

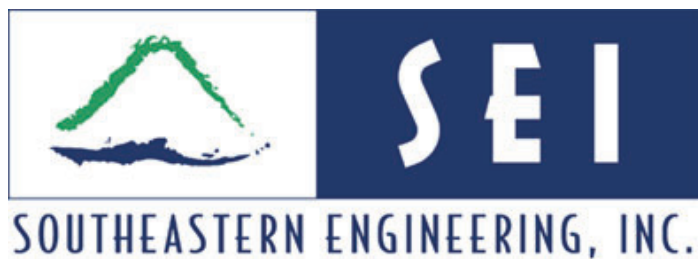
TRAFFIC IMPACT STUDY

FOR

ATLAS TOWNHOMES

HALL COUNTY, GA

Prepared By:



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September 9, 2024

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EXECUTIVE SUMMARY

Atlas Development Townhouse Project is a proposed residential development located along SR 211 in Hall County, GA. The site is approximately 20 acres and is located along the east side of SR 211, south of SR 53. The development will include 120 townhomes is expected to be constructed by 2027. The site will be accessed by one new driveway on SR 211. This study analyzed existing and future traffic operations and capacity analysis for the study intersections to determine if recommendations to the existing roadway network should be made to accommodate the new traffic and determine how the new driveway should be controlled.

This study analyzed the impacts the development's generated trips are expected to have on the surrounding roadway network and study intersections. The study intersections are listed below:

1. SR 53 at SR 211
2. SR 211 at Atlas Drive

The ITE Trip Generation Manual, was referenced to estimate the trips generated by the residential development. The expected trips were added to the future projected traffic volumes to analyze delay and level of service at the study intersections in build condition and compare with the existing conditions. The geometry and method of control for the access driveway intersection on the State Route was determined utilizing GDOT's auxiliary lane requirements and ICE tool.

The existing intersection is operating at an overall acceptable level of service in the existing year (2024) and no-build year (2027). The development traffic has a nominal effect on the existing intersection's delay and operation. The development driveway is expected to operate acceptably upon full build-out of the development. Based on the auxiliary lane analysis per GDOT guidelines, both a left-turn and a right-turn lane are recommended at the driveway intersection.

The following is the recommended configuration at the development driveway:

SR 211 at Atlas Drive

- Atlas Drive should be full-access, stop-sign controlled.
- Atlas Drive should be two lanes, one entry and one exit lane.
- Install a northbound right-turn storage lane on SR 211. Lane dimensions should meet GDOT minimum requirements.
- Install a southbound left-turn storage lane on SR 211. Lane dimensions should meet GDOT minimum requirements.

No other roadway improvements are recommended for this development.



INTRODUCTION

A traffic impact study was conducted by Southeastern Engineering, Inc. for the proposed townhome development along SR 211/Old Winder Hwy south of SR 53/Winder Hwy in Hall County, GA. The development proposes adding a total of 120 townhomes and is expected to be completed in 2027. The site will be accessed by a single new driveway on SR 211. An overall location map of the site area is shown in **Figure 1**.



Figure 1 Location Map

This study will identify the potential impacts of the proposed development's traffic on the surrounding roadway network. The study includes the existing and future peak hour traffic operations and capacity analysis for the study intersections. As necessary, operational improvements will be identified and analyzed to mitigate the traffic impacts caused by the development. Based on the results of the analysis for the study intersections, recommendations will be made for intersection geometry and control methods.



PROJECT DESCRIPTION

The townhouse development will have 120 townhomes, built on approximately 20 acres of land in Hall County, GA. The site will have one new driveway on SR 211 proposed as a full-access, stop-sign controlled approach. This study analyzes traffic impact upon the full built-out of the development, which is planned for 2027. The site plan is attached in **Appendix A**.

Study Network

The traffic study analyzes traffic operations for the intersections in the vicinity of the development. Capacity analysis and level of service evaluations of the study intersections were conducted for the existing, no-build and build scenarios. An aerial of the study area is shown in **Figure 2**. The study intersections are listed below:

1. SR 53/Winder Hwy at SR 211/Old Winder Hwy– Traffic Signal
2. SR 211/Old Winder Hwy at Atlas Drive (*New Intersection*) – Minor-Street Stop-Control



Figure 2 Aerial of Study Area



Roadway Conditions

The roadway network adjacent to the development was examined to review the roadway characteristics in the study area.

SR 211/Old Winder Highway

SR 211/Old Winder Highway is an undivided two-lane roadway that is classified as a minor arterial. It has a posted speed limit of 45 mph north of Daylily Drive and 55 mph south of Daylily Drive. There is curb and gutter present as well as some sidewalk near its intersection with SR 53.

SR 53/Winder Highway

SR 53/Winder Highway is a four-lane median-divided roadway west of Tanners Mill Road and an undivided two-lane roadway east of Tanners Mill Road. It is classified as a minor arterial southeast of Old Winder Hwy and a principal arterial northeast of Old Winder Hwy. It has a posted speed limit of 45 mph. There is curb and gutter present along the roadway, as well as sidewalk in the study area.

EXISTING TRAFFIC CONDITIONS

Existing traffic volumes at the study intersections were collected on Tuesday, January 30th, 2024. Peak hour turning movement counts were collected at the existing study intersections, and daily traffic volumes were collected on primary roadways near the development. Existing daily traffic volumes collected in the study area are summarized in **Table 1**, and detailed traffic counts are attached in **Appendix B**. The existing AM and PM peak hour traffic volumes for the study area are shown in **Figure 3**.

| Location | Volume | | Total |
|---|------------|------------|--------|
| | Northbound | Southbound | |
| SR 211 / Old Winder Hwy south of Daylily Dr | 6,211 | 5,986 | 12,197 |



Level of Service Methodology

Intersection capacity analyses were performed using the methodology outlined in the Highway Capacity Manual, 6th Edition (HCM). This methodology is the industry standard for the evaluation of intersection capacity and delay. To facilitate the analysis, computer software Synchro was used. This software conforms to the methodology of the HCM.

An analysis of peak hour traffic conditions was performed to determine the level of service (LOS) at the study intersections. LOS for an intersection is based on vehicular delay at the intersection and is a typical measure of effectiveness used to evaluate intersection operations. The HCM provides ranges of delay for each LOS definition, spanning from very minimal delays (LOS A) to high delays (LOS F). LOS F is considered unacceptable for most drivers.

For unsignalized intersections, where a stop sign controls side streets or minor streets, the criterion for evaluating traffic operations is the LOS for the controlled turning movements at the intersection. Methodology from the HCM to determine the delay and LOS for these turning movements is based on the following input data including intersection geometry, lane configuration, and turning movement volumes.

For the signalized intersections, LOS is based on the following input data: intersection geometry, lane configuration, turning movement volumes, traffic signal timing.

Table 2 below indicates the relationship between delay and LOS for unsignalized and signalized intersections, respectively.

| Level of Service | Control Delay Per Vehicle (sec) | |
|------------------|---------------------------------|-------------------------|
| | Unsignalized Intersection | Signalized Intersection |
| A | ≤10 | ≤10 |
| B | >10 and ≤15 | >10 and ≤20 |
| C | >15 and ≤25 | >20 and ≤35 |
| D | >25 and ≤35 | >35 and ≤55 |
| E | >35 and ≤50 | >55 and ≤80 |
| F | >50 | >80 |

Existing Conditions Level of Service

The level of service for the existing condition was determined using Synchro 11. The existing intersection geometry, lane configuration, signal timings, and turning volumes were utilized for the analysis of the intersection. The results of the intersection capacity analysis are summarized in **Table 3**, and detailed Synchro reports are attached in **Appendix D**. The levels of service for all approaches at the existing intersection are acceptable in the existing conditions.

| Intersection | Control Type | Approach | Delay (LOS) | |
|-----------------|-------------------------|----------------|--------------|--------------|
| | | | AM | PM |
| SR 53 at SR 211 | Signalized Intersection | EB | 7 (A) | 7 (A) |
| | | WB | 8 (A) | 7 (A) |
| | | NB | 17 (B) | 18 (B) |
| | | Overall | 9 (A) | 9 (A) |



FUTURE CONDITIONS – WITHOUT THE PROPOSED DEVELOPMENT (NO-BUILD)

The impact of the proposed development on the roadway network was analyzed and evaluated in the future year (2027) without the proposed development (No-Build) to compare the future conditions with the proposed fully constructed development (Build).

Growth Rate

Growth rate for the study area was calculated using annual volume statistics from GDOT’s Traffic Analysis & Data Application (TADA). The growth rate calculated using the GDOT’s historical traffic data is summarized in **Table 4**. Historical counts and calculations from all sources are attached in **Appendix C**.

| Station ID | Location | 5-Year Growth Rate | 10-Year Growth Rate |
|---------------------------------------|---------------------------------|--------------------|---------------------|
| 139-0441 | Spout Springs Rd n/o Iris Dr | 3.4% | 5.3% |
| 135-0476 | Thompson Mill Rd w/o Puckett Rd | 2.3% | 1.0% |
| 139-8206 | Union Circle e/o Spout Springs | 9.7% | 4.1% |
| 139-7382 | Ridge Rd s/o SR 347 | 8.3% | 6.3% |
| 139-0437 | Spout Springs Rd n/o SR 347 | 2.6% | 3.2% |
| 5 - Year and 10 - Year Average | | 5.2% | 4.0% |
| Average Growth Rate | | 4.6% | |

Hall County census data obtained from the U.S. Census Bureau and the Georgia Governor’s Office of Planning and Budget was used to calculate a growth rate for the study area. County census data and estimated growth rate is shown in **Table 5**.

| Geographic Area | Average 5-Year Growth Rate from 2020 to 2050 | | | | | | |
|-----------------|---|-----------|-----------|-----------|-----------|-----------|-------------|
| | 2020-2025 | 2025-2030 | 2030-2035 | 2035-2040 | 2040-2045 | 2045-2050 | Average |
| Hall County | 1.6% | 1.4% | 1.3% | 1.1% | 1.0% | 1.0% | 1.2% |
| Geographic Area | Average 10-Year Growth Rate from 2020 to 2050 | | | | | | |
| | 2020-2030 | | 2030-2040 | | 2040-2050 | | Average |
| Hall County | 1.3% | | 1.3% | | 1.1% | | 1.3% |

Census data from the U.S. Census Bureau was used to calculate a growth rate for Hall County. Growth rate estimated using the U.S. Census Bureau data is shown in **Table 6**.

| Geographic Area | 2010 Census | 2020 Census | 2010 to 2020 Growth Rate |
|-----------------|-------------|-------------|--------------------------|
| Hall County | 179,684 | 203,136 | 1.23% |

The overall project growth rate for this project was determined reviewing the different sources, and an average growth rate of 2.1% was utilized for the study to project future year traffic volumes.



Future No-Build Traffic Volumes

The projected future 2027 background traffic volumes were calculated by applying the annual exponential growth rate over three years to the existing 2024 background traffic volumes. Future 2027 background traffic volume is shown in **Figure 3**.

Future No-Build Conditions Level of Service

The methodology discussed previously was used to determine the level of service for the study intersections using the future 2027 background traffic volumes to determine operations at the study intersections. The intersection capacity analysis results for future no-build year (2027) are summarized in **Table 7** and detailed Synchro reports are attached in **Appendix D**. The existing intersection and all its approaches are expected to continue to operate similarly and at acceptable levels of service as they do in the existing year (2024) conditions.

| Intersection | Control Type | Approach | Delay (LOS) | |
|-----------------|-------------------------|----------------|---------------|---------------|
| | | | AM | PM |
| SR 53 at SR 211 | Signalized Intersection | EB | 7 (A) | 8 (A) |
| | | WB | 8 (A) | 8 (A) |
| | | NB | 19 (B) | 21 (C) |
| | | Overall | 10 (B) | 11 (B) |

PROPOSED DEVELOPMENT

The townhouse development will have 120 townhomes located along SR 211 in Hall County, GA. One new driveway on SR 211 is proposed as a full access, stop-controlled approach. This study analyzes traffic impact upon the full built-out of the development, which is planned for 2027.

Trip Generation

The number of trips expected to be generated from the development were estimated based on the method defined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. The trip generation for the proposed development is summarized in **Table 8**. The trip generation report is attached in **Appendix E**.

| Land Use (ITE Code) | Unit of Measure | Daily Traffic | | | AM Peak Hour | | | PM Peak Hour | | |
|--|--------------------|---------------|------|-------|--------------|------|-------|--------------|------|-------|
| | | Enter | Exit | Total | Enter | Exit | Total | Enter | Exit | Total |
| Multi-Family Housing (Low-Rise) (220) | 120 Units | 422 | 423 | 845 | 14 | 46 | 60 | 45 | 27 | 72 |

Trip Distribution and Assignment

The trips expected to be generated from the proposed development were distributed on the roadway network in the study area. The proposed distribution is based on historical counts and observed traffic patterns in the study area. **Figure 3** shows the development-generated trips in the network.

Auxiliary Lane Analysis

The need for auxiliary lanes on SR 211 was evaluated at the driveway intersection based on the guidelines from GDOT's *Regulations for Driveway and Encroachment Control*. Auxiliary lanes are used on approaches to intersections when the projected daily turning traffic volumes exceed minimum levels. Based on the GDOT manual a left-turn lane is recommended at an intersection if the threshold values as shown in **Table 9** are met.



Table 9: Left-Turn Lane Requirements

| Posted Speed | 2 Lane Routes | | More than 2 Lanes on Main Road | |
|----------------|---------------|---------------|--------------------------------|---------------|
| | ADT < 6,000 | ADT ≥ 6,000 | ADT < 10,000 | ADT ≥ 10,000 |
| 35 MPH or Less | 300 LTV a day | 200 LTV a day | 400 LTV a day | 300 LTV a day |
| 40 to 50 MPH | 250 LTV a day | 175 LTV a day | 325 LTV a day | 250 LTV a day |
| ≥ 55 MPH | 200 LTV a day | 150 LTV a day | 250 LTV a day | 200 LTV a day |

Based on the GDOT manual a right-turn lane is recommended at an intersection if the threshold values as shown in **Table 10** are met.

Table 10: Right-Turn Lane Requirements

| Posted Speed | 2 Lane Routes | | More than 2 Lanes on Main Road | |
|----------------|---------------|---------------|--------------------------------|---------------|
| | ADT < 6,000 | ADT ≥ 6,000 | ADT < 10,000 | ADT ≥ 10,000 |
| 35 MPH or Less | 200 RTV a day | 100 RTV a day | 200 RTV a day | 100 RTV a day |
| 40 to 50 MPH | 150 RTV a day | 75 RTV a day | 150 RTV a day | 75 RTV a day |
| 55 to 60 MPH | 100 RTV a day | 50 RTV a day | 100 RTV a day | 50 RTV a day |
| ≥65 MPH | Always | Always | Always | Always |

SR 211 is a two-lane route, with an existing average daily traffic volume of approximately 12,195 vehicles per day (vpd) and has a posted speed limit of 55 miles per hour. Based on these characteristics, the threshold for a left-turn lane is 150 LTV per day, and a right-turn lane is set at 50 RTV per day. Based on the expected trip distribution, approximately 190 vpd will make a left-turn and approximately 230 vpd will make a right-turn onto Atlas Drive (new driveway). Therefore, both a right-turn and left-turn lane are recommended on SR 211 at the new driveway intersection, and will be included in the analysis.

