



Traffic Impact Assessment

Rock City Gardens Gondola Development

December 2025

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1.0 EXECUTIVE SUMMARY

This assessment evaluates the anticipated traffic impacts associated with the *Rock City Gardens Gondola* development. The site is approximately 20 acres and is located on Chattanooga Valley Road between GA 193 and Woodburn Road in Walker County, Georgia. The site would provide access from the base of Lookout Mountain to the Rock City Gardens entertainment facility at the top of the mountain.

The proposed development will redistribute traffic along the local transportation network as parking at the top of the mountain will be limited to a limited number of parking spaces and rideshare drop off/pick up.

The proposed development is expected to redistribute approximately 100 AM peak hour trips, 595 PM ingress peak hour trips, and 230 PM egress peak during the peak season months.

The results show that under existing conditions, all intersections reviewed, other than Intersection 1 during the PM ingress peak period, operate at an acceptable overall LOS during all peak periods analyzed. Under the projected No-Build conditions, all study intersections, other than Intersection 1 and the eastbound approach at Intersection 2, during the PM ingress peak period, are projected to operate at an acceptable overall LOS during all peak periods analyzed.

Under Build Alternative 1 conditions, all study intersections, other than the eastbound left at Intersection 3, during the PM ingress peak period are projected to operate at an acceptable LOS during all periods analyzed. Intersection 3 level of service concerns are mitigated through the installation of a traffic signal.

Under Build Alternative 2 conditions, all study intersections, other than the eastbound left at Intersection 3 during the PM Ingress peak period, operate at an acceptable LOS during all peak periods analyzed.

It should be noted that it is not uncommon for side street approaches to experience higher delay during peak periods and in more urban areas.

1.1 SUMMARY OF IMPACT ON TRANSPORTATION NETWORK

The relocation of the parking facilities for the Rock City Gardens facility will cause a redistribution of traffic throughout the local transportation network. Ochs Highway will experience a reduction of traffic as vehicles are no longer traveling to the top of the mountain to visit the facility. It is estimated that the average weekday traffic on Ochs Highway will be reduced by approximately 2,800 trips ones the new parking facility is installed.

These trips will be primarily redistributed to St. Elmo Ave, south of Ochs Highway, as trips reroute to the new parking facility. It is estimated that trips along St. Elmo Ave will grow by approximately 1,680 trips on an average weekday. The increased trips will occur primarily during the midday hours between 11:00 AM and 4:00 PM. It is estimated that St. Elmo Avenue will operate at a similar level of service compared to

existing conditions. Based on guidelines prepared by the Florida Department of Transportation, it is estimated that approximately 25% of available capacity will still exist on St. Elmo Ave, south of Ochs Ave, after the relocation of the parking facility.

Trips will also be redistributed onto Battlefield Parkway as trips from North Georgia and East Tennessee reroute to avoid congestion on I-24 and local roads. It is estimated that trips along Battlefield Pkwy will grow by approximately 842 trips on an average weekday, primarily during the midday hours.

1.2 DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

The following improvements are recommended to serve the traffic associated with the *Rock City Gardens Gondola* development.

- Build Alternative 1
 - Intersection 3: GA 193 @ Chattanooga Valley Road
 - Install a traffic signal as recommended by the ICE Analysis
 - Increase the storage length of the northbound left turn to 310'
 - Install a southbound right turn deceleration lane with a storage length of 310'
- Build Alternative 2
 - Intersection 5: GA 193 @ Site Driveway A
 - Install a traffic signal as recommended by the ICE Analysis
 - Install a northbound left turn with a storage length of 310'
 - Install a southbound right turn deceleration lane with a storage length of 250'
 - Install two (2) eastbound egress lanes from the site
 - One (1) left turn lane
 - One (1) right turn lane

2.0 INTRODUCTION

This traffic assessment evaluates the anticipated traffic operations impacts associated with the *Rock City Gardens Gondola* development. The following scenarios are analyzed in this study:

- Peak Season 2025 Conditions
 - Existing traffic counts and lane configurations during peak season operation (weekends in December)
- Projected 2028 No-Build Conditions
 - Existing traffic counts grown to the build-out year at a standard growth rate.
- Projected 2028 Build Conditions (Build Alt 1 and Build Alt 2)
 - Existing traffic counts grown to the build-out year at a standard growth rate and the redistributed traffic associated with the proposed development.
- Projected 2033 Horizon Year No-Build Conditions
 - Existing traffic counts grown to the build-out year at a standard growth rate.
- Projected 2033 Horizon Year Build Conditions (Build Alt 1 and Build Alt 2)
 - Existing traffic counts grown to the build-out year at a standard growth rate and the redistributed traffic associated with the proposed development.

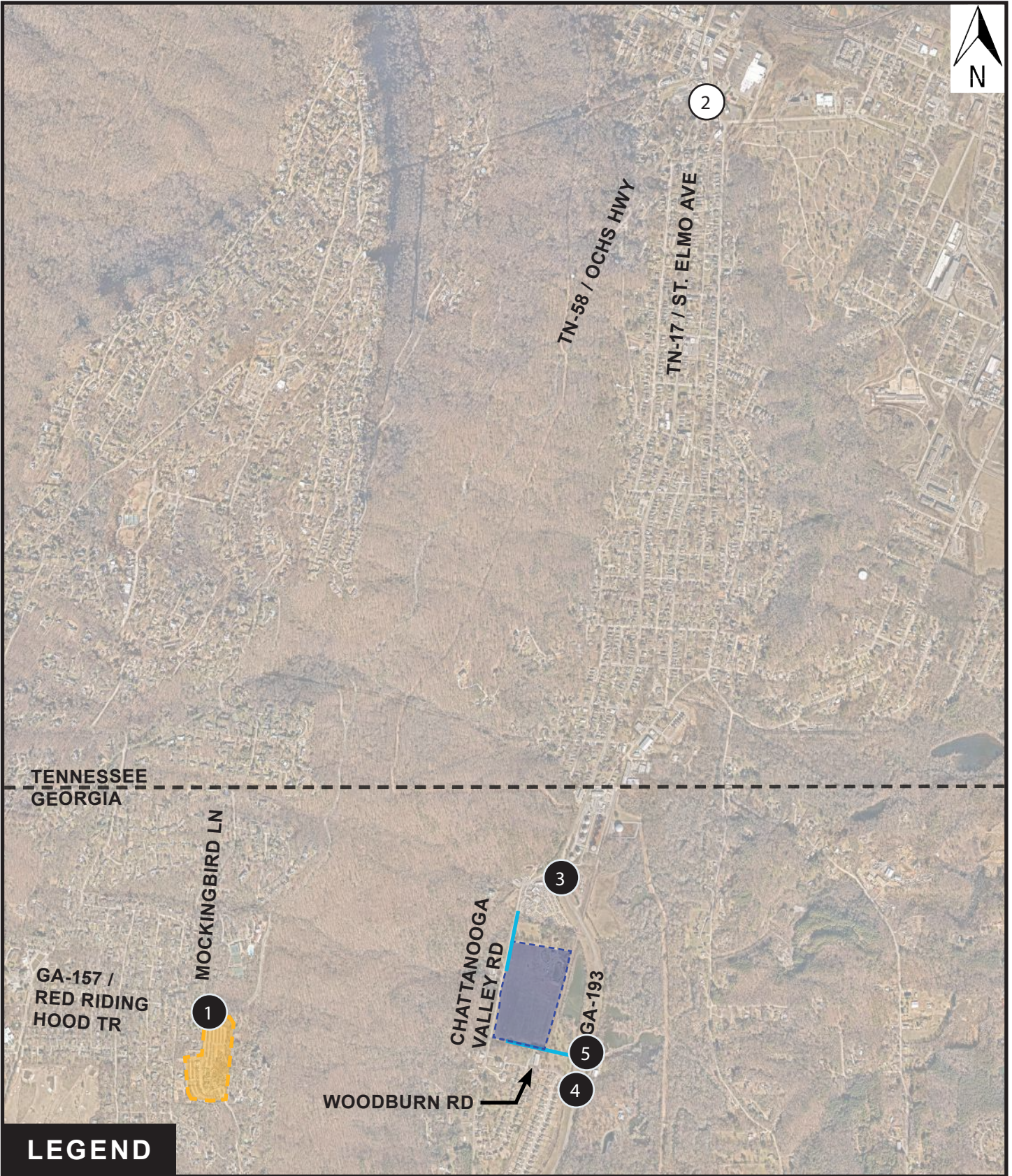
The study network analyzed in this study consists of the intersections listed in **Table 1**. For the purposes of this traffic impact assessment, the roadways within the study network are assumed to have the following orientations listed in **Table 2**. The study area and project site are shown in **Figure 1**. A site plan for the proposed development is included in **Appendix A**.

Table 1: Study Intersections

#	Intersection	Existing Control
1	Red Riding Hood Trail @ Mockingbird Lane/Fleetwood Drive	TWSC
2	TN 17/St Elmo Ave @ TN 58/Ochs Highway	Signal
3	GA 193 @ Chattanooga Valley Road	TWSC
4	GA 193 @ Woodburn Road	TWSC

Table 2: Roadway Orientations

Roadway	Orientation
Red Riding Hood Trail	East-West
Mockingbird Lane/Fleetwood Drive	North-South
TN 17/St Elmo Avenue	North-South
TN 58/Ochs Highway	East-West
GA 193	North-South
Chattanooga Valley Road	North-South
Woodburn Road	East-West

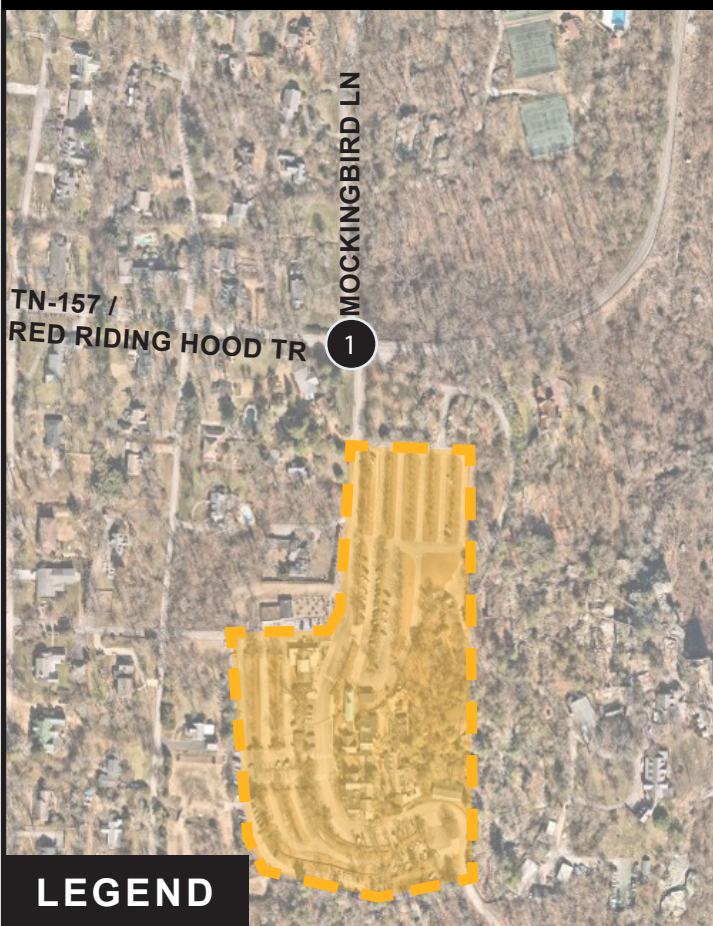


LEGEND

-
- X Signalized Intersection ID

 Existing Site Area

 Proposed Site Area
- X Unsignalized Intersection ID



LEGEND

- X
Signalized Intersection ID

Proposed Site Driveway

Proposed Site Area
- X
Unsignalized Intersection ID

Existing Site Area

3.0 METHODOLOGY

3.1 DATA COLLECTION

Turning movement counts (TMCs) were obtained from StreetLight Data for each study intersection. TMCs for a typical weekday, typical weekend, peak season weekday, and peak season weekend were reviewed to determine which period had greatest impact on the transportation network.

Origin-destination data was obtained from StreetLight Data to quantify the existing traffic volumes and determine the routes utilized to arrive or depart the existing Rock City Gardens development.

3.2 TRIP GENERATION

Due to the unique nature of the site, the trip generation methodology consisted of reviewing TMC data at Intersection 1 and reassigning their trip to the proposed site within the transportation network to the proposed site.

To account for an expanded parking area at the proposed site, the 2028 trips were increased by 20% to generate the anticipated 2033 traffic volumes.

3.3 CAPACITY ANALYSES

Level-of-service (LOS) determinations were made for the weekday AM and PM peak hours for the study network intersections using *Synchro, Version 12*. *Synchro* software uses methodologies contained in the *Highway Capacity Manual, 7th Edition* to determine the operating characteristics of an intersection. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F the worst.

LOS for unsignalized intersections, with stop control on the minor street only, are reported for the side-street approaches and major street left-turns. Low levels-of-service for side street approaches are not uncommon, as vehicles may experience significant delay turning onto a major roadway.

LOS for signalized and all-way stop controlled (AWSC) intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably. The LOS criteria for signalized and unsignalized intersections is shown in **Table 3**.

Table 3: LOS Criteria for Intersections

LOS	Signalized Delay	Unsignalized Delay	Description
A	≤10.0	≤10.0	Operations with very low delay and most vehicles do not stop.
B	>10.0 and ≤20.0	>10.0 and ≤15.0	Operations with good progression but with some restricted movement.
C	>20.0 and ≤35.0	>15.0 and ≤25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and ≤55.0	>25.0 and ≤35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines
E	>55.0 and ≤80.0	>35.0 and ≤50.0	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80.0	>50.0	Operations that is unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

3.4 TURN LANE WARRANTS

Design criteria from Georgia Department of Transportation’s (GDOT) Regulations for Driveway & Encroachment Control Manual was used to evaluate if turn lanes should be implemented along state routes at unsignalized driveways. From the GDOT manual, the following methodologies were applied to perform these evaluations:

- Table 4-6 (“Minimum Volumes Requiring Right Turn Lanes”)
- Table 4-7a (“Minimum Volumes Requiring Left Turn Lanes”) and Table 4-7b (“Minimum Volumes Requiring Right Hand Passing Lanes”)

3.5 INTERSECTION IMPROVEMENTS

A GDOT Intersection Control Evaluation (ICE) Analysis was performed to determine the intersection control solution on GDOT state routes. From GDOT’s Intersection Control Evaluation Policy, *“The purpose of ICE is to provide traceability, transparency, consistency, and accountability when identifying and selecting an intersection control solution that both meets the project purpose and reflects the overall best value in terms of specific performance-based criteria.”*

3.6 SIGHT DISTANCE

Intersection sight distance measurements and calculations were performed using methodology provided in *A Policy on Geometric Design of Highways and Streets, 7th Edition (2018)*, published by the American Association of State Highways and Transportation Officials (AASHTO).

4.0 EXISTING CONDITIONS

4.1 VEHICULAR NETWORK

Characteristics for the roadways within the study are summarized in **Table 4**. The existing road geometry is illustrated in **Figure 3**.

