



*Traffic Impact Analysis
For Submittal to the
City of Wilton Manors*

WILMA ON THE DRIVE WILTON MANORS, FLORIDA



Kimley»»Horn

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Updated January 2023
November 2022
September 2022
043828003



Traffic Impact Analysis
for Submittal to the
City of Wilton Manors

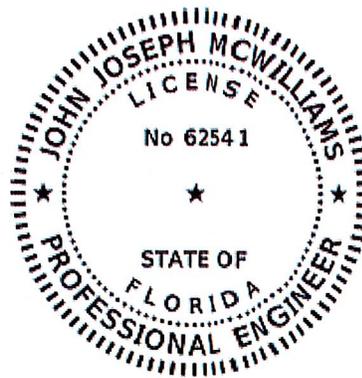
**WILMA ON THE DRIVE
WILTON MANORS, FLORIDA**

Prepared for:

2262 Wilton Drive Owner, LLC

Prepared by:

Kimley-Horn and Associates, Inc.



This document has been digitally signed and sealed by John J McWilliams, P.E., on January 10, 2023, using a SHA authentication code.

John J
McWilliams
Digitally signed by
John J McWilliams
Date: 2023.01.10
07:19:21 -05'00'

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

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November 2022
September 2022
143581000

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8201 Peters Road, Suite 2200
Plantation, Florida 33324

EXECUTIVE SUMMARY

2262 Wilton Drive Owner, LLC is proposing to redevelop the property located on the southeast corner of NE 7th Avenue and SR 811/Wilton Drive in Wilton Manors, Florida. Currently, the site proposed for redevelopment is occupied by a surface parking lot and a total of 74,609 square feet of total commercial space (gross leasable area – GLA consisting of 29,093 square feet on Parcel A and 45,516 square feet on Parcel B). The redevelopment consists of an approximately 255 mid-rise dwelling units and approximately 25,000 square feet of commercial space located entirely on Parcel B, resulting in a total of approximately 255 mid-rise dwelling units and approximately 56,000 square feet of commercial space. The proposed development is expected to be completed by year 2025.

Access to the development is currently provided via three (3) driveways along SR 811/Wilton Drive, west of NE 7th Avenue, and two (2) driveways along NE 7th Avenue, south of SR 811/Wilton Drive. As part of the redevelopment, the existing driveway located along SR 811/Wilton Drive, east of NE 6th Avenue is proposed to be eliminated. Additionally, driveways along NE 7th Avenue are proposed to restrict egress access to left out only.

Trip generation calculations for the proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. The project is expected to generate 78 net new weekday A.M. peak hour vehicular trips and a nominal increase of 10 net new weekday P.M. peak hour vehicular trips. Existing driveway volume data collection performed as part of the trip generation analysis determined that the trip generation credit assumed for the existing development is within 10 percent (10%) of the ITE estimates. Therefore, a P.M. peak period (4:00 P.M. to 6:00 P.M.) analysis was not conducted for the study intersections and project driveways.

The results of the intersection capacity analysis indicate that the study intersections are expected to operate at levels of service (LOS) B or better during all analysis scenarios.

The results of the entry gate analysis indicate that the entry gate should be located with at least one (1) vehicle length of storage to accommodate queues on-site without extending onto the public right-of-way.

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INTRODUCTION

2262 Wilton Drive Owner, LLC is proposing to redevelop the property located on the southeast corner of NE 7th Avenue and SR 811/Wilton Drive in Wilton Manors, Florida. Currently, the site proposed for redevelopment is occupied by a surface parking lot and a total of 74,609 square feet of total commercial space (gross leasable area – GLA consisting of 29,093 square feet on Parcel A and 45,516 square feet on Parcel B). The redevelopment consists of an approximately 255 mid-rise dwelling units and approximately 25,000 square feet of commercial space located entirely on Parcel B, resulting in a total of approximately 255 mid-rise dwelling units and approximately 56,000 square feet of commercial space. Access to the development is currently provided via three (3) driveways along SR 811/Wilton Drive, west of NE 7th Avenue and two (2) driveways along NE 7th Avenue, south of SR 811/Wilton Drive. Driveway 1 is an unsignalized right-in/right-out (RIRO) driveway located along SR 811/Wilton Drive, west of NE 6th Avenue. Driveway 2 is a full-access driveway serving as the south leg of the signalized intersection of SR 811/Wilton Drive and NE 6th Avenue. Driveway 3 is an unsignalized RIRO driveway located along SR 811/Wilton Drive, east of NE 6th Avenue. Driveways 4 and 5 are unsignalized full-access driveways located along NE 7th Avenue, south of SR 811/Wilton Drive. As part of the redevelopment, Driveway 3, the existing driveway located along SR 811/Wilton Drive east of NE 6th Avenue, is proposed to be eliminated. Additionally, Driveways 4 and 5, along NE 7th Avenue, are proposed to restrict egress access to left out only. The proposed development is expected to be completed by year 2025. A project location map is provided as Figure 1. A conceptual site plan is provided in Appendix A.

Kimley-Horn and Associates, Inc. has completed this traffic impact analysis for submittal to the City of Wilton Manors. 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 Wilton Manors. Methodology correspondence detailing the traffic study requirements is included in Appendix B. This report summarizes the data collection, project trip generation, trip assignment and distribution, intersection capacity analysis, and entry gate analysis for the proposed redevelopment.



Figure 1
Location Map
Wilma on the Drive
Wilton Manors, Florida

EXISTING TRAFFIC

A.M. peak period (7:00 to 9:00 A.M.) turning movement counts were collected on Wednesday, August 3, 2022 at the following intersections:

- SR 811/Wilton Drive and NE 22nd Street/Driveway 1
- SR 811/Wilton Drive and NE 6th Avenue/Driveway 2
- SR 811/Wilton Drive and Driveway 3
- SR 811/Wilton Drive and NE 7th Avenue
- SR 811/Wilton Drive and NE 9th Avenue
- NE 7th Avenue and Driveway 4
- NE 7th Avenue and Driveway 5
- NE 7th Avenue and NE 20th Street

All traffic volumes were collected in 15-minute intervals and the peak hour was determined for each intersection. The Florida Department of Transportation (FDOT) peak season conversion factor (PSCF) of 1.11 was applied to the traffic counts to adjust the traffic to peak season volumes. Signal timing information was obtained from Broward County Public Works Department - Traffic Engineering Division for all study area signalized intersections.

The turning movement counts, FDOT PSCF reports, 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. peak hour.

EXHIBIT E

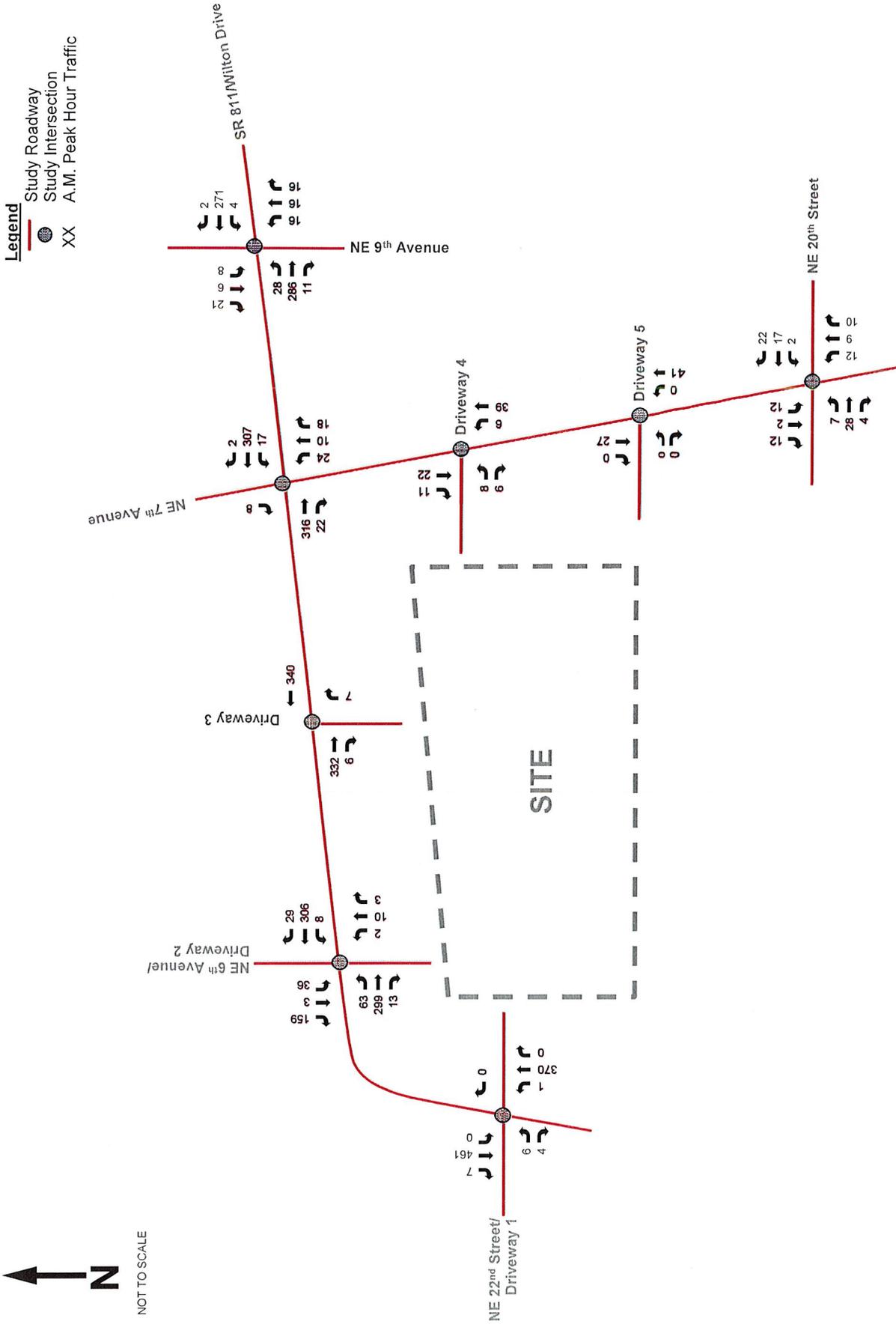


Figure 2
Existing Peak Hour Traffic
Wilma on the Drive
Wilton Manors, Florida

FUTURE BACKGROUND TRAFFIC

Future background traffic conditions are defined as expected traffic conditions on the roadway network in the year 2025 without the construction of the proposed development. 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 peak hour traffic volumes.

BACKGROUND AREA GROWTH

Future traffic growth on the transportation network was determined based upon (a) historic 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 860212: SR 811/Wilton Drive – South of NE 26th Street
- Count Station 869583: NE 16th Street – East of Andrews Avenue

The historical growth rate analysis, based on FDOT count stations, examined linear, exponential, and decaying exponential growth rates for the most recent five (5) year and ten (10) year periods. The highest growth rate occurred during the most recent five (5) year period and resulted in a linear growth rate of 5.63 percent (5.63%). Based on the forecasted volumes obtained from the 2015 and 2045 FSUTMS SERPM, an annual growth rate of 1.67 percent (1.67%) was calculated in the vicinity of the development. As the historical growth rate was calculated from FDOT count stations with illogically high growth rates or low R² values, the growth rate of 1.67 percent (1.67%) obtained from the years 2015 and 2045 FSUTMS SERPM was applied annually to the existing traffic volumes in order to develop future (2024) background conditions. The worksheets used to analyze the historic growth trends along with the FSUTMS transportation model outputs are included in Appendix D.

COMMITTED DEVELOPMENT

It is expected that the calculated background growth rate of 5.63 percent (5.63%) accounts for recent proposed developments. However, to provide a conservative analysis, the following committed developments were identified and included under future background conditions:

- RD Wilton Manors (2501 NE 13th Avenue)
- Wilton Manors Residential (1550 NE 26th Street)

As traffic studies were not available for the following proposed developments, committed traffic was not included under future background conditions:

- The Ave (3058 North Andrews Avenue)
- Generation at Wilton Manors (2449 NE 13th Avenue)
- Old Jaxi/Green Diner Building (500 East Oakland Park Boulevard)
- Andrews Office Building/Retail (1985 North Andrews Avenue)
- Andrews Avenue (2916 North Andrews Avenue)

If traffic assignments are available at the time of future resubmittals, future background volumes may be revised to include additional committed traffic. Trip assignment for the developments are included in Appendix E. Refer to Figure 3 for the future 2025 peak hour background traffic volumes.

EXHIBIT E

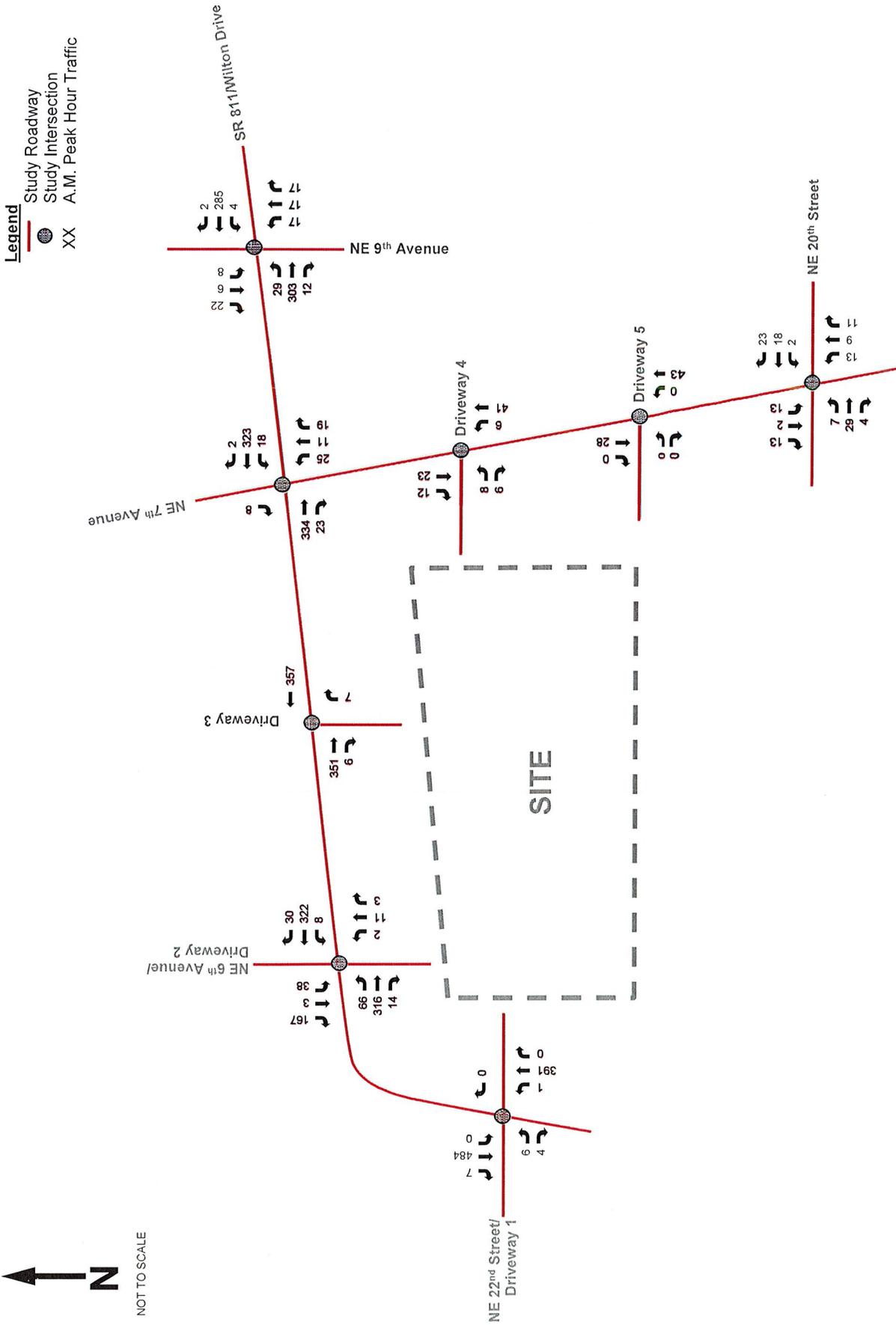


Figure 3
Future Background Peak Hour Traffic
Volume on the Drive
Wilton Manors, Florida

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 USES

The property proposed for redevelopment is currently occupied by a surface parking lot and a total of 74,609 square feet of total commercial space (gross leasable area – GLA consisting of 29,093 square feet on Parcel A and 45,516 square feet on Parcel B). The redevelopment consists of an approximately 255 mid-rise dwelling units and approximately 25,000 square feet of commercial space located entirely on Parcel B, resulting in a total of approximately 255 mid-rise dwelling units and approximately 56,000 square feet of commercial space.

PROJECT ACCESS

Access to the development is currently provided via three driveways along SR 811/Wilton Drive, west of NE 7th Avenue and two (2) driveways along NE 7th Avenue, south of SR 811/Wilton Drive. Driveway 1 is an unsignalized right-in/right-out (RIRO) driveway located along SR 811/Wilton Drive, west of NE 6th Avenue. Driveway 2 is a full-access driveway serving as the south leg of the signalized intersection of SR 811/Wilton Drive and NE 6th Avenue. Driveway 3 is an unsignalized RIRO driveway located along SR 811/Wilton Drive, east of NE 6th Avenue. Driveways 4 and 5 are unsignalized full-access driveways located along NE 7th Avenue, south of SR 811/Wilton Drive. As part of the redevelopment, the existing Driveway 3 is proposed to be eliminated. Additionally, Driveways 4 and 5, along NE 7th Avenue, are proposed to restrict egress access to left out only. Therefore, the entering and exiting traffic volumes at Driveway 3 were diverted to use Driveway 2 and existing traffic at Driveways 4 and 5 were diverted to use SR 811/Wilton Drive under future total conditions.

TRIP GENERATION

Trip generation calculations for the proposed development were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. The trip generation for the existing and proposed retail development was determined using ITE land use code (LUC) 821 (Shopping Plaza 40-150k – No Supermarket). Note that LUC 821 includes retail plazas that contain

office space, banks, and restaurants within the development, consistent with the existing and proposed tenant mix for this project. Only credit for the occupied portions of the existing Parcel A retail (25,478 square feet) and Parcel B retail (37,183 square feet) was assumed in the trip generation calculations to provide for a conservative analysis. The trip generation for the proposed residential portion of the redevelopment was determined using ITE LUC 221 (Multifamily Housing [Mid-Rise]).

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. A multimodal factor of 11.1 percent (11.1%) was determined for the proposed redevelopment. It is expected that a portion of residents, employees, patrons, and guests will choose to walk, bike, or use public transit to and from the proposed redevelopment.

INTERNAL CAPTURE

A portion of trips generated by the redevelopment will be captured internally on the site. Internal capture rates were based upon values contained in ITE's *Trip Generation Handbook*, 3rd Edition. The expected internal capture rate for the proposed redevelopment is 1.1 percent (1.1%) during the A.M. peak hour and 21.8 percent (21.8%) during the P.M. peak hour.

PASS-BY CAPTURE

Pass-by capture trip rates were determined based on average rates provided in the ITE's *Trip Generation Manual*, 11th Edition. A pass-by rate of 40.0 percent (40.0%) based on LUC 821 (Shopping Plaza) was utilized during the P.M. peak hour.

NET NEW PROJECT TRIPS

The net new project trips represent additional vehicles on the roadway network. As shown in Table 1, the project is expected to generate 78 net new weekday A.M. peak hour vehicular trips and a nominal increase of 10 net new weekday P.M. peak hour vehicular trips. Existing driveway volume data collection performed as part of the trip generation analysis determined that the trip generation credit assumed for the existing development is within 10 percent (10%) of the ITE estimates. Therefore, a P.M. peak period (4:00 P.M. to 6:00 P.M.) analysis was not conducted for

the study intersections and project driveways. Detailed trip generation information is included in Appendix F.

Table 1: Trip Generation				
<i>A.M. Peak Hour (P.M. Peak Hour)</i>				
Land Use (ITE Code)	Scale	Net New External Trips	Entering Trips	Exiting Trips
<i>Existing Development</i>				
Shopping Plaza (40-150k) (821)	62,661 square feet	96 (173)	60 (84)	36 (89)
<i>Proposed Redevelopment</i>				
Multifamily Housing (Mid-Rise) (221)	255 dwelling units	89 (51)	20 (29)	69 (22)
Shopping Plaza (40-150k) (821)	56,000 square feet	85 (132)	52 (68)	33 (64)
Subtotal		174 (183)	72 (97)	102 (86)
<i>Net New Redevelopment</i>				
<i>Net New Vehicle Trips</i>		78 (10)	12 (13)	66 (-3)

TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution was determined based on existing turning movements counts and a select zone analysis for the appropriate Traffic Analysis Zone (TAZ) in the Southeast Florida Regional Planning Model (SERPM). Detailed distribution calculations are contained in Appendix G.

Figures 4 and 5 show the project trip distribution and the project trip assignment at the project driveways and adjacent intersections for the A.M. peak hour.

EXHIBIT E

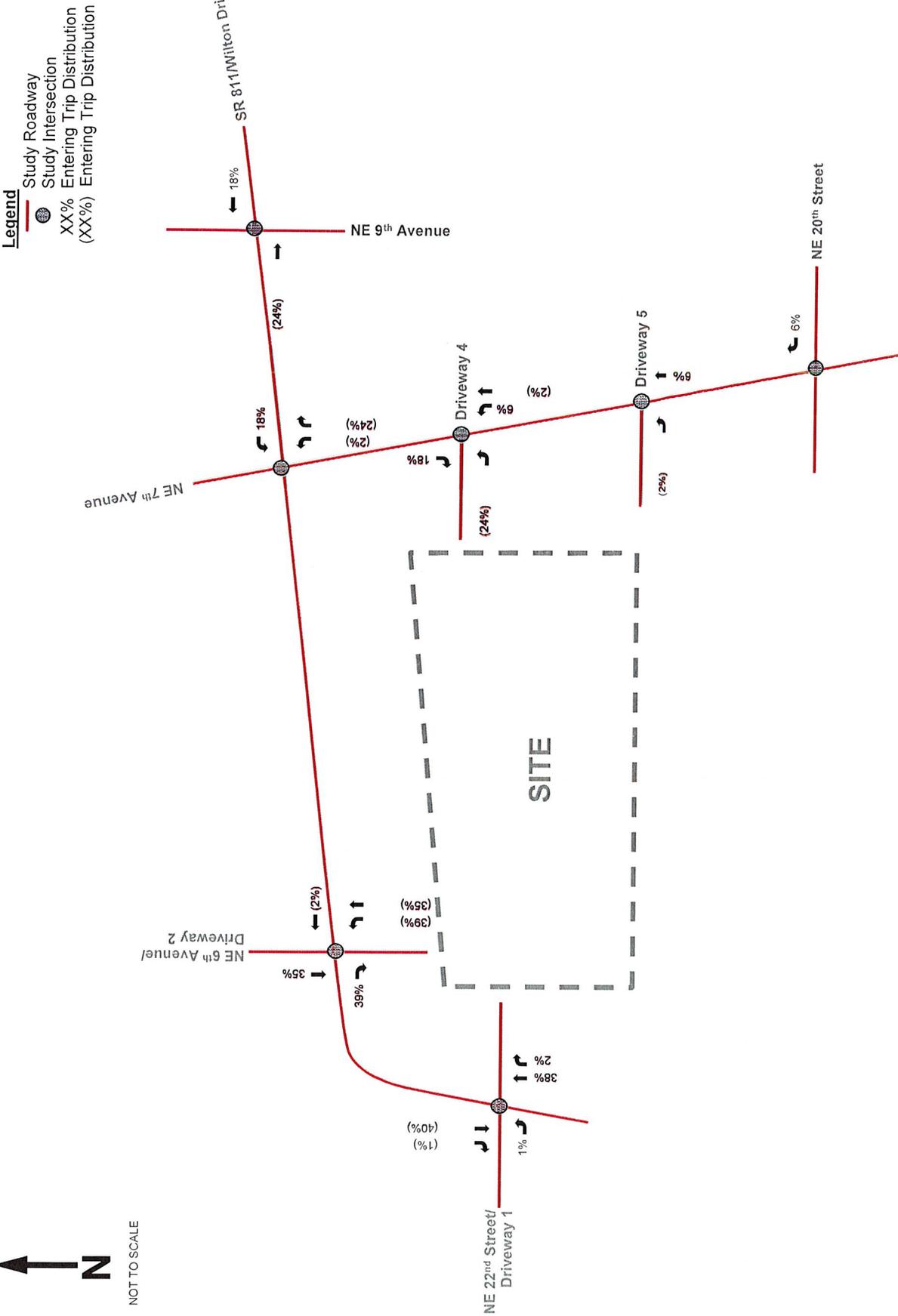


Figure 4
Peak Hour Project Trip Distribution
Wilma on the Drive
Wilton Manors, Florida

EXHIBIT E

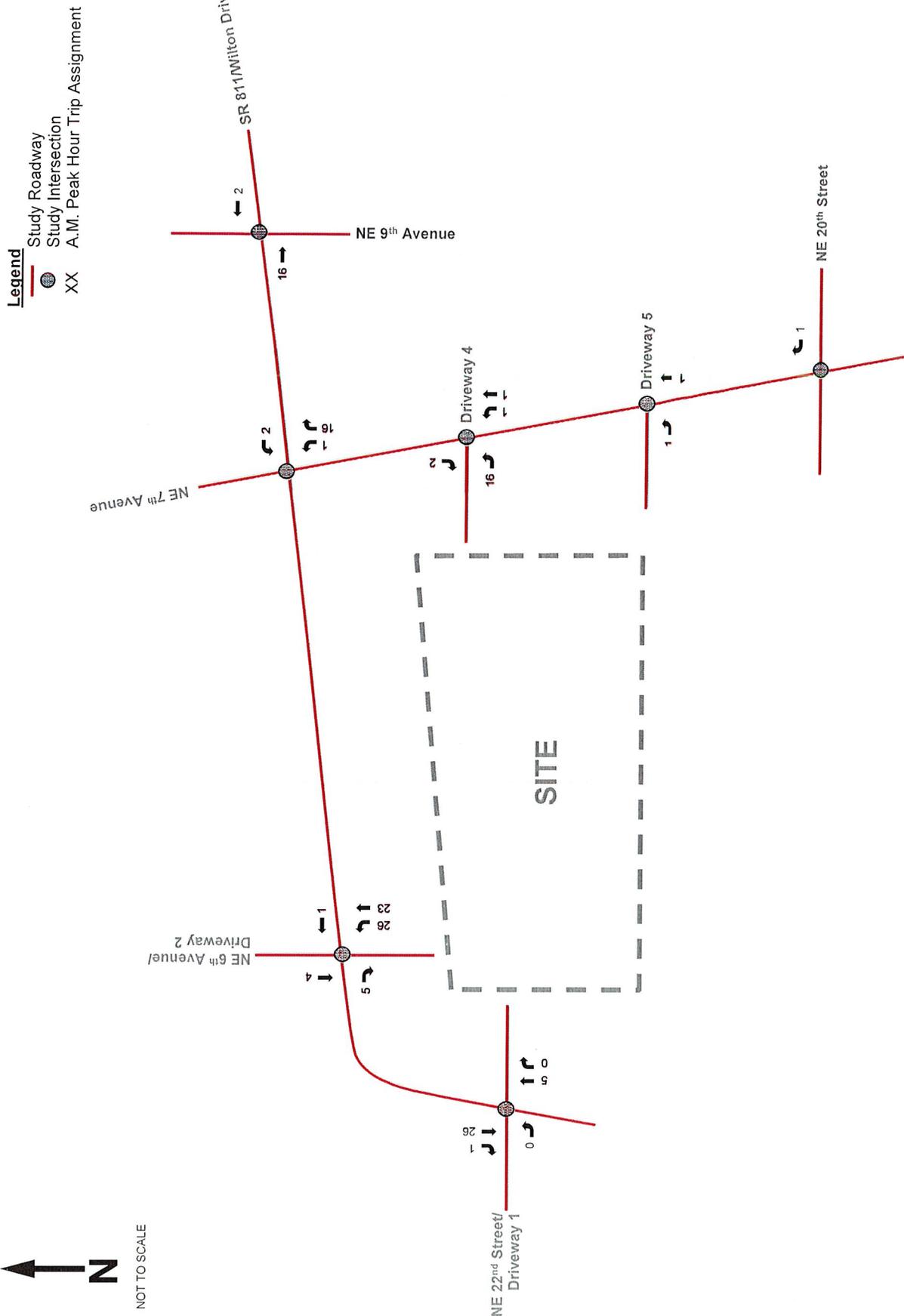


Figure 5
Peak Hour Project Trip Assignment
Wilma on the Drive
Wilton Manors, Florida

FUTURE TOTAL TRAFFIC

Future total traffic conditions are defined as the expected traffic conditions in the year 2025 after the opening of the project. Total traffic volumes considered in the analysis for this project are the sum of the background traffic volumes and expected project traffic volumes. Figure 6 presents the future total turning movement volumes at the study intersections during the weekday A.M. peak hour. As part of the redevelopment, the existing Driveway 3 is proposed to be eliminated. Additionally, Driveways 4 and 5, along NE 7th Avenue, are proposed to restrict egress access to left out only. Therefore, the entering and exiting traffic volumes at Driveway 3 were diverted to use Driveway 2 and existing traffic at Driveways 4 and 5 were diverted to use SR 811/Wilton Drive under future total conditions. The traffic diversion figure and development worksheets for the study intersections are included in Appendix H.