FUTURE CONDITIONS - WITH THE PROPOSED DEVELOPMENT (BUILD)

To assess the impact of the proposed development, the site-generated trips were added to the future no-build background traffic, and the combined volumes were analyzed.

Build Traffic Volumes

The trips expected to be generated from the development were distributed on the roadway network in the study area. The proposed distribution is based on historical counts and traffic patterns in the area from the collected data. The total site generated trip distribution for peak hours is shown in **Figure 3**.

Delay Analysis for Build Condition

The level of service criteria discussed in the prior sections was applied to the study intersections to determine the impacts of 2027 background traffic volumes plus total site-generated volumes. All intersections were analyzed with existing controls and geometric configurations. The driveway was modeled with the auxiliary lanes on SR 211.

The results of the intersection capacity analysis for the future year with the development are summarized in **Table 11** and detailed Synchro reports are attached in **Appendix D**. The proposed development is expected to have a nominal impact on the existing signalized intersection of SR 53 at SR 211. The site driveway is expected to operate acceptably upon full build-out of the development.



| Intersection | Control Type | Approach | Delay (LOS) | |
|-----------------------|---------------------------|----------------|---------------|---------------|
| | | | AM | PM |
| SR 53 at SR 211 | Signalized Intersection | EB | 8 (A) | 8 (A) |
| | | WB | 8 (A) | 8 (A) |
| | | NB | 20 (B) | 21 (C) |
| | | Overall | 11 (B) | 11 (B) |
| SR 211 at Atlas Drive | Minor-Street Stop-Control | WB | 21 (C) | 21 (C) |

Intersection Control Evaluation (ICE)

GDOT policy 4A-5 states an intersection control evaluation (ICE) is required for a proposed driveway intersection on State Routes. Accordingly, ICE was performed on the new driveway intersection. The ICE process compares and scores the feasible intersection controls based on project cost, safety analysis, traffic operations, environmental impacts, and stakeholder posture. The higher the ICE score, the preferable the intersection control per the GDOT ICE tool.

An ICE waiver was provided for the new driveway on SR 211 because only one feasible alternative, the minor-street stop control with both right-turn and left-turn storage lanes on SR 211, was identified in Stage 1. The ICE tool and associated operational analysis reports are attached in **Appendix F**.

Level of Service Comparison

The results of the intersection capacity analysis for the no-build (2027) and build with the development are summarized in **Table 12** below for the study intersections. The site driveway is expected to operate acceptably upon full build out of the development. The impact of the development traffic on the existing intersection of SR 53 at SR 211 is nominal.

| Intersection | Control Type | Approach | No-Build Conditions | | Build Conditions | |
|-----------------------|---------------------------|----------------|---------------------|---------------|------------------|---------------|
| | | | Delay (LOS) | | Delay (LOS) | |
| | | | AM | PM | AM | PM |
| SR 53 at SR 211 | Signalized | EB | 7 (A) | 8 (A) | 8 (A) | 8 (A) |
| | | WB | 8 (A) | 8 (A) | 8 (A) | 8 (A) |
| | | NB | 19 (B) | 21 (C) | 20 (B) | 21 (C) |
| | | Overall | 10 (B) | 11 (B) | 11 (B) | 11 (B) |
| SR 211 at Atlas Drive | Minor-Street Stop-Control | WB | | | 21 (C) | 21 (C) |



CONCLUSION

Atlas Development Townhouse Project is a proposed residential development located along SR 211 in Hall County, GA. The site is approximately 20 acres and is located along the east side of SR 211, south of SR 53. The development will include 120 townhomes is expected to be constructed by 2027. The site will be accessed by a single driveway on SR 211. This study analyzed existing and future traffic operations and capacity analysis for the study intersections to determine if recommendations to the existing roadway network should be made to accommodate the new traffic and determine how the new driveway should be controlled.

Based on the analysis, the development driveway and the existing adjacent intersection are expected to operate acceptably in the future no-build and build scenarios. The proposed development will have a nominal impact on the existing intersection.

Based on the auxiliary lane analysis, both a left-turn lane and a right-turn lane are recommended on SR 211 at the driveway intersection.

The following is the recommended configuration at the development driveway:

SR 211 at Atlas Drive

- Atlas Drive should be full-access, stop-sign controlled.
- Atlas Drive should be two lanes, one entry and one exit lane.
- Install a northbound right-turn storage lane on SR 211. Lane dimensions should meet GDOT minimum requirements.
- Install a southbound left-turn storage lane on SR 211. Lane dimensions should meet GDOT minimum requirements.

No other roadway improvements are recommended for this development.



APPENDICES

- **Appendix A**
 - Site Plan
- **Appendix B**
 - Traffic Counts Summary Sheets
- **Appendix C**
 - Growth Rate Summary
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- **Appendix F**
 - ICE Tool Report



Appendix A

Site Plan

Appendix B
Traffic Counts Summary Sheets

Turning Movement Counts
SR 53 / Winder Hwy at SR 211 / Old Winder Hwy

Peak Hour Turning Movement Count

Hall County, GA



www.marrtraffic.com



[Click here for Map](#)

| Tuesday, January 30, 2024 | |
|---------------------------|-------------|
| Period | 0600 - 0800 |
| Peak Hour | 0700 - 0800 |

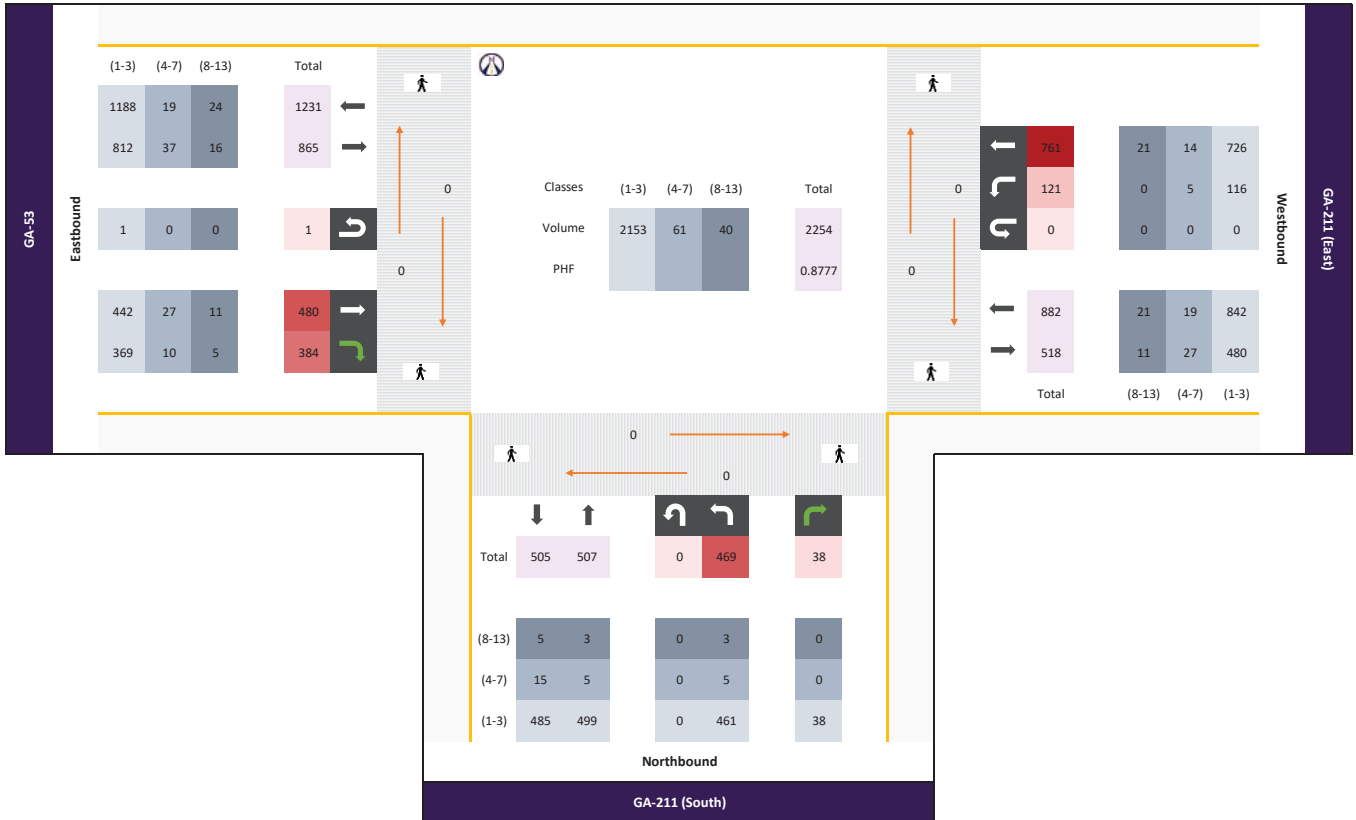
* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Peak Hour Turning Movement Count

Hall County, GA



www.marrtraffic.com



[Click here for Map](#)

| Tuesday, January 30, 2024 | |
|---------------------------|-------------|
| Period | 1600 - 1800 |
| Peak Hour | 1700 - 1800 |

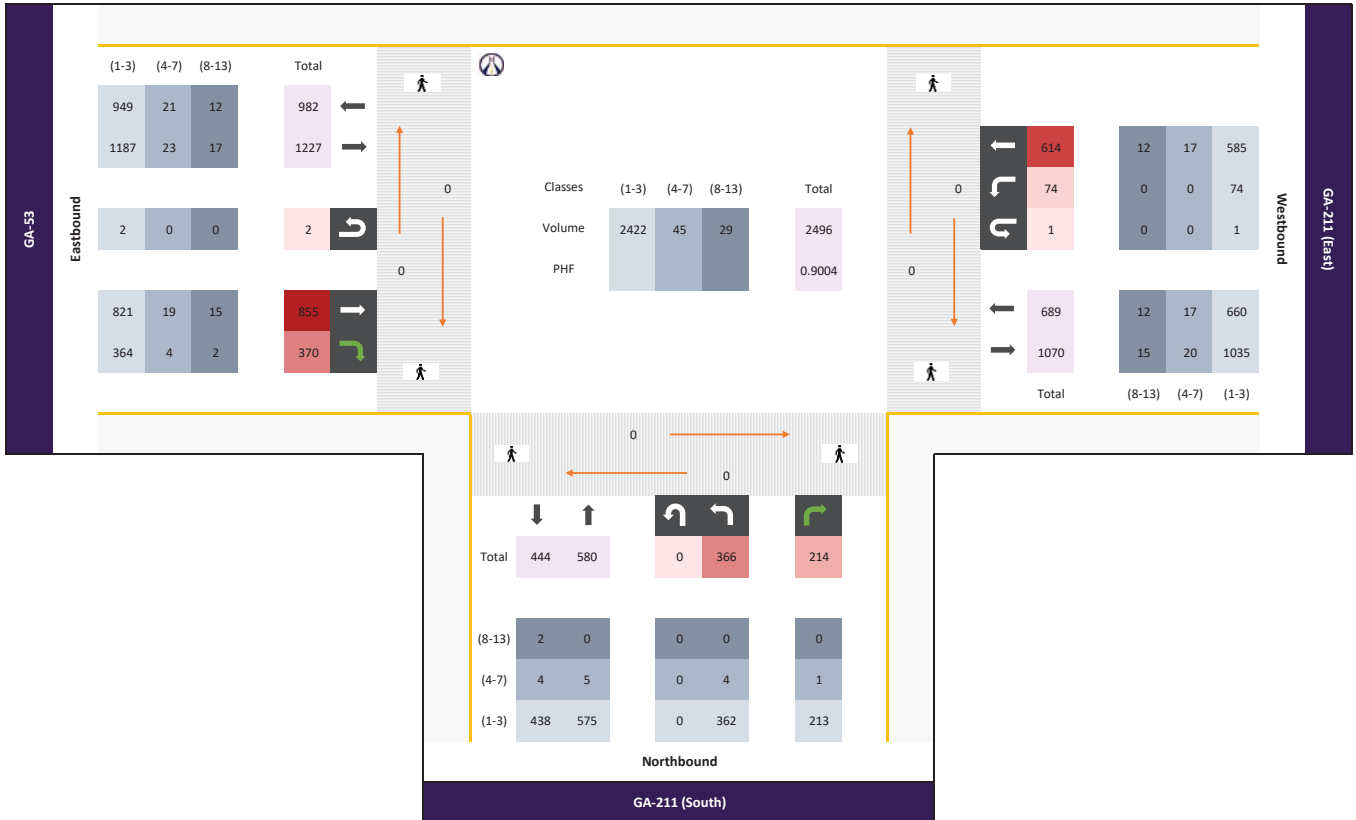
* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



**24-Hour Classification Count
SR 211 south of Daylily Dr.**

Bi-Directional Class Count || NB EB 15min



Hall County, GA

Site 1
GA-211 (East),
south of Daylily Dr

Date
Tuesday, January 30, 2024

Weather
Fair
47°F

Lat/Long
34.161821°, -83.835738°

[Click here for Detailed Weather](#)

[Click here for Map](#)