Table 4: Roadway Network

Roadway	Lanes	Posted Speed	Classification	AADT (Location ID)
GA 157 / Red Riding Hood Trail	2	30	Urban Minor Arterial	5400 (295-0141)
Mockingbird Lane/Fleetwood Drive	2	25	Major Collector	610 (295-7637)
TN 17/St Elmo Ave	2	25	Urban Minor Arterial	10,391 (33000234)
TN 58/Ochs Highway	2	30	Urban Minor Arterial	7,800 (33000151)
GA 193	2	45/55*	Urban Minor Arterial	8,400 (295-0179)
Chattanooga Valley Road	2	25/35**	Local Road	N/A
Woodburn Road	2	25	Local Road	N/A

* 45 MPH north of Chattanooga Valley Road. 55 MPH south of Chattanooga Valley Road

** 25 MPH south of Woodburn Road. 35 MPH north of Woodburn Road

4.2 VEHICULAR VOLUMES

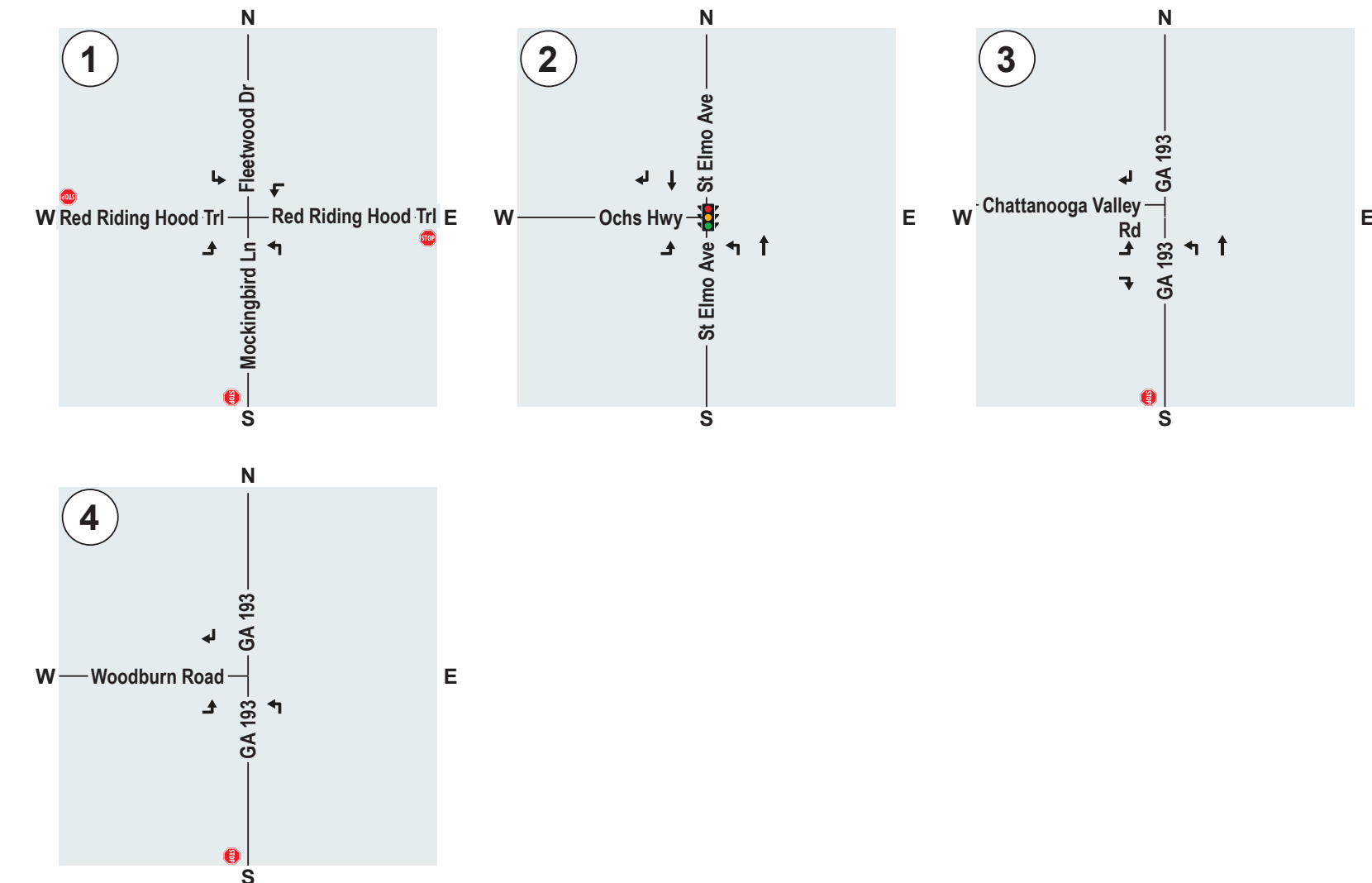
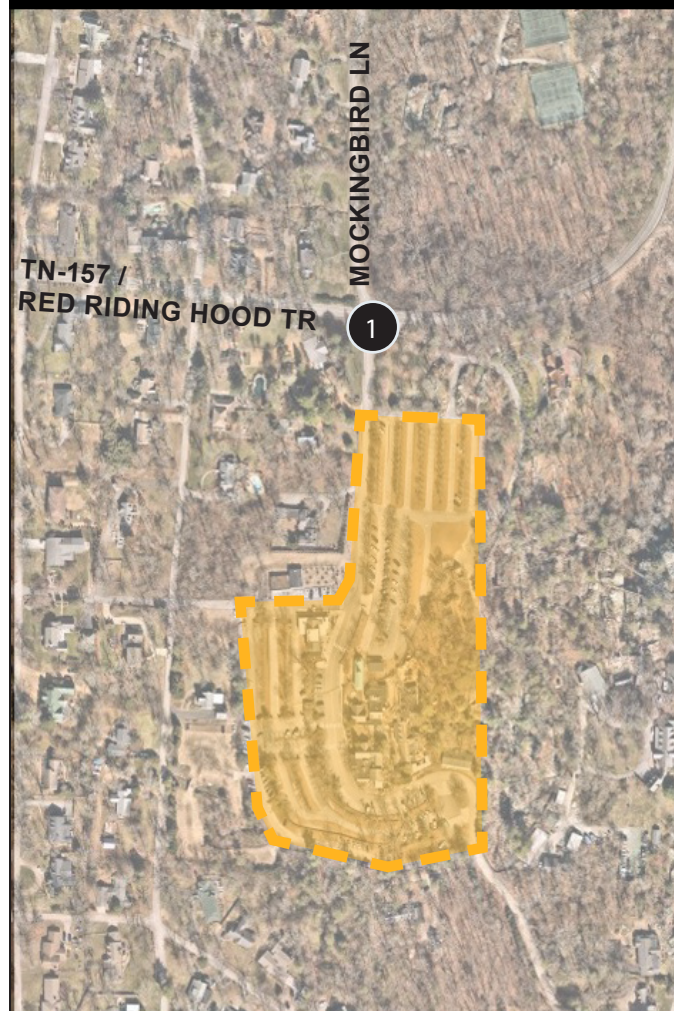
Vehicle peak hour turning movement counts (TMCs) were collected through Streetlight Data at each study intersection. The peak season was determined through coordination with the site operator and review of quarterly average TMCs at project intersections followed by a review of monthly average TMCs for the peak quarter. It was determined that the month of December generated the highest number of trips to the site, with the period between December 16th and December 25th representing the peak 2-week period.

Weekday and weekend TMCs were compared, and it was determined that weekend site traffic had a greater than weekday site traffic. Therefore, average weekend volumes between 12/16/2024 and 12/25/2024 were used in the assessment. For the assessment, all vehicle volumes were rounded to the closest multiple of 5 and all movements that had a volume of 0 were assigned a default value of 10.

Peak hours for the study intersections are shown in **Table 5**. The existing intersection geometry is shown in **Figure 3**. The existing peak hour traffic volumes are shown in **Figure 4**. The complete traffic count data is provided in **Appendix B**.

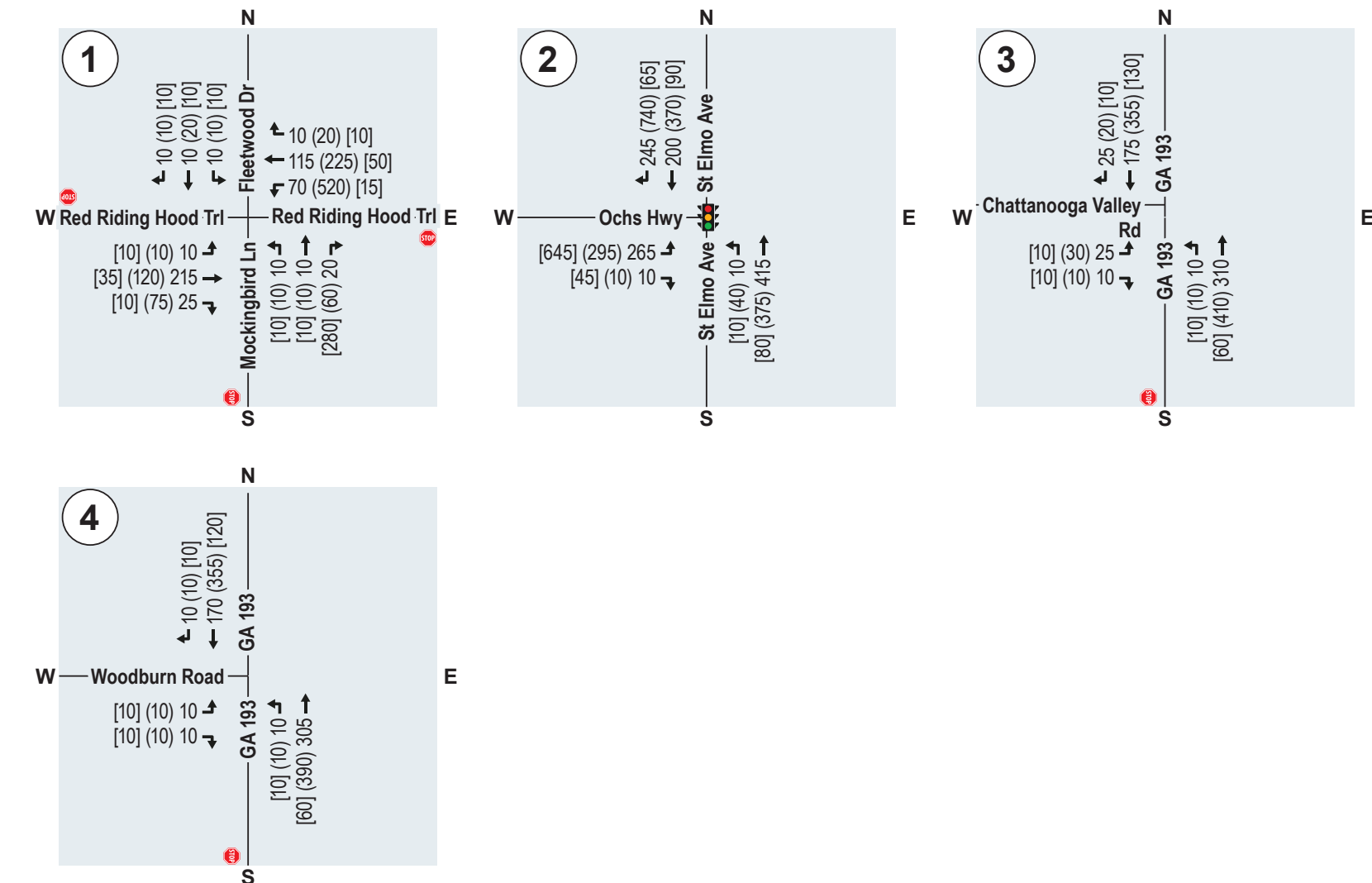
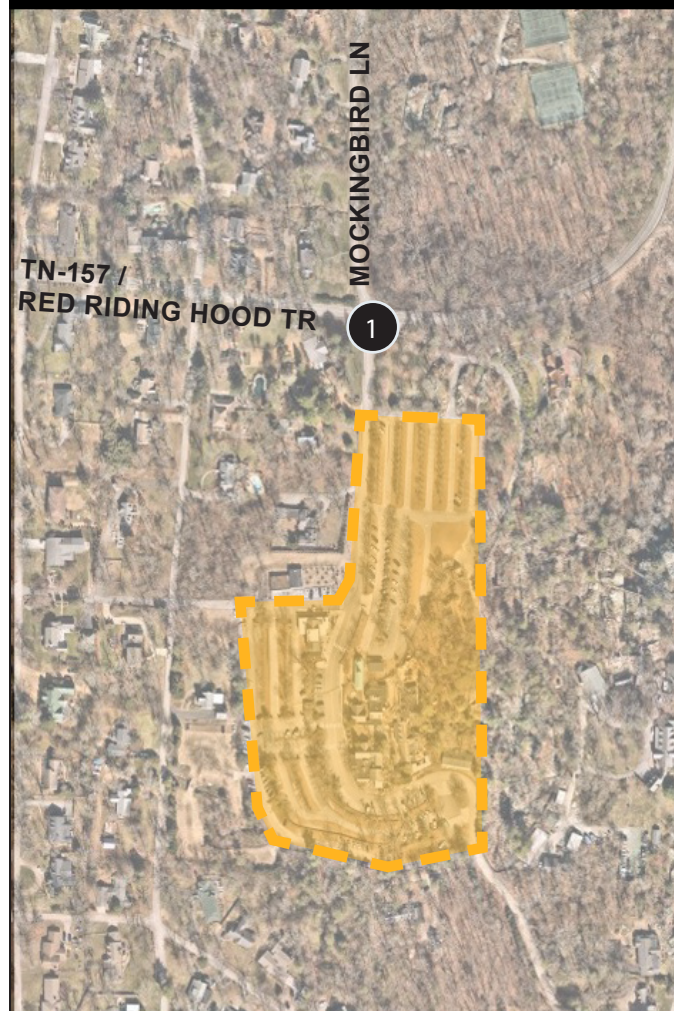
Table 5: Intersection Peak Hours

#	Intersection	Collection Period	AM	PM Ingress	PM Egress
1	Red Riding Hood Trail @ Mockingbird Lane/Fleetwood Drive	12/16/24 – 12/25/24	1030 – 1130	1615 - 1715	2215 - 2315
2	TN 17/St Elmo Ave @ TN 58/Ochs Highway	12/16/24 – 12/25/24	1030 – 1130	1615 - 1715	2215 - 2315
3	GA 193 @ Chattanooga Valley Road	12/16/24 – 12/25/24	1030 – 1130	1615 - 1715	2215 - 2315
4	GA 193 @ Woodburn Road	12/16/24 – 12/25/24	1030 – 1130	1615 - 1715	2215 - 2315



LEGEND

(X)	Signalized Intersection ID		Existing Traffic Signal	→	Existing Lane Configuration
(X)	Unsignalized Intersection ID		Existing Stop Sign		



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement		[XX] PM Egress Peak Hour Traffic Volumes

5.0 NO-BUILD CONDITIONS

5.1 NO-BUILD VOLUMES

Background traffic is defined as expected traffic on the roadway in future year(s) absent the construction and opening of the proposed project. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates.

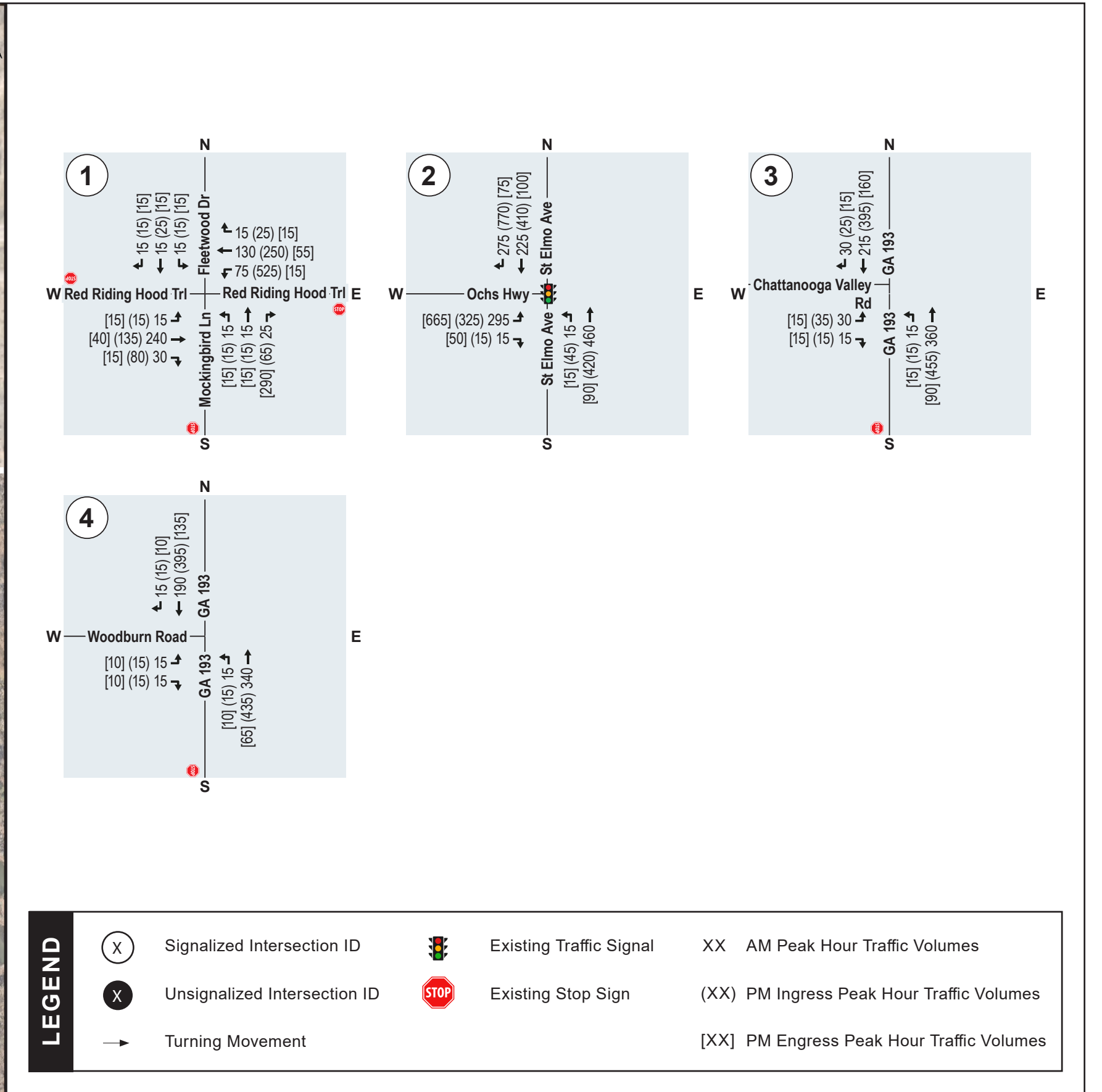
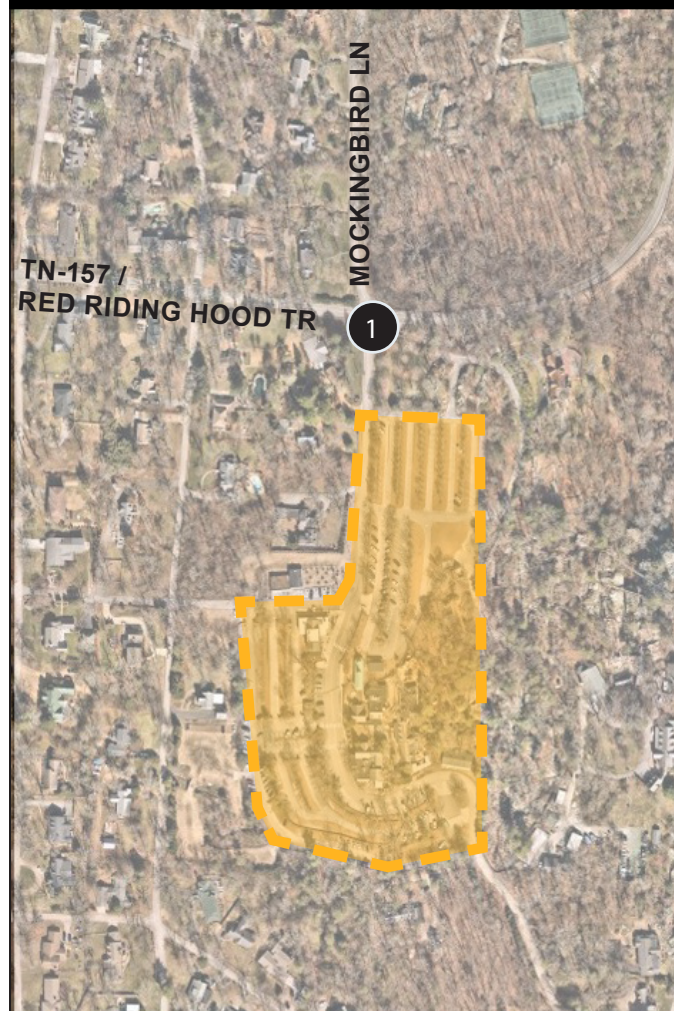
To account for background traffic, the existing traffic volumes were increased by 3.5% per year to account for the expected background growth through the build-out year.

