

Prepared for:

# **Ecstatic Properties, LLC**

&



# **Prepared By:**

**Chindalur Traffic Solutions, Inc.** 

8833 Perimeter Park Boulevard, Suite 103 Jacksonville, FL 32216 904.619.3368 | www.ctrafficsolutions.com Yulee Residential Re-Zoning and FDOT Traffic Study

Nassau County, Florida

Project # 1103-190-058 Date: Updated 12/30/2020

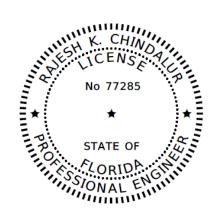


# PROFESSIONAL ENGINEER CERTIFICATE

I, Rajesh Ramn K. Chindalur, PE #77285, certify that I currently hold an active license in the state of Florida and am competent through education or experience to provide engineering services in the civil discipline contained in this plan, print, specification, or report.

PROJECT:	Yulee Residential – Re-Zoning and FDOT Traffic Study
LOCATION:	Nassau County, Florida
CLIENT:	Ecstatic Properties, LLC.

I further certify that this plan, print, specification, or report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. Moreover, if offered by a corporation, partnership, or through a fictitious name, I certify that the company offering the engineering services, Chindalur Traffic Solutions, Inc., 8833 Perimeter Park Boulevard, Suite 103, Jacksonville, Florida 32216, holds an active certificate of authorization #30806 to provide engineering service.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VIRIFIED ON ANY ELECTRONIC COPIES.

CHINDALUR TRAFFIC SOLUTIONS, INC. 8833 PERIMETER PARK BOULEVARD, SUITE 103 JACKSONVILLE, FL 32216 CERTIFICATE OF AUTHORIZATION #30806 RAJESH RAMN K. CHINDALUR, P.E. NO. 77285

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THIS DOCUMENT IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

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#### Introduction

A residential development with 270 multi-family units (Apartments) is proposed for construction along the east side of US 17, approximately 1,650 feet south of the SR 200/A1A intersection in Nassau County, Florida. The site is approximately 26.41 acres and is designated as Medium Density Residential/Commercial under the future land use (FLU) map. The proposed project is current seeking rezoning to PUD.

Access to the proposed development is anticipated to be provided via one driveway on US 17 and one driveway on Pinewood Drive. The driveway connection on Pinewood Drive provides access to SR 200/A1A via a directional median opening. The driveway connection on US 17 is anticipated to be a full access driveway. A copy of the site plan is included as **Attachment A** and the location of the proposed development is shown in **Figure 01**.

This traffic study evaluates impact of the proposed development on all the major roadway segments within a one mile radius of the proposed development the need for auxiliary turn lane on US 17 at the proposed Project Access Driveway and on Pinewood Drive at the proposed Project Access Driveway. The need for the following turn lanes were evaluated as part of this study:

- Northbound right turn lane on US 17 at Proposed Project Access Driveway
- Southbound left turn lane on US 17 at Proposed Project Access Driveway
- The adequacy of the existing westbound left turn lane on SR 200/A1A at Pinewood Drive intersection

The turn lane evaluations were performed using the AM peak and PM peak hour traffic volumes under the build-out conditions of the proposed development. The methodology used in this study is consistent with the methodology provided to the Staff via email on 03/05/2020. A copy of the methodology document and the email acknowledgement are included as **Attachment B**.

# **Trip Generation**

Trip generation for the proposed development was estimated using the rates and equations for land use code 220 (Multi-family Residential) included in the Trip Generation Manual, 10th Edition published by the ITE. Attached **Table 01** summarizes the trip generation from proposed multi-family development. As shown in this table, the proposed development is anticipated to generate a gross total of 2,000 daily trips, including 123 AM peak trips and 143 PM peak trips.

# **Study Area Roadway Segments and Existing Conditions**

The study area roadway segments include all the major roadway segments within one mile radius of the proposed development (See **Figure 02**). The following roadway segments were included in the study area:

- SR 200/A1A I-95 to Still Quarters Road
- SR 200/A1A Still Quarters Road to US 17
- SR 200/A1A US 17 to CR 108/Old Nassauville Road
- US 17 2700' South of Harts Road to Crosby Avenue
- US 17 –Crosby Avenue to SR 200/A1A

- US 17 SR 200/A1A to Pages Dairy Road
- US 17 Pages Dairy Road to Hamilton Street
- Harts Road SR 200/A1A to US 17
- Pages Dairy Road US 17 to Chester Road
- William Burgess Road SR 200/A1A to US 17
- Miner Road SR 200/A1A to Haddock Road

US 17 is a two-lane undivided highway with a posted speed limit of 45 miles per hour (mph). SR 200/A1A is a six-lane divided highway with a posted speed limit of 45 miles per hour (mph). Pinewood Drive is a two-lane local roadway with a posted speed of 20 miles per hour. **Figure 03, Figure 04,** and **Figure 05** shows the existing conditions on US 17 at Proposed Project Access Driveway, Pinewood Drive at Proposed Project Access Driveway and on SR 200/A1A at Directional Median Opening respectively.

Existing year 2020 AADT, historical AADT, future year projections and adopted LOS maximum service volumes (MSV) data for each of the study area roadway segments was obtained from the FDOT Traffic Counts online portal. **Table 02** summarizes the year 2020 AADT and the currently adopted daily maximum service volumes (MSVs) for all the study area roadway segments listed above. As shown in this table, the study area roadway segments are currently operating at LOS D or better. A copy of the study roadway segments LOS summary reports obtained from The FDOT D2 LOS Summary portal are included as **Attachment C.** 

# **Data Collection:**

AM peak (7:00 AM to 9:00 AM) and PM peak (4:00 PM to 6:00 PM) turning movement counts were collected on February 06, 2020 at the SR 200/A1A and Pinewood Drive intersection. Additionally, a 24-hour hose counts were obtained on February 06, 2020 on US 17 at Proposed Project Access Driveway.

These traffic counts were further adjusted with a season factor of 1.04 to account for seasonal variations. The season factor was obtained from the Florida Department of Transportation (FDOT) online counts web-portal. A copy the traffic counts data and the season factors are included as **Attachment D**. The year 2020 traffic volumes at SR 200/A1A/Pinewood Drive and US 17/Proposed Project Access Driveway intersections are shown in **Figure 06**.

#### **Planned Roadway Improvements**

FDOT's 5 Five-Year Work Program, Nassau County's CIP and other development agreements were reviewed to include any planned roadway improvements within the study area. SR 200/A1A is being widened into a 6-lane divided highway. Construction is scheduled to be completed by year 2020. William Burgess Extension connecting US 17 and Miner Road is currently under design and anticipated to be constructed by the year 2024. Based on a review of the regional planned work programs, there were no other planned or programmed roadway improvements within the 1-mile study area.

# **Year 2025 Background Traffic Projections:**

The future year 2025 background projections for each of the study roadway segments were obtained from the FDOT District 2 LOS Summary Reports. The year 2025 background traffic

AADTs on Harts Road and William Burgess Boulevard includes the traffic from recently approved Nassau Crossing Mixed-Use Development. The year 2025 background traffic AADTs on Pages Dairy Road was estimated by applying a growth rate of 4.78% per year (obtained from the Commerce Park PDP report). The year 2025 background traffic AADTs on Miner Road was estimated by applying a growth rate of 2% per year to the year 2009 traffic volumes. The year 2025 background traffic AADTs on the study area roadway segments at summarized in **Table 03**. As shown in this table, the study area roadway segments are anticipated to operate at LOS C or better under the year 2025 background traffic conditions, with the exception of Pages Dairy Road from US 17 to Chester Road & US 17 from Pages Dairy Road to Hamilton Street. Both these segments are anticipated to operate at LOS F under the year 2025 background conditions.

The year 2025 AM peak and PM peak hour background conditions intersection turning movement volumes were estimated by applying a growth factor of 1.112 (2.23% per year for 5 years) to the SR 200/A1A year 2020 traffic volumes and a growth factor of 1.125 (2.50% per year for 5 years) to the US 17 year 2020 traffic volumes. These growth rates were estimated using the year 2025 projections included in the LOS Summary report provided by FDOT.

**Figure 07** shows the AM peak and PM peak hour year 2025 background traffic volumes at the above stated study intersections. A copy of the FDOT historical AADT, FDOT LOS Summary Sheets, the year 2025 background traffic calculations and the growth rate calculations are included in previously stated **Attachment C.** 

# **Trip Distribution and Assignment**

Project traffic distribution percentages on the study roadway segments were obtained from the currently adopted regional travel demand model run. The interim year 2025 model set of the Northeast Regional Planning Model Activity Based Model (NERPM\_ABv3) travel demand forecasting model, provided by the North Florida Transportation Planning Organization (NFTPO), which was prepared as part of the NFTPO's 2040 Long Range Transportation Plan update, was used to develop project traffic distribution for the proposed development. **Figure 08** shows the project traffic distribution percentages on the study roadway segments.

A reasonableness check of area and facility type coding in the model on study links within the project transportation impact area was performed and no adjustments to these variables were required with the exception of activating Pinewood Drive (two-lane roadway with Facility Type 42 and Area Type 33) between SR 200/A1A and northern Project Driveway. The model was also verified to ensure all planned and programmed improvements within the transportation study area identified from the following sources are included in the model.

- Nassau County Capital Improvement Plan and Transportation Improvement Plan list
- Construction of developer committed improvements consistent with requirements of approved Development Orders and Developer Agreements in conjunction with the assumption that the approved land uses in the development are built
- FDOT Five year Transportation Improvement Plan list

No new projects other than the SR 200/A1A widening were identified within the project study area. The proposed development (270 residential units) was further added to the model (TAZ 33

and GIS Parcel ID 596682). A select link analysis (33-49728\*, 33-49731\*) was performed to determine the project traffic distribution on the study area roadway segments. **Attachment E** includes copy of the travel demand model plot showing the project traffic distribution percentages in the vicinity of the proposed development. The project traffic distribution as shown in **Figure 08** is summarized below:

- 5.5% oriented to and from the west on SR 200/A1A
- 27.5% oriented to and from the east on SR 200/A1A
- 7.6% oriented to and from the north on US 17
- 56.8% oriented to and from the south on US 17
- 2.6% oriented to and from Pages Dairy Road
- 13.48% oriented to and from William Burgess Boulevard

The trip generation included in previously stated **Table 01** was multiplied with the above stated project traffic distribution percentages to obtain the daily project traffic assignment on the study area roadway segments and the peak hour project traffic assignment at the study intersections. **Table 04** summarizes the daily project traffic distribution and assignment on the study area roadway segments. **Figure 09** shows the peak hour project traffic assignment at all the study intersections.

# **Year 2025 Build-Out Traffic Projections:**

The year 2025 build-out traffic volumes include the year 2025 background conditions traffic volumes and the project traffic assignment. **Figure 10** shows the year 2025 build-out conditions traffic volumes at the study intersections.

**Table 05** summarizes the year 2025 roadway segment analysis under the build-out conditions of the proposed development conditions. As shown in this table, the study area roadway segments are anticipated to continue to operate at LOS C or better under the year 2025 build-out conditions of the proposed development, with the exception of Pages Dairy Road from US 17 to Chester Road and US 17 from Pages Dairy Road to Hamilton Street. Both these segments are anticipated to operate at LOS F under the year 2025 build-out conditions. It should also be noted that the project traffic from the proposed development is anticipated to be less than 1% of these roadway segments maximum service volumes (MSVs). Hence, the traffic from the proposed development is not adversely impacting the segment of US 17 between Pages Dairy Road and Hamilton Street.

#### **Northbound Right Turn Lane Evaluation:**

The need for a northbound auxiliary right turn lane on US 17 at the proposed project driveway was evaluated using the guidance and criteria included in the "Driveway Information Guide" published by FDOT. This criteria is based on the research published in NCHRP 420 entitled Impacts of Access Management Techniques. For a two-lane roadway with traffic volumes greater than 600 per lane and with a posted speed limit of 45 mph, 80 right turns per hour are required to warrant an exclusive right turn lane. A copy of this criteria and guidance is included as **Attachment F**. As shown in previously stated **Figure 10** a maximum of 16 AM peak and 51 PM peak northbound right turns are anticipated on US 17 into the Project Access Driveway under the build-out conditions of the proposed development. Thus, the driveway connection does not exceed the requirement set forth by FDOT. However, the 85<sup>th</sup> percentile speed on US 17 at this

location appears to be greater than 45 miles per hour. Hence, for safety reasons, a northbound right turn lane on US 17 at the proposed Project Access Driveway is recommended under the build-out conditions of the proposed development.

Guidance from Chapter 212 of the FDOT Design Manual and the FDOT Median Handbook was used to determine the length of the recommended right turn lane. US 17 at the proposed Project Access Driveway has a posted speed limit of 45 mph. The northbound right turn lane should provide for 240 feet of deceleration and 50 feet of taper distance (290 feet collectively).

# **Southbound Left Turn Evaluation:**

As shown in **Figure 10**, a maximum of 3 AM Peak and 9 PM peak left turns are anticipated on US 17 at the proposed Project Access Driveway under the build-out conditions of the proposed development. This equates to about 0.44% (3 southbound left turns and 629 southbound through) and 1.36% (9 southbound left turns and 662 southbound through) of the advancing volumes on US 17 during the AM peak and PM peak periods respectively. Alternatively, these left turns can enter the development via SR 200/A1A at Pinewood Drive. Hence, a southbound left turn lane on US 17 at the proposed Project Access Driveway is not anticipated to be warranted under the build-Out conditions of the proposed development. This was discussed and agreed upon by the Staff (Mr. Tom Cavin, P.E.) during a meeting on 03/05/2020.

# **Eastbound Right Turn Evaluation on SR 200/A1A at Pinewood Drive:**

SR 200/A1A is a six-lane divided roadway with a posted speed limit of 35 mph at Pinewood Drive. The need for an eastbound auxiliary right turn lane on SR 200/A1A at Pinewood Drive was evaluated using the guidance and criteria included in the "Driveway Information Guide" published by FDOT. This criteria is based on the research published in NCHRP 420 entitled Impacts of Access Management Techniques. For a multi-lane divided roadway with a posted speed limit less than 45 mph, 125 right turns per hour are required to warrant an exclusive right turn lane. A copy of this criteria and guidance is included in previously stated **Attachment F**. As shown in previously stated **Figure 10** a maximum of 20 AM peak (includes 1 AM peak project related trip) and 48 PM peak (4 PM peak project related trips) eastbound right turns are anticipated on SR 200/A1A at Pinewood Drive under the build-out conditions of the proposed development. Thus, the eastbound right turns does not exceed the thresholds included in the guidance provided by FDOT. Hence, an eastbound right turn lane on SR 200/A1A at Pinewood Drive is not anticipated to be warranted under the year 2025 build-out conditions of the proposed development.

# Westbound Left Turn Evaluation on SR 200/A1A at Pinewood Drive:

The existing westbound left turn lane on SR 200/A1A at Pinewood Drive is approximately 225 feet. A left turn lane evaluation to determine the adequacy of the existing turn lane under the year 2025 build-out conditions was performed by calculating the anticipated 95<sup>th</sup> percentile queue length. The 95<sup>th</sup> percentile queue length was obtained from the intersection capacity analysis of the SR 200/A1A at Pinewood Drive intersection. As shown in previously state **Figure 10**, a maximum of 30 AM peak (that includes 8 project related trips) and 97 PM peak (that includes 27 project related trips) westbound left turns are anticipated on SR 200/A1A at Pinewood Drive. The anticipated 95<sup>th</sup> percentile queue length under build-out conditions is 25 feet (0.6 vehicles) and 125 feet (5 vehicles) during the AM peak and PM peak time periods respectively under the build-out

conditions of the proposed development. Hence, the existing westbound left turn lane on SR 200/A1A at Pinewood Drive is anticipated to be adequate under the build-out conditions of the proposed development.

# <u>Driveway Evaluation (Westbound Left Turn and Right Turn Lanes):</u>

The need for separate westbound left turn and right turn lanes on the proposed Project Access Driveway at US 17 was evaluated based on the guidance and criteria included in the FDOT Driveway Handbook. The criteria states that separate left-turn and right-turn lanes should be considered on driveways/roadways where expected volumes exceed 600 vehicles per day. A copy of this criteria and guidance in included as **Attachment G**.

Based upon the model distribution, about 1,136 vehicles per day (56.8% of 2000 daily trips) are anticipated to enter and exit the proposed Project Access Driveway on US 17 under the year 2025 build-out conditions of the proposed school. Hence, it is recommended that a separate left turn lane and a right turn lane be provided on the proposed Project Access Driveway on SU 17.

# **Intersection Capacity Analysis**

Intersection capacity analysis was performed for the SR 200/A1A at Pinewood Drive and US 17 at Project Access Driveway intersections using Synchro 10 software. Synchro 10 software uses HCM6 procedures and methodologies in calculating LOS and Delay at two-way stop controlled (TWSC) intersections. **Table 06** summarizes the HCM Delay, LOS and 95th percentile queue lengths for all the critical approaches at the study intersections under the existing year, 2025 background, and 2025 build-out conditions.

As shown in this table, the SR 200/A1A intersection approaches are currently operating at LOS C or better during the AM Peak hour and LOS E or better during the PM peak hour. Under the year 2025 background conditions, the intersection approaches are anticipated to operate at LOS D or better, with the exception of the westbound left turn from SR 200/A1A onto Pinewood Drive. These westbound left turns are anticipated to operate at LOS F during the PM peak hour. However, the 95<sup>th</sup> percentile queue is not anticipated to be more than 75 feet (3 cars).

Under 2025 build-out conditions, all intersection approaches are anticipated to operate at LOS E or better, with the exception of the westbound left turn from SR 200/A1A onto Pinewood Drive. These westbound left turns are anticipated to operate at LOS F during the PM peak hour. However, the 95<sup>th</sup> percentile queue is not anticipated to be more than 125 feet (5 cars). However, this HCM analysis does not consider platooning effects or gaps from the SR 200/A1A at US 17 signalized intersection. When the traffic signal displays red for SR 200/A1A, sufficient gaps should be present in the eastbound through movement, which will allow for westbound left turns onto Pinewood Drive.

The US 17 intersection approaches are anticipated to operate at LOS E or better with a maximum queue of 50 feet under 2025 build-out conditions. A copy of the HCM worksheets are included as **Attachment H**.

# **Summary and Conclusions**

A residential development with 270 multi-family units (Apartments) is proposed for construction along the east side of US 17, approximately 1,650 feet south of the SR 200/A1A intersection in Nassau County, Florida. The site is approximately 26.41 acres and is designated as Medium Density Residential/Commercial under the future land use (FLU) map. The proposed project is current seeking rezoning to PUD.

Access to the proposed development is anticipated to be provided via one driveway on US 17 and one driveway on Pinewood Drive. The driveway connection on Pinewood Drive provides access to SR 200/A1A via a directional median opening. The driveway connection on US 17 is anticipated to be a full access driveway.

The need for the following turn lanes were evaluated as part of this study:

- Northbound right turn lane on US 17 at Proposed Project Access Driveway
- Southbound left turn lane on US 17 at Proposed Project Access Driveway
- The adequacy of the existing westbound left turn lane on SR 200/A1A at Pinewood Drive intersection

The turn lane evaluations were performed using the AM peak and PM peak hour traffic volumes under the build-out conditions of the proposed development. The methodology used in this study is consistent with the methodology provided to the Staff via email on 03/05/2020.

The proposed development is anticipated to generate a gross total of 2,000 daily trips, including 123 AM peak trips and 143 PM peak trips.