0000 - 2400 (Weekday 24h Session) (01-30-2024)
NB EB 15min

| Time | Northbound (Movement 1.1) | | | | | | | | | | | | | 15min Total | 60min Total |
|-----------|---------------------------|-----|----|---|---|---|---|----|---|----|----|----|----|-------------|-------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | |
| 0000-0015 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| 0015-0030 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| 0030-0045 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| 0045-0100 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 24 |
| 0100-0115 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| 0115-0130 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| 0130-0145 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | |
| 0145-0200 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 15 |
| 0200-0215 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| 0215-0230 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| 0230-0245 | 0 | 3 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| 0245-0300 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 7 | 23 |
| 0300-0315 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| 0315-0330 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 0330-0345 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| 0345-0400 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 19 |
| 0400-0415 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| 0415-0430 | 0 | 7 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | |
| 0430-0445 | 0 | 7 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | |
| 0445-0500 | 0 | 8 | 4 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 16 | 51 |
| 0500-0515 | 0 | 9 | 4 | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 18 | |
| 0515-0530 | 0 | 8 | 6 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 17 | |
| 0530-0545 | 0 | 21 | 14 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 36 | |
| 0545-0600 | 0 | 18 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 100 |
| 0600-0615 | 0 | 45 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | |
| 0615-0630 | 0 | 60 | 14 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78 | |
| 0630-0645 | 0 | 70 | 17 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | |
| 0645-0700 | 0 | 80 | 19 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 101 | 326 |
| 0700-0715 | 0 | 88 | 20 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 109 | |
| 0715-0730 | 0 | 113 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 139 | |
| 0730-0745 | 0 | 112 | 34 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 148 | |
| 0745-0800 | 0 | 86 | 26 | 1 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 117 | 513 |
| 0800-0815 | 0 | 63 | 36 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 0815-0830 | 0 | 68 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 84 | |
| 0830-0845 | 0 | 81 | 34 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 117 | |
| 0845-0900 | 0 | 74 | 25 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 102 | 403 |
| 0900-0915 | 0 | 78 | 22 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 105 | |
| 0915-0930 | 0 | 68 | 29 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 0930-0945 | 0 | 67 | 18 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 89 | |
| 0945-1000 | 0 | 50 | 27 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 84 | 378 |
| 1000-1015 | 0 | 55 | 20 | 0 | 3 | 2 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 84 | |
| 1015-1030 | 0 | 69 | 20 | 0 | 5 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 99 | |
| 1030-1045 | 0 | 63 | 22 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 90 | |
| 1045-1100 | 0 | 66 | 23 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 93 | 366 |
| 1100-1115 | 0 | 53 | 18 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 76 | |
| 1115-1130 | 0 | 55 | 19 | 0 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 81 | |
| 1130-1145 | 0 | 68 | 23 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 | |
| 1145-1200 | 0 | 46 | 16 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64 | 315 |
| 1200-1215 | 0 | 61 | 29 | 0 | 1 | 2 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 98 | |
| 1215-1230 | 0 | 64 | 21 | 0 | 3 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 91 | |
| 1230-1245 | 0 | 69 | 18 | 0 | 3 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 95 | |
| 1245-1300 | 0 | 60 | 19 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 63 | 347 |
| 1300-1315 | 0 | 58 | 21 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 86 | |
| 1315-1330 | 0 | 59 | 18 | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 82 | |
| 1330-1345 | 0 | 74 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | |
| 1345-1400 | 0 | 60 | 25 | 0 | 1 | 1 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 93 | 346 |
| 1400-1415 | 0 | 67 | 21 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 90 | |
| 1415-1430 | 0 | 65 | 18 | 1 | 4 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 90 | |
| 1430-1445 | 0 | 57 | 34 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 96 | |
| 1445-1500 | 0 | 74 | 26 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 102 | 378 |
| 1500-1515 | 0 | 82 | 15 | 1 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 104 | |
| 1515-1530 | 0 | 95 | 17 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | |
| 1530-1545 | 0 | 86 | 18 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 109 | |
| 1545-1600 | 0 | 93 | 32 | 0 | 4 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 133 | 462 |
| 1600-1615 | 0 | 85 | 29 | 2 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 120 | |
| 1615-1630 | 1 | 92 | 25 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 122 | |
| 1630-1645 | 0 | 80 | 31 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 112 | |
| 1645-1700 | 0 | 94 | 28 | 0 | 0 | 2 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 124 | 478 |
| 1700-1715 | 1 | 124 | 19 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145 | |
| 1715-1730 | 0 | 147 | 32 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 181 | |
| 1730-1745 | 1 | 107 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 137 | |
| 1745-1800 | 1 | 108 | 16 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127 | 590 |
| 1800-1815 | 0 | 85 | 21 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | |
| 1815-1830 | 0 | 88 | 22 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 112 | |
| 1830-1845 | 0 | 87 | 12 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 1845-1900 | 0 | 63 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 399 |
| 1900-1915 | 0 | 58 | 11 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | |
| 1915-1930 | 0 | 67 | 17 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 87 | |
| 1930-1945 | 0 | 49 | 13 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64 | |
| 1945-2000 | 0 | 36 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 266 |
| 2000-2015 | 0 | 27 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | |
| 2015-2030 | 0 | 31 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | |
| 2030-2045 | 0 | 50 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | |
| 2045-2100 | 0 | 24 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 172 |
| 2100-2115 | 0 | 28 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | |
| 2115-2130 | 0 | 24 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | |
| 2130-2145 | 0 | 16 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | |
| 2145-2200 | 0 | 30 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 37 | 122 |
| 2200-2215 | 0 | 19 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 23 | |
| 2215-2230 | 0 | 18 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | |
| 2230-2245 | 0 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | |
| 2245-2300 | 0 | 11 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 75 |
| 2300-2315 | 0 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | |
| 2315-2330 | 0 | 10 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | |
| 2330-2345 | 0 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |
| 2345-0000 | 0 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 43 |

| Session Total | 4 | 4611 | 1365 | 14 | 113 | 35 | 0 | 17 | 50 | 2 | 0 | 0 | 0 | 6211 |
|--------------------|------|-----------|-----------|-----------|-----------|-----------|------|-----------|-----------|-----------|------|------|------|-----------|
| Session Average | 0.04 | 48.03 | 14.22 | 0.15 | 1.18 | 0.36 | 0.00 | 0.18 | 0.52 | 0.02 | 0.00 | 0.00 | 0.00 | 64.70 |
| Session Percentage | 0.06 | 74.24 | 21.98 | 0.23 | 1.82 | 0.56 | 0.00 | 0.27 | 0.81 | 0.03 | 0.00 | 0.00 | 0.00 | |
| AM Peak Hour | - | 0700-0800 | 0715-0815 | 0500-0600 | 0930-1030 | 0945-1045 | - | 0945-1045 | 0815-0915 | - | - | - | - | 0700-0800 |
| AM Peak Volume | 0 | 399 | 122 | 1 | 16 | 8 | 0 | 3 | 6 | 0 | 0 | 0 | 0 | 513 |
| Noon Peak Hour | - | 1445-1545 | 1400-1500 | 1415-1515 | 1015-1115 | 1230-1330 | - | 1345-1445 | 1200-1300 | 1315-1415 | - | - | - | 1445-1545 |
| Noon Peak Volume | 0 | 337 | 99 | 6 | | | | | | | | | | |

Bi-Directional Class Count || SB WB 15min



Hall County, GA

Site 1
GA-211 (East),
south of Daylily Dr

Date
Tuesday, January 30, 2024

Weather
Fair
47°F

Lat/Long
34.161821°, -83.835738°

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[Click here for Map](#)

0000 - 2400 (Weekday 24h Session) (01-30-2024)
SB WB 15min

| Time | Southbound (Movement 1.2) | | | | | | | | | | | | | 15min Total | 60min Total |
|-----------|---------------------------|-----|----|---|---|---|---|---|---|----|----|----|----|-------------|-------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | |
| 0000-0015 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| 0015-0030 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| 0030-0045 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| 0045-0100 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 22 |
| 0100-0115 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| 0115-0130 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| 0130-0145 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| 0145-0200 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 23 |
| 0200-0215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 0215-0230 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | |
| 0230-0245 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| 0245-0300 | 0 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 20 |
| 0300-0315 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 0315-0330 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| 0330-0345 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 0345-0400 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 17 |
| 0400-0415 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 0415-0430 | 0 | 6 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |
| 0430-0445 | 0 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | |
| 0445-0500 | 0 | 14 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 19 | 44 |
| 0500-0515 | 0 | 12 | 6 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | |
| 0515-0530 | 0 | 26 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 35 | |
| 0530-0545 | 0 | 31 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | |
| 0545-0600 | 0 | 37 | 12 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 50 | 147 |
| 0600-0615 | 0 | 60 | 16 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 | |
| 0615-0630 | 0 | 80 | 18 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 99 | |
| 0630-0645 | 0 | 60 | 14 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 | |
| 0645-0700 | 0 | 55 | 12 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | 322 |
| 0700-0715 | 0 | 72 | 18 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 97 | |
| 0715-0730 | 0 | 68 | 23 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 96 | |
| 0730-0745 | 0 | 117 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | |
| 0745-0800 | 0 | 144 | 29 | 4 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 181 | 509 |
| 0800-0815 | 0 | 100 | 30 | 1 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 136 | |
| 0815-0830 | 0 | 91 | 22 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 117 | |
| 0830-0845 | 0 | 67 | 24 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 96 | |
| 0845-0900 | 0 | 84 | 18 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 105 | 454 |
| 0900-0915 | 0 | 61 | 25 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 90 | |
| 0915-0930 | 0 | 50 | 14 | 0 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 71 | |
| 0930-0945 | 0 | 66 | 17 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 86 | |
| 0945-1000 | 0 | 60 | 23 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88 | 335 |
| 1000-1015 | 0 | 58 | 19 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 81 | |
| 1015-1030 | 0 | 47 | 25 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74 | |
| 1030-1045 | 0 | 51 | 16 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 70 | |
| 1045-1100 | 0 | 53 | 11 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 66 | 291 |
| 1100-1115 | 0 | 72 | 11 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | |
| 1115-1130 | 0 | 60 | 10 | 0 | 5 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 79 | |
| 1130-1145 | 0 | 52 | 17 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73 | |
| 1145-1200 | 0 | 49 | 20 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74 | 315 |
| 1200-1215 | 0 | 47 | 28 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 78 | |
| 1215-1230 | 0 | 40 | 24 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 67 | |
| 1230-1245 | 0 | 73 | 22 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 98 | |
| 1245-1300 | 0 | 69 | 17 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 92 | 335 |
| 1300-1315 | 0 | 57 | 22 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 83 | |
| 1315-1330 | 0 | 54 | 17 | 2 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 79 | |
| 1330-1345 | 0 | 62 | 19 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 83 | |
| 1345-1400 | 0 | 55 | 20 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 78 | 323 |
| 1400-1415 | 0 | 63 | 14 | 0 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 83 | |
| 1415-1430 | 1 | 71 | 21 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 97 | |
| 1430-1445 | 0 | 74 | 14 | 2 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 97 | |
| 1445-1500 | 0 | 84 | 23 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 111 | 388 |
| 1500-1515 | 0 | 92 | 31 | 2 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 129 | |
| 1515-1530 | 0 | 99 | 30 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 133 | |
| 1530-1545 | 1 | 94 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 119 | |
| 1545-1600 | 0 | 99 | 16 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 118 | 499 |
| 1600-1615 | 0 | 70 | 25 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 97 | |
| 1615-1630 | 0 | 89 | 20 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110 | |
| 1630-1645 | 0 | 79 | 22 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 104 | |
| 1645-1700 | 0 | 104 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 124 | 435 |
| 1700-1715 | 0 | 63 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 82 | |
| 1715-1730 | 0 | 84 | 28 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 114 | |
| 1730-1745 | 0 | 83 | 25 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 111 | |
| 1745-1800 | 0 | 84 | 28 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 113 | 420 |
| 1800-1815 | 0 | 69 | 28 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 99 | |
| 1815-1830 | 0 | 81 | 21 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 105 | |
| 1830-1845 | 0 | 72 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83 | |
| 1845-1900 | 0 | 52 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 352 |
| 1900-1915 | 0 | 49 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | |
| 1915-1930 | 0 | 65 | 12 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 78 | |
| 1930-1945 | 0 | 51 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | |
| 1945-2000 | 0 | 49 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 59 | 257 |
| 2000-2015 | 0 | 55 | 15 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 72 | |
| 2015-2030 | 0 | 49 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | |
| 2030-2045 | 0 | 44 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | |
| 2045-2100 | 0 | 43 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 52 | 234 |
| 2100-2115 | 0 | 38 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | |
| 2115-2130 | 0 | 32 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | |
| 2130-2145 | 0 | 36 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | |
| 2145-2200 | 0 | 19 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 150 |
| 2200-2215 | 0 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | |
| 2215-2230 | 0 | 11 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 14 | |
| 2230-2245 | 0 | 9 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | |
| 2245-2300 | 0 | 16 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 58 |
| 2300-2315 | 0 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | |
| 2315-2330 | 0 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |
| 2330-2345 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | |
| 2345-0000 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 36 |

| Session Total | 2 | 4546 | 1232 | 19 | 108 | 25 | 0.26 | 0.00 | 0.09 | 0.46 | 0.01 | 0.00 | 0.00 | 0.00 | 5986 |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|------|-----------|-----------|------|------|------|------|-----------|------|
| Session Average | 0.02 | 47.35 | 12.83 | 0.20 | 1.13 | 0.26 | 0.00 | 0.09 | 0.46 | 0.01 | 0.00 | 0.00 | 0.00 | 62.35 | |
| Session Percentage | 0.03 | 75.94 | 20.58 | 0.32 | 1.80 | 0.42 | 0.00 | 0.15 | 0.74 | 0.02 | 0.00 | 0.00 | 0.00 | | |
| AM Peak Hour | - | 0730-0830 | 0745-0845 | 0715-0815 | 0630-0730 | 0900-1000 | - | - | 0715-0815 | - | - | - | - | 0730-0830 | |
| AM Peak Volume | 0 | 452 | 105 | 5 | 15 | 5 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 569 | |
| Noon Peak Hour | 1330-1430 | 1445-1545 | 1445-1545 | 1415-1515 | 1100-1200 | 1200-1300 | - | 1115-1215 | 1345-1445 | - | - | - | - | 1445-1545 | |
| Noon Peak Volume | 1 | 369 | 108 | | | | | | | | | | | | |