No nearby approved developments which would have an adverse impact on the local transportation network were identified after review.

The existing peak hour traffic volumes are shown in **Figure 5**.

5.2 FUTURE TRANSPORTATION INFRASTRUCTURE IMPROVEMENTS

No improvements were identified to be incorporated into the capacity analyses. There may be other improvements planned. However, they will not impact the number or characteristics of intersection lanes.



6.0 BUILD CONDITIONS

6.1 ORIGIN DESTINATION ASSESSMENT

An origin-destination assessment was completed using StreetLight Data to understand the trends of visitors to the Rock City Gardens site and understand where trips will be rerouted in the build condition.

A summary of the Origin-Destination Assessment is included in **Table 6**.

Table 6: Origin-Destination Assessment Summary

Origin Roadway Segment	Average Weekday	Average Weekend	Peak Season Weekday	Peak Season Weekend
Broad Street	36.1%	36.9%	35.4%	39.2%
Cummings Highway	24.0%	24.1%	11.6%	10.8%
Market Street	23.9%	28.1%	29.9%	31.7%
West 38 th Street	8.8%	3.9%	7.8%	6.0%
GA 193	4.8%	2.4%	8.7%	6.4%
Lula Lake Road	1.4%	3.4%	4.0%	3.6%
Battlefield Parkway	1.0%	1.2%	2.7%	2.4%
St. Elmo Avenue*	5.8%	3.6%	11.4%	8.8%
Ochs Highway**	98.6%	96.6%	96.0%	96.4%

*Combination of GA 193 and Battlefield Parkway

**All traffic approaching site minus Lula Lake Road

The assessment found that, during the average weekday or weekend throughout the year, the majority of trips to the current Rock City Gardens site originate from north of Intersection 2 (TN 17/St Elmo Ave @ TN 58/Ochs Highway) with vehicles taking a southbound right movement onto Ochs Hwy towards the Rock City Gardens site. It can be assumed that the majority of trips are utilizing I-24 to gain access to the local transportation network, with a portion of the trips originating from downtown Chattanooga.

The assessment also found that during the peak season in the month of December, fewer trips originate from Cummings Highway than during the average weekday or weekend. This likely indicates that there are more trips being generated from the I-24 corridor, east of Chattanooga, and outside of the city limits.

Based on the origin-destination assessment and given the location of the proposed site, it is estimated that site visitors will reroute to avoid additional travel time or congested related to I-24 and the local transportation networks. **Table 7** provides an estimated percentage of trips along each route that will reroute and approach the site from a new direction.

Table 7: Estimated Reroute Percentage

Origin Roadway Segment	Estimated Reroute Percentage	New Origin Roadway Segment
Market Street	80%	Battlefield Parkway
Lula Lake Road	80%	GA 193 - NB
West 40 th Street	50%	Battlefield Parkway
Cummings Highway	15%	GA 193 - NB
Broad Street	15%	Battlefield Parkway

The estimated routing to the proposed site, based on the origin-destination and rerouting assessment is provided in **Table 8**.

Table 8: Estimated Routing to New Site

Origin Roadway Segment	Average Weekday	Average Weekend	Peak Season Weekday	Peak Season Weekend
Broad Street	30.7%	31.3%	30.0%	33.3%
Cummings Highway	20.4%	20.4%	9.8%	9.2%
Market Street	4.8%	5.6%	6.0%	6.3%
West 38 th Street	4.4%	2.0%	3.9%	3.0%
GA 193	9.5%	8.8%	13.6%	10.9%
Lula Lake Road	0.3%	0.7%	18.4%	0.7%
Battlefield Parkway	29.5%	31.2%	35.8%	36.6%
St. Elmo Avenue SB*	60.3%	59.4%	49.8%	51.8%

*Combination of Broad Street, Cummings Highway, Market Street, and West 38th St traffic

The above assessment indicates that during an average weekday or weekend throughout the year, an average of 60% of the trips will approach the new facility from the north, traveling southbound along St Elmo Avenue to approach the site and northbound along St Elmo Avenue to depart the site. On peak season weekdays and weekends, an average of 50% of the trips will approach the new facility from the north, traveling southbound along St Elmo Avenue to approach the site and northbound along St Elmo Avenue to depart the site.

6.2 NETWORK SEGMENT ANALYSIS

To understand the impact of redistributed traffic on the impacted routes, a roadway segment analysis was performed. The three roadway segments that experience the greatest impact are St. Elmo Avenue, Battlefield Parkway, and Ochs Highway.

- **St. Elmo Avenue** will experience an impact of additional traffic south of Ochs Highway, as vehicles utilizing Broad Street, Cummings Highway, Market Street, and West 38th Street to access the site will reroute south through intersection 2 (TN 17/St Elmo Ave @ TN 58/Ochs Highway) to the new site location.

- **Battlefield Parkway** will experience an impact of additional traffic east of GA 193 as vehicles reroute from Market Street, West 40th Street, and Broad Street to avoid congestion on I-24 and local roads to access the new site location.
- **Ochs Highway** will experience an impact of reduced traffic as vehicles are no longer traveling to the top of Lookout Mountain to access the site.

To understand the impacts on these roadway segments, the average weekday traffic along the roadway segments was analyzed. Weekday traffic was selected for analysis as it is more predictable due to daily commuter patterns and the number of trips is, on average, higher than weekend trips. To complete the analysis it was estimated, based on trip counts generated using StreetLight Data and calibrated using ticket data provided by the site owner, that approximately 3,150 trips to and from the site occur on an average weekday with a 50/50 split in entering and exiting trips. Of those, it is assumed that 2,800 trips will reroute to the new site, with the remainder of the trips being made up of staff, delivery vehicles, and site visitors who will park at the top of Lookout Mountain. Average weekday traffic along the analyzed roadway segments was generated using StreetLight Data and calibrated using Average Annual Traffic Data from the Tennessee Department of Transportation (TDOT) and GDOT data sources. A summary of existing and estimated average weekday traffic volumes is provided in **Table 9**. **Table 10** provides a summary based on direction of travel.

Table 9: Existing and Estimated Average Weekday Traffic Volumes

Roadway Segment	Existing Average Weekday Traffic Volume	Estimated Change in Traffic	Estimated Build Year Weekday Traffic Volume
St Elmo Ave (south of Ochs Highway)	10,660	+1,680	12,340
Battlefield Parkway (east of GA 193)	11,805	+842	12,647
Ochs Highway	9,454	-2,800	6,654

Table 10: Existing and Estimated Average Weekday Traffic Volumes

Roadway Segment	Direction of Travel	Existing Average Weekday Traffic Volume	Estimated Change in Traffic	Estimated Build Year Weekday Traffic Volume
St Elmo Ave (south of Ochs Highway)	NB	5,652	+840	6,492
	SB	5,008	+840	5,848
Battlefield Parkway (east of GA 193)	WB	5,735	+421	6,156
	EB	6,070	+421	6,491
Ochs Highway	NB	4,673	-1,400	3,273
	SB	4,781	-1,400	3,381

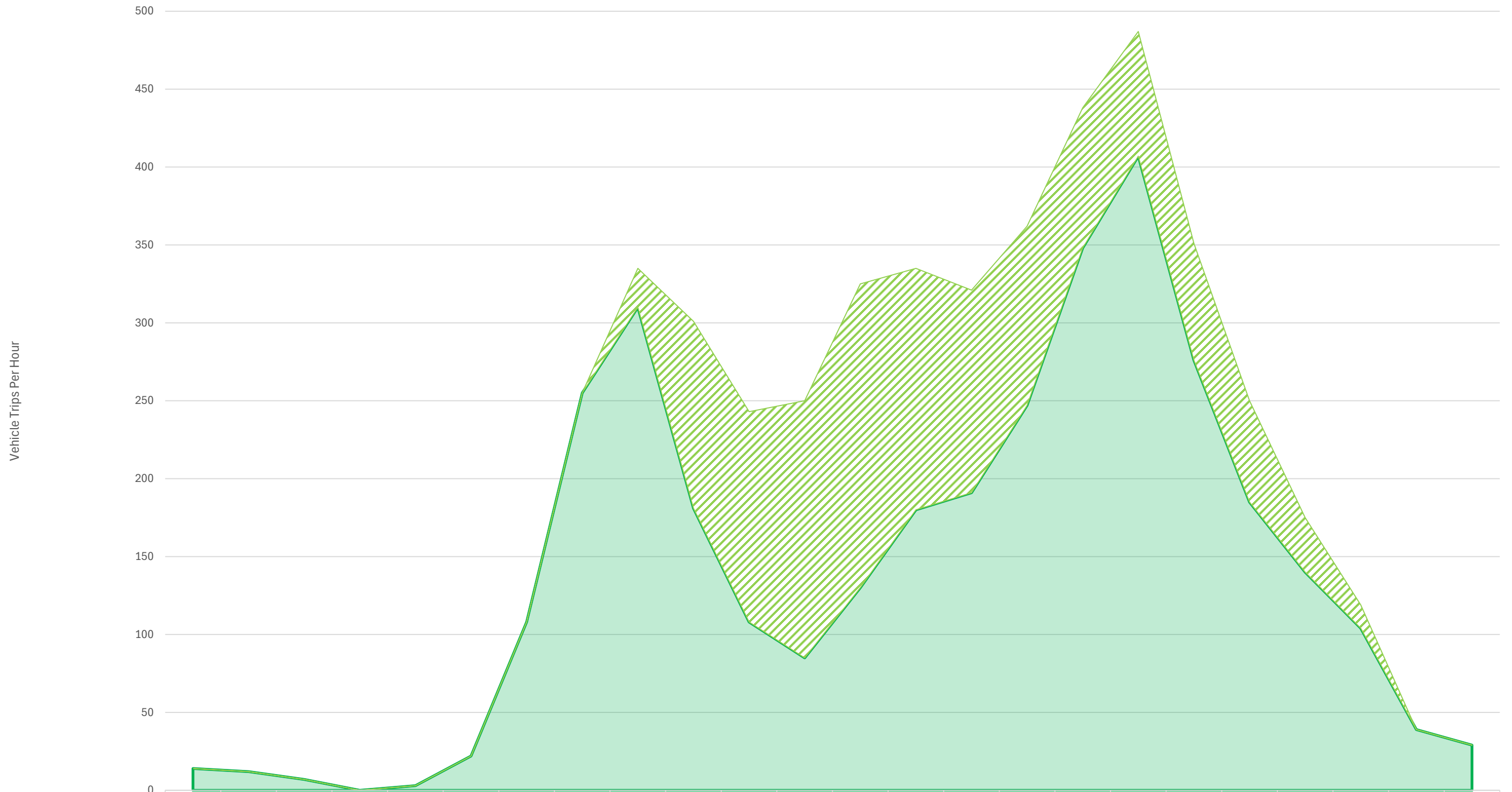
Figure 6, Figure 7, Figure 8, and Figure 9 provide a graphical representation of the change in average daily along St Elmo Avenue and Ochs Highway.

Generalized traffic volume capacity thresholds for 2-lane urban streets, such as St. Elmo Avenue, have been developed by the Florida Department of Transportation (FDOT) via their *2023 Quality / Level of Service Handbook*, which is utilized by several DOT's, including TDOT, for planning purposes. **Table 11** summarizes the estimated build weekday traffic volume along with maximum capacity thresholds and percent of capacity that remains available on the roadway.

Table 11: Estimated Daily Traffic Volume and Capacity Comparison

Roadway Segment	Estimated Build Year Weekday Traffic Volume	Maximum Acceptable Threshold (FDOT)	Remaining Capacity Available in Build Conditions
St Elmo Ave (south of Ochs Highway)	12,349	16,640	25%

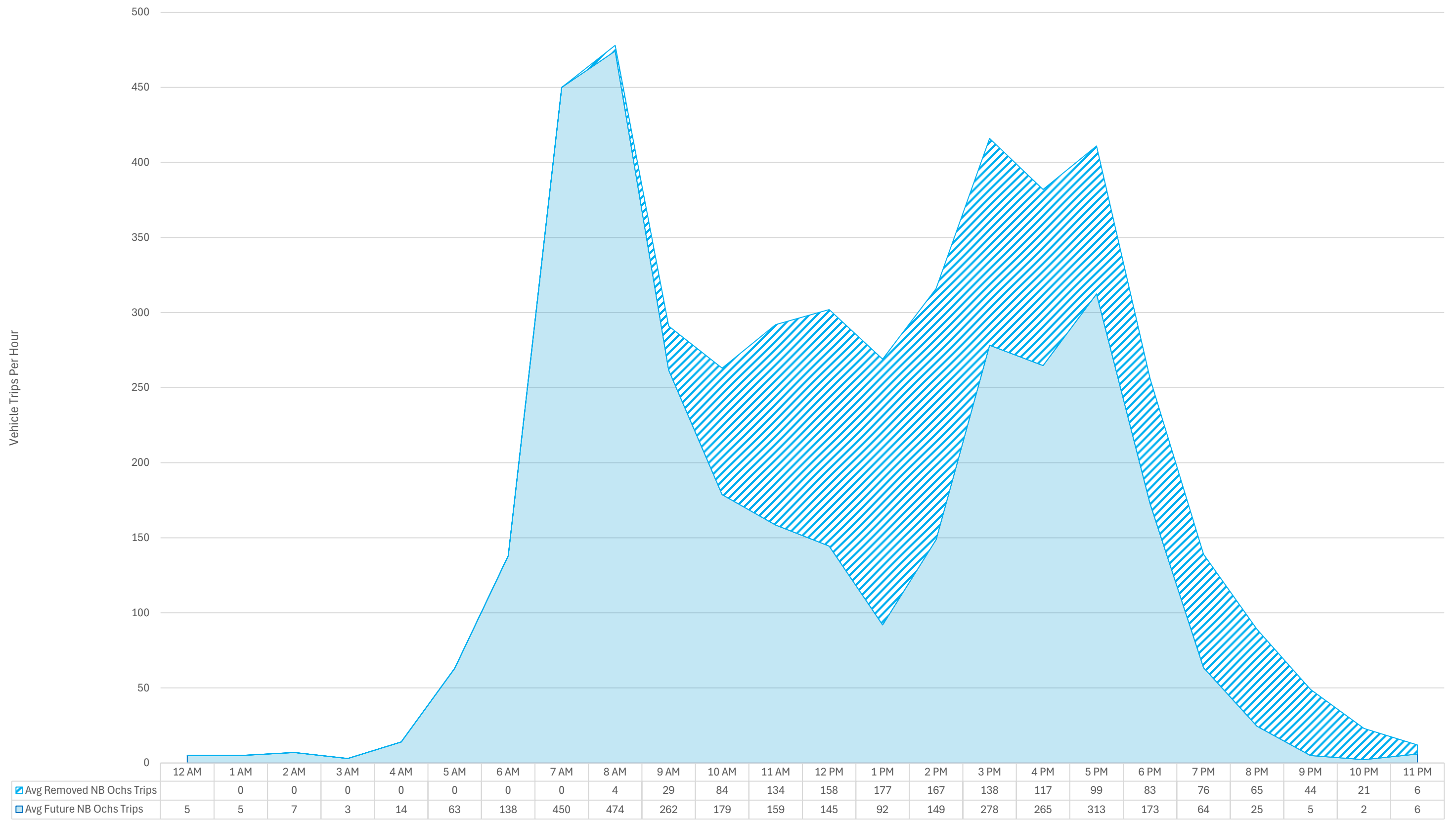
Figure 6: Estimated Change in Daily Trips along SB Ochs Highway