Project traffic distribution percentages on the study roadway segments were obtained from the currently adopted regional travel demand model run. The interim year 2025 model set of the Northeast Regional Planning Model Activity Based Model (NERPM\_ABv3) travel demand forecasting model, provided by the North Florida Transportation Planning Organization (NFTPO), which was prepared as part of the NFTPO's 2040 Long Range Transportation Plan update, was used to develop project traffic distribution for the proposed development.

The study area roadway segments are currently operating at LOS D or better. The study area roadway segments are anticipated to operate at LOS C or better under the year 2025 background traffic conditions, with the exception of Pages Dairy Road from US 17 to Chester Road & US 17 from Pages Dairy Road to Hamilton Street. Both these segments are anticipated to operate at LOS F under the year 2025 background conditions.

The study area roadway segments are anticipated to continue to operate at LOS C or better under the year 2025 build-out conditions of the proposed development, with the exception of Pages Dairy Road from US 17 to Chester Road and US 17 from Pages Dairy Road to Hamilton Street. Both these segments are anticipated to operate at LOS F under the year 2025 build-out conditions. It should also be noted that the project traffic from the proposed development is anticipated to be less than 1% of these roadway segments maximum service volumes (MSVs).

Hence, the traffic from the proposed development is not adversely impacting the segment of US 17 between Pages Dairy Road and Hamilton Street.

The northbound right turns on US 17 at the proposed Project Driveway connection does not exceed the requirement set forth by FDOT. However, the 85<sup>th</sup> percentile speed on US 17 at this location appears to be greater than 45 miles per hour. Hence, for safety reasons, a northbound right turn lane on US 17 at the proposed Project Access Driveway is recommended under the build-out conditions of the proposed development. Guidance from Chapter 212 of the FDOT Design Manual and the FDOT Median Handbook was used to determine the length of the recommended right turn lane. US 17 at the proposed Project Access Driveway has a posted speed limit of 45 mph. The northbound right turn lane should provide for 240 feet of deceleration and 50 feet of taper distance (290 feet collectively).

A maximum of 3 AM Peak and 9 PM peak left turns are anticipated on US 17 at the proposed Project Access Driveway under the build-out conditions of the proposed development. This equates to about 0.44% (3 southbound left turns and 629 southbound through) and 1.36% (9 southbound left turns and 662 southbound through) of the advancing volumes on US 17 during the AM peak and PM peak periods respectively. Alternatively, these left turns can enter the development via SR 200/A1A at Pinewood Drive. Hence, a southbound left turn lane on US 17 at the proposed Project Access Driveway is not anticipated to be warranted under the build-Out conditions of the proposed development.

The eastbound right turns does not exceed the thresholds included in the guidance provided by FDOT. Hence, an eastbound right turn lane on SR 200/A1A at Pinewood Drive is not anticipated to be warranted under the year 2025 build-out conditions of the proposed development.

The existing westbound left turn lane on SR 200/A1A at Pinewood Drive is approximately 225 feet. The anticipated 95<sup>th</sup> percentile queue length under build-out conditions is 25 feet (1 vehicle) and 150 feet (5 vehicles) during the AM peak and PM peak time periods respectively under the build-out conditions of the proposed development. Hence, the existing westbound left turn lane on SR 200/A1A at Pinewood Drive is anticipated to be adequate under the build-out conditions of the proposed development.

About 1,136 vehicles per day (56.8% of 2000 daily trips) are anticipated to enter and exit the proposed Project Access Driveway on US 17 under the year 2025 build-out conditions of the proposed school. Hence, it is recommended that a separate left turn lane and a right turn lane be provided on the proposed Project Access Driveway on US 17.

The SR 200/A1A intersection approaches are currently operating at LOS C or better during the AM Peak hour and LOS E or better during the PM peak hour. Under the year 2025 background conditions, the intersection approaches are anticipated to operate at LOS D or better, with the exception of the westbound left turn from SR 200/A1A onto Pinewood Drive. These westbound left turns are anticipated to operate at LOS F during the PM peak hour. However, the 95<sup>th</sup> percentile queue is not anticipated to be more than 75 feet (3 cars).

Under 2025 build-out conditions, all intersection approaches are anticipated to operate at LOS E or better, with the exception of the westbound left turn from SR 200/A1A onto Pinewood Drive. These westbound left turns are anticipated to operate at LOS F during the PM peak hour. However, the 95<sup>th</sup> percentile queue is not anticipated to be more than 125 feet (5 cars). However, this HCM analysis does not consider platooning effects or gaps from the SR 200/A1A at US 17 signalized intersection. When the traffic signal displays red for SR 200/A1A, sufficient gaps should be present in the eastbound through movement, which will allow for westbound left turns onto Pinewood Drive. The US 17 intersection approaches are anticipated to operate at LOS E or better with a maximum queue of 50 feet under 2025 build-out conditions.

Table 01
Daily and Peak Hour Trip Generation
Yulee Apartments, Nassau County, Florida

ITE Land				Time	Rate or	Trips		Rate or Trips Gross Trips			
Use Code	Description	Quantity	Units	Period	Equation	% Entering	% Exiting	Total	Entering	Exiting	
220	Multifamily Residential	270	DUs	Daily	T = 7.56(X) - 40.86	50%	50%	2,000	1,000	1,000	
				AM Peak	Ln(T) = 0.95 Ln(X) - 0.51	23%	77%	123	28	95	
				PM Peak	Ln(T) = 0.89 Ln(X) - 0.02	63%	37%	143	90	53	

Trip Rate/Equation: ITE Trip Generation Manual, 10th Edition

Chindalur Traffic Solutions, Inc. 03/23/2020

Table 02 Study Roadway Segments Yulee Residential, Nassau County, Florida

			Daily Maximum	Adopted	AADT		Year 2020	Year 2020
Number	Roadway	Section	Service Volume	LOS Standard	Year	AADT	AADT	Existing LOS
1	SR 200/A1A	I-95 to Still Quarters Road	77,900	D	2020	23,152	23,152	С
2	SR 200/A1A	Still Quarters Road to US 17	59,900	D	2020	22,479	22,479	С
3	SR 200/A1A	US 17 to CR 108/Old Nassauville Road	59,900	D	2020	36,841	36,841	С
4	US 17	2700' South of Harts Road to Crosby Avenue	24,200	D	2020	13,520	13,520	С
5	US 17	Crosby Avenue to SR 200/A1A	39,800	D	2020	14,097	14,097	С
6	US 17	SR 200/A1A to Pages Dairy Road	39,800	D	2020	12,929	12,929	С
7	US 17	Pages Dairy Road to Hamilton Street	17,700	D	2020	13,320	13,320	D
8	*Harts Road	SR 200/A1A to US 17	15,930	D	2018	800	832	С
9	*Pages Dairy Road	US 17 to Chester Road	15,930	D	2018	12,259	13,459	D
10	*William Burgess Road	SR 200/A1A to US 17	15,930	D	2018	2,800	2,913	С
11	**Miner Road	SR 200/A1A to Haddock Road	15,930	D	2009	7,070	8,791	С

#### Source:

MSVs - FDOT Year 2020 Generalized Service Volume Tables

Harts Road, Pages Dairy Road, Wiilam Burgess Road & Miner Road MSV = 17,700 \* 0.9 = 15,930

Harts Road, William Burgess Blvd., and Miner Road Growth Rate = 2.00%

Chindalur Traffic Solutions, Inc.

Updated 12/30/2020

<sup>\*</sup>Year 2018 AADT = North Florida TPO Traffic Counts Data

<sup>\*\*</sup>Miner Road AADT = Year 2009

Table 03 Year 2025 Background Traffic Projections Yulee Residential, Nassau County, Florida

			Α	В	С	D
			Daily Maximum	Year 2020	Year 2025	Year 2025
Number	Roadway	Section	Service Volume	AADT	Background AADT	Background LOS
1	SR 200/A1A	I-95 to Still Quarters Road	77,900	23,152	26,605	С
2	SR 200/A1A	Still Quarters Road to US 17	59,900	22,479	24,250	С
3	SR 200/A1A	US 17 to CR 108/Old Nassauville Road	59,900	36,841	40,946	С
4	US 17	2700' South of Harts Road to Crosby Avenue	24,200	13,520	15,210	С
5	US 17	Crosby Avenue to SR 200/A1A	39,800	14,097	15,840	С
6	US 17	SR 200/A1A to Pages Dairy Road	39,800	12,929	17,503	С
7	US 17	Pages Dairy Road to Hamilton Street	17,700	13,320	18,870	F
8	Harts Road	SR 200/A1A to US 17	15,930	832	5,493	С
9	Pages Dairy Road	US 17 to Chester Road	15,930	13,459	16,998	F
10	William Burgess Road	SR 200/A1A to US 17	15,930	2,913	12,845	С
11	Miner Road	SR 200/A1A to Haddock Road	15,930	8,791	9,706	С

#### Source:

MSVs - FDOT Year 2020 Generalized Service Volume Tables

Harts Road, Pages Dairy Road, Wiilam Burgess Road & Miner Road MSV = 17,700 \* 0.9 = 15,930

# **Background Growth Calculations**

Harts Road 100% of 3583 + 8% of 13477 (Nassau Crossing SF + Nassau Crossing Mixed Use) 4661

Pages Dairy Growth Rate = 4.78% (ENCPA TIA Methodology)

William Burgess Blvd. 44% of 3583 + 62% of 13477 (Nassau Crossing SF + Nassau Crossing Mixed Use) 9932

Miner Road Growth Rate = 2.00%

Chindalur Traffic Solutions, Inc.

Updated 12/30/2020

Table 04 **Project Traffic Distribution and Assignment** Yulee Residential, Nassau County, Florida

Proposed	Proposed Development Conditions			B = A * 2000
			Project Traffic D	istribution & Assignment
Number	Roadway	Section	Distribution	Daily
1	SR 200/A1A	I-95 to Still Quarters Road	5.50%	110
2	SR 200/A1A	Still Quarters Road to US 17	5.50%	110
3	SR 200/A1A	US 17 to Chester Road	27.50%	550
4	US 17	Harts Road to Crosby Avenue	56.80%	1,136
5	US 17	Crosby Avenue to SR 200/A1A	56.80%	1,136
6	US 17	SR 200/A1A to Pages Dairy Road	10.20%	204
7	US 17	Pages Dairy Road to CR 108	7.60%	152
8	Harts Road	SR 200/A1A to US 17	0.00%	-
9	Pages Dairy Road	US 17 to Chester Road	2.60%	52
10	William Burgess Road	SR 200/A1A to US 17	13.48%	270
11	Miner Road	SR 200/A1A to Haddock Road	1.58%	32

A - Travel Demand Model Plot (Attachment E)

Chindalur Traffic Solutions, Inc.

Table 05
Year 2025 Buid-Out Conditions Roadway Segment Analysis
Yulee Residential, Nassau County, Florida

			Α	В	С	D	E	F	G
			Daily Maximum	Year 2025	Project Traffic	Project Traffic	Year 2025	Year 2025 BO	Year 2025 BO
Number	Roadway	Section	Service Volume	Background AADT	Assignment	% of MSV	<b>Build-out Volume</b>	Traffic % of MSV	Traffic LOS
	•		-	-	-		-		•
1	SR 200/A1A	I-95 to Still Quarters Road	77,900	26,605	110	0.14%	26,715	34.29%	С
2	SR 200/A1A	Still Quarters Road to US 17	59,900	24,250	110	0.18%	24,360	40.67%	С
3	SR 200/A1A	US 17 to Chester Road	59,900	40,946	550	0.92%	41,496	69.28%	С
4	US 17	Harts Road to Crosby Avenue	24,200	15,210	1,136	4.69%	16,346	67.55%	С
5	US 17	Crosby Avenue to SR 200/A1A	39,800	15,840	1,136	2.85%	16,976	42.65%	С
6	US 17	SR 200/A1A to Pages Dairy Road	39,800	17,503	204	0.51%	17,707	44.49%	С
7	US 17	Pages Dairy Road to CR 108	17,700	18,870	152	0.86%	19,022	107.47%	F
8	Harts Road	SR 200/A1A to US 17	15,930	5,493	-	0.00%	5,493	34.48%	С
9	Pages Dairy Road	US 17 to Chester Road	15,930	16,998	52	0.33%	17,050	107.03%	F
10	William Burgess Road	SR 200/A1A to US 17	15,930	12,845	270	1.69%	13,115	82.33%	С
11	Miner Road	SR 200/A1A to Haddock Road	15,930	9,706	32	0.20%	9,738	61.13%	С

A - FDOT Q LOS Manual LOS Standard Tables

B - Table 03: Year 2025 Background Conditions Roadway Segment Analysis

C - Table 04: Project Traffic Distribution and Assignment

D = B + C

E = D/A \* 100%

F = FDOT Year 2013 Q-LOS Manual Generalized Service Volume Tables

Chindalur Traffic Solutions, Inc.

Updated 12/30/2020

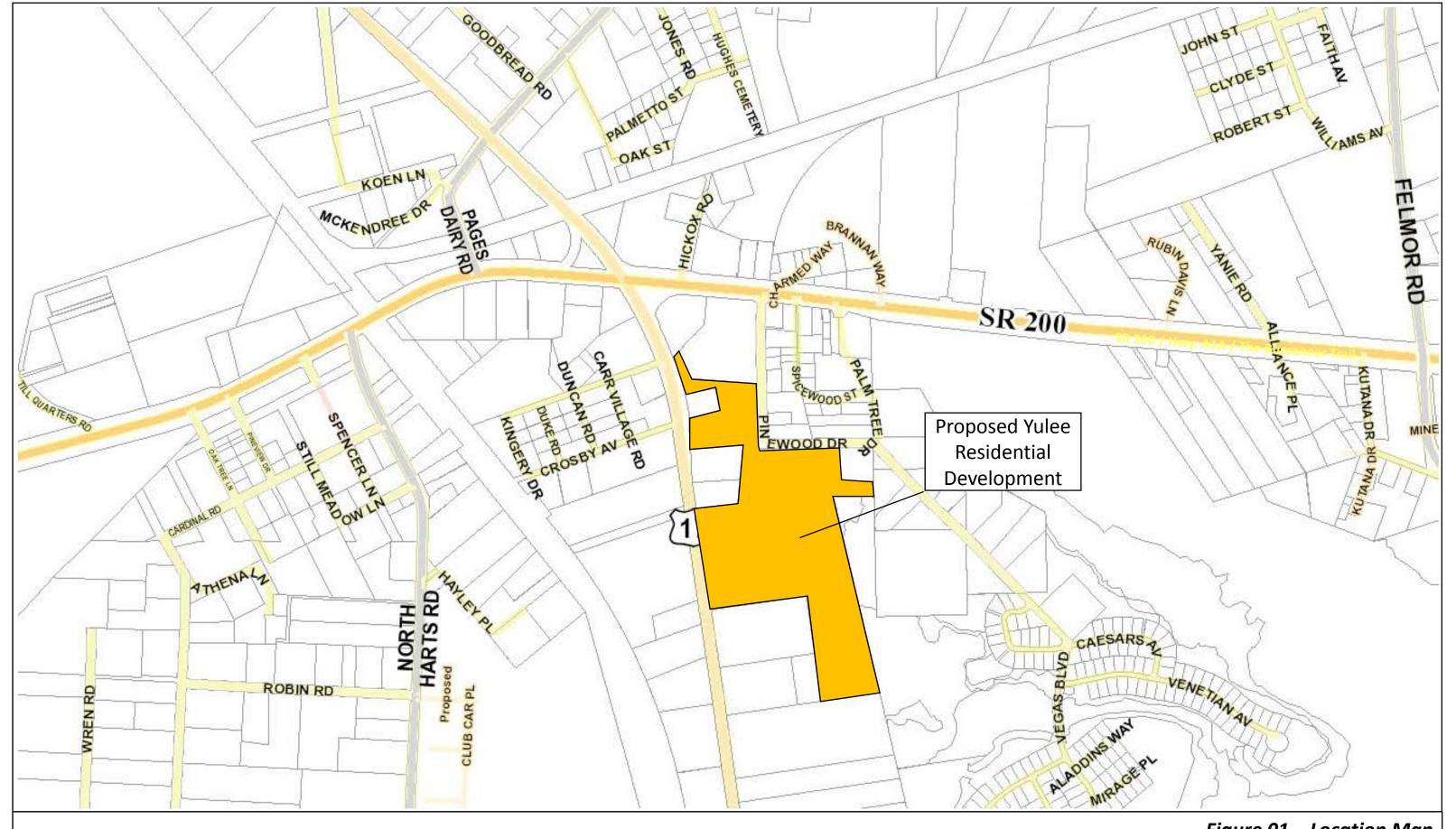
Table 06
HCM Delay and LOS
Yulee Residential - Nassau County, FL

		Traffic	AM Peak			ak		
Intersection	Approach	Control	Delay	LOS	95th %ile Q (ft)	Delay	LOS	95th %ile Q (ft)
Year 2020 - Existing Conditions								
SR 200/A1A at Pinewood Drive	WBL	Yield	21.80	С	25	42.60	Е	50
	EBU	Yield	19.00	С	25	15.80	С	25
	NBR	Stop	17.50	С	25	22.00	С	25
Year 2025 - Background Conditions								
SR 200/A1A at Pinewood Drive	WBL	Yield	25.90	D	25	67.60	F	75
	EBU	Yield	22.40	С	25	18.10	С	25
	NBR	Stop	19.50	С	25	25.80	D	25
Year 2025 - Build-Out Conditions								
SR 200/A1A at Pinewood Drive	WBL	Yield	27.10	D	25	97.00	F	125
	EBU	Yield	22.40	С	25	18.10	С	25
	NBR	Stop	21.40	С	25	27.90	D	25
US 17 at Project Driveway	SBL	Yield	9.00	Α	0	9.50	Α	0
	WBL	Stop	43.20	Ε	50	40.30	Ε	25
	WBR	Stop	13.10	В	25	14.00	В	25

Source: Attachment H

Chindalur Traffic Solutions, Inc.

