY/71ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	16500	18000
2011	18500	18100
2012	19500	18100
2013	20500	18100
2014	16500	18200
2015	19000	18200
2016	18500	18200
2017	17000	18200
2018	17500	18200
2019	18000	18200

Trend R-squared: 0.18%  
 Compounded Annual Historic Growth Rate: 0.12%  
 Printed: 10-May-23  
**Decaying Exponential Growth Option**

\*Axle-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8433 - INDIAN CREEK DR, 200 FT N OF 77 ST/LEHRMAN DR (2011 OFF SYSTEM CYCLE)

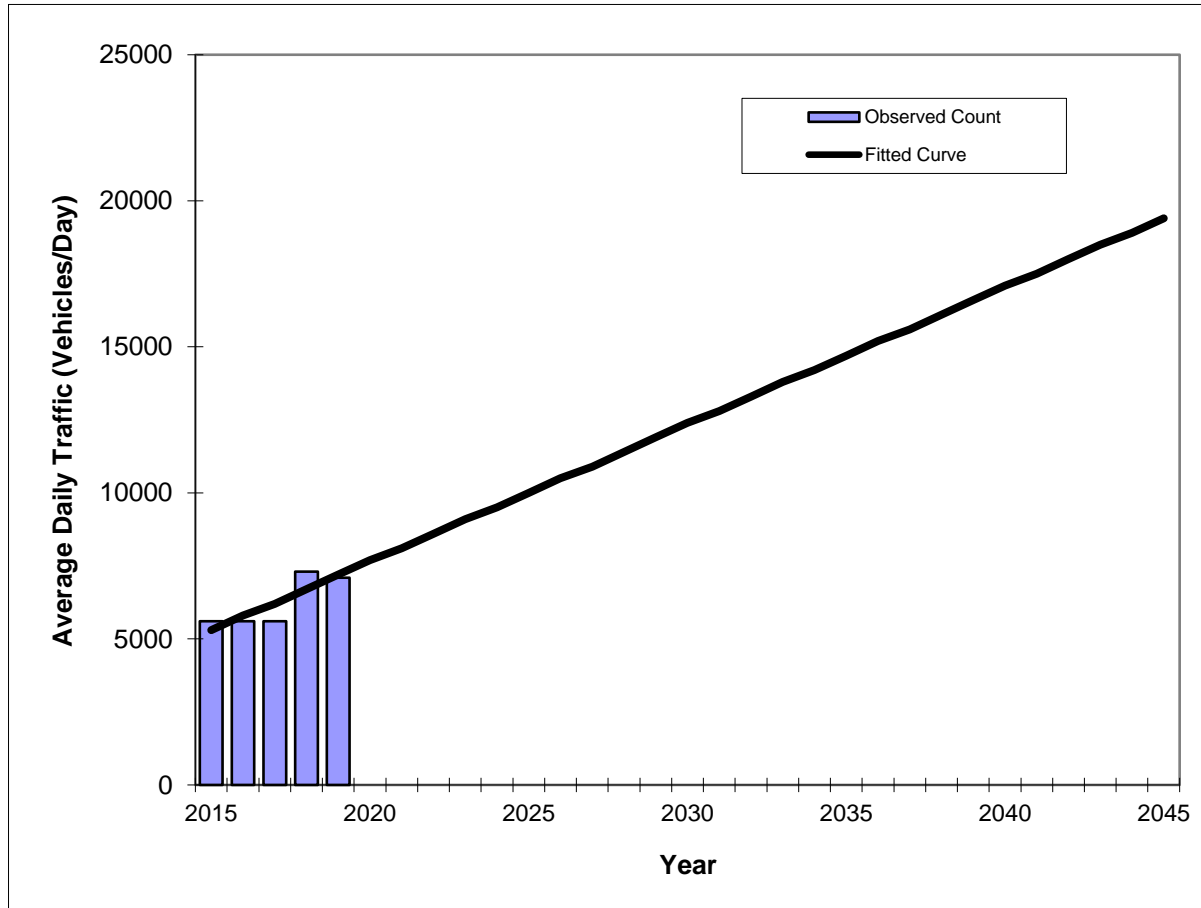
YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
----	-----	-----	-----	-----	-----	-----	-----	-----
2022	5200 C	N	3000	S	2200	9.00	56.50	3.00
2021	5900 T	N	3000	S	2900	9.00	55.00	3.40
2020	6300 S	N	3200	S	3100	9.00	56.00	3.70
2019	7100 F	N	3600	S	3500	9.00	56.00	3.20
2018	7300 C	N	3700	S	3600	9.00	54.30	4.80
2017	5600 T	N	2800	S	2800	9.00	59.30	3.50
2016	5600 S	N	2800	S	2800	9.00	56.10	3.40
2015	5600 F	N	2800	S	2800	9.00	57.40	3.10
2014	5600 C	N	2800	S	2800	9.00	59.30	5.00
2013	3900 F		0		0	9.00	58.90	16.20
2012	3900 C	N	0	S	0	9.00	59.70	16.00

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

## Traffic Trends

**INDIAN CREEK DR -- 200 FEET NORTH OF 77TH ST/LEHRMAN DR**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	8433
<b>Highway:</b>	INDIAN CREEK DR



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	5600	5300
2016	5600	5800
2017	5600	6200
2018	7300	6700
2019	7100	7200

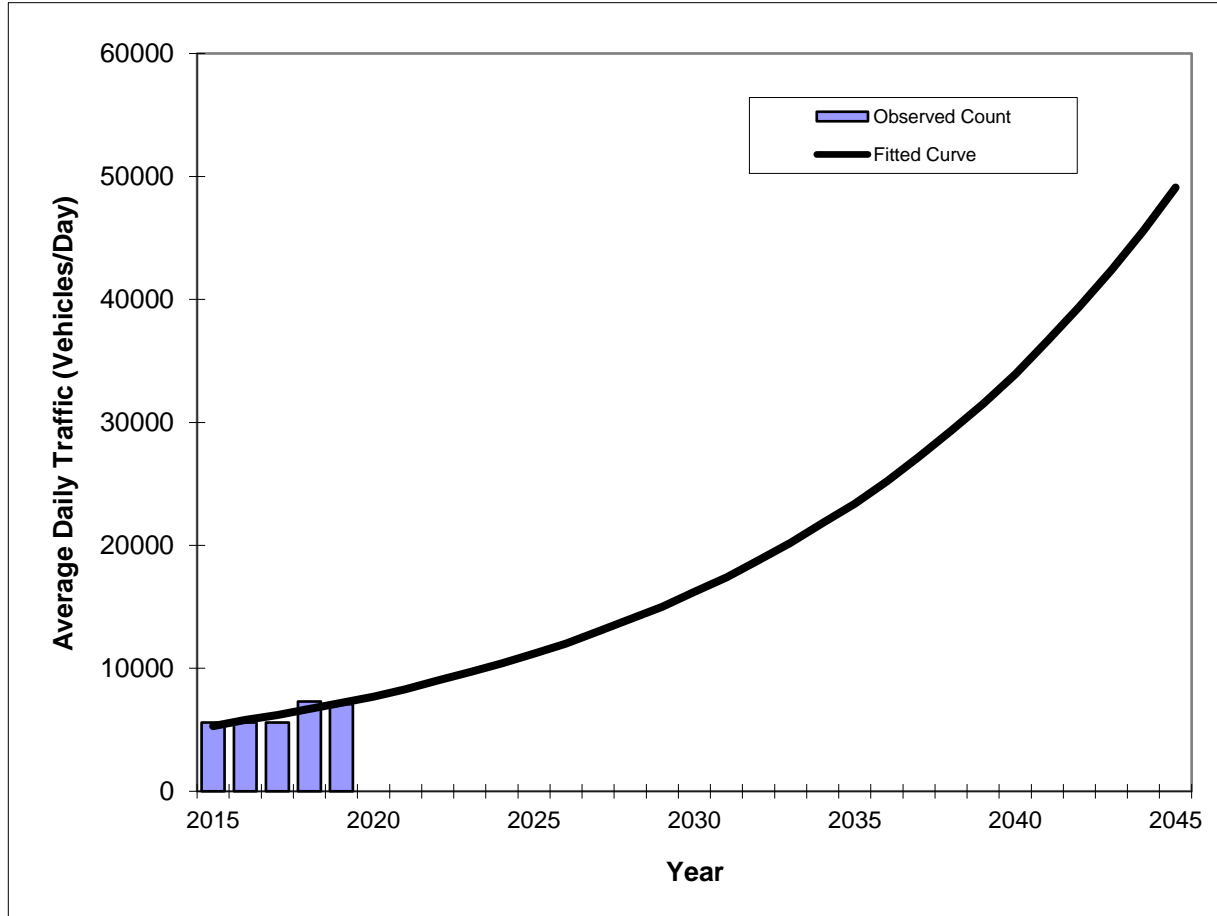
Trend R-squared:	71.44%
Trend Annual Historic Growth Rate:	8.96%
Printed:	5-May-23
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

# Traffic Trends

INDIAN CREEK DR -- 200 FEET NORTH OF 77TH ST/LEHRMAN DR

County:	Miami-Dade (87)
Station #:	8433
Highway:	INDIAN CREEK DR



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	5600	5300
2016	5600	5800
2017	5600	6200
2018	7300	6700
2019	7100	7200

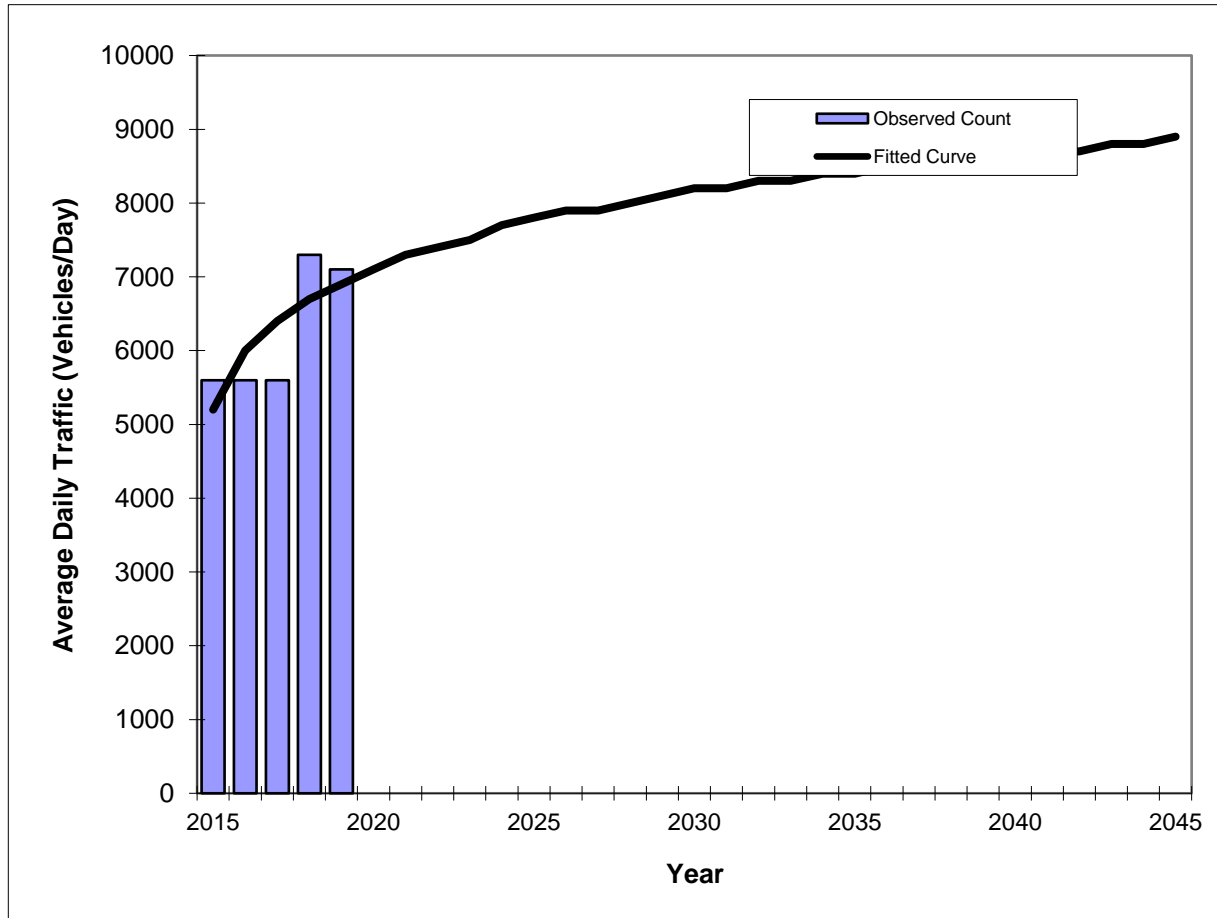
Trend R-squared: 71.89%  
 Compounded Annual Historic Growth Rate: 7.96%  
 Printed: 5-May-23  
**Exponential Growth Option**

\*Axle-Adjusted

## Traffic Trends

**INDIAN CREEK DR -- 200 FEET NORTH OF 77TH ST/LEHRMAN DR**

<b>County:</b>	Miami-Dade (87)
<b>Station #:</b>	8433
<b>Highway:</b>	INDIAN CREEK DR



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	5600	5200
2016	5600	6000
2017	5600	6400
2018	7300	6700
2019	7100	6900

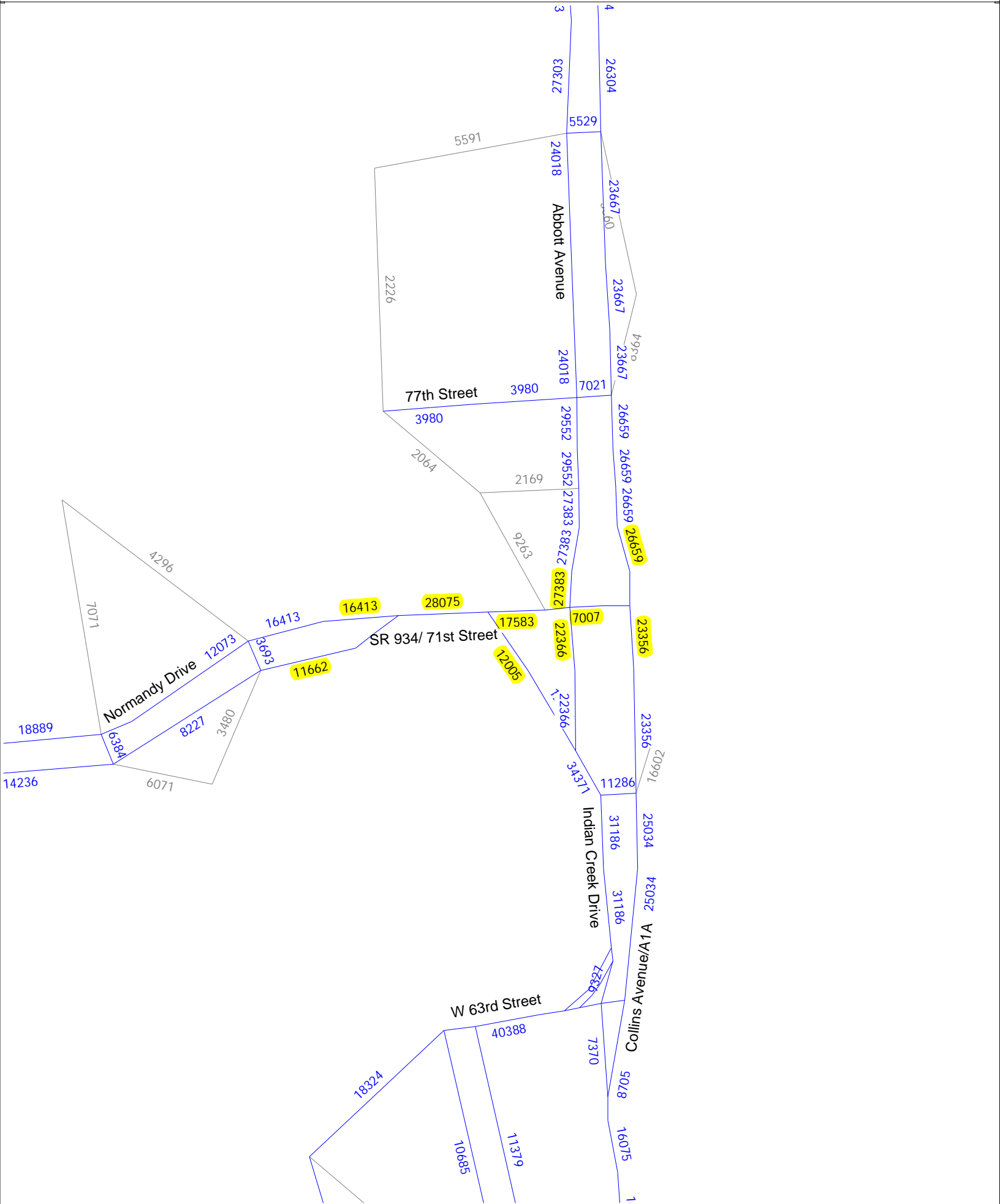
Trend R-squared:	58.32%
Compounded Annual Historic Growth Rate:	7.33%
Printed:	5-May-23
<b>Decaying Exponential Growth Option</b>	

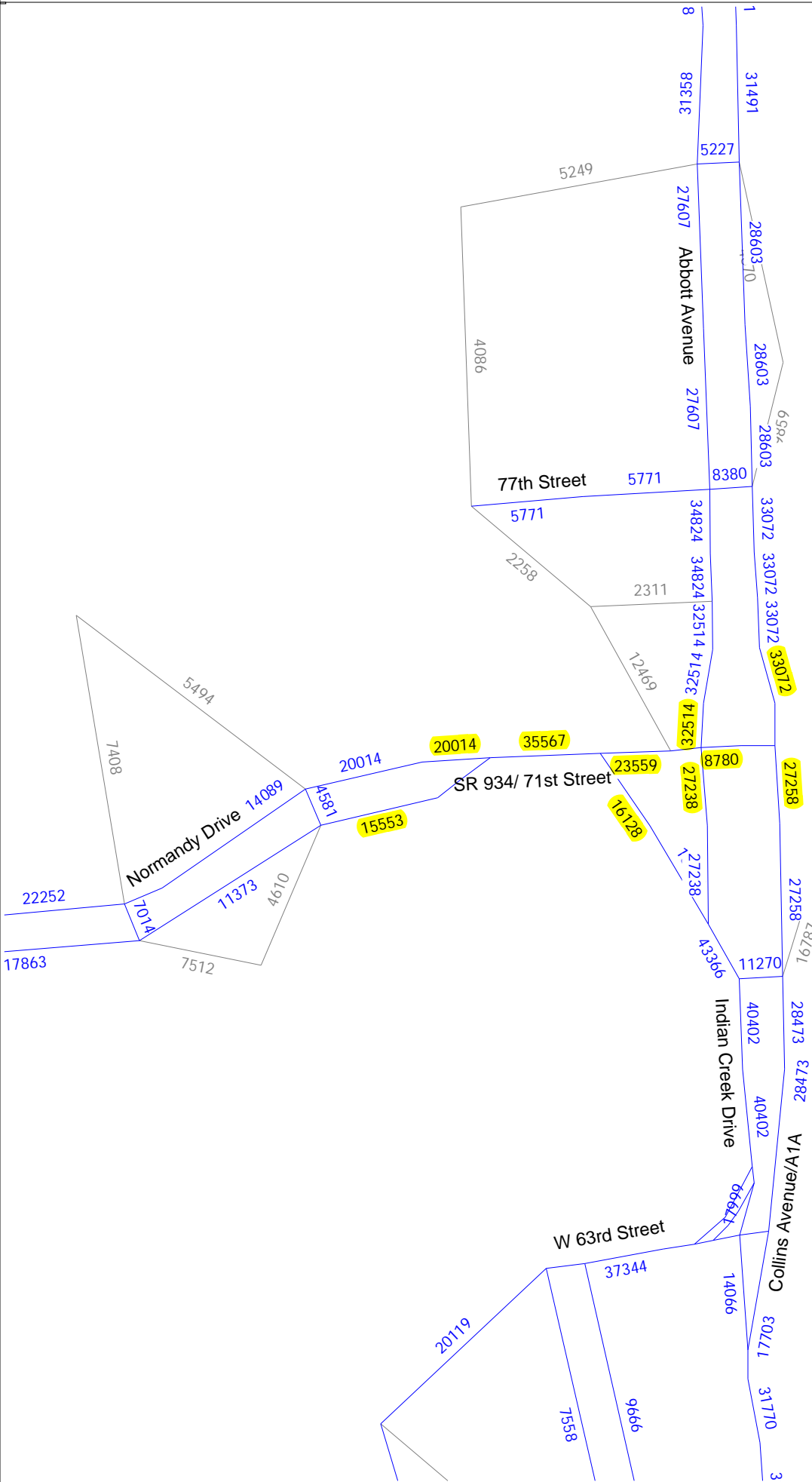
\*Axle-Adjusted



# SERPM Analysis

<b>SERPM Growth Rate Summary</b>					
<b>Street Name</b>	<b>2015</b>	<b>2045</b>	<b>Difference</b>	<b>Growth Rate</b>	<b>Annual Growth Rate</b>
<b>SR A1A/Collins Avenue</b>	26,659	33,072	6,413	24.06%	0.80%
	23,356	27,258	3,902	16.71%	0.56%
<b>Abbott Avenue</b>	27,383	32,514	5,131	18.74%	0.62%
	22,366	27,238	4,872	21.78%	0.73%
<b>SR 934/71st Street</b>	11,662	15,553	3,891	33.36%	1.11%
	28,075	35,567	7,492	26.69%	0.89%
	17,583	23,559	5,976	33.99%	1.13%
	7,007	8,780	1,773	25.30%	0.84%
<b>Indian Creek Drive</b>	12,005	16,128	4,123	34.34%	1.14%
<b>Normandy Drive</b>	16,413	20,014	3,601	21.94%	0.73%
<b>Total</b>	<b>192,509</b>	<b>239,683</b>	<b>47,174</b>	<b>24.50%</b>	<b>0.82%</b>