	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Avg Removed SB Ochs Trips	0	0	0	0	0	0	0	0	25	120	135	165	195	155	130	115	90	80	75	65	35	15	0	0
Avg Future SB Ochs Trips	14	12	7	0	3	22	108	255	310	181	108	85	130	180	191	247	348	407	276	185	140	104	39	29

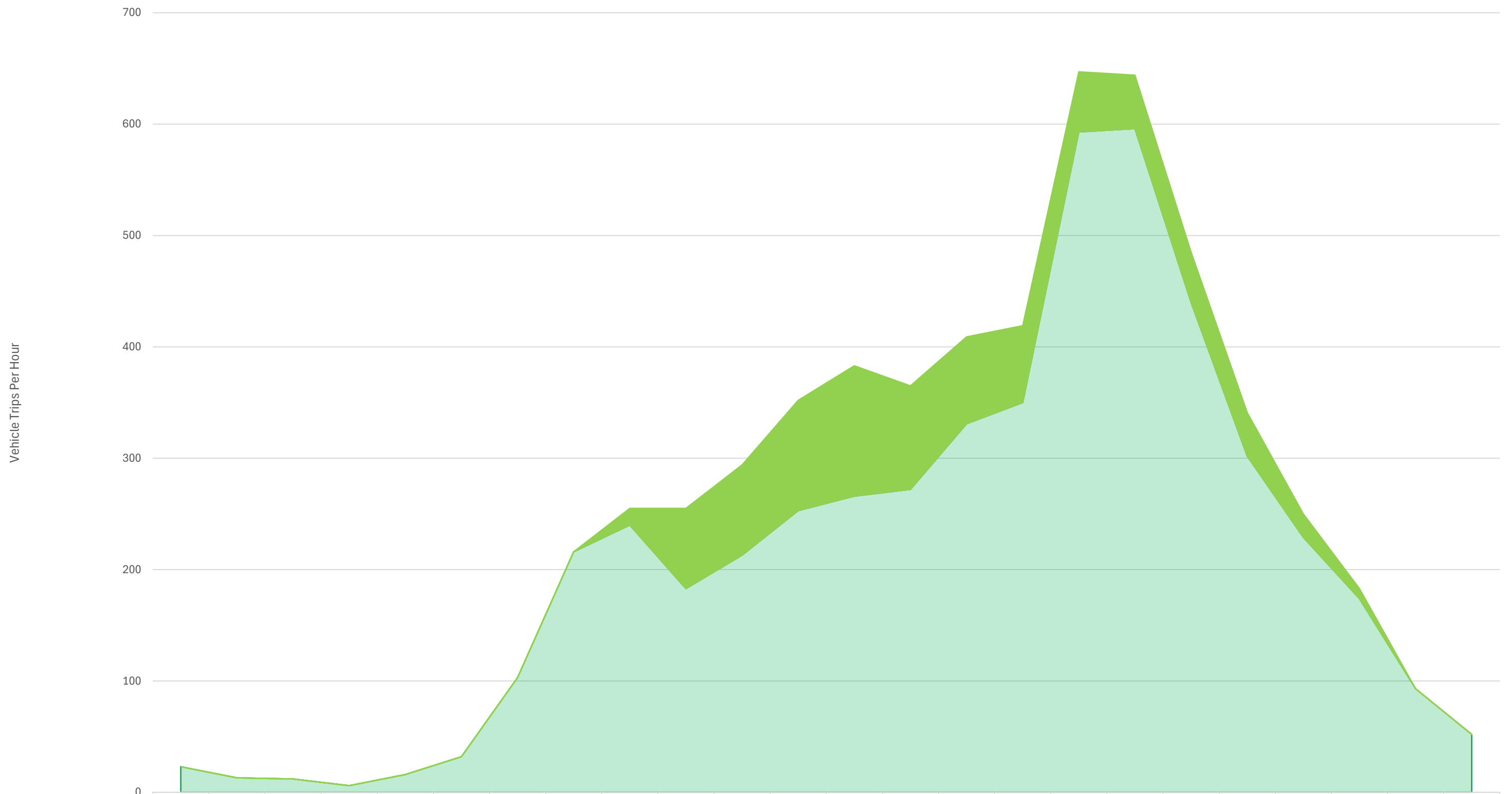
Time of Day

Figure 7: Estimated Change in Daily Trips along NB Ochs Highway



Time of Day

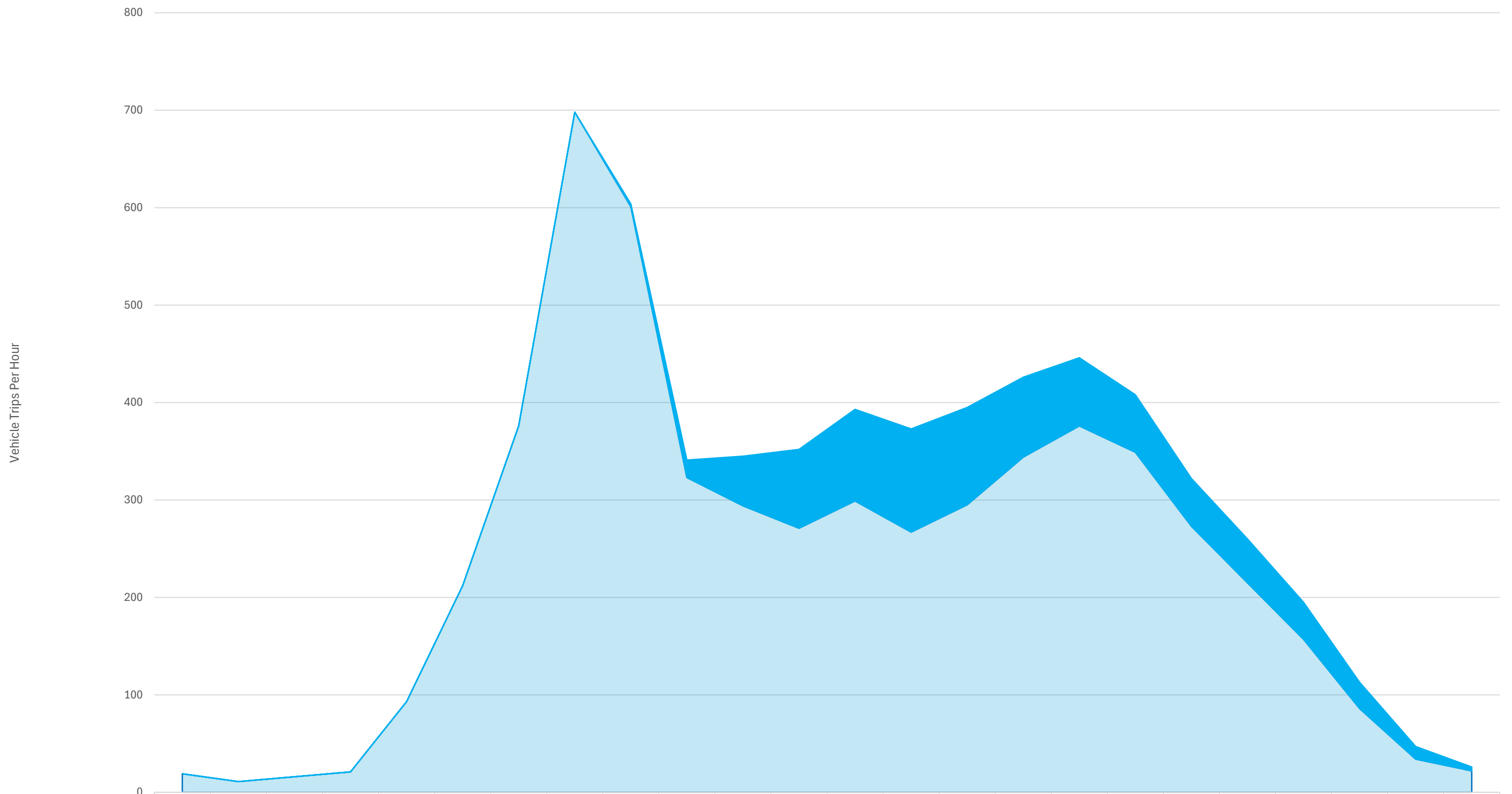
Figure 8: Estimated Change in Daily Trips along SB St Elmo Ave



	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Avg New SB St Elmo Trips	0	0	0	0	0	0	0	0	15	72	81	99	117	93	78	69	54	48	45	39	21	9	0	0
Avg SB St Elmo Trips	23	13	12	6	16	32	103	216	240	183	213	253	266	272	331	350	593	596	440	302	229	174	93	52

Time of Day

Figure 9: Estimated Change in Daily Trips along NB St Elmo Ave



	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Avg New NB St Elmo Trips	0	0	0	0	0	0	0	0	3	18	51	81	94	106	100	82	70	59	49	45	38	27	13	4
Avg NB St Elmo Trips	19	11	16	21	93	212	376	698	601	323	294	271	299	267	295	344	376	349	273	215	157	86	34	22

Time of Day

6.3 SITE ACCESS

There are two alternatives considered for the proposed development. Build Alternative A utilizes the existing intersection of GA 193 at Chattanooga Valley Road as the primary means of access to the site with several ingress and egress driveways constructed along Chattanooga Valley Road. Build Alternative B would establish a new full access intersection on GA 193, just north of Woodburn Road, for site access.

The primary site access point for each Build Alternative has been analyzed below. Internal circulation of vehicles and driveways were not analyzed as a part of this assessment.

A brief description of each site access point is listed in **Table 12**.

Table 12: Site Access Details

#	Intersection	Control/ Movement	Description
3	GA 193 @ Chattanooga Valley Road	TWSC	Build alternative 1 Primary Access – Existing full access intersection
5	GA 193 @ Site Driveway A	Signalized	Build alternative 2 Primary Access – Proposed signalized intersection

6.4 PROJECT TRAFFIC

6.4.1 PROJECT TRIPS

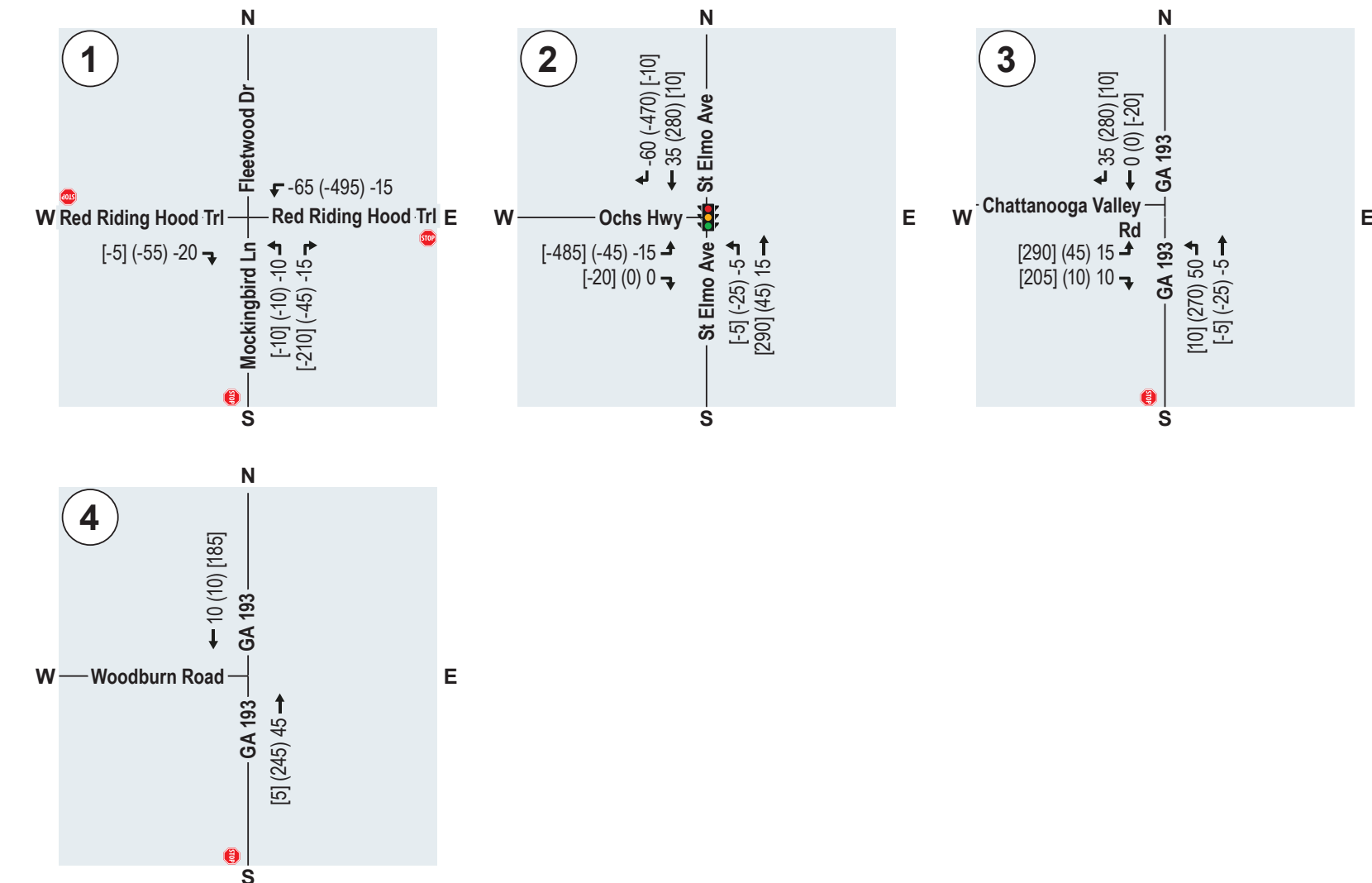
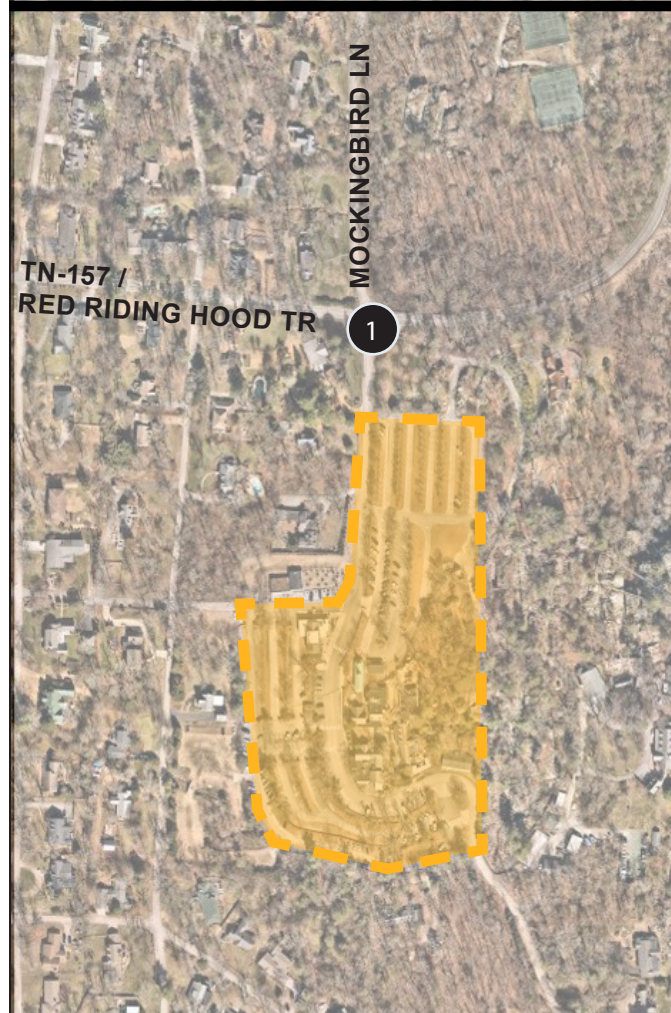
Project trips were determined utilizing TMC data at Intersection 1 (Red Riding Hood Trail @ Mockingbird Lane/Fleetwood Drive). Intersection 1 is the primary access point for Rock City Gardens and based on reviewed origin-destination data, the only entrance that is heavily utilized into the site. As such, it was assumed that 95% of the incoming trips and 70% of the departing trips were related to the Rock City Gardens site and were rerouted to and from the new site.