Updated 12/30/2020



# Figure 01 – Location Map

Yulee Residential – Nassau County Traffic Study Nassau County, Florida

Chindalur Traffic Solutions, Inc. 8833 Perimeter Park Blvd., Suite 103 Jacksonville FL 32216 (904) 619-3368 | chindalur@ctrafficsolutions.com

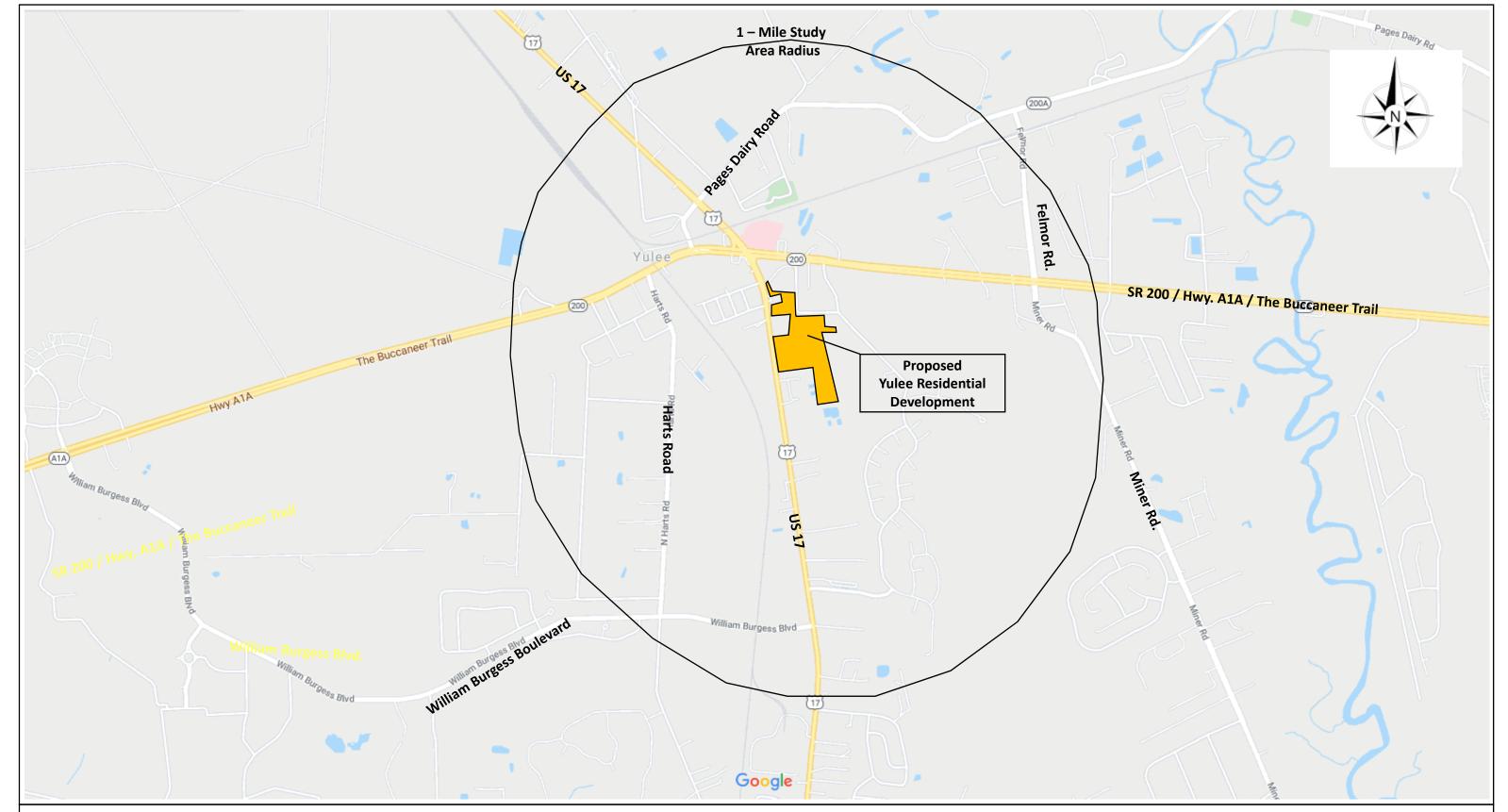


Figure 02 – Study Area Roadway Segments

Yulee Residential Nassau County, Florida



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Chindalur Traffic Solutions, Inc. 8833 Perimeter Park Boulevard, Suite 103 Jacksonville, FL 32216 Phone: (904) 619-3368 www.ctrafficsolutions.com Figure 03 – Existing Conditions US 17 at Project Driveway Yulee Residential – Traffic Study Nassau County, Florida



CTSi\\$

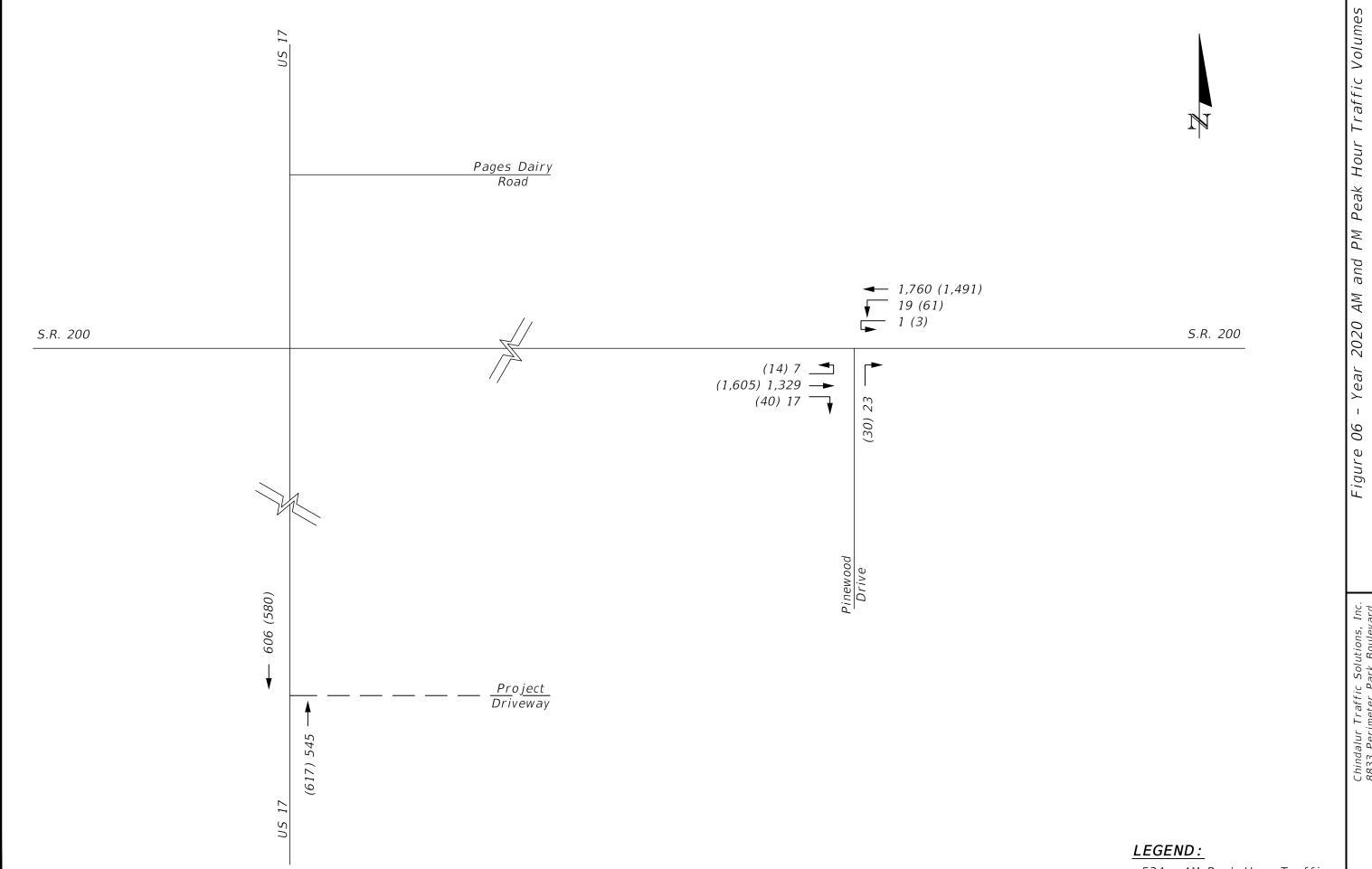
Chindalur Traffic Solutions, Inc. 8833 Perimeter Park Boulevard, Suite 103 Jacksonville, FL 32216 Phone: (904) 619-3368 www.ctrafficsolutions.com

Figure 04 – Existing Conditions Pinewood Dr. at Project Driveway Yulee Residential – Traffic Study Nassau County, Florida





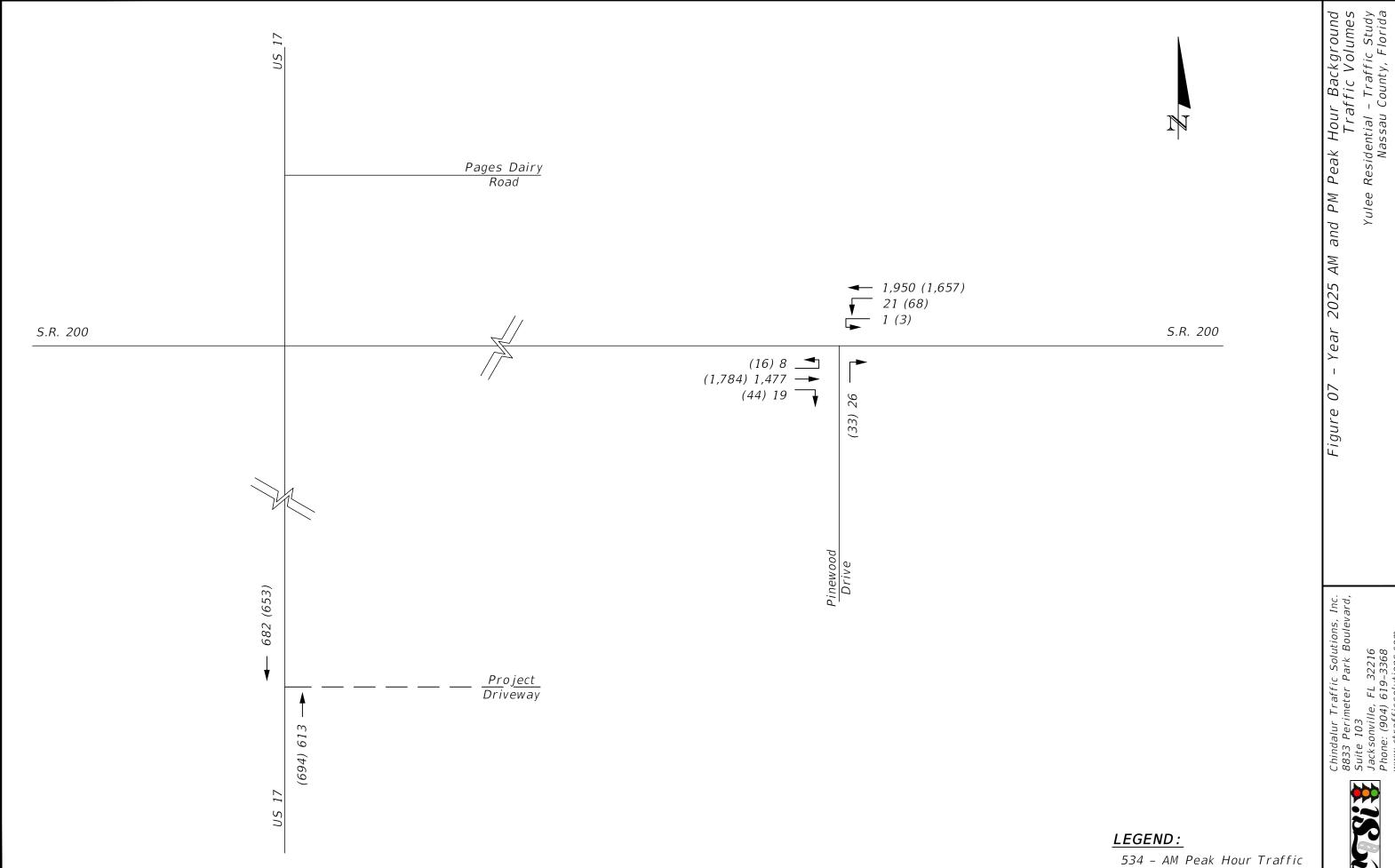
Chindalur Traffic Solutions, Inc. 8833 Perimeter Park Boulevard, Suite 103 Jacksonville, FL 32216 Phone: (904) 619-3368 www.ctrafficsolutions.com Figure 05 - Existing Conditions S.R. 200 at Pinewood Dr. Yulee Residential - Traffic Study Nassau County, Florida



534 - AM Peak Hour Traffic (923)- PM Peak Hour Traffic Chindalur Traffic Solution
8833 Perimeter Park Bou
Suite 103
Jacksonville, FL 32216
Phone: (904) 619-3368

Yulee Residential - Traffic Study Nassau County, Florida





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Jacksonville, FL 32216
Phone: (904) 619–3368
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(923)- PM Peak Hour Traffic

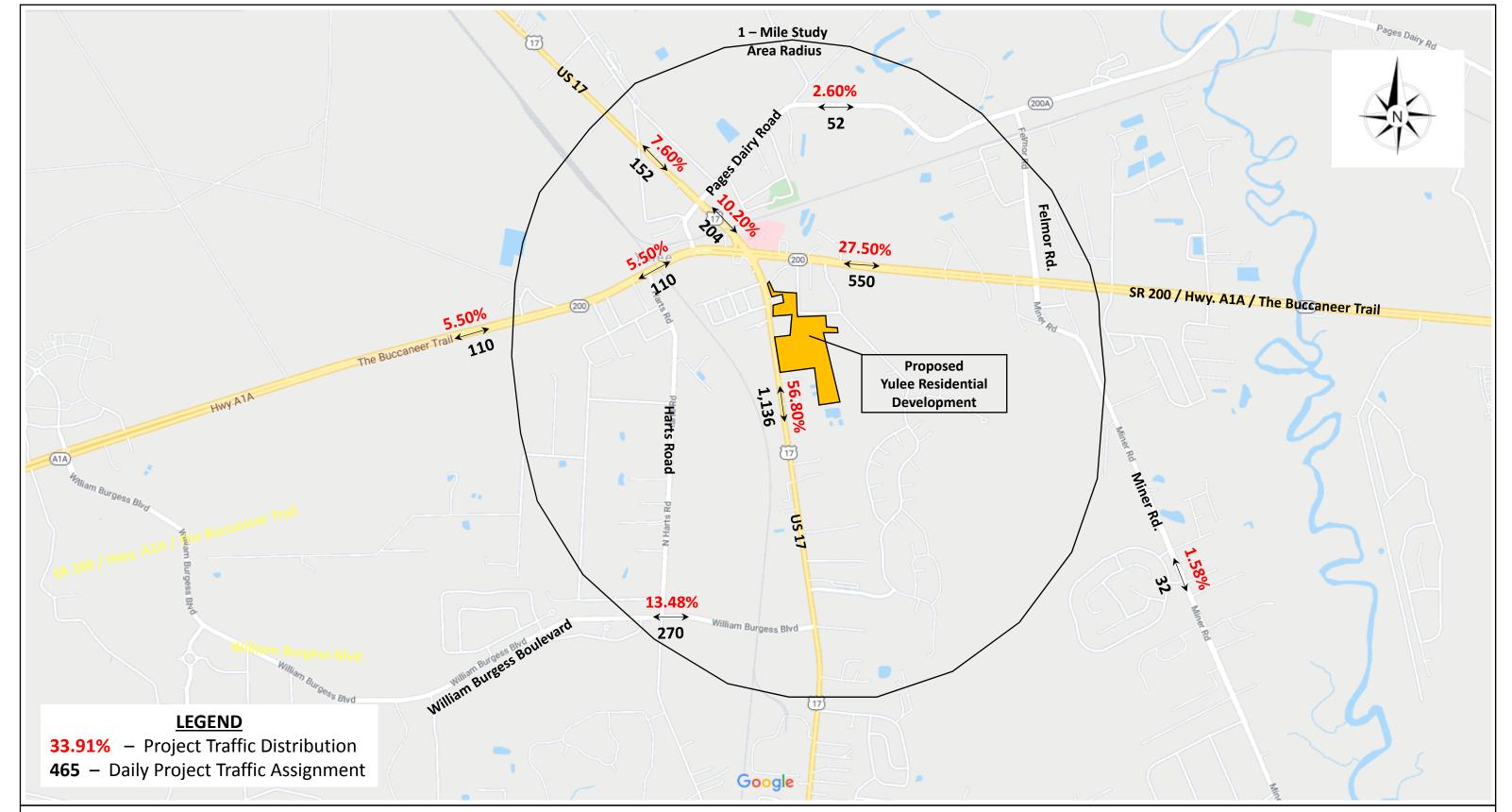
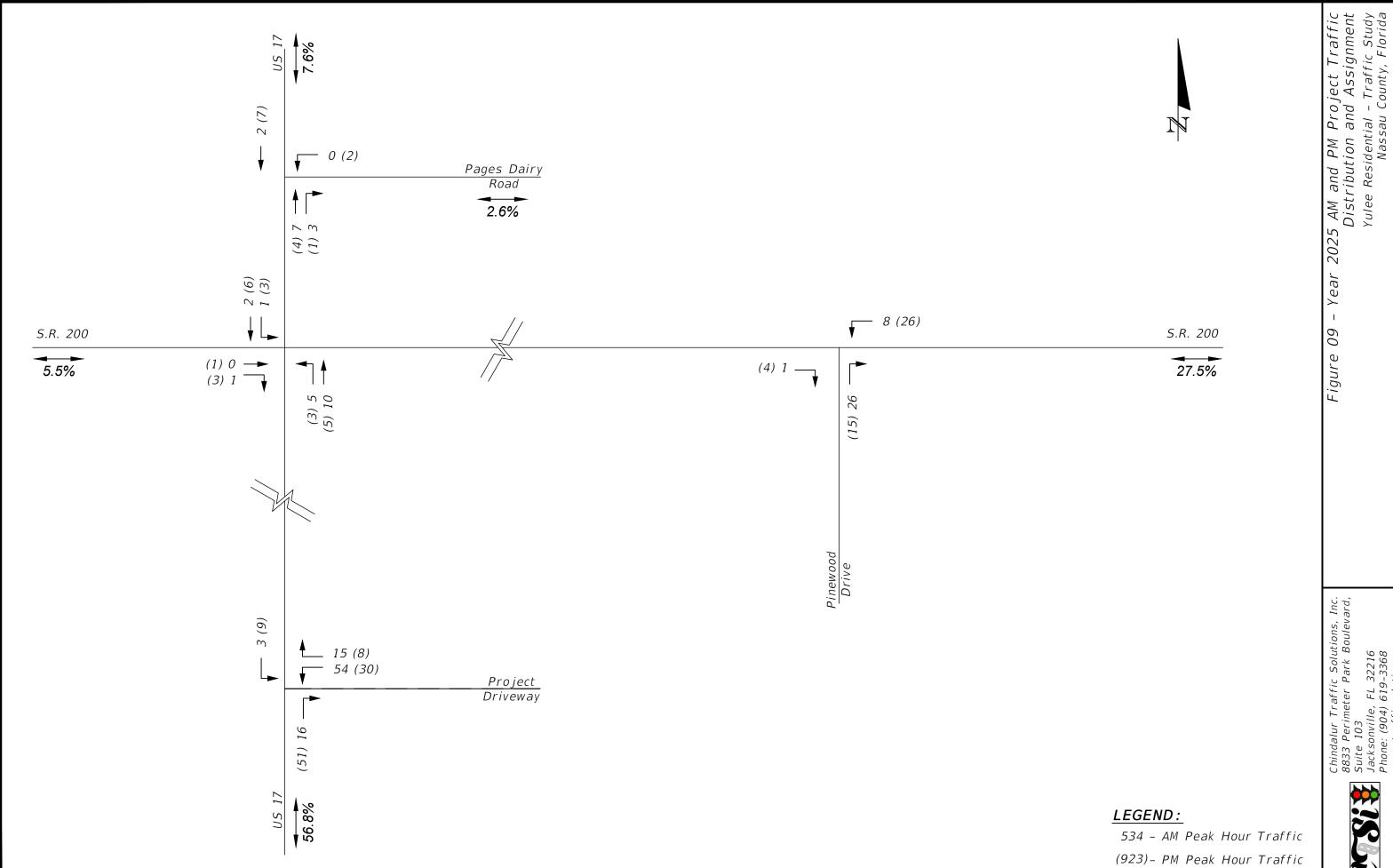


Figure 08 – Project Traffic Distribution and Assignment on Study Area Roadway Segments