EXHIBIT E

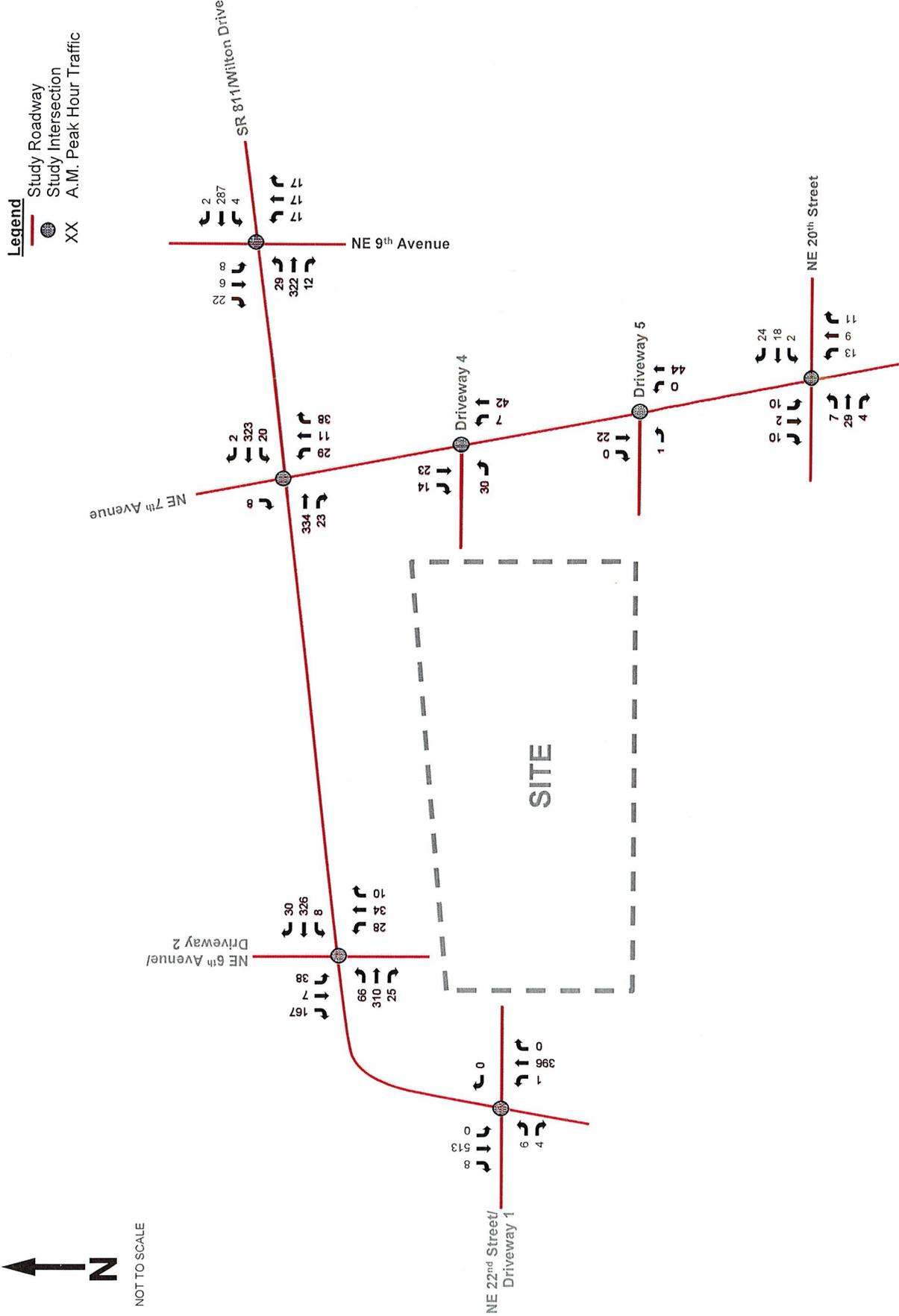


Figure 6
Future Total Peak Hour Traffic
Wilma on the Drive
Wilton Manors, Florida

INTERSECTION CAPACITY ANALYSIS

The study area intersection operating conditions were analyzed for three (3) scenarios (existing conditions, future background conditions, and future total conditions) during the A.M. peak hour using Trafficware’s SYNCHRO 11.0 software, which applies methodologies outlined in the Transportation Research Board’s (TRB’s) Highway Capacity Manual (HCM), 6th Edition. Synchro worksheets for the study intersections are included in Appendix I. A summary of the intersection analyses is presented in Table 2.

The results of the intersection capacity analysis indicate that the study intersections are expected to operate at levels of service (LOS) B or better during all analysis scenarios.

Table 2: A.M. Peak Hour Intersection Capacity Analysis						
Intersection	Traffic Control	Overall LOS/Delay	Approach LOS			
			EB	WB	NB	SB
Existing Conditions (Future Background Conditions) [Future Total Conditions]						
SR 811/Wilton Drive and NE 22 nd Street/Driveway 1	Two-Way Stop Control	(1)	B (B) [B]	A (A) [A]	(3)	(3)
SR 811/Wilton Drive and NE 6 th Avenue/Driveway 2	Signalized	B/16.7 sec (B/17.2 sec) [B/19.0 sec]	A (A) [A]	A (A) [A]	D (D) [D]	D (D) [D]
SR 811/Wilton Drive and Driveway 3	Two-Way Stop Control	(1)	(3)	(3)	B (B) [⁽⁴⁾ B]	(2)
SR 811/Wilton Drive and NE 7 th Avenue	Two-Way Stop Control	(1)	(3)	(3)	B (B) [B]	B (B) [B]
SR 811/Wilton Drive and NE 9 th Avenue	Signalized	A/6.9 sec (A/6.9 sec) [A/6.7sec]	A (A) [A]	A (A) [A]	D (D) [D]	D (D) [D]
NE 7 th Avenue and Driveway 4	Two-Way Stop Control	(1)	A (A) [A]	(2)	(3)	(3)
NE 2 nd Avenue and Driveway 5	Two-Way Stop Control	(1)	A (A) [A]	(2)	(3)	(3)
NE 7 th Avenue and NE 20 th Street	All-Way Stop Control	A/7.2 sec (A/7.2 sec) [A/7.2 sec]	A (A) [A]	A (A) [A]	A (A) [A]	A (A) [A]

- Notes: (1) Overall intersection LOS is not defined, as intersection operates under stop-control conditions.
 (2) Approach does not exist.
 (3) Approach operates under free-flow conditions. LOS is not defined.
 (4) Intersection does not exist under future total analysis scenario.

ENTRY GATE ANALYSIS

An entry gate queue analysis for the proposed redevelopment using the methodology outlined in ITE’s *Transportation and Land Development*, 1988 was performed at the garage entry gate. The exact location of the entry gate has not been finalized; however, it will be located such that sufficient storage length is provided to accommodate anticipated queues on-site without extending onto the public right-of-way.

Vehicles accessing the entry gate are assumed to gain access via a proximity card. It was determined that the average service rate will be approximately 600 vehicles per hour (6.0 seconds per vehicle) based on processing times provided in *Parking Structures 3rd Edition: Planning, Design, Construction, Maintenance, and Repair*, 2001.

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

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

The analysis determined the required queue storage, M, which is exceeded P percent of the time. This analysis seeks to examine if the queue length exceeds the storage provided at a level of confidence of 95 percent (95%). Table 3 summarizes the entry gate analysis.

Table 3: Peak Hour Entry Gate Queuing Analysis			
Entry Gate	Entering Volumes (vph)	Service Rates (minutes/vehicle)	95 th Percentile Queue Behind Service Position
Parking Garage	43	0.10	< 1 vehicle

The 95th percentile queue length for the garage entry gate is less than one (1) vehicle behind the service position during the A.M. peak hour. Therefore, the entry gate should be located with at least one (1) vehicle length of storage to accommodate queues on-site without extending onto the public right-of-way. Detailed entry gate calculations are included in Appendix J.

CONCLUSION

2262 Wilton Drive Owner, LLC is proposing to redevelop the property located on the southeast corner of NE 7th Avenue and SR 811/Wilton Drive in Wilton Manors, Florida. Currently, the site proposed for redevelopment is occupied by a surface parking lot and a total of 74,609 square feet of total commercial space (gross leasable area – GLA consisting of 29,093 square feet on Parcel A and 45,516 square feet on Parcel B). The redevelopment consists of an approximately 255 mid-rise dwelling units and approximately 25,000 square feet of commercial space located entirely on Parcel B, resulting in a total of approximately 255 mid-rise dwelling units and approximately 56,000 square feet of commercial space. The proposed development is expected to be completed by year 2025.

Access to the development is currently provided via three (3) driveways along SR 811/Wilton Drive, west of NE 7th Avenue and two (2) driveways along NE 7th Avenue, south of SR 811/Wilton Drive. As part of the redevelopment, the existing driveway located along SR 811/Wilton Drive, east of NE 6th Avenue is proposed to be eliminated. Additionally, driveways along NE 7th Avenue are proposed to restrict egress access to left out only.

Trip generation calculations for the proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. The project is expected to generate 78 net new weekday A.M. peak hour vehicular trips and a nominal increase of 10 net new weekday P.M. peak hour vehicular trips. Existing driveway volume data collection performed as part of the trip generation analysis determined that the trip generation credit assumed for the existing development is within 10 percent (10%) of the ITE estimates. Therefore, a P.M. peak period (4:00 P.M. to 6:00 P.M.) analysis was not conducted for the study intersections and project driveways.

The results of the intersection capacity analysis indicate that the study intersections are expected to operate at levels of service (LOS) B or better during all analysis scenarios.

The results of the entry gate analysis indicate that the entry gate should be located with at least one (1) vehicle length of storage to accommodate queues on-site without extending onto the public right-of-way.

Appendix A
Site Plan

Appendix B

Methodology Correspondence

EXHIBIT E

Selanikio, Raquel

From: Selanikio, Raquel
Sent: Thursday, September 1, 2022 10:56 AM
To: Selanikio, Raquel
Subject: FW: Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01) - Traffic Impact Study Methodology Review Response to Comments WLTMC #221585.80
Attachments: 08 02 22 Kalus Memo - Traffic Impact Study Methodology Response to Comments ss.pdf

From: Rebecca Travis <rtravis@baxterwoodman.com>
Sent: Wednesday, August 10, 2022 6:12 PM
To: McWilliams, John <John.McWilliams@kimley-horn.com>
Subject: FW: Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01) - Traffic Impact Study Methodology Review Response to Comments WLTMC #221585.80

You don't often get email from rtravis@baxterwoodman.com. [Learn why this is important](#)

From: Rebecca Travis
Sent: Wednesday, August 10, 2022 6:10 PM
To: Evangeline Kalus <ekalus@wiltonmanors.com>
Cc: Roberta Moore <RMoore@wiltonmanors.com>; john.mcwilliams@kinlye-horn.com; Cassandra J. Cruise <CCruise@baxterwoodman.com>
Subject: RE: Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01) - Traffic Impact Study Methodology Review Response to Comments WLTMC #221585.80

Evy,
We have no further comment on the traffic methodology and the subsequent response for the Shoppes at Wilton Manors application. See attached.
Thank you.

Rebecca Travis, P.E. (FL, TX)
Executive Vice President
Florida Division Manager



cell: 561.308.7544 | direct: 561-425-7715

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From: Jason J. Fluhr <jfluhr@baxterwoodman.com>
Sent: Wednesday, August 10, 2022 4:54 PM
To: Rebecca Travis <rtravis@baxterwoodman.com>
Cc: Cassandra J. Cruise <CCruise@baxterwoodman.com>
Subject: RE: Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01) - Traffic Impact Study Methodology Review Response to Comments WLTMC #221585.80

Rebecca – we have no further comment on the traffic methodology. Note that Cassie is taking over this project from Sarah.

Jason

EXHIBIT E

From: Evangeline Kalus <ekalus@wiltonmanors.com>
Sent: Tuesday, August 2, 2022 4:21 PM
To: Rebecca Travis <rtravis@baxterwoodman.com>
Cc: Roberta Moore <RMoore@wiltonmanors.com>; McWilliams, John <John.McWilliams@kimley-horn.com>
Subject: FW: Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01) - Traffic Impact Study Methodology Review Response to Comments

***** CAUTION: Think Security!** This email originated from outside of Baxter & Woodman, Inc. Do not click on links or open attachments unless you recognize the sender and know that the content is safe.

Greetings. Attached is a response memo to address your comments for the above referenced project. If you have any questions, the applicant's consultant has been copied on this email.

Thank you,

EvY

Evangeline G. Kalus
City Planner
Community Development Services
City of Wilton Manors
2020 Wilton Drive
Wilton Manors, Florida 33305
(954) 390-2187
ekalus@wiltonmanors.com

Our office hours are 7am – 6pm, Monday – Thursday



Life's Just Better Here

Please note: Florida Public Records Law provides that most written communications to or from municipal employees regarding city business are public records, available to the public and media upon request. Therefore, this e-mail message may be subject to public disclosure.

From: McWilliams, John <John.McWilliams@kimley-horn.com>
Sent: Tuesday, August 2, 2022 4:17 PM
To: Evangeline Kalus <ekalus@wiltonmanors.com>
Cc: Brent Thurn <bthurn@grassriver.com>; Jorge Espinal <jespinal@grassriver.com>; Fye, Barton <barton.fye@kimley-horn.com>
Subject: Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01) - Traffic Impact Study Methodology Review Response to Comments

THIS IS AN EMAIL FROM AN OUTSIDE SENDER !

EXHIBIT E

Evy:

Good afternoon. We are in receipt of your consultant's comments on the traffic study methodology for the above-mentioned project. We have prepared a response memo accompanied by a revised methodology document. Please forward to your consultant and let me know if you have any questions. We look forward to moving forward with the study once feedback it received.

Regards,

John

John J. McWilliams, P.E.

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

Direct: 954-535-5106 | Mobile: 954-873-9407 | www.kimley-horn.com



MEMORANDUM

To: Evangeline Kalus
City Planner
City of Wilton Manors

From: John J. McWilliams, P.E. 
Raquel Selanikio, E.I. 

Date: August 2, 2022

**Subject: Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01)
Traffic Impact Study Methodology Review Response to Comments**

We received Baxter & Woodman's comment memorandum dated 7/28/2022 and offer the following response to their comments:

1. Page 1 of the memo states that the existing development was determined to be consistent with ITE lane use code 821 (Strip Retail Plaza). The ITE land use code for Strip Retail Plaza is 822. The calculation in Attachment B uses the land use code for Shopping Plaza to determine the existing conditions. Please clarify which land use code you are using and make sure the calculations match what is stated in the memo.

8/2/2022 KH Response: The appropriate ITE Land Use Code (LUC) for both the existing and proposed uses is LUC 821: Shopping Plaza (40-150k) as the overall retail space under both scenarios exceed 40,000 s.f. The memorandum has been revised accordingly. The revised methodology is included as Attachment A-1.

2. Page 2 of the memo states that an internal capture of 1.2% is expected for the AM peak and an internal capture of 22.9% is expected for the PM Peak. Are the future tenants of the retail plaza known? Provide justification for using this internal capture rate, particularly the PM Peak capture rate.

8/2/2022 KH Response: The internal capture rates was calculated using the standard methodologies outlined in ITE's Trip Generation Handbook, 3rd Edition for residential and retail uses. No modifications to standard internal capture were applied. Lower internal capture rates between these uses are common during the A.M. peak hour as many shopping plaza uses are not open for business during that period. PM peak period internal capture rates for these compatible uses are very common and widely accepted in South Florida. Although no specific tenants are known at this time, the general uses expected in ground floor of the proposed building are consistent with ITE LUC 821.

3. The calculations in Attachment B show no internal capture for the existing Strip Retail Plaza. The calculations for the proposed Strip Retail Plaza show a high internal capture rate. If both the existing and proposed commercial developments are being analyzed as Strip Retail Plazas, why is there no internal capture in the existing conditions and a high internal capture rate in the proposed condition? Provide justification that the future tenants of the retail plaza will have a higher internal capture rate than the existing tenants. If the anticipated internal capture is from the attached residences alone, please state this and provide justification.

8/2/2022 KH Response: *The trip generation for the existing and proposed retail uses were estimated using ITE LUC 821: Shopping Plaza. ITE states the following “ A shopping plaza typically contains more than retail merchandising facilities. Office space, a movie theater, restaurants, a post office, banks, a health club, and .recreational facilities are common tenants.” Given that the trip generation rate accounts for the mixture of uses, the internalization between those retail uses are inherently include in the trip generation rate. Therefore, internalization between the retail tenants of LUC 821 is applied in the analysis consistent with professional standards.*

However, the proposed development plan includes a residential component in addition to retail uses which, as mentioned in our response to Comment #2, is a highly compatible mix of uses. Therefore, internal capture can be expected between the Shopping Plaza and the residential development. As result, internal capture reductions are applied both uses to account for this interaction consistent with professional standards.

4. Under the Data Collection Section, it states that a PM peak hour analysis will not be completed because the predicted number of trips will decrease. This statement requires further analysis and justification. The existing strip mall is not fully utilized, and the redeveloped strip mall should be analyzed as though it will be fully utilized. Existing traffic counts need to be collected to establish the existing baseline traffic (which presumably will be less than proposed conditions since existing strip mall is not fully utilized). Between the assumed high number of internal trip captures and the likely difference in existing vs. proposed traffic at the strip mall, it seems likely the traffic will increase with the redevelopment, and that increase in traffic should be analyzed to prove this development will not have impacts on the surrounding traffic network.

8/2/2022 KH Response: *The trip generation calculations were revised to only take credit for the currently leased portions of the existing buildings on Parcel A and Parcel B to provide for conservative analysis. Note that both buildings are currently occupied at rates of 88 percent (88%) and 82 percent (82%) and the vacant portions could be leased at anytime by the applicant without additional formal site plan approvals and the ITE rates does not assume 100 percent occupancy. As indicated in the revised methodology, the proposed development generates 3 additional external trips during the PM peak hour. The revised methodology is included as Attachment A-1.*

In order to expedite the review and approval of this methodology, weekday AM and PM period driveway counts will be conducted to determine the existing trip generation for the site as part of this study. If it is determined that the existing trip generation is significantly lower (10 percent or more) than estimated using ITE rates, the study trip generation calculations will be adjusted, and the PM peak hour analysis will be conducted for the same study area as proposed the for AM peak period.

Attachment A-1

Revised Traffic Study Methodology



MEMORANDUM

To: Evangeline G. Kalus
City Planner
City of Wilton Manors

From: John J. McWilliams, P.E. 

Date: August 2, 2022

**Subject: *Shoppes at Wilton Manors - 2262 Wilton Drive Owner LLC (PL 22-01)
Revised Traffic Impact Study Methodology***

The purpose of this memorandum is to summarize the traffic impact study methodology for the proposed redevelopment of the property generally located on the southeast corner of NE 7th Avenue and SR 811/Wilton Drive in the City of Wilton Manors. The properties proposed for redevelopment are currently occupied by a surface parking lot and a total of 74,609 square feet of total commercial space (gross leasable area – GLA) consisting of 29,093 square feet on Parcel A and 45,516 square feet on Parcel B). The proposed redevelopment will be located entirely on Parcel B and will consist of 255 mid-rise dwelling units (+/-) and approximately 23,710 square feet (GLA) of commercial space. The existing commercial space on Parcel B will be demolished while the existing commercial spaces on Parcel A will remain. Therefore, the final amount of commercial space on the site after the redevelopment is 52,803 square feet (GLA). The project is expected to be completed and opened by year 2025. A location map and conceptual site plan are provided in Attachment A. The following sections summarize our proposed methodology.

TRIP GENERATION

Trip generation calculations for the proposed development were performed using the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual*, 11th Edition. The trip generation for the existing and proposed retail development was determined using ITE land use code (LUC) 821 (Shopping Plaza 40-150k – No Supermarket). Note that LUC 821 includes retail plazas that contain office space, banks, and restaurants within the development, consistent with the existing and proposed tenant mix for this project. Only credit for the occupied portions of the existing Parcel A retail (25,478 s.f.) and Parcel B retail (37,183 square feet) was assumed in the trip generation calculations to provide for a conservative analysis. The trip generation for the proposed residential portion of the redevelopment was determined using ITE LUC 221 (Multifamily Housing [Mid-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 which the redevelopment is located. A multimodal factor of 11.1 percent (11.1%) was conservatively assumed for the proposed redevelopment. 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 redevelopment. Transit route information will be documented in the report.

Internal capture is expected between the complementary land uses within the project. Internal capture trips for the project were determined based upon methodology contained in the ITE's *Trip Generation Handbook*, 3rd Edition. An internal capture rate of 1.2 percent (1.2%) is expected for the A.M. peak hour trip generation and 22.2 percent (22.2%) is expected for the P.M. peak hour trip generation for the proposed redevelopment.

Pass-by capture trip rates were determined based on average rates provided in the ITE's *Trip Generation Manual*, 11th Edition. A pass-by rate of 40.0 percent (40.0%) based on LUC 821 (Shopping Plaza) was utilized during the P.M. peak hour.

The project is expected result in an increase of 73 net new weekday A.M. peak hour vehicular trips, and a nominal increase of three (3) net new weekday P.M. peak hour vehicular trips. Trip generation calculations may be revised based on updates to the development program and/or site plan modifications. Detailed trip generation calculations and US Census *Means of Transportation to Work* data are included in Attachment B.

At the request of the City's traffic engineering consultant, weekday 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 will be conducted at the existing site driveways to confirm the external trip generation of the current development. If the field collected trip generation data is significantly lower (10% less than ITE estimates), the trip generation calculations will be updated to include the existing driveway volume data.

STUDY AREA

Based on the proposed development plan, the following intersections, in addition to the project driveways, are proposed to be analyzed:

1. SR 811/Wilton Drive at NE 6th Avenue/Project Driveway
2. SR 811/Wilton Drive at NE 7th Avenue
3. SR 811/Wilton Drive at NE 22nd Street
4. SR 811/Wilton Drive at NE 9th Avenue
5. NE 7th Avenue at NE 20th Street

DATA COLLECTION

Turning movement counts will be collected on a typical weekday (Tuesday, Wednesday, or Thursday) during the A.M. (7:00 to 9:00 A.M.) peak period at all study intersections and project driveways. A P.M. peak period analysis is not currently proposed as the project is expected not expected to result in an increase in P.M. peak hour trip generation. However, if the existing driveway volume data collection performed as part of the trip generation analysis determines that the trip generation credit assumed for the existing development is significantly lower than ITE estimates, a weekday P.M. peak period (4:00 P.M. to 6:00 P.M.) analysis and data collection will be performed for the study intersections and project driveways. Turning movement counts will be collected in 15-minute intervals and will include pedestrians and bicyclists.

All traffic counts will be adjusted to peak season conditions using the appropriate FDOT peak season category factors. Traffic signal timing information will be obtained from Broward County Traffic Engineering Division. All traffic data collected will be provided in the Appendix of the traffic impact study.

TRIP DISTRIBUTION

Trip distribution will be determined using a select zone analysis for the appropriate Traffic Analysis Zone (TAZ) in the Florida Standard Urban Transportation Model Structure (FSUTMS) Southeast Florida Regional Planning Model (SERPM). Adjustments to the traffic distribution will be made to account for project trips utilizing the local roadway network as a result of the site's access management restrictions and based on turning movement counts collected at study area intersections.

BACKGROUND GROWTH RATE/MAJOR COMMITTED DEVELOPMENT

A background growth rate will be calculated based on historical growth trends at nearby FDOT traffic count stations. Additionally, growth rates based on the FSUTMS SERPM 2015 and 2045 model network volumes will be examined. The higher of the two (2) growth rates will be used in the analysis. Note that a minimum growth rate of 0.5 percent (0.5%) will be used for analysis. Documentation will be provided in the Appendix of the traffic impact study.

The City's has identified the following future development projects in the vicinity of the site:

- The Ave (3058 North Andrews Avenue)
- Kaplan Residential (2449 NE 13th Avenue)
- Related Group (2501 NE 13th Avenue)
- Stellar (1550 NE 26th Street)
- Old Jaxi/Green Diner Building (500 East Oakland Park Boulevard)
- Andrews Office Building/Retail (1985 North Andrews Avenue)
- Andrews Avenue (2916 North Andrews Avenue)

This methodology assumes that the City will provide all traffic studies performed for these committed developments for inclusion as background traffic. If a committed development study was not required by the City, it is assumed the development will have a nominal traffic impact in the study area and will be accounted for as part of the background growth rate. Furthermore, if the study area/intersections for a committed development project does not overlap with the proposed study area, it is also assumed that the committed development project will have a negligible impact on the study and will, therefore, be accounted for in the background growth rate.

INTERSECTION CAPACITY ANALYSIS

Capacity analyses will be conducted for the A.M. peak hour at the study intersections. Intersection analyses will be performed using *Synchro* traffic engineering analysis software which applies the Transportation Research Board's (TRB's), *Highway Capacity Manual* (HCM) 2000 and 6th Edition methodologies. Capacity analyses will be conducted for three (3) scenarios: existing, future build-out without project (future background conditions), and future build-out with project (future total conditions). A build-out year of 2025 will be used in the analysis.

The following figures will be included for the study intersections:

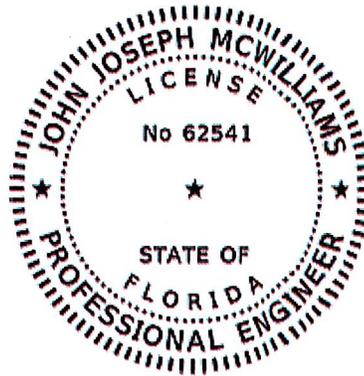
- Existing conditions
- Future background traffic conditions (with growth rate and committed development traffic)
- Trip distribution
- Trip assignment
- Future total traffic conditions (with project)

GARAGE ENTRY GATE OPERATIONS ANALYSIS

A 95th 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 and/or *Parking Structures 3rd Edition: Planning, Design, Construction, Maintenance, and Repair*, 2001. 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.



This document has been digitally signed and sealed by John J. McWilliams, P.E., on the date adjacent to the seal.

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

John J. McWilliams, P.E.
Florida Registration Number 62541
Kimley-Horn and Associates, Inc.
8201 Peters Road, Suite 2200
Fort Lauderdale, FL 33324

Attachment A

Conceptual Site Plan/Location Map

EXHIBIT E



Figure 1
Location Map
Wilma on the Drive
Wilton Manors, Florida

Attachment B

Trip Generation Calculations

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY AM PEAK HOUR TRIP GENERATION

ITE	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	Units	In	Out	In	Out	Total	Percent	MR	In	Out	Total	Percent	IC	In	Out	Total	Percent	PB	In	Out	Total					
		11	821	62,661	kSF	62%	38%	67	41	108	11.1%	12	60	36	96	0.0%	0	60	36	96	0.0%	0	60	36	96					
1	Shopping Plaza (40-150k)																													
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
ITE Land Use Code					Rate or Equation																									
821					Y=1.72(X)																									
Total:						62%	38%	67	41	108	11.1%	12	60	36	96	0.0%	0	60	36	96	0.0%	0	60	36	96	0.0%	0	60	36	96

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

ITE	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	Units	In	Out	In	Out	Total	Percent	MR	In	Out	Total	Percent	IC	In	Out	Total	Percent	PB	In	Out	Total					
		11	221	235	du	23%	77%	23	78	101	11.1%	11	20	70	90	1.1%	1	20	69	89	0.0%	0	20	69	89					
1	Multifamily Housing (Mid-Rise)																													
2	Shopping Plaza (40-150k)																													
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
ITE Land Use Code					Rate or Equation																									
221					Y=0.441(X)+11.61																									
821					Y=1.72(X)																									
Total:						23%	77%	23	78	101	11.1%	11	20	70	90	1.1%	1	20	69	89	0.0%	0	20	69	89	0.0%	0	20	69	89

NET NEW TRIPS	9	64	73
IN	9	64	73
OUT	0	0	0
TOTAL	9	64	73

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

ITE	ITE Land Use	ITE TRIP GENERATION CHARACTERISTICS			DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION			GROSS TRIPS			INTERNAL CAPTURE			EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE			NET NEW EXTERNAL TRIPS				
		ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR	In	Out	Total	Percent	IC	In	Out	Total	Percent	PB	In	Out	Total	Percent	IN	OUT	TOTAL
1	Shopping Plaza (40-150k)	11	821	62,661	ksf	49%	51%	159	166	325	11.1%	36	141	148	289	0.0%	0	141	148	289	40.0%	116	84	89	173				
2																													
3																													
4																													
G																													
R																													
O																													
U																													
P																													
1																													
12																													
13																													
14																													
15																													
Total:								159	166	325	11.1%	36	141	148	289	0.0%	0	141	148	289	40.1%	116	84	89	173				

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

ITE	ITE Land Use	ITE TRIP GENERATION CHARACTERISTICS			DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION			GROSS TRIPS			INTERNAL CAPTURE			EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE			NET NEW EXTERNAL TRIPS				
		ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR	In	Out	Total	Percent	IC	In	Out	Total	Percent	PB	In	Out	Total	Percent	IN	OUT	TOTAL
1	Multi-family Housing (Mid-Rise)	11	221	255	du	61%	39%	51	39	100	11.1%	11	54	35	89	41.6%	37	29	23	52	0.0%	0	29	23	52				
2	Shopping Plaza (40-150k)	11	821	62,803	ksf	49%	51%	134	140	274	11.1%	30	119	125	244	15.2%	37	107	100	207	40.0%	83	64	60	124				
3																													
4																													
G																													
R																													
O																													
U																													
P																													
2																													
12																													
13																													
14																													
15																													
Total:								195	179	374	11.1%	41	173	160	333	22.2%	74	136	123	259	32.0%	83	93	83	176				

NET NEW TRIPS	9	-6	3
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EXHIBIT E

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	50	31	119	125
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	20	70	54	35
	Hotel	0	0	0	0
		70	101	173	160

INTERNAL TRIPS					
OUTPUT	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office	0	0	0	0
	Retail	1	0	12	25
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	0	1	25	12
	Hotel	0	0	0	0
		1	1	37	37

OUTPUT	<i>Total % Reduction</i>	<i>1.2%</i>	<i>22.2%</i>
		Office	
	Retail	1.2%	15.2%
	Restaurant		
	Cinema/Entertainment		
	Residential	1.1%	41.6%
	Hotel		

EXTERNAL TRIPS					
OUTPUT	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office	0	0	0	0
	Retail	49	31	107	100
	Restaurant	0	0	0	0
	Cinema/Entertainment	0	0	0	0
	Residential	20	69	29	23
	Hotel	0	0	0	0
		69	100	136	123



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.

$(106+84+86) / 2487 = 11.1\%$		Census Tract 510.01, Broward County, Florida	
Label	Estimate	Margin of Error	
▼ Total:	2,487	±323	
▼ Car, truck, or van:	1,931	±289	
Drove alone	1,889	±282	
▼ Carpooled:	42	±55	
In 2-person carpool	42	±55	
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):	106	±88	
Bus	79	±81	
Subway or elevated rail	0	±14	
Long-distance train or commuter rail	27	±35	
Light rail, streetcar or trolley (carro público in Puerto Rico)	0	±14	
Ferryboat	0	±14	
Taxicab	0	±14	
Motorcycle	11	±18	
Bicycle	84	±116	
Walked	86	±51	
Other means	0	±14	
Worked from home	269	±176	

Table Notes

MEANS OF TRANSPORTATION TO WORK

Survey/Program: American Community Survey

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.

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

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.

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.

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.