Bi-Directional Class Count || Bi-Directional 15min

Hall County, GA

Site 1
GA-211 (East),
south of Daylily Dr

Date
Tuesday, January 30, 2024

Weather
Fair
47°F

Lat/Long
34.161821°, -83.835738°

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0000 - 2400 (Weekday 24h Session) (01-30-2024)
Bi-Directional 15min

| Time | Bi-Directional 15min | | | | | | | | | | | | | 15min Total | 60min Total |
|-----------|----------------------|-----|----|---|----|---|---|---|---|----|----|----|----|-------------|-------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | |
| 0000-0015 | 0 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | |
| 0015-0030 | 0 | 9 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | |
| 0030-0045 | 0 | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | |
| 0045-0100 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 46 |
| 0100-0115 | 0 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | |
| 0115-0130 | 0 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | |
| 0130-0145 | 0 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 10 | |
| 0145-0200 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 38 |
| 0200-0215 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | |
| 0215-0230 | 0 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | |
| 0230-0245 | 0 | 6 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | |
| 0245-0300 | 0 | 10 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 16 | 43 |
| 0300-0315 | 0 | 6 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | |
| 0315-0330 | 0 | 6 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | |
| 0330-0345 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | |
| 0345-0400 | 0 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 36 |
| 0400-0415 | 0 | 5 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |
| 0415-0430 | 0 | 13 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | |
| 0430-0445 | 0 | 17 | 12 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 30 | |
| 0445-0500 | 0 | 22 | 8 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 35 | 95 |
| 0500-0515 | 0 | 21 | 10 | 1 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 38 | |
| 0515-0530 | 0 | 34 | 14 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 52 | |
| 0530-0545 | 0 | 52 | 25 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 78 | |
| 0545-0600 | 0 | 55 | 23 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 79 | 247 |
| 0600-0615 | 0 | 105 | 27 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 133 | |
| 0615-0630 | 0 | 140 | 32 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 177 | |
| 0630-0645 | 0 | 130 | 31 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 168 | |
| 0645-0700 | 0 | 135 | 31 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 | 648 |
| 0700-0715 | 0 | 160 | 38 | 0 | 7 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 206 | |
| 0715-0730 | 0 | 181 | 49 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 235 | |
| 0730-0745 | 0 | 229 | 52 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 283 | |
| 0745-0800 | 0 | 230 | 55 | 5 | 3 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 298 | 1022 |
| 0800-0815 | 0 | 163 | 66 | 1 | 1 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 236 | |
| 0815-0830 | 0 | 159 | 38 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 201 | |
| 0830-0845 | 0 | 148 | 58 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 213 | |
| 0845-0900 | 0 | 158 | 43 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 207 | 857 |
| 0900-0915 | 0 | 139 | 47 | 0 | 5 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 195 | |
| 0915-0930 | 0 | 118 | 43 | 0 | 6 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 171 | |
| 0930-0945 | 0 | 133 | 35 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 175 | |
| 0945-1000 | 0 | 110 | 50 | 0 | 8 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 172 | 713 |
| 1000-1015 | 0 | 113 | 39 | 0 | 7 | 2 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 165 | |
| 1015-1030 | 0 | 116 | 45 | 0 | 6 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 173 | |
| 1030-1045 | 0 | 114 | 38 | 0 | 5 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 160 | |
| 1045-1100 | 0 | 119 | 34 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 159 | 657 |
| 1100-1115 | 0 | 125 | 29 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 165 | |
| 1115-1130 | 0 | 115 | 29 | 0 | 9 | 2 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 160 | |
| 1130-1145 | 0 | 120 | 40 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 167 | |
| 1145-1200 | 0 | 95 | 36 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 138 | 630 |
| 1200-1215 | 0 | 108 | 57 | 0 | 3 | 2 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 176 | |
| 1215-1230 | 0 | 104 | 45 | 0 | 4 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 158 | |
| 1230-1245 | 0 | 142 | 40 | 0 | 5 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 193 | |
| 1245-1300 | 0 | 109 | 36 | 0 | 3 | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 155 | 682 |
| 1300-1315 | 0 | 115 | 43 | 1 | 7 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 169 | |
| 1315-1330 | 0 | 113 | 35 | 3 | 4 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 161 | |
| 1330-1345 | 0 | 136 | 29 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 168 | |
| 1345-1400 | 0 | 115 | 45 | 0 | 3 | 1 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 171 | 669 |
| 1400-1415 | 0 | 130 | 35 | 0 | 3 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 173 | |
| 1415-1430 | 1 | 136 | 39 | 2 | 5 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 187 | |
| 1430-1445 | 0 | 131 | 48 | 6 | 3 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 193 | |
| 1445-1500 | 0 | 158 | 49 | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 213 | 766 |
| 1500-1515 | 0 | 174 | 46 | 3 | 5 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 233 | |
| 1515-1530 | 0 | 194 | 47 | 0 | 3 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 249 | |
| 1530-1545 | 1 | 180 | 42 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 228 | |
| 1545-1600 | 0 | 192 | 48 | 2 | 4 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 251 | 961 |
| 1600-1615 | 0 | 155 | 54 | 3 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 217 | |
| 1615-1630 | 1 | 181 | 45 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 232 | |
| 1630-1645 | 0 | 159 | 53 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 216 | |
| 1645-1700 | 0 | 198 | 47 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 248 | 913 |
| 1700-1715 | 1 | 187 | 38 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 227 | |
| 1715-1730 | 0 | 231 | 60 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 295 | |
| 1730-1745 | 1 | 190 | 54 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 248 | |
| 1745-1800 | 1 | 192 | 44 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 240 | 1010 |
| 1800-1815 | 0 | 154 | 49 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 207 | |
| 1815-1830 | 0 | 169 | 43 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 217 | |
| 1830-1845 | 0 | 159 | 22 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 183 | |
| 1845-1900 | 0 | 115 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 751 |
| 1900-1915 | 0 | 107 | 21 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 130 | |
| 1915-1930 | 0 | 132 | 29 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 165 | |
| 1930-1945 | 0 | 100 | 22 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 124 | |
| 1945-2000 | 0 | 85 | 17 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 104 | 523 |
| 2000-2015 | 0 | 82 | 25 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 109 | |
| 2015-2030 | 0 | 80 | 16 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97 | |
| 2030-2045 | 0 | 94 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | |
| 2045-2100 | 0 | 67 | 14 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 82 | 406 |
| 2100-2115 | 0 | 66 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83 | |
| 2115-2130 | 0 | 56 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | |
| 2130-2145 | 0 | 52 | 9 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 62 | |
| 2145-2200 | 0 | 49 | 10 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 60 | 272 |
| 2200-2215 | 0 | 31 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 37 | |
| 2215-2230 | 0 | 29 | 4 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 35 | |
| 2230-2245 | 0 | 25 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | |
| 2245-2300 | 0 | 27 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 133 |
| 2300-2315 | 0 | 22 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | |
| 2315-2330 | 0 | 17 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | |
| 2330-2345 | 0 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | |
| 2345-0000 | 0 | 12 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 79 |

| Session Total | 6 | 9157 | 2597 | 33 | 221 | 60 | 0 | 26 | 94 | 3 | 0 | 0 | 0 | 0 | 12197 |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|------|-------------|-------------|------|------|------|------|------|-------------|
| Session Average | 0.06 | 95.39 | 27.05 | 0.34 | 2.30 | 0.63 | 0.00 | 0.27 | 0.98 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 127.05 |
| Session Percentage | 0.05 | 75.08 | 21.29 | 0.27 | 1.81 | 0.49 | 0.00 | 0.21 | 0.77 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| AM Peak Hour | - | 0715 - 0815 | 0715 - 0815 | 0715 - 0815 | 0915 - 1015 | 0930 - 1030 | - | 0945 - 1045 | 0830 - 0930 | - | - | - | - | - | 0715 - 0815 |
| AM Peak Volume | 0 | 803 | 222 | 6 | 26 | 11 | 0 | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 1052 |
| Noon Peak Hour | 1330 - 1430 | 1445 - 1545 | 1430 - 1530 | 1415 - | | | | | | | | | | | |



Bi-Directional Class Count || Volume Summary 15min

Hall County, GA

Site 1
GA-211 (East),
south of Daylily Dr

Date
Tuesday, January 30, 2024

Weather
Fair
47°F

Lat/Long
34.161821°, -83.835738°

[Click here for Detailed Weather](#)

0000 - 2400 (Weekday 24h Session) (01-30-2024)
Volume Summary 15min

| TIME | Volume Summary 15min | | 15min Total | 60min Total |
|-------------|----------------------|-----|-------------|-------------|
| | NB | SB | | |
| 0000 - 0015 | 6 | 7 | 13 | |
| 0015 - 0030 | 7 | 7 | 14 | |
| 0030 - 0045 | 7 | 5 | 12 | |
| 0045 - 0100 | 4 | 3 | 7 | 46 |
| 0100 - 0115 | 4 | 6 | 10 | |
| 0115 - 0130 | 5 | 6 | 11 | |
| 0130 - 0145 | 4 | 6 | 10 | |
| 0145 - 0200 | 2 | 5 | 7 | 38 |
| 0200 - 0215 | 2 | 1 | 3 | |
| 0215 - 0230 | 7 | 6 | 13 | |
| 0230 - 0245 | 7 | 4 | 11 | |
| 0245 - 0300 | 7 | 9 | 16 | 43 |
| 0300 - 0315 | 5 | 3 | 8 | |
| 0315 - 0330 | 3 | 5 | 8 | |
| 0330 - 0345 | 5 | 3 | 8 | |
| 0345 - 0400 | 6 | 6 | 12 | 36 |
| 0400 - 0415 | 6 | 3 | 9 | |
| 0415 - 0430 | 12 | 9 | 21 | |
| 0430 - 0445 | 17 | 13 | 30 | |
| 0445 - 0500 | 16 | 19 | 35 | 95 |
| 0500 - 0515 | 18 | 20 | 38 | |
| 0515 - 0530 | 17 | 35 | 52 | |
| 0530 - 0545 | 36 | 42 | 78 | |
| 0545 - 0600 | 29 | 50 | 79 | 247 |
| 0600 - 0615 | 56 | 77 | 133 | |
| 0615 - 0630 | 78 | 99 | 177 | |
| 0630 - 0645 | 91 | 77 | 168 | |
| 0645 - 0700 | 101 | 69 | 170 | 648 |
| 0700 - 0715 | 109 | 97 | 206 | |
| 0715 - 0730 | 139 | 96 | 235 | |
| 0730 - 0745 | 148 | 135 | 283 | |
| 0745 - 0800 | 117 | 181 | 298 | 1022 |
| 0800 - 0815 | 100 | 136 | 236 | |
| 0815 - 0830 | 84 | 117 | 201 | |
| 0830 - 0845 | 117 | 96 | 213 | |
| 0845 - 0900 | 102 | 105 | 207 | 857 |
| 0900 - 0915 | 105 | 90 | 195 | |
| 0915 - 0930 | 100 | 71 | 171 | |
| 0930 - 0945 | 89 | 86 | 175 | |
| 0945 - 1000 | 84 | 88 | 172 | 713 |
| 1000 - 1015 | 84 | 81 | 165 | |
| 1015 - 1030 | 99 | 74 | 173 | |
| 1030 - 1045 | 90 | 70 | 160 | |
| 1045 - 1100 | 93 | 66 | 159 | 657 |
| 1100 - 1115 | 76 | 89 | 165 | |
| 1115 - 1130 | 81 | 79 | 160 | |
| 1130 - 1145 | 94 | 73 | 167 | |
| 1145 - 1200 | 64 | 74 | 138 | 630 |

| Time | Volume Summary 15min | | 15min Total | 60min Total |
|-------------|----------------------|-----|-------------|-------------|
| | NB | SB | | |
| 1200 - 1215 | 98 | 78 | 176 | |
| 1215 - 1230 | 91 | 67 | 158 | |
| 1230 - 1245 | 95 | 98 | 193 | |
| 1245 - 1300 | 63 | 92 | 155 | 682 |
| 1300 - 1315 | 86 | 83 | 169 | |
| 1315 - 1330 | 82 | 79 | 161 | |
| 1330 - 1345 | 85 | 83 | 168 | |
| 1345 - 1400 | 93 | 78 | 171 | 669 |
| 1400 - 1415 | 90 | 83 | 173 | |
| 1415 - 1430 | 90 | 97 | 187 | |
| 1430 - 1445 | 96 | 97 | 193 | |
| 1445 - 1500 | 102 | 111 | 213 | 766 |
| 1500 - 1515 | 104 | 129 | 233 | |
| 1515 - 1530 | 116 | 133 | 249 | |
| 1530 - 1545 | 109 | 119 | 228 | |
| 1545 - 1600 | 133 | 118 | 251 | 961 |
| 1600 - 1615 | 120 | 97 | 217 | |
| 1615 - 1630 | 122 | 110 | 232 | |
| 1630 - 1645 | 112 | 104 | 216 | |
| 1645 - 1700 | 124 | 124 | 248 | 913 |
| 1700 - 1715 | 145 | 82 | 227 | |
| 1715 - 1730 | 181 | 114 | 295 | |
| 1730 - 1745 | 137 | 111 | 248 | |
| 1745 - 1800 | 127 | 113 | 240 | 1010 |
| 1800 - 1815 | 108 | 99 | 207 | |
| 1815 - 1830 | 112 | 105 | 217 | |
| 1830 - 1845 | 100 | 83 | 183 | |
| 1845 - 1900 | 79 | 65 | 144 | 751 |
| 1900 - 1915 | 70 | 60 | 130 | |
| 1915 - 1930 | 87 | 78 | 165 | |
| 1930 - 1945 | 64 | 60 | 124 | |
| 1945 - 2000 | 45 | 59 | 104 | 523 |
| 2000 - 2015 | 37 | 72 | 109 | |
| 2015 - 2030 | 40 | 57 | 97 | |
| 2030 - 2045 | 65 | 53 | 118 | |
| 2045 - 2100 | 30 | 52 | 82 | 406 |
| 2100 - 2115 | 36 | 47 | 83 | |
| 2115 - 2130 | 29 | 38 | 67 | |
| 2130 - 2145 | 20 | 42 | 62 | |
| 2145 - 2200 | 37 | 23 | 60 | 272 |
| 2200 - 2215 | 23 | 14 | 37 | |
| 2215 - 2230 | 21 | 14 | 35 | |
| 2230 - 2245 | 18 | 11 | 29 | |
| 2245 - 2300 | 13 | 19 | 32 | 133 |
| 2300 - 2315 | 13 | 12 | 25 | |
| 2315 - 2330 | 13 | 9 | 22 | |
| 2330 - 2345 | 9 | 8 | 17 | |
| 2345 - 0000 | 8 | 7 | 15 | 79 |

| | | | |
|--------------------|-------|-------|--------|
| Session Total | 6211 | 5986 | 12197 |
| Session Average | 64.70 | 62.35 | 127.05 |
| Session Percentage | 50.92 | 49.08 | |

Appendix C

Growth Rate Summary

| Growth Rate Based on U.S Census Bureau | | | |
|--|---------|---------|---------------------|
| Geographic Area | 2010 | 2020 | 2010-2020 |
| | Census | Census | Population % Change |
| Hall County | 179,684 | 203,136 | 1.23% |

| Location | Station ID | GDOT Historical Growth Rate | | | | | | | | | | 5 & 10 - Year Average | Weighted Average | | | | |
|----------------------------------|------------|-----------------------------|-------|------|------|------|-------|------|------|------|------|-----------------------|------------------|-------|--------|---------|------|
| | | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | | | 2009 | 5 year | 10 year | |
| Spout Springs Rd n/o Iris Dr | 139-0441 | | 18816 | | | | 16450 | | | | | | | 12434 | 5861 | 3.4% | 5.3% |
| Thompson Mill Rd w/o Puckett Rd | 135-0476 | | | 6367 | | | | | | | | | | | | 2.3% | 1.0% |
| Union Circle e/o Spout Springs | 139-8206 | 4488 | | | 3402 | | | | | 5822 | | 3390 | | | | 9.7% | 4.1% |
| Ridge Rd s/o SR 347 | 139-7382 | | 8327 | | | | | | | | | | | 5122 | | 8.3% | 6.3% |
| Spout Springs Rd n/o SR 347 | 139-0437 | 11200 | | | | | | | | | | | | | 8450 | 2.6% | 3.2% |
| 5 & 10 - Year Average | | | | | | | | | | | | | | | | | |
| Weighted Average | | | | | | | | | | | | | | | | | |
| 4.6% | | | | | | | | | | | | | | | | | |

| Geographic Area | Average 5-Year Growth Rate From 2020-2050 | | | | | | | | | | Average |
|-----------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| | 2020-2025 | 2025-2030 | 2030-2035 | 2035-2040 | 2040-2045 | 2045-2050 | 2040-2050 | 2040-2050 | 2040-2050 | 2040-2050 | |
| Hall County | 1.6% | 1.4% | 1.3% | 1.1% | 1.0% | 1.0% | | | | | 1.2% |
| | Average 10-Year Growth Rate From 2020-2050 | | | | | | | | | | |
| | 2020-2030 | 1.3% | 2030-2040 | 1.3% | 2040-2050 | 1.1% | | | | | |
| Average | | | | | | | | | | | |
| 1.2% | | | | | | | | | | | |

| | |
|---------------------|------|
| Average Growth Rate | 2.1% |
|---------------------|------|