Yulee Residential Nassau County, Florida



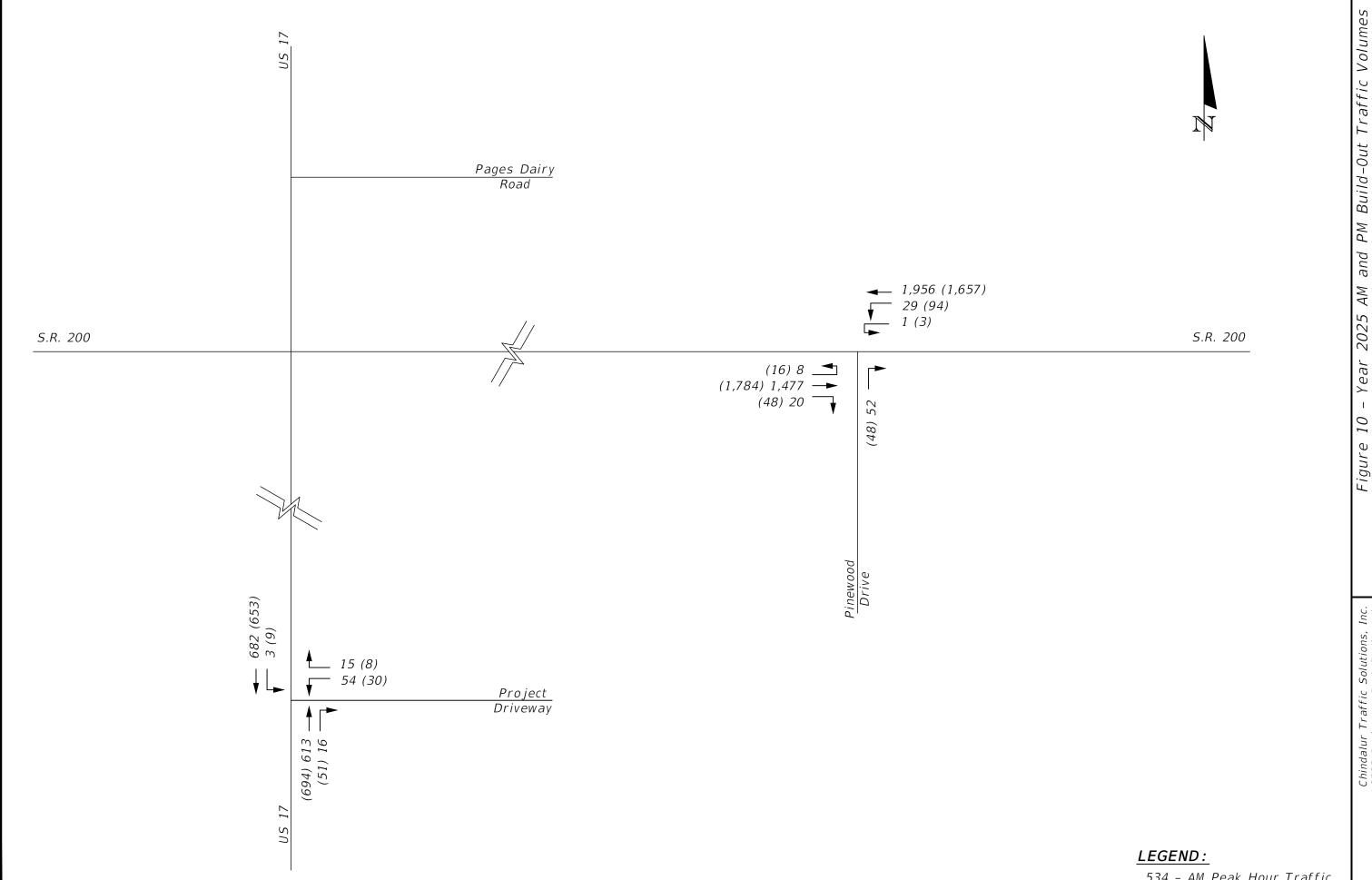
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Jacksonville, FL 32216
Phone: (904) 619–3368
www.ctrafficsolutions.com



- Project Traffic Distribution



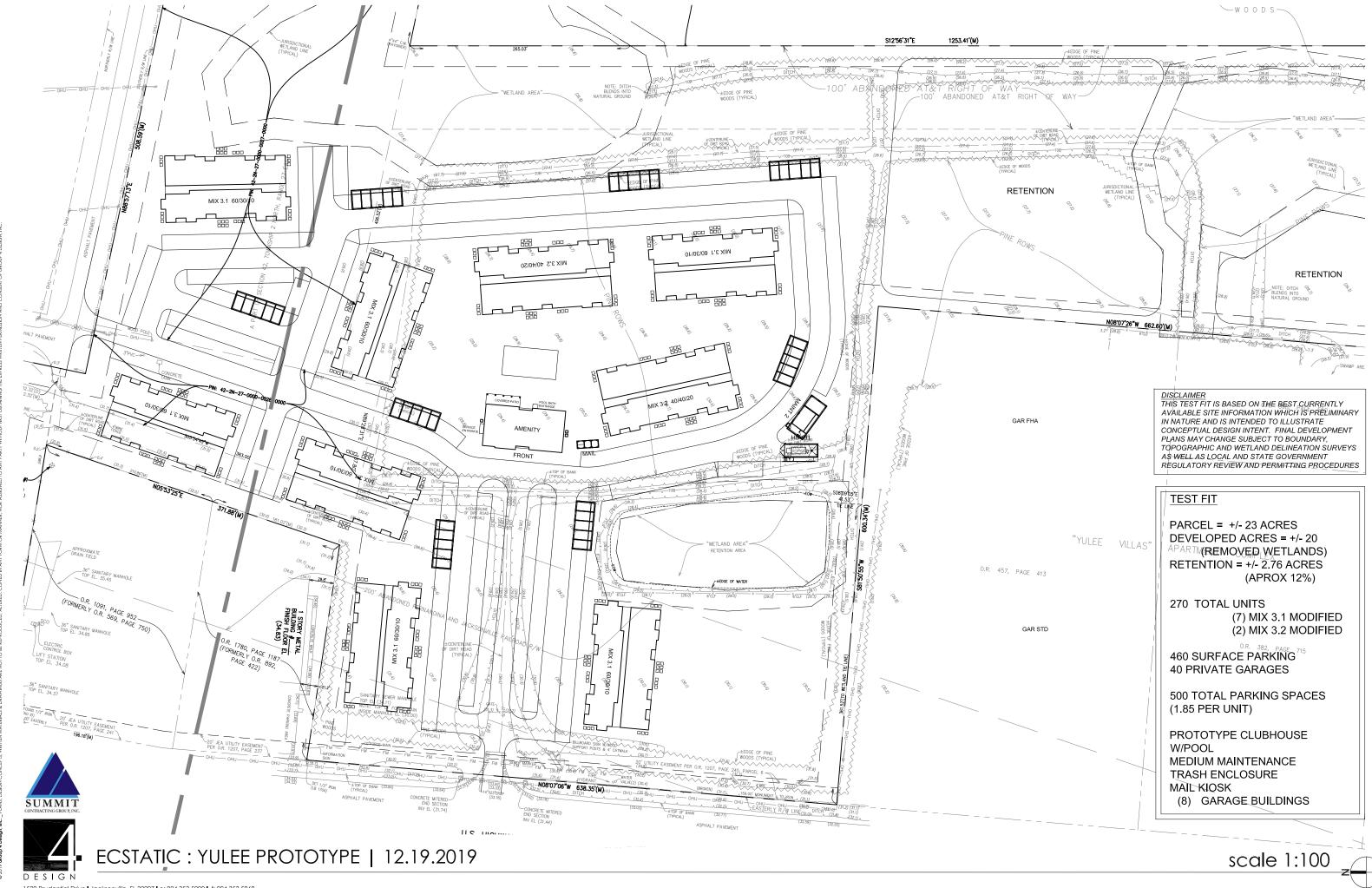
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Yulee Residential - Traffic Study Nassau County, Florida

534 - AM Peak Hour Traffic (923)- PM Peak Hour Traffic

# Attachment A

Project Site Plan





# Attachment B

# Methodology Document and Email Approval



# RE: Traffic Study Methodology for Yulee Apartments on US 17

1 message

Robert Companion rcompanion@nassaucountyfl.com>

Fri, Jan 17, 2020 at 10:40 AM

To: Rajesh Ramn Chindalur <chindalur@ctrafficsolutions.com>, Kailey Saver <ksaver@nassaucountyfl.com>

I find the parameters acceptable to begin the study. Kailey did you have any comments.

# Robert T. Companion, PE

# **County Engineer**

Nassau County Engineering Services

96161 Nassau Place

Yulee, FL 32097

904-530-6225 Phone

904-491-3611 Fax

rcompanion@nassaucountyfl.com

From: Rajesh Ramn Chindalur < chindalur@ctrafficsolutions.com>

Sent: Friday, January 17, 2020 9:25 AM

To: Robert Companion Companion@nassaucountyfl.com>; Kailey Saver <ksaver@nassaucountyfl.com>

Subject: Traffic Study Methodology for Yulee Apartments on US 17

CONTAINS EXTERNAL SENDER CONTENT: Do not open attachments unless you are expecting them and trust the sender.

- Technical Services

Good Morning Roberty/Kailey,

Hope all is well. See attached Traffic Study methodology for the Yulee Residential project on US 17. Please review and let me know your thoughts and comments. If this methodology is acceptable, we will proceed with obtaining the necessary traffic counts.

Thanks,

--

Rajesh Ramn K. Chindalur, P.E., PTOE

Chindalur Traffic Solutions, Inc.

8833 Perimeter Park Boulevard, Suite 103, Jacksonville, FL 32216

Office: (904) 619 3368 | Cell: (904) 422-6923 | Chindalur@ctrafficsolutions.com

Under Florida law, e-mail addresses are public records. If you do not want your e-mail address released in response to a public records request, please do not send electronic mail to this entity. Instead, please contact this office by phone or in writing.

To: Mr. Robert Companion, PE County Engineer Nassau County Engineering Services 96161 Nassau Place

Project: Yulee Apartment Project Client: Ecstatic Properties, LLC. Project No.: 1048-190-058

From: Rajesh K. Chindalur, P.E., PTOE

Date: 01/13/2020

#### Introduction:

Yulee, FL 32097

Chindalur Traffic Solutions, Inc. has been retained by Ecstatic Properties, LLC. to perform a traffic study for the proposed multi-family development Nassau County, Florida. The subject property is located along the east side of US 17, approximately 1,650 feet south of the SR 200/A1A intersection. The subject property is designated as Medium Density Residential/Commercial under the future land use (FLU) map. The proposed project is seeking rezoning for the subject property as part of the development.

The proposed development is anticipated to include approximately 270 apartment residential dwelling units on roughly 26.41 acres (10.22 units per acre). Access to the proposed development is anticipated to be provided via one driveway on US 17 and another driveway on Pinewood Drive. The driveway connection on Pinewood Drive provides access to SR 200/A1A via a right-in-right-out driveway

**Attachment A** includes a copy of the site plan (Source: Abbey Civil, Inc.) for the proposed development. The following methodology will be adopted to complete the traffic study.

#### **Trip Generation:**

Trip generation and for the proposed development will be estimated using the rates and equations included in the Trip Generation Manual, 10<sup>th</sup> Edition published by the ITE. **Table 01** summarizes the daily, AM peak and PM peak trips anticipated by the proposed development. As shown in this table, the proposed development is anticipated to generate 2,000 daily trips that include 123 AM peak and 143 PM peak trips.

#### Study Area:

Since the proposed development is seeking rezoning, the study area will include all the roadway segments within a one-mile radius of the proposed development. The details of the study area roadway segments will be obtained from the FDOT Florida Traffic Online Portal. The following roadway segments are within the 1-mile study area radius:

- US 17 from SR 200/A1A to Harts Road
- US 17 from SR 200/A1A to Pages Dairy Road
- US 17 from Pages Dairy Road to CR 108
- SR 200/A1A from I-95 to Still Quarters Road
- SR 200/A1A from Still Quarters Road to US 17
- SR 200/A1A from US 17 to Chester Road
- Harts from SR 200/A1A to US 17
- Pages Dairy from US 17 to Chester Road
- William Burgess from SR 200/A1A to US 17
- Miner Road from SR 200/A1A to Haddock Road

**Figure 01** also shows the study area roadway segments within one-mile radius of the proposed development.

#### Planned and Programmed Roadways:

Based on a review of the regional planned work programs, there were no planned or programmed roadways improvements within the 1-mile study area. The widening of SR 200 from 4 lanes to 6 lanes was recently completed and will be utilized in the roadway segment analysis.

#### **Project Traffic Distribution & Assignment:**

Project traffic distribution percentages on the study roadway segments will be obtained using the interim year 2025 NERPM ABv3 travel demand model run.

#### **Roadway Segment Analysis:**

The segment analysis of the study area roadway segments (roadway segments stated above) will be performed to determine any impacts due to the new trips from the proposed development.

#### **Turn Lane Evaluation:**

An evaluation to determine the need for northbound right turn lane and a southbound left turn lane on US 17 at the proposed project driveway intersection will be performed under the build-out conditions of the proposed development.

#### **Intersection Capacity Analysis:**

Intersection analysis will include the Level of Service (LOS) and Delay for the intersection approaches. Intersection analysis will be performed on the following two intersections within the study area:

- US 17 at Project Driveway 1,650 feet south of SR 200/A1A
- SR 200/A1A at Pinewood Drive

A report summarizing the above tasks and the outcome of the analysis will be prepared for submittal to Nassau County and FDOT for review and approvals.

If you have any questions or comments, please give me a call at (904) 422 6923.

Sincerely, Chindalur Traffic Solutions, Inc.

Rajesh K. Chindalur, P.E., PTOE

8833 Perimeter Park Boulevard, Suite 103, Jacksonville, FL 32216

(904) 619-3368 | Chindalur@ctrafficsolutions.com

cc: Mr. John D. Cattano (Ecstatic Properties, LLC)

Mr. Gary Abbey, P.E. (Abbey Civil, Inc.)

Table 01
Daily and Peak Hour Trip Generation
Yulee Apartments, Nassau County, Florida

ITE Land				Time	Rate or		Gross Trips	
Use Code	Description	Quantity	Units	Period	Equation	Total	Entering	Exiting
220	Multifamily Residential	270	DUs	Daily	T = 7.56(X) - 40.86	2,000	1,000	1,000
				AM Peak	Ln(T) = 0.95 Ln(X) - 0.51	123	28	95
				PM Peak	Ln(T) = 0.89 Ln(X) - 0.02	143	90	53

Trip Rate/Equation: ITE Trip Generation Manual, 10th Edition

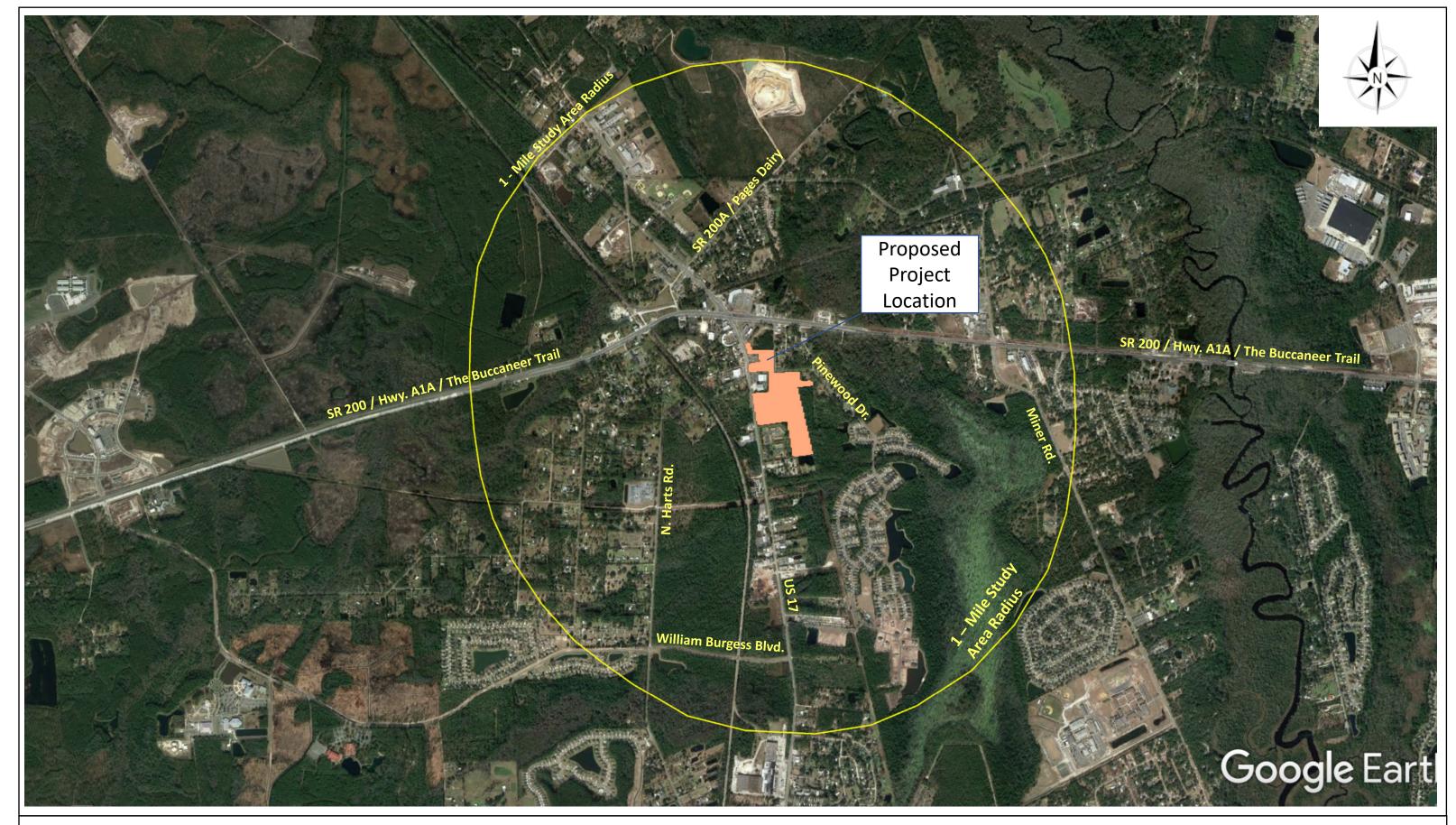
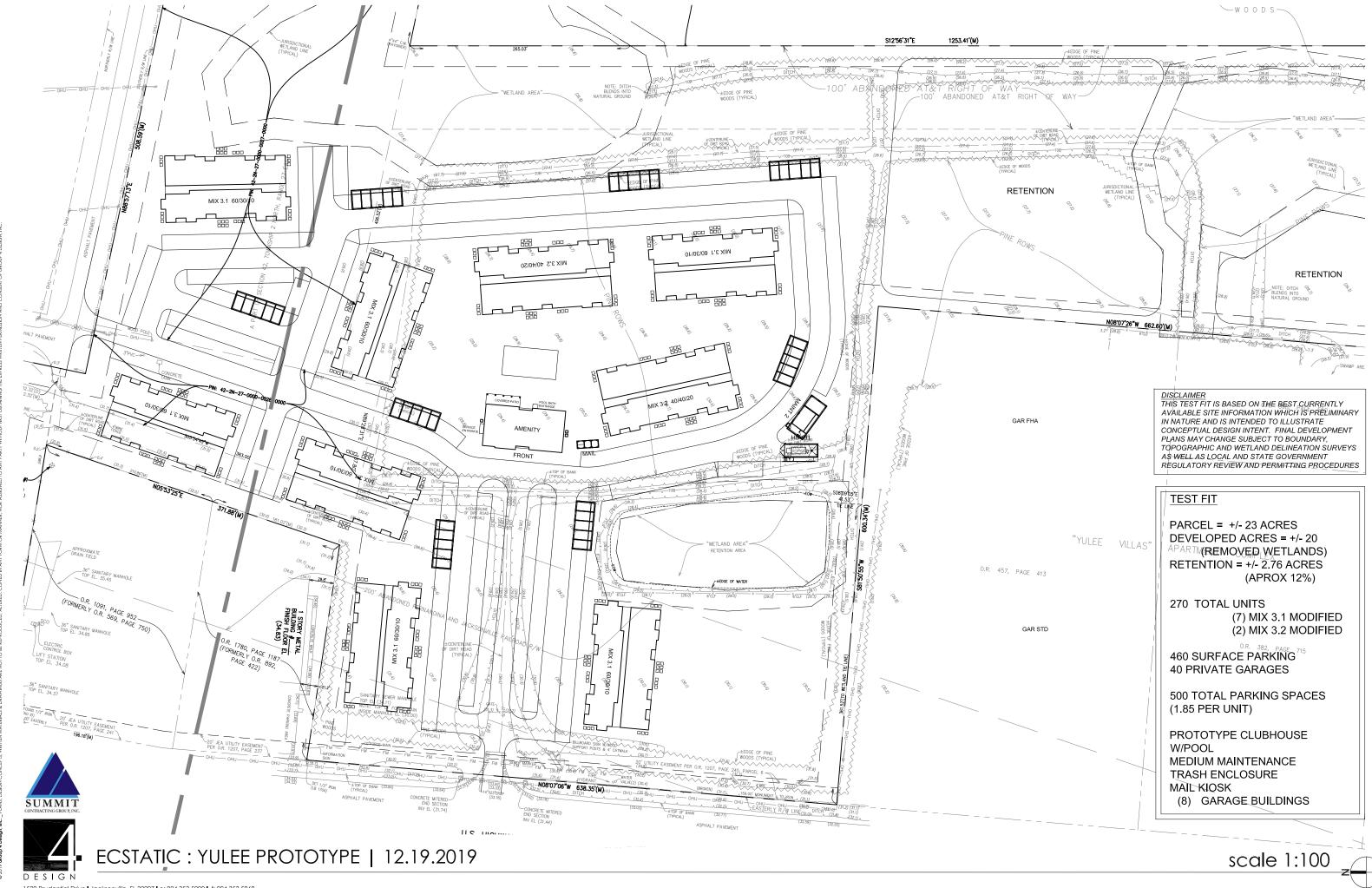