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

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

Appendix C
Traffic Data

EXHIBIT E

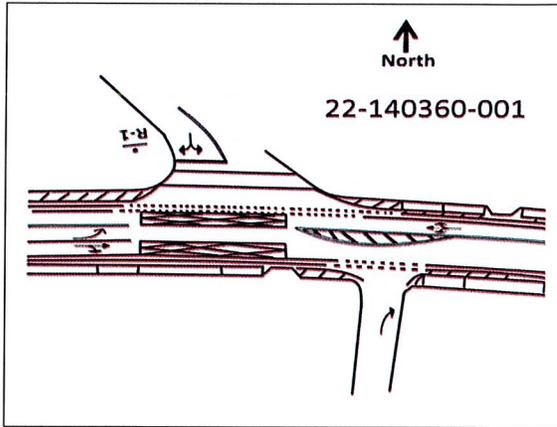
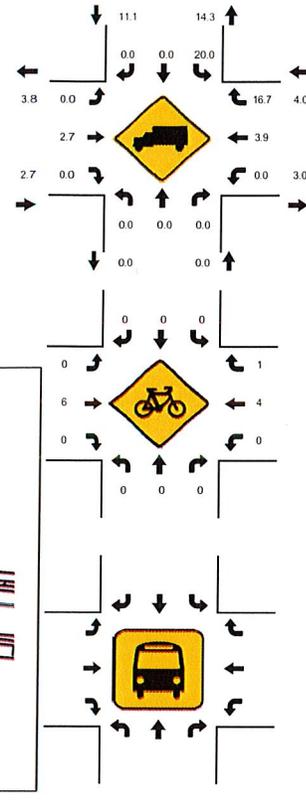
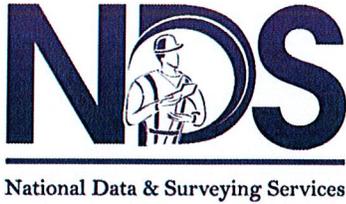
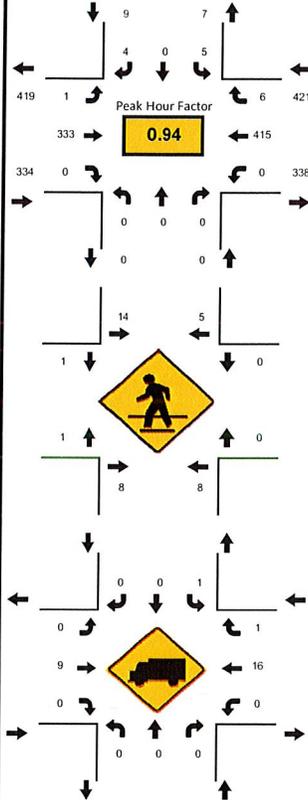
Turning Movement Counts

EXHIBIT E

LOCATION: NE 22nd St & SR 811/Wilton Dr
 CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-001
 DATE: Wed, Aug 03, 2022

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



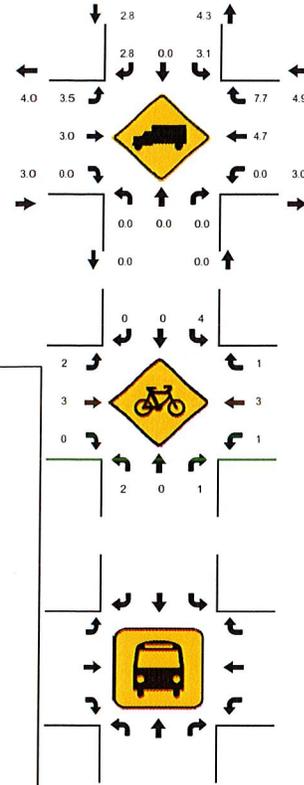
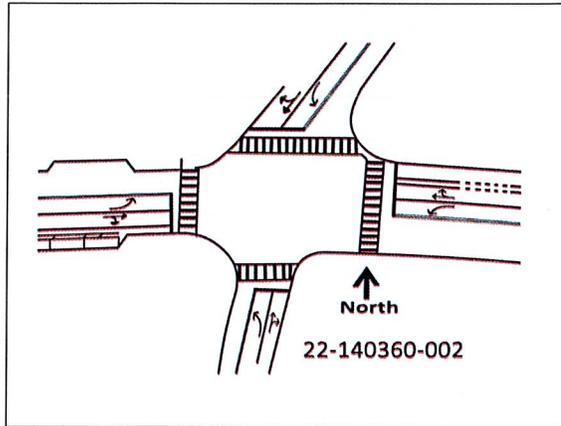
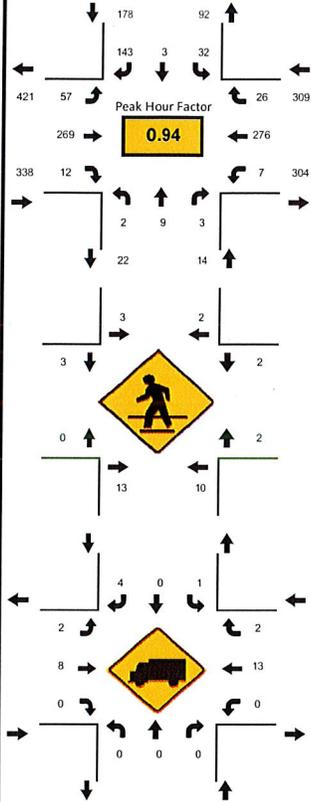
15-Min Count Period Beginning At	NE 22nd St Northbound					NE 22nd St Southbound					SR 811/Wilton Dr Eastbound					SR 811/Wilton Dr Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	0	0	0	0	3	0	0	0	0	0	47	0	0	0	0	39	0	0	0	89	509
07:15 AM	0	0	0	0	0	2	0	0	0	0	0	44	0	0	0	0	67	3	0	0	116	591
07:30 AM	0	0	0	0	0	0	0	1	0	0	1	50	0	0	0	0	73	0	0	0	125	679
07:45 AM	0	0	0	0	0	2	0	1	0	0	2	80	1	0	0	0	93	0	0	0	179	745
08:00 AM	0	0	0	0	0	3	0	0	0	0	0	72	0	0	0	0	95	1	0	0	171	764
08:15 AM	0	0	0	0	0	1	0	2	0	0	0	85	0	0	0	0	112	4	0	0	204	593
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	86	0	0	0	0	103	0	0	0	191	389
08:45 AM	0	0	0	0	0	0	0	1	0	0	1	90	0	0	0	0	105	1	0	0	198	198
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	0	0	0	0	0	12	0	8	0	0	4	360	0	0	0	0	448	16	0	0	848	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	16	0	0	0	0	40	4	0	0	64	
Pedestrians		60					32					4					0				96	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	8	4	0	0	24	
Buses																						
Stopped Buses																						

EXHIBIT E

LOCATION: NE 6th Ave/Shoppes of Wilton Manors Dwy & SR 811/Wilton Dr
 CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-002
 DATE: Wed, Aug 03, 2022

Peak-Hour: 08:00 AM - 09:00 AM
 Peak 15-Minute: 08:45 AM - 09:00 AM



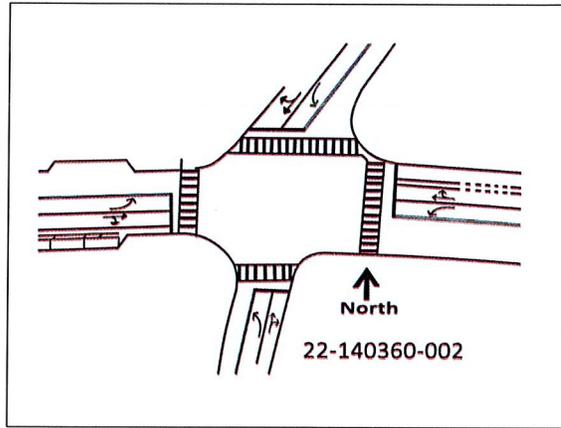
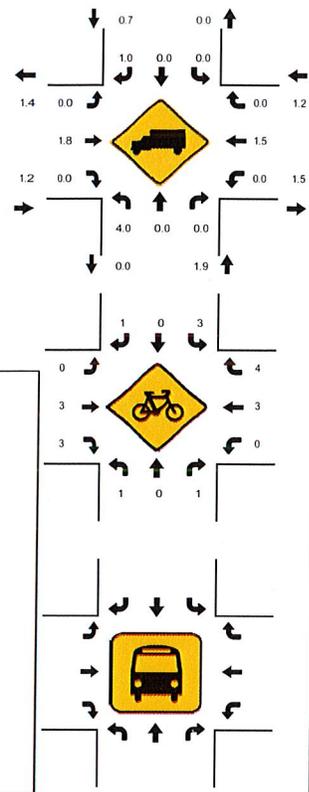
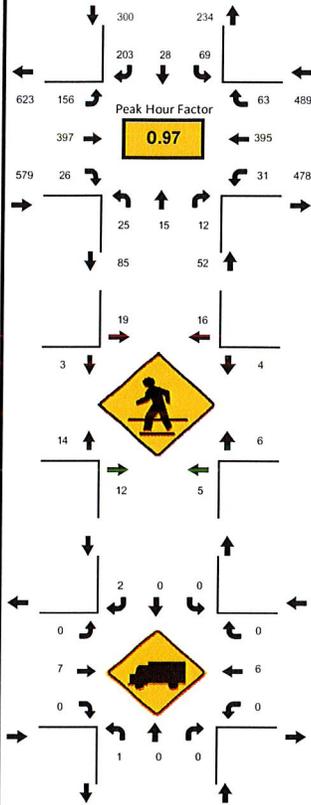
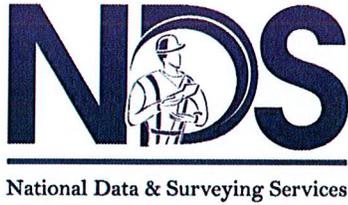
15-Min Count Period Beginning At	th Ave/Shoppes of Wilton Manors Northbound					th Ave/Shoppes of Wilton Manors Southbound					SR 811/Wilton Dr Eastbound					SR 811/Wilton Dr Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	0	0	0	0	1	1	6	0	0	10	40	1	0	0	1	34	0	0	0	94	538
07:15 AM	0	0	0	0	0	5	1	23	0	0	7	37	1	0	0	0	46	2	0	0	122	634
07:30 AM	2	0	0	0	0	4	0	23	0	0	8	40	2	0	0	2	50	2	0	0	133	726
07:45 AM	0	0	3	0	0	4	1	32	0	0	17	65	1	0	0	1	60	5	0	0	189	804
08:00 AM	0	1	0	0	0	8	1	34	0	0	10	63	2	0	0	1	62	8	0	0	190	839
08:15 AM	0	1	1	0	0	4	0	34	0	0	14	70	1	0	0	0	82	7	0	0	214	649
08:30 AM	1	3	2	0	0	5	2	39	0	0	14	68	5	0	0	3	62	7	0	0	211	435
08:45 AM	1	4	0	0	0	15	0	36	0	0	19	68	4	0	0	3	70	4	0	0	224	224
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	4	16	8	0	0	60	8	156	0	0	76	280	20	0	0	12	328	32	0	0	1000	
Heavy Trucks	0	0	0	0	0	4	0	16	0	0	4	12	0	0	0	0	24	4	0	0	64	
Pedestrians		28					12					4					8				52	
Bicycles	4	0	4	0	0	8	0	0	0	0	4	4	0	0	0	4	4	4	0	0	36	
Buses Stopped Buses																						

EXHIBIT E

LOCATION: NE 6th Ave/Shoppes of Wilton Manors Dwy & SR 811/Wilton Dr
 CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-002
 DATE: Wed, Aug 03, 2022

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



15-Min Count Period Beginning At	th Ave/Shoppes of Wilton Manors Northbound					th Ave/Shoppes of Wilton Manors Southbound					SR 811/Wilton Dr Eastbound					SR 811/Wilton Dr 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	4	3	4	0		11	2	39	0		43	91	4	0		4	101	9	0		315	1321
04:15 PM	3	1	3	0		12	6	29	0		42	116	3	0		1	93	6	0		315	1371
04:30 PM	2	4	4	0		13	2	44	0		38	98	8	0		3	114	14	1		345	1409
04:45 PM	4	2	1	0		16	7	43	0		42	90	9	0		3	118	11	0		346	1410
05:00 PM	6	8	2	0		19	3	53	0		38	109	10	0		6	98	12	1		365	1420
05:15 PM	3	4	4	0		14	10	59	0		37	92	4	0		4	104	18	0		353	1055
05:30 PM	8	0	2	0		11	5	44	0		50	100	7	0		8	94	16	1		346	702
05:45 PM	8	3	4	0		25	10	47	0		31	96	5	0		11	99	17	0		356	356
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	32	32	16	0		100	40	236	0		200	436	40	0		44	416	72	4		1668	
Heavy Trucks	4	0	0	0		0	0	4	0		0	12	0	0		0	16	0	0		36	
Pedestrians		24					52					24					12				112	
Bicycles	4	0	4	0		8	0	4	0		0	8	12	0		0	4	8	0		52	
Buses																						
Stopped Buses																						

EXHIBIT E

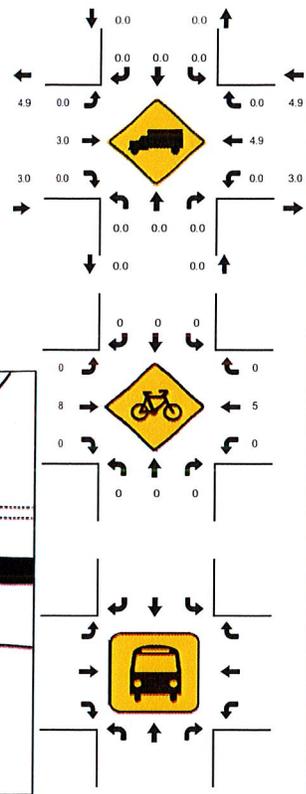
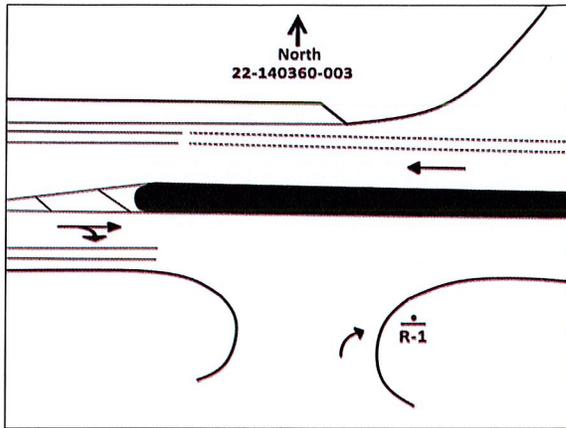
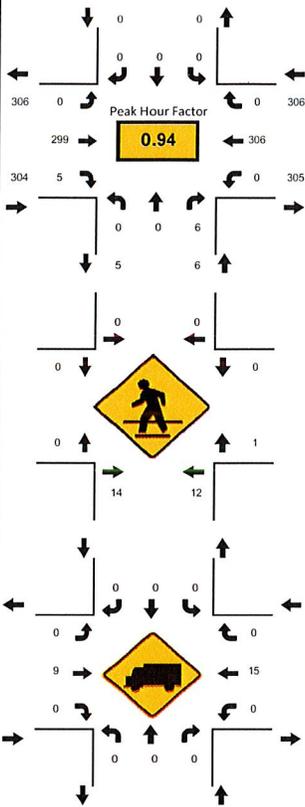
LOCATION: Shoppes of Wilton Manors East Dwy & SR 811/Wilton Dr
 CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-003
 DATE: Wed, Aug 03, 2022

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



National Data & Surveying Services



15-Min Count Period Beginning At	Shoppes of Wilton Manors East Dwy Northbound					Shoppes of Wilton Manors East Dwy Southbound					SR 811/Wilton Dr Eastbound					SR 811/Wilton Dr 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	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0	36	0	0	0	79	408
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0	48	0	0	0	91	472
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	42	1	0	0	0	58	0	0	0	101	545
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	73	0	0	0	0	64	0	0	0	137	589
08:00 AM	0	0	1	0	0	0	0	0	0	0	0	71	0	0	0	0	71	0	0	0	143	616
08:15 AM	0	0	1	0	0	0	0	0	0	0	0	76	0	0	0	0	87	0	0	0	164	473
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	73	0	0	0	0	72	0	0	0	145	309
08:45 AM	0	0	4	0	0	0	0	0	0	0	0	79	5	0	0	0	76	0	0	0	164	164
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	0	0	16	0	0	0	0	0	0	0	0	316	20	0	0	0	348	0	0	0	700	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	24	0	0	0	40	
Pedestrians			28					0				0					4				32	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	12	0	0	0	28	
Buses																						
Stopped Buses																						

EXHIBIT E

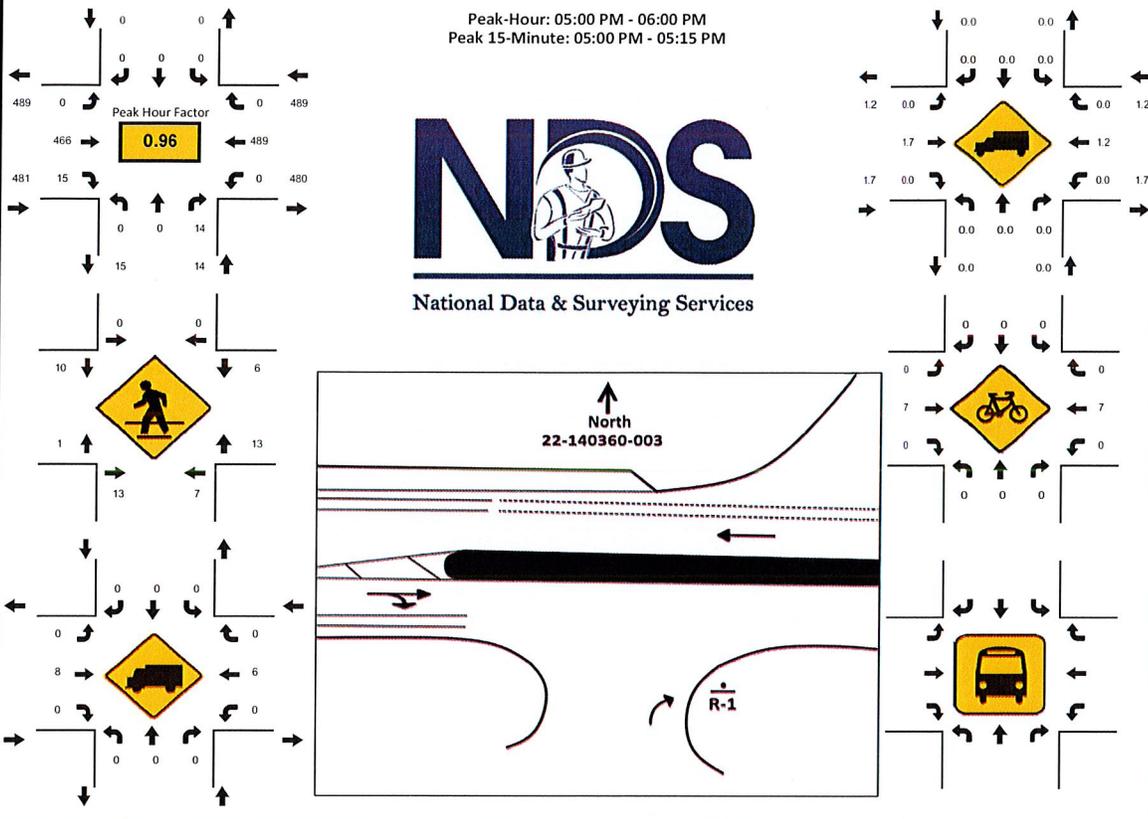
LOCATION: Shoppes of Wilton Manors East Dwy & SR 811/Wilton Dr
 CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-003
 DATE: Wed, Aug 03, 2022

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



National Data & Surveying Services



15-Min Count Period Beginning At	Shoppes of Wilton Manors East Dwy Northbound				Shoppes of Wilton Manors East Dwy Southbound				SR 811/Wilton Dr Eastbound				SR 811/Wilton Dr Westbound				Total	Hourly Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left			Thru
04:00 PM	0	0	8	0	0	0	0	0	0	105	3	0	0	109	0	0	225	945	
04:15 PM	0	0	3	0	0	0	0	0	0	124	2	0	0	102	0	0	231	977	
04:30 PM	0	0	1	0	0	0	0	0	0	117	2	0	0	130	0	0	250	980	
04:45 PM	0	0	1	0	0	0	0	0	0	104	0	0	0	134	0	0	239	970	
05:00 PM	0	0	3	0	0	0	0	0	0	133	1	0	0	120	0	0	257	984	
05:15 PM	0	0	3	0	0	0	0	0	0	104	4	0	0	123	0	0	234	727	
05:30 PM	0	0	3	0	0	0	0	0	0	112	4	0	0	121	0	0	240	493	
05:45 PM	0	0	5	0	0	0	0	0	0	117	6	0	0	125	0	0	253	253	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
All Vehicles	0	0	20	0	0	0	0	0	0	532	24	0	0	500	0	0	1076		
Heavy Trucks	0	0	0	0	0	0	0	0	0	12	0	0	0	12	0	0	24		
Pedestrians			24				0			24				56			104		
Bicycles	0	0	0	0	0	0	0	0	0	16	0	0	0	16	0	0	32		
Buses																			
Stopped Buses																			

EXHIBIT E

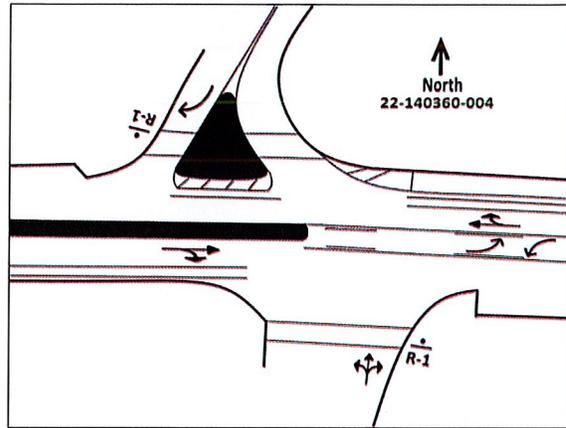
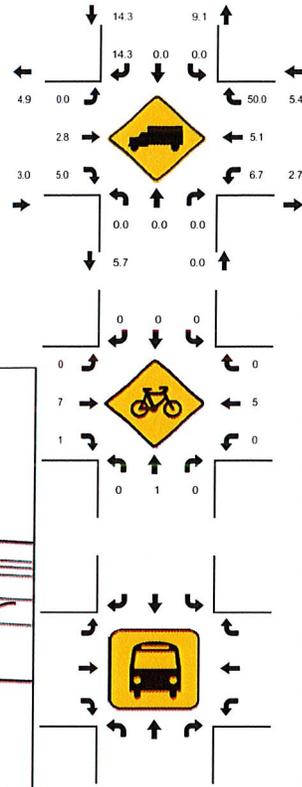
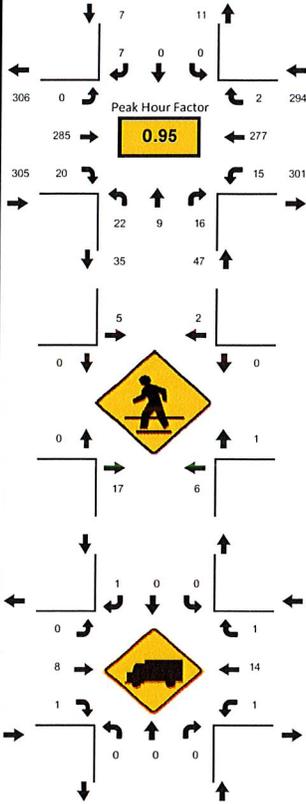
LOCATION: NE 7th Ave & SR 811/Wilton Dr
CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-004
DATE: Wed, Aug 03, 2022

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



National Data & Surveying Services



15-Min Count Period Beginning At	NE 7th Ave Northbound				NE 7th Ave Southbound				SR 811/Wilton Dr Eastbound				SR 811/Wilton Dr Westbound				Total	Hourly Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left			Thru
07:00 AM	2	2	1	0	0	0	2	0	0	41	2	0	4	32	0	0	86	436	
07:15 AM	5	1	1	0	0	0	3	0	0	41	2	0	0	40	0	0	93	498	
07:30 AM	2	2	4	0	0	0	1	0	0	41	1	0	4	55	1	0	111	577	
07:45 AM	5	2	7	0	0	0	3	0	0	69	4	0	0	56	0	0	146	630	
08:00 AM	7	1	3	0	0	0	1	0	0	68	4	0	1	63	0	0	148	653	
08:15 AM	7	3	1	0	0	0	1	0	0	73	4	0	4	79	0	0	172	505	
08:30 AM	3	3	9	0	0	0	3	0	0	70	3	0	5	66	2	0	164	333	
08:45 AM	5	2	3	0	0	0	2	0	0	74	9	0	5	69	0	0	169	169	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Rgt	U	Left	Thru	Rgt	U	Left	Thru	Rgt	U	Left	Thru	Rgt	U			
All Vehicles	28	12	36	0	0	0	12	0	0	296	36	0	20	316	8	0	764		
Heavy Trucks	0	0	0	0	0	0	4	0	0	12	4	0	4	24	4	0	52		
Pedestrians		32				8				0				4			44		
Bicycles	0	4	0	0	0	0	0	0	0	16	4	0	0	12	0	0	36		
Buses																			
Stopped Buses																			

EXHIBIT E

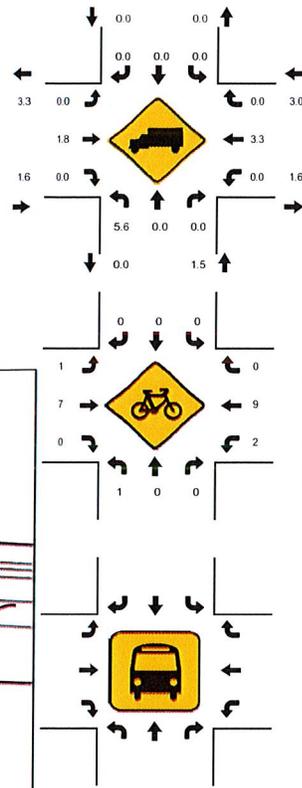
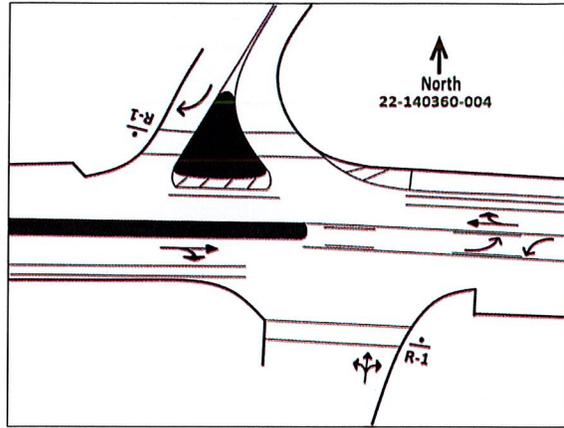
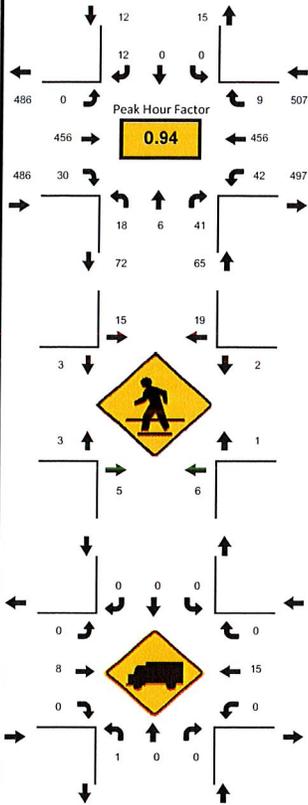
LOCATION: NE 7th Ave & SR 811/Wilton Dr
CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-004
DATE: Wed, Aug 03, 2022

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



National Data & Surveying Services



15-Min Count Period Beginning At	NE 7th Ave Northbound					NE 7th Ave Southbound					SR 811/Wilton Dr Eastbound					SR 811/Wilton Dr 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	4	4	8	0		0	0	5	0		0	102	11	0		7	100	1	0		242	1027
04:15 PM	4	1	15	0		0	0	2	0		0	123	4	0		11	96	4	0		260	1070
04:30 PM	5	0	5	0		0	0	2	0		0	109	9	0		4	123	2	0		259	1064
04:45 PM	6	2	7	0		0	0	5	0		0	99	6	0		15	123	2	1		266	1064
05:00 PM	3	3	14	0		0	0	3	0		0	125	11	0		11	114	1	0		285	1065
05:15 PM	9	3	14	0		0	0	0	0		0	101	6	0		6	114	1	0		254	780
05:30 PM	8	2	8	0		0	0	4	0		0	107	8	0		12	109	1	0		259	526
05:45 PM	10	0	4	0		0	0	7	0		0	110	12	0		10	108	6	0		267	267
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	24	12	60	0		0	0	20	0		0	500	44	0		60	492	16	4		1232	
Heavy Trucks	4	0	0	0		0	0	0	0		0	12	0	0		0	28	0	0		44	
Pedestrians	20					40					12					8					80	
Bicycles	4	0	0	0		0	0	0	0		4	16	0	0		8	16	0	0		48	
Buses Stopped Buses																						

EXHIBIT E

National Data & Surveying Services Intersection Turning Movement Count

Location: NE 9th Ave & SR 811/Wilton Dr
 City: Wilton Manors
 Control: Signalized

Project ID: 22-140360-005
 Date: 8/3/2022

Data - Total

NS/EW Streets:	NE 9th Ave				NE 9th Ave				SR 811/Wilton Dr				SR 811/Wilton Dr						TOTAL									
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				NORTHBOUND2			SOUTHBOUND2								
AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	ST2	EL	ET	ER	EU	EL2	ER2	WL	WT	WR	WU	N2T2	N2U2	S2R2						
7:00 AM	1	1	1	0	1	0	1	0	0	5	34	3	0	0	0	1	34	0	0	0	0	0	0	0	0	0	0	82
7:15 AM	1	0	1	0	0	1	5	0	0	3	35	3	0	0	0	0	38	0	0	0	0	0	0	0	0	0	0	87
7:30 AM	1	1	2	0	0	0	10	0	0	4	42	2	0	0	0	1	46	0	0	0	0	0	0	0	0	0	0	109
7:45 AM	3	3	3	0	2	1	3	0	0	7	62	3	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	137
8:00 AM	3	3	0	0	1	1	5	0	0	6	62	3	0	0	0	2	47	0	0	0	0	0	0	0	0	0	0	133
8:15 AM	3	7	4	0	3	2	5	0	0	6	62	4	0	0	0	1	73	0	0	0	0	0	0	0	0	0	0	170
8:30 AM	4	1	4	0	1	1	5	0	0	7	66	0	0	0	0	0	61	1	0	0	0	0	0	0	0	0	0	151
8:45 AM	4	3	6	0	2	1	4	0	0	6	68	3	0	0	0	1	63	1	0	0	0	0	0	0	0	0	0	162
TOTAL VOLUMES:	20	19	21	0	10	7	38	0	0	44	431	21	0	0	0	6	412	2	0	0	0	0	0	0	0	0	0	1031
APPROACH %s:	33.33%	31.67%	35.00%	0.00%	18.18%	12.73%	69.09%	0.00%	0.00%	8.87%	86.90%	4.23%	0.00%	0.00%	0.00%	1.43%	98.10%	0.48%	0.00%									
PEAK HR:	06:00 AM - 09:00 AM																											
PEAK HR VOL:	14	14	14	0	7	5	19	0	0	25	258	10	0	0	0	4	244	2	0	0	0	0	0	0	0	0	0	616
PEAK HR FACTOR:	0.875	0.500	0.583	0.000	0.583	0.625	0.950	0.000	0.000	0.893	0.949	0.625	0.000	0.000	0.000	0.500	0.836	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.906

NS/EW Streets:	NE 9th Ave				NE 9th Ave				SR 811/Wilton Dr				SR 811/Wilton Dr						TOTAL									
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				NORTHBOUND2			SOUTHBOUND2								
PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	ST2	EL	ET	ER	EU	EL2	ER2	WL	WT	WR	WU	N2T2	N2U2	S2R2						
4:00 PM	2	4	4	0	4	1	10	0	0	9	98	3	0	2	0	3	91	2	0	0	1	1	1	0	0	0	0	235
4:15 PM	6	5	1	0	0	2	7	0	0	14	119	1	0	0	1	4	90	2	0	0	0	0	0	0	0	0	0	252
4:30 PM	10	4	1	0	2	1	7	0	0	9	99	3	1	0	1	4	114	2	0	0	0	2	0	0	0	0	0	260
4:45 PM	7	4	3	0	3	0	5	0	1	16	79	5	0	0	0	7	111	2	0	1	0	0	0	0	0	0	0	244
5:00 PM	2	4	4	0	2	4	6	0	0	14	118	4	1	1	0	5	114	1	2	0	0	0	2	0	0	0	0	284
5:15 PM	5	7	3	0	1	2	9	0	0	9	95	6	1	0	1	8	105	3	0	0	0	0	0	0	0	0	0	255
5:30 PM	2	1	4	0	3	4	7	0	1	8	94	6	0	0	0	9	105	3	0	0	0	0	0	0	0	0	0	247
5:45 PM	4	7	6	0	4	4	7	0	0	11	83	8	1	4	0	10	112	3	0	0	0	0	0	0	0	0	0	267
TOTAL VOLUMES:	38	36	26	0	19	18	58	0	2	90	785	36	4	7	3	50	842	18	2	1	3	6	6	0	0	0	0	2044
APPROACH %s:	38.00%	36.00%	26.00%	0.00%	19.59%	18.56%	59.79%	0.00%	2.06%	9.73%	84.86%	3.89%	0.43%	0.76%	0.32%	5.48%	92.32%	1.97%	0.22%	25.00%	75.00%							100.00%
PEAK HR:	05:00 PM - 06:00 PM																											
PEAK HR VOL:	13	19	17	0	10	14	29	0	1	42	390	24	3	5	1	32	436	10	2	0	0	0	5	0	0	0	0	1053
PEAK HR FACTOR:	0.650	0.679	0.708	0.000	0.625	0.875	0.806	0.000	0.250	0.750	0.826	0.750	0.750	0.313	0.250	0.800	0.956	0.833	0.250	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.927