# **Appendix F**

## Committed Developments



## 72<sup>nd</sup> & Park

7145 Carlyle Avenue and 7144 Byron Avenue  
Miami Beach, Florida 33141

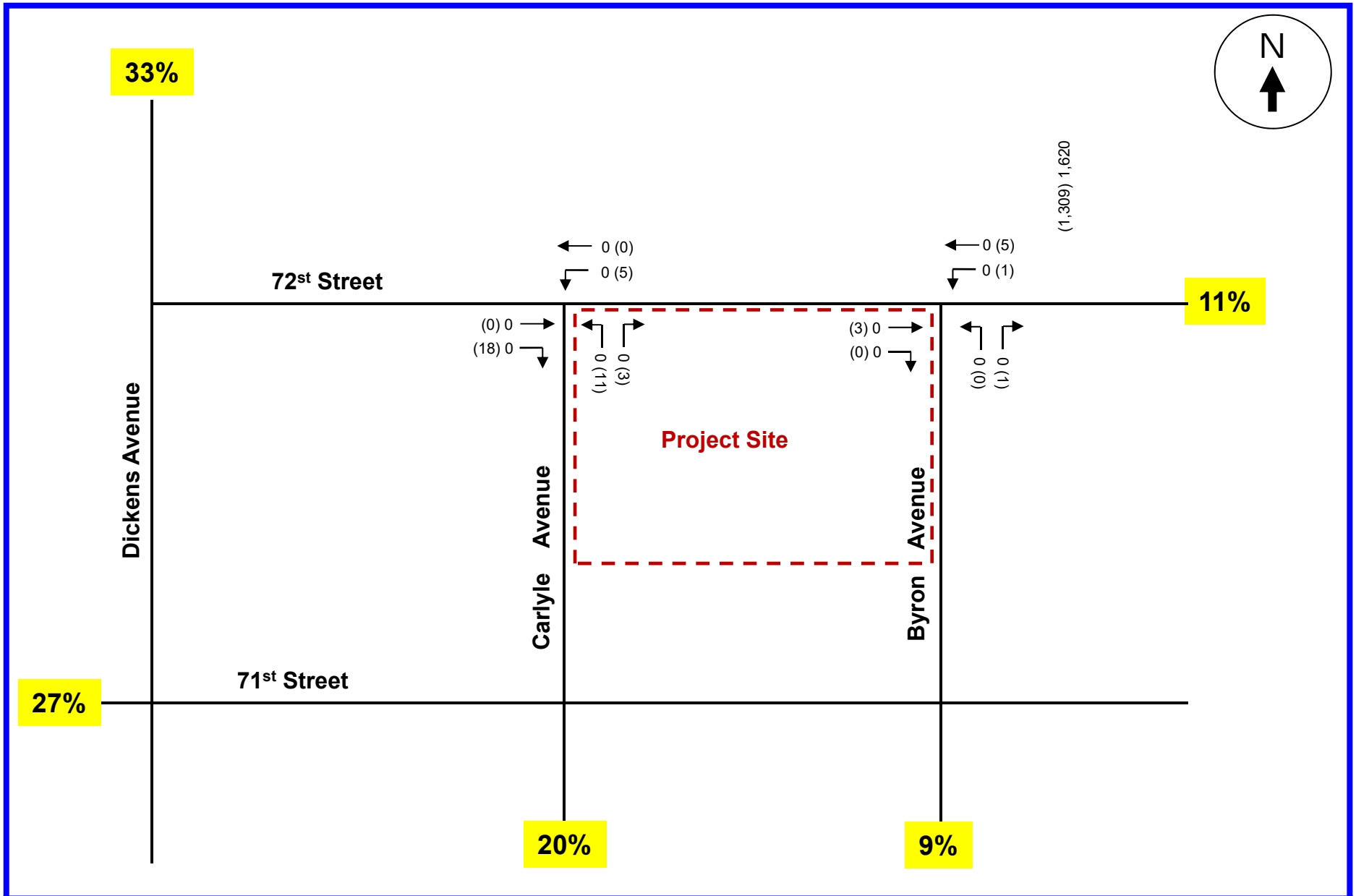
prepared for:  
**KGTC, LLC**

traffic evaluation

**TRAFTECH**  
ENGINEERING, INC.

June 2019

Updated June 24, 2019





# 666 71st Street Mixed Use Project

Miami Beach, Florida

prepared for:

**Nobe Creek LLC**

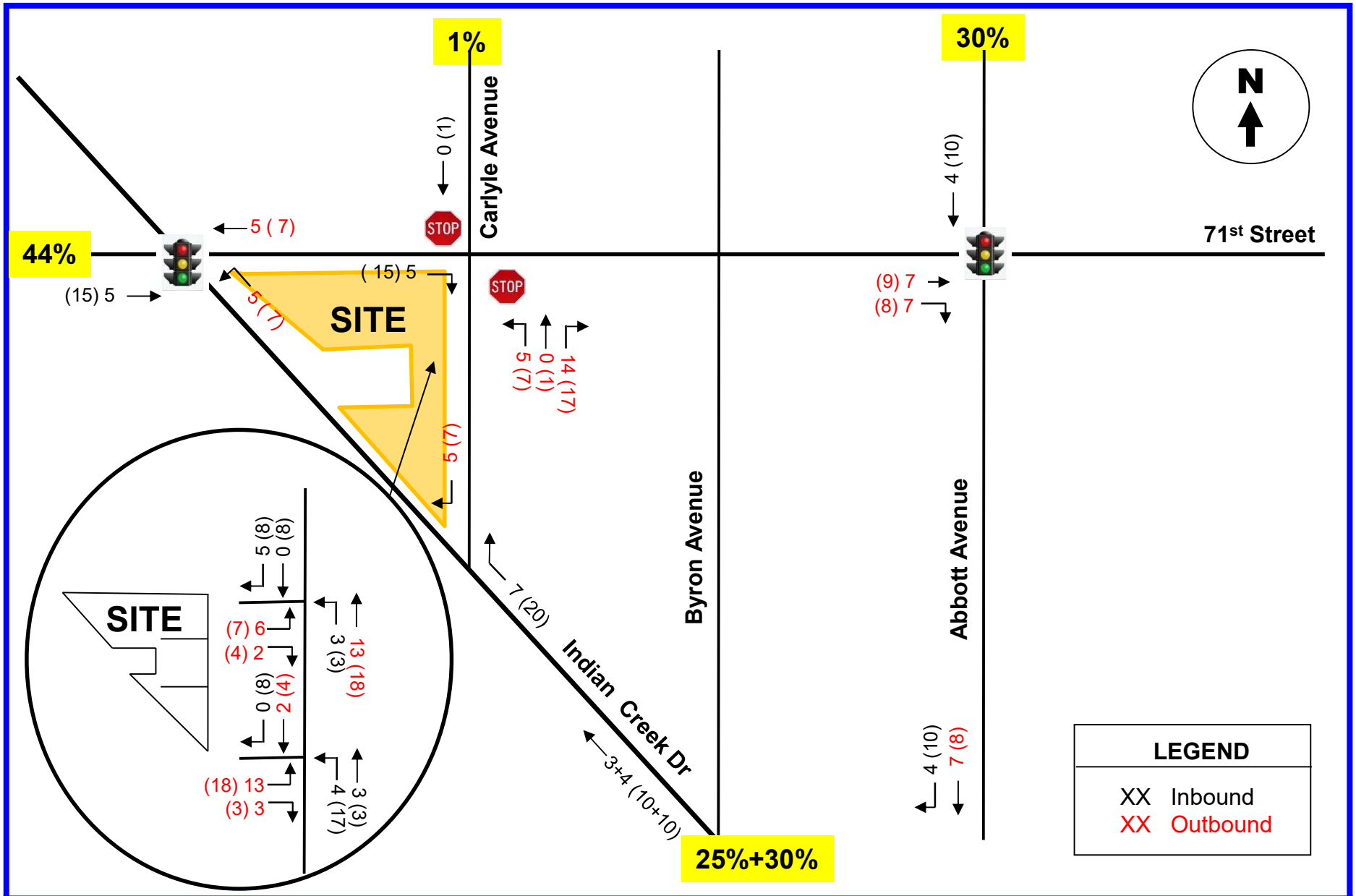
traffic study

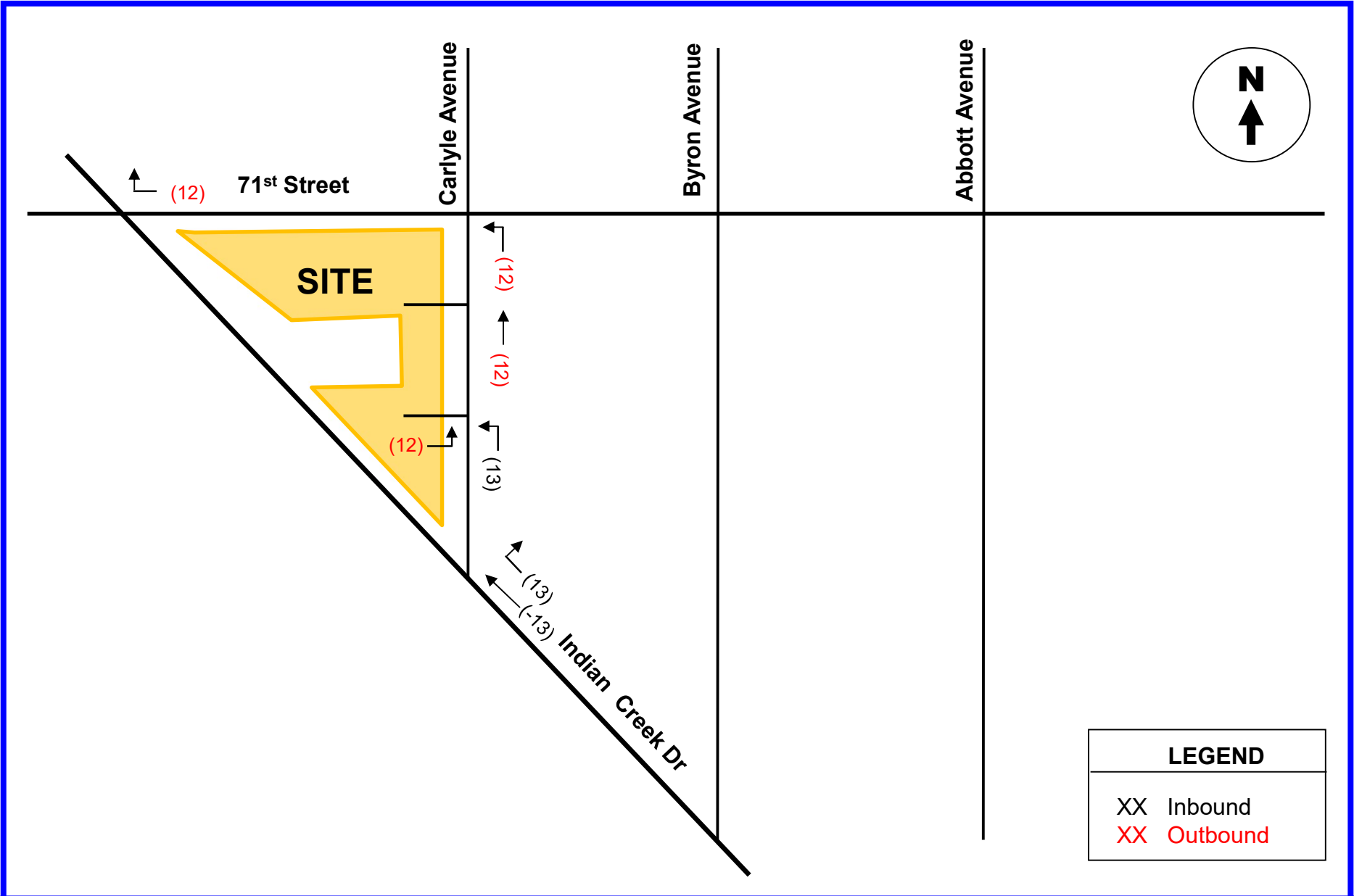
**TRAFTECH**  
ENGINEERING, INC.

January 2020

Revised February 14, 2020







## **Appendix G**

### Trip Generation Calculations

# AM PEAK HOUR TRIP GENERATION COMPARISON

## EXISTING WEEKDAY AM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS					
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total			
						In	Out																					
GROUP 1	1	Multifamily Housing (Low-Rise)	11	220	37	du	24%	76%	8	26	34	20.0%	7	6	21	27	0.0%	0	6	21	27	0.0%	0	6	21	27		
	2	Single-Family Detached Housing	11	210	1	du	26%	74%	0	1	1	20.0%	0	0	1	1	0.0%	0	0	1	1	0.0%	0	0	1	1		
	3																											
	4																											
	5																											
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											
	13																											
	14																											
	15																											
		ITE Land Use Code	Rate or Equation					<b>Total:</b>			8	27	35	20.0%	7	6	22	28	0.0%	0	6	22	28	0.0%	0	6	22	28
		220	Y=0.31*(X)+22.85																									
		210	LN(Y) = 0.91*LN(X)+0.12																									

## PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS					
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total			
						In	Out																					
GROUP 2	1	Strip Retail Plaza	11	822	13,541	ksf	60%	40%	21	14	35	20.0%	7	17	11	28	0.0%	0	17	11	28	0.0%	0	17	11	28		
	2	Multifamily Housing (High-Rise)	11	222	130	du	34%	66%	16	31	47	20.0%	10	13	24	37	0.0%	0	13	24	37	0.0%	0	13	24	37		
	3																											
	4																											
	5																											
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											
	13																											
	14																											
	15																											
		ITE Land Use Code	Rate or Equation					<b>Total:</b>			37	45	82	20.7%	17	30	35	65	0.0%	0	30	35	65	0.0%	0	30	35	65
		822	LN(Y) = 0.66*LN(X)+1.84																									
		222	Y=0.22*(X)+18.85																									

	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>
<b>NET NEW TRIPS</b>	24	13	37

# PM PEAK HOUR TRIP GENERATION COMPARISON

## EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS				
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total		
						In	Out																				
GROUP 1	1	Multifamily Housing (Low-Rise)	11	220	37	du	63%	37%	23	13	36	20.0%	7	19	10	29	0.0%	0	19	10	29	0.0%	0	19	10	29	
	2	Single-Family Detached Housing	11	210	1	du	63%	37%	1	0	1	20.0%	0	1	0	1	0.0%	0	1	0	1	0.0%	0	1	0	1	
	3																										
	4																										
	5																										
	6																										
	7																										
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	9																										
	10																										
	11																										
	12																										
	13																										
	14																										
	15																										
		ITE Land Use Code	Rate or Equation		<b>Total:</b>			24	13	37	18.9%	7	20	10	30	0.0%	0	20	10	30	0.0%	0	20	10	30		
		220	Y=0.43*(X)+20.55																								
		210	LN(Y) = 0.94*LN(X)+0.27																								

## PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

	ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS					
	Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent		In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total			
						In	Out																					
GROUP 2	1	Strip Retail Plaza	11	822	13,541	ksf	50%	50%	48	48	96	20.0%	19	38	39	77	18.2%	14	34	29	63	40.0%	25	21	17	38		
	2	Multifamily Housing (High-Rise)	11	222	130	du	56%	44%	32	25	57	20.0%	11	26	20	46	30.4%	14	16	16	32	0.0%	0	16	16	32		
	3																											
	4																											
	5																											
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											
	13																											
	14																											
	15																											
		ITE Land Use Code	Rate or Equation		<b>Total:</b>			80	73	153	19.6%	30	64	59	123	22.8%	28	50	45	95	26.3%	25	37	33	70			
		822	LN(Y) = 0.71*LN(X)+2.72																									
		222	Y=0.26*(X)+23.12																									

	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>
<b>NET NEW TRIPS</b>	<b>17</b>	<b>23</b>	<b>40</b>

# Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour  
based on the *Trip Generation Handbook*, 3rd Edition, published by the Institute of Transportation Engineers

## SUMMARY (PROPOSED)

GROSS TRIP GENERATION					
INPUT	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office	0	0	0	0
	Retail	17	11	38	39
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	13	24	26	20
	Hotel	0	0	0	0
		30	35	64	59

INTERNAL TRIPS					
OUTPUT	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office	0	0	0	0
	Retail	0	0	4	10
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	0	0	10	4
	Hotel	0	0	0	0
		0	0	14	14

OUTPUT	Total % Reduction	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office				
	Retail	0.0%		18.2%	
	Restaurant				
	Cinema/Entertainment				
	Residential	0.0%		30.4%	
	Hotel				

EXTERNAL TRIPS					
OUTPUT	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office	0	0	0	0
	Retail	17	11	34	29
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	13	24	16	16
	Hotel	0	0	0	0
		30	35	50	45

# MEANS OF TRANSPORTATION TO WORK

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

$$(611+108+111) / (2951-211) = 30.3\%$$

Census Tract 39.13, Miami-Dade County, Florida

Label	Estimate	Margin of Error
▼ Total:	2,951	±395
▼ Car, truck, or van:	1,710	±364
Drove alone	1,605	±363
▼ Carooled:	105	±134
In 2-person carpool	105	±134
In 3-person carpool	0	±14
In 4-person carpool	0	±14
In 5- or 6-person carpool	0	±14
In 7-or-more-person carpool	0	±14
▼ Public transportation (excluding taxicab):	611	±241
Bus	550	±233
Subway or elevated rail	61	±92
Long-distance train or commuter rail	0	±14
Light rail, streetcar or trolley (carro público in Puerto Rico)	0	±14
Ferryboat	0	±14
Taxicab	41	±69
Motorcycle	107	±104
Bicycle	108	±97
Walked	111	±96
Other means	52	±50
Worked from home	211	±152

## Table Notes

# MEANS OF TRANSPORTATION TO WORK

Universe: Workers 16 years and over

Year: 2019

Estimates: 5-Year

Table ID: B08301

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

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

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

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

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

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

2019 ACS data products include updates to several categories of the existing means of transportation question. For more information, see: [Change to Means of Transportation](#).

The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

## Explanation of Symbols:

An "\*\*\*" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.

An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.

An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.

An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.

An "\*\*\*\*" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

An "\*\*\*\*\*" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.

An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

An "(X)" means that the estimate is not applicable or not available.









## **Appendix H**

### Transit Service Information







# MIAMI-DADE COUNTY Existing Network

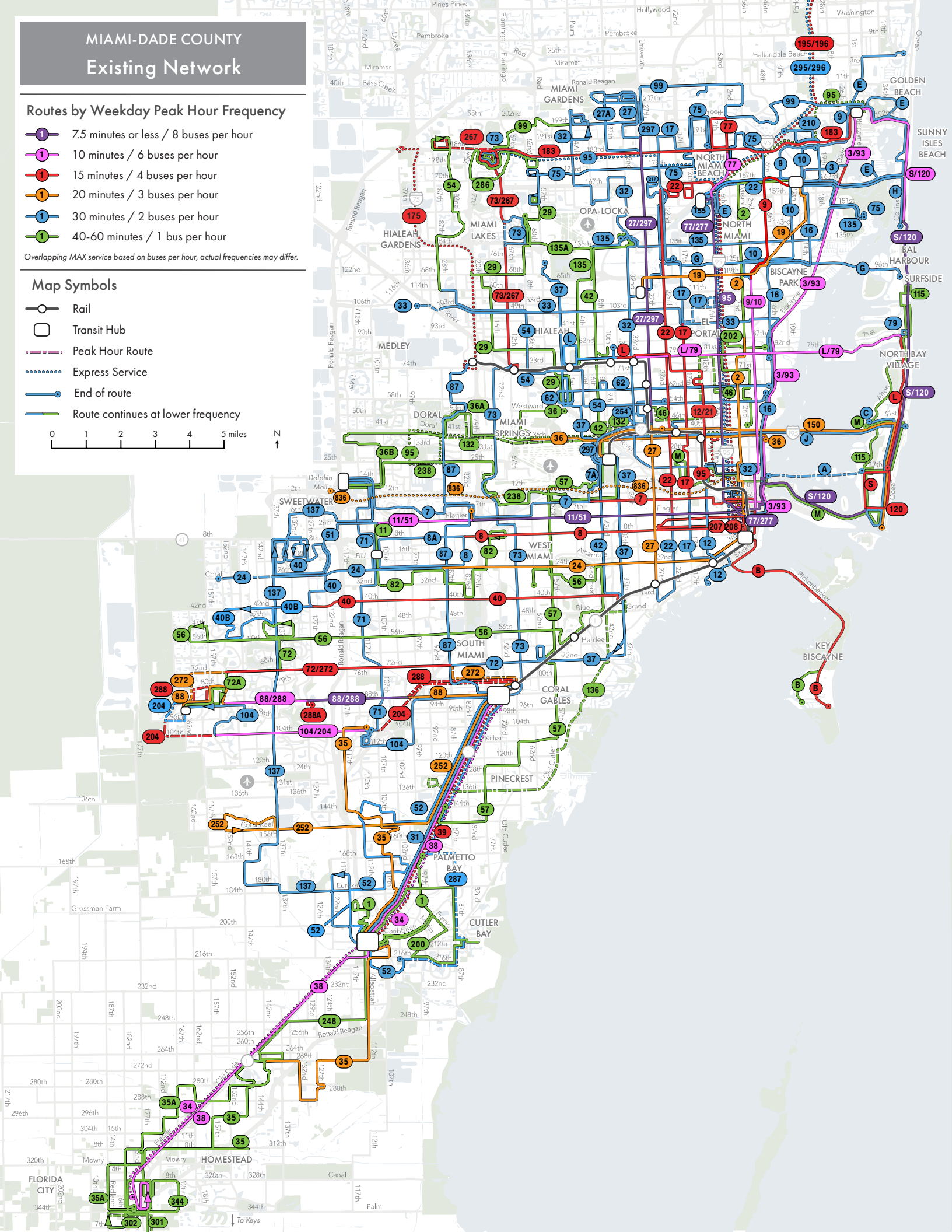
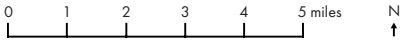
## Routes by Weekday Peak Hour Frequency

-  7.5 minutes or less / 8 buses per hour
-  10 minutes / 6 buses per hour
-  15 minutes / 4 buses per hour
-  20 minutes / 3 buses per hour
-  30 minutes / 2 buses per hour
-  40-60 minutes / 1 bus per hour

Overlapping MAX service based on buses per hour, actual frequencies may differ.