Figure 01 – Location Map

Yulee Residential – Nassau County Traffic Study Nassau County, Florida





### Attachment C

### FDOT District 2 LOS Summary Reports, and Historical AADT

Fer



#### SR AIA/200 from US 17 to CR 107 / Old Nassauville Rd

3,168

С

3,316

С

3,685

С

Attribute	Value
Segment ID:	733
Segment Length (miles):	5.271 mi
Location:	Nassau County
County:	Nassau
Roadway ID:	74060000
Begin MP:	0.000
End MP:	5.272
SIS:	Yes
SIS Type:	SIS SG Connector
Median Treatment:	Divided
Directionality:	Two-Way
Posted Speed:	35-55 mph
Facility Type:	Arterial
Area Type:	Urbanized
Standard K:	9.0%
FDOT LOS Standard:	D
Max. Service Vol. Adj. Factor:	0.00

Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Google Street View:

Projected Values

Number of Lanes

Peak Hour LOS

Peak Hour Traffic Volume

AADT

http://maps.google.com/maps?q=&layer=c&cbll=30.6284363699133,-81.5572001873035

235	The state of the s	(ul ee	ges Dairy ad		Amelia National Golf Country Clu		Piney 2
	2018	2020	2025	2030	2035	2040	2045
	4	6	6	6	6	6	6
	35,199	36,841	40,946	45,051	49,156	53,261	57,366
	3,580	5,390	5,390	5,390	5,390	5,390	5,390
	3,300	3,330	3,330	3,330	3,330	3,330	3,330

4,055

С

4,424

С

4,794

С

5,163

С

Notes: Six lanes by 2020 per FDOT WP (add two lanes)

Peak Hour Maximum Service Volume at LOS Standard



## SR AIA/200 from W of Still Quarters Rd to US 17 Attribute Value Segment ID: 732

С

С

D

Segment ID: 732 Segment Length (miles): 1.027 mi Nassau County Location: County: Nassau Roadway ID: 74040000 Begin MP: 29.520 End MP: 30.548 SIS: Yes SIS Type: SIS SG Connector Median Treatment: Divided Directionality: Two-Way Posted Speed: 35-45 mph Facility Type: Arterial Area Type: Urbanized 9.0%

Standard K: 9.0%
FDOT LOS Standard: D
Max. Service Vol. Adj. Factor: 0.00

Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Google Street View:

Projected Values

Number of Lanes

Peak Hour LOS

Peak Hour Traffic Volume

AADT

http://maps.google.com/maps?q=&layer=c&cbll=30.6299701216328,-81.6092473537696

96			n Rd	Rob	oin-Rd	Sov	Vell Rd Jsby Ave	
	2018	2020	2025	2030	2035	2040	2045	
	6	6	6	6	6	6	6	
	21,771	22,479	24,250	26,021	27,792	29,563	31,334	
	4,500	4,500	4,500	4,500	4,500	4,500	4,500	
	1,959	2,023	2,183	2,342	2,501	2,661	2,820	

D

D

D

D

Notes: Six lanes by 2020 per FDOT WP (add two lanes)

Peak Hour Maximum Service Volume at LOS Standard



#### SR AIA/200 from I-95 to W of Still Quarters Rd

Attribute	Value		of Sales Car					
Segment ID:	742							
Segment Length (miles):	1.937 mi							
Location:	Nassau County							
County:	Nassau	20.00	/					
Roadway ID:	74040000							
Begin MP:	27.582	/ DES						accaneer Ti
End MP:	29.520						BI	Iccano
SIS:	Yes	11 - 30					Sla	
SIS Type:	SIS SG Connector	slæ		1,	The State			Take The
Median Treatment:	Divided					( <u>) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )</u>		
Directionality:	Two-Way			20	0			
Posted Speed:	45-55 mph		E		\$.717 gi			
Facility Type:	Highway	MM						
Area Type:	Transition							
Standard K:	9.0%	VII						
FDOT LOS Standard:	С	0			S	Dov	e Rd	
Max. Service Vol. Adj. Factor:	0.00	R.9		Ç				Cartesian
Data Sources: RCI; TCI; NERPN	A AB; GUATS; FLSWM	1111		J-		la.		
Google Street View: http://maps.google.com/maps?q=&layer=c&cbll=	30.6240147271402,-81.6331635537152	95				William Bur		Dr
Desirated Values		2018	2020	2025	2030	2035	2040	2045
Projected Values								
Number of Lanes		4	6	6	6	6	6	6

6,700

2,084

В

6,700

2,394

В

6,700

2,705

В

6,700

3,016

В

6,700

3,327

В

6,700

3,638

В

4,460

1,959

В

Notes: Six lanes by 2020 per FDOT WP (add two lanes)

Peak Hour Maximum Service Volume at LOS Standard

Peak Hour Traffic Volume

Peak Hour LOS



### US 17 from Crosby Ave to SR 200 / AIA

С

С

Attribute	Value
Segment ID:	727
Segment Length (miles):	0.216 mi
Location:	Nassau County
County:	Nassau
Roadway ID:	74020000
Begin MP:	3.821
End MP:	4.037
SIS:	No
SIS Type:	Non SIS
Median Treatment:	Divided
Directionality:	Two-Way
Posted Speed:	45 mph
Facility Type:	Arterial
Area Type:	Urbanized
Standard K:	9.0%
FDOT LOS Standard:	D
Max. Service Vol. Adj. Factor:	0.00

Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Peak Hour Maximum Service Volume at LOS Standard

Google Street View:

Projected Values

Number of Lanes

Peak Hour LOS

Peak Hour Traffic Volume

http://maps.google.com/maps?q=&layer=c&cbll=30.6306851209264,-81.6004835171282

		TrI-	succaneer	0	+		
		-	US HIGHWAY I	17			
				Village Rd	sowell Ro Duncan Rd	Duke Rd	
2045	2040	2035	2030	Carr Village Rd		Duke Rd 2018	
<b>2045</b> 4	<b>2040</b> 4	<b>2035</b> 4	<b>2030</b> 4	Village Rd	Duncan Rd	Rd	
				Ave 2025	Duncan Rd 2020	2018	
4	4	4	4	2025	Duncan Rd 2020	<b>2018</b> 4	
			US-Highway				

С

С

С

С

С

Notes:

AADT



### **US 17 from Pages Dairy Road to Hamilton St**

С

С

Attribute	Value
Segment ID:	728
Segment Length (miles):	0.638 mi
Location:	Nassau County
County:	Nassau
Roadway ID:	74020000
Begin MP:	4.274
End MP:	4.913
SIS:	No
SIS Type:	Non SIS
Median Treatment:	Undivided
Directionality:	Two-Way
Posted Speed:	35-45 mph
Facility Type:	Arterial
Area Type:	Urbanized
Standard K:	9.0%
FDOT LOS Standard:	D
Max. Service Vol. Adj. Factor:	0.00

Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Peak Hour Maximum Service Volume at LOS Standard

Google Street View:

Projected Values

Number of Lanes

Peak Hour LOS

Peak Hour Traffic Volume

http://maps.google.com/maps?q=&layer=c&cbll=30.6377086673555,-81.6079033787887

· · · · · · · · · · · · · · · · · · ·	The Coast	Palling and A	Ton St. d	Soen-Ln	Yulee Sports Complex Yulee		Britt Lynn Ln  Britt	
	2018	2020	2025	2030	2035	2040	2045	
	2	2	2	2	2	2	2	
	11,100	13,320	18,870	24,420	29,970	35,520	41,070	
	1,600	1,600	1,600	1,600	1,600	1,600	1,600	
	999	1,199	1,698	2,198	2,697	3,197	3,696	

F

F

F

Notes:

AADT

FDOT D2 LOS Report
An Interactive Mapping and Reporting Application

### Level of Service Segments

Attribute	Value
Segment Description	US 17 from SR 200/AIA to Pages Dairy Road
County	Nassau
Roadway	US 17
Segment Extent	SR 200/AIA to Pages Dairy Road
Segment ID	4,727
Location	Nassau County
Roadway ID	74020000
Begin MP	4.037
End MP	4.274
Segment Length (mi)	0.237
Median Treatment	1
Directionality	0
Posted Speed	35-45 mph
SIS	No
SIS Type	Non SIS
Area Type	Urbanized
Facility Type	Arterial
Max. Service Vol. Adjustment Factor	0
Standard K-Factor	9%
FDOT LOS Standard	D
Lanes 2018	4
AADT 2018	11,100
Peak Volume 2018	999

Attribute	Value
Peak Max. Service Vol. 2018	2,920
Peak LOS 2018	С
Lanes 2020	4
AADT 2020	12,929
Peak Volume 2020	1,164
Peak Max. Service Vol. 2020	2,920
Peak LOS 2020	C
Lanes 2025	4
AADT 2025	17,503
Peak Volume 2025	1,575
Peak Max. Service Vol. 2025	2,920
Peak LOS 2025	D
Lanes 2030	4
AADT 2030	22,076
Peak Volume 2030	1,987
Peak Max. Service Vol. 2030	2,920
Peak LOS 2030	D
Lanes 2035	4
AADT 2035	26,649
Peak Volume 2035	2,398
Peak Max. Service Vol. 2035	2,920
Peak LOS 2035	D
Lanes 2040	4
AADT 2040	31,223
Peak Volume 2040	2,810

Attribute	Value
Peak Max. Service Vol. 2040	2,920
Peak LOS 2040	D
Lanes 2045	4
AADT 2045	35,796
Peak Volume 2045	3,222
Peak Max. Service Vol. 2045	2,920
Peak LOS 2045	F
Comments	Null
Google Street View	http://maps.google.com/maps?q=&layer=c&cbll=30.6333884422065,-81.6025104283558



### US 17 from Urban Boundary (2700' S. of Harts Rd) to Crosby Ave

1,156

С

1,217

С

1,369

С

Attribute	Value
Segment ID:	726
Segment Length (miles):	2.519 mi
Location:	Nassau County
County:	Nassau
Roadway ID:	74020000
Begin MP:	1.301
End MP:	3.821
SIS:	No
SIS Type:	Non SIS
Median Treatment:	Undivided
Directionality:	Two-Way
Posted Speed:	45-55 mph
Facility Type:	Highway
Area Type:	Urbanized
Standard K:	9.0%
FDOT LOS Standard:	D
Max. Service Vol. Adj. Factor:	0.00

Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Peak Hour Maximum Service Volume at LOS Standard

Google Street View:

Projected Values

Number of Lanes

Peak Hour LOS

Peak Hour Traffic Volume

http://maps.google.com/maps?q=&layer=c&cbll=30.6110377331507,-81.5973781589285

	Buccanes			17) - 5	200	Buccan eer 1	M A1A
<u>35</u>	e in Mi	Ne Sie	SALE TO SALE	Me Jack			
	2018	2020	2025	2030	2035	2040	2045
	2	2	2	2	2	2	2
	12,844	13,520	15,210	16,900	18,590	20,280	21,970
	2,170	2,170	2,170	2,170	2,170	2,170	2,170

1,521

С

1,673

D

1,825

D

1,977

D

Notes:

AADT

1,583

D



#### US 17 from Hamilton St to I-95

774

В

834

С

984

С

Attribute	Value
Segment ID:	729
Segment Length (miles):	6.050 mi
Location:	Nassau County
County:	Nassau
Roadway ID:	74020000
Begin MP:	4.913
End MP:	10.963
SIS:	No
SIS Type:	Non SIS
Median Treatment:	Undivided
Directionality:	Two-Way
Posted Speed:	45-60 mph
Facility Type:	Highway
Area Type:	Transition
Standard K:	9.0%
FDOT LOS Standard:	С
Max. Service Vol. Adj. Factor:	0.00

Data Sources: RCI; TCI; NERPM AB; GUATS; FLSWM

Peak Hour Maximum Service Volume at LOS Standard

Google Street View:

Projected Values

Number of Lanes

Peak Hour LOS

Peak Hour Traffic Volume

http://maps.google.com/maps?q=&layer=c&cbll=30.6747129504824,-81.6438553899949

	ounty Road N	08	95		5 Yul		O align
9	7			1	Cal	seer Tri	17 Jan 19 19 19 19 19 19 19 19 19 19 19 19 19
	2018	2020	2025	2030	2035	2040	2045
	2	2	2	2	2	2	2
	8,603	9,268	10,932	12,596	14,260	15,924	17,588
	1,550	1,550	1,550	1,550	1,550	1,550	1,550

1,134

С

1,283

С

1,433

С

Notes:

AADT

COUNTY: 74 - NASSAU

SITE: 0182 - SR-A1A&200/US-301,0.4 MI W OF SR-5/US-17,NASSAU CO

YEAR	AADT	DI	RECTION 1	DI	RECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	21771 C	 E	10705	— — W	11066	9.00	53.80	10.70
2017	22195 C	E	10841	W	11354	9.00	55.10	6.50
2016	21000 S		0		0	9.00	56.00	9.80
2015	20300 F		0		0	9.00	56.10	9.80
2014	19997 C	E	9730	W	10267	9.00	56.10	9.80
2013	19214 C	E	9411	W	9803	9.00	56.10	9.90
2012	18939 C	E	9331	W	9608	9.00	55.50	9.70
2011	18498 C	$\mathbf{E}$	9075	W	9423	9.00	55.80	9.40
2010	17934 C	E	8838	W	9096	9.80	53.85	9.40
2009	17536 C	$\mathbf{E}$	8637	W	8899	9.80	53.85	9.50
2008	17240 C	E	8522	W	8718	9.77	56.46	10.00
2007	18178 C	$\mathbf{E}$	9044	W	9134	9.26	54.02	8.80
2006	18333 C	$\mathbf{E}$	9095	W	9238	9.34	53.62	9.70
2005	17695 C	$\mathbf{E}$	8806	W	8889	9.30	54.30	10.30
2004	17138 C	$\mathbf{E}$	8522	W	8616	9.50	54.70	10.20
2003	16092 C	$\mathbf{E}$	7952	W	8140	9.40	54.20	3.40

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

COUNTY: 74 - NASSAU

SITE: 0101 - SR A1A .4 MI. E. OF US 17

YEAR	AADT	DIRECTION 1	DIRECTIO	ON 2 *K FACTOR	D FACTOR	T FACTOR
2018	37500 C	E 18500	W 19000	9.00	54.50	6.50
2017	38500 C	E 19500	W 19000	9.00	55.10	6.50
2016	37500 C	E 19000	W 18500	9.00	56.00	6.70
2015	36000 C	E 18000	W 18000	9.00	55.30	6.40
2014	33500 C	E 16500	W 17000	9.00	55.10	6.30
2013	34000 C	E 17000	W 17000	9.00	56.90	7.20
2012	33500 C	E 17000	W 16500	9.00	54.70	6.30
2011	38500 C	E 19000	W 19500	9.00	55.80	6.40
2010	36000 C	E 18000	W 18000	12.04	58.48	6.80
2009	36500 C	E 18500	W 18000	11.44	57.12	7.10
2008	36000 C	E 18000	W 18000	10.08	59.26	7.10
2007	35000 C	E 17500	W 17500	11.16	57.15	6.00
2006	39000 C	E 19500	W 19500	11.41	58.30	7.20
2005	26000 F	E 14000	W 12000	11.70	59.30	4.50
2004	25500 C	E 13500	W 12000	11.50	58.30	9.10
2003	29000 C	E 14500	W 14500	11.00	57.60	8.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE

S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE

V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

COUNTY: 74 - NASSAU

SITE: 0104 - SR 5 300' N OF RAILROAD IN YULEE

YEAR	AADT	DII	RECTION 1	DIF	RECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	11100 C	N	6100	S	5000	9.00	54.50	5.50
2017	11700 C	N	6400	S	5300	9.00	55.10	5.20
2016	11700 C	N	6200	S	5500	9.00	56.00	4.40
2015	11500 C	N	6100	S	5400	9.00	55.30	3.20
2014	12200 C	N	6500	S	5700	9.00	55.10	3.90
2013	11400 C	N	5900	S	5500	9.00	56.90	6.10
2012	11600 C	N	5900	S	5700	9.00	54.70	3.60
2011	12800 C	N	6400	S	6400	9.00	55.80	4.10
2010	10900 C	N	5500	S	5400	12.04	58.48	4.20
2009	10800 C	N	5400	S	5400	11.44	57.12	3.70
2008	11700 C	N	6000	S	5700	10.08	59.26	3.60
2007	10800 C	N	5400	S	5400	11.16	57.15	3.80
2006	13400 C	N	6900	S	6500	11.41	58.30	4.60
2005	11500 C	N	5900	S	5600	11.70	59.30	5.30
2004	11300 C	N	5800	S	5500	11.50	58.30	10.60
2003	11400 C	N	5700	S	5700	11.00	57.60	8.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE

S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE

V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

COUNTY: 74 - NASSAU

SITE: 0011 - SR 5 .25 MI. S. OF SR 200

YEAR	AADT	DII	RECTION 1	DII	RECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	13400 C	N	6900	S	6500	9.00	54.50	5.50
2017	13900 C	N	7400	S	6500	9.00	55.10	5.20
2016	12500 C	N	6700	S	5800	9.00	56.00	4.40
2015	12300 C	N	6500	S	5800	9.00	55.30	3.20
2014	12000 C	N	6400	S	5600	9.00	55.10	3.90
2013	11200 C	N	6000	S	5200	9.00	56.90	6.10
2012	11300 C	N	6100	S	5200	9.00	54.70	3.60
2011	10800 C	N	5700	S	5100	9.00	55.80	4.10
2010	10600 C	N	5600	S	5000	12.04	58.48	4.20
2009	10800 C	N	5700	S	5100	11.44	57.12	3.70
2008	11800 C	N	6200	S	5600	10.08	59.26	3.60
2007	10800 C	N	5600	S	5200	11.16	57.15	3.80
2006	11900 C	N	6100	S	5800	11.41	58.30	4.60
2005	11200 C	N	5900	S	5300	11.70	59.30	10.60
2004	10200 C	N	5100	S	5100	11.50	58.30	10.60
2003	8600 C	N	4300	S	4300	11.00	57.60	8.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE

S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE

V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

COUNTY: 74 - NASSAU

SITE: 9136 - WILLIAM BURGESS BLVD. .1 MI. E. OF SR 200

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	2800 R	0	0	9.00	54.50	4.50
2017	2700 T	0	0	9.00	55.10	4.00
2016	2600 S	0	0	9.00	56.00	5.90
2015	2500 F	0	0	9.00	55.30	3.50
2014	2400 C	E	W	9.00	55.10	4.30

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

COUNTY: 74 - NASSAU

SITE: 9133 - HARTS RD. .1 MI. S. OF SR 200

YEAR	AADT	DIRE	CTION 1	DIRE	CTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	800 F		0		0	9.00	54.50	4.50
2017	750 C	N	0	S	0	9.00	55.10	4.00
2016	1600 R		0		0	9.00	56.00	5.90
2015	1500 T		0		0	9.00	55.30	3.50
2014	1500 S					9.00	55.10	4.30
2013	1500 F		0		0	9.00	56.90	4.10
2012	1500 C	N	0	S	0	9.00	54.70	4.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE

S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE

V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

### Attachment D

# Traffic Counts and FDOT Season Factors

NB														OIX 200
Start		Cars &	2 Axle		2 Axle	3 Axle	4 Axle	<5 Axl	5 Axle	>6 AxI	<6 Axl	6 Axle	>6 Axl	
Time	Bikes	Trailers	Long	Buses	6 Tire	Single	Single	Double	Double	Double	Multi	Multi	Multi	Total
02/06/20	0	8	3	0	0	0	0	0	0	0	0	0	0	11
00:15	0	12	0	1	0	0	0	0	0	0	0	0	0	13
00:30	0	7	1	0	0	0	0	0	0	0	0	0	0	8
00:45	0	8	3	0	0	0	0	0	0	0	0	0	0	11
	0	35	7	1	0	0	0	0	0	0	0	0	0	43
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:15	1	11	1	0	0	0	0	0	0	0	0	0	0	13
01:30	0	7	1	0	0	0	0	0	1	0	0	0	0	9
01:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7
	1	27	3	0	0	0	0	0	1	0	0	0	0	32
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
02:15	0	4	2	0	0	0	0	0	0	0	0	0	0	6
02:30	0	3	2	0	0	0	0	0	0	0	0	0	0	5
02:45	0	6	0	0	0	0	0	1	0	0	0	0	0	7
	0	17	4	0	0	0	0	1	0	0	0	0	0	22
03:00	0	4	1	0	0	Ő	0	0	0	0	Ö	0	0	5
03:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:30	0	5	0	0	0	0	0	1	0	0	0	0	0	6
03:45	0	6	1	0	1	0	0	1	0	0	0	0	0	9
03.43	0	17	2	0	1	0	0	2	0	0	0	0	0	22
04:00	0	6	1	0	1	1	0	0	1	0	0	0	0	10
04:15	0	8	2	0	0	1	0	1	0	0	0	0	0	12
04:13	0	12	1	0	0	0	0	0	0	0	0	0	0	13
04:45	0	10	5	0	0	0	0	0	0	0	0	0	0	
04.43	0			0		2	0	1	1	0	0	0	0	15 50
05.00		36	9		1									
05:00	0	11	6	0	0	0	0	0	0	0	0	0	0	17
05:15	0	36	12	0	0	0	0	0	0	0	0	0	0	48
05:30	0	29	9	0	0	1	0	1	0	0	0	0	0	40
05:45	0	36	14	0	0	0	0	1	0	0	0	0	0	51_
20.00	0	112	41	0	0	1	0	2	0	0	0	0	0	156
06:00	0	44	21	0	1	4	0	1	3	0	0	0	0	74
06:15	1	59	17	0	5	1	0	1	2	0	0	0	0	86
06:30	2	79	32	0	0	9	0	0	1	0	0	0	0	123
06:45	0	78	25	0	4	5	0	3	3	0	0	0	0	118
	3	260	95	0	10	19	0	5	9	0	0	0	0	401
07:00	0	100	27	2	2	8	0	2	4	1	0	0	0	146
07:15	0	115	27	1	3	2	0	1	3	0	0	0	0	152
07:30	0	97	16	0	2	1	1	0	0	0	0	0	0	117
07:45	0	80	17	0	0	5	0	1	6	0	0	0	0	109
	0	392	87	3	7	16	1	4	13	1	0	0	0	524
08:00	0	81	22	0	2	5	1	0	2	0	0	0	0	113
08:15	1	76	23	1	5	1	1	1	0	0	0	0	0	109
08:30	0	75	22	0	3	1	0	2	2	0	0	0	0	105
08:45	0	71	26	0	1_	2	1_	2	1_	0	0	0	0	104
	1	303	93	1	11	9	3	5	5	0	0	0	0	431
09:00	0	74	27	0	4	0	0	2	0	0	0	0	0	107
09:15	0	58	16	0	3	1	0	0	1	0	0	0	0	79
09:30	0	81	24	0	4	0	0	1	4	0	0	0	0	114
09:45	4_	70	15	0	4	3	1	1_	0	0	0	0	0	98
	4	283	82	0	15	4	1	4	5	0	0	0	0	398
10:00	1	100	10	0	0	2	0	1	1	0	0	0	0	115
10:15	0	77	10	0	1	3	0	1	2	0	0	0	0	94
10:30	0	95	4	0	1	3	0	1	5	1	0	0	0	110
10:45	1_	75	8	0	0	0	0	0	4	0	0	0	0	88
	2	347	32	0	2	8	0	3	12	1	0	0	0	407
11:00	0	97	9	0	2	3	0	0	5	0	0	0	0	116
11:15	0	86	16	0	4	0	0	4	3	0	0	0	0	113
11:30	0	84	17	0	1	1	0	0	5	0	0	0	0	108
11:45	0	85	14	0	2	1	0	0	4	0	0	0	0	106
	0	352	56	0	9	5	0	4	17	0	0	0	0	443
Total	11	2181	511	5	56	64	5	31	63	2	0	0	0	2929
Percent	0.4%	74.5%	17.4%	0.2%	1.9%	2.2%	0.2%	1.1%	2.2%	0.1%	0.0%	0.0%	0.0%	
									,0					

NB														31\ 200
Start		Cars &	2 Axle		2 Axle	3 Axle	4 Axle	<5 Axl	5 Axle	>6 AxI	<6 Axl	6 Axle	>6 AxI	
Time	Bikes	Trailers	Long	Buses	6 Tire	Single	Single	Double	Double	Double	Multi	Multi	Multi	Total
12 PM	0	111	20	0	2	1	0	0	0	0	0	0	0	134
12:15	0	95	20	0	3	1	0	1	0	0	0	0	0	120
12:30	0	118	16	0	4	5	0	1	2	0	0	0	0	146
12:45	0	91	13	0	2	3	0	1 3	4	0	0	0	0	114
13:00	0	415 91	69 19	0	11 4	10	0	0	6	0	0	0	0	514 118
13:15	1	101	18	0	2	0	0	1	1	0	0	0	0	124
13:30	1	91	20	0	3	3	0	2	1	0	0	0	0	121
13:45	0	102	22	0	0	5	0	1	2	0	0	0	0	132
	3	385	79	0	9	11	0	4	4	0	0	0	0	495
14:00	0	89	19	0	1	6	0	1	1	0	0	0	0	117
14:15	0	119	24	0	3	2	0	0	3	0	0	0	0	151
14:30	1	95	21	0	2	6	0	2	2	0	0	0	0	129
14:45	0	82	11	0	2	2	0	0	4	0	0	0	0	101
45:00	1	385	75	0	8	16	0	3	10	0	0	0	0	498
15:00	0	107	20	1	2	2	0	0	1	0	0	0	0	133
15:15 15:30	0	96 126	24 21	0	2 0	1	0	0	1 0	0	0	0	0	124 147
15:45	1	120	19	0	3	3	0	0	0	0	0	0	0	155
10.40	1	458	84	1	7	6	0	0	2	0	0	0	0	559
16:00	1	130	30	4	1	0	0	0	2	0	0	0	0	168
16:15	3	115	29	1	1	0	0	0	3	0	0	0	0	152
16:30	2	114	23	0	1	1	0	0	1	0	0	0	0	142
16:45	0	107	26	0	3	0	0	1	0	0	0	0	0	137
	6	466	108	5	6	1	0	1	6	0	0	0	0	599
17:00	0	125	30	0	2	0	0	0	0	0	0	0	0	157
17:15	0	110	21	0	0	0	0	0	0	0	0	0	0	131
17:30	0	124	14	0	1	0	0	0	0	0	0	0	0	139
17:45	1 1	94 453	21 86	0	3	0	0	0	2	0	0	0	0	118 545
18:00	0	107	16	0	0	0	0	0	0	0	0	0	0	123
18:15	0	80	8	0	0	0	0	0	0	0	0	0	0	88
18:30	0	74	23	Ö	0	0	0	0	1	Ő	0	Ö	Ö	98
18:45	0	78	10	0	1	0	0	0	0	0	0	0	0	89
	0	339	57	0	1	0	0	0	1	0	0	0	0	398
19:00	1	39	9	0	0	1	0	0	0	0	0	0	0	50
19:15	0	55	14	0	1	0	0	0	0	0	0	0	0	70
19:30	1	48	3	0	1	0	0	0	0	0	0	0	0	53
19:45	0	37	7	0	0	0	0	0	0	0	0	0	0	44
20:00	2	179 35	33 9	0 0	2 1	1 0	0	0	0 1	0 0	0 0	0 0	0 0	217 46
20:15	0	36	13	0	0	0	0	0	0	0	0	0	0	49
20:30	0	33	3	0	0	0	0	0	1	0	0	0	0	37
20:45	0	26	2	0	0	0	0	1	0	0	0	0	0	29
	0	130	27	0	1	0	0	1	2	0	0	0	0	161
21:00	0	25	4	0	0	0	0	0	1	0	0	0	0	30
21:15	0	14	6	0	0	0	0	0	0	0	0	0	0	20
21:30	0	22	4	0	0	0	0	0	0	0	0	0	0	26
21:45	0	18	1_	0	0	0	0	0	0	0	0	0	0	19
22.00	0	79	15	0	0	0	0	0	1	0	0	0	0	95
22:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
22:15 22:30	0	10 11	1	0	0	0	0	0	0	0	0	0	0	11 12
22:45	0	18	0	0	0	0	0	0	0	0	0	0	0	18
	0	55	4	0	0	0	0	0	0	0	0	0	0	59
23:00	0	11	0	1	0	0	0	0	0	0	0	0	0	12
23:15	0	15	1	0	0	0	0	0	0	0	0	0	0	16
23:30	0	14	1	0	0	0	0	0	0	0	0	0	0	15
23:45	0	9	1	0	0	0	0	0	0	0	0	0	0	10
	0	49	3	1_	0	0	0	0	0	0	0	0	0	53
Total	14	3393	640	7	48	45 1 10/	0	12	34	0 0%	0 0%	0 0%	0	4193
Percent	0.3%	80.9%	15.3%	0.2%	1.1%	1.1%	0.0%	0.3%	0.8%	0.0%	0.0%	0.0%	0.0%	
Grand														
Total	25	5574	1151	12	104	109	5	43	97	2	0	0	0	7122
Percent	0.4%	78.3%	16.2%	0.2%	1.5%	1.5%	0.1%	0.6%	1.4%	0.0%	0.0%	0.0%	0.0%	

SB														
Start		Cars &	2 Axle		2 Axle	3 Axle	4 Axle	<5 Axl	5 Axle	>6 Axl	<6 Axl	6 Axle	>6 Axl	
Time	Bikes	Trailers	Long	Buses	6 Tire	Single	Single	Double	Double	Double	Multi	Multi	Multi	Total
02/06/20	0	12	3	0	0	0	0	0	0	0	0	0	0	15
00:15	1	11	1	0	0	1	0	0	0	0	0	0	0	14
00:30	0	6	1	0	0	0	0	0	0	0	0	0	0	7
00:45	0	12	0	0	0	0	0	0	0	0	0	0	0	12
	1	41	5	0	0	1	0	0	0	0	0	0	0	48
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
01:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
01:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8
01:45	0		1 1	0	0	1 1	0	0	0	0	0	0	0	9 28
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
02:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:30	0	2	3	0	0	1	0	0	0	0	0	0	0	6
02:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	0	11	5	0	0	1	0	0	0	0	0	0	0	17
03:00	0	3	1	0	0	0	0	1	0	0	0	0	0	5
03:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:30	0	4	4	0	0	0	0	0	0	0	0	0	0	8
03:45	0	3	1	0	0	0	0	0	2	0	0	0	0	6
	0	13	6	0	0	0	0	1	2	0	0	0	0	22
04:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
04:15	0	11	3	0	1	0	0	0	0	0	0	0	0	15
04:30	0	12	2	0	0	0	0	0	0	0	0	0	0	14
04:45	0	18	7	0	1	0	0	0	0	0	0	0	0	26
05.00	0	47	14	0	2	0	0	0	0	0	0	0	0	63
05:00	0	17	7	0	0	0	0	0	0	0	0	0	0	24
05:15 05:30	0	18 32	10 9	0	0	1 0	0	0	0	0	0	0	0	29 41
05:45	0	40	12	0	2	0	0	0	1	0	0	0	0	55
05.45	0	107	38	0	2	1	0	0	1	0	0	0	0	149
06:00	0	47	19	0	2	0	0	0	1	0	0	0	0	69
06:15	0	72	17	0	0	0	0	0	1	0	0	0	0	90
06:30	1	79	19	1	3	1	0	Ö	2	Ö	0	0	Ö	106
06:45	1	88	24	0	3	2	0	0	1	0	0	0	0	119
	2	286	79	1	8	3	0	0	5	0	0	0	0	384
07:00	1	99	25	0	1	0	0	0	2	0	0	0	0	128
07:15	0	120	28	0	0	1	0	0	4	0	0	0	0	153
07:30	0	117	16	0	3	1	0	0	5	2	0	0	0	144
07:45	0	126	29	1_	0	2	0	0	1	0	0	0	0	159
	1	462	98	1	4	4	0	0	12	2	0	0	0	584
08:00	0	99	17	1	1	1	1	1	4	0	0	0	0	125
08:15	1	92	20	0	1	1	0	0	5	0	0	0	0	120
08:30	1	84	15	0	2	2	0	0	1	0	0	0	0	105
08:45	0 2	80 355	17 69	<u>0</u> 1	<u>2</u> 6	<u>3</u> 7	<u>0</u>	<u> </u>	11	0	0	0	0	103 453
09:00	0	48	13	0	0	2	0	0	1	0	0	0	0	64
09:15	0	87	13	0	0	3	0	0	4	0	0	0	0	107
09:30	0	67	22	0	1	3	0	0	3	0	0	0	0	96
09:45	2	67	8	Ö	1	1	0	1	3	Ö	0	0	Ö	83
	2	269	56	0	2	9	0	1	11	0	0	0	0	350
10:00	2	83	4	0	1	1	0	0	1	0	0	0	0	92
10:15	2	67	8	0	0	2	0	0	1	2	0	0	0	82
10:30	1	87	4	0	2	1	1	2	1	1	0	0	0	100
10:45	0	81	5	0	1	1	0	0	3	0	0	0	0	91
	5	318	21	0	4	5	1	2	6	3	0	0	0	365
11:00	1	108	14	0	1	1	0	0	3	1	0	0	0	129
11:15	3	83	11	0	1	2	0	1	3	1	0	0	0	105
11:30	1	75	10	0	1	3	0	0	3	0	0	0	0	93
11:45	7	115	9	1	11	5	0	1	3	0	0	0	0	137
Total	20	381	44	1 4	32	11	0 2	7	12 60	7	0	0	0	464
Total Percent	20 0.7%	2316 79.1%	436 14.9%	0.1%	32 1.1%	43 1.5%	0.1%	0.2%	2.0%	0.2%	0.0%	0.0%	0.0%	2927
i eiteiit	0.7 /0	13.1/0	17.3/0	0.1/0	1.1/0	1.0/0	U. I /0	U.Z /0	2.0 /0	U.Z /0	0.0 /0	0.0 /0	0.070	

SB														31\ 200
Start		Cars &	2 Axle		2 Axle	3 Axle	4 Axle	<5 AxI	5 Axle	>6 AxI	<6 AxI	6 Axle	>6 AxI	
Time	Bikes	Trailers	Long	Buses	6 Tire	Single	Single	Double	Double	Double	Multi	Multi	Multi	Total
12 PM	4	96	5	0	0	0	0	1	2	0	0	0	0	108
12:15	0	89	7	0	1	5	0	0	1	1	0	0	0	104
12:30	0	92	3	0	0	0	0	0	1	1	0	0	0	97
12:45	0	109	11	0	11	7	0	0	2	0	0	0	0	130
	4	386	26	0	2	12	0	1	6	2	0	0	0	439
13:00	2	87	13	0	1	1	0	0	3	1	0	0	0	108
13:15	3	81	12	0	1	4	0	0	1	0	0	0	0	102
13:30	1	88	18	0	4	0	0	1	6	0	0	0	0	118
13:45	1_	88	15	0	2	6	0	2	3	0	0	0	0	117
	7	344	58	0	8	11	0	3	13	1	0	0	0	445
14:00	0	94	24	0	8	3	1	1	0	2	0	0	0	133
14:15	0	100	23	1	1	3	0	1	1	0	0	0	0	130
14:30	1	100	23	1	2	3	0	0	2	0	0	0	0	132
14:45	0	106	21	0	2	6	0	0	1_	0	0	0	0	136
45.00	1	400	91	2	13	15	1	2	4	2	0	0	0	531
15:00	0	114	15	0	1	2	0	1	2	0	0	0	0	135
15:15	0	87	27	0	2	2	0	0	0	0	0	0	0	118
15:30	2	109	27	0		0	1	0	0	0	0	0	0	141
15:45	<u>2</u> 4	118 428	24 93	0	7	5	<u> </u>	0 1	2	0	0	0	0	147 541
16:00	1	102	15	0	3	1	0	1	0	0	0	0	0	123
16:15	1	130	22	0	0	1	0	0	3	0	0	0	0	157
16:30	0	115	30	0	3	4	0	1	1	1	0	0	0	155
16:45	2	102	17	0	1	3	0	0	2	0	0	0	0	127
10.10	4	449	84	0	7	9	0	2	6	1	0	0	0	562
17:00	2	128	18	Ö	0	0	0	0	0	0	0	Ö	0	148
17:15	1	127	17	0	0	4	0	1	1	0	0	0	0	151
17:30	0	112	16	0	3	2	0	0	0	0	0	0	0	133
17:45	0	85	11	0	1	0	0	0	0	0	0	0	0	97
	3	452	62	0	4	6	0	1	1	0	0	0	0	529
18:00	0	90	11	0	0	0	0	0	0	0	0	0	0	101
18:15	0	85	11	0	0	0	0	0	0	0	0	0	0	96
18:30	0	52	17	0	0	0	0	0	1	0	0	0	0	70
18:45	0	57	16	0	0	0	0	0	1	0	0	0	0	74
	0	284	55	0	0	0	0	0	2	0	0	0	0	341
19:00	0	70	11	0	1	0	0	1	0	0	0	0	0	83
19:15	0	56	9	0	0	0	0	0	0	0	0	0	0	65
19:30	0	45	14	0	0	0	0	0	0	0	0	0	0	59
19:45	0	41	12	0	2	0	0	0	0	0	0	0	0	55_
00.00	0	212	46	0	3	0	0	1	0	0	0	0	0	262
20:00	0	40	8	0	0	0	0	0	0	0	0	0	0	48
20:15	0	30	5	0	0	0	0	0	0	0	0	0	0	35
20:30	0	26	7	0	0	0	0	0	0	0	0	0	0	33
20:45	0	18	24	0	0	0	0	0	0	0	0	0	0	22
21:00	0	114 25	24	0	0	0	0	0	0	0	0	0	0	138 28
21:00 21:15	0	32	0	0	0	0	0	0	0	0	0	0	0	32
21:30	0	25	3	0	0	0	0	0	0	0	0	0	0	28
21:45	0	16	6	0	0	0	0	0	0	0	0	0	0	22
	0	98	11	0	0	0	0	0	1	0	0	0	0	110
22:00	0	31	3	0	0	0	0	0	0	Ö	0	0	0	34
22:15	0	18	4	0	0	0	0	0	0	0	0	0	0	22
22:30	0	12	0	0	0	0	0	0	0	Ö	0	0	0	12
22:45	0	15	2	0	0	0	0	0	0	0	0	0	0	17
	0	76	9	0	0	0	0	0	0	0	0	0	0	85
23:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
23:15	0	11	2	0	0	0	0	0	0	0	0	0	0	13
23:30	0	8	4	0	0	0	0	0	0	0	0	0	0	12
23:45	0	19	1	0	0	0	0	0	0	0	0	0	0	20
	0	49	8	0	0	0	0	0	0	0	0	0	0	57
Total	23	3292	567	2	44	58	2	11	35	6	0	0	0	4040
Percent	0.6%	81.5%	14.0%	0.0%	1.1%	1.4%	0.0%	0.3%	0.9%	0.1%	0.0%	0.0%	0.0%	
Grand	43	5608	1003	6	76	101	4	18	95	13	0	0	0	6967
Total														
Percent	0.6%	80.5%	14.4%	0.1%	1.1%	1.4%	0.1%	0.3%	1.4%	0.2%	0.0%	0.0%	0.0%	