EXHIBIT E

National Data & Surveying Services Intersection Turning Movement Count

Explanation for Extra Leg 1 movements

Movements entering the extra leg 1

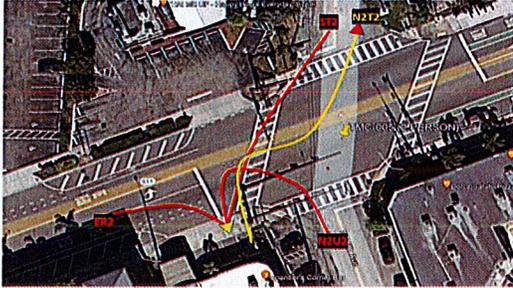
S12 Movements coming from SB on NE 9th Ave entering into extra leg 1 (Spencer's Corner Bar Parking)

ER2 Movements coming from EB on SR 811 entering into extra leg 1 (Spencer's Corner Bar Parking)

N2U2 Movements coming from NB on NE 9th Ave entering into extra leg 1 (Spencer's Corner Bar Parking)

Movements exiting the extra leg 1

N2T2 Movements exiting extra leg 1 (Spencer's Corner Bar Parking) entering to NE 9th Ave heading NB



Explanation for Extra Leg 2 movements

Movements entering the extra leg 2

EL2 Movements coming from EB on SR 811 entering into extra leg 2 (Thai Me Up Parking)

Movements exiting the extra leg 2

S2R2 Movements exiting extra leg 2 (Thai Me Up Parking) entering into SR 811 heading WB

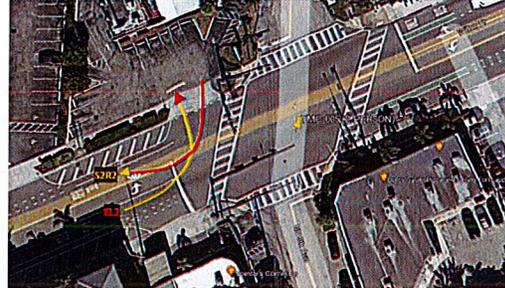


EXHIBIT E

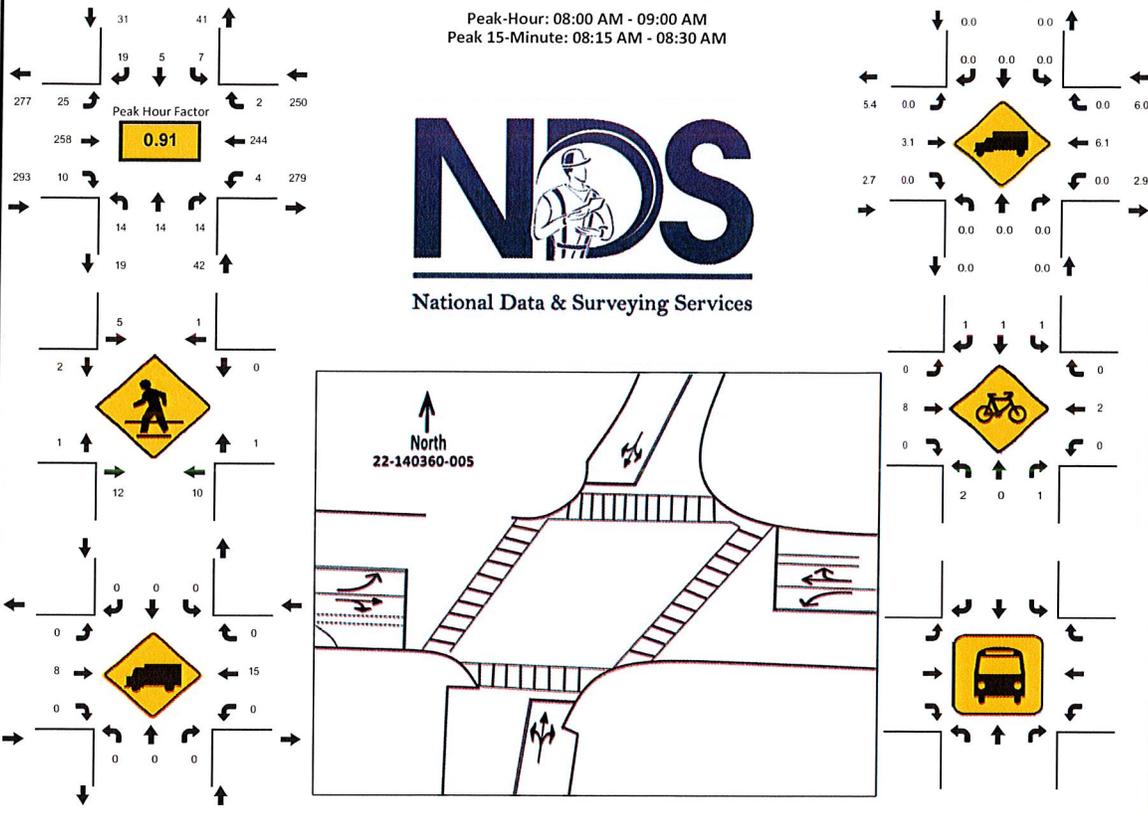
LOCATION: NE 9th Ave & SR 811/Wilton Dr
 CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-005
 DATE: Wed, Aug 03, 2022

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



National Data & Surveying Services



15-Min Count Period Beginning At	NE 9th Ave Northbound					NE 9th Ave Southbound					SR 811/Wilton Dr Eastbound					SR 811/Wilton Dr 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	1	1	0		1	0	1	0		5	34	3	0		1	34	0	0		82	415
07:15 AM	1	0	1	0		0	1	5	0		3	35	3	0		0	38	0	0		87	466
07:30 AM	1	1	2	0		0	0	10	0		4	42	2	0		1	46	0	0		109	549
07:45 AM	3	3	3	0		2	1	3	0		7	62	3	0		0	50	0	0		137	591
08:00 AM	3	3	0	0		1	1	5	0		6	62	3	0		2	47	0	0		133	616
08:15 AM	3	7	4	0		3	2	5	0		6	62	4	0		1	73	0	0		170	483
08:30 AM	4	1	4	0		1	1	5	0		7	66	0	0		0	61	1	0		151	313
08:45 AM	4	3	6	0		2	1	4	0		6	68	3	0		1	63	1	0		162	162
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	16	28	24	0		12	8	20	0		28	272	16	0		8	292	4	0		728	
Heavy Trucks	0	0	0	0		0	0	0	0		0	12	0	0		0	28	0	0		40	
Pedestrians		24					12					8					4				48	
Bicycles	4	0	4	0		4	4	4	0		0	12	0	0		0	4	0	0		36	
Buses																						
Stopped Buses																						

EXHIBIT E

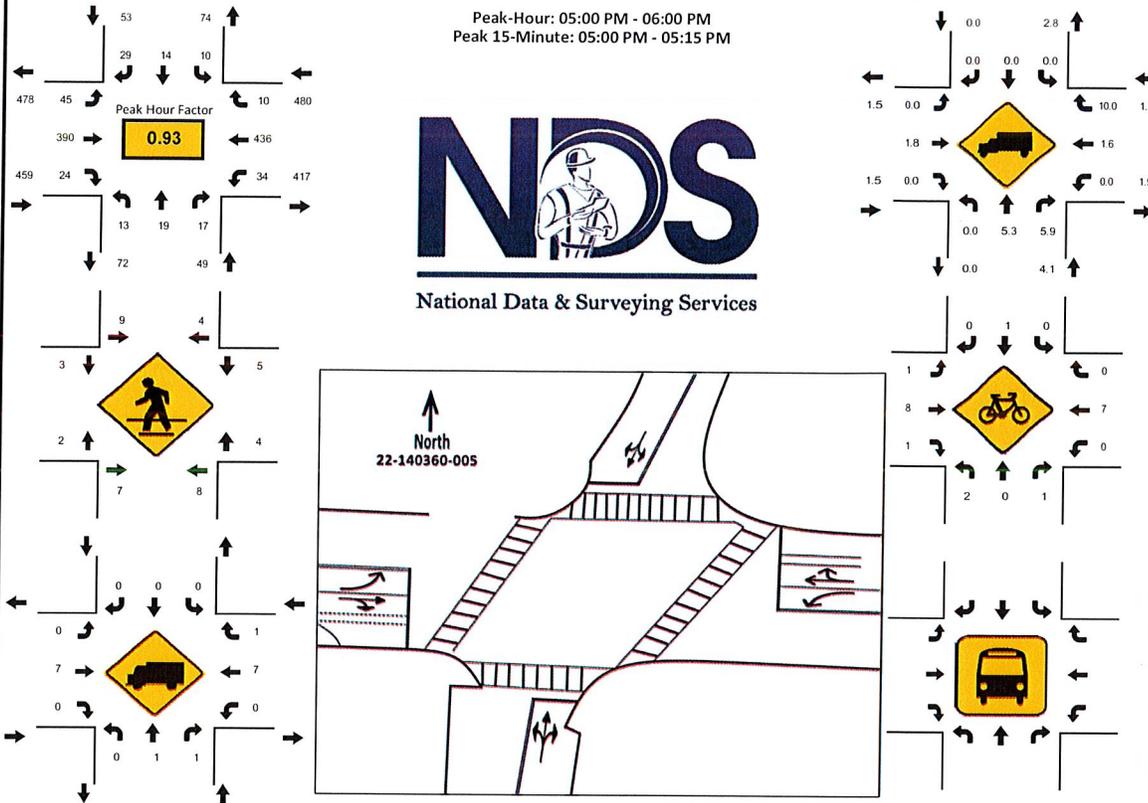
LOCATION: NE 9th Ave & SR 811/Wilton Dr
CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-005
DATE: Wed, Aug 03, 2022

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



National Data & Surveying Services



15-Min Count Period Beginning At	NE 9th Ave Northbound					NE 9th Ave Southbound					SR 811/Wilton Dr Eastbound					SR 811/Wilton Dr 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	2	4	4	0		4	1	10	0		9	98	3	0		3	91	2	0		231	981
04:15 PM	6	5	1	0		0	2	7	0		14	119	1	0		4	90	2	0		251	1031
04:30 PM	10	4	1	0		2	1	7	0		9	99	3	1		4	114	2	0		257	1034
04:45 PM	7	4	3	0		3	0	5	0		16	79	5	0		7	111	2	0		242	1023
05:00 PM	2	4	4	0		2	4	6	0		14	118	4	1		5	114	1	2		281	1041
05:15 PM	5	7	3	0		1	2	9	0		9	95	6	1		8	105	3	0		254	760
05:30 PM	2	1	4	0		3	4	7	0		8	94	6	0		9	105	3	0		246	506
05:45 PM	4	7	6	0		4	4	7	0		11	83	8	1		10	112	3	0		260	260
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	20	28	24	0		16	16	36	0		56	472	32	4		40	456	12	8		1220	
Heavy Trucks	0	4	4	0		0	0	0	0		0	12	0	0		0	12	4	0		36	
Pedestrians		16					20					8					20				64	
Bicycles	4	0	4	0		0	4	0	0		4	28	4	0		0	12	0	0		60	
Buses																						
Stopped Buses																						

EXHIBIT E

LOCATION: NE 7th Ave & Khalil Coffee Shop Dwy
CITY/STATE: Wilton Manors, FL

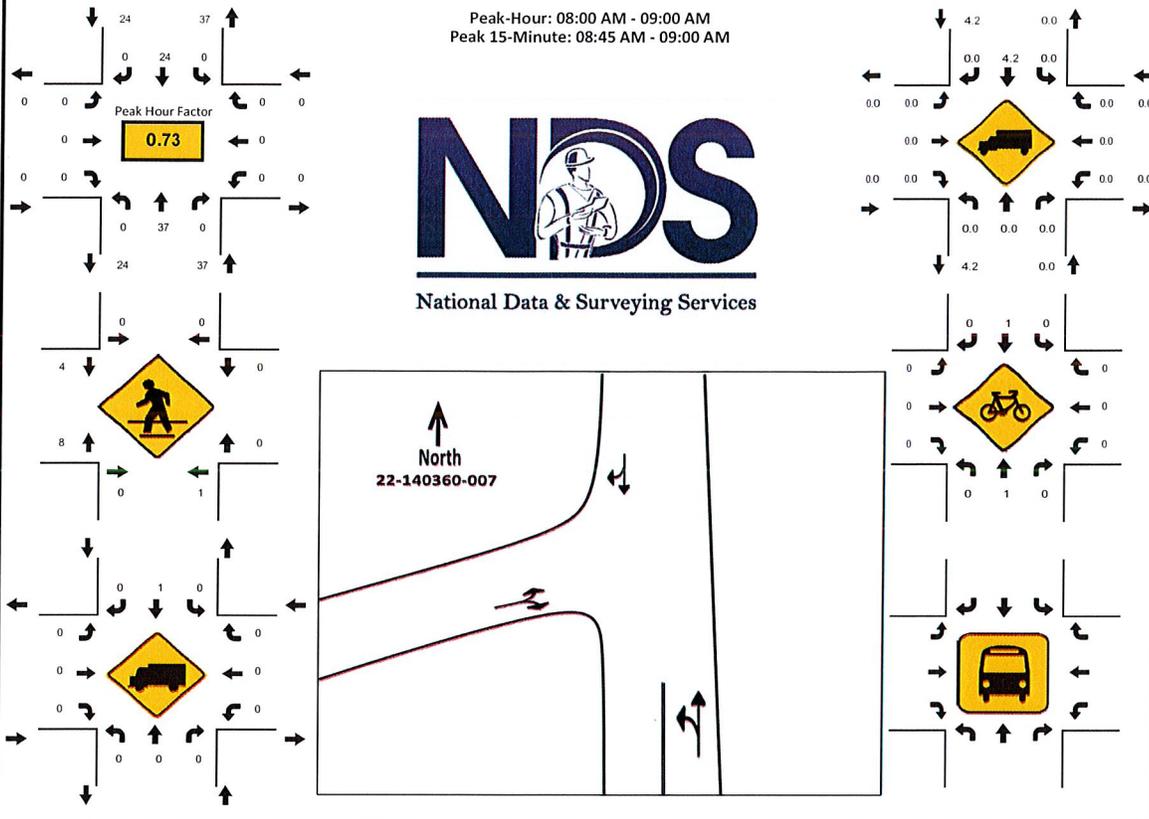
PROJECT ID: 22-140360-007
DATE: Wed, Aug 03, 2022

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM

Peak Hour Factor
0.73



National Data & Surveying Services



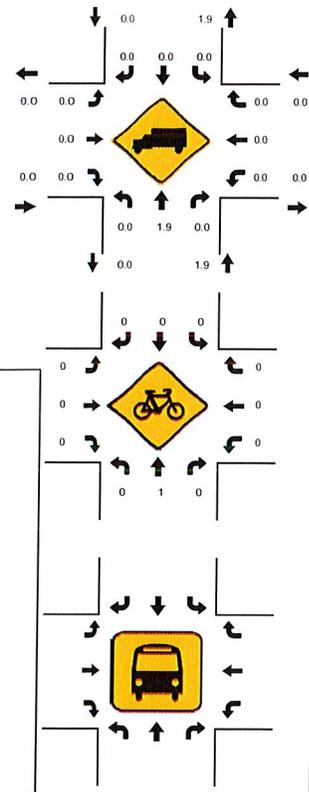
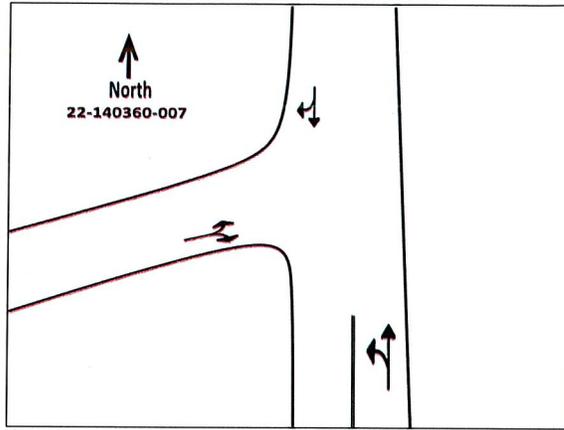
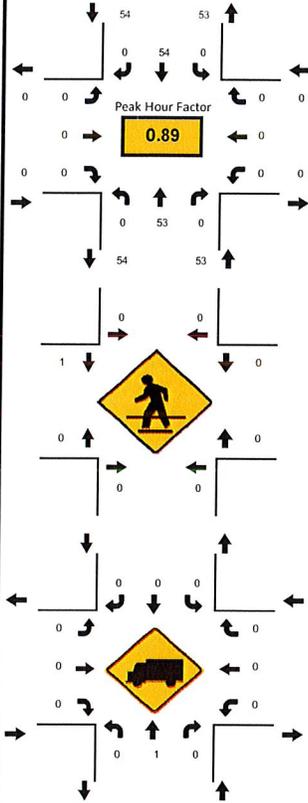
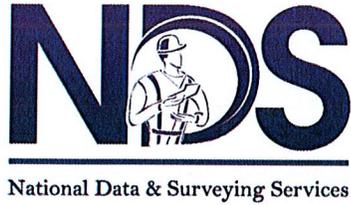
15-Min Count Period Beginning At	NE 7th Ave Northbound					NE 7th Ave Southbound					Khalil Coffee Shop Dwy Eastbound					Khalil Coffee Shop Dwy Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	7	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	12	54
07:15 AM	0	8	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	10	58
07:30 AM	0	10	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	14	61
07:45 AM	0	13	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	18	58
08:00 AM	0	9	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	16	61
08:15 AM	0	9	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	13	45
08:30 AM	0	10	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	32
08:45 AM	0	9	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	0	40	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	88	
Heavy Trucks	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Pedestrians	4					0					20					0					24	
Bicycles	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
Buses																						
Stopped Buses																						

EXHIBIT E

LOCATION: NE 7th Ave & Khalil Coffee Shop Dwy
CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-007
DATE: Wed, Aug 03, 2022

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



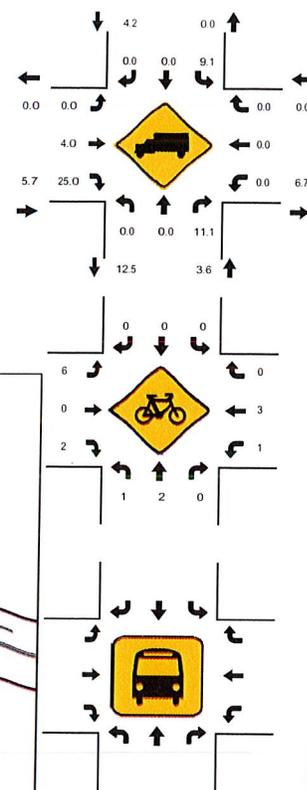
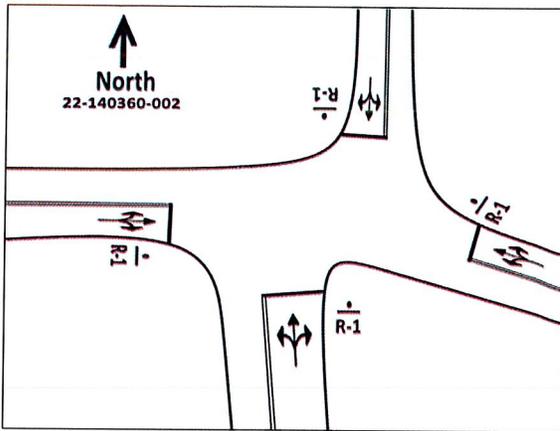
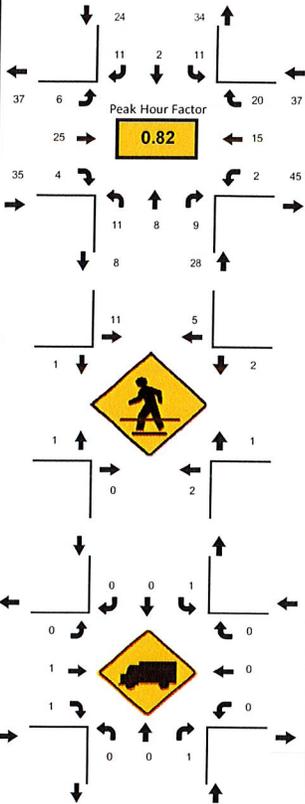
15-Min Count Period Beginning At	NE 7th Ave Northbound					NE 7th Ave Southbound					Khalil Coffee Shop Dwy Eastbound					Khalil Coffee Shop Dwy Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	16	0	0		0	15	0	0		0	0	0	0		0	0	0	0		31	96
04:15 PM	0	12	0	0		0	8	0	0		0	0	0	0		0	0	0	0		20	91
04:30 PM	0	8	0	0		0	13	0	0		0	0	0	0		0	0	0	0		21	97
04:45 PM	0	13	0	0		0	11	0	0		0	0	0	0		0	0	0	0		24	106
05:00 PM	0	9	0	0		0	17	0	0		0	0	0	0		0	0	0	0		26	107
05:15 PM	0	20	0	0		0	6	0	0		0	0	0	0		0	0	0	0		26	81
05:30 PM	0	13	0	0		0	17	0	0		0	0	0	0		0	0	0	0		30	55
05:45 PM	0	11	0	0		0	14	0	0		0	0	0	0		0	0	0	0		25	25
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	0	80	0	0		0	68	0	0		0	0	0	0		0	0	0	0		148	
Heavy Trucks	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	0		4	
Pedestrians		0					0					4					0				4	
Bicycles	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	0		4	
Buses																						
Stopped Buses																						

EXHIBIT E

LOCATION: NE 7th Ave & NE 20th Dr/NE 20th St
CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-008
DATE: Wed, Aug 03, 2022

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM



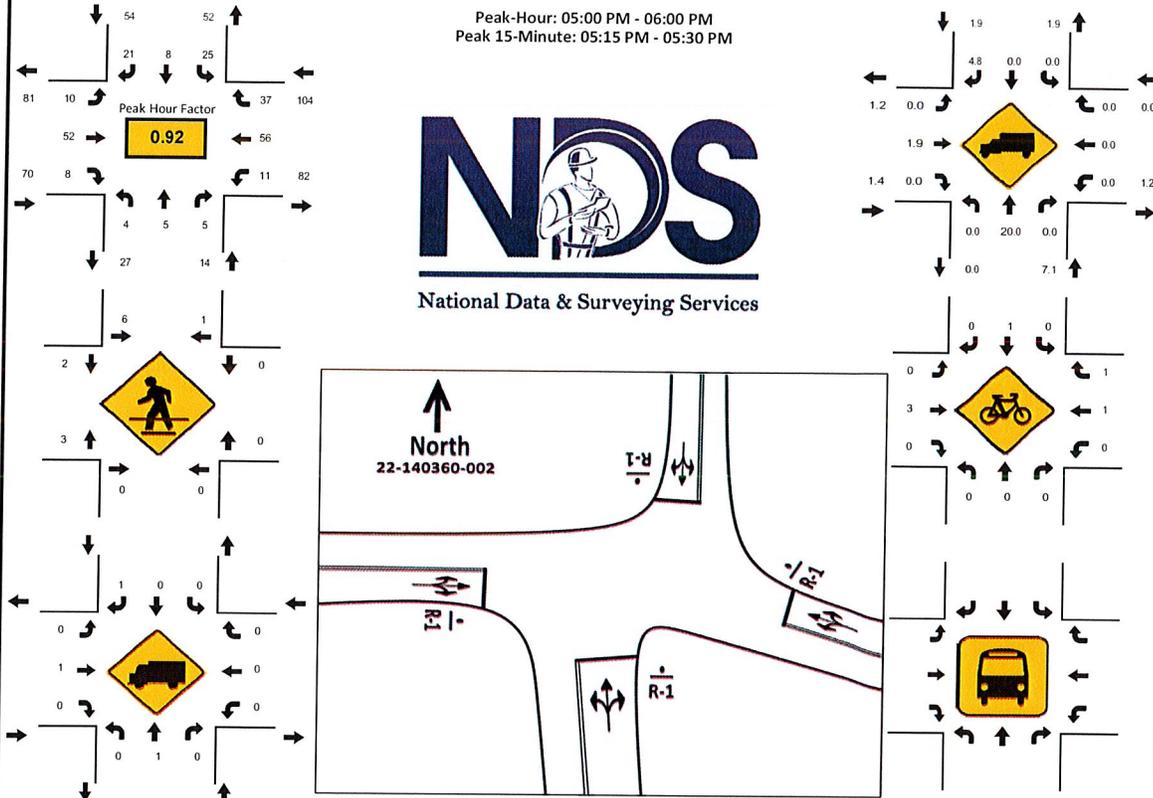
15-Min Count Period Beginning At	NE 7th Ave Northbound					NE 7th Ave Southbound					NE 20th Dr/NE 20th St Eastbound					NE 20th Dr/NE 20th St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	1	1	0	0		1	0	2	0		0	2	0	0		0	4	4	0		15	95
07:15 AM	1	1	1	0		4	0	1	0		0	4	1	0		0	7	5	0		25	105
07:30 AM	4	1	1	0		1	1	1	0		2	3	1	0		1	3	5	0		24	112
07:45 AM	0	4	2	0		3	1	0	0		2	8	2	1		0	3	5	0		31	117
08:00 AM	1	1	2	0		4	0	2	0		1	5	0	0		1	4	4	0		25	124
08:15 AM	5	0	2	0		1	0	3	0		1	7	1	0		1	4	7	0		32	99
08:30 AM	2	3	2	0		1	0	1	0		3	7	1	0		0	4	5	0		29	67
08:45 AM	3	4	3	0		5	2	5	0		1	6	2	0		0	3	4	0		38	38
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	20	16	12	0		20	8	20	0		12	28	8	0		4	16	28	0		192	
Heavy Trucks	0	0	4	0		4	0	0	0		0	4	4	0		0	0	0	0		16	
Pedestrians			8					20					8					4			40	
Bicycles	4	8	0	0		0	0	0	0		8	0	8	0		4	8	0	0		40	
Buses																						
Stopped Buses																						

EXHIBIT E

LOCATION: NE 7th Ave & NE 20th Dr/NE 20th St
CITY/STATE: Wilton Manors, FL

PROJECT ID: 22-140360-008
DATE: Wed, Aug 03, 2022

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



15-Min Count Period Beginning At	NE 7th Ave Northbound					NE 7th Ave Southbound					NE 20th Dr/NE 20th St Eastbound					NE 20th Dr/NE 20th 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	1	3	0		7	2	6	0		2	13	0	0		2	16	14	0		66	226
04:15 PM	0	2	3	0		8	0	3	0		3	9	4	0		2	17	10	0		61	220
04:30 PM	2	3	1	0		4	3	6	0		1	16	2	0		3	9	1	0		51	225
04:45 PM	0	2	0	0		5	1	4	0		1	14	3	0		2	10	6	0		48	232
05:00 PM	0	1	2	0		8	1	6	0		2	15	2	0		1	16	6	0		60	242
05:15 PM	4	2	1	0		3	2	3	0		6	13	1	0		5	13	13	0		66	182
05:30 PM	0	1	1	0		7	2	8	0		2	7	4	0		3	13	10	0		58	116
05:45 PM	0	1	1	0		7	3	4	0		0	17	1	0		2	14	8	0		58	58
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	16	8	8	0		32	12	32	0		24	68	16	0		20	64	52	0		352	
Heavy Trucks	0	4	0	0		0	0	4	0		0	4	0	0		0	0	0	0		12	
Pedestrians	0						12					12				0					24	
Bicycles	0	0	0	0		0	4	0	0		0	4	0	0		0	4	4	0		16	
Buses																						
Stopped Buses																						

EXHIBIT E

Peak Season Category Report

EXHIBIT E

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 8600 EAST-A1A TO US1

MOCF: 0.94
 PSCF

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.97	1.03
2	01/03/2021 - 01/09/2021	1.02	1.09
3	01/10/2021 - 01/16/2021	1.07	1.14
4	01/17/2021 - 01/23/2021	1.06	1.13
5	01/24/2021 - 01/30/2021	1.04	1.11
6	01/31/2021 - 02/06/2021	1.02	1.09
7	02/07/2021 - 02/13/2021	1.01	1.07
8	02/14/2021 - 02/20/2021	0.99	1.05
9	02/21/2021 - 02/27/2021	0.97	1.03
*10	02/28/2021 - 03/06/2021	0.96	1.02
*11	03/07/2021 - 03/13/2021	0.94	1.00
*12	03/14/2021 - 03/20/2021	0.93	0.99
*13	03/21/2021 - 03/27/2021	0.93	0.99
*14	03/28/2021 - 04/03/2021	0.94	1.00
*15	04/04/2021 - 04/10/2021	0.94	1.00
*16	04/11/2021 - 04/17/2021	0.94	1.00
*17	04/18/2021 - 04/24/2021	0.94	1.00
*18	04/25/2021 - 05/01/2021	0.94	1.00
*19	05/02/2021 - 05/08/2021	0.94	1.00
*20	05/09/2021 - 05/15/2021	0.94	1.00
*21	05/16/2021 - 05/22/2021	0.95	1.01
*22	05/23/2021 - 05/29/2021	0.97	1.03
23	05/30/2021 - 06/05/2021	0.98	1.04
24	06/06/2021 - 06/12/2021	0.99	1.05
25	06/13/2021 - 06/19/2021	1.00	1.06
26	06/20/2021 - 06/26/2021	1.00	1.06
27	06/27/2021 - 07/03/2021	1.01	1.07
28	07/04/2021 - 07/10/2021	1.01	1.07
29	07/11/2021 - 07/17/2021	1.01	1.07
30	07/18/2021 - 07/24/2021	1.02	1.09
31	07/25/2021 - 07/31/2021	1.03	1.10
32	08/01/2021 - 08/07/2021	1.04	1.11
33	08/08/2021 - 08/14/2021	1.05	1.12
34	08/15/2021 - 08/21/2021	1.06	1.13
35	08/22/2021 - 08/28/2021	1.06	1.13
36	08/29/2021 - 09/04/2021	1.07	1.14
37	09/05/2021 - 09/11/2021	1.08	1.15
38	09/12/2021 - 09/18/2021	1.08	1.15
39	09/19/2021 - 09/25/2021	1.08	1.15
40	09/26/2021 - 10/02/2021	1.07	1.14
41	10/03/2021 - 10/09/2021	1.06	1.13
42	10/10/2021 - 10/16/2021	1.05	1.12
43	10/17/2021 - 10/23/2021	1.05	1.12
44	10/24/2021 - 10/30/2021	1.04	1.11
45	10/31/2021 - 11/06/2021	1.04	1.11
46	11/07/2021 - 11/13/2021	1.03	1.10
47	11/14/2021 - 11/20/2021	1.03	1.10
48	11/21/2021 - 11/27/2021	1.02	1.09
49	11/28/2021 - 12/04/2021	1.00	1.06
50	12/05/2021 - 12/11/2021	0.99	1.05
51	12/12/2021 - 12/18/2021	0.97	1.03
52	12/19/2021 - 12/25/2021	1.02	1.09
53	12/26/2021 - 12/31/2021	1.07	1.14