Appendix D

Synchro Reports

Synchro Reports Existing Year (2024)

HCM 6th Signalized Intersection Summary

1: SR 211 & SR 53

AM Existing
02/06/2024



| Movement | EBU | EBT | EBR | WBL | WBT | NBL | NBR |
|------------------------------|-----|------|------|------|------|------|------|
| Lane Configurations | | ↔↔ | ↔ | ↔ | ↔↔ | ↔↔ | ↔ |
| Traffic Volume (veh/h) | 1 | 480 | 384 | 121 | 761 | 469 | 38 |
| Future Volume (veh/h) | 1 | 480 | 384 | 121 | 761 | 469 | 38 |
| Initial Q (Qb), veh | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | | 1781 | 1841 | 1841 | 1826 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | 545 | 436 | 138 | 865 | 533 | 43 |
| Peak Hour Factor | | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | | 8 | 4 | 4 | 5 | 2 | 2 |
| Cap, veh/h | | 1754 | 808 | 397 | 1798 | 760 | 349 |
| Arrive On Green | | 0.52 | 0.52 | 0.52 | 0.52 | 0.22 | 0.22 |
| Sat Flow, veh/h | | 3474 | 1560 | 564 | 3561 | 3456 | 1585 |
| Grp Volume(v), veh/h | | 545 | 436 | 138 | 865 | 533 | 43 |
| Grp Sat Flow(s),veh/h/ln | | 1692 | 1560 | 564 | 1735 | 1728 | 1585 |
| Q Serve(g_s), s | | 4.2 | 8.6 | 8.5 | 7.3 | 6.5 | 1.0 |
| Cycle Q Clear(g_c), s | | 4.2 | 8.6 | 12.8 | 7.3 | 6.5 | 1.0 |
| Prop In Lane | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | | 1754 | 808 | 397 | 1798 | 760 | 349 |
| V/C Ratio(X) | | 0.31 | 0.54 | 0.35 | 0.48 | 0.70 | 0.12 |
| Avail Cap(c_a), veh/h | | 5094 | 2347 | 954 | 5221 | 1432 | 657 |
| HCM Platoon Ratio | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | 6.3 | 7.4 | 10.0 | 7.1 | 16.5 | 14.3 |
| Incr Delay (d2), s/veh | | 0.1 | 0.6 | 0.5 | 0.2 | 1.2 | 0.2 |
| Initial Q Delay(d3),s/veh | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | 0.8 | 1.7 | 0.7 | 1.5 | 2.1 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | | 6.4 | 7.9 | 10.5 | 7.3 | 17.7 | 14.5 |
| LnGrp LOS | | A | A | B | A | B | B |
| Approach Vol, veh/h | | 981 | | | 1003 | 576 | |
| Approach Delay, s/veh | | 7.1 | | | 7.7 | 17.4 | |
| Approach LOS | | A | | | A | B | |
| Timer - Assigned Phs | | 2 | | | | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | 29.8 | | | | 29.8 | 16.1 |
| Change Period (Y+Rc), s | | 6.0 | | | | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | | | 69.0 | 19.0 |
| Max Q Clear Time (g_c+I1), s | | 10.6 | | | | 14.8 | 8.5 |
| Green Ext Time (p_c), s | | 5.6 | | | | 9.0 | 1.6 |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 9.7 |
| HCM 6th LOS | A |

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
1: SR 211 & SR 53

PM Existing
02/12/2024



| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBL | NBR |
|------------------------------|-----|------|------|-----|------|------|------|------|
| Lane Configurations | | ↔↔ | ↗ | | ↖ | ↗↗ | ↖↖ | ↗ |
| Traffic Volume (veh/h) | 2 | 855 | 370 | 1 | 74 | 614 | 366 | 214 |
| Future Volume (veh/h) | 2 | 855 | 370 | 1 | 74 | 614 | 366 | 214 |
| Initial Q (Qb), veh | | 0 | 0 | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | No | | |
| Adj Sat Flow, veh/h/ln | | 1841 | 1870 | | 1870 | 1826 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | 950 | 411 | | 82 | 682 | 407 | 238 |
| Peak Hour Factor | | 0.90 | 0.90 | | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | | 4 | 2 | | 2 | 5 | 2 | 2 |
| Cap, veh/h | | 1853 | 840 | | 295 | 1838 | 742 | 340 |
| Arrive On Green | | 0.53 | 0.53 | | 0.53 | 0.53 | 0.21 | 0.21 |
| Sat Flow, veh/h | | 3589 | 1585 | | 400 | 3561 | 3456 | 1585 |
| Grp Volume(v), veh/h | | 950 | 411 | | 82 | 682 | 407 | 238 |
| Grp Sat Flow(s),veh/h/ln | | 1749 | 1585 | | 400 | 1735 | 1728 | 1585 |
| Q Serve(g_s), s | | 8.2 | 7.7 | | 7.8 | 5.4 | 4.9 | 6.5 |
| Cycle Q Clear(g_c), s | | 8.2 | 7.7 | | 16.1 | 5.4 | 4.9 | 6.5 |
| Prop In Lane | | | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | | 1853 | 840 | | 295 | 1838 | 742 | 340 |
| V/C Ratio(X) | | 0.51 | 0.49 | | 0.28 | 0.37 | 0.55 | 0.70 |
| Avail Cap(c_a), veh/h | | 5288 | 2397 | | 688 | 5245 | 1251 | 574 |
| HCM Platoon Ratio | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | 7.1 | 7.0 | | 12.3 | 6.5 | 16.4 | 17.0 |
| Incr Delay (d2), s/veh | | 0.2 | 0.4 | | 0.5 | 0.1 | 0.6 | 2.6 |
| Initial Q Delay(d3),s/veh | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | 1.7 | 1.5 | | 0.5 | 1.1 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | |
| LnGrp Delay(d),s/veh | | 7.3 | 7.5 | | 12.8 | 6.6 | 17.0 | 19.6 |
| LnGrp LOS | | A | A | | B | A | B | B |
| Approach Vol, veh/h | | 1361 | | | | 764 | 645 | |
| Approach Delay, s/veh | | 7.4 | | | | 7.3 | 18.0 | |
| Approach LOS | | A | | | | A | B | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 |
| Phs Duration (G+Y+Rc), s | | 30.9 | | | | 30.9 | | 16.1 |
| Change Period (Y+Rc), s | | 6.0 | | | | 6.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 71.0 | | | | 71.0 | | 17.0 |
| Max Q Clear Time (g_c+I1), s | | 10.2 | | | | 18.1 | | 8.5 |
| Green Ext Time (p_c), s | | 10.0 | | | | 6.8 | | 1.6 |

| Intersection Summary | |
|----------------------|-----|
| HCM 6th Ctrl Delay | 9.8 |
| HCM 6th LOS | A |

Notes
User approved ignoring U-Turning movement.

Synchro Reports No-Build Year (2027)

HCM 6th Signalized Intersection Summary

1: SR 211 & SR 53

AM No-Build
02/06/2024



| Movement | EBU | EBT | EBR | WBL | WBT | NBL | NBR |
|--|-----|------|------|------|------|------|------|
| Lane Configurations | | ↔↔ | ↔ | ↔ | ↔↔ | ↔↔ | ↔ |
| Traffic Volume (veh/h) | 1 | 511 | 409 | 129 | 810 | 499 | 40 |
| Future Volume (veh/h) | 1 | 511 | 409 | 129 | 810 | 499 | 40 |
| Initial Q (Qb), veh | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | | 1781 | 1841 | 1841 | 1826 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | 581 | 465 | 147 | 920 | 567 | 45 |
| Peak Hour Factor | | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | | 8 | 4 | 4 | 5 | 2 | 2 |
| Cap, veh/h | | 1835 | 846 | 379 | 1881 | 770 | 353 |
| Arrive On Green | | 0.54 | 0.54 | 0.54 | 0.54 | 0.22 | 0.22 |
| Sat Flow, veh/h | | 3474 | 1560 | 531 | 3561 | 3456 | 1585 |
| Grp Volume(v), veh/h | | 581 | 465 | 147 | 920 | 567 | 45 |
| Grp Sat Flow(s),veh/h/ln | | 1692 | 1560 | 531 | 1735 | 1728 | 1585 |
| Q Serve(g_s), s | | 4.8 | 9.9 | 10.8 | 8.4 | 7.8 | 1.2 |
| Cycle Q Clear(g_c), s | | 4.8 | 9.9 | 15.6 | 8.4 | 7.8 | 1.2 |
| Prop In Lane | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | | 1835 | 846 | 379 | 1881 | 770 | 353 |
| V/C Ratio(X) | | 0.32 | 0.55 | 0.39 | 0.49 | 0.74 | 0.13 |
| Avail Cap(c_a), veh/h | | 4574 | 2108 | 808 | 4688 | 1286 | 590 |
| HCM Platoon Ratio | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | 6.5 | 7.6 | 10.8 | 7.3 | 18.5 | 15.9 |
| Incr Delay (d2), s/veh | | 0.1 | 0.6 | 0.7 | 0.2 | 1.4 | 0.2 |
| Initial Q Delay(d3),s/veh | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | 1.0 | 2.1 | 0.9 | 1.9 | 2.7 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | | 6.6 | 8.2 | 11.4 | 7.5 | 19.8 | 16.0 |
| LnGrp LOS | | A | A | B | A | B | B |
| Approach Vol, veh/h | | 1046 | | | 1067 | 612 | |
| Approach Delay, s/veh | | 7.3 | | | 8.0 | 19.6 | |
| Approach LOS | | A | | | A | B | |
| Timer - Assigned Phs | | 2 | | | | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | 33.7 | | | | 33.7 | 17.4 |
| Change Period (Y+Rc), s | | 6.0 | | | | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | | | 69.0 | 19.0 |
| Max Q Clear Time (g_c+I1), s | | 11.9 | | | | 17.6 | 9.8 |
| Green Ext Time (p_c), s | | 6.1 | | | | 10.0 | 1.6 |
| Intersection Summary | | | | | | | |
| HCM 6th Ctrl Delay | | | 10.3 | | | | |
| HCM 6th LOS | | | B | | | | |
| Notes | | | | | | | |
| User approved ignoring U-Turning movement. | | | | | | | |

HCM 6th Signalized Intersection Summary

1: SR 211 & SR 53

PM No-Build
02/12/2024



| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBL | NBR |
|------------------------------|-----|------|------|-----|------|------|------|------|
| Lane Configurations | | ↕↕ | ↗ | | ↖ | ↕↕ | ↖↖ | ↗ |
| Traffic Volume (veh/h) | 2 | 910 | 394 | 1 | 79 | 654 | 390 | 228 |
| Future Volume (veh/h) | 2 | 910 | 394 | 1 | 79 | 654 | 390 | 228 |
| Initial Q (Qb), veh | | 0 | 0 | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | No | | |
| Adj Sat Flow, veh/h/ln | | 1841 | 1870 | | 1870 | 1826 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | 1011 | 438 | | 88 | 727 | 433 | 253 |
| Peak Hour Factor | | 0.90 | 0.90 | | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | | 4 | 2 | | 2 | 5 | 2 | 2 |
| Cap, veh/h | | 1951 | 884 | | 275 | 1935 | 745 | 342 |
| Arrive On Green | | 0.56 | 0.56 | | 0.56 | 0.56 | 0.22 | 0.22 |
| Sat Flow, veh/h | | 3589 | 1585 | | 367 | 3561 | 3456 | 1585 |
| Grp Volume(v), veh/h | | 1011 | 438 | | 88 | 727 | 433 | 253 |
| Grp Sat Flow(s),veh/h/ln | | 1749 | 1585 | | 367 | 1735 | 1728 | 1585 |
| Q Serve(g_s), s | | 9.5 | 8.9 | | 10.4 | 6.2 | 5.9 | 7.9 |
| Cycle Q Clear(g_c), s | | 9.5 | 8.9 | | 19.9 | 6.2 | 5.9 | 7.9 |
| Prop In Lane | | | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | | 1951 | 884 | | 275 | 1935 | 745 | 342 |
| V/C Ratio(X) | | 0.52 | 0.50 | | 0.32 | 0.38 | 0.58 | 0.74 |
| Avail Cap(c_a), veh/h | | 4691 | 2126 | | 563 | 4653 | 1110 | 509 |
| HCM Platoon Ratio | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | 7.3 | 7.2 | | 13.5 | 6.5 | 18.6 | 19.4 |
| Incr Delay (d2), s/veh | | 0.2 | 0.4 | | 0.7 | 0.1 | 0.7 | 3.2 |
| Initial Q Delay(d3),s/veh | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | 2.2 | 1.9 | | 0.7 | 1.4 | 2.0 | 2.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | |
| LnGrp Delay(d),s/veh | | 7.5 | 7.6 | | 14.1 | 6.7 | 19.3 | 22.5 |
| LnGrp LOS | | A | A | | B | A | B | C |
| Approach Vol, veh/h | | 1449 | | | | 815 | 686 | |
| Approach Delay, s/veh | | 7.5 | | | | 7.5 | 20.5 | |
| Approach LOS | | A | | | | A | C | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 |
| Phs Duration (G+Y+Rc), s | | 35.5 | | | | 35.5 | | 17.4 |
| Change Period (Y+Rc), s | | 6.0 | | | | 6.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 71.0 | | | | 71.0 | | 17.0 |
| Max Q Clear Time (g_c+I1), s | | 11.5 | | | | 21.9 | | 9.9 |
| Green Ext Time (p_c), s | | 11.0 | | | | 7.6 | | 1.5 |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 10.5 |
| HCM 6th LOS | B |

Notes

User approved ignoring U-Turning movement.