6.4.2 TRIP DISTRIBUTION AND ASSIGNMENT

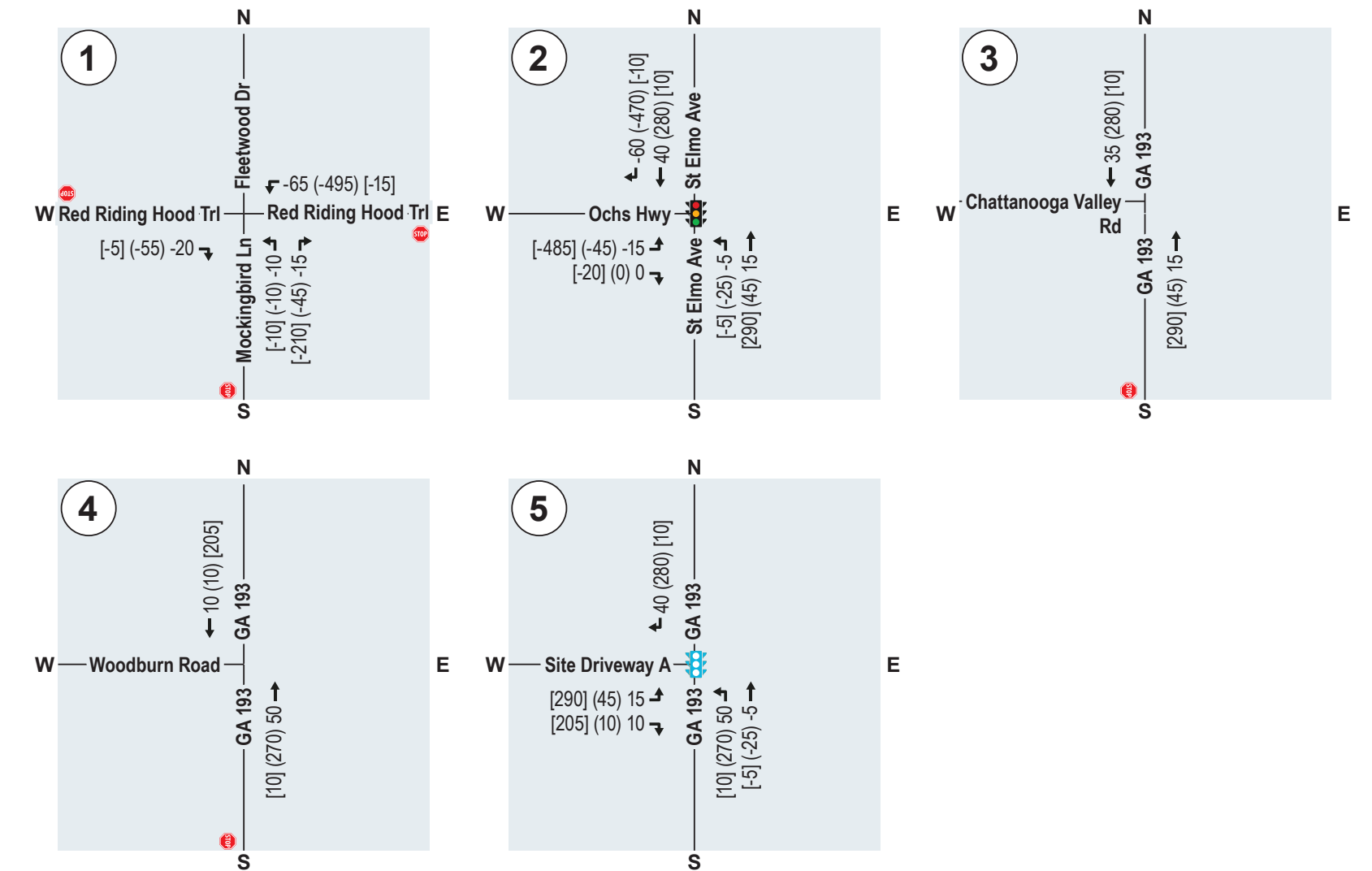
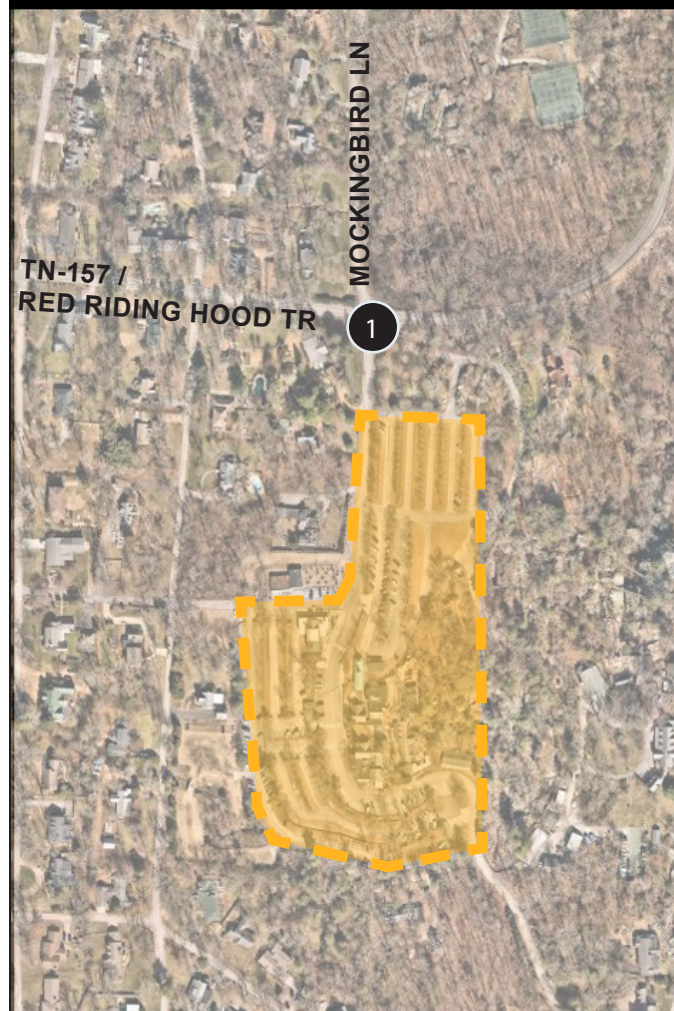
The directional distribution and assignment of project trips was based on a review of the origin-destination analysis. Trips to the proposed development have been redistributed on the transportation network to reach the new site.

Figure 10 and **Figure 11** illustrates the redistribution of project trips to the study network for Build Alternative 1 and 2 respectively. **Figure 12** and **Figure 13** show projected build peak hour volumes for Build Alternative 1 and 2 respectively.

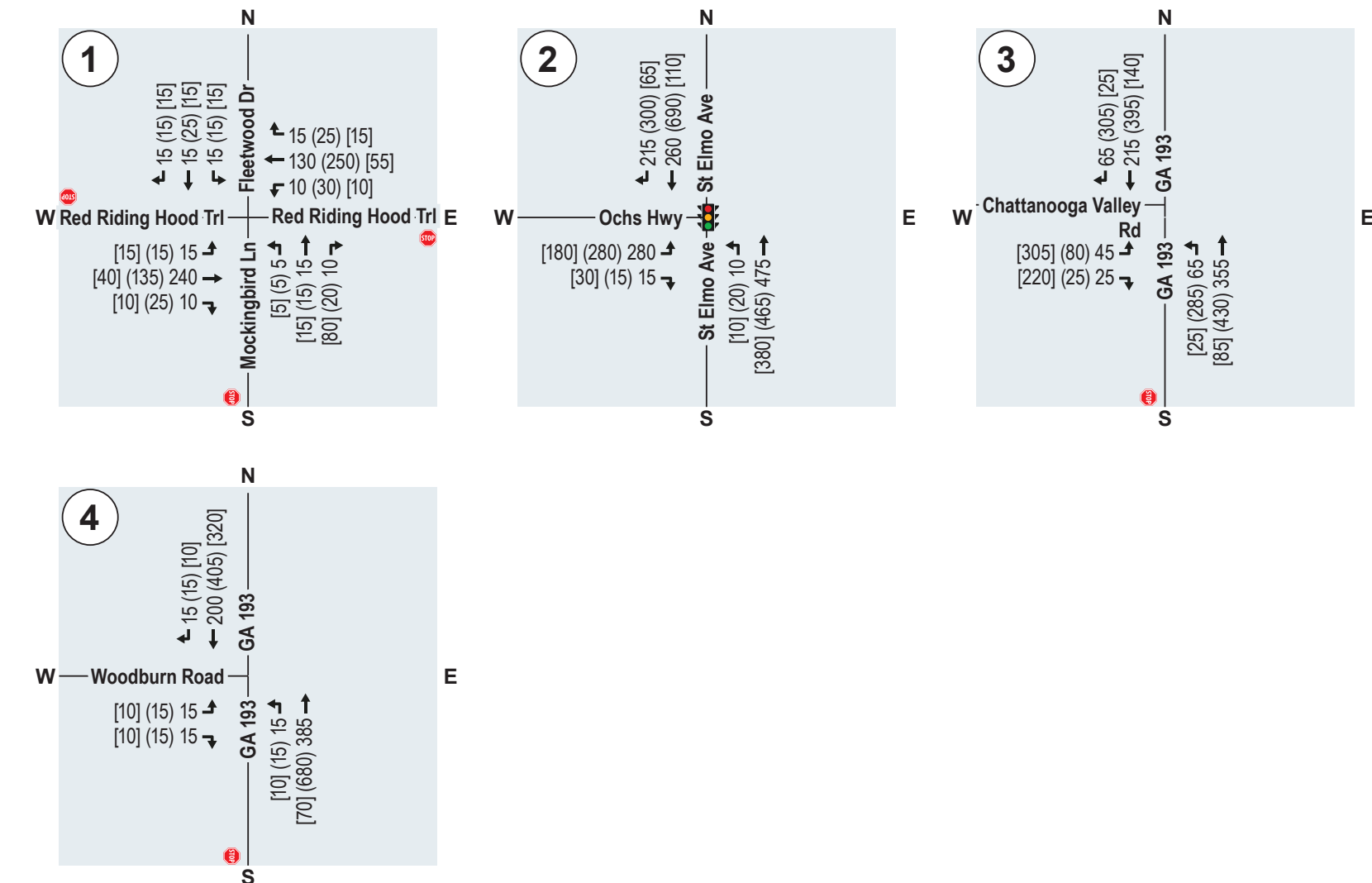
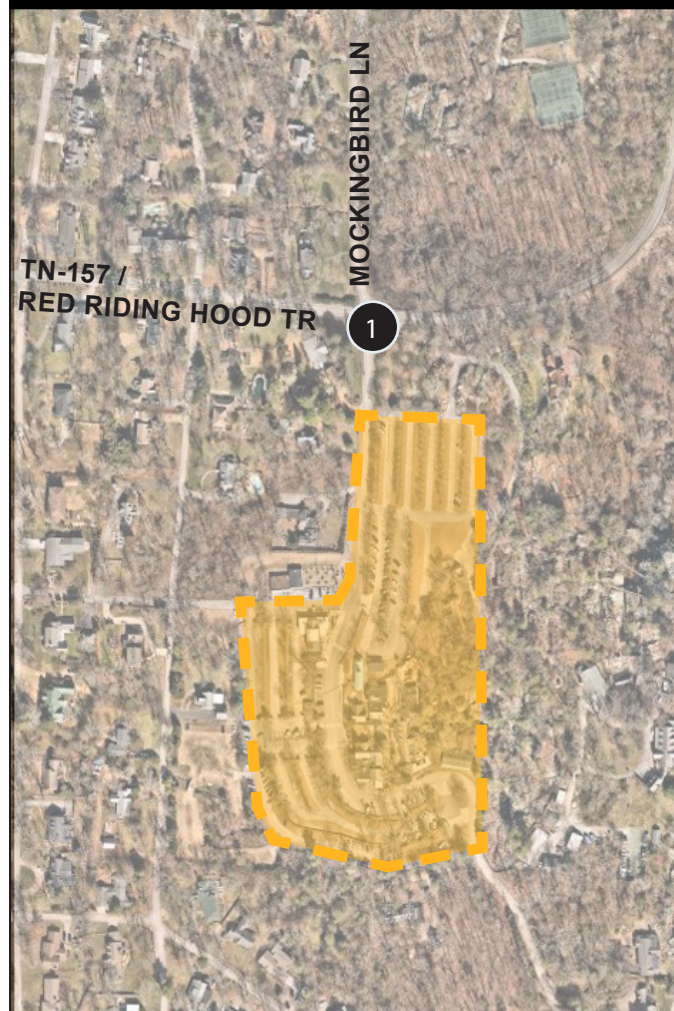
Intersection volume worksheets for all intersections and driveways within the study network are provided in **Appendix C**.



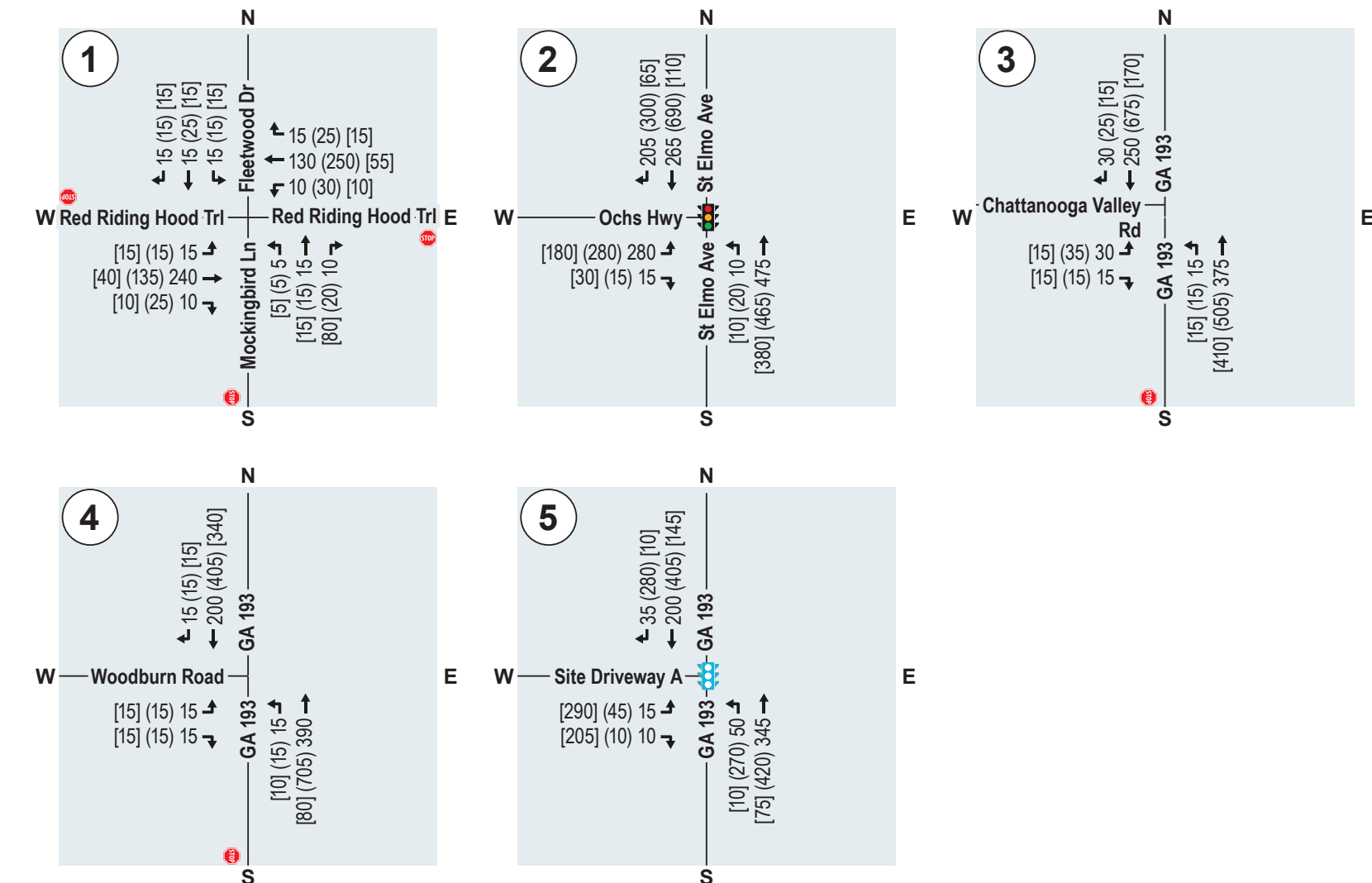
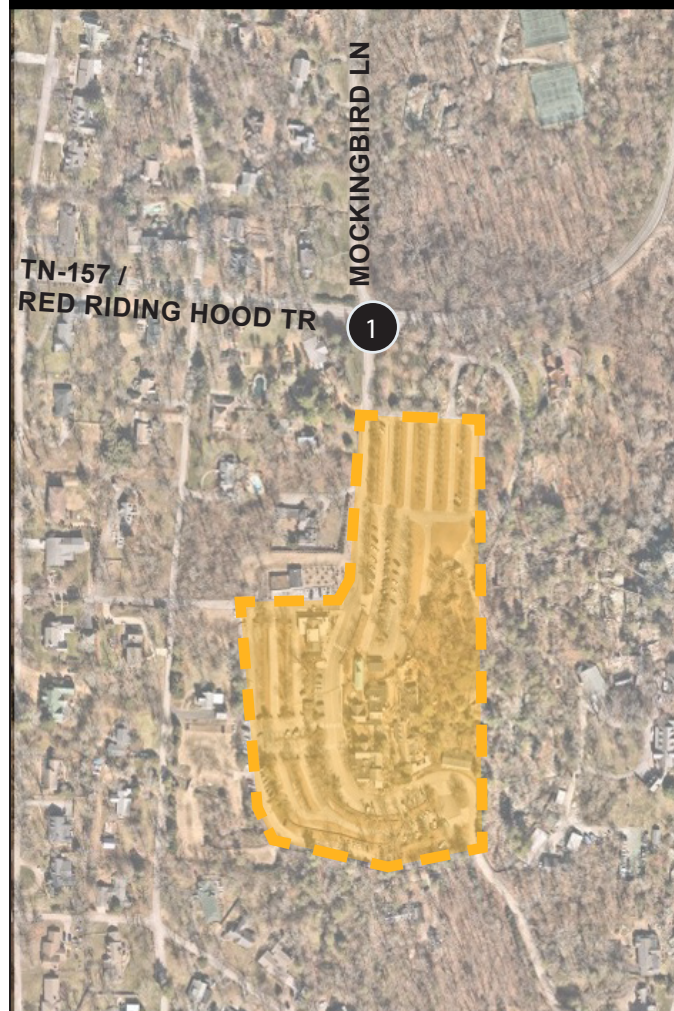
LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes

6.5 TURN LANE EVALUATION

The turn lane evaluations were calculated based on the methodology outlined in Section 3.4. The results of the turn lane warrants are summarized in **Table 13**. Detailed turn lane calculations are provided in **Appendix E**.