* PEAK SEASON

08-MAR-2022 12:36:26

830UPD

4_8600_PKSEASON.TXT

EXHIBIT E

Signal Timings

EXHIBIT E

Broward County

Timing Sheet

8/16/2022 1:39:58 PM

Station : 2200 - Wilton Dr & NE 6 Ave (Standard File)

Phase	1 (SL)	2 (NT)	3 (WL)	4 (ET)	5 (NL)	6 (ST)	7 (EL)	8 (WT)	9	10	11	12	13	14	15	16
Walk	7	7	7	7	7	7	7									
Ped Clearance	24	19	11	15												
Min Green	4	7	4	6	4	7	4	6								
Gap Ext	1.5	1.5	2	1.5	1.5	2	1.5	2								
Max1	10	45	10	20	10	45	10	20								
Max2																
Yellow Clr	4	4	4	4	4	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2	2	2	2	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON															
Auto Flash Entry		ON		ON		ON		ON								
Auto Flash Exit						ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call								ON	ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON							
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash					ON	ON
Override Higher Preempt					ON	ON
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green						
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1						
Dwell Cyc Veh 2						
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Sequence of Operation for Wilton Drive (EW) and NE 6 Avenue (NS) (2200)

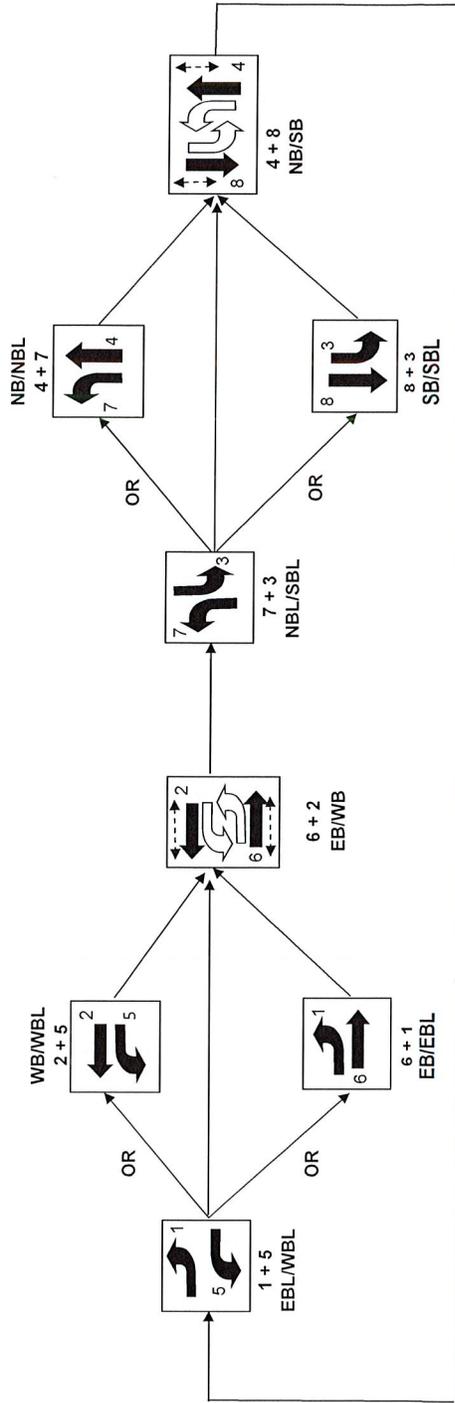


EXHIBIT E



BROWARD COUNTY TRAFFIC ENGINEERING ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	2200	Initial Operation Date	UNKNOWN
Controller Type	2070 LN	System Number	2200
Modification Number	14	Modification Date	08/20/2015
Drawing/Project No		FPL Grid Number	87682646407
Intersection	WILTON DRIVE (E/W) and NE 6 AVENUE (N/S)		
Municipality	WILTON MANORS		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	4	7	4	6	4	7	4	6
Vehicle Ext.(GAP)	1.5	0.0	1.5	2.0	1.5	0.0	1.5	2.0
Maximum Green I	10	45	10	20	10	45	10	20
Maximum Green II								
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Phase Recall	OFF	MAX	OFF	OFF	OFF	MAX	OFF	OFF*
Detector Delay	3			20-RT				20-RT
Walk		7+A		7+A		7+A		7+A
Pedestrian Clearance		28		27		25		27
Permissive	5-SECT		5-SECT		5-SECT		5-SECT	
Flash Operation		YELLOW		RED		YELLOW		RED

Attachment _____

NOTES:

1. DETECTION NOT USED EAST/WEST; SIGNAL OPERATES SEMI-ACTUATED.
2. DUAL ENTRY HARDWIRED NORTH/SOUTH.
3. * DETECTOR LOCK ENABLED SOUTHBOUND THROUGH ONLY.
4. ANTI-BACKDOWN DIODES EAST/WEST.
5. AUDIBLE PEDESTRIAN SIGNALS: E/W (WILTON) BEEP, N/S (NE 6) TONE.
6. MOD. 14 UPDATES PEDESTRIAN CLEARANCE PER FDOT REQUEST.

Submitted By _____

Approved By _____

EXHIBIT E

Broward County

Timing Sheet

8/16/2022 1:40:46 PM

Station : 2418 - Wilton Dr & NE 9 Ave (Standard File)

Phase	1	2 (NT)	3	4 (ET)	5	6 (ST)	7	8 (WT)	9	10	11	12	13	14	15	16
Walk		7		7		7		7								
Ped Clearance		16		21		18		24								
Min Green		10		6		10		6								
Gap Ext		3		1.5		3		1.5								
Max 1		50		20		50		20								
Max2																
Yellow Clr		4		4		4		4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr		2		2		2		2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable		ON		ON		ON		ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call									ON							
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON							
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash					ON	ON
Override Higher Preempt					ON	ON
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green						
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1						
Dwell Cyc Veh 2						
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

EXHIBIT E

Sequence of Operation Wilton Drive (SR 811) and NE 9 Avenue (2418) Wilton Manors

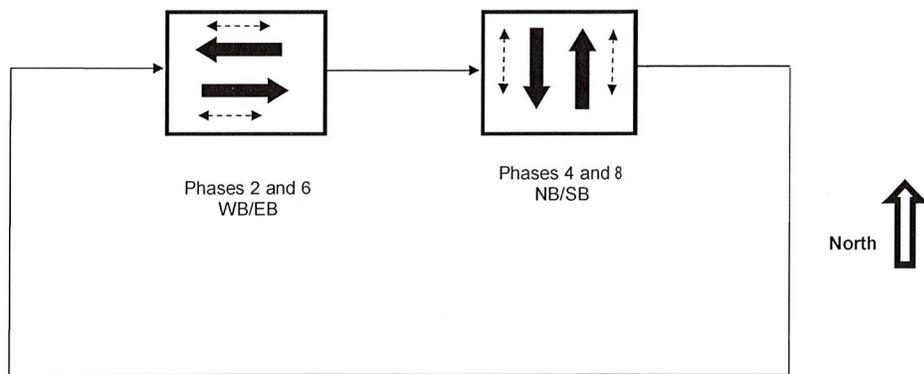


EXHIBIT E



BROWARD COUNTY TRAFFIC ENGINEERING ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	2418	Initial Operation Date	01/07/2010
Controller Type	2070 LN	System Number	2418
Modification Number	4	Modification Date	04/19/2022
Drawing/Project No	228259-4-52-01	FPL Grid Number	
Intersection	WILTON DRIVE (SR 811) and NE 9 AVENUE		
Municipality	WILTON MANORS		

Controller Phase	2	4	6	8
Face Number	2	4	6	8
Direction	WB	NB	EB	SB
Initial Green(MIN)	10	6	10	6
Vehicle Ext.(GAP)	3.0	1.5	3.0	1.5
Maximum Green I	50	20	50	20
Maximum Green II				
Yellow Clearance	4.0	4.0	4.0	4.0
All Red Clearance	2.0	2.0	2.0	2.0
Phase Recall	MIN	OFF	MIN	OFF
Detector Delay				
Walk	7+A	7+A	7+A	7+A
Pedestrian Clearance	28	23	26	23
Permissive				
Flash Operation	YELLOW	RED	YELLOW	RED

Attachment

NOTES:

1. DUAL ENTRY NORTH/SOUTH.
2. AUDIBLE PEDS: E/W BEEP, N/S TONE.
3. WITH WOIT2022031893 DATED 3/23/22, INSTALLS BEACONING AUDIBLES.

Submitted By _____

Approved By _____

Appendix D

Growth Rate Calculations

EXHIBIT E

FDOT Historic Growth Trends

EXHIBIT E

FDOT Growth Rate Summary

Station Number	Location	Historic Growth- Linear			Historic Growth- Exponential			Historic Growth- Decaying Exponential			
		5-year	R-squared	10-year	5-year	R-squared	10-year	5-year	R-squared	10-year	R-squared
0212	SR 811/Wilton Drive -- South of NE 26th Street	0.54%	5.76%	0.56%	0.63%	4.89%	0.63%	0.36%	2.53%	1.03%	14.70%
9583	NE 16th Street -- East of Andrews Avenue	10.71%	75.00%	-2.32%	-2.78%	16.26%	75.00%	9.06%	60.25%	-2.13%	10.23%
	Total	5.63%	40.38%	-0.88%	-1.08%	10.58%	40.25%	4.71%	31.39%	-0.55%	12.47%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2021 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 0212 - SR 811/WILTON DR - S OF NE 26 ST

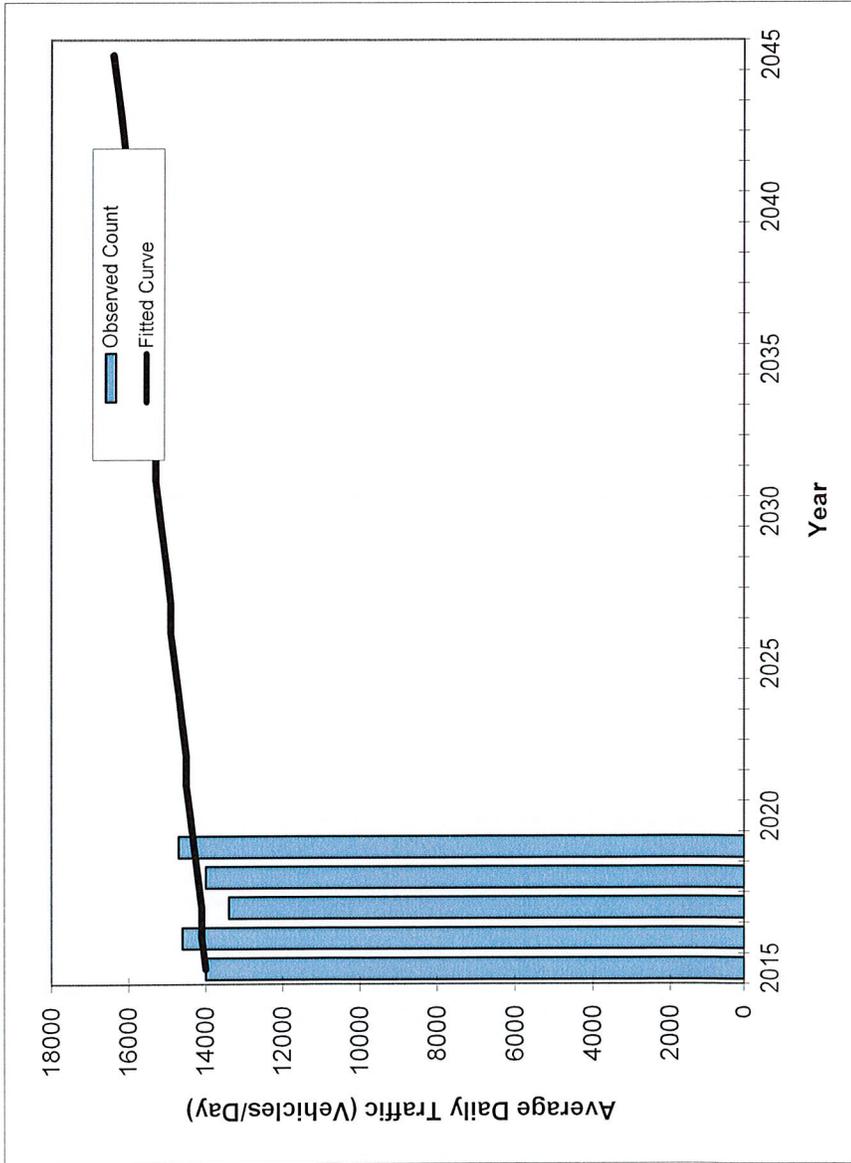
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR			
2021	11500	C	N	5900	S	5600	9.00	53.80	3.10
2020	13900	F	N	7000	S	6900	9.00	53.90	3.10
2019	14700	C	N	7400	S	7300	9.00	54.60	3.10
2018	14000	C	N	7300	S	6700	9.00	54.50	4.00
2017	13400	C	N	7400	S	6000	9.00	51.90	4.00
2016	14600	C	N	7000	S	7600	9.00	54.10	4.00
2015	14000	C	N	7200	S	6800	9.00	54.00	5.10
2014	14900	C	N	7100	S	7800	9.00	54.20	5.10
2013	16400	C	N	8500	S	7900	9.00	53.60	5.10
2012	13800	C	N	6900	S	6900	9.00	52.20	2.80
2011	14500	C	N	7700	S	6800	9.00	52.50	2.80
2010	12100	C	N	6200	S	5900	8.35	52.69	2.80
2009	12100	C	N	6200	S	5900	8.53	53.89	7.30
2008	13900	C	N	7400	S	6500	8.81	54.16	7.30
2007	13300	C	N	6600	S	6700	8.63	55.75	2.90
2006	14500	C	N	7300	S	7200	8.40	55.34	4.40

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 811/Wilton Drive -- South of NE 26th Street

County:	Broward (86)
Station #:	0212
Highway:	SR 811/Wilton Drive

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14000	14000
2016	14600	14100
2017	13400	14100
2018	14000	14200
2019	14700	14300



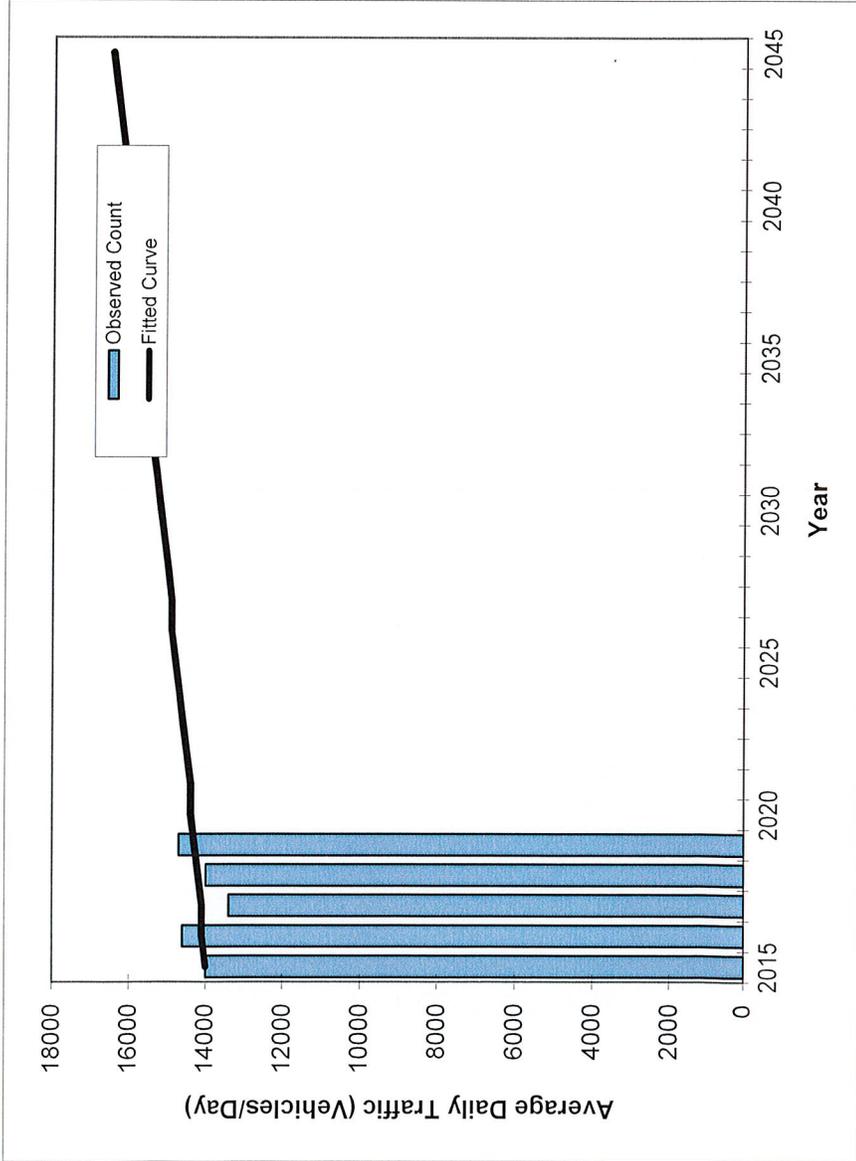
Trend R-squared: 5.76%
 Trend Annual Historic Growth Rate: 0.54%
 Printed: 24-Aug-22

Straight Line Growth Option

*Axle-Adjusted

Traffic Trends SR 811/Wilton Drive -- South of NE 26th Street

County:	Broward (86)
Station #:	0212
Highway:	SR 811/Wilton Drive



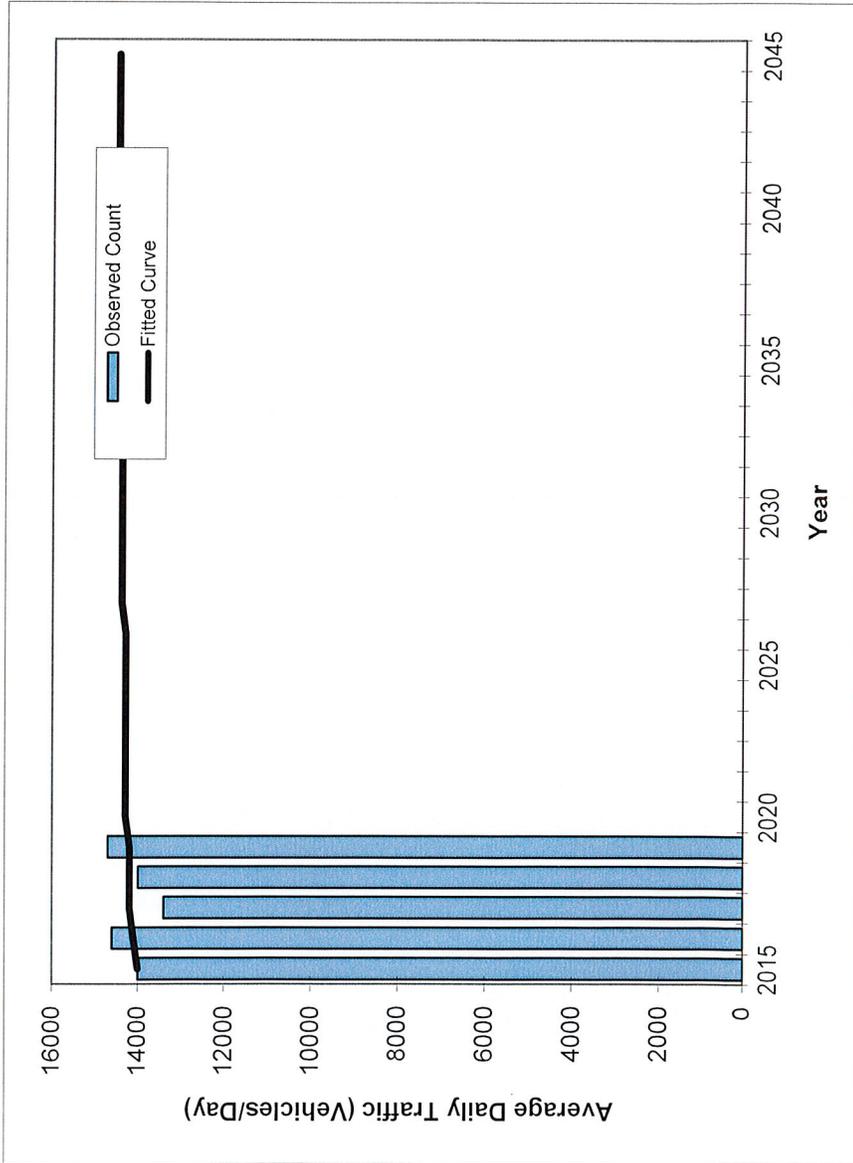
Trend R-squared: 5.50%
 Compounded Annual Historic Growth Rate: 0.53%
 Printed: 24-Aug-22
Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14000	14000
2016	14600	14100
2017	13400	14100
2018	14000	14200
2019	14700	14300

*Axle-Adjusted

Traffic Trends SR 811/Wilton Drive -- South of NE 26th Street

County:	Broward (86)
Station #:	0212
Highway:	SR 811/Wilton Drive



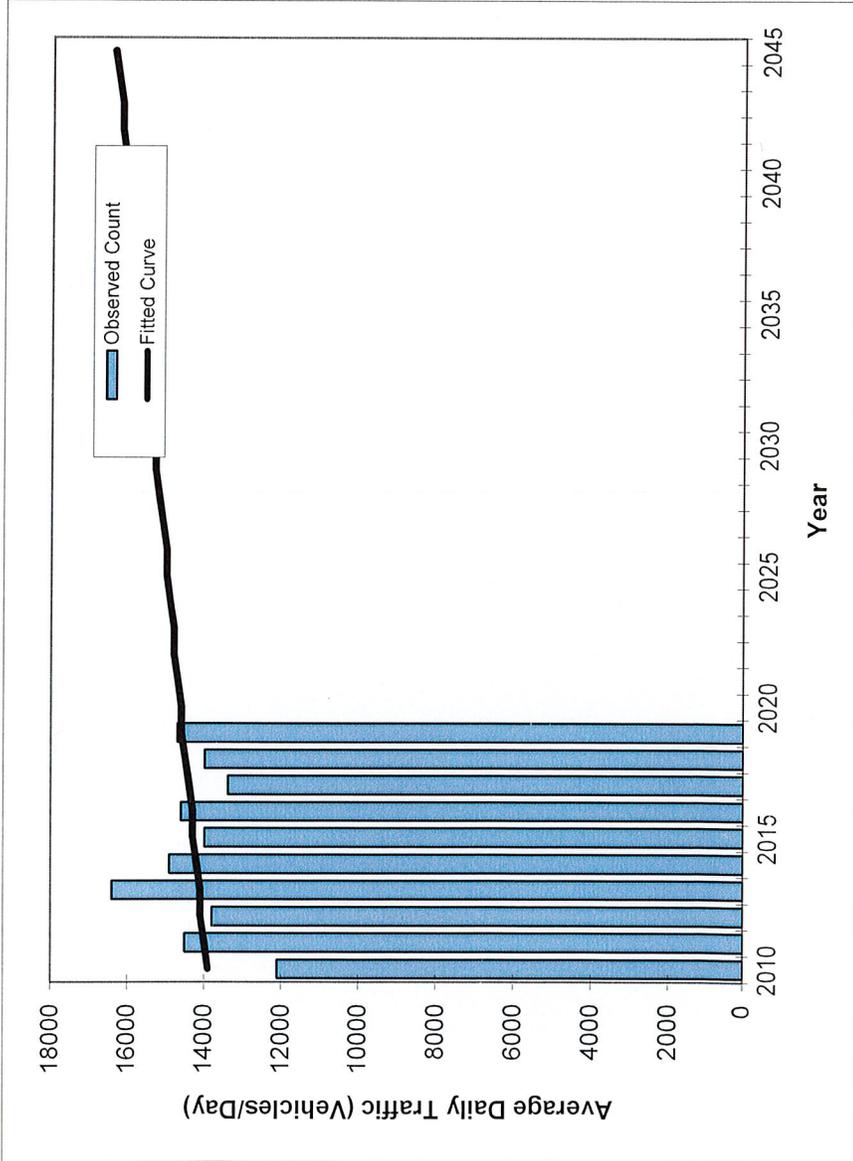
Trend R-squared: 2.53%
 Compounded Annual Historic Growth Rate: 0.36%
 Printed: 24-Aug-22
Decaying Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14000	14000
2016	14600	14100
2017	13400	14200
2018	14000	14200
2019	14700	14200

*Axle-Adjusted

Traffic Trends
SR 811/Wilton Drive -- South of NE 26th Street

County:	Broward (86)
Station #:	0212
Highway:	SR 811/Wilton Drive



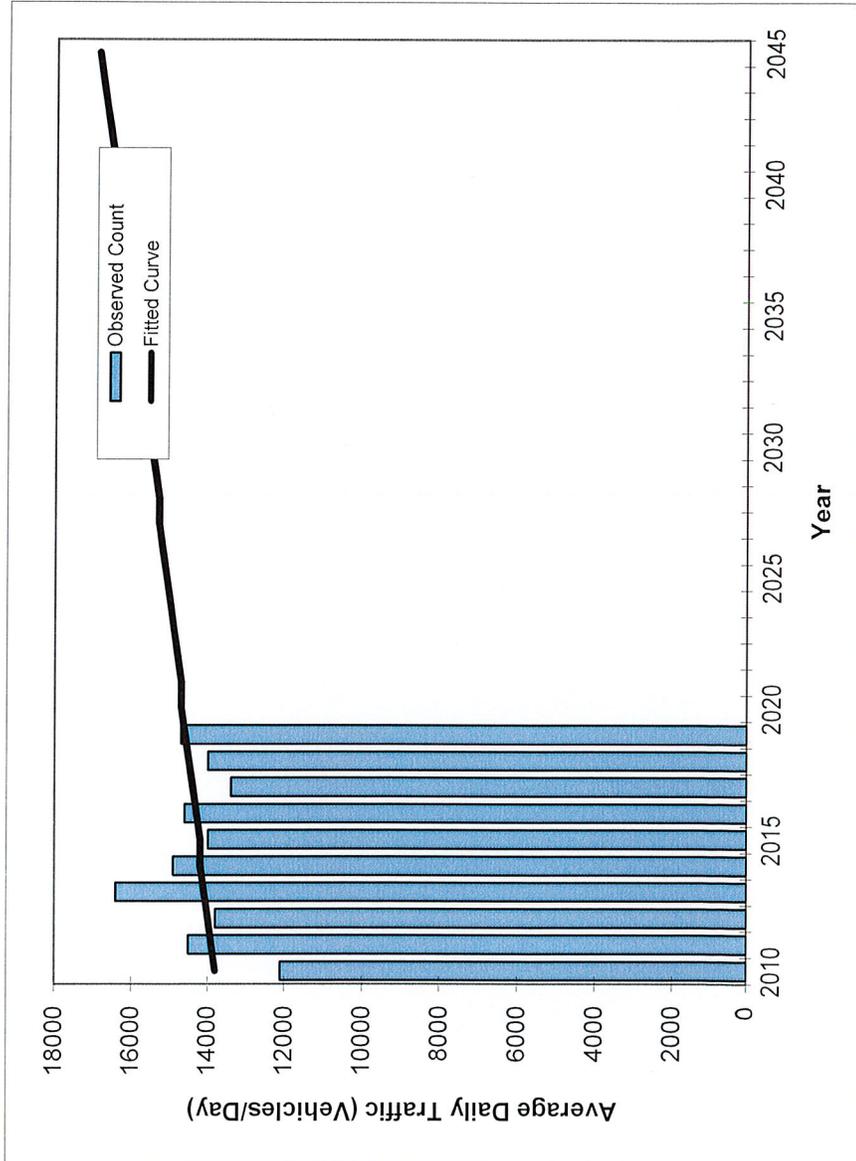
Trend R-squared: 3.67%
 Trend Annual Historic Growth Rate: 0.56%
 Printed: 24-Aug-22
Straight Line Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	12100	13900
2011	14500	14000
2012	13800	14100
2013	16400	14100
2014	14900	14200
2015	14000	14300
2016	14600	14300
2017	13400	14400
2018	14000	14500
2019	14700	14600

*Axle-Adjusted

Traffic Trends
SR 811/Wilton Drive -- South of NE 26th Street

County:	Broward (86)
Station #:	0212
Highway:	SR 811/Wilton Drive



Trend R-squared: 4.89%
 Compounded Annual Historic Growth Rate: 0.63%
 Printed: 24-Aug-22
Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	12100	13800
2011	14500	13900
2012	13800	14000
2013	16400	14100
2014	14900	14200
2015	14000	14200
2016	14600	14300
2017	13400	14400
2018	14000	14500
2019	14700	14600

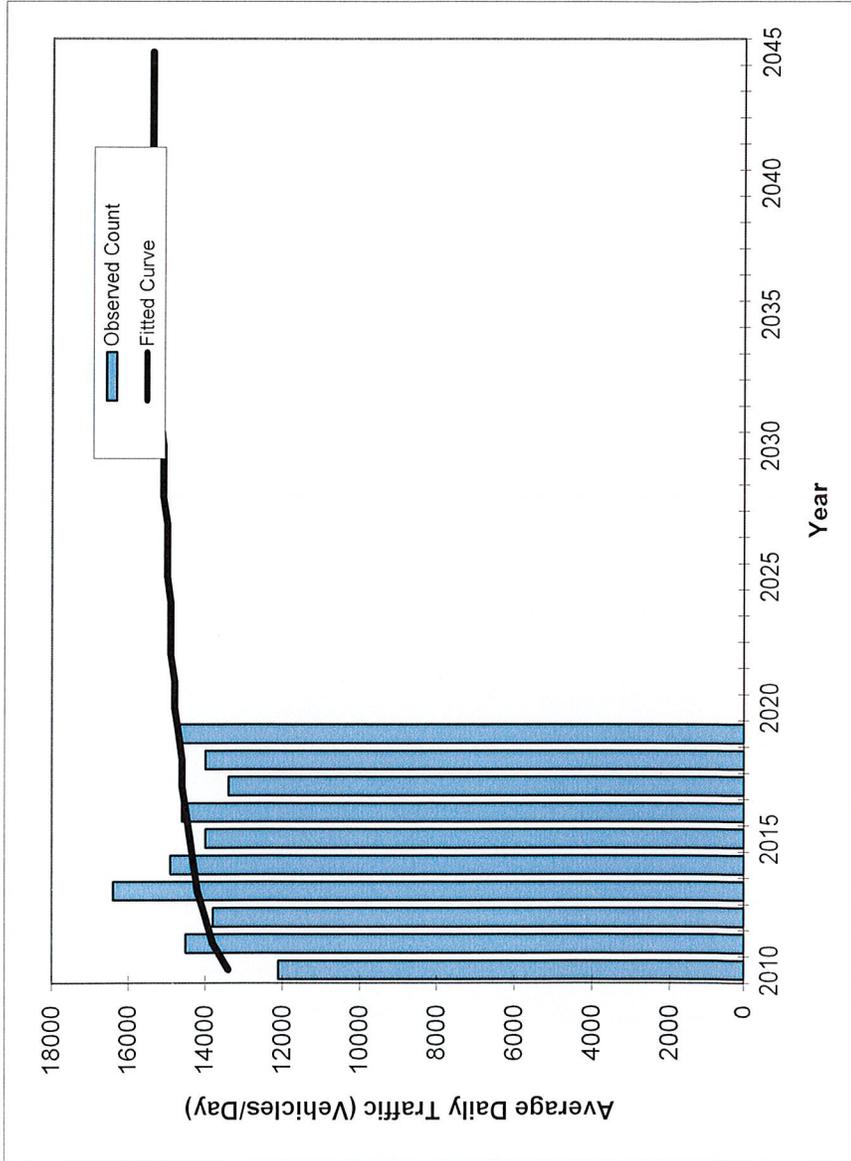
*Axle-Adjusted

Traffic Trends

SR 811/Wilton Drive -- South of NE 26th Street

County:	Broward (86)
Station #:	0212
Highway:	SR 811/Wilton Drive

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	12100	13400
2011	14500	13800
2012	13800	14000
2013	16400	14200
2014	14900	14300
2015	14000	14400
2016	14600	14500
2017	13400	14600
2018	14000	14600
2019	14700	14700