Synchro Reports Build Year (2027)

HCM 6th Signalized Intersection Capacity Analysis
AM Build

Southeastern Engineering INC.
09/09/2024



| Movement | EBU | EBT | EBR | WBL | WBT | NBL | NBR | | |
|---------------------------------|-----|------|------|------|------|------|------|---|---|
| Lane Configurations | | ↔↑ | ↗ | ↘ | ↑↑ | ↖↗ | ↗ | | |
| Traffic Volume (veh/h) | 1 | 511 | 414 | 131 | 810 | 519 | 43 | | |
| Future Volume (veh/h) | 1 | 511 | 414 | 131 | 810 | 519 | 43 | | |
| Number | | 2 | 12 | 1 | 6 | 3 | 18 | | |
| Initial Q, veh | | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj (A_pbT) | | | 1.00 | 1.00 | | 1.00 | 1.00 | | |
| Parking Bus Adj | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | | | No | No | | | |
| Lanes Open During Work Zone | | | | | | | | | |
| Adj Sat Flow, veh/h/ln | | 1781 | 1841 | 1841 | 1826 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | | 581 | 470 | 149 | 920 | 590 | 49 | | |
| Peak Hour Factor | | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | | |
| Percent Heavy Veh, % | | 8 | 4 | 4 | 5 | 2 | 2 | | |
| Opposing Right Turn Influence | | | | Yes | | Yes | | | |
| Cap, veh/h | | 1837 | 846 | 374 | 1882 | 788 | 361 | | |
| HCM Platoon Ratio | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Prop Arrive On Green | | 0.54 | 0.54 | 0.54 | 0.54 | 0.23 | 0.23 | | |
| Unsig. Movement Delay | | | | | | | | | |
| Ln Grp Delay, s/veh | | 6.7 | 8.4 | 11.8 | 7.6 | 20.3 | 16.3 | | |
| Ln Grp LOS | | A | A | B | A | C | B | | |
| Approach Vol, veh/h | | 1051 | | | 1069 | 639 | | | |
| Approach Delay, s/veh | | 7.5 | | | 8.2 | 19.9 | | | |
| Approach LOS | | A | | | A | B | | | |
| Timer: | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | | 2 | 8 | | | 6 | | |
| Case No | | | 7.0 | 9.0 | | | 6.0 | | |
| Phs Duration (G+Y+Rc), s | | | 34.4 | 17.9 | | | 34.4 | | |
| Change Period (Y+Rc), s | | | 6.0 | 6.0 | | | 6.0 | | |
| Max Green (Gmax), s | | | 69.0 | 19.0 | | | 69.0 | | |
| Max Allow Headway (MAH), s | | | 4.5 | 3.7 | | | 5.3 | | |
| Max Q Clear (g_c+I1), s | | | 12.3 | 10.3 | | | 18.3 | | |
| Green Ext Time (g_e), s | | | 6.1 | 1.6 | | | 10.1 | | |
| Prob of Phs Call (p_c) | | | 1.00 | 1.00 | | | 1.00 | | |
| Prob of Max Out (p_x) | | | 0.00 | 0.13 | | | 0.01 | | |
| Left-Turn Movement Data | | | | | | | | | |
| Assigned Mvmt | | | 5 | 3 | | | 1 | | |
| Mvmt Sat Flow, veh/h | | | 0 | 3456 | | | 528 | | |
| Through Movement Data | | | | | | | | | |
| Assigned Mvmt | | | 2 | 8 | | | 6 | | |
| Mvmt Sat Flow, veh/h | | | 3474 | 0 | | | 3561 | | |
| Right-Turn Movement Data | | | | | | | | | |
| Assigned Mvmt | | | 12 | 18 | | | 16 | | |
| Mvmt Sat Flow, veh/h | | | 1560 | 1585 | | | 0 | | |
| Left Lane Group Data | | | | | | | | | |
| Assigned Mvmt | | 0 | 5 | 3 | 0 | 0 | 1 | 0 | 0 |
| Lane Assignment | | | | L | | | L | | |

HCM 6th Signalized Intersection Capacity Analysis

AM Build

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09/09/2024

| | | | | | | | | |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| Grp Vol (v), veh/h | 0 | 0 | 590 | 0 | 0 | 149 | 0 | 0 |
| Grp Sat Flow (s), veh/h/ln | 0 | 0 | 1728 | 0 | 0 | 528 | 0 | 0 |
| Q Serve Time (g_s), s | 0.0 | 0.0 | 8.3 | 0.0 | 0.0 | 11.3 | 0.0 | 0.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 0.0 | 8.3 | 0.0 | 0.0 | 16.3 | 0.0 | 0.0 |
| Perm LT Sat Flow (s_l), veh/h/ln | 0 | 0 | 1728 | 0 | 0 | 528 | 0 | 0 |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Perm LT Eff Green (g_p), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28.4 | 0.0 | 0.0 |
| Perm LT Serve Time (g_u), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23.4 | 0.0 | 0.0 |
| Perm LT Q Serve Time (g_ps), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.3 | 0.0 | 0.0 |
| Time to First Blk (g_f), s | 0.0 | 28.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Serve Time pre Blk (g_fs), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prop LT Inside Lane (P_L) | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h | 0 | 0 | 788 | 0 | 0 | 374 | 0 | 0 |
| V/C Ratio (X) | 0.00 | 0.00 | 0.75 | 0.00 | 0.00 | 0.40 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h | 0 | 0 | 1255 | 0 | 0 | 784 | 0 | 0 |
| Upstream Filter (I) | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh | 0.0 | 0.0 | 18.8 | 0.0 | 0.0 | 11.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay (d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (d), s/veh | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | 11.8 | 0.0 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| 3rd-Term Q (Q3), veh/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.00 | 0.29 | 0.00 | 0.00 | 0.10 | 0.00 | 0.00 |
| Initial Q (Qb), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Final (Residual) Q (Qe), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Delay (ds), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Q (Qs), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Cap (cs), veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Q Clear Time (tc), h | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Middle Lane Group Data | | | | | | | | |
| Assigned Mvmt | 0 | 2 | 8 | 0 | 0 | 6 | 0 | 0 |
| Lane Assignment | | T | | | | T | | |
| Lanes in Grp | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| Grp Vol (v), veh/h | 0 | 581 | 0 | 0 | 0 | 920 | 0 | 0 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1692 | 0 | 0 | 0 | 1735 | 0 | 0 |
| Q Serve Time (g_s), s | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Lane Grp Cap (c), veh/h | 0 | 1837 | 0 | 0 | 0 | 1882 | 0 | 0 |
| V/C Ratio (X) | 0.00 | 0.32 | 0.00 | 0.00 | 0.00 | 0.49 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h | 0 | 4464 | 0 | 0 | 0 | 4575 | 0 | 0 |
| Upstream Filter (I) | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh | 0.0 | 6.6 | 0.0 | 0.0 | 0.0 | 7.4 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay (d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (d), s/veh | 0.0 | 6.7 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 1.1 | 0.0 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |

HCM 6th Signalized Intersection Capacity Analysis

AM Build

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| | | | | | | | | |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 1.1 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 |
| Initial Q (Qb), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Final (Residual) Q (Qe), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Delay (ds), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Q (Qs), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Cap (cs), veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Q Clear Time (tc), h | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Right Lane Group Data

| | | | | | | | | |
|----------------------------------|------|------|------|------|------|------|------|------|
| Assigned Mvmt | 0 | 12 | 18 | 0 | 0 | 16 | 0 | 0 |
| Lane Assignment | | R | R | | | | | |
| Lanes in Grp | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Grp Vol (v), veh/h | 0 | 470 | 49 | 0 | 0 | 0 | 0 | 0 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1560 | 1585 | 0 | 0 | 0 | 0 | 0 |
| Q Serve Time (g_s), s | 0.0 | 10.3 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 10.3 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prot RT Eff Green (g_R), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prop RT Outside Lane (P_R) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h | 0 | 846 | 361 | 0 | 0 | 0 | 0 | 0 |
| V/C Ratio (X) | 0.00 | 0.56 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h | 0 | 2057 | 576 | 0 | 0 | 0 | 0 | 0 |
| Upstream Filter (I) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh | 0.0 | 7.8 | 16.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.6 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay (d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (d), s/veh | 0.0 | 8.4 | 16.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 2.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3rd-Term Q (Q3), veh/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 2.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Final (Residual) Q (Qe), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Delay (ds), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Q (Qs), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Cap (cs), veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Q Clear Time (tc), h | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 10.6 |
| HCM 6th LOS | B |

Notes

User approved ignoring U-Turning movement.

HCM 6th TWSC
AM Build

Southeastern Engineering INC.
09/09/2024

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.9 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↑↑ | | ↑ | ↑ | ↑ | ↑ |
| Traffic Vol, veh/h | 23 | 23 | 539 | 7 | 6 | 539 |
| Future Vol, veh/h | 23 | 23 | 539 | 7 | 6 | 539 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 250 | 250 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 4 |
| Mvmt Flow | 26 | 26 | 613 | 8 | 7 | 613 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1240 | 613 | 0 | 0 | 621 | 0 |
| Stage 1 | 613 | - | - | - | - | - |
| Stage 2 | 627 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 193 | 492 | - | - | 960 | - |
| Stage 1 | 541 | - | - | - | - | - |
| Stage 2 | 532 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 192 | 492 | - | - | 960 | - |
| Mov Cap-2 Maneuver | 192 | - | - | - | - | - |
| Stage 1 | 541 | - | - | - | - | - |
| Stage 2 | 528 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 21.1 | 0 | 0.1 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 276 | 960 |
| HCM Lane V/C Ratio | - | - | 0.189 | 0.007 |
| HCM Control Delay (s) | - | - | 21.1 | 8.8 |
| HCM Lane LOS | - | - | C | A |
| HCM 95th %tile Q(veh) | - | - | 0.7 | 0 |

HCM 6th Signalized Intersection Capacity Analysis
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| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBL | NBR | |
|---------------------------------|-----|------|------|------|------|------|------|------|---|
| Lane Configurations | | ↔↔ | ↗ | | ↖ | ↕↕ | ↙↘ | ↗ | |
| Traffic Volume (veh/h) | 2 | 910 | 410 | 1 | 82 | 654 | 398 | 232 | |
| Future Volume (veh/h) | 2 | 910 | 410 | 1 | 82 | 654 | 398 | 232 | |
| Number | | 2 | 12 | | 1 | 6 | 3 | 18 | |
| Initial Q, veh | | 0 | 0 | | 0 | 0 | 0 | 0 | |
| Ped-Bike Adj (A_pbT) | | | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Parking Bus Adj | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Work Zone On Approach | | No | | | | No | No | | |
| Lanes Open During Work Zone | | | | | | | | | |
| Adj Sat Flow, veh/h/ln | | 1841 | 1870 | | 1870 | 1826 | 1870 | 1870 | |
| Adj Flow Rate, veh/h | | 1011 | 456 | | 91 | 727 | 442 | 258 | |
| Peak Hour Factor | | 0.90 | 0.90 | | 0.90 | 0.90 | 0.90 | 0.90 | |
| Percent Heavy Veh, % | | 4 | 2 | | 2 | 5 | 2 | 2 | |
| Opposing Right Turn Influence | | | | | Yes | | Yes | | |
| Cap, veh/h | | 1971 | 893 | | 271 | 1955 | 748 | 343 | |
| HCM Platoon Ratio | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Prop Arrive On Green | | 0.56 | 0.56 | | 0.56 | 0.56 | 0.22 | 0.22 | |
| Unsig. Movement Delay | | | | | | | | | |
| Ln Grp Delay, s/veh | | 7.5 | 7.7 | | 14.5 | 6.7 | 19.9 | 23.8 | |
| Ln Grp LOS | | A | A | | B | A | B | C | |
| Approach Vol, veh/h | | 1467 | | | | 818 | 700 | | |
| Approach Delay, s/veh | | 7.6 | | | | 7.6 | 21.4 | | |
| Approach LOS | | A | | | | A | C | | |
| Timer: | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | | 2 | 8 | | | 6 | | |
| Case No | | | 7.0 | 9.0 | | | 6.0 | | |
| Phs Duration (G+Y+Rc), s | | | 36.7 | 17.8 | | | 36.7 | | |
| Change Period (Y+Rc), s | | | 6.0 | 6.0 | | | 6.0 | | |
| Max Green (Gmax), s | | | 71.0 | 17.0 | | | 71.0 | | |
| Max Allow Headway (MAH), s | | | 4.6 | 3.8 | | | 5.6 | | |
| Max Q Clear (g_c+I1), s | | | 11.7 | 10.3 | | | 23.0 | | |
| Green Ext Time (g_e), s | | | 11.2 | 1.5 | | | 7.8 | | |
| Prob of Phs Call (p_c) | | | 1.00 | 1.00 | | | 1.00 | | |
| Prob of Max Out (p_x) | | | 0.01 | 0.35 | | | 0.00 | | |
| Left-Turn Movement Data | | | | | | | | | |
| Assigned Mvmt | | | 5 | 3 | | | 1 | | |
| Mvmt Sat Flow, veh/h | | | 0 | 3456 | | | 361 | | |
| Through Movement Data | | | | | | | | | |
| Assigned Mvmt | | | 2 | 8 | | | 6 | | |
| Mvmt Sat Flow, veh/h | | | 3589 | 0 | | | 3561 | | |
| Right-Turn Movement Data | | | | | | | | | |
| Assigned Mvmt | | | 12 | 18 | | | 16 | | |
| Mvmt Sat Flow, veh/h | | | 1585 | 1585 | | | 0 | | |
| Left Lane Group Data | | | | | | | | | |
| Assigned Mvmt | | 0 | 5 | 3 | 0 | 0 | 1 | 0 | 0 |
| Lane Assignment | | | | L | | | L | | |

HCM 6th Signalized Intersection Capacity Analysis
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| | | | | | | | | |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| Grp Vol (v), veh/h | 0 | 0 | 442 | 0 | 0 | 91 | 0 | 0 |
| Grp Sat Flow (s), veh/h/ln | 0 | 0 | 1728 | 0 | 0 | 361 | 0 | 0 |
| Q Serve Time (g_s), s | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 | 11.3 | 0.0 | 0.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 | 21.0 | 0.0 | 0.0 |
| Perm LT Sat Flow (s_l), veh/h/ln | 0 | 0 | 1728 | 0 | 0 | 361 | 0 | 0 |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Perm LT Eff Green (g_p), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30.7 | 0.0 | 0.0 |
| Perm LT Serve Time (g_u), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.1 | 0.0 | 0.0 |
| Perm LT Q Serve Time (g_ps), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.3 | 0.0 | 0.0 |
| Time to First Blk (g_f), s | 0.0 | 30.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Serve Time pre Blk (g_fs), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prop LT Inside Lane (P_L) | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h | 0 | 0 | 748 | 0 | 0 | 271 | 0 | 0 |
| V/C Ratio (X) | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h | 0 | 0 | 1077 | 0 | 0 | 538 | 0 | 0 |
| Upstream Filter (I) | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh | 0.0 | 0.0 | 19.2 | 0.0 | 0.0 | 13.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay (d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (d), s/veh | 0.0 | 0.0 | 19.9 | 0.0 | 0.0 | 14.5 | 0.0 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| 3rd-Term Q (Q3), veh/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 0.0 | 2.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.00 | 0.22 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 |
| Initial Q (Qb), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Final (Residual) Q (Qe), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Delay (ds), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Q (Qs), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Cap (cs), veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Q Clear Time (tc), h | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Middle Lane Group Data | | | | | | | | |
| Assigned Mvmt | 0 | 2 | 8 | 0 | 0 | 6 | 0 | 0 |
| Lane Assignment | | T | | | | T | | |
| Lanes in Grp | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| Grp Vol (v), veh/h | 0 | 1011 | 0 | 0 | 0 | 727 | 0 | 0 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1749 | 0 | 0 | 0 | 1735 | 0 | 0 |
| Q Serve Time (g_s), s | 0.0 | 9.7 | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 9.7 | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 |
| Lane Grp Cap (c), veh/h | 0 | 1971 | 0 | 0 | 0 | 1955 | 0 | 0 |
| V/C Ratio (X) | 0.00 | 0.51 | 0.00 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h | 0 | 4553 | 0 | 0 | 0 | 4516 | 0 | 0 |
| Upstream Filter (I) | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh | 0.0 | 7.3 | 0.0 | 0.0 | 0.0 | 6.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Initial Q Delay (d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (d), s/veh | 0.0 | 7.5 | 0.0 | 0.0 | 0.0 | 6.7 | 0.0 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

HCM 6th Signalized Intersection Capacity Analysis

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| | | | | | | | | |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| Initial Q (Qb), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Final (Residual) Q (Qe), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Delay (ds), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Q (Qs), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Cap (cs), veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Q Clear Time (tc), h | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Right Lane Group Data

| | | | | | | | | |
|----------------------------------|------|------|------|------|------|------|------|------|
| Assigned Mvmt | 0 | 12 | 18 | 0 | 0 | 16 | 0 | 0 |
| Lane Assignment | | R | R | | | | | |
| Lanes in Grp | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Grp Vol (v), veh/h | 0 | 456 | 258 | 0 | 0 | 0 | 0 | 0 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1585 | 1585 | 0 | 0 | 0 | 0 | 0 |
| Q Serve Time (g_s), s | 0.0 | 9.6 | 8.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 9.6 | 8.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prot RT Eff Green (g_R), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Prop RT Outside Lane (P_R) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h | 0 | 893 | 343 | 0 | 0 | 0 | 0 | 0 |
| V/C Ratio (X) | 0.00 | 0.51 | 0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h | 0 | 2063 | 494 | 0 | 0 | 0 | 0 | 0 |
| Upstream Filter (I) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh | 0.0 | 7.3 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.5 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay (d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (d), s/veh | 0.0 | 7.7 | 23.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 1.9 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3rd-Term Q (Q3), veh/ln | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 2.1 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.21 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Final (Residual) Q (Qe), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Delay (ds), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Q (Qs), veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sat Cap (cs), veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Q Clear Time (tc), h | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 10.8 |
| HCM 6th LOS | B |

Notes

User approved ignoring U-Turning movement.