## Map Symbols

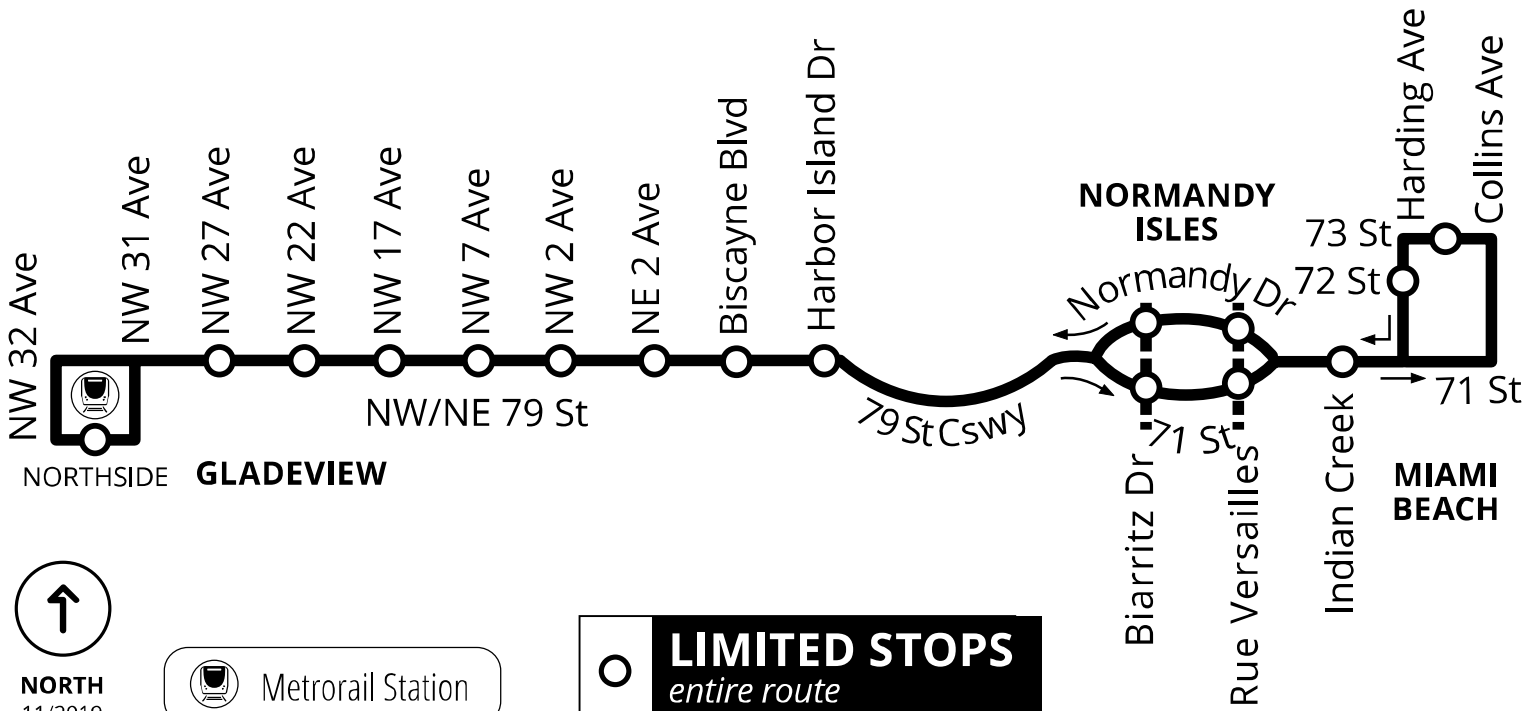
-  Rail
-  Transit Hub
-  Peak Hour Route
-  Express Service
-  End of route
-  Route continues at lower frequency





# 79

## 79 ST MAX



**NORTH**  
11/2019



**LIMITED STOPS**  
*entire route*



@GoMiamiDade



GO Miami-Dade Transit

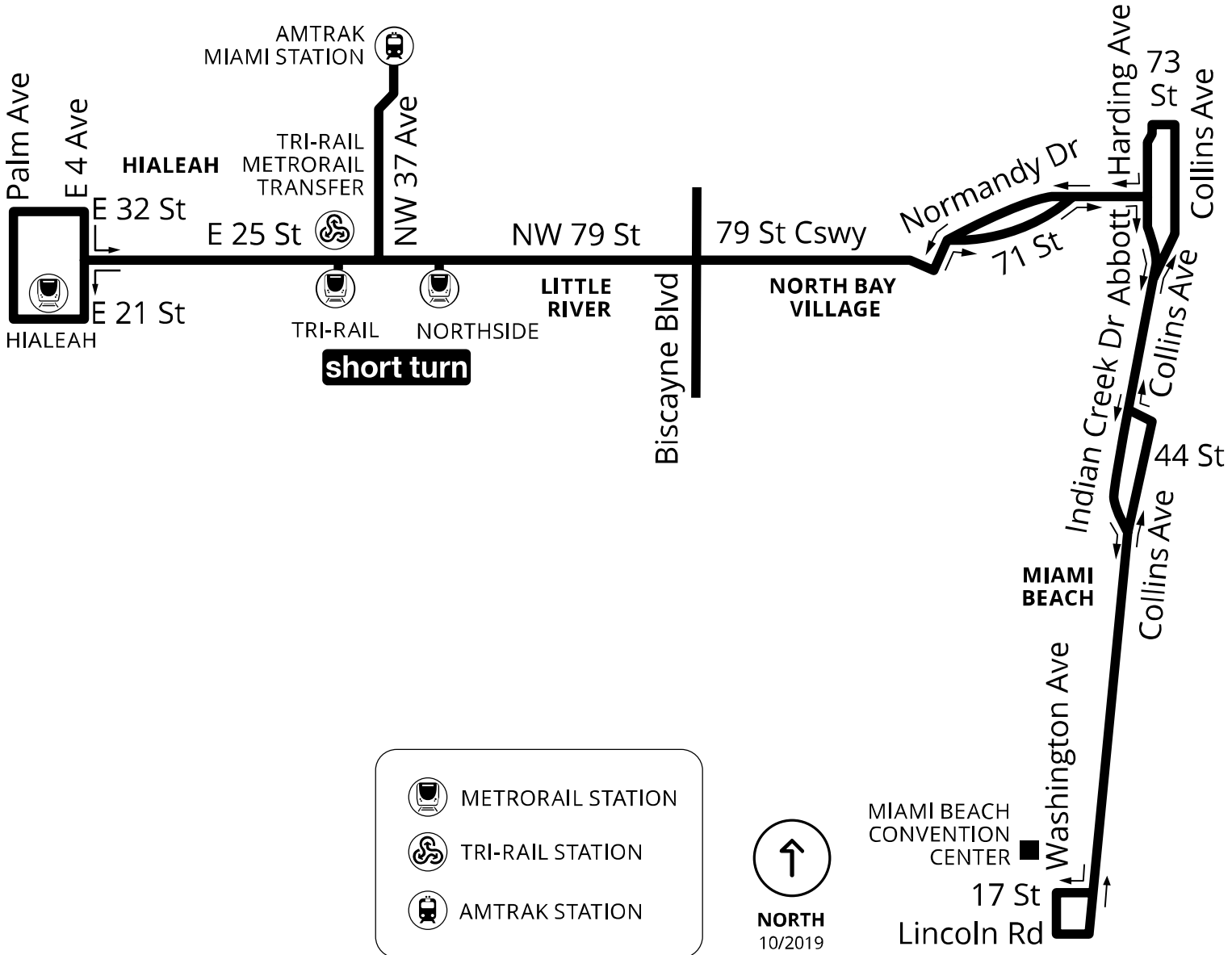


[miamidade.gov/transit](http://miamidade.gov/transit)



311 or 305.468.5900 TTY/Fla Relay: 711





@GoMiamiDade



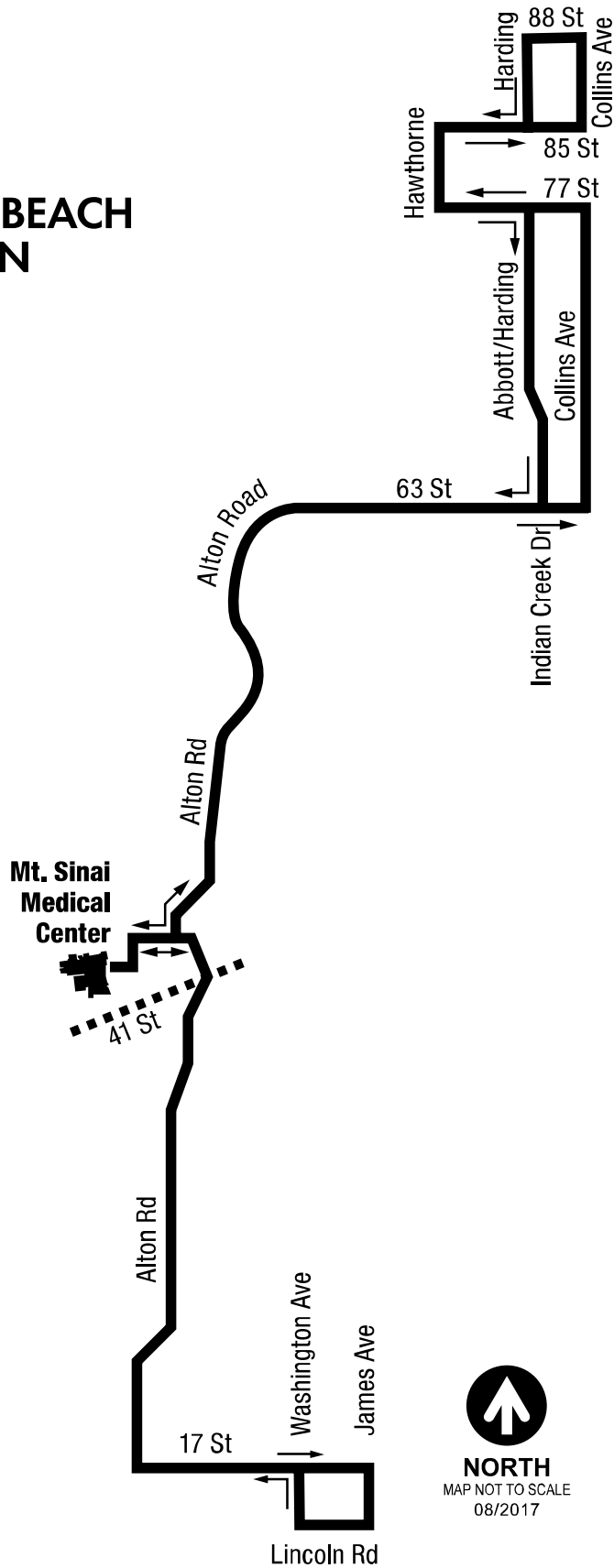
GO Miami-Dade Transit





# 115

## MID-NORTH BEACH CONNECTION



**NORTH**  
MAP NOT TO SCALE  
08/2017

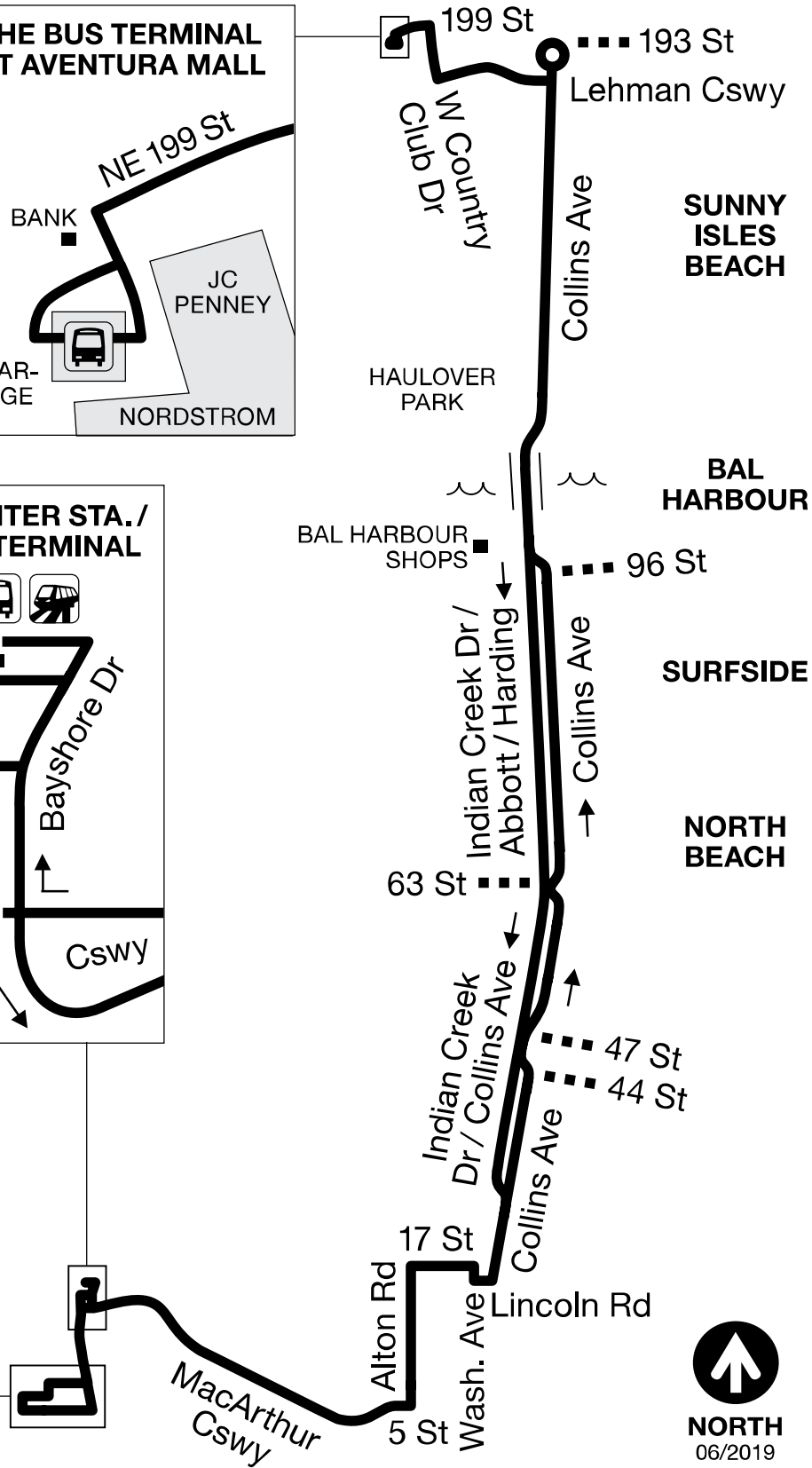
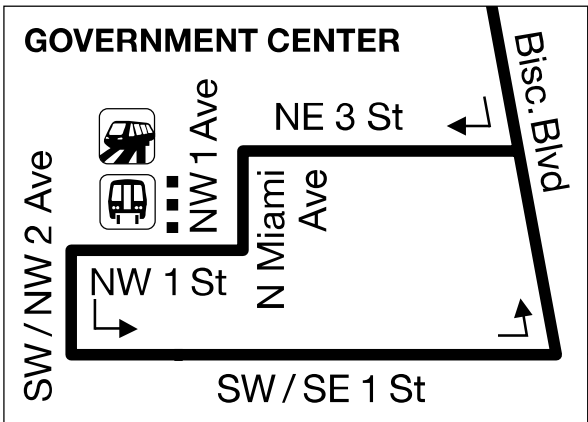
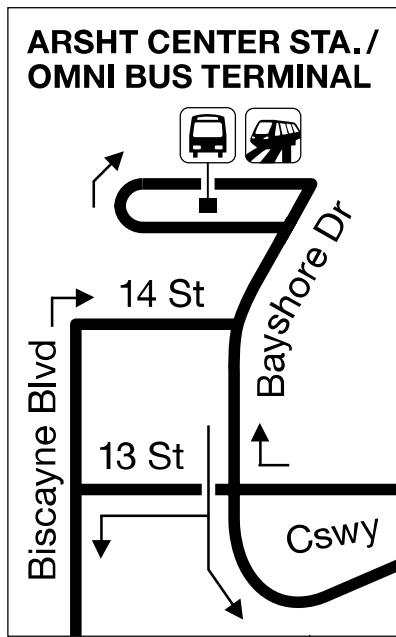
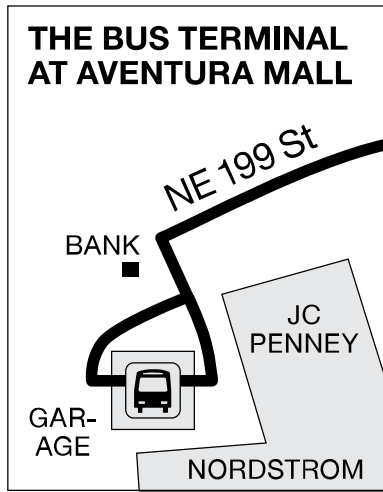


@GoMiamiDade



GO Miami-Dade Transit





NORTH  
06/2019



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GO Miami-Dade Transit







# COLLINS EXPRESS



## TROLLEY CONNECTIONS

**NORTH BEACH LOOP**  **COLLINS EXPRESS**

**COLLINS EXPRESS**  **MIDDLE BEACH LOOP**

**MIDDLE BEACH LOOP**  **SOUTH BEACH LOOP**

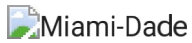
**COLLINS EXPRESS**  **SOUTH BEACH LOOP**







# Metrobus Routes Schedule



## 9032 (Loop) WEEKDAY

**Lincoln Rd & James Ave**

**WASHINGTON AV & 17 ST**

06:00AM

07:15AM

06:20AM

07:35AM

06:40AM

07:55AM

07:00AM

08:15AM

07:20AM

08:35AM

07:40AM

08:55AM

08:00AM

09:15AM

08:20AM

09:35AM

08:40AM

09:55AM

09:00AM

10:15AM

09:20AM

10:35AM

09:40AM

10:55AM

10:00AM	11:15AM
10:20AM	11:35AM
10:40AM	11:55AM
11:00AM	12:15PM
11:20AM	12:35PM
11:40AM	12:55PM
12:00PM	01:15PM
12:20PM	01:35PM
12:40PM	01:55PM
01:00PM	02:15PM
01:20PM	02:35PM
01:40PM	02:55PM
02:00PM	03:15PM
02:20PM	03:35PM
02:40PM	03:55PM
03:00PM	04:15PM
03:20PM	04:35PM
03:40PM	04:55PM
04:00PM	05:15PM
04:20PM	05:35PM

04:40PM	05:55PM
05:00PM	06:15PM
05:20PM	06:35PM
05:40PM	06:55PM
06:00PM	07:15PM
06:20PM	07:35PM
06:40PM	07:55PM
07:00PM	08:15PM
07:20PM	08:35PM
07:40PM	08:55PM
08:00PM	09:15PM
08:20PM	09:35PM
08:40PM	09:55PM
09:00PM	10:15PM
09:20PM	10:35PM
09:40PM	10:55PM
10:00PM	11:15PM
10:20PM	11:35PM
10:40PM	11:55PM
11:00PM	12:15AM

11:20PM

12:35AM

11:40PM

12:55AM

[Back to previous page](#)



## TRANSPORTATION & PUBLIC WORKS

Eulois Cleckley, Director and CEO

### Overtown Transit Village North

701 NW 1st Court, Suite 1700, Miami, FL 33136

[786-469-5675](tel:786-469-5675) |

[Contact Us](#) | [About Us](#)



## Help and Support

[Miami-Dade Home](#)