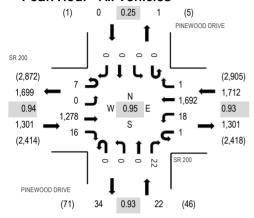
(303) 216-2439 www.alltrafficdata.net Location: 1 PINEWOOD DRIVE & SR 200 AM

Date and Start Time: Thursday, February 6, 2020

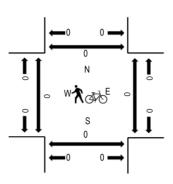
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

#### Peak Hour - All Vehicles



#### Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

#### **Traffic Counts**

		SR	200			SR 2	.00		PIN	EW00	D DRIV	E	PIN	EWOC	D DRI	/E						
Interval		Eastb	ound			Westb	ound			Northb	ound			Southl	oound			Rolling	Ped	lestrair	n Crossi	ngs
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	Hour	West	East	South	North
7:00 AM	2	0	311	0	0	3	411	0	0	0	0	5	0	0	0	0	732	3,035	0	0	0	0
7:15 AM	0	0	328	6	0	4	457	0	0	0	0	5	0	0	0	0	800	2,918	0	0	0	0
7:30 AM	3	0	339	5	0	5	409	0	0	0	0	7	0	0	0	0	768	2,684	0	0	0	0
7:45 AM	2	0	300	5	1	6	415	1	0	0	0	5	0	0	0	0	735	2,477	0	0	0	0
8:00 AM	2	0	315	4	1	4	280	2	0	0	0	7	0	0	0	0	615	2,331	0	0	0	0
8:15 AM	7	0	228	3	1	12	308	0	0	0	0	7	0	0	0	0	566		0	0	0	0
8:30 AM	4	0	287	1	1	9	252	1	0	0	0	6	0	0	0	0	561		0	0	0	0
8:45 AM	2	1	259	0	1	4	317	0	0	0	0	4	0	0	0	1	589		0	0	0	0

#### **Peak Rolling Hour Flow Rates**

		Eas	tbound			West	bound			North	ound			South	bound		
Vehicle Type	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total
Articulated Trucks	0	0	70	0	0	0	48	0	0	0	0	0	0	0	0	0	118
Lights	7	0	1,140	16	0	15	1,591	1	0	0	0	22	0	0	0	0	2,792
Mediums	0	0	68	0	1	3	53	0	0	0	0	0	0	0	0	0	125
Total	7	0	1 278	16	1	18	1 692	1	0	0	0	22	0	0	0	Λ	3 035



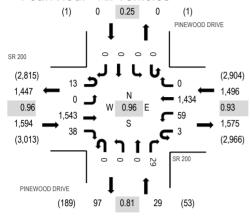
(303) 216-2439 www.alltrafficdata.net Location: 1 PINEWOOD DRIVE & SR 200 PM

Date and Start Time: Thursday, February 6, 2020

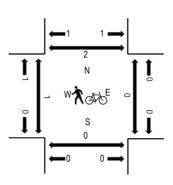
Peak Hour: 04:15 PM - 05:15 PM

**Peak 15-Minutes:** 04:30 PM - 04:45 PM

#### Peak Hour - All Vehicles



#### Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

#### **Traffic Counts**

		SR 2	200			SR 2	00		PIN	EWOO	D DRI\	/E	PIN	EWOO	D DRI	/E						
Interval		Eastb	ound			Westb	ound			Northb	ound			South	oound			Rolling	Ped	estrair	Crossii	ngs
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	Hour	West	East	South	North
4:00 PM	8	0	354	9	0	12	337	1	0	0	0	6	0	1	0	0	728	3,056	0	0	2	0
4:15 PM	4	0	362	6	0	18	385	0	0	0	0	8	0	0	0	0	783	3,119	0	0	0	0
4:30 PM	3	0	395	17	0	13	375	0	0	0	0	9	0	0	0	0	812	3,098	0	0	0	0
4:45 PM	3	0	380	8	1	16	319	0	0	0	0	6	0	0	0	0	733	2,999	0	0	0	0
5:00 PM	3	0	406	7	2	12	355	0	0	0	0	6	0	0	0	0	791	2,915	0	0	0	1
5:15 PM	3	0	361	6	0	17	370	0	0	0	0	5	0	0	0	0	762		0	0	0	0
5:30 PM	4	0	335	11	0	14	341	0	0	0	0	8	0	0	0	0	713		0	0	0	1
5:45 PM	6	0	316	6	0	17	299	0	0	0	0	5	0	0	0	0	649		0	0	0	0

#### **Peak Rolling Hour Flow Rates**

		Eas	tbound			West	oound			Northb	ound			South	bound		
Vehicle Type	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total
Articulated Trucks	0	0	27	0	0	0	41	0	0	0	0	0	0	0	0	0	68
Lights	13	0	1,504	38	3	58	1,355	0	0	0	0	29	0	0	0	0	3,000
Mediums	0	0	12	0	0	1	38	0	0	0	0	0	0	0	0	0	51
Total	13	0	1,543	38	3	59	1,434	0	0	0	0	29	0	0	0	0	3,119

2018 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL CATEGORY: 7400 NASSAU COUNTYWIDE

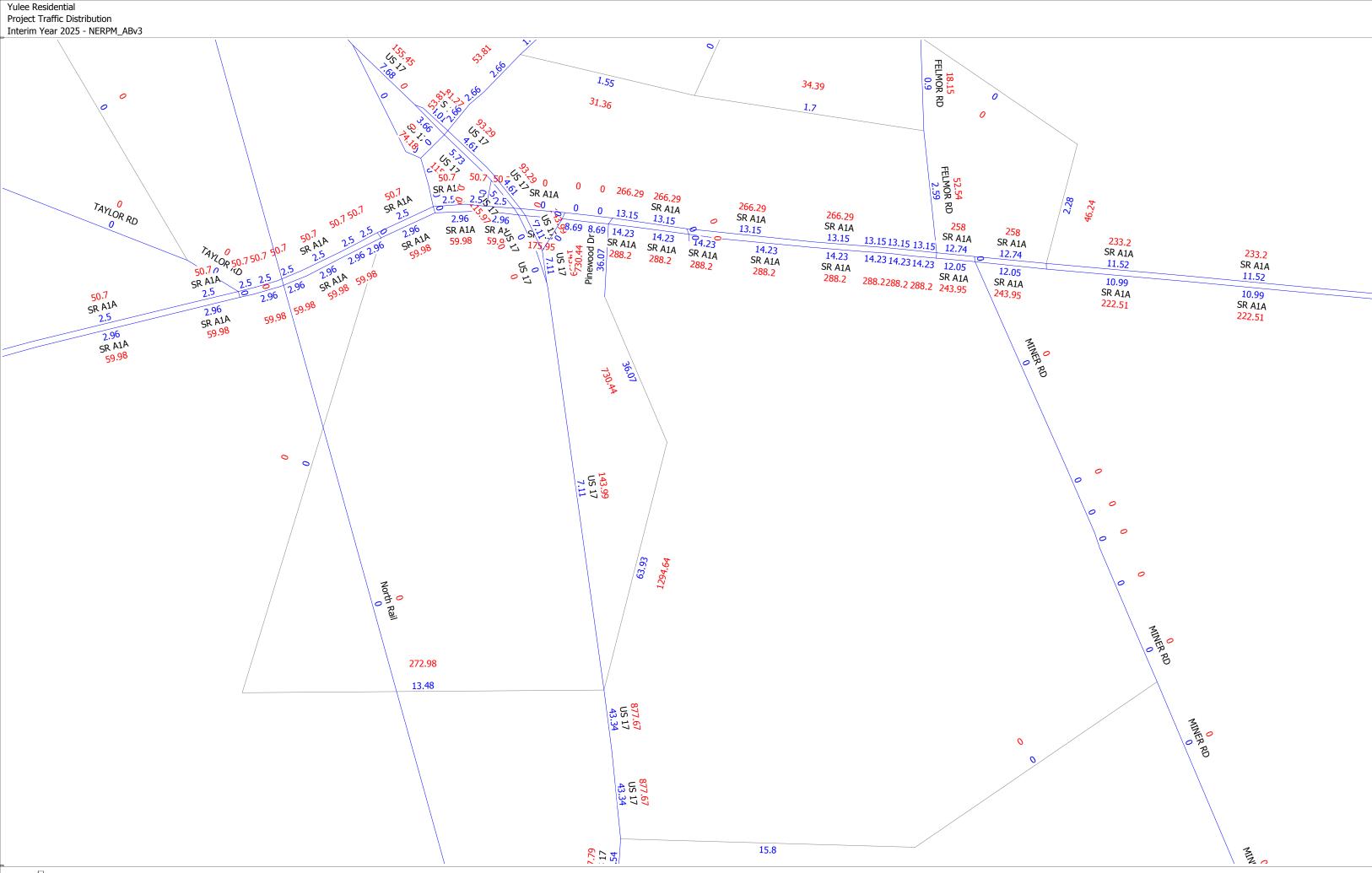
CATEGO	ORY: 7400 NASSAU COUNTYWIDE	<u>C</u>	MOCE: 0.0C
WEEK	DATES	SF	PSCF
WEEK ===================================	01/01/2018 - 01/06/2018 01/07/2018 - 01/13/2018 01/14/2018 - 01/20/2018 01/21/2018 - 01/27/2018 01/28/2018 - 02/03/2018 02/04/2018 - 02/10/2018 02/11/2018 - 02/17/2018 02/11/2018 - 02/17/2018 02/18/2018 - 02/24/2018 02/25/2018 - 03/03/2018 03/04/2018 - 03/03/2018 03/04/2018 - 03/10/2018 03/11/2018 - 03/10/2018 03/11/2018 - 03/10/2018 03/11/2018 - 03/10/2018 03/25/2018 - 03/31/2018 03/11/2018 - 03/17/2018 03/25/2018 - 03/24/2018 03/25/2018 - 03/24/2018 04/01/2018 - 04/07/2018 04/01/2018 - 04/07/2018 04/08/2018 - 04/14/2018 04/15/2018 - 04/21/2018 04/22/2018 - 04/28/2018 04/29/2018 - 05/12/2018 05/06/2018 - 05/12/2018 05/13/2018 - 05/19/2018 05/27/2018 - 06/02/2018 05/27/2018 - 06/02/2018 06/03/2018 - 06/09/2018 06/10/2018 - 06/30/2018 06/10/2018 - 06/30/2018 06/17/2018 - 06/30/2018 07/01/2018 - 07/07/2018 07/08/2018 - 07/14/2018 07/01/2018 - 07/07/2018	SF  1.07 1.11 1.15 1.12 1.08 1.04 1.00 0.99 0.96 0.96 0.96 0.96 0.96 0.96 0	1.11 1.16 1.20 1.17 1.13 1.08 1.04 1.03 1.02 1.00 0.99 0.99 1.00 1.00 1.00 1.00 1.00 1.00 1.01 1.01 1.01 1.00 1.00 1.00 1.01 1.01 1.00 1.00
301 332 334 335 337 338 339 412 443 445 447 449 551 553	07/13/2018 - 07/21/2018 07/22/2018 - 07/28/2018 07/29/2018 - 08/04/2018 08/05/2018 - 08/11/2018 08/12/2018 - 08/18/2018 08/19/2018 - 08/25/2018 08/26/2018 - 09/01/2018 09/02/2018 - 09/08/2018 09/09/2018 - 09/15/2018 09/09/2018 - 09/22/2018 09/16/2018 - 09/22/2018 09/30/2018 - 10/06/2018 10/07/2018 - 10/13/2018 10/14/2018 - 10/20/2018 10/21/2018 - 10/27/2018 10/28/2018 - 11/03/2018 11/04/2018 - 11/03/2018 11/11/2018 - 11/17/2018 11/11/2018 - 11/17/2018 11/18/2018 - 11/24/2018 11/18/2018 - 12/01/2018 12/02/2018 - 12/08/2018 12/09/2018 - 12/15/2018 12/16/2018 - 12/22/2018 12/23/2018 - 12/29/2018 12/23/2018 - 12/29/2018	0.97 0.98 0.98 0.99 0.99 1.00 1.01 1.01 1.01 1.01 1.01 1.01 1.02 1.02 1.02 1.03 1.03 1.03 1.04 1.05 1.06 1.07 1.10 1.12 1.15	1.01 1.02 1.02 1.03 1.03 1.04 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.06 1.06 1.07 1.07 1.07 1.08 1.09 1.10 1.11 1.15 1.17 1.20

<sup>\*</sup> PEAK SEASON

### Attachment E

NERPM\_ABv3 Travel Demand Model Plots

Yulee Residential Project Traffic Distribution Interim Year 2025 - NERPM\_ABv3 0 115.07 0 PAGE S DAIRY RD 15 17 S 50.7 SR A1A 2.5 50.7 SR A1A 0 SR A1A 2.5 O SR A1A 0 0 0 SR A1A 175.97 266.29 SR A1A 13.15 50.7 SR A1A 2.96 SR A1A 59.98 2.96 SR A1A 59.98 266.29 SR A1A 13.15 8.69 SR A1A 175.95 8.69 8.69 SR A1A 175.95 8.69 SR A1A 175.95 2.96 5R A1A 59.98 14.23 SR A1A 288.2 14.23 SR A1A 288.2 US 23 50.7 SR A1A 2.96 SR A1A 59.98 50.7 SR A1A 2.5 2.96 5R AIA 59.98 143.99 US 17 7.11 US 17 2.96 5R AIA 59.98



### Attachment F

FDOT Right Turn Lane Criteria

Right Turn Lanes



**RIGHT TURN LANES** 

#### 7.1

EXCLUSIVE RIGHT TURN LANES AT UNSIGNALIZED DRIVEWAYS Exclusive right turn lanes are useful where a combination of high roadway speeds, and high right turn volumes into a driveway are expected. Congestion on the roadway may also be a good reason to use an exclusive right turn lane. If properly built, they remove the turning vehicle from the through lanes, thereby decreasing the operational impact of right turn vehicles on the through traffic.

The **Standard Index** has no specific guidance on warrants for right turn lanes into unsignalized driveways. The guidelines in this chapter were developed to assist in the decision-making process. However, *Standard Index 301* contains the standards necessary for the design of right turn lanes. The picture in Index 301 shows a left turn lane, but the design features are the same, except for the fact that queues would not usually be present on unsignalized driveways.

#### 7.2

## WHEN SHOULD WE BUILD RIGHT TURN LANES?

**Exhibit 44** 

Recommended Guidelines for Exclusive Right Turn Lanes to Unsignalized\* Driveway

Roadway Posted Speed Limit	Number of Right Turns Per Hour
45 mph or less	<b>80-125</b> (see note 1)
Over 45 mph	<b>35-55</b> (see note 2)

<sup>\*</sup>May not be appropriate for signalized locations where signal phasing plays an important role in determining the need for right turn lanes.

- 1. The lower threshold of 80 right turn vehicles per hour would be most used for higher volume (greater than 600 vehicles per hour, per lane in one direction on the major roadway) or two-lane roads where lateral movement is restricted. The 125 right turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with a large entry radius (50 feet or greater).
- 2. The lower threshold of 35 right turn vehicles per hour would be most appropriately used on higher volume two-lane roadways where lateral movement is restricted. The 55 right turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with large entry radius (50 feet or greater).

**Note:** A posted speed limit of 45 mph may be used with these thresholds if the operating speeds are known to be over 45 mph during the time of peak right turn demand.

**Note on Traffic projections:** Projecting turning volumes is, at best, a knowledgeable estimate. Keep this in mind especially if the projections of right turns are close to meeting the guidelines. In that case, consider requiring the turn lane.

Where The Right Turn Lane Guidelines Came From These recommendations are primarily based on the research done in *NCHRP Report 420, Impacts of Access Management Techniques*, Chapter 4 — Unsignalized Access Spacing (Technique 1B), and *Use of Speed Differential as a Measure To Evaluate the Need for Right-Turn Deceleration Lane at Unsignalized Intersections*, by Jan Thakkar, P.E., and Mohammed A. Hadi, Ph.D., P.E.

In the *NCHRP Report 420*, the observed high-speed roads, 30 to 40 right turn vehicles per hour caused evasive maneuvers on 5 to 10 percent of the following through vehicles. For lower speed roadways, 80 to 110 right turn vehicles caused 15 to 20 percent of the following through vehicles to make evasive maneuvers. The choice of acceptable percentages of through vehicles impacted is a decision based on reasonable expectations of the different roadways.

In the Thakkar-Hadi study, by modeling speed differentials, a better understanding of the impacts of through volume and driveway radius was discovered.

### 7.3

### IMPACT OF LARGE AND SLOW MOVING VEHICLES TURNING RIGHT



Speed and the volume of right turns should not be the only criteria used to determine the requirement for an exclusive right turn lane at unsignalized intersections. In order to minimize the rear-end collision potential of some situations, a right turn lane may be required where large and slow moving vehicles need to turn right such as;

- Trucking facilities (or locations that have a high volume of large vehicle traffic such as water ports, train stations, etc.)
- Recreational facilities attracting boats, trailers and other large recreation vehicles
- Transit facilities
- Schools

# FDOT Separate Left Turn Exit Lanes Criteria

#### 3.5

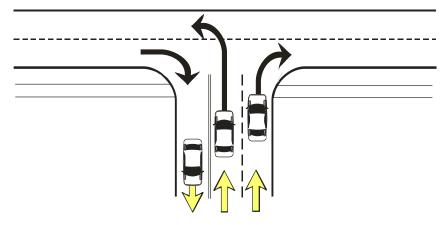
#### IMPORTANCE OF SEPARATE LEFT TURN EXIT LANES

Where both left and right-turns are permitted exiting the driveway, separate left-turn and right-turn lanes should be considered on commercial driveways. Even a small number of left-turns will cause substantial delay to right-turns out when the driveway has a single lane exit. This driveway layout is most needed where expected driveway volumes exceed 600 trips per day. They may also be beneficial as low as 300 daily trips traffic depending on the character of the exiting traffic.