HCM 6th TWSC
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| Intersection | | | | | | |
|--------------------------|--------|----------|--------|-------|-------|------|
| Int Delay, s/veh | 0.7 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔ | | ↑ | ↔ | ↔ | ↑ |
| Traffic Vol, veh/h | 15 | 12 | 618 | 26 | 19 | 473 |
| Future Vol, veh/h | 15 | 12 | 618 | 26 | 19 | 473 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 250 | 250 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 17 | 13 | 687 | 29 | 21 | 526 |
| Major/Minor | Minor1 | Major1 | Major2 | | | |
| Conflicting Flow All | 1255 | 687 | 0 | 0 | 716 | 0 |
| Stage 1 | 687 | - | - | - | - | - |
| Stage 2 | 568 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 189 | 447 | - | - | 885 | - |
| Stage 1 | 499 | - | - | - | - | - |
| Stage 2 | 567 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 184 | 447 | - | - | 885 | - |
| Mov Cap-2 Maneuver | 184 | - | - | - | - | - |
| Stage 1 | 499 | - | - | - | - | - |
| Stage 2 | 553 | - | - | - | - | - |
| Approach | WB | NB | SB | | | |
| HCM Control Delay, s | 21.4 | 0 | 0.4 | | | |
| HCM LOS | C | | | | | |
| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT | | |
| Capacity (veh/h) | - | - | 249 | 885 | - | |
| HCM Lane V/C Ratio | - | - | 0.12 | 0.024 | - | |
| HCM Control Delay (s) | - | - | 21.4 | 9.2 | - | |
| HCM Lane LOS | - | - | C | A | - | |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 0.1 | - | |

Appendix E

Trip Generation Report

Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

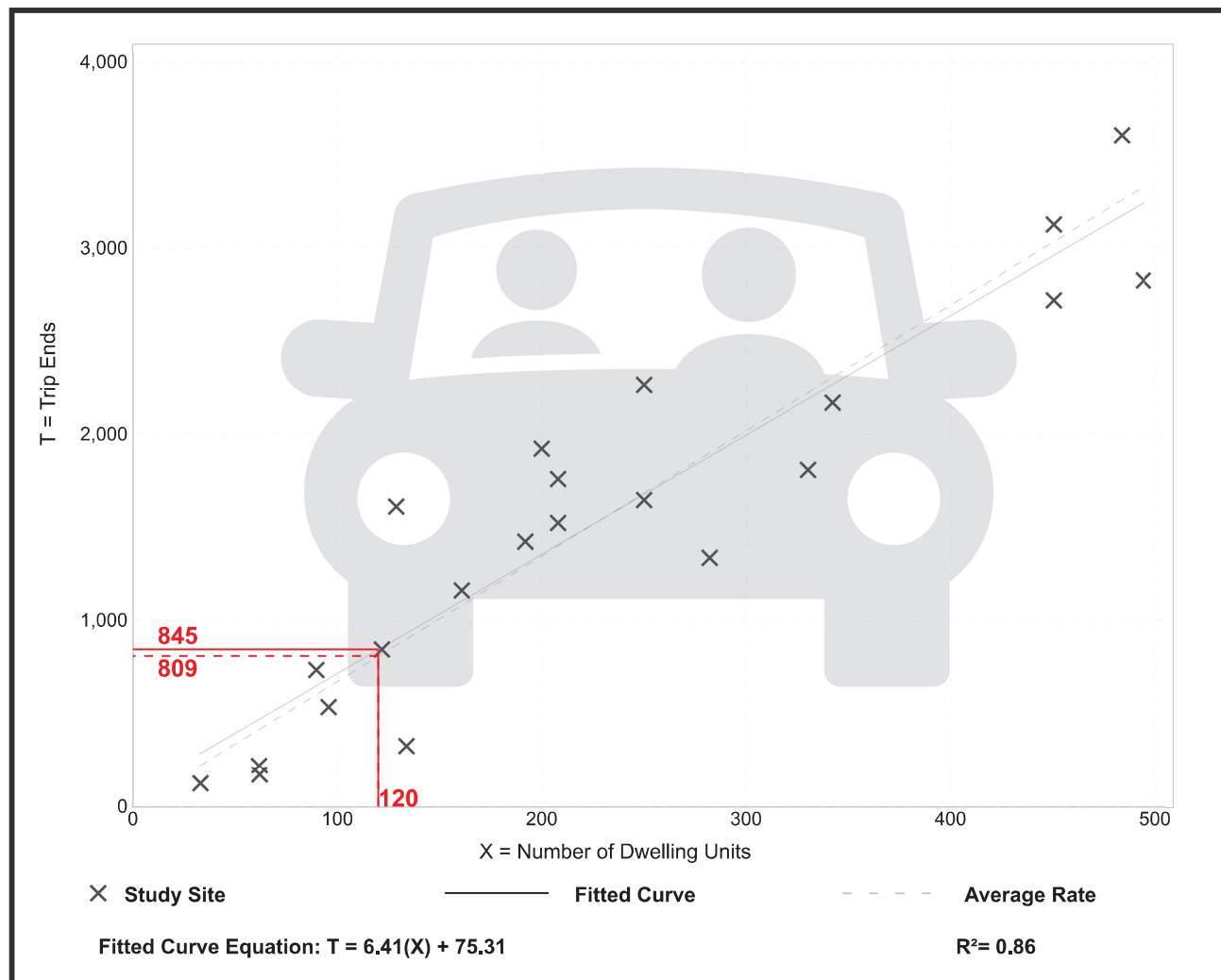
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 6.74 | 2.46 - 12.50 | 1.79 |

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

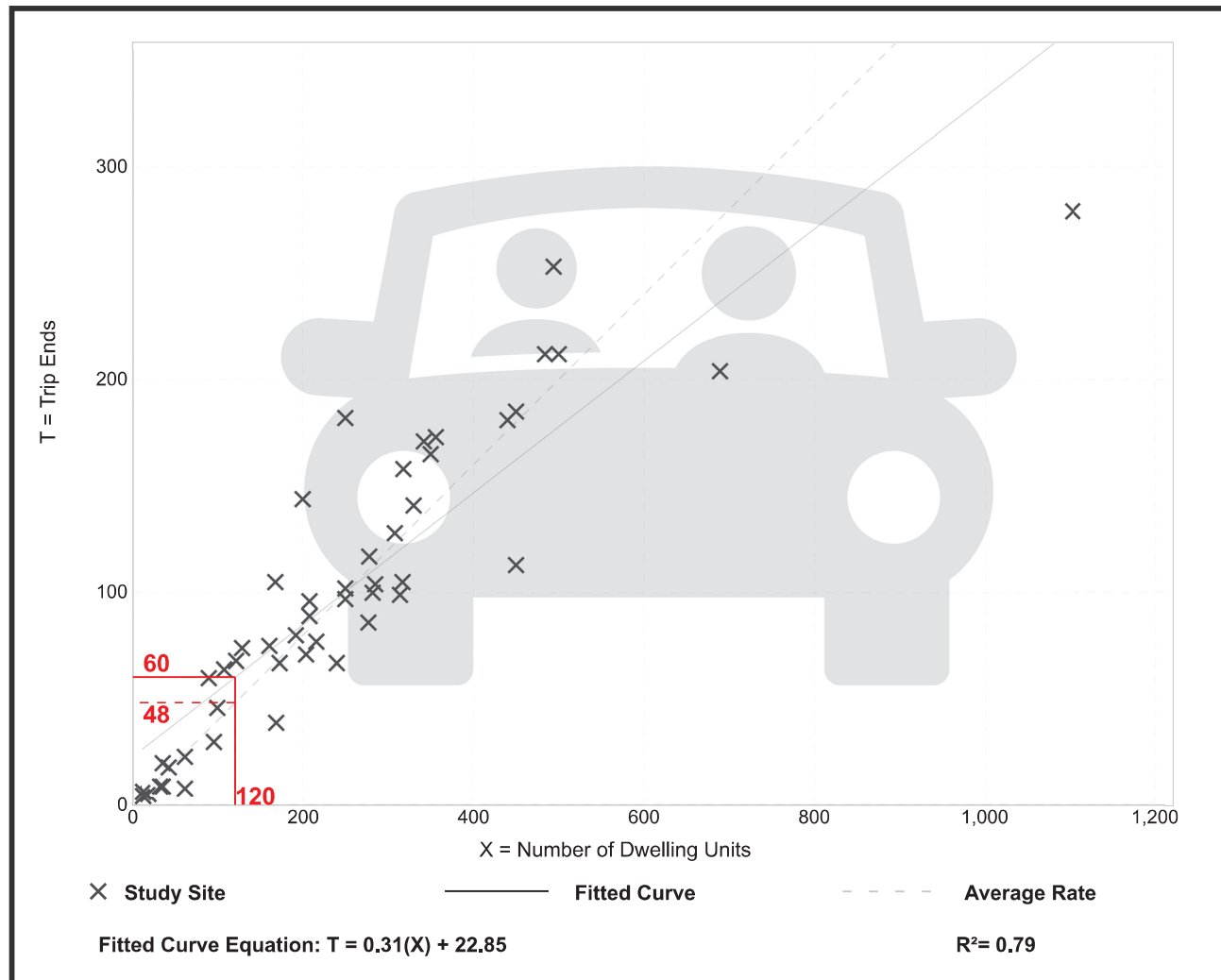
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban
 Number of Studies: 49
 Avg. Num. of Dwelling Units: 249
 Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.40 | 0.13 - 0.73 | 0.12 |

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

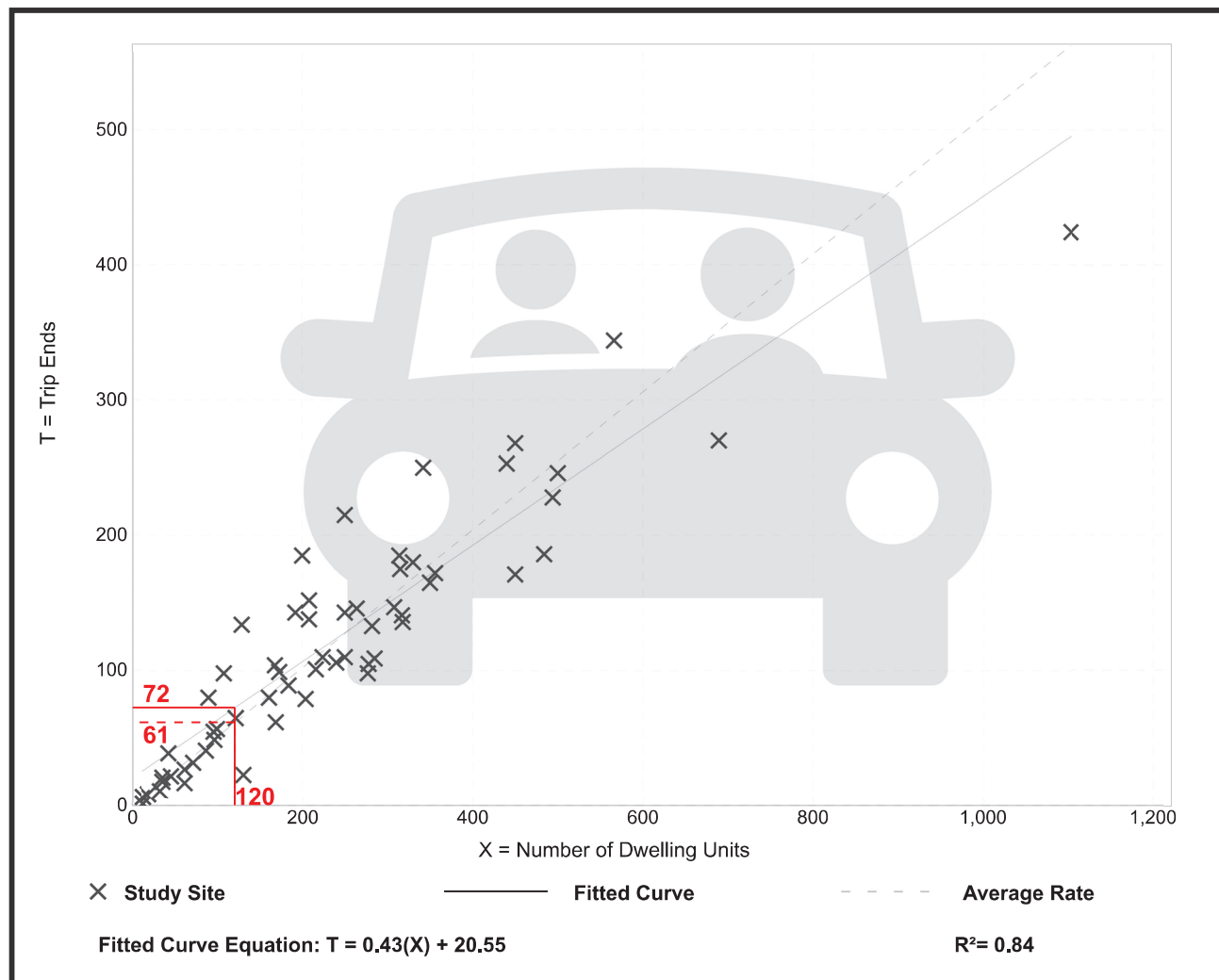
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban
 Number of Studies: 59
 Avg. Num. of Dwelling Units: 241
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.51 | 0.08 - 1.04 | 0.15 |