Table 13: Turn Lane Warrants

#	Intersection	Movement	Scenario	Warranted
3	GA 193 @ Chattanooga Valley Road	NBL	Build Alternative 1	✓
		SBR		✓
5	GA 193 @ Site Driveway A	NBL	Build Alternative 2	✓
		SBR		✓

Based on the turn lane evaluation, turn lanes are warranted in both Build Alt 1 and Build Alt 2 scenarios. In Build Alt 1, a northbound left-turn lane and southbound right-turn lane at the intersection of GA 193 @ Chattanooga Valley Road (Intersection 3) is warranted. In Build Alt 2, a northbound left-turn lane and southbound right-turn lane at the intersection of GA 193 @ Site Driveway A (Intersection 5) is warranted.

6.6 INTERSECTION CONTROL EVALUATION

The intersection control evaluations (IC) were calculated based on methodology outlined in Section 3.5. The results of the ICE analysis are summarized in **Table 14**. Detailed ICE analysis calculations are provided in **Appendix F**.

Table 14: ICE Summary

#	Intersection	Scenario	Treatment Option 1	Treatment Option 2
3	GA 193 @ Chattanooga Valley Road	Build Alternative 1	Traffic Signal	Single Lane Roundabout
5	GA 193 @ Site Driveway A	Build Alternative 2	Traffic Signal	Continuous Green-T

7.0 CAPACITY ANALYSIS

The capacity analyses were calculated based on methodology outlined in **Section 3.3**. The results of the capacity analyses are summarized in **Table 15**. Detailed capacity reports are provided in Appendix D.

The results show that under existing conditions, all intersections reviewed, other than Intersection 1 during the PM ingress peak period, operate at an acceptable overall LOS during all peak periods analyzed. Under the projected No-Build conditions, all study intersections, other than Intersection 1 and the eastbound approach at Intersection 2, during the PM ingress peak period, are projected to operate at an acceptable overall LOS during all peak periods analyzed.

Under Build Alternative 1 conditions, all study intersections, other than the eastbound left at Intersection 3, during the PM ingress peak period are projected to operate at an acceptable LOS during all periods analyzed. Intersection 3 level of service concerns are mitigated through the installation of a traffic signal and are discussed in **Section 9.0**.

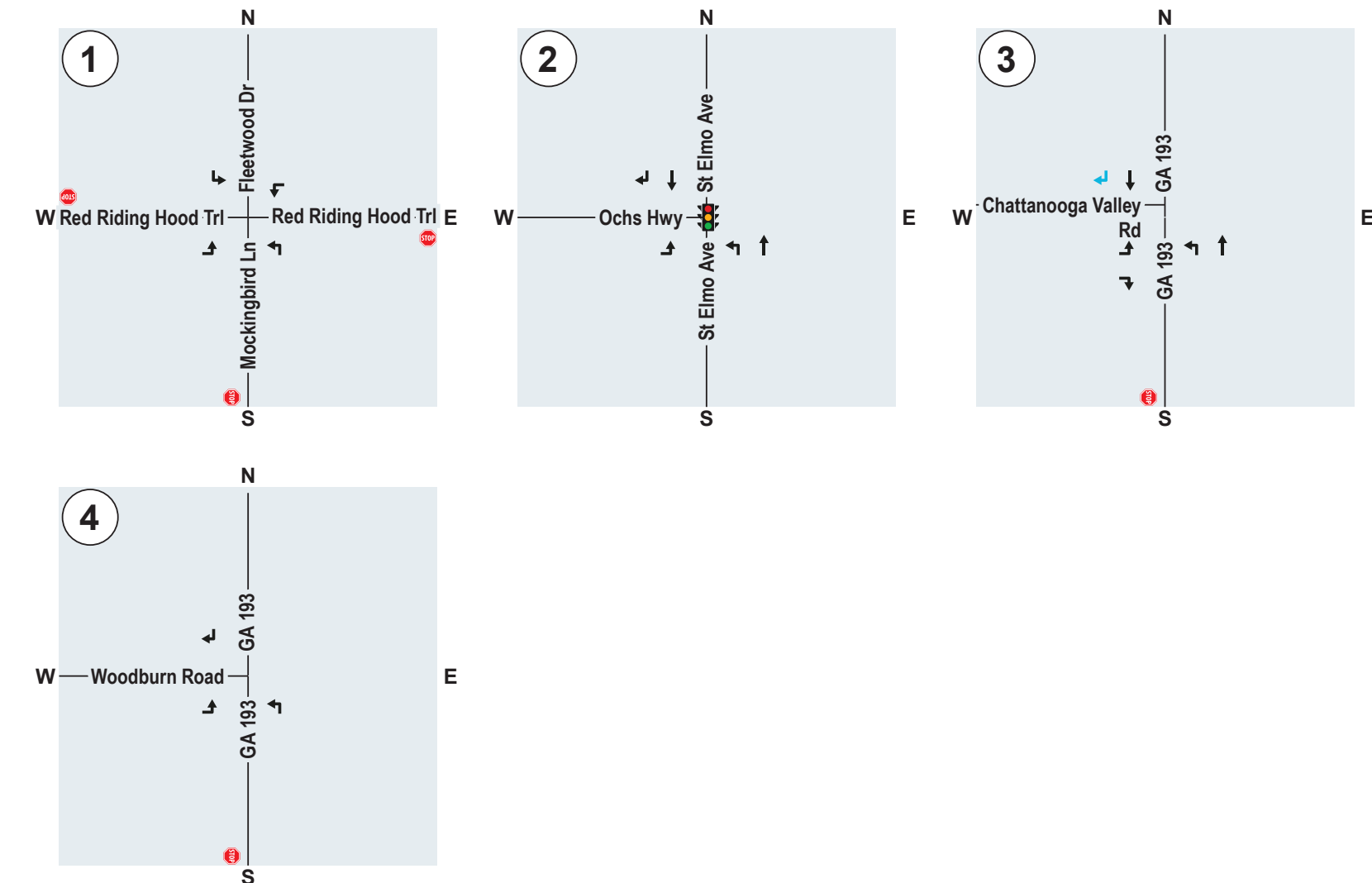
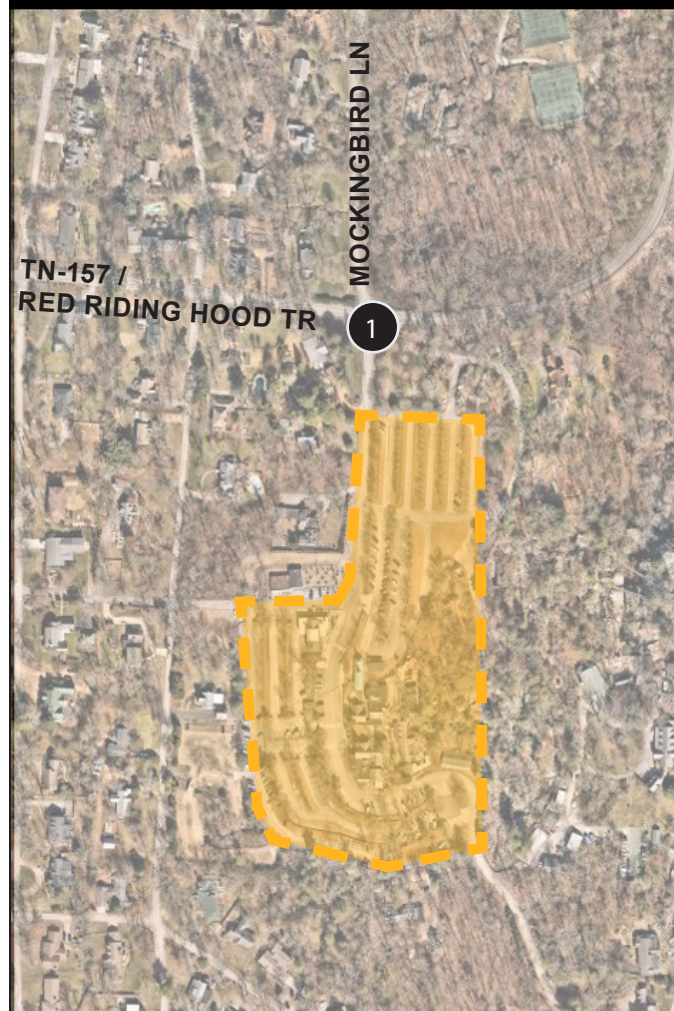
Under Build Alternative 2 conditions, all study intersections, other than the eastbound left at Intersection 3 during the PM ingress peak period, are projected to operate at an acceptable LOS during all peak periods analyzed. Mitigation measures are not discussed for Intersection 3 as it is assumed that the volume on the failing approach will be heavily reduced under the Build Alternative 2 conditions, and therefore, will not be impacted to the level analyzed.

It should be noted that it is not uncommon for side street approaches to experience higher delay during peak periods and in more urban areas.

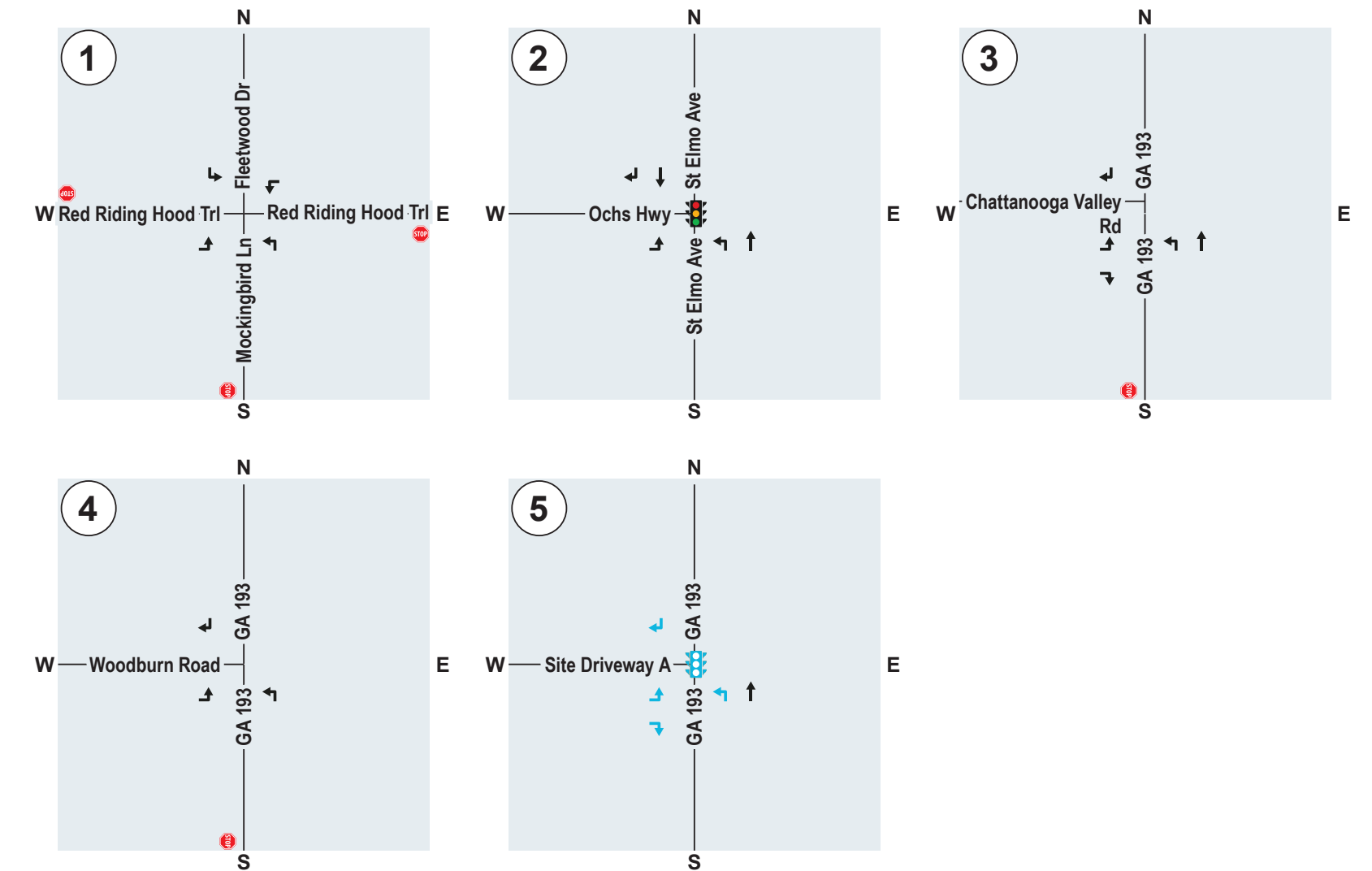
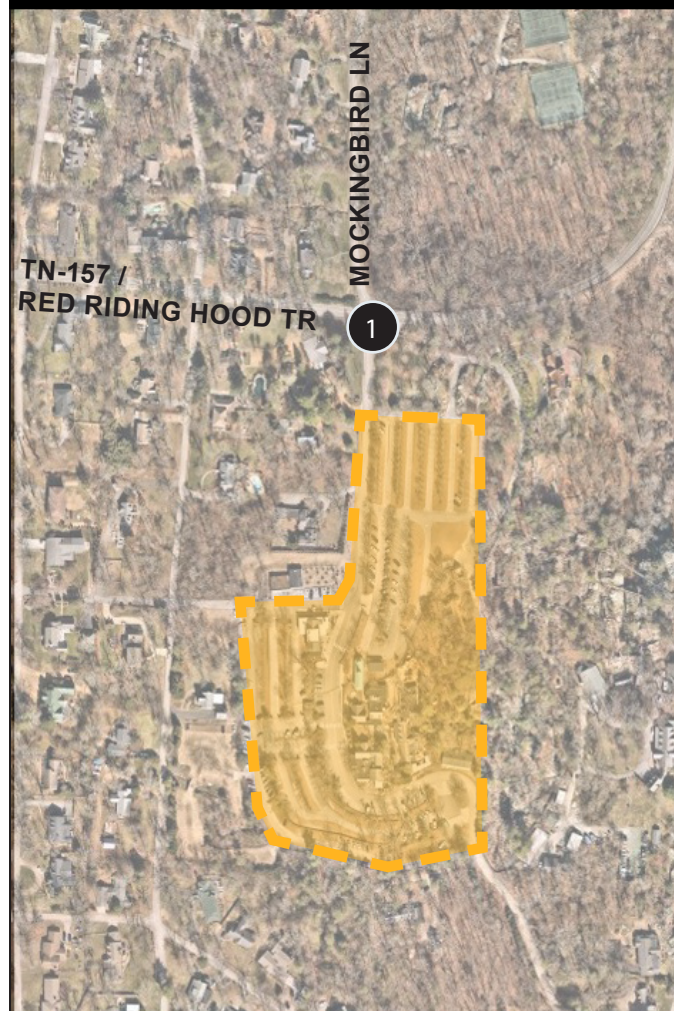
The build alternative 1 lane configuration is shown in **Figure 14**. The build alternative 2 lane configuration is shown in **Figure 15**.