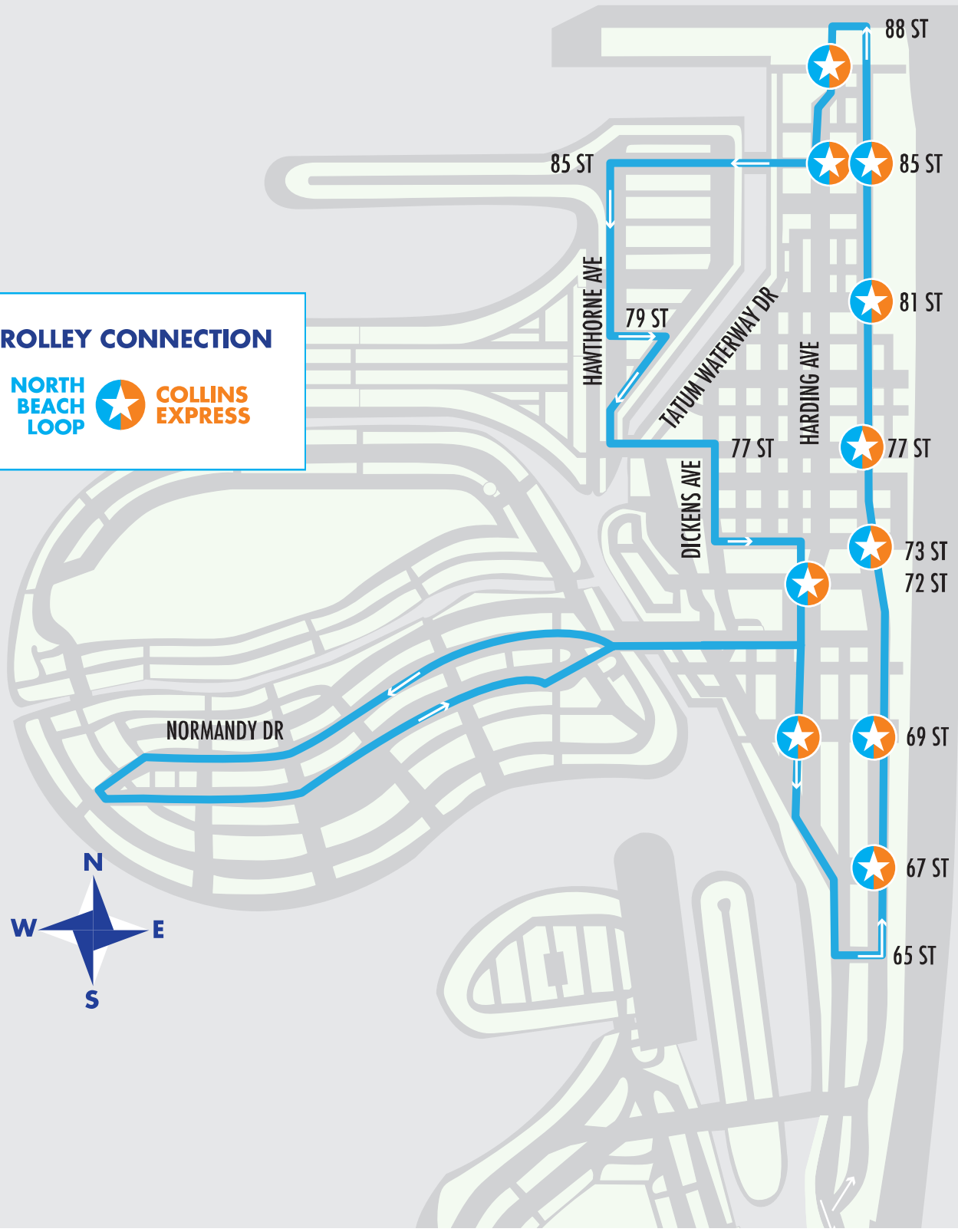
[Privacy Statement](#)

[ADA Notice](#)



# NORTH BEACH LOOP

## TROLLEY CONNECTION





# Metrobus Routes Schedule



## 9030 (Loop) WEEKDAY

### COLLINS AV & 72 ST

08:00AM

08:38AM

09:16AM

09:54AM

10:32AM

11:10AM

11:48AM

12:26PM

01:04PM

01:42PM

02:20PM

02:58PM

### COLLINS AV & 72 ST

08:30AM

09:08AM

09:46AM

10:24AM

11:02AM

11:40AM

12:18PM

12:56PM

01:34PM

02:12PM

02:50PM

03:28PM

03:36PM

04:06PM

04:14PM

04:44PM

04:52PM

05:22PM

05:30PM

06:00PM

06:08PM

06:38PM

06:46PM

07:16PM

07:24PM

07:54PM

08:02PM

08:32PM

08:40PM

09:10PM

09:18PM

09:48PM

09:56PM

10:26PM

10:34PM

11:04PM

11:12PM

11:42PM

11:50PM

12:20AM

[Back to previous page](#)



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## Self-Service

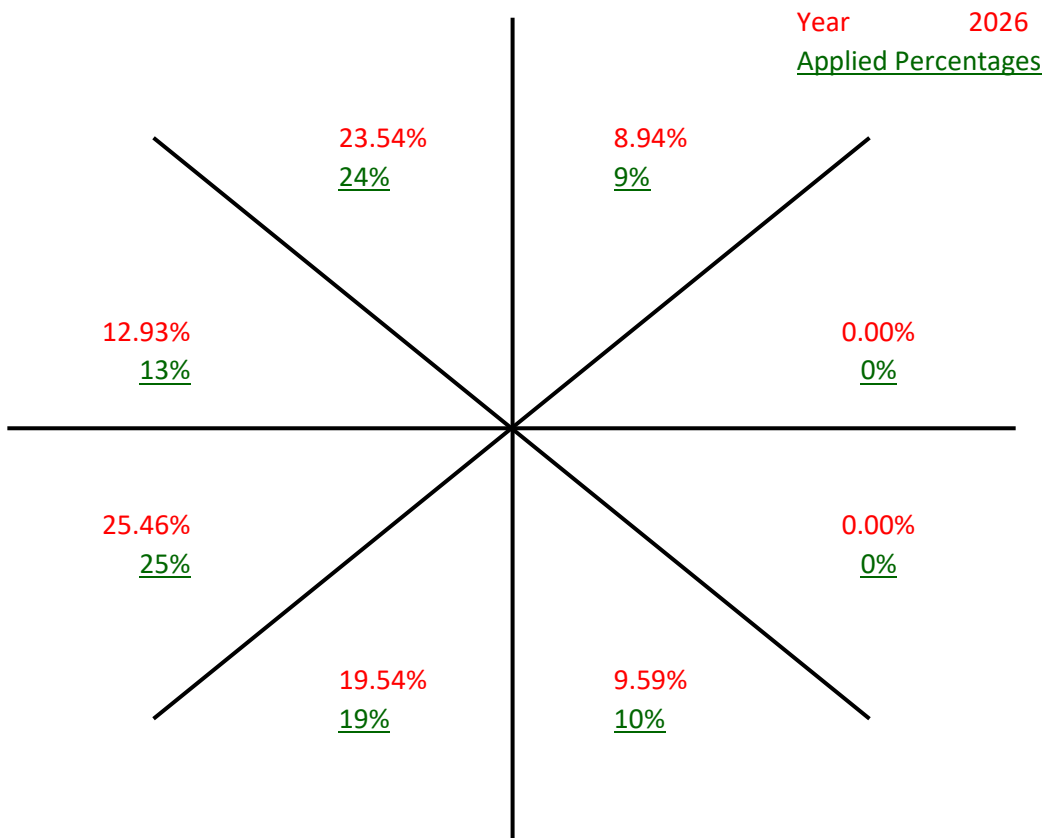
[311 Contact Center](#)



# **Appendix I**

## Cardinal Distribution

Cardinal Distribution for TAZ 622



Cardinal Trip Distribution

Cardinal Direction	Percentage of Trips		2026 Interpolated	2026 Rounded
	2015	2045		
North-Northeast	10.3%	6.6%	8.94%	9.0%
East-Northeast	0.0%	0.0%	0.00%	0.0%
East-Southeast	0.0%	0.0%	0.00%	0.0%
South-Southeast	10.4%	8.2%	9.59%	10.0%
South-Southwest	19.5%	19.6%	19.54%	19.0%
West-Southwest	24.1%	27.8%	25.46%	25.0%
West-Northwest	12.6%	13.5%	12.93%	13.0%
North-Northwest	23.1%	24.3%	23.54%	24.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.00%</b>	<b>100.0%</b>



MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION

2045LRTP

SUPPORTING DOCUMENTS

## DIRECTIONAL TRIP DISTRIBUTION REPORT

SEPTEMBER 2019

DIRECTIONAL TRIP DISTRIBUTION REPORT

Miami-Dade 2015 Base Year Direction Trip Distribution Summary											
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
599	3499	Trips	591	34	0	13	16	316	294	397	1,717
599	3499	Percent	35.6	2.0	0.0	0.8	1.0	19.0	17.7	23.9	
600	3500	Trips	1,964	258	20	47	84	1,205	1,079	998	5,795
600	3500	Percent	34.7	4.6	0.4	0.8	1.5	21.3	19.1	17.7	
601	3501	Trips	70	-	-	28	277	290	175	257	1,104
601	3501	Percent	6.4	-	-	2.5	25.3	26.4	15.9	23.5	
602	3502	Trips	67	17	-	103	540	455	472	464	2,181
602	3502	Percent	3.2	0.8	-	4.9	25.5	21.5	22.3	21.9	
603	3503	Trips	27	-	-	3	177	160	92	111	570
603	3503	Percent	4.8	-	-	0.5	31.0	28.1	16.2	19.5	
604	3504	Trips	45	-	-	6	506	334	458	381	1,779
604	3504	Percent	2.6	-	-	0.4	29.3	19.3	26.5	22.0	
605	3505	Trips	136	16	-	144	498	321	433	386	1,958
605	3505	Percent	7.0	0.8	-	7.4	25.7	16.6	22.4	20.0	
606	3506	Trips	830	-	-	845	1,407	1,998	1,040	2,384	9,052
606	3506	Percent	9.8	-	-	9.9	16.5	23.5	12.2	28.0	
607	3507	Trips	197	83	-	165	848	498	671	627	3,154
607	3507	Percent	6.4	2.7	-	5.4	27.5	16.1	21.7	20.3	
608	3508	Trips	109	-	-	17	655	545	562	535	2,497
608	3508	Percent	4.5	-	-	0.7	27.0	22.5	23.2	22.1	
609	3509	Trips	80	-	-	30	482	700	242	744	2,414
609	3509	Percent	3.5	-	-	1.3	21.2	30.7	10.6	32.7	
610	3510	Trips	576	187	-	313	1,639	1,859	1,152	2,527	9,381
610	3510	Percent	7.0	2.3	-	3.8	19.9	22.5	14.0	30.6	
611	3511	Trips	344	38	-	107	861	847	782	1,269	4,444
611	3511	Percent	8.1	0.9	-	2.5	20.3	20.0	18.4	29.9	
612	3512	Trips	102	-	-	38	497	479	354	809	2,324
612	3512	Percent	4.5	-	-	1.7	21.8	21.0	15.5	35.5	
613	3513	Trips	50	-	-	45	147	146	130	221	738
613	3513	Percent	6.8	-	-	6.1	19.9	19.8	17.6	30.0	
614	3514	Trips	107	-	-	231	720	908	522	868	3,436
614	3514	Percent	3.2	-	-	6.9	21.5	27.1	15.6	25.9	
615	3515	Trips	748	321	-	855	1,825	1,774	1,120	2,278	9,551
615	3515	Percent	8.4	3.6	-	9.6	20.5	19.9	12.6	25.5	
616	3516	Trips	631	418	-	1,214	1,619	1,428	921	1,966	9,585
616	3516	Percent	7.7	5.1	-	14.8	19.8	17.4	11.2	24.0	
617	3517	Trips	18	4	17	9	11	16	6	43	125
617	3517	Percent	14.3	3.3	13.7	7.4	9.0	13.1	4.7	34.7	
618	3518	Trips	243	105	-	241	640	556	295	599	2,736
618	3518	Percent	9.1	3.9	-	9.0	23.9	20.8	11.0	22.4	
619	3519	Trips	114	-	-	442	1,579	1,258	675	2,112	6,703
619	3519	Percent	1.8	-	-	7.2	25.6	20.4	10.9	34.2	
620	3520	Trips	85	-	-	385	1,902	1,775	809	2,132	7,584
620	3520	Percent	1.2	-	-	5.4	26.8	25.1	11.4	30.1	
621	3521	Trips	411	-	112	336	917	877	409	774	3,916
621	3521	Percent	10.7	-	2.9	8.8	23.9	22.9	10.7	20.2	
622	3522	Trips	725	-	-	733	1,372	1,695	887	1,623	7,653
622	3522	Percent	10.3	-	-	10.4	19.5	24.1	12.6	23.1	
623	3523	Trips	394	243	139	749	727	1,431	755	921	5,657
623	3523	Percent	7.4	4.5	2.6	14.0	13.6	26.7	14.1	17.2	
624	3524	Trips	1,100	613	112	625	1,542	2,663	1,706	1,821	11,072
624	3524	Percent	10.8	6.0	1.1	6.1	15.2	26.2	16.8	17.9	

DIRECTIONAL TRIP DISTRIBUTION REPORT

Miami-Dade 2045 Cost Feasible Plan Direction Trip Distribution Summary												
TAZ of Origin		Trips / Percent	Cardinal Directions								Total Trips	
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW		
599	3499	Trips	392	108	7	13	41	341	344	485	1,765	
599	3499	Percent	22.6	6.2	0.4	0.8	2.4	19.7	19.9	28.0		
600	3500	Trips	1,603	330	17	42	94	1,157	1,332	1,506	6,163	
600	3500	Percent	26.4	5.4	0.3	0.7	1.6	19.0	21.9	24.8		
601	3501	Trips	73	-	-	36	470	342	267	332	1,552	
601	3501	Percent	4.8	-	-	2.4	30.9	22.5	17.5	21.8		
602	3502	Trips	62	6	-	148	713	574	523	476	2,566	
602	3502	Percent	2.5	0.3	-	5.9	28.5	22.9	20.9	19.0		
603	3503	Trips	14	-	-	1	337	258	161	172	980	
603	3503	Percent	1.5	-	-	0.1	35.7	27.4	17.1	18.3		
604	3504	Trips	64	-	-	41	951	737	707	668	3,445	
604	3504	Percent	2.0	-	-	1.3	30.0	23.3	22.3	21.1		
605	3505	Trips	99	36	-	135	670	549	585	509	2,652	
605	3505	Percent	3.8	1.4	-	5.2	25.9	21.2	22.7	19.7		
606	3506	Trips	643	-	-	754	1,891	2,383	1,151	2,389	9,786	
606	3506	Percent	7.0	-	-	8.2	20.5	25.9	12.5	25.9		
607	3507	Trips	188	140	-	182	1,171	780	868	741	4,188	
607	3507	Percent	4.6	3.4	-	4.5	28.8	19.2	21.3	18.2		
608	3508	Trips	110	-	-	48	1,108	1,101	706	785	3,985	
608	3508	Percent	2.9	-	-	1.2	28.7	28.5	18.3	20.4		
609	3509	Trips	86	-	-	37	718	953	371	839	3,169	
609	3509	Percent	2.9	-	-	1.2	23.9	31.7	12.3	27.9		
610	3510	Trips	681	182	-	382	2,239	2,515	1,391	2,792	12,047	
610	3510	Percent	6.7	1.8	-	3.8	22.0	24.7	13.7	27.4		
611	3511	Trips	449	13	-	118	1,000	1,197	848	1,206	5,036	
611	3511	Percent	9.3	0.3	-	2.4	20.7	24.8	17.6	25.0		
612	3512	Trips	74	-	-	56	640	617	408	906	2,773	
612	3512	Percent	2.8	-	-	2.1	23.7	22.9	15.1	33.6		
613	3513	Trips	42	-	-	27	203	188	128	185	774	
613	3513	Percent	5.5	-	-	3.5	26.3	24.2	16.5	24.0		
614	3514	Trips	160	-	-	231	1,441	1,400	1,004	1,429	5,961	
614	3514	Percent	2.8	-	-	4.1	25.4	24.7	17.7	25.2		
615	3515	Trips	657	228	-	698	1,586	1,570	1,040	1,804	7,950	
615	3515	Percent	8.7	3.0	-	9.2	20.9	20.7	13.7	23.8		
616	3516	Trips	663	430	-	1,243	2,224	2,161	1,427	2,581	12,275	
616	3516	Percent	6.2	4.0	-	11.6	20.7	20.1	13.3	24.1		
617	3517	Trips	13	10	12	23	29	51	31	41	219	
617	3517	Percent	6.4	4.8	5.8	10.9	13.8	24.0	14.9	19.5		
618	3518	Trips	155	54	-	218	768	639	484	831	3,208	
618	3518	Percent	4.9	1.7	-	6.9	24.4	20.3	15.4	26.4		
619	3519	Trips	148	-	-	378	1,965	1,591	822	2,087	7,426	
619	3519	Percent	2.1	-	-	5.4	28.1	22.8	11.8	29.9		
620	3520	Trips	101	-	-	236	1,860	2,343	1,013	2,177	8,233	
620	3520	Percent	1.3	-	-	3.1	24.1	30.3	13.1	28.2		
621	3521	Trips	349	-	81	272	1,070	1,011	417	959	4,287	
621	3521	Percent	8.4	-	1.9	6.6	25.7	24.3	10.0	23.1		
622	3522	Trips	552	-	-	687	1,638	2,319	1,127	2,032	8,893	
622	3522	Percent	6.6	-	-	8.2	19.6	27.8	13.5	24.3		
623	3523	Trips	475	123	70	728	1,143	1,694	801	1,023	6,274	
623	3523	Percent	7.8	2.0	1.2	12.0	18.9	28.0	13.2	16.9		
624	3524	Trips	1,356	409	98	912	2,505	3,276	2,354	2,063	13,940	
624	3524	Percent	10.5	3.2	0.8	7.0	19.3	25.3	18.1	15.9		

## **Appendix J**

### Volume Development Worksheets

# TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: 72nd Street and Dickens Avenue  
 COUNT DATE: April 26, 2023  
 AM PEAK HOUR FACTOR: 0.96  
 PM PEAK HOUR FACTOR: 0.91

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
AM Raw Turning Movements			0	0	0		28	0	89		0	517	29		32	782	0		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
AM EXISTING CONDITIONS			0	0	0		28	0	89		0	517	29		32	782	0		
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
PM Raw Turning Movements			0	0	0		114	0	170		0	431	25		24	414	0		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PM EXISTING CONDITIONS			0	0	0		114	0	170		0	431	25		24	414	0		
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park																			
666 71st Street Mixed Use Project																			
TOTAL "VESTED" TRAFFIC			0	0	0		0	0	0		0	0	0		0	0	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
AM BACKGROUND TRAFFIC GROWTH			0	0	0		1	0	2		0	13	1		1	19	0		
AM NON-PROJECT TRAFFIC			0	0	0		29	0	91		0	530	30		33	801	0		
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park															18				
666 71st Street Mixed Use Project																			
TOTAL "VESTED" TRAFFIC			0	0	0		0	0	0		0	0	0		18	0	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
PM BACKGROUND TRAFFIC GROWTH			0	0	0		3	0	4		0	11	1		1	10	0		
PM NON-PROJECT TRAFFIC			0	0	0		117	0	174		0	442	26		43	424	0		
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																		
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering													57.0%		17.0%			
	Exiting							8.0%		17.0%									
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering														37.0%				
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering													57.0%		17.0%			
	Exiting							8.0%		17.0%									
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By																		
	Valet																		
	Net New							1		2				14		4			
AM TOTAL PROJECT TRAFFIC					0	0	0		1	0	2		0	0	14		4	0	0
AM TOTAL TRAFFIC			0	0	0		30	0	93		0	530	44		37	801	0		
"PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By														5				
	Valet																		
	Net New							2		4				9		3			
PM TOTAL PROJECT TRAFFIC					0	0	0		2	0	4		0	0	14		3	0	0
PM TOTAL TRAFFIC			0	0	0		119	0	178		0	442	40		46	424	0		

# TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: 72nd Street and Carlyle Avenue  
 COUNT DATE: April 26, 2023  
 AM PEAK HOUR FACTOR: 0.76  
 PM PEAK HOUR FACTOR: 0.96

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
AM Raw Turning Movements			0	110	10		51	79	0		24	0	102		0	0	0		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
AM EXISTING CONDITIONS			0	110	10		51	79	0		24	0	102		0	0	0		
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
PM Raw Turning Movements			0	55	23		140	195	0		30	0	28		0	0	0		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PM EXISTING CONDITIONS			0	55	23		140	195	0		30	0	28		0	0	0		
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park																			
666 71st Street Mixed Use Project																			
TOTAL "VESTED" TRAFFIC			0	0	0		0	0	0		0	0	0		0	0	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
AM BACKGROUND TRAFFIC GROWTH			0	3	0		1	2	0		1	0	3		0	0	0		
AM NON-PROJECT TRAFFIC			0	113	10		52	81	0		25	0	105		0	0	0		
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park					18		5				11		3						
666 71st Street Mixed Use Project							1						1						
TOTAL "VESTED" TRAFFIC			0	0	18		6	0	0		11	0	4		0	0	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
PM BACKGROUND TRAFFIC GROWTH			0	1	1		3	5	0		1	0	1		0	0	0		
PM NON-PROJECT TRAFFIC			0	56	42		149	200	0		42	0	33		0	0	0		
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																		
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering				74.0%			16.0%											
	Exiting											25.0%		35.0%					
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering						37.0%												
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering				74.0%			16.0%											
	Exiting											25.0%		35.0%					
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By																		
	Valet																		
	Net New				18			4					3		5				
AM TOTAL PROJECT TRAFFIC			0	0	18			4	0	0			3	0	5		0	0	0
AM TOTAL TRAFFIC			0	113	28			56	81	0			28	0	110		0	0	0
"PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By						5												
	Valet																		
	Net New				12			3					6		8				
PM TOTAL PROJECT TRAFFIC			0	0	17			3	0	0			6	0	8		0	0	0
PM TOTAL TRAFFIC			0	56	59			152	200	0			48	0	41		0	0	0



# TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: 71st Street and Dickens Avenue/Indian Creek Drive  
 COUNT DATE: April 26, 2023  
 AM PEAK HOUR FACTOR: 0.98  
 PM PEAK HOUR FACTOR: 0.97

"AM EXISTING TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
AM Raw Turning Movements		368	556	609		0	379	8		356	189	5		7	292	528	
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
AM EXISTING CONDITIONS																	
		368	556	609		0	379	8		356	189	5		7	292	528	
"PM EXISTING TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
PM Raw Turning Movements		292	390	356		0	808	23		769	173	2		8	86	397	
Peak Season Correction Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PM EXISTING CONDITIONS																	
		292	390	356		0	808	23		769	173	2		8	86	397	
"AM BACKGROUND TRAFFIC"																	
72nd & Park	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
666 71st Street Mixed Use Project			5				5			5							
TOTAL "VESTED" TRAFFIC		0	5	0		0	5	0		5	0	0		0	0	0	
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Yearly Growth Rate	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	
AM BACKGROUND TRAFFIC GROWTH		9	14	15		0	9	0		9	5	0		0	7	13	
AM NON-PROJECT TRAFFIC																	
		377	575	624		0	393	8		370	194	5		7	299	541	
"PM BACKGROUND TRAFFIC"																	
72nd & Park	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
666 71st Street Mixed Use Project			15				19			7							
TOTAL "VESTED" TRAFFIC		0	15	0		0	19	0		7	0	0		0	0	0	
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Yearly Growth Rate	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	
PM BACKGROUND TRAFFIC GROWTH		7	10	9		0	20	1		19	4	0		0	2	10	
PM NON-PROJECT TRAFFIC																	
		299	415	365		0	847	24		795	177	2		8	88	407	
"AM PROJECT DISTRIBUTION"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																
Distribution	Exiting																
Valet	Entering																
Distribution	Exiting																
Net New	Entering		38.0%									19.0%					
Distribution	Exiting						38.0%									8.0%	
"PM PROJECT DISTRIBUTION"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering		37.0%	-37.0%				-63.0%									
Distribution	Exiting							63.0%									
Valet	Entering																
Distribution	Exiting																
Net New	Entering		38.0%									19.0%					
Distribution	Exiting						38.0%									8.0%	
"AM PROJECT TRAFFIC"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By																
	Valet																
	Net New		9					5				5				1	
AM TOTAL PROJECT TRAFFIC																	
		9	0	0		0	5	0		0	5	0		0	1	0	
AM TOTAL TRAFFIC																	
		386	575	624		0	398	8		370	199	5		7	300	541	
"PM PROJECT TRAFFIC"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																	
Project Trips	Pass - By		5	-5				0									
	Valet																
	Net New		6					9				3				2	
PM TOTAL PROJECT TRAFFIC																	
		11	-5	0		0	9	0		0	3	0		0	2	0	
PM TOTAL TRAFFIC																	
		310	410	365		0	856	24		795	180	2		8	90	407	

# TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: 71st Street and Carlyle Avenue  
 COUNT DATE: April 26, 2023  
 AM PEAK HOUR FACTOR: 0.99  
 PM PEAK HOUR FACTOR: 0.93

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
AM Raw Turning Movements			0	562	7		0	345	5		7	18	16		3	7	40		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
AM EXISTING CONDITIONS			0	562	7		0	345	5		7	18	16		3	7	40		
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
PM Raw Turning Movements			0	394	2		0	680	11		25	5	25		3	1	117		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PM EXISTING CONDITIONS			0	394	2		0	680	11		25	5	25		3	1	117		
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park																			
666 71st Street Mixed Use Project					5						5		14						
TOTAL "VESTED" TRAFFIC			0	0	5		0	0	0		5	0	14		0	0	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
AM BACKGROUND TRAFFIC GROWTH			0	14	0		0	9	0		0	0	0		0	0	1		
AM NON-PROJECT TRAFFIC			0	576	12		0	354	5		12	18	30		3	7	41		
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park																			
666 71st Street Mixed Use Project					15						19	1	17			1			
TOTAL "VESTED" TRAFFIC			0	0	15		0	0	0		19	1	17		0	1	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
PM BACKGROUND TRAFFIC GROWTH			0	10	0		0	17	0		1	0	1		0	0	3		
PM NON-PROJECT TRAFFIC			0	404	17		0	697	11		45	6	43		3	2	120		
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																		
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering									10.0%									
	Exiting														2.0%				38.0%
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																		
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering									10.0%									
	Exiting																		
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By																		
	Valet																		
	Net New										2					0			5
AM TOTAL PROJECT TRAFFIC				0	0	0		0	0	2		0	0	0		0	0	0	5
AM TOTAL TRAFFIC			0	576	12		0	354	7		12	18	30		3	7	46		
"PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By																		
	Valet																		
	Net New										2					0			9
PM TOTAL PROJECT TRAFFIC				0	-5	0		0	-8	10		0	0	0		4	0	0	17
PM TOTAL TRAFFIC			0	399	17		0	689	21		45	6	43		7	2	137		

# TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: Project Drop-off Ingress and Carlyle Avenue  
 COUNT DATE: April 26, 2023  
 AM PEAK HOUR FACTOR: 0.92  
 PM PEAK HOUR FACTOR: 0.92

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
AM Raw Turning Movements		0	0	0	0	0	0	0	0	0	75	0	0	0	56	0	0		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
AM EXISTING CONDITIONS		0	0	0	0	0	0	0	0	0	75	0	0	0	56	0	0		
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
PM Raw Turning Movements		0	0	0	0	0	0	0	0	0	37	0	0	0	142	0	0		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PM EXISTING CONDITIONS		0	0	0	0	0	0	0	0	0	37	0	0	0	142	0	0		
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park																			
666 71st Street Mixed Use Project																			
TOTAL "VESTED" TRAFFIC		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
AM BACKGROUND TRAFFIC GROWTH		0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0		
AM NON-PROJECT TRAFFIC		0	0	0	0	0	0	0	0	0	77	0	0	0	57	0	0		
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
72nd & Park																			
666 71st Street Mixed Use Project											1				1				
TOTAL "VESTED" TRAFFIC		0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%		
PM BACKGROUND TRAFFIC GROWTH		0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0		
PM NON-PROJECT TRAFFIC		0	0	0	0	0	0	0	0	0	39	0	0	0	147	0	0		
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																		
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering											1.0%					84.0%	6.0%	
	Exiting												67.0%						
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By	Entering																	37.0%	
	Exiting																		
Valet	Entering																		
	Exiting																		
Net New	Entering											1.0%					84.0%	6.0%	
	Exiting												67.0%						
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By																		
	Valet																		
	Net New											0	9				20	1	
AM TOTAL PROJECT TRAFFIC				0	0	0	0	0	0	0	0	0	9	0	0	0	20	1	
AM TOTAL TRAFFIC				0	0	0	0	0	0	0	0	86	0	0	0	77	1	0	
"PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM TRAFFIC DIVERSIONS																			
Project Trips	Pass - By																	5	
	Valet																		
	Net New											0	15				14	1	
PM TOTAL PROJECT TRAFFIC				0	0	0	0	0	0	0	0	0	15	0	0	0	19	1	
PM TOTAL TRAFFIC				0	0	0	0	0	0	0	0	54	0	0	0	166	1	0	

# TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: Project Drop-off Egress and Carlyle Avenue  
 COUNT DATE: April 26, 2023  
 AM PEAK HOUR FACTOR: 0.92  
 PM PEAK HOUR FACTOR: 0.92

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
AM Raw Turning Movements			0	0	0							75	0			56	0			
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AM EXISTING CONDITIONS			0	0	0							75	0			56	0			
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
PM Raw Turning Movements			0	0	0							37	0			142	0			
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PM EXISTING CONDITIONS			0	0	0							37	0			142	0			
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
72nd & Park																				
666 71st Street Mixed Use Project																				
TOTAL "VESTED" TRAFFIC			0	0	0							0	0			0	0			
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%			
AM BACKGROUND TRAFFIC GROWTH			0	0	0							2	0			1	0			
AM NON-PROJECT TRAFFIC			0	0	0							77	0			57	0			
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
72nd & Park																				
666 71st Street Mixed Use Project												1				1				
TOTAL "VESTED" TRAFFIC			0	0	0							1	0			1	0			
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%			
PM BACKGROUND TRAFFIC GROWTH			0	0	0							1	0			4	0			
PM NON-PROJECT TRAFFIC			0	0	0							39	0			147	0			
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Pass-By	Entering																			
	Exiting																			
Valet	Entering																			
	Exiting																			
Net New	Entering													1.0%				84.0%		
	Exiting		6.0%		1.0%									61.0%						
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Pass-By	Entering																		37.0%	
	Exiting																			
Valet	Entering																			
	Exiting																			
Net New	Entering													1.0%					84.0%	
	Exiting		6.0%		1.0%									61.0%						
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
AM TRAFFIC DIVERSIONS																				
Project Trips	Pass - By																			
	Valet																			
	Net New		2		0									7				20		
AM TOTAL PROJECT TRAFFIC			2	0	0								0	7	0		0	20	0	
AM TOTAL TRAFFIC			2	0	0								0	84	0		0	77	0	
"PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
PM TRAFFIC DIVERSIONS																				
Project Trips	Pass - By																		5	
	Valet																			
	Net New		1		0									14				14		
PM TOTAL PROJECT TRAFFIC			1	0	0								0	14	0		0	19	0	
PM TOTAL TRAFFIC			1	0	0								0	53	0		0	166	0	

# TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: Project Driveway and Carlyle Avenue  
 COUNT DATE: April 26, 2023  
 AM PEAK HOUR FACTOR: 0.92  
 PM PEAK HOUR FACTOR: 0.92

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
AM Raw Turning Movements			0	0	0							75	0			56	0			
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AM EXISTING CONDITIONS			0	0	0							75	0			56	0			
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
PM Raw Turning Movements			0	0	0							37	0			142	0			
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PM EXISTING CONDITIONS			0	0	0							37	0			142	0			
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
72nd & Park																				
666 71st Street Mixed Use Project																				
TOTAL "VESTED" TRAFFIC			0	0	0							0	0			0	0			
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%			
AM BACKGROUND TRAFFIC GROWTH			0	0	0							2	0			1	0			
AM NON-PROJECT TRAFFIC			0	0	0							77	0			57	0			
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR			
72nd & Park																				
666 71st Street Mixed Use Project												1				1				
TOTAL "VESTED" TRAFFIC			0	0	0							1	0			1	0			
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
Yearly Growth Rate		0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%			
PM BACKGROUND TRAFFIC GROWTH			0	0	0							1	0			4	0			
PM NON-PROJECT TRAFFIC			0	0	0							39	0			147	0			
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Pass-By	Entering																			
	Exiting																			
Valet	Entering																			
	Exiting																			
Net New	Entering											9.0%	1.0%						84.0%	
	Exiting		61.0%		32.0%													1.0%		
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Pass-By	Entering												63.0%							37.0%
	Exiting				100.0%															
Valet	Entering																			
	Exiting																			
Net New	Entering											9.0%	1.0%							84.0%
	Exiting		61.0%		32.0%														1.0%	
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
AM TRAFFIC DIVERSIONS																				
Project Trips	Pass - By																			
	Valet																			
	Net New		22		11							3	0					0		26
AM TOTAL PROJECT TRAFFIC			22	0	11							3	0	0				0	0	26
AM TOTAL TRAFFIC			22	0	11							3	77	0				0	57	26
"PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
PM TRAFFIC DIVERSIONS																				
Project Trips	Pass - By				12							8								5
	Valet																			
	Net New		21		11							4	0						0	32
PM TOTAL PROJECT TRAFFIC			21	0	23							12	0	0				0	0	37
PM TOTAL TRAFFIC			21	0	23							12	39	0				0	147	37











## **Appendix K**

### Intersection Capacity Analysis Worksheets

Existing A.M.

Timings  
1: Dickens Avenue & 72nd Street

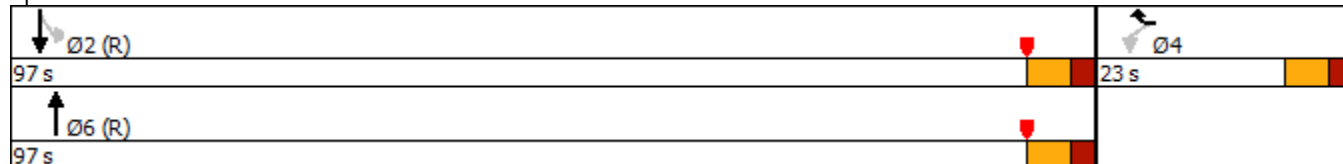
Existing Conditions  
A.M. Peak Hour

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	28	89	517	32	782
Future Volume (vph)	28	89	517	32	782
Turn Type	Perm	Prot	NA	Perm	NA
Protected Phases		4	6		2
Permitted Phases	4			2	
Detector Phase	4	4	6	2	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	4.0	4.0	4.0
Minimum Split (s)	22.3	22.3	29.3	29.3	29.3
Total Split (s)	23.0	23.0	97.0	97.0	97.0
Total Split (%)	19.2%	19.2%	80.8%	80.8%	80.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated












Splits and Phases: 1: Dickens Avenue & 72nd Street





HCM 6th Signalized Intersection Summary  
 1: Dickens Avenue & 72nd Street

Existing Conditions  
 A.M. Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	28	89	517	29	32	782
Future Volume (veh/h)	28	89	517	29	32	782
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	0.99	
Parking Bus, Adj	0.90	0.90	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	29	93	539	30	33	815
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	129	115	1414	79	734	1511
Arrive On Green	0.08	0.08	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1590	1415	1736	97	828	1856
Grp Volume(v), veh/h	29	93	0	569	33	815
Grp Sat Flow(s),veh/h/ln	1590	1415	0	1833	828	1856
Q Serve(g_s), s	2.0	7.8	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	7.8	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	129	115	0	1492	734	1511
V/C Ratio(X)	0.23	0.81	0.00	0.38	0.04	0.54
Avail Cap(c_a), veh/h	221	197	0	1492	734	1511
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.60	1.00	1.00
Uniform Delay (d), s/veh	51.6	54.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	9.8	0.0	0.4	0.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.1	0.0	0.2	0.0	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.3	64.0	0.0	0.4	0.1	1.4
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	122		569			848
Approach Delay, s/veh	61.2		0.4			1.3
Approach LOS	E		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		104.0		16.0		104.0
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3
Max Green Setting (Gmax), s		* 91		* 17		* 91
Max Q Clear Time (g_c+I1), s		2.0		9.8		2.0
Green Ext Time (p_c), s		2.3		0.1		1.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			5.8			
HCM 6th LOS			A			

Notes

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

HCM 6th TWSC  
2: Carlyle Avenue & 72nd Street

Existing Conditions  
A.M. Peak Hour

Intersection

Int Delay, s/veh 5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	10	51	79	24	102
Future Vol, veh/h	110	10	51	79	24	102
Conflicting Peds, #/hr	0	4	4	0	4	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	145	13	67	104	32	134

















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	162	0	398
Stage 1	-	-	-	-	156
Stage 2	-	-	-	-	242
Critical Hdwy	-	-	4.4	-	4.4
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	3.8	-	3.8
Pot Cap-1 Maneuver	-	-	846	-	713
Stage 1	-	-	-	-	812
Stage 2	-	-	-	-	745
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	843	-	648
Mov Cap-2 Maneuver	-	-	-	-	648
Stage 1	-	-	-	-	809
Stage 2	-	-	-	-	680

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	761	-	-	843	-
HCM Lane V/C Ratio	0.218	-	-	0.08	-
HCM Control Delay (s)	11	-	-	9.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.3	-

Timings  
3: Dickens Avenue & 71st Street

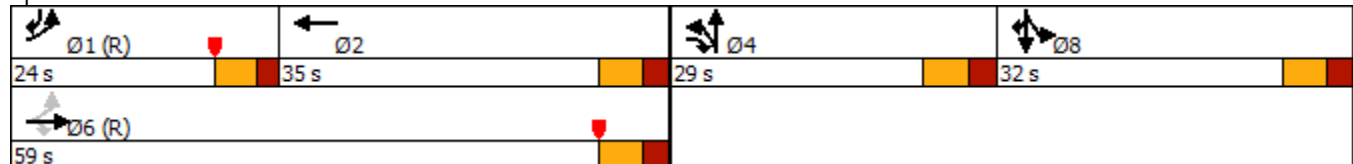
Existing Conditions  
A.M. Peak Hour

								
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	368	556	609	379	356	189	292	528
Future Volume (vph)	368	556	609	379	356	189	292	528
Turn Type	pm+pt	NA	pm+ov	NA	Split	NA	NA	pt+ov
Protected Phases	1	6	4	2	4	4	8	8 1
Permitted Phases	6		6					
Detector Phase	1	6	4	2	4	4	8	8 1
Switch Phase								
Minimum Initial (s)	5.0	4.0	7.0	4.0	7.0	7.0	7.0	
Minimum Split (s)	23.7	33.5	28.5	33.5	28.5	28.5	24.5	
Total Split (s)	24.0	59.0	29.0	35.0	29.0	29.0	32.0	
Total Split (%)	20.0%	49.2%	24.2%	29.2%	24.2%	24.2%	26.7%	
Yellow Time (s)	3.7	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.5	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag				
Lead-Lag Optimize?	Yes			Yes				
Recall Mode	C-Max	C-Max	None	None	None	None	None	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 93 (78%), Referenced to phase 1:EBL and 6:EBTL, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Dickens Avenue & 71st Street























# HCM 6th Signalized Intersection Summary

## 3: Dickens Avenue & 71st Street

Existing Conditions

A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	368	556	609	0	379	8	356	189	5	7	292	528
Future Volume (veh/h)	368	556	609	0	379	8	356	189	5	7	292	528
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.97	1.00		0.88	1.00		0.85	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	376	567	621	0	387	8	363	193	5	7	298	539
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	531	878	966	0	843	17	538	281	7	9	388	610
Arrive On Green	0.25	0.62	0.62	0.00	0.32	0.32	0.16	0.16	0.16	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	1532	0	3642	73	3456	1806	47	43	1825	1496
Grp Volume(v), veh/h	376	567	621	0	193	202	363	0	198	305	0	539
Grp Sat Flow(s),veh/h/ln	1781	1870	1532	0	1777	1845	1728	0	1852	1868	0	1496
Q Serve(g_s), s	18.3	22.9	28.0	0.0	10.4	10.5	11.9	0.0	12.1	18.4	0.0	25.5
Cycle Q Clear(g_c), s	18.3	22.9	28.0	0.0	10.4	10.5	11.9	0.0	12.1	18.4	0.0	25.5
Prop In Lane	1.00		1.00	0.00		0.04	1.00		0.03	0.02		1.00
Lane Grp Cap(c), veh/h	531	878	966	0	422	438	538	0	289	397	0	610
V/C Ratio(X)	0.71	0.65	0.64	0.00	0.46	0.46	0.67	0.00	0.69	0.77	0.00	0.88
Avail Cap(c_a), veh/h	531	878	966	0	422	438	648	0	347	397	0	610
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.83	0.00	0.83
Uniform Delay (d), s/veh	23.2	16.3	9.7	0.0	34.9	34.9	47.8	0.0	47.9	44.5	0.0	34.0
Incr Delay (d2), s/veh	3.7	3.7	3.3	0.0	0.3	0.3	1.8	0.0	3.7	7.9	0.0	12.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	9.1	12.6	0.0	4.4	4.6	5.3	0.0	5.9	9.4	0.0	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	19.9	13.0	0.0	35.2	35.2	49.6	0.0	51.6	52.3	0.0	46.6
LnGrp LOS	C	B	B	A	D	D	D	A	D	D	A	D
Approach Vol, veh/h		1564			395			561				844
Approach Delay, s/veh		18.9			35.2			50.3				48.7
Approach LOS		B			D			D				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	27.8	35.0		25.2		62.8		32.0				
Change Period (Y+Rc), s	* 5.7	6.5		6.5		6.5		6.5				
Max Green Setting (Gmax), s	* 18	28.5		22.5		52.5		25.5				
Max Q Clear Time (g_c+l1), s	20.3	12.5		14.1		30.0		27.5				
Green Ext Time (p_c), s	0.0	0.7		1.3		1.7		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
User approved changes to right turn type.