# **Exhibit 20** 3 Lane Driveways

When driveway volumes exceed 600 per day, a threelane cross-section should be considered

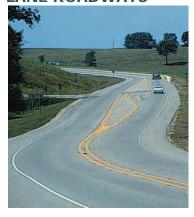
Consider channelization if traffic is over 4,000 per day



Source: Adapted from Vergil Stover's unpublished course notes

#### 3.6

#### LEFT TURN LANES SERVING DRIVEWAYS ON MULTILANE AND 2 LANE ROADWAYS



#### On a multilane roadway with a median

Whenever a driveway is directly served by a median opening, a left turn lane should be available. This provides for the safest left turns into the driveway.

#### On a two-lane roadway

Exclusive left turn lanes should be considered at any location serving the public, especially on curves and where speeds are 45 mph and higher.

The AASHTO Green Book contains guidance on this issue. However, the guidelines were developed based on delay rather than crash avoidance. Safety is the main reason behind exclusive left turn lanes.

Intersection Capacity
Analysis
HCM Worksheets

Existing Conditions
Intersection Capacity
Analysis
HCM Worksheets

Intersection															
Int Delay, s/veh	0.3														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	đ		<del>ተ</del> ተጉ			Ž	<b>^</b>				7				
Traffic Vol, veh/h	7	0	1329	17	1	19	1760	0	0	0	23	0	0	0	
Future Vol, veh/h	7	0	1329	17	1	19	1760	0	0	0	23	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	250	-	-	-	225	-	-	-	-	0	-	-	-	
Veh in Median Storage	,# -	-	0	-	-	-	0	-	-	0	-	-	16983	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	8	0	1445	18	1	21	1913	0	0	0	25	0	0	0	
Major/Minor N	Major1			N	Major2			N	/linor1						
Conflicting Flow All	1397	-	0	0	1068	1463	0	0	-	-	732				
Stage 1	-	-	-	_		-	-	_	-	-	-				
Stage 2	_		-	_	-	_		-		_	-				
Critical Hdwy	5.64	-	-	_	5.64	5.34	-	_	-	-	7.14				
Critical Hdwy Stg 1	-		-	_	-	-		-		_	-				
Critical Hdwy Stg 2	_	_	_	_	-	-	_	_	_	_	_				
Follow-up Hdwy	2.32	_	_	-	2.32	3.12	_	_	_	_	3.92				
Pot Cap-1 Maneuver	264	0	-	_	403	232	-	0	0	0	312				
Stage 1		0	-	_				0	0	0	-				
Stage 2	-	0	-	_	-	-	-	0	0	0	_				
Platoon blocked, %			-	_			-								
Mov Cap-1 Maneuver	264	-	-	-	236	236	-	-	-	0	312				
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	0	-				
Stage 1	-	-	_	_	-	-	-	-	-	0	-				
Stage 2	-	_	_	_	-	-	_	_	-	0	-				
<del>-</del>															
Approach	EB				WB				NB						
HCM Control Delay, s	0.1				0.2				17.5						
HCM LOS					J				С						
Minor Lane/Major Mvm	t r	NBLn1	EBU	EBT	EBR	WBL	WBT								
Capacity (veh/h)		312	264			236									
HCM Lane V/C Ratio			0.029	-	_	0.092	-								
HCM Control Delay (s)		17.5	19	-	-	21.8	_								
HCM Lane LOS		17.5	C	-	_	C C	-								
HCM 95th %tile Q(veh)		0.3	0.1	-	_	0.3	-								
TOWN 75HT 70HIE Q(VEH)		0.5	0.1			0.5									

Intersection															
Int Delay, s/veh	1.1														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	Ð		<del>የ</del>			ă	ተተተ				7				
Traffic Vol, veh/h	14	0	1605	40	3	61	1491	0	0	0	30	0	0	0	
Future Vol, veh/h	14	0	1605	40	3	61	1491	0	0	0	30	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
· ·	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	· -	None	
Storage Length	-	250	-	-	-	225	-	-	-	-	0	-	-	-	
Veh in Median Storage,	# -	-	0	-	-	-	0	-	-	0	-	-	16983	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	15	0	1745	43	3	66	1621	0	0	0	33	0	0	0	
Major/Minor Ma	ajor1				Major2				/linor1						
	1183	-	0	0	1305	1788	0	0	-	-	894				
Stage 1	-	-	-	-	-	-	-	-	-	-	-				
Stage 2	-	-	-	-	-	-	-	-	-	-	-				
	5.64	-	-	-	5.64	5.34	-	-	-	-	7.14				
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-				
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-				
	2.32	-	-	-	2.32	3.12	-	-	-	-	3.92				
Pot Cap-1 Maneuver	348	0	-	-	297	160	-	0	0	0	244				
Stage 1	-	0	-	-	-	-	-	0	0	0	-				
Stage 2	-	0	-	-	-	-	-	0	0	0	-				
Platoon blocked, %			-	-			-								
Mov Cap-1 Maneuver	348	-	-	-	163	163	-	-	-	0	244				
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	0	-				
Stage 1	-	-	-	-	-	-	-	-	-	0	-				
Stage 2	-	-	-	-	-	-	-	-	-	0	-				
Approach	EB				WB				NB						
HCM Control Delay, s	0.1				1.8				22						
HCM LOS	0.1				1.0				C						
									<u> </u>						
Minor Lane/Major Mvmt	N	IBLn1	EBU	EBT	EBR	WBL	WBT								
Capacity (veh/h)		244	348	-			_								
HCM Lane V/C Ratio		0.134		_		0.427	_								
HCM Control Delay (s)		22	15.8	_	_	42.6	_								
HCM Lane LOS		C	C	_	-	42.0 E	-								

Year 2025 Background Conditions Intersection Capacity Analysis HCM Worksheets

Intersection														
Int Delay, s/veh	0.4													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ð		<del>ተ</del> ተጉ			Ä	ተተተ				7			
Traffic Vol, veh/h	8	0	1477	19	1	21	1956	0	0	0	26	0	0	0
Future Vol, veh/h	8	0	1477	19	1	21	1956	0	0	0	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	250	-	-	-	225	-	-	-	-	0	-	-	-
Veh in Median Storage,		-	0	-	-	-	0	-	-	0	-	-	16983	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	1605	21	1	23	2126	0	0	0	28	0	0	0
	/lajor1				Major2				/linor1					
Conflicting Flow All	1552	-	0	0	1187	1626	0	0	-	-	813			
Stage 1	-	-	-	-	-	-	-	-	-	-	-			
Stage 2	-	-	-	-	-	-	-	-	-	-	-			
Critical Hdwy	5.64	-	-	-	5.64	5.34	-	-	-	-	7.14			
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-			
Follow-up Hdwy	2.32	-	-	-	2.32	3.12	-	-	-	-	3.92			
Pot Cap-1 Maneuver	216	0	-	-	346	193	-	0	0	0	276			
Stage 1	-	0	-	-	-	-	-	0	0	0	-			
Stage 2	-	0	-	-	-	-	-	0	0	0	-			
Platoon blocked, %	214		-	-	104	104	-			٥	276			
Mov Cap-1 Maneuver Mov Cap-2 Maneuver	216	-	-	-	196	196	-	-	-	0	270			
Stage 1	-	-	-	-	-	-	-	-	-	0	-			
Stage 2	-	-	-	-	-	-	-	_	-	0	-			
Staye 2	-	-	-	-	-	-	-	-	-	U	-			
Approach	EB				WB				NB					
HCM Control Delay, s	0.1				0.3				19.5					
HCM LOS	U. I				0.5				19.5 C					
TICIVI LOS									C					
Minor Lane/Major Mvm	t N	NBLn1	EBU	EBT	EBR	WBL	WBT							
	ı I													
Capacity (veh/h) HCM Lane V/C Ratio		276 0.102	216 0.04	-	-	196 0.122	-							
HCM Control Delay (s)		19.5	22.4	-	-	25.9	-							
HCM Lane LOS		19.5 C	22.4 C	-	-	25.9 D	-							
HCM 95th %tile Q(veh)		0.3	0.1	-	-	0.4	-							
HOW FOUT MINE Q(VEH)		0.5	U. I	-	-	0.4	-							

Int Delay, s/veh  1.7  Movement  EBU EBL EBT EBR WBU WBL WBT WBR NBL NBT NBR SBL SBT SBF  Lane Configurations  Toffic Vol. wb//b  1.7
Lane Configurations $\P$ $\uparrow \uparrow \uparrow$
Lane Configurations 1 1/15 1 1
Traffic Value b/b 1/ 0 1704 44 2 /0 1/57 0 0 0 00 0
Traffic Vol, veh/h 16 0 1784 44 3 68 1657 0 0 0 33 0 0
Future Vol, veh/h 16 0 1784 44 3 68 1657 0 0 0 33 0 0
Conflicting Peds, #/hr 0 0 0 0 0 0 0 0 0 0 0 0 0
Sign Control Free Free Free Free Free Free Free Stop Stop Stop Stop Stop Stop
RT Channelized None None None
Storage Length - 0 225 0
Veh in Median Storage, # 0 0 16983
Grade, % 0 0 0
Peak Hour Factor 92 92 92 92 92 92 92 92 92 92 92 92 92
Heavy Vehicles, % 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Mvmt Flow 17 0 1939 48 3 74 1801 0 0 0 36 0 0
Major/Minor Major1 Major2 Minor1
Conflicting Flow All 1315 - 0 0 1450 1987 0 0 994
Stage 1
Stage 2
Critical Hdwy 5.64 5.64 5.34 7.14
Critical Hdwy Stg 1
Critical Hdwy Stg 2
Follow-up Hdwy 2.32 2.32 3.12 3.92
Pot Cap-1 Maneuver 293 0 246 127 - 0 0 209
Stage 1 - 0 0 0 0 -
Stage 2 - 0 0 0 0 -
Platoon blocked, %
Mov Cap-1 Maneuver 293 129 129 0 209
Mov Cap-2 Maneuver 0 -
Stage 1 0 -
Stage 2 0 -
Approach EB WB NB
HCM Control Delay, s 0.2 2.8 25.8
HCM LOS D
Minor Long/Mojor Muset NDL n1 FDL FDT FDD M/DL M/DT
Minor Lane/Major Mvmt NBLn1 EBU EBT EBR WBL WBT
Capacity (veh/h) 209 293 129 -
HCM Lane V/C Ratio 0.172 0.059 0.598 -
HCM Control Delay (s) 25.8 18.1 67.6 -
HCM Lane LOS D C F -
HCM 95th %tile Q(veh) 0.6 0.2 3 -

Year 2025 Build-Out Conditions Intersection Capacity Analysis HCM Worksheets

Intersection															
Int Delay, s/veh	0.6														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	LDO		<b>441</b>	LDIK	VVDO	7	<b>^</b>	WDIX	NDL	IVDI	7	ODL	001	ODIC	
Traffic Vol, veh/h	8	0	1477	20	1	29	1956	0	0	0	52	0	0	0	
Future Vol, veh/h	8	0	1477	20	1	29	1956	0	0	0	52	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	1930	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	riee	-	-	None	riee	riee -	-	None	Siup -	Stop	None	Slup -	Siup -	None	
	-	200		None	-	225	-	None		-		-	-		
Storage Length	-	200	-	-	-	225	0	-	-	-	0	-	14002	-	
Veh in Median Storage,	# -	-	0	-	-	-	0	-	-	0	-		16983	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	9	0	1605	22	1	32	2126	0	0	0	57	0	0	0	
Major/Minor N	1ajor1			N	/lajor2			N	/linor1						
Conflicting Flow All	1552	2126	0	0	1188	1627	0	0	-	-	814				
Stage 1	-	-	-	-	-	-	-	-	-	-	-				
Stage 2	-	-	-	-	-	-	-	-	-	-	-				
Critical Hdwy	5.64	5.34	-	-	5.64	5.34	-	-	-	-	7.14				
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-				
Critical Hdwy Stg 2	_	_	-	-	-	-	-	-	-	_	-				
Follow-up Hdwy	2.32	3.12	-	-	2.32	3.12	-	_	-	_	3.92				
Pot Cap-1 Maneuver	216	108	-	_	345	193	-	0	0	0	276				
Stage 1	_	_	_	_	_	_		0	0	0	_				
Stage 2	_	_	_	_	-	_	_	0	0	0	_				
Platoon blocked, %			-	_			_	_	-	_					
Mov Cap-1 Maneuver	216	216	-	_	195	195	_	_	_	0	276				
Mov Cap-2 Maneuver			_	_	-	-	_		_	0	-				
Stage 1	-	-	-	-	-	-	-	-	-	0	-				
Stage 2	_	-	_	_		_	_	_	_	0					
otage 2															
Approach	EB				WB				NB						
HCM Control Delay, s	0.1				0.4				21.4						
HCM LOS	U. I				0.4				21.4 C						
TICIVI LOS									C						
		IDI 1		===		14/5:	14/5=								
Minor Lane/Major Mvmt	: N	VBLn1	EBL	EBT	EBR	WBL	WBT								
Capacity (veh/h)		276	216	-	-	195	-								
HCM Lane V/C Ratio		0.205	0.04	-	-	0.167	-								
HCM Control Delay (s)		21.4	22.4	-	-	27.1	-								
HCM Lane LOS		С	С	-	-	D	-								
HCM 95th %tile Q(veh)		0.8	0.1	-	-	0.6	-								

Intersection							
Int Delay, s/veh	1.8						
		WIDD	NDT	NDD	CDI	CDT	J
Movement Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	<b>\</b>	<b>1</b> 5	<b>↑</b>	<b>1</b> 4	2	<b>4</b>	
Traffic Vol, veh/h Future Vol, veh/h	54 54	15 15	613 613	16 16	3	682 682	
	0	0			3		
Conflicting Peds, #/hr			0	0		0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	0	-	340	-	-	
Veh in Median Storag		-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	59	16	666	17	3	741	
Major/Minor	Minor1	N	/lajor1	ı	Major2		
Conflicting Flow All	1413	666	0	0	683	0	
Stage 1	666	-	-	-	- 003	-	
Stage 2	747	_	_	_			
Critical Hdwy	6.42	6.22	_	_	4.12	-	
Critical Hdwy Stg 1	5.42	0.22	-	_	4.12	_	
	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	3.518	3.318	-	-	2.218	_	
Follow-up Hdwy		459	-	-			
Pot Cap-1 Maneuver	152		-	-	910	-	
Stage 1	511	-	-	-	-	-	
Stage 2	468	-	-	-	-	-	
Platoon blocked, %	454	450	-	-	010	-	
Mov Cap-1 Maneuver		459	-	-	910	-	
Mov Cap-2 Maneuver		-	-	-	-	-	
Stage 1	511	-	-	-	-	-	
Stage 2	465	-	-	-	-	-	
Approach	WB		NB		SB		
HCM Control Delay, s			0		0		
HCM LOS	E				Ū		
TIOW E00							
Minor Lane/Major Mvr	nt	NBT	NBRV	VBLn1V	VBLn2	SBL	
Capacity (veh/h)		-	-	151	459	910	
HCM Lane V/C Ratio		-	-	0.389		0.004	
HCM Control Delay (s	5)	-	-	43.2	13.1	9	
HCM Lane LOS		-	-	Ε	В	Α	
HCM 95th %tile Q(veh	٦)	-	-	1.7	0.1	0	

Intersection															
Int Delay, s/veh	3.1														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	Ð		<del>ተ</del> ተጉ			ă	ተተተ				7				
Traffic Vol, veh/h	16	0	1784	48	3	94	1657	0	0	0	48	0	0	0	
Future Vol, veh/h	16	0	1784	48	3	94	1657	0	0	0	48	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	200	-	-	-	225	-	-	-	-	0	-	-	-	
Veh in Median Storage	. # -	-	0	-	-	-	0	-	-	0	-	-	16983	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	0	0	0	2	2	2	2	2	2	2	2	
Mvmt Flow	17	0	1939	52	3	102	1801	0	0	0	52	0	0	0	
Major/Minor N	Major1			N	Major2			N	/linor1						
Conflicting Flow All	1315		0	0	1454	1991	0	0	AH IOI I		996				
	1313	-	U	U	1404	1771		U	-	-	770				
Stage 1	-		-	-	-		-	-			-				
Stage 2	5.64	-	-	-	5.6	5.3	-	-	-	-	7.14				
Critical Hdwy Stg 1	5.04	-	-	-	5.0	5.3	-	-	-		7.14				
Critical Hdwy Stg 1	-	-	-	-		-	-	-	-	-	-				
Critical Hdwy Stg 2 Follow-up Hdwy	2.32	-	-	-	2.3	3.1		-			3.92				
	2.32	0	-	-	250	130	-	0	0	0	209				
Pot Cap-1 Maneuver			-	-	250	130	-				209				
Stage 1	-	0	-	-	-	-	-	0	0	0	-				
Stage 2	-	0	-	-	-	-	-	U	0	U	-				
Platoon blocked, %	วดว		-	-	101	121	-			0	200				
Mov Cap 2 Manager	293	-	-	-	131	131	-	-	-	0	209				
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	0	-				
Stage 1	-	-	-	-	-	-	-	-	-	0	-				
Stage 2	-	-	-	-	-	-	-	-	-	0	-				
Approach	EB				WB				NB						
HCM Control Delay, s	0.2				5.4				27.9						
HCM LOS									D						
Minor Lane/Major Mvm	ıt N	NBLn1	EBU	EBT	EBR	WBL	WBT								
Capacity (veh/h)		209	293	-	-	131	-								
HCM Lane V/C Ratio		0.25	0.059	-	-	0.805	-								
HCM Control Delay (s)		27.9	18.1	-	-	97	-								
HCM Lane LOS		D	С	-	-	F	-								
HCM 95th %tile Q(veh)		1	0.2	-	-	4.9	-								

Intersection							
Int Delay, s/veh	1						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	VVDL	VVDIX	ND1	NDK 7	JDL	<u>ુગ્ગા</u>	
Traffic Vol, veh/h	30	8	694	51	9	653	
Future Vol, veh/h	30	8	694	51	9	653	
		0	094	0	0	000	
Conflicting Peds, #/hr							
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	0	-	340	-	-	
Veh in Median Storag		-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	33	9	754	55	10	710	
Major/Minor	Minor1	N	/lajor1		Major2		
						0	
Conflicting Flow All	1484	754	0	0	809	0	
Stage 1	754	-	-	-	-	-	
Stage 2	730	-	-	-	-	-	
Critical Hdwy	6.42	6.22	-	-	4.12	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy		3.318	-	-	2.218	-	
Pot Cap-1 Maneuver	137	409	-	-	817	-	
Stage 1	465	-	-	-	-	-	
Stage 2	477	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Mov Cap-1 Maneuver	134	409	-	-	817	-	
Mov Cap-2 Maneuver		-	_	-	-	-	
Stage 1	465	_	_	_	-	_	
Stage 2	467	_	_	_	_	_	
Olago 2	107						
Approach	WB		NB		SB		
HCM Control Delay, s	34.8		0		0.1		
HCM LOS	D						
Minor Long/Major Mu	no.+	NDT	MDDV	MDI = 1\	MDI 2	CDI	
Minor Lane/Major Mvr	III	NBT		VBLn1V		SBL	
Capacity (veh/h)		-		134	409	817	
HCM Lane V/C Ratio		-	-	0.243			
HCM Control Delay (s	.)	-	-	40.3	14	9.5	
HCM Lane LOS		-	-	Ε	В	Α	
HCM 95th %tile Q(veh	~ \	_	_	0.9	0.1	0	