Trend R-squared: 14.70%
 Compounded Annual Historic Growth Rate: 1.03%
 Printed: 24-Aug-22

Decaying Exponential Growth Option

*Axle-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2021 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 9583 - NE 16 ST, E OF ANDREWS AVE

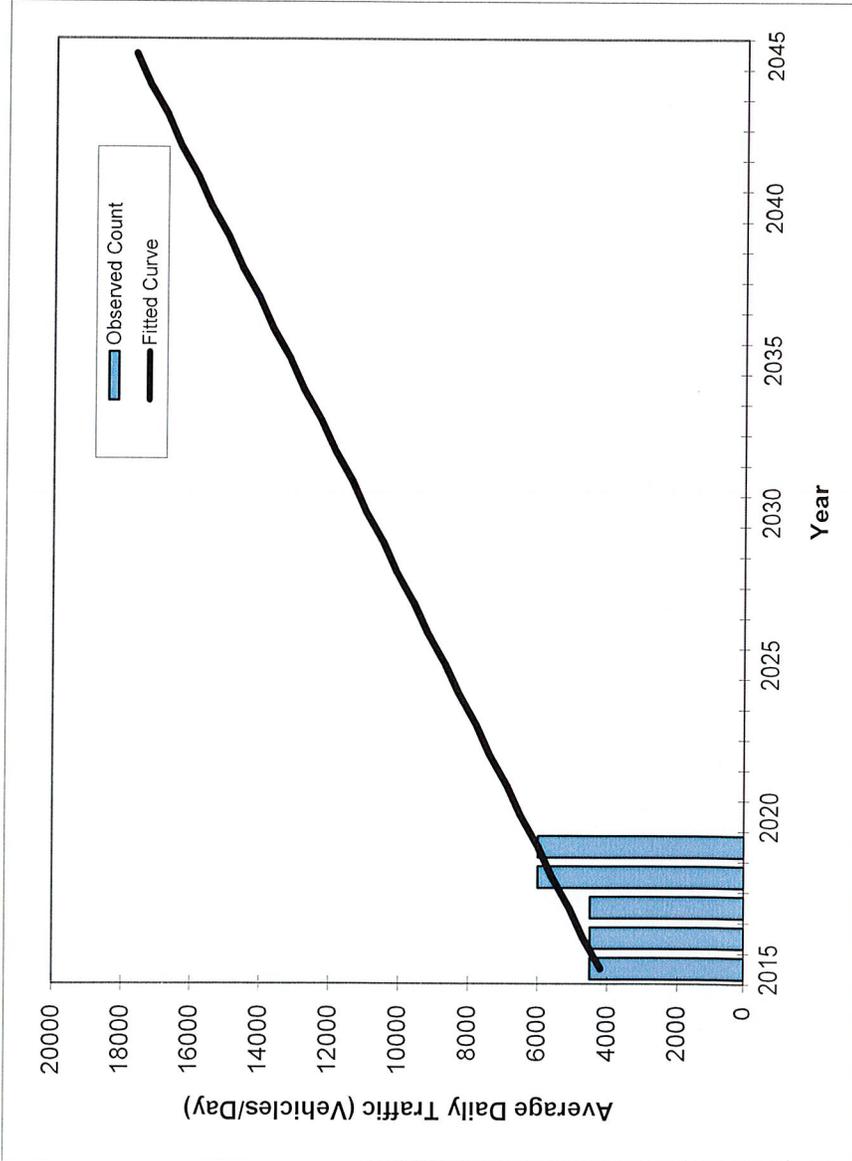
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	5200	C	0	9.00	53.80	3.00
2020	5600	S	2700	9.00	53.90	3.20
2019	6000	F	2800	9.00	54.60	3.20
2018	6000	C	3000	9.00	54.50	3.20
2017	4500	S	3000	9.00	51.90	4.50
2016	4500	F	2400	9.00	54.10	4.50
2015	4500	C	2400	9.00	54.00	4.50
2014	7500	S	3800	9.00	54.20	2.30
2013	7500	F	3800	9.00	53.60	2.30
2012	7500	C	3800	9.00	52.20	2.30
2011	6000	F	0	9.00	52.50	6.30
2010	6000	C	0	8.35	52.69	9.30
2009	4900	F	0	8.53	53.89	5.30
2008	5000	C	0	8.81	54.16	6.50
2007	5300	C	0	8.63	55.75	4.80
2006	5500	C	0	8.40	55.34	2.90

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

NE 16th Street -- East of Andrews Avenue

County:	Broward (86)
Station #:	9583
Highway:	NE 16th Street



Trend R-squared: 75.00%
 Trend Annual Historic Growth Rate: 10.71%
 Printed: 24-Aug-22
Straight Line Growth Option

Year	Traffic (ADT/AAADT)	
	Count*	Trend**
2015	4500	4200
2016	4500	4700
2017	4500	5100
2018	6000	5600
2019	6000	6000

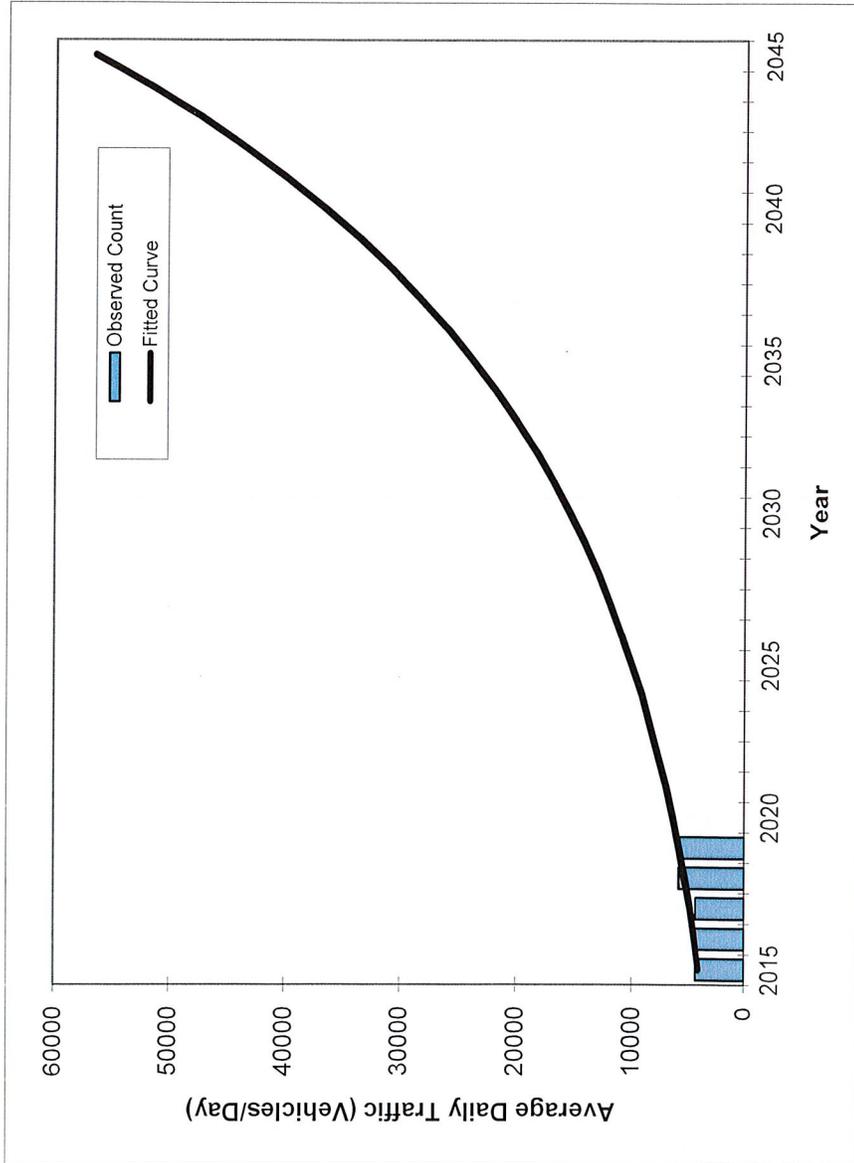
*Axle-Adjusted

Traffic Trends

NE 16th Street -- East of Andrews Avenue

County: Station #: Highway:	Broward (86) 9583 NE 16th Street
-----------------------------------	--

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	4500	4200
2016	4500	4600
2017	4500	5000
2018	6000	5500
2019	6000	6000

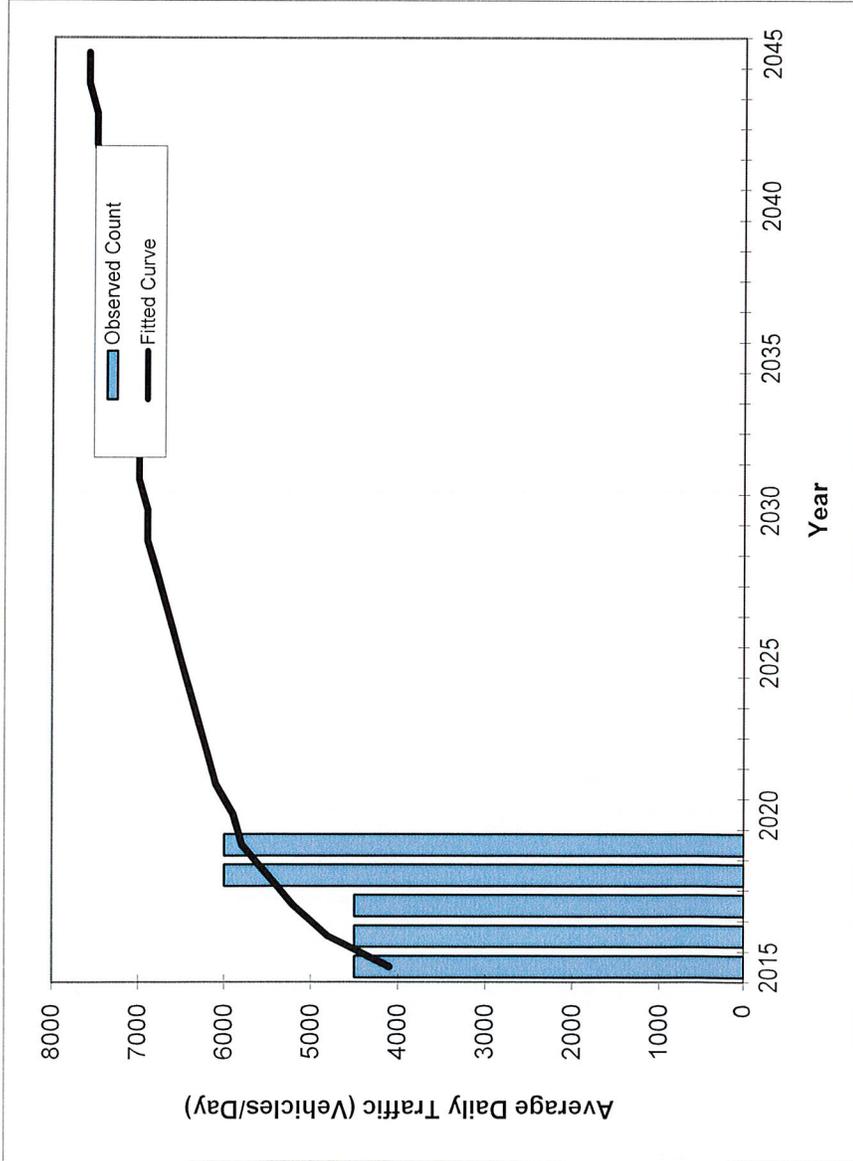


Trend R-squared: 75.00%
 Compounded Annual Historic Growth Rate: 9.33%
 Printed: 24-Aug-22
Exponential Growth Option

*Axle-Adjusted

Traffic Trends NE 16th Street -- East of Andrews Avenue

County:	Broward (86)
Station #:	9583
Highway:	NE 16th Street



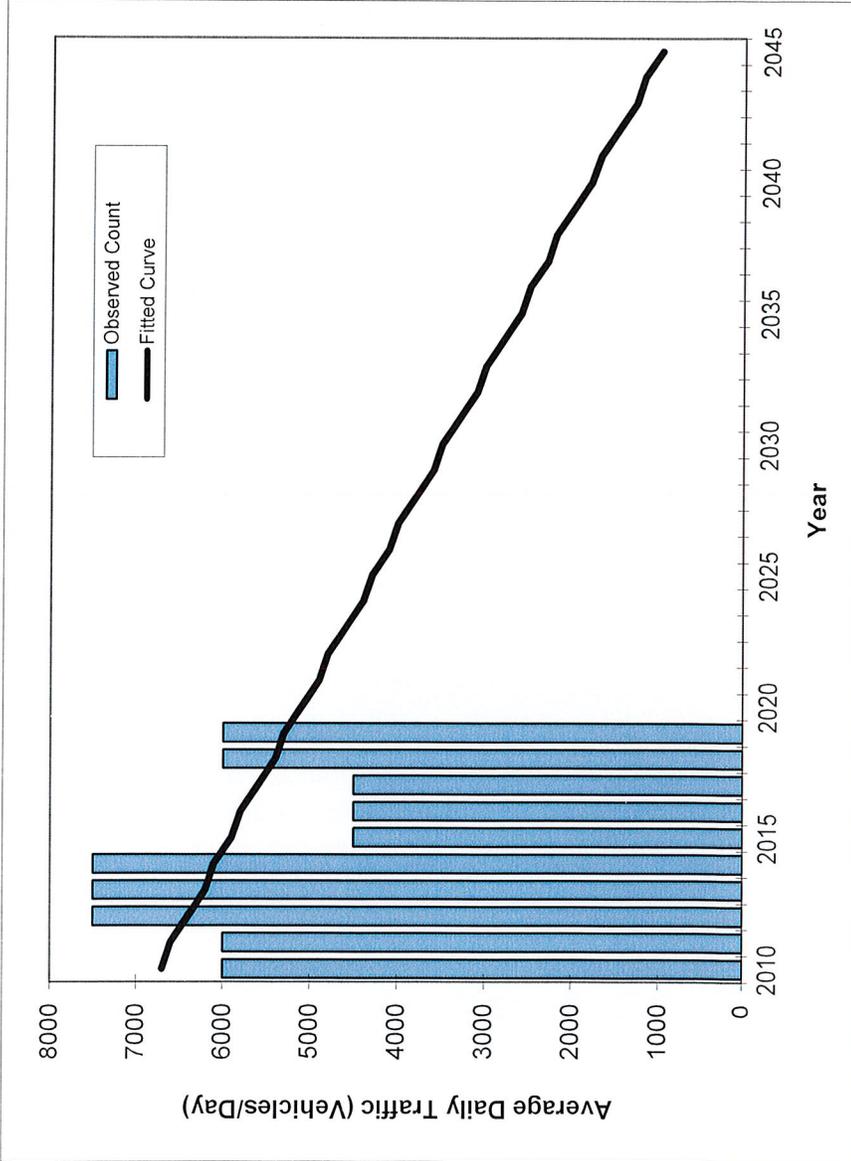
Trend R-squared: 60.25%
 Compounded Annual Historic Growth Rate: 9.06%
 Printed: 24-Aug-22
Decaying Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	4500	4100
2016	4500	4800
2017	4500	5200
2018	6000	5500
2019	6000	5800

*Axle-Adjusted

Traffic Trends NE 16th Street -- East of Andrews Avenue

County:	Broward (86)
Station #:	9583
Highway:	NE 16th Street



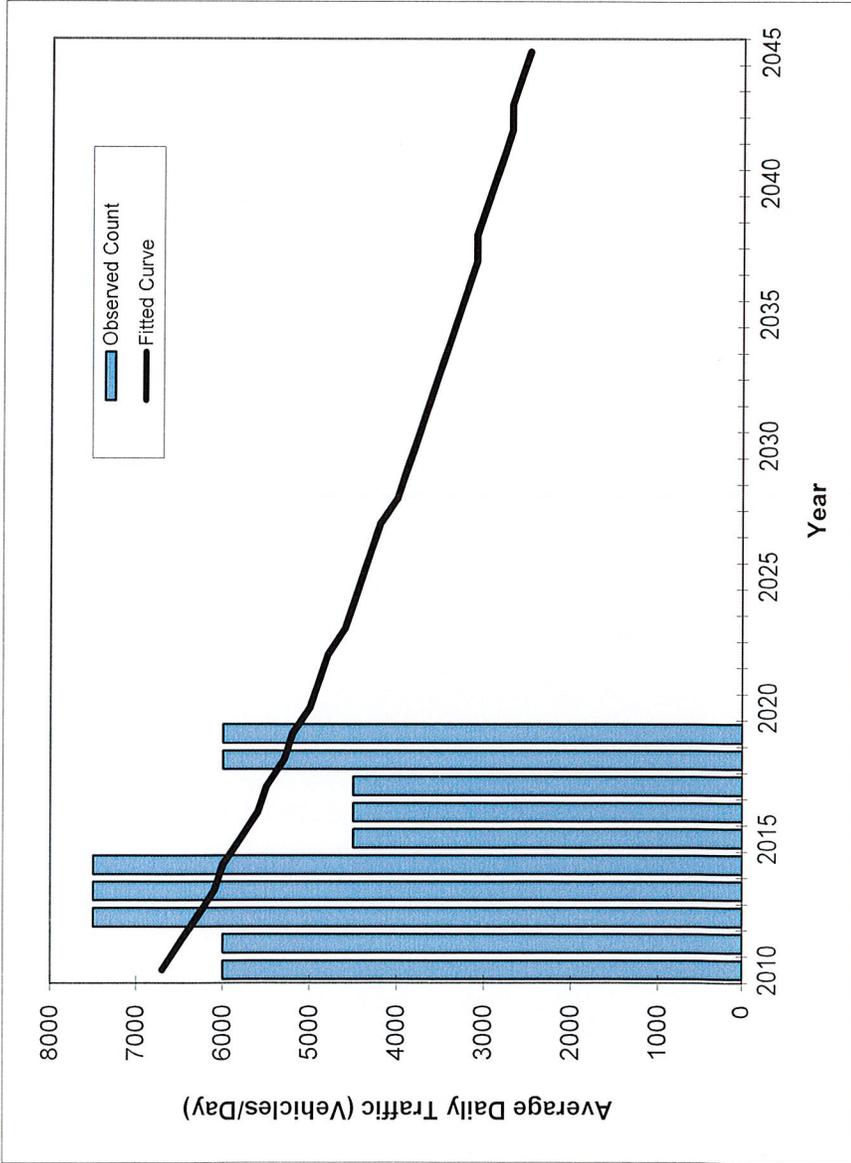
Trend R-squared: 16.36%
 Trend Annual Historic Growth Rate: -2.32%
 Printed: 24-Aug-22
Straight Line Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	6000	6700
2011	6000	6600
2012	7500	6400
2013	7500	6200
2014	7500	6100
2015	4500	5900
2016	4500	5800
2017	4500	5600
2018	6000	5400
2019	6000	5300

*Axle-Adjusted

Traffic Trends NE 16th Street -- East of Andrews Avenue

County:	Broward (86)
Station #:	9583
Highway:	NE 16th Street



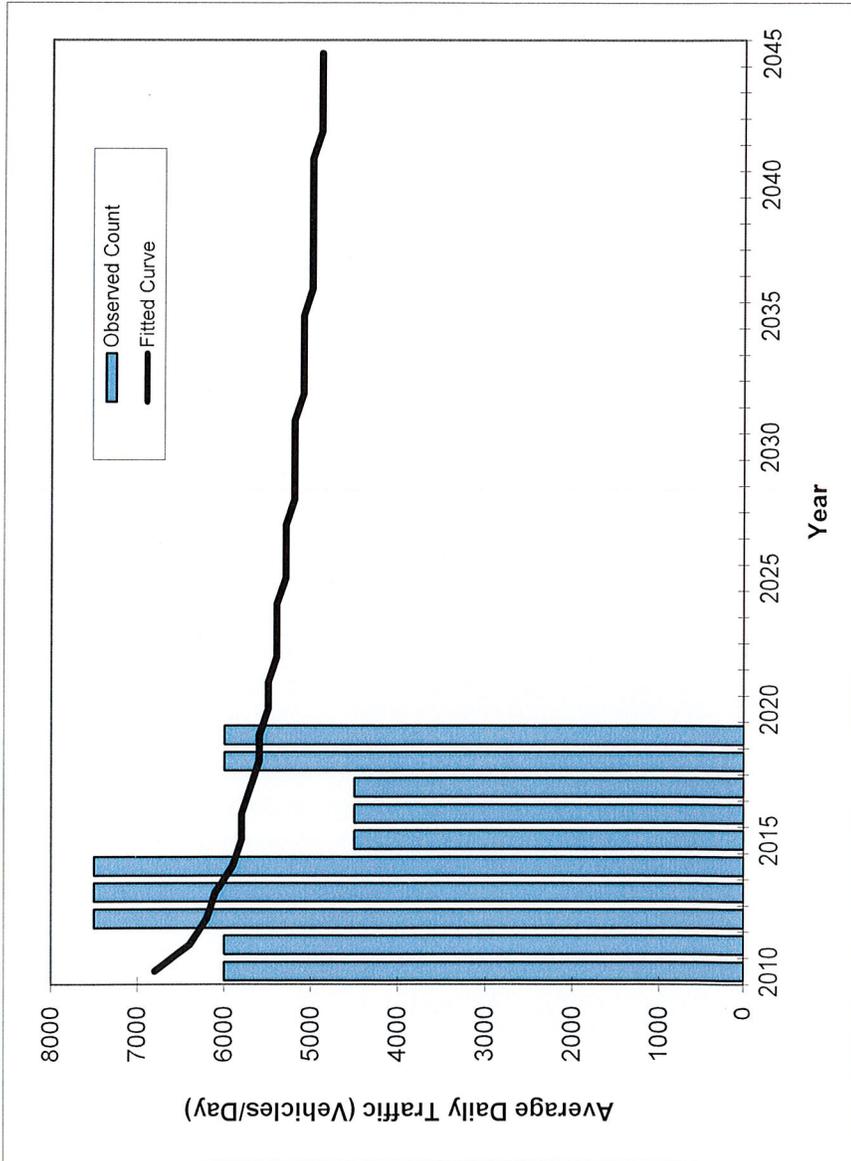
Trend R-squared: 16.26%
 Compounded Annual Historic Growth Rate: -2.78%
 Printed: 24-Aug-22
Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	6000	6700
2011	6000	6500
2012	7500	6300
2013	7500	6100
2014	7500	6000
2015	4500	5800
2016	4500	5600
2017	4500	5500
2018	6000	5300
2019	6000	5200

*Axle-Adjusted

Traffic Trends NE 16th Street -- East of Andrews Avenue

County:	Broward (86)
Station #:	9583
Highway:	NE 16th Street



Trend R-squared: 10.23%
 Compounded Annual Historic Growth Rate: -2.13%
 Printed: 24-Aug-22
Decaying Exponential Growth Option

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	6000	6800
2011	6000	6400
2012	7500	6200
2013	7500	6100
2014	7500	5900
2015	4500	5800
2016	4500	5800
2017	4500	5700
2018	6000	5600
2019	6000	5600

*Axle-Adjusted

EXHIBIT E

SERPM Analysis

EXHIBIT E

SERPM Growth Rate Summary					
Street Name	2015	2045	Difference	Growth Rate	Annual Growth Rate
NE 6th Avenue	2,778	6,642	3,864	139.09%	4.64%
	7,914	10,767	2,853	36.05%	1.20%
	7,914	10,767	2,853	36.05%	1.20%
N Dixie Highway	15,139	24,990	9,851	65.07%	2.17%
Wilton Drive	8,689	12,558	3,869	44.53%	1.48%
	8,689	12,558	3,869	44.53%	1.48%
	16,603	23,325	6,722	40.49%	1.35%
	15,052	21,328	6,276	41.70%	1.39%
NE 4th Avenue	15,052	21,328	6,276	41.70%	1.39%
	16,012	23,313	7,301	45.60%	1.52%
NE 26th Street	5,000	4,992	-8	-0.16%	-0.01%
	1,235	2,600	1,365	110.53%	3.68%
	915	2,173	1,258	137.49%	4.58%
	10,998	20,823	9,825	89.33%	2.98%
Total	131,990	198,164	66,174	50.14%	1.67%

Appendix E
Committed Developments

EXHIBIT E

RD Wilton Manors, LLC

NE 26 Street and NE 13 Avenue

Wilton Manors , Florida 33305

Traffic Impact Study



June 27, 2022

Prepared By:
LISA S. BERNSTEIN, PE
7660 NW 6 Court
Plantation, Florida 33324

RD Wilton Manors, LLC

NE 26 Street and NE 13 Avenue

Wilton Manors, Florida 33305

Traffic Impact Study

June 2022

Prepared For:

RD Wilton Manors, LLC
2850 Tigertail Avenue, Suite 800
Miami, Florida 33133

Prepared By:

LISA S. BERNSTEIN, PE
7660 NW 6 Court
Plantation, Florida 33324

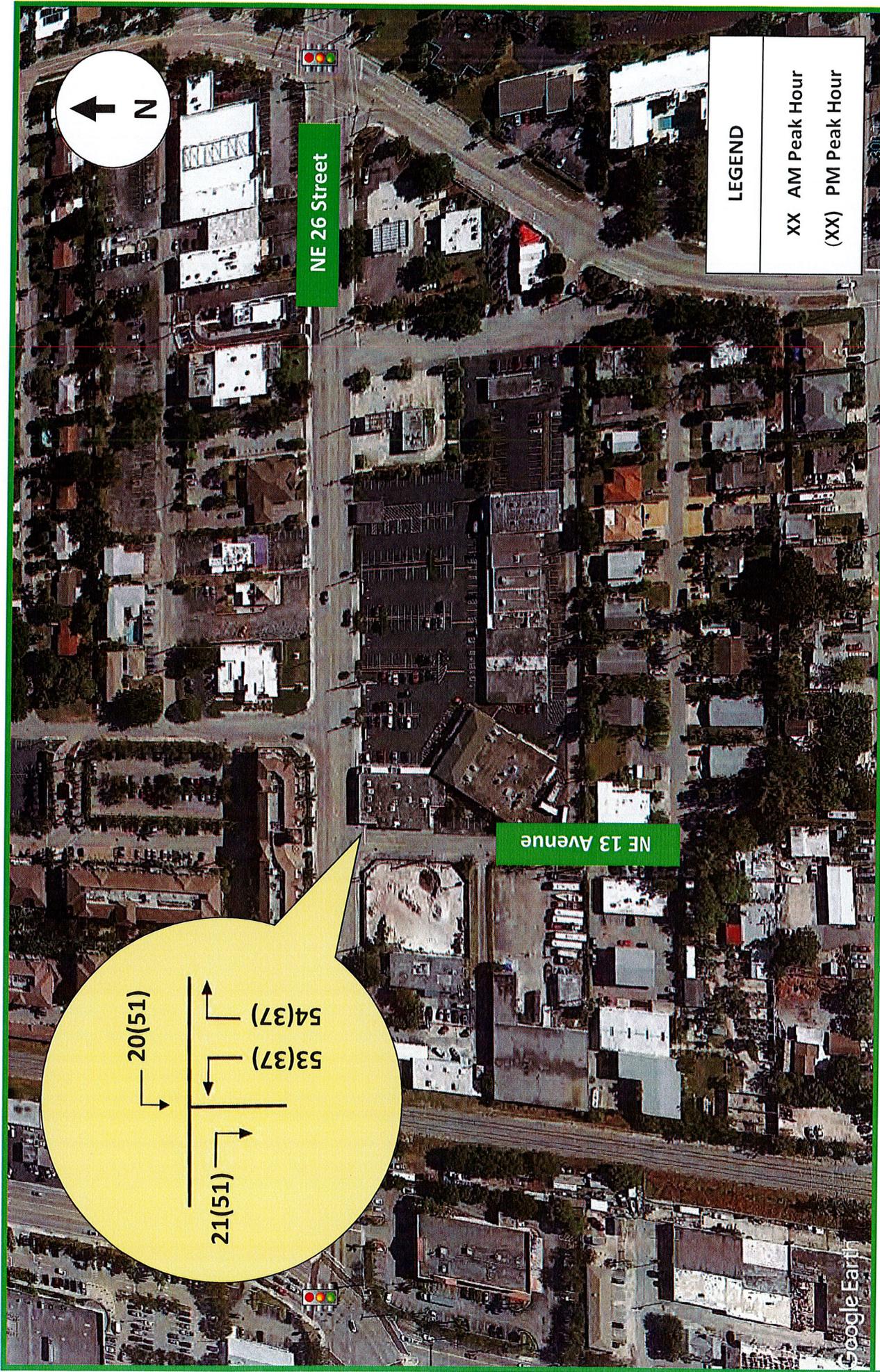


Figure 3
RD Wilton Manors
Wilton Manors, Florida

Total Project Traffic
For Driveways

LISA S. BERNSTEIN, PE
7660 NW 6 Court
Plantation, Florida 33324



Wilton Manors Residential

Wilton Manors, Florida

prepared for:

Stellar Communities

traffic study

EXHIBIT E

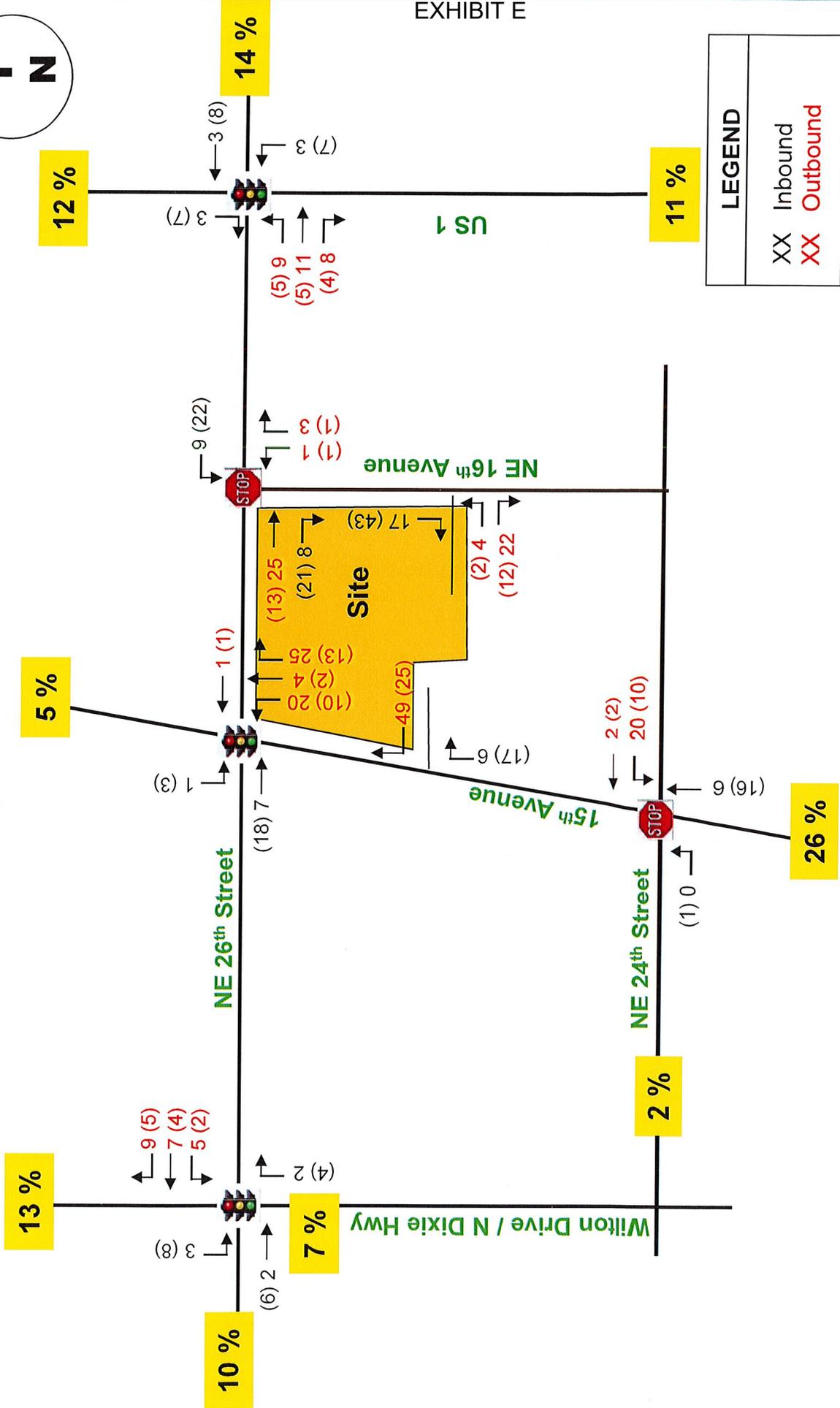
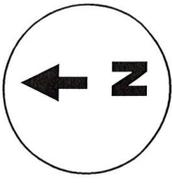


FIGURE 4
 Wilton Manors Residential
 Wilton Manors, Florida

PROJECT TRIP DISTRIBUTION



Appendix F
Trip Generation

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY AM PEAK HOUR TRIP GENERATION

ITE Land Use Code	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																			In	Out
1	Shopping Plaza (40-150K)	11	821	62.661	ksf	62%	38%	67	41	108	11.1%	12	60	36	96	0.0%	0	60	36	96	0.0%	0	60	36	96		
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											
13																											
14																											
15																											
Total:								67	41	108	11.1%	12	60	36	96	0.0%	0	60	36	96	0.0%	0	60	36	96		

821

Rate of Equation
Y=1.73(X)

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

ITE Land Use Code	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																			In	Out
1	Multi-family Housing (Mid-Rise)	11	221	255	du	23%	77%	23	78	101	11.1%	11	20	70	90	1.1%	1	20	69	89	0.0%	0	20	69	89		
2	Shopping Plaza (40-150K)	11	821	56	ksf	62%	38%	60	37	97	11.1%	11	53	33	86	1.2%	1	52	33	85	0.0%	0	52	33	85		
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											
13																											
14																											
15																											
Total:								83	115	198	11.1%	22	73	103	176	1.1%	2	72	102	174	0.0%	0	72	102	174		

821

Rate of Equation
Y=0.44*(X)+-11.61
Y=1.73(X)

NET NEW TRIPS	12	66	78
IN	60	36	96
OUT	60	36	96
TOTAL	120	72	192

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

ITE	ITE TRIP GENERATION CHARACTERISTICS			DIRECTIONAL DISTRIBUTION Percent	BASELINE TRIPS			MULTIMODAL REDUCTION			GROSS TRIPS			INTERNAL CAPTURE			EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE			NET NEW EXTERNAL TRIPS		
	Land Use	ITE Edition	ITE Code		ITE Scale	ITE Units	In	Out	Total	Percent	MR	In	Out	Total	Percent	IC	In	Out	Total	Percent	PB	In	Out	Total	
		11	821		62,661	ksf	45%	159	166	325	11.1%	36	141	148	289	0.0%	0	141	148	289	40.0%	116	84	89	173
1	Shopping Plaza (40-150k)																								
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
Total:						159	166	325	11.1%	36	141	148	289	0.0%	0	141	148	289	40.1%	116	84	89	173		

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

ITE	ITE TRIP GENERATION CHARACTERISTICS			DIRECTIONAL DISTRIBUTION Percent	BASELINE TRIPS			MULTIMODAL REDUCTION			GROSS TRIPS			INTERNAL CAPTURE			EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE			NET NEW EXTERNAL TRIPS		
	Land Use	ITE Edition	ITE Code		ITE Scale	ITE Units	In	Out	Total	Percent	MR	In	Out	Total	Percent	IC	In	Out	Total	Percent	PB	In	Out	Total	
		11	221		265	du	61%	61	39	100	11.1%	11	54	35	89	42.7%	38	29	22	51	0.0%	0	29	22	51
1	Multifamily Housing (Mid-Rise)																								
2	Shopping Plaza (40-150k)																								
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
Total:						204	187	391	11.1%	43	181	167	348	21.8%	76	143	129	272	32.7%	89	97	86	183		

NET NEW TRIPS	IN	OUT	TOTAL
	13	-3	10

EXHIBIT E

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	53	33	127	132	
Restaurant	0	0	0	0	
Cinema/Entertainment	0	0	0	0	
Residential	20	70	54	35	
Hotel	0	0	0	0	
	73	103	181	167	

INTERNAL TRIPS					
OUTPUT	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office	0	0	0	0
Retail	1	0	13	25	
Restaurant	0	0	0	0	
Cinema/Entertainment	0	0	0	0	
Residential	0	1	25	13	
Hotel	0	0	0	0	
	1	1	38	38	

OUTPUT	<i>Total % Reduction</i>	<i>1.1%</i>	<i>21.8%</i>
	Office		
	Retail	1.2%	14.7%
	Restaurant		
	Cinema/Entertainment		
	Residential	1.1%	42.7%
	Hotel		

EXTERNAL TRIPS					
OUTPUT	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
	Office	0	0	0	0
Retail	52	33	114	107	
Restaurant	0	0	0	0	
Cinema/Entertainment	0	0	0	0	
Residential	20	69	29	22	
Hotel	0	0	0	0	
	72	102	143	129	

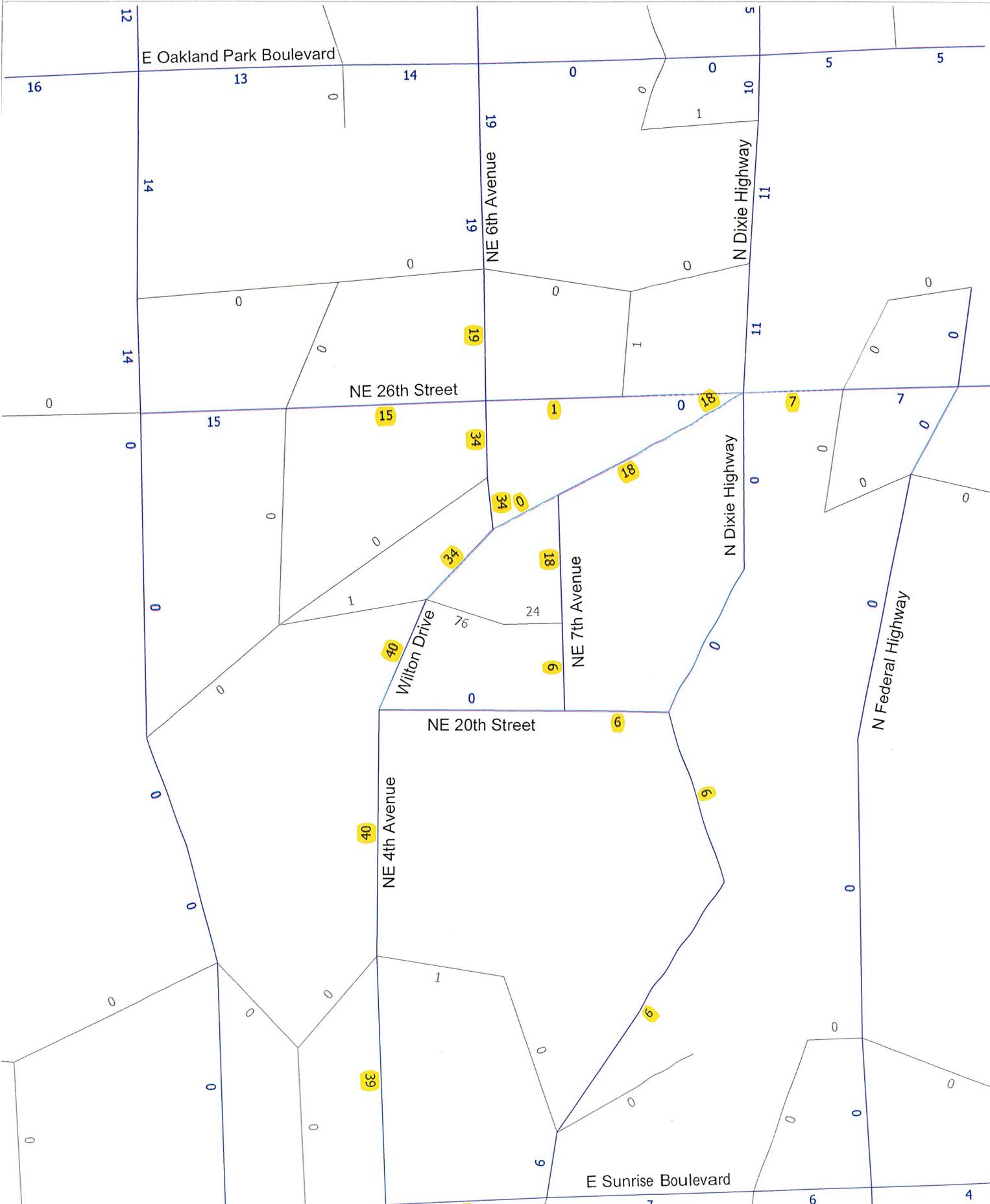
EXHIBIT E

Existing Traffic and ITE Trip Generation Comparison

	Collected Counts			Trip Generation Calculations			Percentage Difference
	Entering	Exiting	Total	Entering	Exiting	Total	
A.M. Peak Hour	47	40	87	60	36	96	10.34%
P.M. Peak Hour	150	116	266	141	148	289	8.65%

Appendix G
Trip Distribution

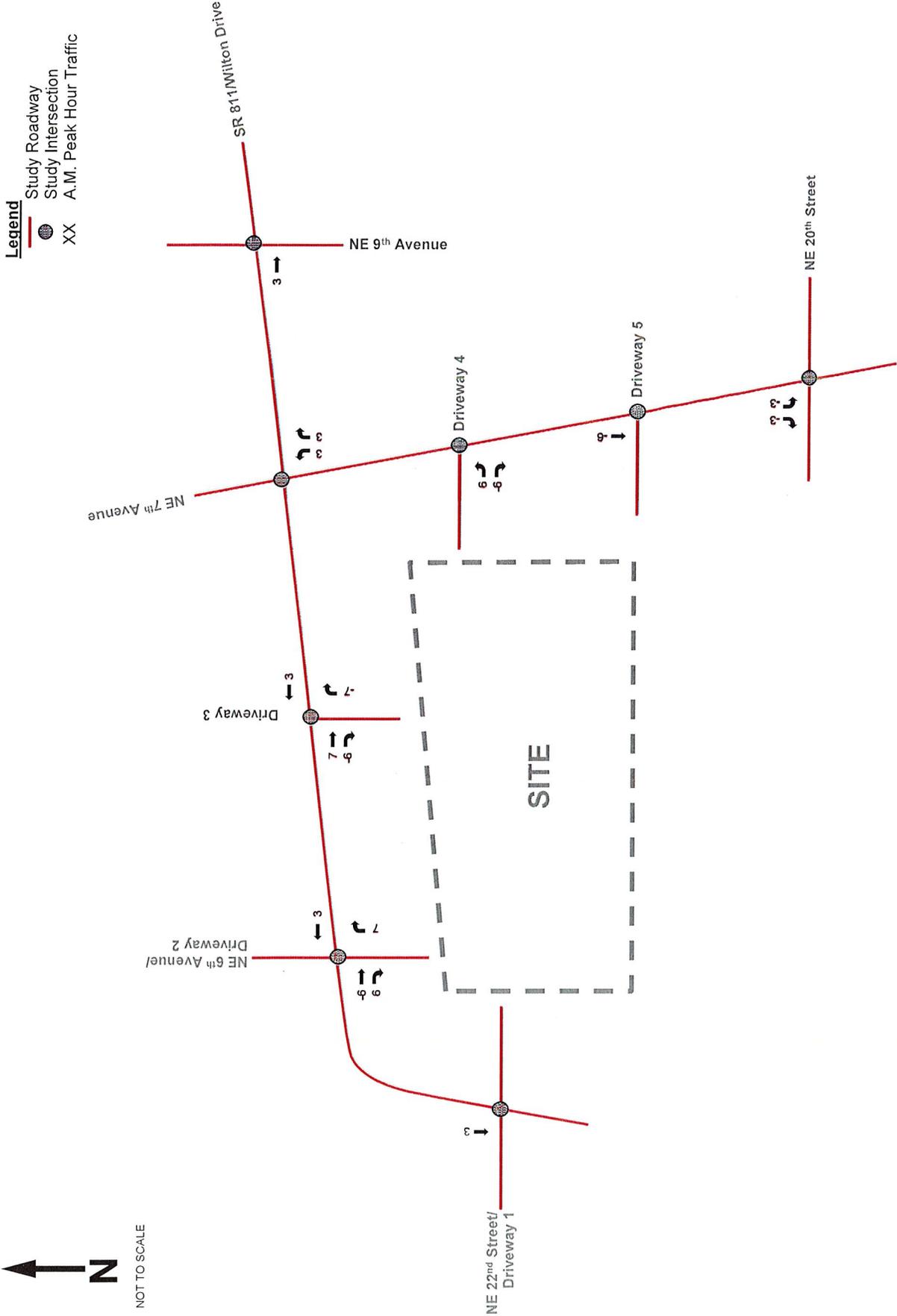
Shoppes of Wilton Manors
Tract
EXHIBIT
SERPM 8.521



Appendix H

Volume Development Worksheets

EXHIBIT E



NOT TO SCALE

EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: SR 811/Wilton Drive and NE 22nd Street/Driveway 1
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.94
 PM PEAK HOUR FACTOR: 0.98

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Raw Turning Movements			5	0	4		0	0	0		1	333	0		0	415	6
Peak Season Correction Factor		1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																	
Kaplan Residential																	
Related Group																	
Stellar												2					
Old Jaxi/Green Diner Building																	
Andrews Office Building/Retail																	
Andrews Avenue																	
TOTAL "VESTED" TRAFFIC			0	0	0		0	0	0		0	2	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		1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH			0	0	0		0	0	0		0	19	0		0	23	0
AM NON-PROJECT TRAFFIC			6	0	4		0	0	0		1	391	0		0	484	7
"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering		1.0%									38.0%	2.0%				
	Exiting															40.0%	1.0%
"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																3	
Project Trips	Pass - By																
	Valet																
	Net New		0									5	0			26	1
AM TOTAL PROJECT TRAFFIC			0	0	0		0	0	0		0	5	0		0	29	1
AM TOTAL TRAFFIC			6	0	4		0	0	0		1	396	0		0	513	8

EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: SR 811/Wilton Drive and NE 6th Avenue/Driveway 2
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.94
 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		57	269	12		7	276	26		2	9	3		32	3	143
Peak Season Correction Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																
Kaplan Residential																
Related Group																
Stellar			2													
Old Jaxi/Green Diner Building																
Andrews Office Building/Retail																
Andrews Avenue																
TOTAL "VESTED" TRAFFIC		0	2	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	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH		3	15	1		0	16	1		0	1	0		2	0	8

AM NON-PROJECT TRAFFIC		66	316	14		8	322	30		2	11	3		38	3	167
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"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering				39.0%												35.0%
	Exiting							2.0%			39.0%	35.0%					

"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
AM TRAFFIC DIVERSIONS				-6	6			3					7				
Project Trips	Pass - By																
	Valet																
	Net New				5			1			26	23				4	
AM TOTAL PROJECT TRAFFIC			0	-6	11		0	4	0		26	23	7		0	4	0
AM TOTAL TRAFFIC			66	310	25		8	326	30		28	34	10		38	7	167

EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: SR 811/Wilton Drive and Driveway 3
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.94
 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	299	5		0	306	0		0	0	6		0	0	0	
Peak Season Correction Factor		1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																	
Kaplan Residential																	
Related Group																	
Stellar				2													
Old Jaxi/Green Diner Building																	
Andrews Office Building/Retail																	
Andrews Avenue																	
TOTAL "VESTED" TRAFFIC			0	2	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		1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH			0	17	0		0	17	0		0	0	0		0	0	0
AM NON-PROJECT TRAFFIC			0	351	6		0	357	0		0	0	7		0	0	0
"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering																
	Exiting																
"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS				7	-6			3					-7				
Project Trips	Pass - By																
	Valet																
	Net New																
AM TOTAL PROJECT TRAFFIC			0	7	-6		0	3	0		0	0	-7		0	0	0
AM TOTAL TRAFFIC			0	358	0		0	360	0		0	0	0		0	0	0

EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: SR 811/Wilton Drive and NE 7th Avenue
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.95
 PM PEAK HOUR FACTOR: 0.94

"AM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Raw Turning Movements		0	285	20		15	277	2		22	9	16		0	0	7
Peak Season Correction Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																
Kaplan Residential Related Group																
Stellar			2													
Old Jaxi/Green Diner Building																
Andrews Office Building/Retail																
Andrews Avenue																
TOTAL "VESTED" TRAFFIC		0	2	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	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH		0	16	1		1	16	0		1	1	1		0	0	0

AM NON-PROJECT TRAFFIC		0	334	23		18	323	2		25	11	19		0	0	8
------------------------	--	---	-----	----	--	----	-----	---	--	----	----	----	--	---	---	---

"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering					18.0%											
	Exiting									2.0%		24.0%					

"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
AM TRAFFIC DIVERSIONS											3		3				
Project Trips	Pass - By																
	Valet																
	Net New					2					1		16				
AM TOTAL PROJECT TRAFFIC			0	0	0	2	0	0		4	0	19		0	0	0	
AM TOTAL TRAFFIC			0	334	23		20	323	2		29	11	38		0	0	8

EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: SR 811/Wilton Drive and NE 9th Avenue
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.91
 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		25	258	10		4	244	2		14	14	14		7	5	19
Peak Season Correction Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																
Kaplan Residential																
Related Group																
Stellar			2													
Old Jaxi/Green Diner Building																
Andrews Office Building/Retail																
Andrews Avenue																
TOTAL "VESTED" TRAFFIC		0	2	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	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH		1	15	1		0	14	0		1	1	1		0	0	1

AM NON-PROJECT TRAFFIC		29	303	12		4	285	2		17	17	17		8	6	22
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"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering						18.0%										
	Exiting			24.0%													

"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
AM TRAFFIC DIVERSIONS				3													
Project Trips	Pass - By																
	Valet																
	Net New			16			2										
AM TOTAL PROJECT TRAFFIC			0	19	0		0	2	0		0	0	0		0	0	0
AM TOTAL TRAFFIC			29	322	12		4	287	2		17	17	17		8	6	22

EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: NE 7th Avenue and Driveway 4
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.78
 PM PEAK HOUR FACTOR: 0.90

"AM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Raw Turning Movements		7	0	5		0	0	0		5	35	0		0	20	10
Peak Season Correction Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																
Kaplan Residential																
Related Group																
Stellar																
Old Jaxi/Green Diner Building																
Andrews Office Building/Retail																
Andrews Avenue																
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	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH		0	0	0		0	0	0		0	2	0		0	1	1

AM NON-PROJECT TRAFFIC		8	0	6		0	0	0		6	41	0		0	23	12
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"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering									6.0%							18.0%
	Exiting		24.0%									2.0%					

"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
AM TRAFFIC DIVERSIONS			6		-6												
Project Trips	Pass - By																
	Valet																
	Net New		16							1	1						2
AM TOTAL PROJECT TRAFFIC			22	0	-6		0	0	0		1	1	0		0	0	2

AM TOTAL TRAFFIC		30	0	0		0	0	0		7	42	0		0	23	14
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EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: NE 7th Avenue and Driveway 5
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.73
 PM PEAK HOUR FACTOR: 0.89

"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	37	0		0	24	0
Peak Season Correction Factor		1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																	
Kaplan Residential																	
Related Group																	
Stellar																	
Old Jaxi/Green Diner Building																	
Andrews Office Building/Retail																	
Andrews Avenue																	
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		1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH			0	0	0		0	0	0		0	2	0		0	1	0
AM NON-PROJECT TRAFFIC			0	0	0		0	0	0		0	43	0		0	28	0
"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering											6.0%					
	Exiting		2.0%														
"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS																	-6
Project Trips	Pass - By																
	Valet																
	Net New		1									1					
AM TOTAL PROJECT TRAFFIC			1	0	0		0	0	0		0	1	0		0	-6	0
AM TOTAL TRAFFIC			1	0	0		0	0	0		0	44	0		0	22	0

EXHIBIT E

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: NE 7th Avenue and NE 20th Street
 COUNT DATE: August 3, 2022
 AM PEAK HOUR FACTOR: 0.82
 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		6	25	4		2	15	20		11	8	9		11	2	11
Peak Season Correction Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11

"AM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
The Ave																
Kaplan Residential																
Related Group																
Stellar																
Old Jaxi/Green Diner Building																
Andrews Office Building/Retail																
Andrews Avenue																
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	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%	1.67%
AM BACKGROUND TRAFFIC GROWTH		0	1	0		0	1	1		1	0	1		1	0	1

AM NON-PROJECT TRAFFIC		7	29	4		2	18	23		13	9	11		13	2	13
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"AM PROJECT DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Valet Distribution	Entering																
	Exiting																
Net New Distribution	Entering							6.0%									
	Exiting																

"AM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM TRAFFIC DIVERSIONS															-3		-3
Project Trips	Pass - By																
	Valet																
	Net New							1									
AM TOTAL PROJECT TRAFFIC			0	0	0		0	0	1		0	0	0		-3	0	-3

AM TOTAL TRAFFIC		7	29	4		2	18	24		13	9	11		10	2	10
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Appendix I
Intersection Capacity Analysis Worksheets

EXHIBIT E

A.M. Existing Conditions

EXHIBIT E

HCM 6th TWSC

Existing Conditions

1: SR 811/Wilton Drive & NE 22nd Street/Driveway 1

A.M. Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔					↔	↔			↔	
Traffic Vol, veh/h	6	0	4	0	0	0	1	370	0	0	461	7
Future Vol, veh/h	6	0	4	0	0	0	1	370	0	0	461	7
Conflicting Peds, #/hr	0	0	2	2	0	0	19	0	16	16	0	19
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	90	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	0	4	0	0	0	1	394	0	0	490	7

Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow All	909	925	515	-	-	410	516	0	0	410	0	0
Stage 1	513	513	-	-	-	-	-	-	-	-	-	-
Stage 2	396	412	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.4	4.4	4.9	-	-	4.9	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	3.8	3.9	-	-	3.9	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	485	479	598	0	0	654	1045	-	-	1143	-	-
Stage 1	512	558	-	0	0	-	-	-	-	-	-	-
Stage 2	591	620	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	476	463	586	-	-	644	1026	-	-	1126	-	-
Mov Cap-2 Maneuver	476	463	-	-	-	-	-	-	-	-	-	-
Stage 1	502	548	-	-	-	-	-	-	-	-	-	-
Stage 2	590	610	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1026	-	-	515	-	1126	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	-	-	-	-
HCM Control Delay (s)	8.5	-	-	12.1	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

EXHIBIT E

Timings

Existing Conditions

2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

A.M. Peak Hour

Lane Group								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	63	299	8	306	2	10	36	3
Future Volume (vph)	63	299	8	306	2	10	36	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2		6		8		4	
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	4.0	7.0	4.0	7.0	4.0	6.0	4.0	6.0
Minimum Split (s)	10.0	37.0	10.0	24.0	10.0	28.0	10.0	32.0
Total Split (s)	15.0	57.0	15.0	57.0	15.0	33.0	15.0	33.0
Total Split (%)	12.5%	47.5%	12.5%	47.5%	12.5%	27.5%	12.5%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes						
Recall Mode	None	C-Max	None	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 116 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

 01	 02 (R)	 03	 04
15 s	57 s	15 s	33 s
 05	 06 (R)	 07	 08
15 s	57 s	15 s	33 s

EXHIBIT E

HCM 6th Signalized Intersection Summary

Existing Conditions

2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	299	13	8	306	29	2	10	3	36	3	159
Future Volume (veh/h)	63	299	13	8	306	29	2	10	3	36	3	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	0.99		0.98	0.99		0.99
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	318	14	9	326	31	2	11	3	38	3	169
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	662	950	42	679	896	85	148	185	50	293	4	213
Arrive On Green	0.04	0.80	0.80	0.04	0.80	0.80	0.03	0.13	0.13	0.03	0.14	0.14
Sat Flow, veh/h	1767	1584	70	1767	1495	142	1767	1399	381	1767	27	1527
Grp Volume(v), veh/h	67	0	332	9	0	357	2	0	14	38	0	172
Grp Sat Flow(s),veh/h/ln	1767	0	1654	1767	0	1637	1767	0	1780	1767	0	1554
Q Serve(g_s), s	1.7	0.0	6.7	0.2	0.0	7.5	0.1	0.0	0.8	2.2	0.0	12.9
Cycle Q Clear(g_c), s	1.7	0.0	6.7	0.2	0.0	7.5	0.1	0.0	0.8	2.2	0.0	12.9
Prop In Lane	1.00		0.04	1.00		0.09	1.00		0.21	1.00		0.98
Lane Grp Cap(c), veh/h	662	0	992	679	0	982	148	0	235	293	0	216
V/C Ratio(X)	0.10	0.00	0.33	0.01	0.00	0.36	0.01	0.00	0.06	0.13	0.00	0.79
Avail Cap(c_a), veh/h	735	0	992	753	0	982	231	0	400	364	0	350
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.6	0.0	5.5	8.2	0.0	5.6	43.0	0.0	45.6	42.5	0.0	50.0
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.0	0.1	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.2	0.1	0.0	2.4	0.1	0.0	0.4	1.0	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	0.0	6.5	8.2	0.0	6.7	43.0	0.0	45.6	42.6	0.0	52.5
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		399			366			16			210	
Approach Delay, s/veh		6.8			6.7			45.3			50.7	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	78.0	9.3	22.7	10.0	78.0	10.2	21.8				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	51.0	9.0	27.0	9.0	51.0	9.0	27.0				
Max Q Clear Time (g_c+I1), s	2.2	8.7	2.1	14.9	3.7	9.5	4.2	2.8				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.5	0.0	0.4	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			16.7									
HCM 6th LOS			B									

EXHIBIT E

HCM 6th TWSC
3: Driveway 3 & SR 811/Wilton Drive

Existing Conditions
A.M. Peak Hour

Intersection

Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	332	6	0	340	0	7
Future Vol, veh/h	332	6	0	340	0	7
Conflicting Peds, #/hr	0	26	26	0	0	1
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	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	353	6	0	362	0	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	383
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.9
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.9
Pot Cap-1 Maneuver	-	0	670
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	653
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	653	-	-	-
HCM Lane V/C Ratio	0.011	-	-	-
HCM Control Delay (s)	10.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

EXHIBIT E

HCM 6th TWSC
4: NE 7th Avenue & SR 811/Wilton Drive

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	316	22	17	307	2	24	10	18	0	0	8
Future Vol, veh/h	0	316	22	17	307	2	24	10	18	0	0	8
Conflicting Peds, #/hr	7	0	23	23	0	7	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	240	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	333	23	18	323	2	25	11	19	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	379	0	0	728	736	369	-	-	331
Stage 1	-	-	-	-	-	-	368	368	-	-	-	-
Stage 2	-	-	-	-	-	-	360	368	-	-	-	-
Critical Hdwy	-	-	-	4.13	-	-	4.4	4.4	4.9	-	-	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	4.4	4.4	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.4	4.4	-	-	-	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.8	3.8	3.9	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	1174	-	-	558	554	678	0	0	700
Stage 1	0	-	-	-	-	-	729	729	-	0	0	-
Stage 2	0	-	-	-	-	-	733	729	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1148	-	-	533	530	663	-	-	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	572	567	-	-	-	-
Stage 1	-	-	-	-	-	-	729	713	-	-	-	-
Stage 2	-	-	-	-	-	-	713	712	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.4			11.6			10.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	-	-	1148	-	-	695
HCM Lane V/C Ratio	0.091	-	-	0.016	-	-	0.012
HCM Control Delay (s)	11.6	-	-	8.2	-	-	10.2
HCM Lane LOS	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	0	-	-	0

EXHIBIT E

Timings

5: NE 9th Avenue & SR 811/Wilton Drive

Existing Conditions

A.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	28	286	4	271	16	16	8	6
Future Volume (vph)	28	286	4	271	16	16	8	6
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	29.0	29.0	31.0	31.0	37.0	37.0	34.0	34.0
Total Split (s)	82.0	82.0	82.0	82.0	38.0	38.0	38.0	38.0
Total Split (%)	68.3%	68.3%	68.3%	68.3%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 108 (90%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 5: NE 9th Avenue & SR 811/Wilton Drive



EXHIBIT E

HCM 6th Signalized Intersection Summary 5: NE 9th Avenue & SR 811/Wilton Drive

Existing Conditions
A.M. Peak Hour

Movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	286	11	4	271	2	16	16	16	8	6	21
Future Volume (veh/h)	28	286	11	4	271	2	16	16	16	8	6	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.98		0.98	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	31	314	12	4	298	2	18	18	18	9	7	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	941	1472	56	921	1528	10	63	45	34	50	28	58
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1061	1773	68	1037	1840	12	333	642	488	183	400	838
Grp Volume(v), veh/h	31	0	326	4	0	300	54	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	1061	0	1840	1037	0	1853	1463	0	0	1422	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.01	0.33		0.33	0.23		0.59
Lane Grp Cap(c), veh/h	941	0	1528	921	0	1539	142	0	0	136	0	0
V/C Ratio(X)	0.03	0.00	0.21	0.00	0.00	0.19	0.38	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	941	0	1528	921	0	1539	417	0	0	404	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	53.8	0.0	0.0	53.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.3	0.6	0.0	0.0	0.4	0.0	0.0
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	0.0	0.0	0.1	0.0	0.0	0.1	1.6	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	0.0	0.3	0.0	0.0	0.3	54.4	0.0	0.0	53.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		357			304			54				39
Approach Delay, s/veh		0.3			0.3			54.4				53.8
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		105.6		14.4		105.6		14.4				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		76.0		32.0		76.0		32.0				
Max Q Clear Time (g_c+l1), s		2.0		5.1		2.0		6.1				
Green Ext Time (p_c), s		2.4		0.1		2.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			6.9									
HCM 6th LOS			A									