HCM 6th TWSC  
4: Carlyle Avenue & 71st Street

Existing Conditions  
A.M. Peak Hour

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖			↔			↔	
Traffic Vol, veh/h	0	562	7	0	345	5	7	18	16	3	7	40
Future Vol, veh/h	0	562	7	0	345	5	7	18	16	3	7	40
Conflicting Peds, #/hr	39	0	54	54	0	39	12	0	23	23	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	568	7	0	348	5	7	18	16	3	7	40

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	0	-	-	0	816	1018	649	1002	1019	228
Stage 1	-	-	-	-	-	-	626	626	-	390	390	-
Stage 2	-	-	-	-	-	-	190	392	-	612	629	-
Critical Hdwy	-	-	-	-	-	-	4.4	4.4	4.9	4.4	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.145	5.545	-	6.545	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.545	5.545	-	6.145	5.545	-
Follow-up Hdwy	-	-	-	-	-	-	3.8	3.8	3.9	3.8	3.8	3.9
Pot Cap-1 Maneuver	0	-	-	0	-	-	521	445	531	451	445	764
Stage 1	0	-	-	0	-	-	445	494	-	569	634	-
Stage 2	0	-	-	0	-	-	740	632	-	452	492	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	455	407	493	397	407	727
Mov Cap-2 Maneuver	-	-	-	-	-	-	455	407	-	397	407	-
Stage 1	-	-	-	-	-	-	445	469	-	569	611	-
Stage 2	-	-	-	-	-	-	683	609	-	411	467	-











Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13.9	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	445	-	-	-	-	627
HCM Lane V/C Ratio	0.093	-	-	-	-	0.081
HCM Control Delay (s)	13.9	-	-	-	-	11.2
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.3

Future Background A.M.

Timings  
1: Dickens Avenue & 72nd Street

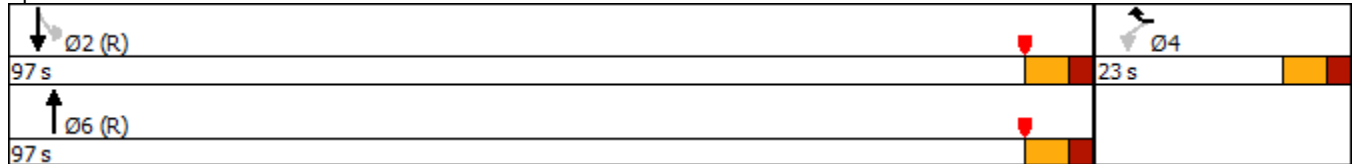
Future Background Conditions  
A.M. Peak Hour

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	29	91	530	33	801
Future Volume (vph)	29	91	530	33	801
Turn Type	Perm	Prot	NA	Perm	NA
Protected Phases		4	6		2
Permitted Phases	4			2	
Detector Phase	4	4	6	2	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	4.0	4.0	4.0
Minimum Split (s)	22.3	22.3	29.3	29.3	29.3
Total Split (s)	23.0	23.0	97.0	97.0	97.0
Total Split (%)	19.2%	19.2%	80.8%	80.8%	80.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary












Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dickens Avenue & 72nd Street



HCM 6th Signalized Intersection Summary  
 1: Dickens Avenue & 72nd Street

Future Background Conditions  
 A.M. Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	91	530	30	33	801
Future Volume (veh/h)	29	91	530	30	33	801
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	0.99	
Parking Bus, Adj	0.90	0.90	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	30	95	552	31	34	834
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	131	117	1410	79	725	1508
Arrive On Green	0.08	0.08	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1590	1415	1735	97	818	1856
Grp Volume(v), veh/h	30	95	0	583	34	834
Grp Sat Flow(s),veh/h/ln	1590	1415	0	1833	818	1856
Q Serve(g_s), s	2.1	7.9	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.1	7.9	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	131	117	0	1489	725	1508
V/C Ratio(X)	0.23	0.81	0.00	0.39	0.05	0.55
Avail Cap(c_a), veh/h	221	197	0	1489	725	1508
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.57	1.00	1.00
Uniform Delay (d), s/veh	51.5	54.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	9.7	0.0	0.4	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.1	0.0	0.2	0.0	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.1	63.9	0.0	0.4	0.1	1.5
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	125		583			868
Approach Delay, s/veh	61.0		0.4			1.4
Approach LOS	E		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		103.8		16.2		103.8
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3
Max Green Setting (Gmax), s		* 91		* 17		* 91
Max Q Clear Time (g_c+I1), s		2.0		9.9		2.0
Green Ext Time (p_c), s		2.4		0.1		1.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			5.8			
HCM 6th LOS			A			

Notes

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



HCM 6th TWSC  
2: Carlyle Avenue & 72nd Street

Future Background Conditions  
A.M. Peak Hour

Intersection

Int Delay, s/veh 5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	10	52	81	25	105
Future Vol, veh/h	113	10	52	81	25	105
Conflicting Peds, #/hr	0	4	4	0	4	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	149	13	68	107	33	138

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	166	0	407
Stage 1	-	-	-	-	160
Stage 2	-	-	-	-	247
Critical Hdwy	-	-	4.4	-	4.4
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	3.8	-	3.8
Pot Cap-1 Maneuver	-	-	843	-	709
Stage 1	-	-	-	-	809
Stage 2	-	-	-	-	741
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	840	-	643
Mov Cap-2 Maneuver	-	-	-	-	643
Stage 1	-	-	-	-	806
Stage 2	-	-	-	-	675

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	757	-	-	840	-
HCM Lane V/C Ratio	0.226	-	-	0.081	-
HCM Control Delay (s)	11.1	-	-	9.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-

Timings  
3: Dickens Avenue & 71st Street

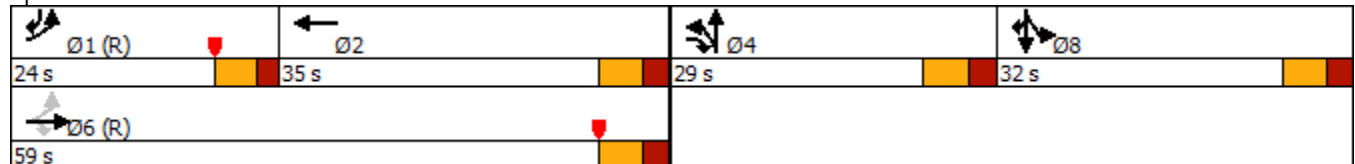
Future Background Conditions  
A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	377	575	624	393	370	194	299	541
Future Volume (vph)	377	575	624	393	370	194	299	541
Turn Type	pm+pt	NA	pm+ov	NA	Split	NA	NA	pt+ov
Protected Phases	1	6	4	2	4	4	8	8 1
Permitted Phases	6		6					
Detector Phase	1	6	4	2	4	4	8	8 1
Switch Phase								
Minimum Initial (s)	5.0	4.0	7.0	4.0	7.0	7.0	7.0	
Minimum Split (s)	23.7	33.5	28.5	33.5	28.5	28.5	24.5	
Total Split (s)	24.0	59.0	29.0	35.0	29.0	29.0	32.0	
Total Split (%)	20.0%	49.2%	24.2%	29.2%	24.2%	24.2%	26.7%	
Yellow Time (s)	3.7	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.5	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag				
Lead-Lag Optimize?	Yes			Yes				
Recall Mode	C-Max	C-Max	None	None	None	None	None	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 93 (78%), Referenced to phase 1:EBL and 6:EBTL, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Dickens Avenue & 71st Street























# HCM 6th Signalized Intersection Summary

# Future Background Conditions

## 3: Dickens Avenue & 71st Street

A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	377	575	624	0	393	8	370	194	5	7	299	541
Future Volume (veh/h)	377	575	624	0	393	8	370	194	5	7	299	541
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	1.00		0.88	1.00		0.85	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	385	587	637	0	401	8	378	198	5	7	305	552
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	524	875	966	0	844	17	543	284	7	9	388	608
Arrive On Green	0.24	0.62	0.62	0.00	0.32	0.32	0.16	0.16	0.16	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	1532	0	3646	71	3456	1807	46	42	1826	1496
Grp Volume(v), veh/h	385	587	637	0	200	209	378	0	203	312	0	552
Grp Sat Flow(s),veh/h/ln	1781	1870	1532	0	1777	1846	1728	0	1853	1868	0	1496
Q Serve(g_s), s	19.0	24.4	29.7	0.0	10.9	10.9	12.4	0.0	12.4	18.9	0.0	25.5
Cycle Q Clear(g_c), s	19.0	24.4	29.7	0.0	10.9	10.9	12.4	0.0	12.4	18.9	0.0	25.5
Prop In Lane	1.00		1.00	0.00		0.04	1.00		0.02	0.02		1.00
Lane Grp Cap(c), veh/h	524	875	966	0	422	438	543	0	291	397	0	608
V/C Ratio(X)	0.74	0.67	0.66	0.00	0.47	0.48	0.70	0.00	0.70	0.79	0.00	0.91
Avail Cap(c_a), veh/h	524	875	966	0	422	438	648	0	347	397	0	608
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.82	0.00	0.82
Uniform Delay (d), s/veh	23.6	16.7	9.9	0.0	35.0	35.0	47.9	0.0	47.9	44.7	0.0	34.6
Incr Delay (d2), s/veh	4.7	4.1	3.5	0.0	0.3	0.3	2.2	0.0	4.2	8.8	0.0	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	9.8	13.4	0.0	4.5	4.7	5.5	0.0	6.1	9.7	0.0	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	20.8	13.5	0.0	35.3	35.3	50.1	0.0	52.0	53.5	0.0	50.0
LnGrp LOS	C	C	B	A	D	D	D	A	D	D	A	D
Approach Vol, veh/h		1609			409			581			864	
Approach Delay, s/veh		19.7			35.3			50.8			51.2	
Approach LOS		B			D			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	27.6	35.0		25.4		62.6		32.0				
Change Period (Y+Rc), s	* 5.7	6.5		6.5		6.5		6.5				
Max Green Setting (Gmax), s	* 18	28.5		22.5		52.5		25.5				
Max Q Clear Time (g_c+l1), s	21.0	12.9		14.4		31.7		27.5				
Green Ext Time (p_c), s	0.0	0.8		1.4		1.8		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
User approved changes to right turn type.

HCM 6th TWSC  
4: Carlyle Avenue & 71st Street

Future Background Conditions

A.M. Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↶↷			↷↶			↷↶	
Traffic Vol, veh/h	0	576	12	0	354	5	12	18	30	3	7	41
Future Vol, veh/h	0	576	12	0	354	5	12	18	30	3	7	41
Conflicting Peds, #/hr	39	0	54	54	0	39	12	0	23	23	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	582	12	0	358	5	12	18	30	3	7	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	837	1044	665	1035	1048	233
Stage 1	-	-	-	-	-	-	642	642	-	400	400	-
Stage 2	-	-	-	-	-	-	195	402	-	635	648	-
Critical Hdwy	-	-	-	-	-	-	4.4	4.4	4.9	4.4	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.145	5.545	-	6.545	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.545	5.545	-	6.145	5.545	-
Follow-up Hdwy	-	-	-	-	-	-	3.8	3.8	3.9	3.8	3.8	3.9
Pot Cap-1 Maneuver	0	-	-	0	-	-	513	436	524	440	435	761
Stage 1	0	-	-	0	-	-	436	485	-	561	627	-
Stage 2	0	-	-	0	-	-	735	626	-	440	482	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	447	399	486	375	398	724
Mov Cap-2 Maneuver	-	-	-	-	-	-	447	399	-	375	398	-
Stage 1	-	-	-	-	-	-	436	460	-	561	604	-
Stage 2	-	-	-	-	-	-	677	603	-	388	457	-











Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.3	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	449	-	-	-	-	620
HCM Lane V/C Ratio	0.135	-	-	-	-	0.083
HCM Control Delay (s)	14.3	-	-	-	-	11.3
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	-	0.3

Future Total A.M.

Timings  
1: Dickens Avenue & 72nd Street

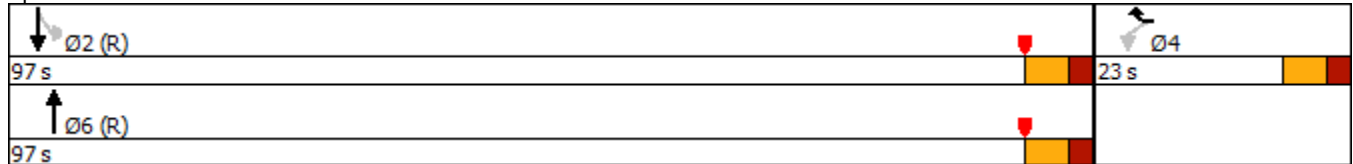
Future Total Conditions  
A.M. Peak Hour

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	30	93	530	37	801
Future Volume (vph)	30	93	530	37	801
Turn Type	Perm	Prot	NA	Perm	NA
Protected Phases		4	6		2
Permitted Phases	4			2	
Detector Phase	4	4	6	2	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	4.0	4.0	4.0
Minimum Split (s)	22.3	22.3	29.3	29.3	29.3
Total Split (s)	23.0	23.0	97.0	97.0	97.0
Total Split (%)	19.2%	19.2%	80.8%	80.8%	80.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary












Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 75 (63%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dickens Avenue & 72nd Street



HCM 6th Signalized Intersection Summary  
 1: Dickens Avenue & 72nd Street

Future Total Conditions  
 A.M. Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	93	530	44	37	801
Future Volume (veh/h)	30	93	530	44	37	801
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	0.99	
Parking Bus, Adj	0.90	0.90	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	31	97	552	46	39	834
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	134	119	1365	114	714	1505
Arrive On Green	0.08	0.08	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1590	1415	1683	140	807	1856
Grp Volume(v), veh/h	31	97	0	598	39	834
Grp Sat Flow(s),veh/h/ln	1590	1415	0	1823	807	1856
Q Serve(g_s), s	2.2	8.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	8.1	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.08	1.00	
Lane Grp Cap(c), veh/h	134	119	0	1478	714	1505
V/C Ratio(X)	0.23	0.82	0.00	0.40	0.05	0.55
Avail Cap(c_a), veh/h	221	197	0	1478	714	1505
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.53	1.00	1.00
Uniform Delay (d), s/veh	51.4	54.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	9.7	0.0	0.4	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.2	0.0	0.2	0.0	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.0	63.7	0.0	0.4	0.1	1.5
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	128		598			873
Approach Delay, s/veh	60.9		0.4			1.4
Approach LOS	E		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		103.6		16.4		103.6
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3
Max Green Setting (Gmax), s		* 91		* 17		* 91
Max Q Clear Time (g_c+I1), s		2.0		10.1		2.0
Green Ext Time (p_c), s		2.4		0.1		1.5

Intersection Summary

HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Notes

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

HCM 6th TWSC  
2: Carlyle Avenue & 72nd Street

Future Total Conditions  
A.M. Peak Hour

Intersection

Int Delay, s/veh	5.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	28	56	81	28	110
Future Vol, veh/h	113	28	56	81	28	110
Conflicting Peds, #/hr	0	4	4	0	4	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	149	37	74	107	37	145

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	190	0	431
Stage 1	-	-	-	-	172
Stage 2	-	-	-	-	259
Critical Hdwy	-	-	4.4	-	4.4
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	3.8	-	3.8
Pot Cap-1 Maneuver	-	-	829	-	696
Stage 1	-	-	-	-	799
Stage 2	-	-	-	-	733
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	826	-	625
Mov Cap-2 Maneuver	-	-	-	-	625
Stage 1	-	-	-	-	796
Stage 2	-	-	-	-	661

















Approach	EB	WB	NB
HCM Control Delay, s	0	4	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	745	-	-	826	-
HCM Lane V/C Ratio	0.244	-	-	0.089	-
HCM Control Delay (s)	11.4	-	-	9.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.3	-



Timings  
3: Dickens Avenue & 71st Street

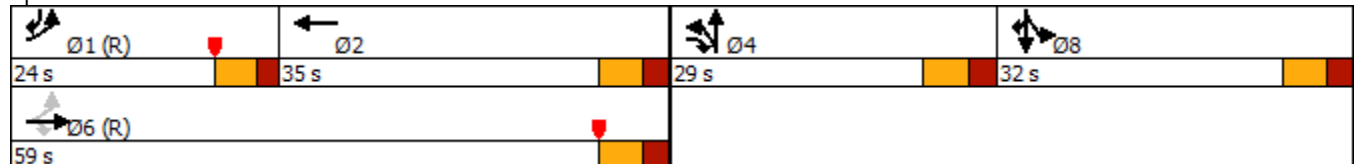
Future Total Conditions  
A.M. Peak Hour

								
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	386	575	624	398	370	199	300	541
Future Volume (vph)	386	575	624	398	370	199	300	541
Turn Type	pm+pt	NA	pm+ov	NA	Split	NA	NA	pt+ov
Protected Phases	1	6	4	2	4	4	8	8 1
Permitted Phases	6		6					
Detector Phase	1	6	4	2	4	4	8	8 1
Switch Phase								
Minimum Initial (s)	5.0	4.0	7.0	4.0	7.0	7.0	7.0	
Minimum Split (s)	23.7	33.5	28.5	33.5	28.5	28.5	24.5	
Total Split (s)	24.0	59.0	29.0	35.0	29.0	29.0	32.0	
Total Split (%)	20.0%	49.2%	24.2%	29.2%	24.2%	24.2%	26.7%	
Yellow Time (s)	3.7	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.5	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag				
Lead-Lag Optimize?	Yes			Yes				
Recall Mode	C-Max	C-Max	None	None	None	None	None	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 93 (78%), Referenced to phase 1:EBL and 6:EBTL, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Dickens Avenue & 71st Street























# HCM 6th Signalized Intersection Summary

# Future Total Conditions

## 3: Dickens Avenue & 71st Street

A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	575	624	0	398	8	370	199	5	7	300	541
Future Volume (veh/h)	386	575	624	0	398	8	370	199	5	7	300	541
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	1.00		0.88	1.00		0.85	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	394	587	637	0	406	8	378	203	5	7	306	552
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	520	872	966	0	844	17	548	287	7	9	388	605
Arrive On Green	0.24	0.62	0.62	0.00	0.32	0.32	0.16	0.16	0.16	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	1532	0	3647	70	3456	1809	45	42	1826	1496
Grp Volume(v), veh/h	394	587	637	0	203	211	378	0	208	313	0	552
Grp Sat Flow(s),veh/h/ln	1781	1870	1532	0	1777	1846	1728	0	1853	1868	0	1496
Q Serve(g_s), s	19.7	24.5	29.8	0.0	11.0	11.1	12.4	0.0	12.8	19.0	0.0	25.5
Cycle Q Clear(g_c), s	19.7	24.5	29.8	0.0	11.0	11.1	12.4	0.0	12.8	19.0	0.0	25.5
Prop In Lane	1.00		1.00	0.00		0.04	1.00		0.02	0.02		1.00
Lane Grp Cap(c), veh/h	520	872	966	0	422	438	548	0	294	397	0	605
V/C Ratio(X)	0.76	0.67	0.66	0.00	0.48	0.48	0.69	0.00	0.71	0.79	0.00	0.91
Avail Cap(c_a), veh/h	520	872	966	0	422	438	648	0	348	397	0	605
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.82	0.00	0.82
Uniform Delay (d), s/veh	23.9	16.8	10.0	0.0	35.1	35.1	47.7	0.0	47.9	44.7	0.0	34.7
Incr Delay (d2), s/veh	5.7	4.1	3.5	0.0	0.3	0.3	2.2	0.0	4.7	9.0	0.0	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	9.9	13.5	0.0	4.6	4.8	5.5	0.0	6.3	9.8	0.0	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	20.9	13.5	0.0	35.4	35.4	49.9	0.0	52.5	53.7	0.0	50.6
LnGrp LOS	C	C	B	A	D	D	D	A	D	D	A	D
Approach Vol, veh/h		1618			414			586				865
Approach Delay, s/veh		20.1			35.4			50.8				51.7
Approach LOS		C			D			D				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	27.5	35.0		25.5		62.5		32.0				
Change Period (Y+Rc), s	* 5.7	6.5		6.5		6.5		6.5				
Max Green Setting (Gmax), s	* 18	28.5		22.5		52.5		25.5				
Max Q Clear Time (g_c+l1), s	21.7	13.1		14.8		31.8		27.5				
Green Ext Time (p_c), s	0.0	0.8		1.4		1.8		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
User approved changes to right turn type.