Data Plot and Equation



Appendix F

ICE Tool Report



GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.3 | Revised 11/13/2023

GDOT PI#: Request By:
 County: GDOT District:
 Major Road: Road Class: Speed Limit:
 Crossing Road: Road Class: Speed Limit:
 Major Rd Direction: Area Type:
 Intersection Control: Project ID:
 Prepared By: Date:
 Project Purpose:

Existing Data Year:
 Project Opening Year:
 Project Design Year:
 Annual Growth Rate:
 K Factor*:

* K Factor = Proportion of average annual daily traffic occurring in the highest one hour of the day

2027 OPENING YEAR VOLUMES

| | | | | | | | |
|----------|-----|-------------------|--------|--|------|----------------|---------|
| | | 545 (492) [13729] | | | | | |
| | | (0) | (0) | (473) | (19) | | |
| | | 0 | 0 | 538 | 7 | WB Atlas Drive | |
| | | Peds ↑ | ↔ | ↓ | ↔ | Peds ← | 0 (0) |
| 0 (0) 0 | (0) | 0 | ↔ | 2027 Intersection Daily Entering Volume (est): | | ↔ | 23 (12) |
| | (0) | 0 | ↔ | 14,103 | | ↔ | 0 (0) |
| | (0) | 0 | ↔ | | | ↔ | 23 (15) |
| | (0) | 0 | Peds ↔ | ↔ | ↑ | ↔ | Peds ↑ |
| | | EB Atlas Drive | | | | NB SR 211 | |
| | | 0 | 539 | 7 | 0 | | |
| | | (0) | (618) | (26) | (0) | | |
| | | 546 (644) [13729] | | | | | |

APPROACH SPLITS:
 SR 211: 100%
 Atlas Drive: 0%

2024 EXISTING YEAR VOLUMES

| | | | | | | | |
|----------|-----|-------------------|--------|--|-----|----------------|--------|
| | | 505 (444) [12197] | | | | | |
| | | (0) | (0) | (444) | (0) | | |
| | | 0 | 0 | 505 | 0 | WB Atlas Drive | |
| | | Peds ↑ | ↔ | ↓ | ↔ | Peds ← | 0 (0) |
| 0 (0) 0 | (0) | 0 | ↔ | 2024 Intersection Daily Entering Volume (est): | | ↔ | 0 (0) |
| | (0) | 0 | ↔ | 12,197 | | ↔ | 0 (0) |
| | (0) | 0 | ↔ | | | ↔ | 0 (0) |
| | (0) | 0 | Peds ↔ | ↔ | ↑ | ↔ | Peds ↑ |
| | | EB Atlas Drive | | | | NB SR 211 | |
| | | 0 | 507 | 0 | 0 | | |
| | | (0) | (580) | (0) | (0) | | |
| | | 507 (580) [12197] | | | | | |

PEAK HR % TRUCKS:

| | | | |
|----|----|----|----|
| EB | WB | NB | SB |
| 1% | 1% | 2% | 4% |

2027 DESIGN YEAR VOLUMES

| | | | | | | | |
|----------|-----|-------------------|--------|--|------|----------------|---------|
| | | 545 (492) [13729] | | | | | |
| | | (0) | (0) | (473) | (19) | | |
| | | 0 | 0 | 538 | 7 | WB Atlas Drive | |
| | | Peds ↑ | ↔ | ↓ | ↔ | Peds ← | 0 (0) |
| 0 (0) 0 | (0) | 0 | ↔ | 2027 Intersection Daily Entering Volume (est): | | ↔ | 23 (12) |
| | (0) | 0 | ↔ | 14,103 | | ↔ | 0 (0) |
| | (0) | 0 | ↔ | | | ↔ | 23 (15) |
| | (0) | 0 | Peds ↔ | ↔ | ↑ | ↔ | Peds ↑ |
| | | EB Atlas Drive | | | | NB SR 211 | |
| | | 0 | 539 | 7 | 0 | | |
| | | (0) | (618) | (26) | (0) | | |
| | | 546 (644) [13729] | | | | | |

LEGEND:

- 000 = AM Peak Approach Volume
- (000) = PM Peak Approach Volume
- [000] = ADT Volume (Estimate)

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "Waiver" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.



GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.3| Revised 11/13/2023

| | | | | | | | | | |
|--|--|--|-----|-----|-----|-----|-----|-----|---|
| GDOT PI # | N/A | <p>Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2</p> <p>1. Does alternative address the project need in a balanced manner and in scale with the project? 2. Does alternative improve safety performance in terms of reducing severe crashes? 3. Does alternative incorporate safety performance in operations (congestion, delay, pedestrians and/or bicyclists)? 4. Does alternative improve (or preserve) traffic characteristics, delay, reliability, etc. ? 5. Does alternative appear feasible given the site respect to other project factors? 6. Does alternative appear feasible with respect to other project factors? 7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?</p> | | | | | | | |
| Project Location: | SR 211 @ Atlas Drive | | | | | | | | |
| Existing Control: | New Intersection or Other | | | | | | | | |
| Prepared by: | Southeastern Engineering INC. | | | | | | | | |
| Date: | 8/30/2024 | | | | | | | | |
| <p>Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column</p> | | <p>Screening Decision Justification:</p> | | | | | | | |
| <p>Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)</p> | | | | | | | | | |
| Unsignalized Intersections | Conventional (Minor Stop) | Yes | No | No | Yes | Yes | Yes | Yes | Feasible solution to evaluate. |
| | Conventional (All-Way Stop) | No | Yes | Yes | No | No | No | No | Warrants not satisfied |
| | Mini Roundabout | No | Yes | No | No | No | No | No | Traffic pattern and turning volumes are not preferable |
| | Single Lane Roundabout | No | Yes | No | Yes | Yes | No | No | Traffic pattern and turning volumes are not preferable |
| | Multilane Roundabout | No | Yes | No | Yes | Yes | No | No | SR 211 is a single-lane facility |
| | RCUT (stop control) | Yes | No | Yes | Yes | No | No | No | No feasible u-turn location |
| | RIRO w/down stream U-Turn | Yes | No | Yes | Yes | No | No | No | No feasible u-turn location |
| | High-T (unsignalized) | Yes | No | Yes | No | No | No | No | Traffic pattern and turning volumes are not preferable |
| | Offset-T Intersections | No | No | No | No | No | No | No | Not feasible to offset. Intersection configuration is 3-legged. |
| | Diamond Interch (Stop Control) | No | No | No | No | No | No | No | Not an interchange, volumes do not warrant grade separation. |
| | Diamond Interch (RAB Control) | No | No | No | No | No | No | No | Not an interchange, volumes do not warrant grade separation. |
| | Add one LT Lane on SR 211 Add one RT Lane on SR 211 | Yes | No | No | Yes | Yes | Yes | No | Turn lanes included in Conventional (Minor Stop) |
| | Other unsignalized (provide description): | No | No | No | No | No | No | No | N/A |
| | Signalized Intersections | Traffic Signal | No | No | No | No | No | No | No |
| Median U-Turn (Indirect Left) | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| RCUT (signalized) | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Displaced Left Turn (CFI) | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Continuous Green-T | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Jughandle | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Quadrant Roadway | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Diamond Interch (Signal Control) | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Diverging Diamond | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Single Point Interchange | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| No LT Lane Improvements No RT Lane Improvements | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |
| Other Signalized (provide description): | | No | No | No | No | No | No | No | Traffic signal warrants not satisfied. |

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record



GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM

ICE Version 2.3| Revised 11/13/2023

Waiver Request - Level 2 / 3

In certain circumstances where an ICE would otherwise be required, an ICE may be waived based on appropriate evidence presented with a written request. Scenarios in which an ICE waiver request may be considered include:

1. Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature, such as extending existing turn lane(s) or modifying signal phasing at an existing traffic signal
2. The intersection consists of a public roadway intersecting a divided, multilane roadway where the access will be limited to a closed median with only right-in/right-out access that will operate acceptably; or
3. The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
 - Low risk in terms of exposure (total intersection entering volume less than 1,000 vehicles /day)
 - Latest 5 years of crash history is not indicative of a crash problem (no discernible crash patterns coupled with low crash frequency and severity)
 - Layout has no unusual or undesirable geometric features (such as restricted sight distance)
 - The proposed changes are not expected to adversely affect safety

If only one alternative is determined to be feasible from the ICE Stage 1, then a waiver may be submitted in lieu of completing ICE Stage 2. The waiver must clearly explain why there is no other feasible alternative. A Waiver Form should also be submitted to document an agreed upon decision to select a preferred alternative other than the highest scoring alternative in Stage 2.

ICE waiver forms with supporting documentation should be submitted for approval to the Office of Traffic Operations or District Engineer (depending on Waiver level). Questions regarding the waiver process should be routed to the State Traffic Engineer.

Project Information: Location: SR 211 @ Atlas Drive
 County: Hall
 GDOT District: 1 - Gainesville
 Area Type: Suburb/Transition
 Existing Intersection Control: New Intersection or Other

GDOT PI # (or N/A): N/A
 Requested By: Atlas Development
 Prepared By: Southeastern Engineering INC.
 Date: 8/30/2024
 Waiver Request Type: Driveway Permit

Traffic and Operations Data:^{1,2}

| | | |
|--|--------------------|----------|
| Intersection meets signal/AWS warrants? | None | |
| Traffic Analysis Type: | Intersection Delay | |
| Existing Major Street Avg Daily Traffic (ADT): | 12,197 | |
| Existing Minor Street Avg Daily Traffic (ADT): | 0 | |
| Analysis Period: | AM Peak | PM Peak |
| 2027 Opening Yr Peak Hour Intersection Delay: | 21.1 sec | 21.4 sec |
| 2027 Opening Yr Peak Hour Intersection V/C: | 0.19 | 0.12 |
| 2027 Design Yr Peak Hour Intersection Delay: | 21.1 sec | 21.4 sec |
| 2027 Design Yr Peak Hour Intersection V/C: | 0.19 | 0.12 |

| Crash Data (Required): ³ | | | | | | |
|---|----------------|----------|----------|----------|----------|----------|
| Crash Type | Crash Severity | | | | | Years: |
| | K* | A* | B* | C* | O | 5 |
| Crash Data: Enter most recent 5 years of crash data | | | | | | |
| Angle | 0 | 0 | 0 | 0 | 0 | #DIV/0! |
| Head-On | 0 | 0 | 0 | 0 | 0 | #DIV/0! |
| Rear End | 0 | 0 | 0 | 0 | 0 | #DIV/0! |
| Sideswipe - same | 0 | 0 | 0 | 0 | 0 | #DIV/0! |
| Sideswipe - opposite | 0 | 0 | 0 | 0 | 0 | #DIV/0! |
| Not Collision w/Motor Veh | 0 | 0 | 0 | 0 | 0 | #DIV/0! |
| TOTALS: | 0 | 0 | 0 | 0 | 0 | 0 |

* Number of crashes resulting in injuries / fatalities, not number of persons

| | |
|---|---|
| Description of Work / Justification for Waiver (Required): | Only one feasible alternative was identified in Stage 1. The minor-street stop control operates acceptably in both peak hours. Atlas Drive will be two lanes, one entry and one exit. The intersection meets the threshold for both a left-turn and right-turn auxiliary lane on SR 211, and they are included in the analysis. |
|---|---|

Proposed Intersection Control: Conventional (Minor Stop)

REQUESTED BY: Chris Maddox, PE, PTOE Date: 8/30/2024

Title: Traffic Engineer

APPROVED BY: _____ Date: _____

Name: _____

District Engineer or (Approved Delegate)

¹ Analysis data input on this worksheet is for proposed control & configuration on form, not the No-Build data shown on the top of Stage 2

² ADT's required if available (from data collected or nearest GDOT count station site); Capacity data optional unless needed to justify basis of the waiver request.

³ Crash data (required for all existing intersections) must be entered here independent from Stage 2 worksheet inputs (not linked)

HCM 6th TWSC
AM Build

Southeastern Engineering INC.
09/09/2024

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.9 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↑↑ | | ↑ | ↑ | ↑ | ↑ |
| Traffic Vol, veh/h | 23 | 23 | 539 | 7 | 6 | 539 |
| Future Vol, veh/h | 23 | 23 | 539 | 7 | 6 | 539 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 250 | 250 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 4 |
| Mvmt Flow | 26 | 26 | 613 | 8 | 7 | 613 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1240 | 613 | 0 | 0 | 621 | 0 |
| Stage 1 | 613 | - | - | - | - | - |
| Stage 2 | 627 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 193 | 492 | - | - | 960 | - |
| Stage 1 | 541 | - | - | - | - | - |
| Stage 2 | 532 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | |
| Mov Cap-1 Maneuver | 192 | 492 | - | - | 960 | - |
| Mov Cap-2 Maneuver | 192 | - | - | - | - | - |
| Stage 1 | 541 | - | - | - | - | - |
| Stage 2 | 528 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 21.1 | 0 | 0.1 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 276 | 960 |
| HCM Lane V/C Ratio | - | - | 0.189 | 0.007 |
| HCM Control Delay (s) | - | - | 21.1 | 8.8 |
| HCM Lane LOS | - | - | C | A |
| HCM 95th %tile Q(veh) | - | - | 0.7 | 0 |

HCM 6th TWSC
PM Build

Southeastern Engineering INC.
09/09/2024

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.7 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔ | | ↑ | ↔ | ↔ | ↑ |
| Traffic Vol, veh/h | 15 | 12 | 618 | 26 | 19 | 473 |
| Future Vol, veh/h | 15 | 12 | 618 | 26 | 19 | 473 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 250 | 250 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 17 | 13 | 687 | 29 | 21 | 526 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 1255 | 687 | 0 | 0 | 716 |
| Stage 1 | 687 | - | - | - | - |
| Stage 2 | 568 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 189 | 447 | - | - | 885 |
| Stage 1 | 499 | - | - | - | - |
| Stage 2 | 567 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 184 | 447 | - | - | 885 |
| Mov Cap-2 Maneuver | 184 | - | - | - | - |
| Stage 1 | 499 | - | - | - | - |
| Stage 2 | 553 | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 21.4 | 0 | 0.4 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|------|-------|
| Capacity (veh/h) | - | - | 249 | 885 |
| HCM Lane V/C Ratio | - | - | 0.12 | 0.024 |
| HCM Control Delay (s) | - | - | 21.4 | 9.2 |
| HCM Lane LOS | - | - | C | A |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 0.1 |