Table 15: LOS Summary

Num	Intersection Name	Movement/Approach /Intersection	Existing AM		Existing PM Ingress		Existing PM Egress		No-Build AM		No-Build PM Ingress		No-Build PM Egress		Build Alt 1 AM		Build Alt 1 PM Ingress		Build Alt 1 PM Egress		Build Alt 2 AM		Build Alt 2 PM Ingress		Build Alt 2 PM Egress		
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl	EB	A	9.7	B	10.6	A	8.2	B	10.7	B	11.6	A	8.5	A	10	A	9.2	A	7.8	A	10	A	9.2	A	7.8	
		WB	A	9.3	F	124.2	A	8.4	B	10	F	165.6	A	8.7	A	8.8	B	10.9	A	7.7	A	8.8	B	10.9	A	7.7	
		NB	A	8.3	B	10	A	9.1	A	8.7	B	10.5	A	9.7	A	8.2	A	8.4	A	7.5	A	8.2	A	8.4	A	7.5	
		SB	A	8.3	A	10	A	7.7	A	8.7	B	10.4	A	8	A	8.4	A	8.7	A	7.6	A	8.4	A	8.7	A	7.6	
2	St Elmo Ave & Ochs Hwy	EBL	D	45.5	D	54.1	B	14.8	D	44.2	E	56.8	B	15.4	D	44.3	D	53.4	D	45.8	D	44.3	D	53.4	D	45.8	
		NBL	A	5.6	A	6.5	C	28.1	A	6.6	A	7.4	C	28.6	A	6.2	A	6.6	A	4.5	A	6.2	A	6.6	A	4.5	
		NBT	A	8.4	A	8.5	C	30.1	B	10.3	A	9.9	C	30.6	A	9.9	A	9.2	A	6.6	A	9.9	A	9.2	A	6.6	
		SBT	A	6.7	A	8.5	C	30.4	A	7.9	A	9.8	C	31	A	7.8	B	12.9	A	5	A	7.8	B	12.9	A	5	
		SBR	A	6.7	B	11.3	C	28.2	A	7.8	B	12.6	C	28.5	A	7.1	A	7.2	A	4.7	A	7	A	7.2	A	4.7	
		NB	A	8.4	A	8.3	C	29.9	B	10.1	A	9.7	C	30.3	A	9.8	A	9.1	A	6.5	A	9.8	A	9.1	A	6.5	
		SB	A	6.7	A	10.4	C	29.5	A	7.8	B	11.7	C	29.9	A	7.5	B	11.2	A	4.9	A	7.4	B	11.2	A	4.9	
		EB	D	45.5	D	54.1	B	14.8	D	44.2	E	56.8	B	15.4	D	44.3	D	53.4	D	45.8	D	44.3	D	53.4	D	45.8	
		Intersection	B	16.6	B	17.2	B	18.7	B	17.5	B	18.9	B	19.6	B	17	B	17.6	B	16.8	B	17.1	B	17.6	B	16.8	
3	GA 193 & Chattanooga Valley Rd	EBL	B	13.5	C	19	B	10	C	15.3	C	22.4	B	10.7	C	18.3	F	274.1	C	16.9	C	16.3	E	39.9	B	14.8	
		EBR	A	9.5	B	10.9	A	9.1	A	9.8	B	11.3	A	9.4	A	9.8	B	11.3	B	1.2	B	10.1	B	14.9	A	9.4	
		NBL	A	7.7	A	8.2	A	7.5	A	7.8	A	8.3	A	7.6	A	7.9	A	9.7	A	7.6	A	7.9	A	9.4	A	7.7	
4	GA 193 & Woodburn Road	EBL	B	11.3	B	14.3	A	9.6	B	12	C	16.2	A	9.7	B	12.5	C	21	B	11.3	B	12.5	C	21.6	B	11.8	
		NBL	A	7.7	A	8.2	A	7.5	A	7.8	A	8.4	A	7.6	A	7.8	A	8.4	A	8.3	A	7.8	A	8.4	A	8.2	
5	GA 193 & Site Driveway A	EBL																			C	22.6	C	33.1	B	14.4	
		EBR																				B	18.7	C	25.5	B	10.1
		NBL																				A	1.3	B	10.7	A	5.1
		NBT																				A	1.9	A	2	A	5.4
		SBT																				A	1.6	A	3.6	A	6
		NB																				A	1.8	A	5.4	A	5.4
		SB																				A	1.6	A	3.6	A	6
		EB																				C	21	C	31.7	B	12.6
Intersection																				A	2.5	A	6.1	B	10.4		



LEGEND	Signalized Intersection ID	Existing Traffic Signal	Existing Lane Configuration
	Unsignalized Intersection ID	Existing Stop Sign	Build Lane Configuration
		Proposed Stop Sign	



LEGEND	Signalized Intersection ID	Existing Traffic Signal	Existing Lane Configuration
	Unsignalized Intersection ID	Existing Stop Sign	Build Lane Configuration
	Proposed Stop Sign		

8.0 HORIZON YEAR ANALYSES

In addition to the build-out year analyses, horizon year analyses were completed to evaluate traffic five (5) years after the opening of the project. The horizon year analyses considered the following scenarios:

- Projected 2033 Horizon Year No-Build Conditions
 - Existing traffic counts grown to the build-out year at a standard growth rate.
- Projected 2033 Horizon Year Build Conditions (Build Alt 1 and Build Alt 2)
 - Existing traffic counts grown to the build-out year at a standard growth rate and the redistributed traffic associated with the proposed development.

To account for background traffic, the existing traffic volumes were increased by 3.5% per year to account for the expected background growth through the horizon year

The results show that under no-build conditions all study intersections, other than Intersection 1 and the eastbound approach at Intersection 2, during the PM Ingress peak period, operate at an acceptable LOS during all period periods analyzed.

Under Build Alternative 1 conditions, all study intersections, other than the eastbound approach at Intersection 2 and the eastbound left and the eastbound approach at Intersection 3, during the PM Ingress peak period, operate at an acceptable overall LOS during all peak periods analyzed. Intersection 3 mitigation measures are summarized in **Section 9.0**.

Under Build Alternative 2 conditions, all study intersections, other than the eastbound approach at Intersection 2 and the eastbound left at Intersection 3 during the PM Ingress peak period, operate at an acceptable overall LOS during all peak periods analyzed. Mitigation measures are not discussed for Intersection 3 as it is assumed that the volume on the failing approach will be heavily reduced under the Build Alternative 2 conditions, and therefore, will not be impacted to the level analyzed.

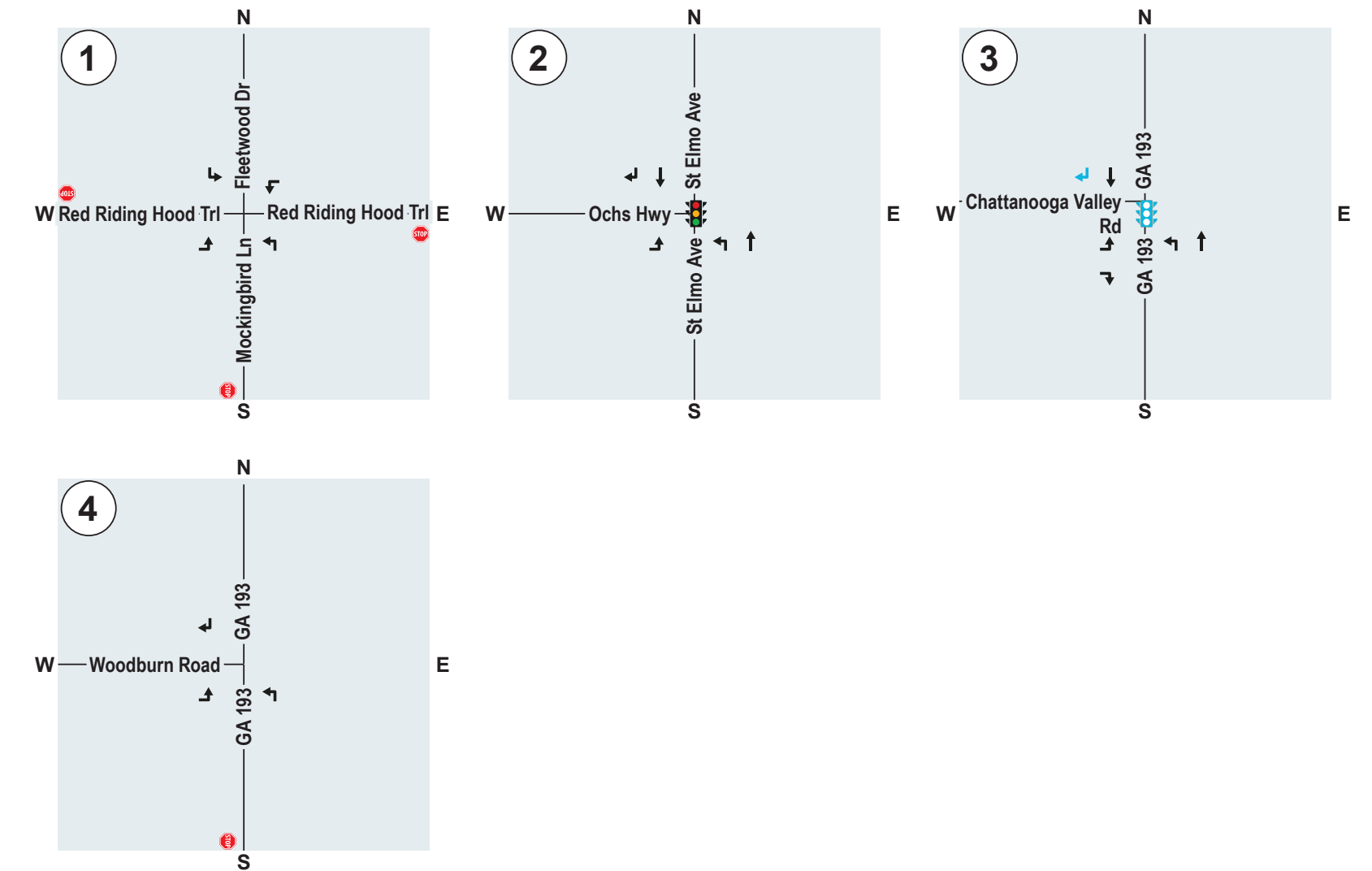
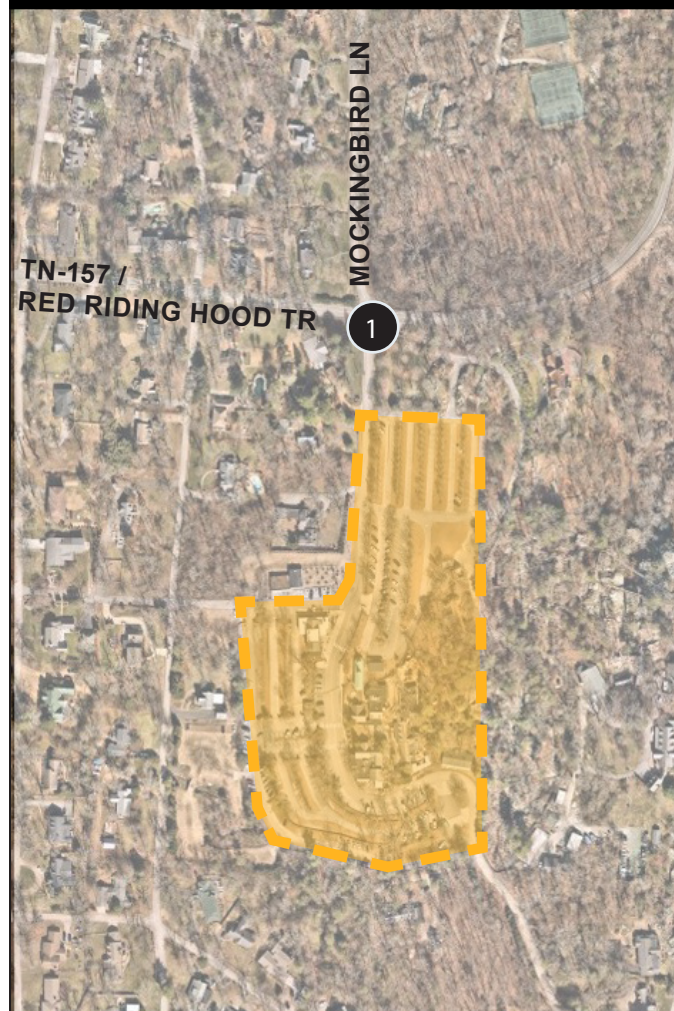
The volume and geometry figures, volume development calculations, and capacity results of the horizon year analyses are summarized in **Appendix G**.

9.0 LEVEL OF SERVICE MITIGATIONS

The ICE Analysis recommends that Intersection 3, GA 193 @ Chattanooga Valley Road, be modified to a signal controlled intersection. The results of the capacity analysis for the PM Ingress peak and PM Egress peak in the Build Alternative 1 scenario and Horizon Build Alternative 1 are detailed in **Table 16**. Level of Service mitigation build lane configuration is shown in **Figure 16**.

Table 16: LOS Mitigation Summary

Num	Intersection Name	Movement/Approach /Intersection	ICE Build Alt 1 PM Ingress		ICE Build Alt 1 PM Egress		ICE Horizon Build Alt 1 PM Ingress		ICE Horizon Build Alt 1 PM Egress	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
3	GA 193 & Chattanooga Valley Rd	EBL	B	19.8	A	7.1	C	24.8	A	7.1
		NBL	A	5.4	A	6.1	A	6.9	A	7.1
		NBT	A	2.7	A	5.4	A	2.6	A	6.1
		SBT	A	2.6	A	5.9	A	2.5	A	6.8
		NB	A	3.8	A	5.9	A	4.4	A	6.3
		SB	A	2.6	A	5.9	A	2.5	A	6.8
		EB	B	19.8	B	7.1	C	24.8	A	7.1
		Intersection	A	4.5	A	6.5	A	5.1	A	6.9



LEGEND	Signalized Intersection ID	Existing Traffic Signal	Existing Lane Configuration
	Unsignalized Intersection ID	Existing Stop Sign	Build Lane Configuration
	Proposed Stop Sign		

10.0 RECOMMENDATIONS

10.1 DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

The following improvements are recommended to serve the traffic associated with the *Rock City Gardens Gondola* development.

- Build Alternative 1
 - Intersection 3: GA 193 @ Chattanooga Valley Road
 - Install a traffic signal as recommended by the ICE Analysis
 - Increase the storage length of the northbound left turn to 310'
 - Install a southbound right turn deceleration lane with a storage length of 310'
- Build Alternative 2
 - Intersection 5: GA 193 @ Site Driveway A
 - Install a traffic signal as recommended by the ICE Analysis
 - Install a northbound left turn with a storage length of 310'
 - Install a southbound right turn deceleration lane with a storage length of 250'
 - Install two (2) eastbound egress lanes from the site
 - One (1) left turn lane
 - One (1) right turn lane

Site Plan



Appendix A: Site Plan



Traffic Counts



RED RIDING HOOD TRAIL AT MOCKINGBIRD LANE/FLEETWOOD DRIVE

AM Peak Period Turning Movement Counts (10:30-11:30)

Day Parts	South - Mockingbird Lane [S]				West - Red Riding Hood Trail[W]				North - Fleetwood Drive [N]				East - Red Riding Hood Trail [E]				Total <i>per Day Part</i>	Total <i>Percentage</i>
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total		
10:30am	0	0	4	4	0	49	8	57	0	0	0	0	14	38	5	57	118	24.69%
10:45am	0	0	9	9	3	49	2	54	0	0	0	0	29	31	3	63	126	26.36%
11:00am	0	1	4	5	0	76	10	86	0	4	0	4	14	21	0	35	130	27.20%
11:15am	2	0	4	6	5	42	4	53	2	0	0	2	14	27	0	43	104	21.76%
Grand Total	2	1	21	24	8	216	24	250	2	4	0	6	71	117	8	198	478	100.00%

PM Ingress Peak Period Turning Movement Counts (16:15-17:15)

Day Parts	South - Mockingbird Lane [S]				West - Red Riding Hood Trail[W]				North - Fleetwood Drive [N]				East - Red Riding Hood Trail [E]				Total <i>per Day Part</i>	Total <i>Percentage</i>
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total		
4:15pm	2	0	25	27	0	23	27	50	0	9	0	9	105	44	8	157	243	22.67%
4:30pm	0	1	19	20	0	23	8	33	2	7	0	9	134	46	3	183	245	22.85%
4:45pm	4	0	6	10	0	27	15	49	0	2	0	2	139	69	4	216	277	25.84%
5:00pm	0	0	8	8	0	49	27	78	0	4	0	4	143	64	3	217	307	28.64%
Grand Total	6	1	58	65	0	122	77	210	2	22	0	24	521	223	18	773	1,072	100.00%

PM Egress Peak Period Turning Movement Counts (22:15-23:15)

Day Parts	South - Mockingbird Lane [S]				West - Red Riding Hood Trail[W]				North - Fleetwood Drive [N]				East - Red Riding Hood Trail [E]				Total <i>per Day Part</i>	Total <i>Percentage</i>
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total		
10:15pm	0	0	76	76	0	4	0	4	0	0	0	0	7	23	0	34	114	27.94%
10:30pm	6	0	59	65	0	8	0	8	0	0	0	0	4	4	0	8	81	19.85%
10:45pm	4	0	76	80	0	13	2	19	0	0	0	0	4	12	0	18	117	28.68%
11:00pm	2	0	68	70	0	11	0	13	0	0	0	0	0	13	0	13	96	23.53%
Grand Total	12	0	279	291	0	36	2	44	0	0	0	0	15	52	0	73	408	100.00%

TN 17/ST ELMO AVE AT TN 58/OCHS HIGHWAY

AM Peak Period Turning Movement Counts (10:30-11:30)

Day Parts	South - St Elmo Avenue [S]			West - Ochs Highway [W]			North - St. Elmo Avenue [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
10:30am	2	124	126	65	2	69	58	67	127	322	27.45%
10:45am	0	130	130	72	2	74	50	60	112	325	27.71%
11:00am	2	67	69	63	2	65	46	46	95	229	19.52%
11:15am	2	92	94	65	4	72	48	74	131	297	25.32%
Grand Total	6	413	428	265	10	280	202	247	465	1,173	100.00%

PM Ingress Peak Period Turning Movement Counts (16:15-17:15)