HCM 6th TWSC  
4: Carlyle Avenue & 71st Street

Future Total Conditions  
A.M. Peak Hour

Intersection

Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖			↔			↔	
Traffic Vol, veh/h	0	576	12	0	354	7	12	18	30	3	7	46
Future Vol, veh/h	0	576	12	0	354	7	12	18	30	3	7	46
Conflicting Peds, #/hr	39	0	54	54	0	39	12	0	23	23	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	582	12	0	358	7	12	18	30	3	7	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	837	1046	665	1036	1049	234
Stage 1	-	-	-	-	-	-	642	642	-	401	401	-
Stage 2	-	-	-	-	-	-	195	404	-	635	648	-
Critical Hdwy	-	-	-	-	-	-	4.4	4.4	4.9	4.4	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.145	5.545	-	6.545	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.545	5.545	-	6.145	5.545	-
Follow-up Hdwy	-	-	-	-	-	-	3.8	3.8	3.9	3.8	3.8	3.9
Pot Cap-1 Maneuver	0	-	-	0	-	-	513	436	524	439	435	760
Stage 1	0	-	-	0	-	-	436	485	-	561	627	-
Stage 2	0	-	-	0	-	-	735	625	-	440	482	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	444	399	486	374	398	723
Mov Cap-2 Maneuver	-	-	-	-	-	-	444	399	-	374	398	-
Stage 1	-	-	-	-	-	-	436	460	-	561	604	-
Stage 2	-	-	-	-	-	-	672	602	-	388	457	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			14.3			11.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	448	-	-	-	-	628
HCM Lane V/C Ratio	0.135	-	-	-	-	0.09
HCM Control Delay (s)	14.3	-	-	-	-	11.3
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	-	0.3

HCM 6th TWSC  
6: Carlyle Avenue & Project Drop-off Egress

Future Total Conditions  
A.M. Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
----------	-----	-----	-----	-----	-----	-----

Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	2	0	0	84	77	0
Future Vol, veh/h	2	0	0	84	77	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	0	91	84	0

Major/Minor	Minor2	Major1	Major2
-------------	--------	--------	--------

Conflicting Flow All	175	84	-	0	-	0
Stage 1	84	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	4.4	4.9	-	-	-	-
Critical Hdwy Stg 1	4.4	-	-	-	-	-
Critical Hdwy Stg 2	4.4	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	-	-
Pot Cap-1 Maneuver	838	861	0	-	-	0
Stage 1	893	-	0	-	-	0
Stage 2	889	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	838	861	-	-	-	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	EB	NB	SB
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HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
-----------------------	-----------	-----

Capacity (veh/h)	- 838	-
HCM Lane V/C Ratio	- 0.003	-
HCM Control Delay (s)	- 9.3	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0	-

HCM 6th TWSC  
7: Carlyle Avenue & Project Driveway

Future Total Conditions  
A.M. Peak Hour

Intersection

Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TT	
Traffic Vol, veh/h	22	11	3	77	57	26
Future Vol, veh/h	22	11	3	77	57	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	12	3	84	62	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	166	76	90	0	0
Stage 1	76	-	-	-	-
Stage 2	90	-	-	-	-
Critical Hdwy	4.4	4.9	4.12	-	-
Critical Hdwy Stg 1	4.4	-	-	-	-
Critical Hdwy Stg 2	4.4	-	-	-	-
Follow-up Hdwy	3.8	3.9	2.218	-	-
Pot Cap-1 Maneuver	843	867	1505	-	-
Stage 1	898	-	-	-	-
Stage 2	890	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	841	867	1505	-	-
Mov Cap-2 Maneuver	841	-	-	-	-
Stage 1	896	-	-	-	-
Stage 2	890	-	-	-	-











Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1505	-	849	-	-
HCM Lane V/C Ratio	0.002	-	0.042	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Existing P.M.

Timings  
1: Dickens Avenue & 72nd Street

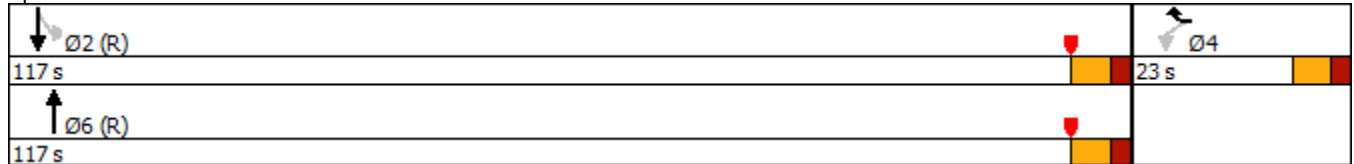
Existing Conditions  
P.M. Peak Hour

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	114	170	431	24	414
Future Volume (vph)	114	170	431	24	414
Turn Type	Perm	Prot	NA	Perm	NA
Protected Phases		4	6		2
Permitted Phases	4			2	
Detector Phase	4	4	6	2	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	4.0	4.0	4.0
Minimum Split (s)	22.3	22.3	29.3	29.3	29.3
Total Split (s)	23.0	23.0	117.0	117.0	117.0
Total Split (%)	16.4%	16.4%	83.6%	83.6%	83.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary












Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 135 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dickens Avenue & 72nd Street



HCM 6th Signalized Intersection Summary  
 1: Dickens Avenue & 72nd Street

Existing Conditions  
 P.M. Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	114	170	431	25	24	414
Future Volume (veh/h)	114	170	431	25	24	414
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	0.99	
Parking Bus, Adj	0.90	0.90	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	125	187	474	27	26	455
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	190	169	1371	78	748	1467
Arrive On Green	0.12	0.12	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1590	1415	1734	99	881	1856
Grp Volume(v), veh/h	125	187	0	501	26	455
Grp Sat Flow(s),veh/h/ln	1590	1415	0	1832	881	1856
Q Serve(g_s), s	10.5	16.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.5	16.7	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	190	169	0	1449	748	1467
V/C Ratio(X)	0.66	1.11	0.00	0.35	0.03	0.31
Avail Cap(c_a), veh/h	190	169	0	1449	748	1467
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.50	1.00	1.00
Uniform Delay (d), s/veh	58.9	61.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	7.5	101.1	0.0	0.3	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	10.7	0.0	0.1	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.4	162.7	0.0	0.3	0.1	0.6
LnGrp LOS	E	F	A	A	A	A
Approach Vol, veh/h	312		501			481
Approach Delay, s/veh	124.1		0.3			0.5
Approach LOS	F		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		117.0		23.0		117.0
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3
Max Green Setting (Gmax), s		* 1.1E2		* 17		* 1.1E2
Max Q Clear Time (g_c+I1), s		2.0		18.7		2.0
Green Ext Time (p_c), s		1.1		0.0		1.2

Intersection Summary

HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

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



HCM 6th TWSC  
2: Carlyle Avenue & 72nd Street

Existing Conditions  
P.M. Peak Hour

Intersection

Int Delay, s/veh 4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	55	23	140	195	30	28
Future Vol, veh/h	55	23	140	195	30	28
Conflicting Peds, #/hr	0	9	9	0	18	18
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	57	24	146	203	31	29

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	90	0	591
Stage 1	-	-	-	-	78
Stage 2	-	-	-	-	513
Critical Hdwy	-	-	4.4	-	4.4
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	3.8	-	3.8
Pot Cap-1 Maneuver	-	-	890	-	618
Stage 1	-	-	-	-	877
Stage 2	-	-	-	-	566
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	882	-	489
Mov Cap-2 Maneuver	-	-	-	-	489
Stage 1	-	-	-	-	869
Stage 2	-	-	-	-	452

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	610	-	-	882	-
HCM Lane V/C Ratio	0.099	-	-	0.165	-
HCM Control Delay (s)	11.5	-	-	9.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.6	-

Timings  
3: Dickens Avenue & 71st Street

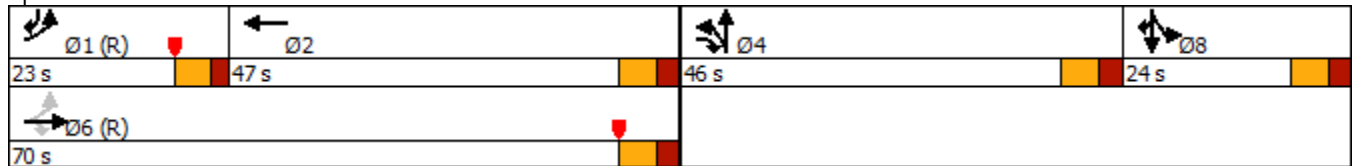
Existing Conditions  
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	292	390	356	808	769	173	86	397
Future Volume (vph)	292	390	356	808	769	173	86	397
Turn Type	pm+pt	NA	pm+ov	NA	Split	NA	NA	pt+ov
Protected Phases	1	6	4	2	4	4	8	8 1
Permitted Phases	6		6					
Detector Phase	1	6	4	2	4	4	8	8 1
Switch Phase								
Minimum Initial (s)	5.0	4.0	7.0	4.0	7.0	7.0	7.0	
Minimum Split (s)	10.7	33.5	28.5	33.5	28.5	28.5	13.5	
Total Split (s)	23.0	70.0	46.0	47.0	46.0	46.0	24.0	
Total Split (%)	16.4%	50.0%	32.9%	33.6%	32.9%	32.9%	17.1%	
Yellow Time (s)	3.7	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.5	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag				
Lead-Lag Optimize?	Yes			Yes				
Recall Mode	C-Max	C-Max	None	None	None	None	None	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 7 (5%), Referenced to phase 1:EBL and 6:EBTL, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Dickens Avenue & 71st Street























# HCM 6th Signalized Intersection Summary

## 3: Dickens Avenue & 71st Street

Existing Conditions

P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	390	356	0	808	23	769	173	2	8	86	397
Future Volume (veh/h)	292	390	356	0	808	23	769	173	2	8	86	397
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.84	1.00		0.87	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	301	402	367	0	833	24	793	178	2	8	89	409
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	368	896	1122	0	1006	29	867	462	5	19	212	410
Arrive On Green	0.20	0.64	0.64	0.00	0.38	0.38	0.25	0.25	0.25	0.13	0.13	0.13
Sat Flow, veh/h	1767	1856	1501	0	3570	100	3428	1828	21	152	1696	1357
Grp Volume(v), veh/h	301	402	367	0	422	435	793	0	180	97	0	409
Grp Sat Flow(s),veh/h/ln	1767	1856	1501	0	1763	1814	1714	0	1848	1848	0	1357
Q Serve(g_s), s	15.8	15.2	9.3	0.0	30.3	30.3	31.5	0.0	11.3	6.8	0.0	17.5
Cycle Q Clear(g_c), s	15.8	15.2	9.3	0.0	30.3	30.3	31.5	0.0	11.3	6.8	0.0	17.5
Prop In Lane	1.00		1.00	0.00		0.06	1.00		0.01	0.08		1.00
Lane Grp Cap(c), veh/h	368	896	1122	0	510	525	867	0	467	231	0	410
V/C Ratio(X)	0.82	0.45	0.33	0.00	0.83	0.83	0.92	0.00	0.39	0.42	0.00	1.00
Avail Cap(c_a), veh/h	368	896	1122	0	510	525	967	0	521	231	0	410
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.92	0.00	0.92
Uniform Delay (d), s/veh	28.7	15.7	4.2	0.0	39.9	39.9	50.8	0.0	43.3	56.6	0.0	51.2
Incr Delay (d2), s/veh	12.6	1.6	0.8	0.0	10.3	10.0	11.9	0.0	0.4	1.6	0.0	41.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	6.1	5.7	0.0	13.9	14.3	14.9	0.0	5.3	3.3	0.0	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	17.3	5.0	0.0	50.2	49.9	62.7	0.0	43.7	58.2	0.0	93.0
LnGrp LOS	D	B	A	A	D	D	E	A	D	E	A	F
Approach Vol, veh/h		1070			857			973				506
Approach Delay, s/veh		19.8			50.1			59.2				86.3
Approach LOS		B			D			E				F
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	27.1	47.0		41.9		74.1		24.0				
Change Period (Y+Rc), s	* 5.7	6.5		6.5		6.5		6.5				
Max Green Setting (Gmax), s	* 17	40.5		39.5		63.5		17.5				
Max Q Clear Time (g_c+l1), s	17.8	32.3		33.5		17.2		19.5				
Green Ext Time (p_c), s	0.0	1.5		1.9		1.1		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	48.6
HCM 6th LOS	D

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
User approved changes to right turn type.

HCM 6th TWSC  
4: Carlyle Avenue & 71st Street

Existing Conditions  
P.M. Peak Hour

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↶↷			↷↶			↷↶	
Traffic Vol, veh/h	0	394	2	0	680	11	25	5	25	3	1	117
Future Vol, veh/h	0	394	2	0	680	11	25	5	25	3	1	117
Conflicting Peds, #/hr	55	0	129	129	0	55	18	0	94	94	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	424	2	0	731	12	27	5	27	3	1	126

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	-	-	-	0	938	1352	648	1327	1347	445
Stage 1	-	-	-	-	-	-	-	554	554	-	792	792	-
Stage 2	-	-	-	-	-	-	-	384	798	-	535	555	-
Critical Hdwy	-	-	-	-	-	-	-	4.4	4.4	4.9	4.4	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.145	5.545	-	6.545	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.545	5.545	-	6.145	5.545	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.8	3.8	3.9	3.8	3.8	3.9
Pot Cap-1 Maneuver	0	-	-	0	-	-	-	474	341	532	348	342	635
Stage 1	0	-	-	0	-	-	-	486	533	-	331	413	-
Stage 2	0	-	-	0	-	-	-	573	410	-	497	532	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	321	283	425	277	284	591
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	321	283	-	277	284	-
Stage 1	-	-	-	-	-	-	-	486	467	-	331	392	-
Stage 2	-	-	-	-	-	-	-	442	389	-	419	467	-











Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	17.1	13.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	356	-	-	-	-	570
HCM Lane V/C Ratio	0.166	-	-	-	-	0.228
HCM Control Delay (s)	17.1	-	-	-	-	13.2
HCM Lane LOS	C	-	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	-	0.9

Future Background P.M.

Timings  
1: Dickens Avenue & 72nd Street

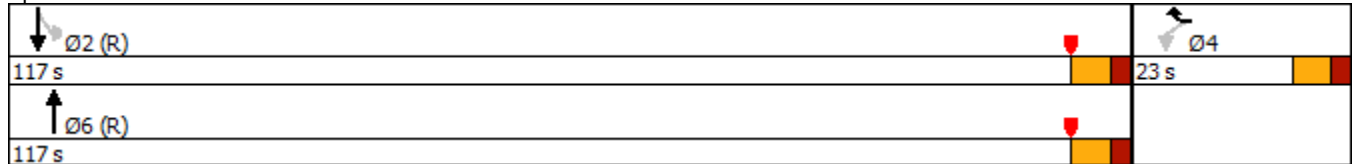
Future Background Conditions  
P.M. Peak Hour

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	117	174	442	43	424
Future Volume (vph)	117	174	442	43	424
Turn Type	Perm	Prot	NA	Perm	NA
Protected Phases		4	6		2
Permitted Phases	4			2	
Detector Phase	4	4	6	2	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	4.0	4.0	4.0
Minimum Split (s)	22.3	22.3	29.3	29.3	29.3
Total Split (s)	23.0	23.0	117.0	117.0	117.0
Total Split (%)	16.4%	16.4%	83.6%	83.6%	83.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary












Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 135 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dickens Avenue & 72nd Street



HCM 6th Signalized Intersection Summary  
 1: Dickens Avenue & 72nd Street

Future Background Conditions  
 P.M. Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	117	174	442	26	43	424
Future Volume (veh/h)	117	174	442	26	43	424
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	0.99	
Parking Bus, Adj	0.90	0.90	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	129	191	486	29	47	466
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	190	169	1367	82	739	1467
Arrive On Green	0.12	0.12	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1590	1415	1728	103	870	1856
Grp Volume(v), veh/h	129	191	0	515	47	466
Grp Sat Flow(s),veh/h/ln	1590	1415	0	1831	870	1856
Q Serve(g_s), s	10.9	16.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.9	16.7	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.06	1.00	
Lane Grp Cap(c), veh/h	190	169	0	1448	739	1467
V/C Ratio(X)	0.68	1.13	0.00	0.36	0.06	0.32
Avail Cap(c_a), veh/h	190	169	0	1448	739	1467
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.41	1.00	1.00
Uniform Delay (d), s/veh	59.1	61.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	8.8	109.0	0.0	0.3	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	11.1	0.0	0.1	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.9	170.6	0.0	0.3	0.2	0.6
LnGrp LOS	E	F	A	A	A	A
Approach Vol, veh/h	320		515			513
Approach Delay, s/veh	129.2		0.3			0.5
Approach LOS	F		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		117.0		23.0		117.0
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3
Max Green Setting (Gmax), s		* 1.1E2		* 17		* 1.1E2
Max Q Clear Time (g_c+I1), s		2.0		18.7		2.0
Green Ext Time (p_c), s		1.1		0.0		1.2

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

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

HCM 6th TWSC  
2: Carlyle Avenue & 72nd Street

Future Background Conditions

P.M. Peak Hour

Intersection

Int Delay, s/veh 4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	56	42	149	200	42	33
Future Vol, veh/h	56	42	149	200	42	33
Conflicting Peds, #/hr	0	9	9	0	18	18
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	58	44	155	208	44	34

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	111	0	625
Stage 1	-	-	-	-	89
Stage 2	-	-	-	-	536
Critical Hdwy	-	-	4.4	-	4.4
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	3.8	-	3.8
Pot Cap-1 Maneuver	-	-	877	-	603
Stage 1	-	-	-	-	868
Stage 2	-	-	-	-	553
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	869	-	469
Mov Cap-2 Maneuver	-	-	-	-	469
Stage 1	-	-	-	-	860
Stage 2	-	-	-	-	434

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	578	-	-	869	-
HCM Lane V/C Ratio	0.135	-	-	0.179	-
HCM Control Delay (s)	12.2	-	-	10	0
HCM Lane LOS	B	-	-	B	A
HCM 95th %tile Q(veh)	0.5	-	-	0.6	-



Timings  
3: Dickens Avenue & 71st Street

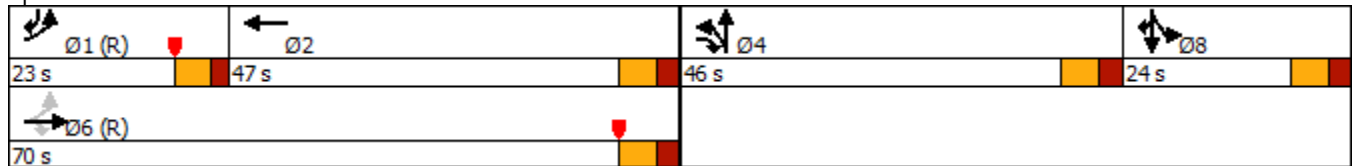
Future Background Conditions  
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	299	415	365	847	795	177	88	407
Future Volume (vph)	299	415	365	847	795	177	88	407
Turn Type	pm+pt	NA	pm+ov	NA	Split	NA	NA	pt+ov
Protected Phases	1	6	4	2	4	4	8	8 1
Permitted Phases	6		6					
Detector Phase	1	6	4	2	4	4	8	8 1
Switch Phase								
Minimum Initial (s)	5.0	4.0	7.0	4.0	7.0	7.0	7.0	
Minimum Split (s)	10.7	33.5	28.5	33.5	28.5	28.5	13.5	
Total Split (s)	23.0	70.0	46.0	47.0	46.0	46.0	24.0	
Total Split (%)	16.4%	50.0%	32.9%	33.6%	32.9%	32.9%	17.1%	
Yellow Time (s)	3.7	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.5	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag				
Lead-Lag Optimize?	Yes			Yes				
Recall Mode	C-Max	C-Max	None	None	None	None	None	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 7 (5%), Referenced to phase 1:EBL and 6:EBTL, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Dickens Avenue & 71st Street























# HCM 6th Signalized Intersection Summary

# Future Background Conditions

## 3: Dickens Avenue & 71st Street

P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	415	365	0	847	24	795	177	2	8	88	407
Future Volume (veh/h)	299	415	365	0	847	24	795	177	2	8	88	407
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.84	1.00		0.87	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	308	428	376	0	873	25	820	182	2	8	91	420
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	345	884	1122	0	1006	29	889	474	5	19	212	400
Arrive On Green	0.19	0.63	0.63	0.00	0.38	0.38	0.26	0.26	0.26	0.13	0.13	0.13
Sat Flow, veh/h	1767	1856	1500	0	3571	100	3428	1828	20	149	1699	1357
Grp Volume(v), veh/h	308	428	376	0	442	456	820	0	184	99	0	420
Grp Sat Flow(s),veh/h/ln	1767	1856	1500	0	1763	1815	1714	0	1848	1848	0	1357
Q Serve(g_s), s	16.6	17.1	9.7	0.0	32.5	32.5	32.6	0.0	11.5	6.9	0.0	17.5
Cycle Q Clear(g_c), s	16.6	17.1	9.7	0.0	32.5	32.5	32.6	0.0	11.5	6.9	0.0	17.5
Prop In Lane	1.00		1.00	0.00		0.05	1.00		0.01	0.08		1.00
Lane Grp Cap(c), veh/h	345	884	1122	0	510	525	889	0	479	231	0	400
V/C Ratio(X)	0.89	0.48	0.33	0.00	0.87	0.87	0.92	0.00	0.38	0.43	0.00	1.05
Avail Cap(c_a), veh/h	345	884	1122	0	510	525	967	0	522	231	0	400
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.91	0.00	0.91
Uniform Delay (d), s/veh	30.3	16.6	4.3	0.0	40.6	40.6	50.5	0.0	42.6	56.6	0.0	51.7
Incr Delay (d2), s/veh	23.3	1.9	0.8	0.0	14.1	13.8	13.0	0.0	0.4	1.6	0.0	56.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	6.9	6.1	0.0	15.3	15.7	15.6	0.0	5.3	3.4	0.0	20.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	18.5	5.1	0.0	54.7	54.4	63.5	0.0	43.0	58.3	0.0	108.5
LnGrp LOS	D	B	A	A	D	D	E	A	D	E	A	F
Approach Vol, veh/h		1112			898			1004			519	
Approach Delay, s/veh		23.7			54.6			59.7			99.0	
Approach LOS		C			D			E			F	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	26.2	47.0		42.8		73.2		24.0				
Change Period (Y+Rc), s	* 5.7	6.5		6.5		6.5		6.5				
Max Green Setting (Gmax), s	* 17	40.5		39.5		63.5		17.5				
Max Q Clear Time (g_c+I1), s	18.6	34.5		34.6		19.1		19.5				
Green Ext Time (p_c), s	0.0	1.3		1.7		1.2		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
User approved changes to right turn type.