EXHIBIT E

HCM 6th TWSC
6: NE 7th Avenue & Driveway 4

Existing Conditions
A.M. Peak Hour

Intersection

Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	6	6	39	22	11
Future Vol, veh/h	8	6	6	39	22	11
Conflicting Peds, #/hr	3	0	3	0	0	3
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	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	10	8	8	50	28	14

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	107	38	45	0	0
Stage 1	38	-	-	-	-
Stage 2	69	-	-	-	-
Critical Hdwy	4.4	4.9	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.8	3.9	2.227	-	-
Pot Cap-1 Maneuver	879	895	1557	-	-
Stage 1	913	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	869	892	1553	-	-
Mov Cap-2 Maneuver	869	-	-	-	-
Stage 1	906	-	-	-	-
Stage 2	882	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1553	- 879	-	-
HCM Lane V/C Ratio	0.005	- 0.02	-	-
HCM Control Delay (s)	7.3	0 9.2	-	-
HCM Lane LOS	A	A A	-	-
HCM 95th %tile Q(veh)	0	- 0.1	-	-

EXHIBIT E

HCM 6th TWSC
7: NE 7th Avenue & Driveway 5

Existing Conditions
A.M. Peak Hour

Intersection

Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	41	27	0
Future Vol, veh/h	0	0	0	41	27	0
Conflicting Peds, #/hr	0	1	12	0	0	12
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	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	56	37	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	105	50	49	0	-	0
Stage 1	49	-	-	-	-	-
Stage 2	56	-	-	-	-	-
Critical Hdwy	4.4	4.9	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	2.227	-	-	-
Pot Cap-1 Maneuver	880	886	1551	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	861	875	1533	-	-	-
Mov Cap-2 Maneuver	861	-	-	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	887	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1533	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

EXHIBIT E

HCM 6th AWSC
8: NE 7th Avenue & NE 20th Street

Existing Conditions
A.M. Peak Hour

Intersection

Intersection Delay, s/veh 7.2
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇄			⇄			⇄			⇄	
Traffic Vol, veh/h	7	28	4	2	17	22	12	9	10	12	2	12
Future Vol, veh/h	7	28	4	2	17	22	12	9	10	12	2	12
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	34	5	2	21	27	15	11	12	15	2	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7	7.3	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	18%	5%	46%
Vol Thru, %	29%	72%	41%	8%
Vol Right, %	32%	10%	54%	46%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	39	41	26
LT Vol	12	7	2	12
Through Vol	9	28	17	2
RT Vol	10	4	22	12
Lane Flow Rate	38	48	50	32
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.054	0.053	0.035
Departure Headway (Hd)	4.026	4.084	3.795	3.963
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	884	874	940	898
Service Time	2.073	2.121	1.835	2.011
HCM Lane V/C Ratio	0.043	0.055	0.053	0.036
HCM Control Delay	7.3	7.4	7	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.1

EXHIBIT E

A.M. Future Background Conditions

EXHIBIT E

HCM 6th TWSC

Future Background Conditions

1: SR 811/Wilton Drive & NE 22nd Street/Driveway 1

A.M. Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔					↔	↔			↔	
Traffic Vol, veh/h	6	0	4	0	0	0	1	391	0	0	484	7
Future Vol, veh/h	6	0	4	0	0	0	1	391	0	0	484	7
Conflicting Peds, #/hr	0	0	2	2	0	0	19	0	16	16	0	19
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	90	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	0	4	0	0	0	1	416	0	0	515	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	956	972	540	-	-	432	541	0	0	432	0	0
Stage 1	538	538	-	-	-	-	-	-	-	-	-	-
Stage 2	418	434	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.4	4.4	4.9	-	-	4.9	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	3.8	3.9	-	-	3.9	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	468	462	585	0	0	642	1023	-	-	1122	-	-
Stage 1	497	543	-	0	0	-	-	-	-	-	-	-
Stage 2	575	606	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	459	446	573	-	-	632	1004	-	-	1105	-	-
Mov Cap-2 Maneuver	459	446	-	-	-	-	-	-	-	-	-	-
Stage 1	488	533	-	-	-	-	-	-	-	-	-	-
Stage 2	574	596	-	-	-	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1004	-	-	499	-	1105	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	-	-	-	-
HCM Control Delay (s)	8.6	-	-	12.4	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

EXHIBIT E

Timings

Future Background Conditions

2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

A.M. Peak Hour

Lane Group	 EBL	 EBT	 WBL	 WBT	 NBL	 NBT	 SBL	 SBT
Lane Configurations								
Traffic Volume (vph)	66	316	8	322	2	11	38	3
Future Volume (vph)	66	316	8	322	2	11	38	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2		6		8		4	
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	4.0	7.0	4.0	7.0	4.0	6.0	4.0	6.0
Minimum Split (s)	10.0	37.0	10.0	24.0	10.0	28.0	10.0	32.0
Total Split (s)	15.0	57.0	15.0	57.0	15.0	33.0	15.0	33.0
Total Split (%)	12.5%	47.5%	12.5%	47.5%	12.5%	27.5%	12.5%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes							
Recall Mode	None	C-Max	None	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 116 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

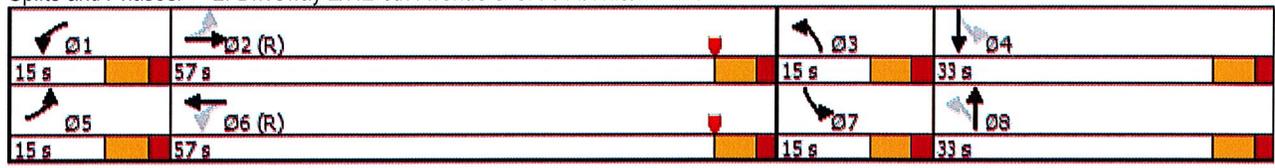


EXHIBIT E

HCM 6th Signalized Intersection Summary

Future Background Conditions

2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	316	14	8	322	30	2	11	3	38	3	167
Future Volume (veh/h)	66	316	14	8	322	30	2	11	3	38	3	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	70	336	15	9	343	32	2	12	3	40	3	178
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	641	940	42	658	890	83	148	195	49	300	4	221
Arrive On Green	0.04	0.79	0.79	0.04	0.79	0.79	0.03	0.14	0.14	0.04	0.14	0.14
Sat Flow, veh/h	1767	1583	71	1767	1498	140	1767	1428	357	1767	26	1529
Grp Volume(v), veh/h	70	0	351	9	0	375	2	0	15	40	0	181
Grp Sat Flow(s),veh/h/ln	1767	0	1654	1767	0	1638	1767	0	1785	1767	0	1555
Q Serve(g_s), s	1.8	0.0	7.5	0.2	0.0	8.3	0.1	0.0	0.9	2.3	0.0	13.5
Cycle Q Clear(g_c), s	1.8	0.0	7.5	0.2	0.0	8.3	0.1	0.0	0.9	2.3	0.0	13.5
Prop In Lane	1.00		0.04	1.00		0.09	1.00		0.20	1.00		0.98
Lane Grp Cap(c), veh/h	641	0	982	658	0	973	148	0	244	300	0	224
V/C Ratio(X)	0.11	0.00	0.36	0.01	0.00	0.39	0.01	0.00	0.06	0.13	0.00	0.81
Avail Cap(c_a), veh/h	714	0	982	731	0	973	230	0	402	370	0	350
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.9	0.0	5.9	8.5	0.0	6.0	42.5	0.0	45.1	42.0	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.0	0.0	1.2	0.0	0.0	0.0	0.1	0.0	3.6
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	0.7	0.0	2.5	0.1	0.0	2.7	0.1	0.0	0.4	1.0	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	0.0	6.9	8.5	0.0	7.1	42.5	0.0	45.1	42.1	0.0	53.3
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		421			384			17			221	
Approach Delay, s/veh		7.2			7.2			44.8			51.3	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	77.3	9.4	23.3	10.0	77.3	10.3	22.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	51.0	9.0	27.0	9.0	51.0	9.0	27.0				
Max Q Clear Time (g_c+I1), s	2.2	9.5	2.1	15.5	3.8	10.3	4.3	2.9				
Green Ext Time (p_c), s	0.0	0.4	0.0	0.5	0.0	0.4	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									

EXHIBIT E

HCM 6th TWSC
3: Driveway 3 & SR 811/Wilton Drive

Future Background Conditions
A.M. Peak Hour

Intersection

Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	351	6	0	357	0	7
Future Vol, veh/h	351	6	0	357	0	7
Conflicting Peds, #/hr	0	26	26	0	0	1
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	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	373	6	0	380	0	7

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	403
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	-	-	0	-	0	658
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	641
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	641	-	-	-
HCM Lane V/C Ratio	0.012	-	-	-
HCM Control Delay (s)	10.7	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

EXHIBIT E

HCM 6th TWSC
4: NE 7th Avenue & SR 811/Wilton Drive

Future Background 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	334	23	18	323	2	25	11	19	0	0	8
Future Vol, veh/h	0	334	23	18	323	2	25	11	19	0	0	8
Conflicting Peds, #/hr	7	0	23	23	0	7	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	240	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	352	24	19	340	2	26	12	20	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	399	0	0	766	774	388	-	-	348
Stage 1	-	-	-	-	-	-	387	387	-	-	-	-
Stage 2	-	-	-	-	-	-	379	387	-	-	-	-
Critical Hdwy	-	-	-	4.13	-	-	4.4	4.4	4.9	-	-	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	4.4	4.4	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.4	4.4	-	-	-	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.8	3.8	3.9	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	1154	-	-	542	538	667	0	0	690
Stage 1	0	-	-	-	-	-	719	719	-	0	0	-
Stage 2	0	-	-	-	-	-	723	719	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1129	-	-	517	514	652	-	-	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	560	555	-	-	-	-
Stage 1	-	-	-	-	-	-	719	703	-	-	-	-
Stage 2	-	-	-	-	-	-	702	702	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.4			11.8			10.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	588	-	-	1129	-	-	685
HCM Lane V/C Ratio	0.098	-	-	0.017	-	-	0.012
HCM Control Delay (s)	11.8	-	-	8.2	-	-	10.3
HCM Lane LOS	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	-	0

EXHIBIT E

Timings

Future Background Conditions

5: NE 9th Avenue & SR 811/Wilton Drive

A.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	29	303	4	285	17	17	8	6
Future Volume (vph)	29	303	4	285	17	17	8	6
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	29.0	29.0	31.0	31.0	37.0	37.0	34.0	34.0
Total Split (s)	82.0	82.0	82.0	82.0	38.0	38.0	38.0	38.0
Total Split (%)	68.3%	68.3%	68.3%	68.3%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 108 (90%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: NE 9th Avenue & SR 811/Wilton Drive

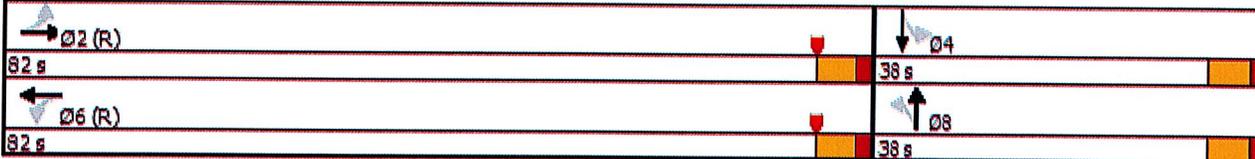


EXHIBIT E

HCM 6th Signalized Intersection Summary
5: NE 9th Avenue & SR 811/Wilton Drive

Future Background Conditions
A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	303	12	4	285	2	17	17	17	8	6	22
Future Volume (veh/h)	29	303	12	4	285	2	17	17	17	8	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.98		0.98	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	32	333	13	4	313	2	19	19	19	9	7	24
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	927	1467	57	903	1525	10	64	46	35	49	28	61
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1047	1771	69	1018	1841	12	336	640	488	177	392	854
Grp Volume(v), veh/h	32	0	346	4	0	315	57	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1047	0	1840	1018	0	1853	1463	0	0	1423	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.01	0.33		0.33	0.22		0.60
Lane Grp Cap(c), veh/h	927	0	1524	903	0	1535	145	0	0	139	0	0
V/C Ratio(X)	0.03	0.00	0.23	0.00	0.00	0.21	0.39	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	927	0	1524	903	0	1535	417	0	0	404	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	53.7	0.0	0.0	53.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.3	0.6	0.0	0.0	0.4	0.0	0.0
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	0.0	0.0	0.1	0.0	0.0	0.1	1.7	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	0.0	0.3	0.0	0.0	0.3	54.3	0.0	0.0	53.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		378			319			57			40	
Approach Delay, s/veh		0.3			0.3			54.3			53.6	
Approach LOS		A			A			D			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		105.4		14.6		105.4		14.6				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		76.0		32.0		76.0		32.0				
Max Q Clear Time (g_c+I1), s		2.0		5.1		2.0		6.3				
Green Ext Time (p_c), s		2.5		0.1		2.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			6.9									
HCM 6th LOS			A									

EXHIBIT E

HCM 6th TWSC
6: NE 7th Avenue & Driveway 4

Future Background Conditions
A.M. Peak Hour

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	FF			FF	FF	
Traffic Vol, veh/h	8	6	6	41	23	12
Future Vol, veh/h	8	6	6	41	23	12
Conflicting Peds, #/hr	3	0	3	0	0	3
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	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	10	8	8	53	29	15
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	112	40	47	0	-	0
Stage 1	40	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	4.4	4.9	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	2.227	-	-	-
Pot Cap-1 Maneuver	876	893	1554	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	866	890	1550	-	-	-
Mov Cap-2 Maneuver	866	-	-	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.2	0.9		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1550	-	876	-	-	
HCM Lane V/C Ratio	0.005	-	0.02	-	-	
HCM Control Delay (s)	7.3	0	9.2	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

EXHIBIT E

HCM 6th TWSC
7: NE 7th Avenue & Driveway 5

Future Background Conditions
A.M. Peak Hour

Intersection

Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T	T	T	T	T	T
Traffic Vol, veh/h	0	0	0	43	28	0
Future Vol, veh/h	0	0	0	43	28	0
Conflicting Peds, #/hr	0	1	12	0	0	12
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	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	0	0	59	38	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	109	51	50	0	0
Stage 1	50	-	-	-	-
Stage 2	59	-	-	-	-
Critical Hdwy	4.4	4.9	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.8	3.9	2.227	-	-
Pot Cap-1 Maneuver	878	885	1550	-	-
Stage 1	902	-	-	-	-
Stage 2	894	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	859	874	1532	-	-
Mov Cap-2 Maneuver	859	-	-	-	-
Stage 1	892	-	-	-	-
Stage 2	884	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1532	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

EXHIBIT E

HCM 6th AWSC
8: NE 7th Avenue & NE 20th Street

Future Background Conditions
A.M. Peak Hour

Intersection

Intersection Delay, s/veh 7.2
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇄			⇄			⇄			⇄	
Traffic Vol, veh/h	7	29	4	2	18	23	13	9	11	13	2	13
Future Vol, veh/h	7	29	4	2	18	23	13	9	11	13	2	13
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	35	5	2	22	28	16	11	13	16	2	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.1	7.3	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	17%	5%	46%
Vol Thru, %	27%	72%	42%	7%
Vol Right, %	33%	10%	53%	46%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	40	43	28
LT Vol	13	7	2	13
Through Vol	9	29	18	2
RT Vol	11	4	23	13
Lane Flow Rate	40	49	52	34
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.055	0.055	0.038
Departure Headway (Hd)	4.031	4.095	3.805	3.971
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	884	871	937	896
Service Time	2.077	2.135	1.848	2.018
HCM Lane V/C Ratio	0.045	0.056	0.055	0.038
HCM Control Delay	7.3	7.4	7.1	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.1

EXHIBIT E

A.M. Future Total Conditions

EXHIBIT E

HCM 6th TWSC

Future Total Conditions

1: SR 811/Wilton Drive & NE 22nd Street/Driveway 1

A.M. Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔				↔	↔	↔			↔	
Traffic Vol, veh/h	6	0	4	0	0	0	1	396	0	0	513	8
Future Vol, veh/h	6	0	4	0	0	0	1	396	0	0	513	8
Conflicting Peds, #/hr	0	0	2	2	0	0	19	0	16	16	0	19
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	0	90	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	0	4	0	0	0	1	421	0	0	546	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	993	1009	572	-	-	437	574	0	0	437	0	0
Stage 1	570	570	-	-	-	-	-	-	-	-	-	-
Stage 2	423	439	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.4	4.4	4.9	-	-	4.9	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	3.8	3.9	-	-	3.9	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	454	449	569	0	0	639	994	-	-	1117	-	-
Stage 1	478	525	-	0	0	-	-	-	-	-	-	-
Stage 2	572	603	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	445	434	558	-	-	629	976	-	-	1100	-	-
Mov Cap-2 Maneuver	445	434	-	-	-	-	-	-	-	-	-	-
Stage 1	469	516	-	-	-	-	-	-	-	-	-	-
Stage 2	571	593	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	976	-	-	484	-	1100	-	-
HCM Lane V/C Ratio	0.001	-	-	0.022	-	-	-	-
HCM Control Delay (s)	8.7	-	-	12.6	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

EXHIBIT E

Timings

Future Total Conditions

2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

A.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	66	310	8	326	28	34	38	7
Future Volume (vph)	66	310	8	326	28	34	38	7
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2		6		8		4	
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	4.0	7.0	4.0	7.0	4.0	6.0	4.0	6.0
Minimum Split (s)	10.0	37.0	10.0	24.0	10.0	28.0	10.0	32.0
Total Split (s)	15.0	57.0	15.0	57.0	15.0	33.0	15.0	33.0
Total Split (%)	12.5%	47.5%	12.5%	47.5%	12.5%	27.5%	12.5%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes							
Recall Mode	None	C-Max	None	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 116 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

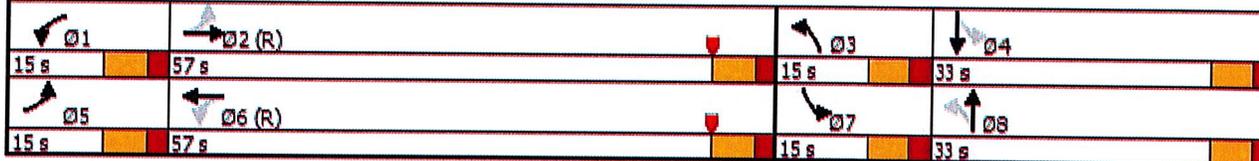


EXHIBIT E

HCM 6th Signalized Intersection Summary

Future Total Conditions

2: Driveway 2/NE 6th Avenue & SR 811/Wilton Drive

A.M. Peak Hour

Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	310	25	8	326	30	28	34	10	38	7	167
Future Volume (veh/h)	66	310	25	8	326	30	28	34	10	38	7	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	70	330	27	9	347	32	30	36	11	40	7	178
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	629	892	73	644	882	81	155	194	59	283	9	220
Arrive On Green	0.04	0.78	0.78	0.04	0.78	0.78	0.03	0.14	0.14	0.04	0.15	0.15
Sat Flow, veh/h	1767	1517	124	1767	1500	138	1767	1359	415	1767	59	1502
Grp Volume(v), veh/h	70	0	357	9	0	379	30	0	47	40	0	185
Grp Sat Flow(s),veh/h/ln	1767	0	1641	1767	0	1638	1767	0	1774	1767	0	1561
Q Serve(g_s), s	1.9	0.0	8.0	0.2	0.0	8.8	1.7	0.0	2.8	2.3	0.0	13.8
Cycle Q Clear(g_c), s	1.9	0.0	8.0	0.2	0.0	8.8	1.7	0.0	2.8	2.3	0.0	13.8
Prop In Lane	1.00		0.08	1.00		0.08	1.00		0.23	1.00		0.96
Lane Grp Cap(c), veh/h	629	0	965	644	0	963	155	0	254	283	0	228
V/C Ratio(X)	0.11	0.00	0.37	0.01	0.00	0.39	0.19	0.00	0.19	0.14	0.00	0.81
Avail Cap(c_a), veh/h	703	0	965	717	0	963	230	0	399	352	0	351
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	6.3	8.8	0.0	6.4	42.2	0.0	45.3	41.4	0.0	49.6
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.0	0.0	1.2	0.2	0.0	0.1	0.1	0.0	4.2
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	0.7	0.0	2.6	0.1	0.0	2.8	0.8	0.0	1.2	1.0	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.2	0.0	7.4	8.8	0.0	7.6	42.5	0.0	45.4	41.5	0.0	53.8
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	D
Approach Vol, veh/h		427			388			77			225	
Approach Delay, s/veh		7.7			7.6			44.2			51.6	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	76.5	9.9	23.5	10.0	76.5	10.3	23.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	51.0	9.0	27.0	9.0	51.0	9.0	27.0				
Max Q Clear Time (g_c+I1), s	2.2	10.0	3.7	15.8	3.9	10.8	4.3	4.8				
Green Ext Time (p_c), s	0.0	0.4	0.0	0.5	0.0	0.4	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			B									

EXHIBIT E

HCM 6th TWSC
4: NE 7th Avenue & SR 811/Wilton Drive

Future Total Conditions
A.M. Peak Hour

Intersection

Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		P		P	P			P				P
Traffic Vol, veh/h	0	334	23	20	323	2	29	11	38	0	0	8
Future Vol, veh/h	0	334	23	20	323	2	29	11	38	0	0	8
Conflicting Peds, #/hr	7	0	23	23	0	7	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	240	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	352	24	21	340	2	31	12	40	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	399	0	0	770	778	388	-	-	348
Stage 1	-	-	-	-	-	-	387	387	-	-	-	-
Stage 2	-	-	-	-	-	-	383	391	-	-	-	-
Critical Hdwy	-	-	-	4.13	-	-	4.4	4.4	4.9	-	-	4.9
Critical Hdwy Stg 1	-	-	-	-	-	-	4.4	4.4	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.4	4.4	-	-	-	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.8	3.8	3.9	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	1154	-	-	540	537	667	0	0	690
Stage 1	0	-	-	-	-	-	719	719	-	0	0	-
Stage 2	0	-	-	-	-	-	721	717	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1129	-	-	514	512	652	-	-	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	558	553	-	-	-	-
Stage 1	-	-	-	-	-	-	719	703	-	-	-	-
Stage 2	-	-	-	-	-	-	699	698	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	12	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	-	-	1129	-	-	685
HCM Lane V/C Ratio	0.137	-	-	0.019	-	-	0.012
HCM Control Delay (s)	12	-	-	8.2	-	-	10.3
HCM Lane LOS	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-	-	0

EXHIBIT E

Timings
5: NE 9th Avenue & SR 811/Wilton Drive

Future Total Conditions
A.M. Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	29	322	4	287	17	17	8	6
Future Volume (vph)	29	322	4	287	17	17	8	6
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	29.0	29.0	31.0	31.0	37.0	37.0	34.0	34.0
Total Split (s)	82.0	82.0	82.0	82.0	38.0	38.0	38.0	38.0
Total Split (%)	68.3%	68.3%	68.3%	68.3%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 108 (90%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 5: NE 9th Avenue & SR 811/Wilton Drive

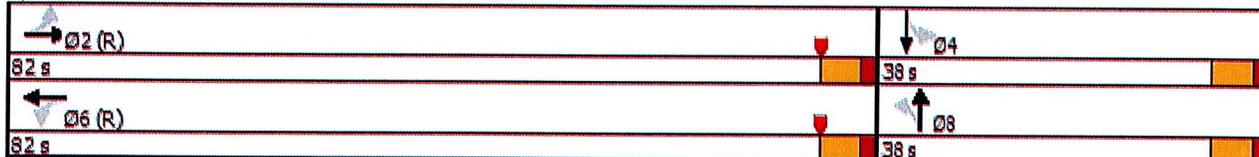


EXHIBIT E

HCM 6th Signalized Intersection Summary
5: NE 9th Avenue & SR 811/Wilton Drive

Future Total Conditions
A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	322	12	4	287	2	17	17	17	8	6	22
Future Volume (veh/h)	29	322	12	4	287	2	17	17	17	8	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.98		0.98	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	32	354	13	4	315	2	19	19	19	9	7	24
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	926	1471	54	888	1525	10	64	46	35	49	28	61
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1045	1776	65	999	1841	12	336	640	488	177	392	854
Grp Volume(v), veh/h	32	0	367	4	0	317	57	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1045	0	1841	999	0	1853	1463	0	0	1423	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.01	0.33		0.33	0.22		0.60
Lane Grp Cap(c), veh/h	926	0	1525	888	0	1535	145	0	0	139	0	0
V/C Ratio(X)	0.03	0.00	0.24	0.00	0.00	0.21	0.39	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	926	0	1525	888	0	1535	417	0	0	404	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	53.7	0.0	0.0	53.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.0	0.0	0.3	0.6	0.0	0.0	0.4	0.0	0.0
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	0.0	0.0	0.2	0.0	0.0	0.1	1.7	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	0.0	0.4	0.0	0.0	0.3	54.3	0.0	0.0	53.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		399			321			57				40
Approach Delay, s/veh		0.3			0.3			54.3				53.6
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		105.4		14.6		105.4		14.6				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		76.0		32.0		76.0		32.0				
Max Q Clear Time (g_c+I1), s		2.0		5.1		2.0		6.3				
Green Ext Time (p_c), s		2.7		0.1		2.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			6.7									
HCM 6th LOS			A									

EXHIBIT E

HCM 6th TWSC
6: NE 7th Avenue & Driveway 4

Future Total Conditions
A.M. Peak Hour

Intersection

Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T	T	
Traffic Vol, veh/h	30	0	7	42	23	14
Future Vol, veh/h	30	0	7	42	23	14
Conflicting Peds, #/hr	3	0	3	0	0	3
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	78	78	78	78	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	38	0	9	54	29	18

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	116	-	50	0	0
Stage 1	41	-	-	-	-
Stage 2	75	-	-	-	-
Critical Hdwy	4.4	-	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.8	-	2.227	-	-
Pot Cap-1 Maneuver	873	0	1550	-	-
Stage 1	910	0	-	-	-
Stage 2	880	0	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	863	-	1546	-	-
Mov Cap-2 Maneuver	863	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	877	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1546	-	863	-	-
HCM Lane V/C Ratio	0.006	-	0.045	-	-
HCM Control Delay (s)	7.3	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

EXHIBIT E

HCM 6th TWSC
7: NE 7th Avenue & Driveway 5

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	1	0	0	44	22	0
Future Vol, veh/h	1	0	0	44	22	0
Conflicting Peds, #/hr	0	1	12	0	0	12
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	73	73	73	73	73	73
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	0	0	60	30	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	102	-	42	0	-
Stage 1	42	-	-	-	-
Stage 2	60	-	-	-	-
Critical Hdwy	4.4	-	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.8	-	2.227	-	-
Pot Cap-1 Maneuver	882	0	1561	-	-
Stage 1	909	0	-	-	-
Stage 2	893	0	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	863	-	1543	-	-
Mov Cap-2 Maneuver	863	-	-	-	-
Stage 1	899	-	-	-	-
Stage 2	883	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1543	-	863	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

EXHIBIT E

HCM 6th AWSC
8: NE 7th Avenue & NE 20th Street

Future Total Conditions
A.M. Peak Hour

Intersection

Intersection Delay, s/veh 7.2
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		🚗			🚗			🚗			🚗	
Traffic Vol, veh/h	7	29	4	2	18	24	13	9	11	10	2	10
Future Vol, veh/h	7	29	4	2	18	24	13	9	11	10	2	10
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	35	5	2	22	29	16	11	13	12	2	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.1	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	17%	5%	45%
Vol Thru, %	27%	72%	41%	9%
Vol Right, %	33%	10%	55%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	40	44	22
LT Vol	13	7	2	10
Through Vol	9	29	18	2
RT Vol	11	4	24	10
Lane Flow Rate	40	49	54	27
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.055	0.056	0.03
Departure Headway (Hd)	4.028	4.084	3.786	3.977
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	885	874	942	895
Service Time	2.072	2.121	1.826	2.024
HCM Lane V/C Ratio	0.045	0.056	0.057	0.03
HCM Control Delay	7.3	7.4	7.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2	0.1

EXHIBIT E

Entry Gate Entering Trip Calculations

Land Use	Existing Development	Proposed Development	Total Trips			Proposed Development Trips		
			Entering	Exiting	Total	Entering	Exiting	Total
Multifamily Housing (Mid-Rise) (221)	-	255 du	20	69	89	20	69	89
Shopping Plaza (40k-150k) (821)	31,000	25,000	52	33	85	23	23	46
Proposed Development Total Trips						43	92	135

AM Peak Hour Entry Gate Queuing Analysis

Arrival Rate

IN
43

 veh/hr

Number of Service Positions (N) = 1
 Level of Confidence = 0.95
 Storage Provided On-Site = 1 vehicles
 Total Entering and Exiting Vehicles(q) = 43 veh/hr
 Service Capacity per N (60 mins/Service Rate) (Q) = 600.00 veh/hr/pos
 Average Service Rate (t) = 0.10 mins/veh
 rho (t/Q) = 0.072

Service Rate

IN
0.10

 mins/veh

Service Time = mins/veh

Expected (avg.) number of vehicles in the system E(m) = 0.01
 Expected (avg.) number of vehicles waiting in queue E(n) = 0.08
 Mean time in the queue E(w) = 0.01 mins
 Mean time in system E(t) = 0.11 mins

Proportion of customers who wait (P) (E(w) > 0) = 7.17%
 Probability of a queue exceeding a length (M) P(x > M) = 5.00%

Queue length which is exceeded 5.00% of the times is equal to -1 vehicles

Table 4-4. PARC Service Rates

	Veh/hr	Sec/veh
Prepaid Frequent Parker Entry or Exit	435	8.3
Insertion Card	600	6.0
Proximity Card	800	4.5
Automatic Veh ID		
Pay Per Use Patron Vehicular Entry	400	9.0
Push Button Ticket	450	8.0
Auto Spit Ticket	200	18.0
Pay on Entry-flat fee, gated, ticketed	300	12.0
Pay on Entry flat-fee, non gated/ticketed		
Pay Per Use Patron Vehicular Exits		
Cash to cashier-Variable Rate	135	26.7
Credit card-online check (telephone line) and sign	95	38.0
Credit card online check but no sign	110	32.7
Credit card-batched or high speed line and no sign	175	20.7
Validated for free parking	300	12.0
Flat Rate Transaction (gated)	180	20.0
LPI if front plate	100	36.0
LPI if rear plate only	80	45.0
LPR	120	30.0
Insertion Ticket for POF Validation	360	10.0
POF Central Pay to Cashier		
Cash to POF cashier - Variable Rate	175	20.7
Credit card-online check (telephone line) and sign	115	32.7
Credit card-online check but no sign	135	26.7
Credit card-batched or high speed line and no sign	245	14.7
Validated for free parking	600	6.0
POF Central Pay to Machine		
Cash to APS-Variable Rate	75	48.0
Credit card - online check (telephone line) and sign	NA	NA
Credit card - online check but no sign	66	54.5
Credit card - batched or high speed line and no sign	100	36.0
Validated for free parking	240	15.0

Sharp turns in the approach to equipment lanes have a significant impact on μ . When it is more difficult for a patron to pull into the lane from the first position in the queue, seconds are lost from each transaction. This loss can be accounted for by adding seconds to the average transaction time to represent the turning factor. See Figure 4-10 for diagrams showing appropriate turning factors for design. If, for example, the design of a lane equipped with an insertion card reader requires a very difficult turn into the lane, and thus adds five seconds to the average transaction the adjusted service rate is $3600/(8.3+5 = 13.3)$ seconds per

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