HCM 6th TWSC  
4: Carlyle Avenue & 71st Street

Future Background Conditions

P.M. Peak Hour

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖			↔			↔	
Traffic Vol, veh/h	0	404	17	0	697	11	45	6	43	3	2	120
Future Vol, veh/h	0	404	17	0	697	11	45	6	43	3	2	120
Conflicting Peds, #/hr	55	0	129	129	0	55	18	0	94	94	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	434	18	0	749	12	48	6	46	3	2	129

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	0	-	-	0	966	1388	666	1373	1391	454
Stage 1	-	-	-	-	-	-	572	572	-	810	810	-
Stage 2	-	-	-	-	-	-	394	816	-	563	581	-
Critical Hdwy	-	-	-	-	-	-	4.4	4.4	4.9	4.4	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.145	5.545	-	6.545	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.545	5.545	-	6.145	5.545	-
Follow-up Hdwy	-	-	-	-	-	-	3.8	3.8	3.9	3.8	3.8	3.9
Pot Cap-1 Maneuver	0	-	-	0	-	-	464	331	523	335	330	630
Stage 1	0	-	-	0	-	-	475	523	-	323	405	-
Stage 2	0	-	-	0	-	-	566	402	-	481	518	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	310	275	418	253	274	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	310	275	-	253	274	-
Stage 1	-	-	-	-	-	-	475	459	-	323	384	-
Stage 2	-	-	-	-	-	-	432	381	-	384	454	-











Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	19.5	13.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	348	-	-	-	-	559
HCM Lane V/C Ratio	0.29	-	-	-	-	0.24
HCM Control Delay (s)	19.5	-	-	-	-	13.5
HCM Lane LOS	C	-	-	-	-	B
HCM 95th %tile Q(veh)	1.2	-	-	-	-	0.9

Future Total P.M.

Timings  
1: Dickens Avenue & 72nd Street

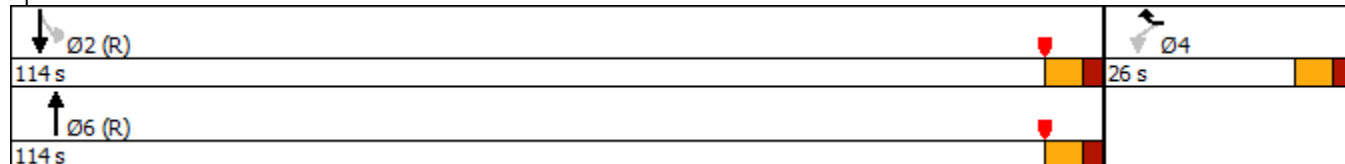
Future Total Conditions - Optimized  
P.M. Peak Hour

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	119	178	442	46	424
Future Volume (vph)	119	178	442	46	424
Turn Type	Perm	Prot	NA	Perm	NA
Protected Phases		4	6		2
Permitted Phases	4			2	
Detector Phase	4	4	6	2	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	4.0	4.0	4.0
Minimum Split (s)	22.3	22.3	29.3	29.3	29.3
Total Split (s)	26.0	26.0	114.0	114.0	114.0
Total Split (%)	18.6%	18.6%	81.4%	81.4%	81.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary












Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 135 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dickens Avenue & 72nd Street



HCM 6th Signalized Intersection Summary  
 1: Dickens Avenue & 72nd Street

Future Total Conditions - Optimized  
 P.M. Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	119	178	442	40	46	424
Future Volume (veh/h)	119	178	442	40	46	424
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	0.99	
Parking Bus, Adj	0.90	0.90	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	131	196	486	44	51	466
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	224	199	1284	116	711	1427
Arrive On Green	0.14	0.14	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1590	1415	1669	151	858	1856
Grp Volume(v), veh/h	131	196	0	530	51	466
Grp Sat Flow(s),veh/h/ln	1590	1415	0	1820	858	1856
Q Serve(g_s), s	10.8	19.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.8	19.3	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.08	1.00	
Lane Grp Cap(c), veh/h	224	199	0	1400	711	1427
V/C Ratio(X)	0.59	0.98	0.00	0.38	0.07	0.33
Avail Cap(c_a), veh/h	224	199	0	1400	711	1427
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.34	1.00	1.00
Uniform Delay (d), s/veh	56.3	60.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.4	59.0	0.0	0.3	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	10.2	0.0	0.1	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.7	119.0	0.0	0.3	0.2	0.6
LnGrp LOS	E	F	A	A	A	A
Approach Vol, veh/h	327		530			517
Approach Delay, s/veh	95.2		0.3			0.6
Approach LOS	F		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		114.0		26.0		114.0
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3
Max Green Setting (Gmax), s		* 1.1E2		* 20		* 1.1E2
Max Q Clear Time (g_c+I1), s		2.0		21.3		2.0
Green Ext Time (p_c), s		1.2		0.0		1.3

Intersection Summary











HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

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

Timings  
1: Dickens Avenue & 72nd Street












Future Total Conditions  
P.M. Peak Hour

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	119	178	442	46	424
Future Volume (vph)	119	178	442	46	424
Turn Type	Perm	Prot	NA	Perm	NA
Protected Phases		4	6		2
Permitted Phases	4			2	
Detector Phase	4	4	6	2	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	4.0	4.0	4.0
Minimum Split (s)	22.3	22.3	29.3	29.3	29.3
Total Split (s)	23.0	23.0	117.0	117.0	117.0
Total Split (%)	16.4%	16.4%	83.6%	83.6%	83.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary












Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 135 (96%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Dickens Avenue & 72nd Street

 Ø2 (R)		 Ø4
117 s	 	23 s  
 Ø6 (R)		
117 s	 	

HCM 6th Signalized Intersection Summary  
 1: Dickens Avenue & 72nd Street

Future Total Conditions  
 P.M. Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	119	178	442	40	46	424
Future Volume (veh/h)	119	178	442	40	46	424
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	0.99	
Parking Bus, Adj	0.90	0.90	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	131	196	486	44	51	466
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	190	169	1320	119	730	1467
Arrive On Green	0.12	0.12	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1590	1415	1669	151	858	1856
Grp Volume(v), veh/h	131	196	0	530	51	466
Grp Sat Flow(s),veh/h/ln	1590	1415	0	1820	858	1856
Q Serve(g_s), s	11.1	16.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.1	16.7	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.08	1.00	
Lane Grp Cap(c), veh/h	190	169	0	1439	730	1467
V/C Ratio(X)	0.69	1.16	0.00	0.37	0.07	0.32
Avail Cap(c_a), veh/h	190	169	0	1439	730	1467
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.34	1.00	1.00
Uniform Delay (d), s/veh	59.2	61.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	9.5	119.2	0.0	0.2	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	11.6	0.0	0.1	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	68.7	180.8	0.0	0.2	0.2	0.6
LnGrp LOS	E	F	A	A	A	A
Approach Vol, veh/h	327		530			517
Approach Delay, s/veh	135.9		0.2			0.5
Approach LOS	F		A			A
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		117.0		23.0		117.0
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3
Max Green Setting (Gmax), s		* 1.1E2		* 17		* 1.1E2
Max Q Clear Time (g_c+I1), s		2.0		18.7		2.0
Green Ext Time (p_c), s		1.2		0.0		1.3

Intersection Summary

HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

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



HCM 6th TWSC  
2: Carlyle Avenue & 72nd Street

Future Total Conditions  
P.M. Peak Hour

Intersection

Int Delay, s/veh 4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
----------	-----	-----	-----	-----	-----	-----

Lane Configurations						
Traffic Vol, veh/h	56	59	152	200	48	41
Future Vol, veh/h	56	59	152	200	48	41
Conflicting Peds, #/hr	0	9	9	0	18	18
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	58	61	158	208	50	43

Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	128	0	640	116
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	542	-
Critical Hdwy	-	-	4.4	-	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	3.8	-	3.8	3.9
Pot Cap-1 Maneuver	-	-	866	-	596	839
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	549	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	859	-	460	818
Mov Cap-2 Maneuver	-	-	-	-	460	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	427	-

Approach	EB	WB	NB
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HCM Control Delay, s	0	4.4	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	576	-	-	859	-
HCM Lane V/C Ratio	0.161	-	-	0.184	-
HCM Control Delay (s)	12.4	-	-	10.1	0
HCM Lane LOS	B	-	-	B	A
HCM 95th %tile Q(veh)	0.6	-	-	0.7	-

Timings  
3: Dickens Avenue & 71st Street

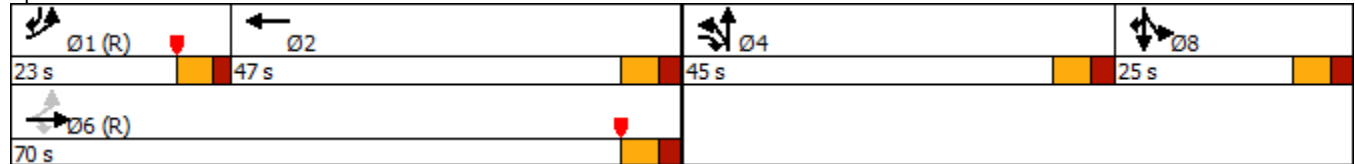
Future Total Conditions - Optimized  
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	310	410	365	856	795	180	90	407
Future Volume (vph)	310	410	365	856	795	180	90	407
Turn Type	pm+pt	NA	pm+ov	NA	Split	NA	NA	pt+ov
Protected Phases	1	6	4	2	4	4	8	8 1
Permitted Phases	6		6					
Detector Phase	1	6	4	2	4	4	8	8 1
Switch Phase								
Minimum Initial (s)	5.0	4.0	7.0	4.0	7.0	7.0	7.0	
Minimum Split (s)	10.7	33.5	28.5	33.5	28.5	28.5	13.5	
Total Split (s)	23.0	70.0	45.0	47.0	45.0	45.0	25.0	
Total Split (%)	16.4%	50.0%	32.1%	33.6%	32.1%	32.1%	17.9%	
Yellow Time (s)	3.7	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.5	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag				
Lead-Lag Optimize?	Yes			Yes				
Recall Mode	C-Max	C-Max	None	None	None	None	None	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 7 (5%), Referenced to phase 1:EBL and 6:EBTL, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Dickens Avenue & 71st Street



# HCM 6th Signalized Intersection Summary

# Future Total Conditions - Optimized

## 3: Dickens Avenue & 71st Street

P.M. Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	410	365	0	856	24	795	180	2	8	90	407
Future Volume (veh/h)	310	410	365	0	856	24	795	180	2	8	90	407
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.84	1.00		0.87	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	320	423	376	0	882	25	820	186	2	8	93	420
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	333	873	1111	0	1006	29	884	472	5	19	225	402
Arrive On Green	0.19	0.63	0.63	0.00	0.38	0.38	0.26	0.26	0.26	0.13	0.13	0.13
Sat Flow, veh/h	1767	1856	1499	0	3572	99	3428	1829	20	146	1702	1369
Grp Volume(v), veh/h	320	423	376	0	447	460	820	0	188	101	0	420
Grp Sat Flow(s),veh/h/ln	1767	1856	1499	0	1763	1815	1714	0	1849	1848	0	1369
Q Serve(g_s), s	18.3	17.1	10.1	0.0	32.9	32.9	32.7	0.0	11.8	7.0	0.0	18.5
Cycle Q Clear(g_c), s	18.3	17.1	10.1	0.0	32.9	32.9	32.7	0.0	11.8	7.0	0.0	18.5
Prop In Lane	1.00		1.00	0.00		0.05	1.00		0.01	0.08		1.00
Lane Grp Cap(c), veh/h	333	873	1111	0	510	525	884	0	477	244	0	402
V/C Ratio(X)	0.96	0.48	0.34	0.00	0.88	0.88	0.93	0.00	0.39	0.41	0.00	1.04
Avail Cap(c_a), veh/h	333	873	1111	0	510	525	943	0	508	244	0	402
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.91	0.00	0.91
Uniform Delay (d), s/veh	33.0	17.1	4.6	0.0	40.7	40.7	50.7	0.0	42.9	55.8	0.0	51.6
Incr Delay (d2), s/veh	38.7	1.9	0.8	0.0	15.2	14.8	14.2	0.0	0.4	1.4	0.0	54.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	7.0	6.3	0.0	15.7	16.1	15.7	0.0	5.5	3.4	0.0	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	19.0	5.4	0.0	55.9	55.6	64.8	0.0	43.3	57.2	0.0	106.4
LnGrp LOS	E	B	A	A	E	E	E	A	D	E	A	F
Approach Vol, veh/h		1119			907			1008			521	
Approach Delay, s/veh		29.5			55.7			60.8			96.9	
Approach LOS		C			E			E			F	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	25.4	47.0		42.6		72.4		25.0				
Change Period (Y+Rc), s	* 5.7	6.5		6.5		6.5		6.5				
Max Green Setting (Gmax), s	* 17	40.5		38.5		63.5		18.5				
Max Q Clear Time (g_c+I1), s	20.3	34.9		34.7		19.1		20.5				
Green Ext Time (p_c), s	0.0	1.3		1.4		1.1		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	55.0
HCM 6th LOS	D

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
User approved changes to right turn type.

Timings  
3: Dickens Avenue & 71st Street

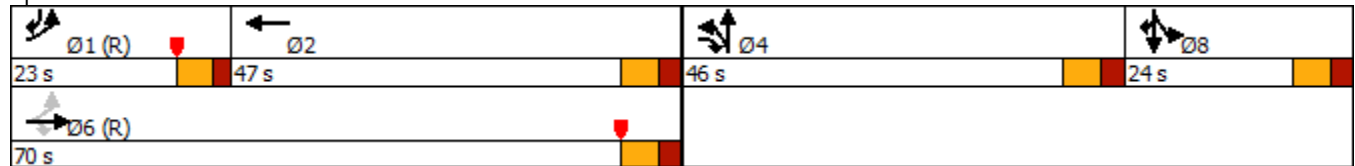
Future Total Conditions  
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	310	410	365	856	795	180	90	407
Future Volume (vph)	310	410	365	856	795	180	90	407
Turn Type	pm+pt	NA	pm+ov	NA	Split	NA	NA	pt+ov
Protected Phases	1	6	4	2	4	4	8	8 1
Permitted Phases	6		6					
Detector Phase	1	6	4	2	4	4	8	8 1
Switch Phase								
Minimum Initial (s)	5.0	4.0	7.0	4.0	7.0	7.0	7.0	
Minimum Split (s)	10.7	33.5	28.5	33.5	28.5	28.5	13.5	
Total Split (s)	23.0	70.0	46.0	47.0	46.0	46.0	24.0	
Total Split (%)	16.4%	50.0%	32.9%	33.6%	32.9%	32.9%	17.1%	
Yellow Time (s)	3.7	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.5	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag				
Lead-Lag Optimize?	Yes			Yes				
Recall Mode	C-Max	C-Max	None	None	None	None	None	

Intersection Summary





















Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 7 (5%), Referenced to phase 1:EBL and 6:EBTL, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Dickens Avenue & 71st Street



HCM 6th Signalized Intersection Summary  
 3: Dickens Avenue & 71st Street

Future Total Conditions  
 P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	410	365	0	856	24	795	180	2	8	90	407
Future Volume (veh/h)	310	410	365	0	856	24	795	180	2	8	90	407
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.84	1.00		0.87	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	320	423	376	0	882	25	820	186	2	8	93	420
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	0	3	3	3	3	3	3	3	3
Cap, veh/h	343	884	1122	0	1006	29	889	474	5	18	213	400
Arrive On Green	0.19	0.63	0.63	0.00	0.38	0.38	0.26	0.26	0.26	0.13	0.13	0.13
Sat Flow, veh/h	1767	1856	1500	0	3572	99	3428	1829	20	146	1702	1357
Grp Volume(v), veh/h	320	423	376	0	447	460	820	0	188	101	0	420
Grp Sat Flow(s),veh/h/ln	1767	1856	1500	0	1763	1815	1714	0	1849	1848	0	1357
Q Serve(g_s), s	18.1	16.8	9.7	0.0	32.9	32.9	32.6	0.0	11.7	7.1	0.0	17.5
Cycle Q Clear(g_c), s	18.1	16.8	9.7	0.0	32.9	32.9	32.6	0.0	11.7	7.1	0.0	17.5
Prop In Lane	1.00		1.00	0.00		0.05	1.00		0.01	0.08		1.00
Lane Grp Cap(c), veh/h	343	884	1122	0	510	525	889	0	480	231	0	400
V/C Ratio(X)	0.93	0.48	0.33	0.00	0.88	0.88	0.92	0.00	0.39	0.44	0.00	1.05
Avail Cap(c_a), veh/h	343	884	1122	0	510	525	967	0	522	231	0	400
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.91	0.00	0.91
Uniform Delay (d), s/veh	32.3	16.5	4.3	0.0	40.7	40.7	50.5	0.0	42.7	56.7	0.0	51.7
Incr Delay (d2), s/veh	31.5	1.9	0.8	0.0	15.2	14.8	13.0	0.0	0.4	1.7	0.0	56.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	6.8	6.1	0.0	15.7	16.1	15.6	0.0	5.5	3.4	0.0	20.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	18.4	5.1	0.0	55.9	55.6	63.4	0.0	43.1	58.4	0.0	108.6
LnGrp LOS	E	B	A	A	E	E	E	A	D	E	A	F
Approach Vol, veh/h		1119			907			1008				521
Approach Delay, s/veh		26.9			55.7			59.7				98.9
Approach LOS		C			E			E				F
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	26.2	47.0		42.8		73.2		24.0				
Change Period (Y+Rc), s	* 5.7	6.5		6.5		6.5		6.5				
Max Green Setting (Gmax), s	* 17	40.5		39.5		63.5		17.5				
Max Q Clear Time (g_c+I1), s	20.1	34.9		34.6		18.8		19.5				
Green Ext Time (p_c), s	0.0	1.3		1.7		1.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	54.1
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

HCM 6th TWSC  
4: Carlyle Avenue & 71st Street

Future Total Conditions  
P.M. Peak Hour

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖			↔			↔	
Traffic Vol, veh/h	0	399	17	0	689	21	45	6	43	7	2	137
Future Vol, veh/h	0	399	17	0	689	21	45	6	43	7	2	137
Conflicting Peds, #/hr	55	0	129	129	0	55	18	0	94	94	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	429	18	0	741	23	48	6	46	8	2	147

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	0	-	-	0	957	1386	661	1366	1384	455
Stage 1	-	-	-	-	-	-	567	567	-	808	808	-
Stage 2	-	-	-	-	-	-	390	819	-	558	576	-
Critical Hdwy	-	-	-	-	-	-	4.4	4.4	4.9	4.4	4.4	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.145	5.545	-	6.545	5.545	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.545	5.545	-	6.145	5.545	-
Follow-up Hdwy	-	-	-	-	-	-	3.8	3.8	3.9	3.8	3.8	3.9
Pot Cap-1 Maneuver	0	-	-	0	-	-	467	331	526	337	332	629
Stage 1	0	-	-	0	-	-	478	526	-	324	406	-
Stage 2	0	-	-	0	-	-	569	401	-	484	521	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	300	275	420	254	276	586
Mov Cap-2 Maneuver	-	-	-	-	-	-	300	275	-	254	276	-
Stage 1	-	-	-	-	-	-	478	461	-	324	385	-
Stage 2	-	-	-	-	-	-	416	380	-	387	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	19.8	14.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	343	-	-	-	-	544
HCM Lane V/C Ratio	0.295	-	-	-	-	0.289
HCM Control Delay (s)	19.8	-	-	-	-	14.3
HCM Lane LOS	C	-	-	-	-	B
HCM 95th %tile Q(veh)	1.2	-	-	-	-	1.2

HCM 6th TWSC  
6: Carlyle Avenue & Project Drop-off Egress

Future Total Conditions  
P.M. Peak Hour

Intersection

Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Traffic Vol, veh/h	1	0	0	53	166	0
Future Vol, veh/h	1	0	0	53	166	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	0	0	58	180	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	238	180	-	0	0
Stage 1	180	-	-	-	-
Stage 2	58	-	-	-	-
Critical Hdwy	4.4	4.9	-	-	-
Critical Hdwy Stg 1	4.4	-	-	-	-
Critical Hdwy Stg 2	4.4	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	-
Pot Cap-1 Maneuver	801	795	0	-	0
Stage 1	835	-	0	-	0
Stage 2	910	-	0	-	0
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	801	795	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-
Stage 1	835	-	-	-	-
Stage 2	910	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 801	-
HCM Lane V/C Ratio	- 0.001	-
HCM Control Delay (s)	- 9.5	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0	-

HCM 6th TWSC  
7: Carlyle Avenue & Project Driveway

Future Total Conditions  
P.M. Peak Hour

Intersection

Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	23	12	39	147	37
Future Vol, veh/h	21	23	12	39	147	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	23	25	13	42	160	40

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	248	180	200	0	0
Stage 1	180	-	-	-	-
Stage 2	68	-	-	-	-
Critical Hdwy	4.4	4.9	4.13	-	-
Critical Hdwy Stg 1	4.4	-	-	-	-
Critical Hdwy Stg 2	4.4	-	-	-	-
Follow-up Hdwy	3.8	3.9	2.227	-	-
Pot Cap-1 Maneuver	795	795	1366	-	-
Stage 1	835	-	-	-	-
Stage 2	903	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	787	795	1366	-	-
Mov Cap-2 Maneuver	787	-	-	-	-
Stage 1	827	-	-	-	-
Stage 2	903	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1366	-	791	-	-
HCM Lane V/C Ratio	0.01	-	0.06	-	-
HCM Control Delay (s)	7.7	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-