Day Parts	South - St Elmo Avenue [S]			West - Ochs Highway [W]			North - St. Elmo Avenue [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
4:15pm	21	98	119	72	2	74	89	160	254	447	23.69%
4:30pm	11	92	107	81	2	86	89	185	276	469	24.85%
4:45pm	6	122	130	75	2	82	91	223	335	547	28.99%
5:00pm	2	63	67	69	4	73	101	173	284	424	22.47%
Grand Total	40	375	423	297	10	315	370	741	1,149	1,887	100.00%

PM Egress Peak Period Turning Movement Counts (22:15-23:15)

Day Parts	South - St Elmo Avenue [S]			West - Ochs Highway [W]			North - St. Elmo Avenue [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
10:15pm	0	25	25	141	23	166	17	29	48	239	25.32%
10:30pm	0	21	23	158	2	160	25	19	44	227	24.05%
10:45pm	0	21	23	192	4	198	25	10	35	256	27.12%
11:00pm	2	15	17	154	17	173	23	9	32	222	23.52%
Grand Total	2	82	88	645	46	697	90	67	159	944	100.00%

GA 193 at Chattanooga Valley Road

AM Peak Period Turning Movement Counts (10:30-11:30)

Day Parts	South - GA 193 [S]			West - Chattanooga Valley Road [W]			North - GA 193 [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
10:30am	0	89	89	4	0	4	44	6	54	147	26.30%
10:45am	2	97	108	4	0	4	46	6	54	166	29.70%
11:00am	0	59	61	2	0	2	31	6	41	104	18.60%
11:15am	0	64	66	14	0	14	54	8	62	142	25.40%
Grand Total	2	309	324	24	0	24	175	26	211	559	100.00%

PM Ingress Peak Period Turning Movement Counts (16:15-17:15)

Day Parts	South - GA 193 [S]			West - Chattanooga Valley Road [W]			North - GA 193 [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
4:15pm	0	99	99	19	0	23	80	2	82	204	24.55%
4:30pm	0	112	114	0	0	0	107	6	115	229	27.56%
4:45pm	0	140	144	6	0	6	75	4	81	231	27.80%
5:00pm	0	57	59	4	0	4	92	8	104	167	20.10%
Grand Total	0	408	416	29	0	33	354	20	382	831	100.00%

PM Egress Peak Period Turning Movement Counts (22:15-23:15)

Day Parts	South - GA 193 [S]			West - Chattanooga Valley Road [W]			North - GA 193 [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
10:15pm	2	17	19	0	0	0	38	0	38	57	28.79%
10:30pm	0	21	25	0	0	0	36	0	36	61	30.81%
10:45pm	0	13	13	0	0	0	21	0	21	34	17.17%
11:00pm	0	11	11	0	0	0	33	2	35	46	23.23%
Grand Total	2	62	68	0	0	0	128	2	130	198	100.00%

GA 193 at Woodburn Road

AM Peak Period Turning Movement Counts (10:30-11:30)

Day Parts	South - GA 193 [S]			West - Pipe Shop Road [W]			North - GA 193 [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
10:30am	0	84	84	0	0	0	53	0	55	139	28.31%
10:45am	0	103	112	0	0	0	40	0	40	152	30.96%
11:00am	2	52	56	0	0	0	28	0	28	84	17.11%
11:15am	0	65	67	0	0	0	49	0	49	116	23.63%
Grand Total	2	304	319	0	0	0	170	0	172	491	100.00%

PM Ingress Peak Period Turning Movement Counts (16:15-17:15)

Day Parts	South - GA 193 [S]			West - Pipe Shop Road [W]			North - GA 193 [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
4:15pm	0	93	93	0	0	0	89	0	89	182	23.92%
4:30pm	0	112	114	0	0	0	104	1	105	219	28.78%
4:45pm	0	131	135	0	2	2	77	0	77	214	28.12%
5:00pm	0	52	54	0	0	0	87	1	92	146	19.19%
Grand Total	0	388	396	0	2	2	357	2	363	761	100.00%

PM Egress Peak Period Turning Movement Counts (22:15-23:15)

Day Parts	South - GA 193 [S]			West - Pipe Shop Road [W]			North - GA 193 [N]			Total per Day Part	Total Percentage
	Left	Thru	Total	Left	Right	Total	Thru	Right	Total		
10:15pm	0	19	19	0	0	0	32	1	33	52	27.96%
10:30pm	0	17	23	0	0	0	36	0	36	59	31.72%
10:45pm	0	13	13	0	0	0	21	0	21	34	18.28%
11:00pm	0	11	11	0	0	0	30	0	30	41	22.04%
Grand Total	0	60	66	0	0	0	119	1	120	186	100.00%

Volume Development



INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Red Riding Hood Trail at Mockingbird Lane/Fleetwood Drive

AM PEAK HOUR

	Red Riding Hood Trail <u>Eastbound</u>				Red Riding Hood Trail <u>Westbound</u>				Mockingbird Lane <u>Northbound</u>				Fleetwood Drive <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	10	215	25	0	70	115	10	0	10	10	20	0	10	10	10	515
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	23	1	0	1	13	1	0	1	1	1	0	1	1	1	46
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	68	2	0	2	36	3	0	3	3	2	0	3	3	3	131
No-Build 2028 AM Volumes	0	15	240	30	0	75	130	15	0	15	15	25	0	15	15	15	561
No-Build 2033 AM Volumes	0	15	285	30	0	75	155	15	0	15	15	25	0	15	15	15	646
Project Traffic																	
Project Trips	0	0	0	-20	0	-65	0	0	0	-10	0	-15	0	0	0	0	-110
Horizon Project Trips	0	0	0	-20	0	-65	0	0	0	-10	0	-15					-110
Build 2028 AM Volumes	0	15	240	10	0	10	130	15	0	5	15	10	0	15	15	15	495
Build 2033 AM Volumes	0	15	285	10	0	10	155	15	0	5	15	10	0	15	15	15	536
% from Existing (Build-Out)	0.0%	66.7%	89.6%	250.0%	0.0%	700.0%	88.5%	66.7%	0.0%	200.0%	66.7%	200.0%	0.0%	66.7%	66.7%	66.7%	104.0%
% from Background Growth (Build-Out)	0.0%	33.3%	10.4%	50.0%	0.0%	50.0%	11.5%	33.3%	0.0%	100.0%	33.3%	50.0%	0.0%	33.3%	33.3%	33.3%	9.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	-200.0%	0.0%	-650.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-150.0%	0.0%	0.0%	0.0%	0.0%	-22.2%
% from Existing (Horizon)	0.0%	66.7%	75.4%	250.0%	0.0%	700.0%	74.2%	66.7%	0.0%	200.0%	66.7%	200.0%	0.0%	66.7%	66.7%	66.7%	96.1%
% from Background Growth (Horizon)	0.0%	33.3%	8.8%	50.0%	0.0%	50.0%	9.7%	33.3%	0.0%	100.0%	33.3%	50.0%	0.0%	33.3%	33.3%	33.3%	8.6%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	-200.0%	0.0%	-650.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-150.0%	0.0%	0.0%	0.0%	0.0%	-20.5%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Red Riding Hood Trail at Mockingbird Lane/Fleetwood Drive

PM INGRESS PEAK HOUR

	Red Riding Hood Trail <u>Eastbound</u>				Red Riding Hood Trail <u>Westbound</u>				Mockingbird Lane <u>Northbound</u>				Fleetwood Drive <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	10	120	75	0	520	225	20	0	10	10	60	0	10	20	10	1090
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	13	2	0	3	25	2	0	1	1	2	0	1	2	1	54
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	38	6	0	8	71	6	0	3	3	5	0	3	6	3	155
No-Build 2028 MD Volumes	0	15	135	80	0	525	250	25	0	15	15	65	0	15	25	15	1144
No-Build 2033 MD Volumes	0	15	160	85	0	530	300	30	0	15	15	65	0	15	30	15	1245
Project Traffic																	
Project Trips	0	0	0	-55	0	-495	0	0	0	-10	0	-45	0	0	0	0	-605
Horizon Project Trips	0	0	0	-55	0	-495	0	0	0	-10	0	-45					-605
Build 2028 MD Volumes	0	15	135	25	0	30	250	25	0	5	15	20	0	15	25	15	575
Build 2033 MD Volumes	0	15	160	30	0	35	300	30	0	5	15	20	0	15	30	15	640
% from Existing (Build-Out)	0.0%	66.7%	88.9%	300.0%	0.0%	1733.3%	90.0%	80.0%	0.0%	200.0%	66.7%	300.0%	0.0%	66.7%	80.0%	66.7%	189.6%
% from Background Growth (Build-Out)	0.0%	33.3%	11.1%	20.0%	0.0%	16.7%	10.0%	20.0%	0.0%	100.0%	33.3%	25.0%	0.0%	33.3%	20.0%	33.3%	9.4%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	-220.0%	0.0%	-1650.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-225.0%	0.0%	0.0%	0.0%	0.0%	-105.2%
% from Existing (Horizon)	0.0%	66.7%	75.0%	250.0%	0.0%	1485.7%	75.0%	66.7%	0.0%	200.0%	66.7%	300.0%	0.0%	66.7%	66.7%	66.7%	170.3%
% from Background Growth (Horizon)	0.0%	33.3%	9.4%	16.7%	0.0%	14.3%	8.3%	16.7%	0.0%	100.0%	33.3%	25.0%	0.0%	33.3%	16.7%	33.3%	8.4%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	-183.3%	0.0%	-1414.3%	0.0%	0.0%	0.0%	-200.0%	0.0%	-225.0%	0.0%	0.0%	0.0%	0.0%	-94.5%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Red Riding Hood Trail at Mockingbird Lane/Fleetwood Drive

PM EGRESS PEAK HOUR

	Red Riding Hood Trail Eastbound				Red Riding Hood Trail Westbound				Mockingbird Lane Northbound				Fleetwood Drive Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 PM Volumes	0	10	35	10	0	15	50	10	0	10	10	280	0	10	10	10	460
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	4	1	0	0	5	1	0	1	1	8	0	1	1	1	25
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	11	2	0	0	16	3	0	3	3	22	0	3	3	3	72
No-Build 2028 PM Volumes	0	15	40	15	0	15	55	15	0	15	15	290	0	15	15	15	485
No-Build 2033 PM Volumes	0	15	50	15	0	15	70	15	0	15	15	305	0	15	15	15	532
Project Traffic																	
Project Trips	0	0	0	-5	0	-15	0	0	0	-10	0	-210	0	0	0	0	-240
Horizon Project Trips	0	0	0	-5	0	-15	0	0	0	-10	0	-210	0	0	0	0	-240
Build 2028 PM Volumes	0	15	40	10	0	0	55	15	0	5	15	80	0	15	15	15	280
Build 2033 PM Volumes	0	15	50	10	0	0	70	15	0	5	15	95	0	15	15	15	320
% from Existing (Build-Out)	0.0%	66.7%	87.5%	100.0%	0.0%	0.0%	90.9%	66.7%	0.0%	200.0%	66.7%	350.0%	0.0%	66.7%	66.7%	66.7%	164.3%
% from Background Growth (Build-Out)	0.0%	33.3%	12.5%	50.0%	0.0%	0.0%	9.1%	33.3%	0.0%	100.0%	33.3%	12.5%	0.0%	33.3%	33.3%	33.3%	8.9%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	-50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-262.5%	0.0%	0.0%	0.0%	0.0%	-85.7%
% from Existing (Horizon)	0.0%	66.7%	70.0%	100.0%	0.0%	0.0%	71.4%	66.7%	0.0%	200.0%	66.7%	294.7%	0.0%	66.7%	66.7%	66.7%	143.8%
% from Background Growth (Horizon)	0.0%	33.3%	10.0%	50.0%	0.0%	0.0%	7.1%	33.3%	0.0%	100.0%	33.3%	10.5%	0.0%	33.3%	33.3%	33.3%	7.8%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	-50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-221.1%	0.0%	0.0%	0.0%	0.0%	-75.0%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
TN 58 / Ochs Highway at TN 17 / St Elmo Avenue
AM PEAK HOUR

	TN 58 / Ochs Highway <u>Eastbound</u>				<u>Westbound</u>				TN 17 / St Elmo Avenue <u>Northbound</u>				TN 17 / St Elmo Avenue <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	265	0	10	0	0	0	0	0	10	415	0	0	0	200	245	1145
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	29	0	1	0	0	0	0	0	1	45	0	0	0	22	27	125
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	84	0	3	0	0	0	0	0	3	132	0	0	0	63	78	363
No-Build 2028 AM Volumes	0	295	0	15	0	0	0	0	0	15	460	0	0	0	225	275	1285
No-Build 2033 AM Volumes	0	350	0	15	0	0	0	0	0	15	550	0	0	0	265	325	1520
Project Traffic																	
Project Trips	0	-15	0	0	0	0	0	0	0	-5	15	0	0	0	35	-60	-30
Horizon Project Trips	0	-15	0	0	0	0	0	0	0	-5	20	0	0	0	40	-60	-20
Build 2028 AM Volumes	0	280	0	15	0	0	0	0	0	10	475	0	0	0	260	215	1255
Build 2033 AM Volumes	0	335	0	15	0	0	0	0	0	10	570	0	0	0	305	265	1500
% from Existing (Build-Out)	0.0%	94.6%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	87.4%	0.0%	0.0%	0.0%	76.9%	114.0%	91.2%
% from Background Growth (Build-Out)	0.0%	10.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	9.5%	0.0%	0.0%	0.0%	9.6%	14.0%	11.2%
% from Project Trips (Build-Out)	0.0%	-5.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	3.2%	0.0%	0.0%	0.0%	13.5%	-27.9%	-2.4%
% from Existing (Horizon)	0.0%	79.1%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	72.8%	0.0%	0.0%	0.0%	65.6%	92.5%	76.3%
% from Background Growth (Horizon)	0.0%	9.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	7.9%	0.0%	0.0%	0.0%	8.2%	11.3%	9.3%
% from Project Trips (Horizon)	0.0%	-4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	2.6%	0.0%	0.0%	0.0%	11.5%	-22.6%	-2.0%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
TN 58 / Ochs Highway at TN 17 / St Elmo Avenue
PM INGRESS PEAK HOUR

	TN 58 / Ochs Highway				0				TN 17 / St Elmo Avenue				TN 17 / St Elmo Avenue				Total Intersection
	Eastbound				Westbound				Northbound				Southbound				
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	295	0	10	0	0	0	0	0	40	375	0	0	0	370	740	1830
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	27	0	1	0	0	0	0	0	2	41	0	0	0	40	29	140
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	79	0	3	0	0	0	0	0	5	119	0	0	0	117	86	409
No-Build 2028 MD Volumes	0	325	0	15	0	0	0	0	0	45	420	0	0	0	410	770	1970
No-Build 2033 MD Volumes	0	375	0	15	0	0	0	0	0	45	495	0	0	0	490	830	2239
Project Traffic																	
Project Trips	0	-45	0	0	0	0	0	0	0	-25	45	0	0	0	280	-470	-215
Horizon Project Trips	0	-45	0	0	0	0	0	0	0	-25	55	0	0	0	335	-470	-150
Build 2028 MD Volumes	0	280	0	15	0	0	0	0	0	20	465	0	0	0	690	300	1770
Build 2033 MD Volumes	0	330	0	15	0	0	0	0	0	20	550	0	0	0	825	360	2100
% from Existing (Build-Out)	0.0%	105.4%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	200.0%	80.6%	0.0%	0.0%	0.0%	53.6%	246.7%	103.4%
% from Background Growth (Build-Out)	0.0%	10.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	9.7%	0.0%	0.0%	0.0%	5.8%	10.0%	7.9%
% from Project Trips (Build-Out)	0.0%	-16.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-125.0%	9.7%	0.0%	0.0%	0.0%	40.6%	-156.7%	-12.1%
% from Existing (Horizon)	0.0%	89.4%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	200.0%	68.2%	0.0%	0.0%	0.0%	44.8%	205.6%	87.1%
% from Background Growth (Horizon)	0.0%	9.1%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	8.2%	0.0%	0.0%	0.0%	4.8%	8.3%	6.7%
% from Project Trips (Horizon)	0.0%	-13.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-125.0%	8.2%	0.0%	0.0%	0.0%	33.9%	-130.6%	-10.2%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
TN 58 / Ochs Highway at TN 17 / St Elmo Avenue
PM EGRESS PEAK HOUR

	TN 58 / Ochs Highway				0				TN 17 / St Elmo Avenue				TN 17 / St Elmo Avenue				Total Intersection
	<u>Eastbound</u>				<u>Westbound</u>				<u>Northbound</u>				<u>Southbound</u>				
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 PM Volumes	0	645	0	45	0	0	0	0	0	10	80	0	0	0	90	65	935
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	17	0	5	0	0	0	0	0	1	9	0	0	0	10	6	48
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	51	0	14	0	0	0	0	0	2	25	0	0	0	29	17	138
No-Build 2028 PM Volumes	0	665	0	50	0	0	0	0	0	15	90	0	0	0	100	75	983
No-Build 2033 PM Volumes	0	700	0	60	0	0	0	0	0	15	105	0	0	0	120	85	1073
Project Traffic																	
Project Trips	0	-485	0	-20	0	0	0	0	0	-5	290	0	0	0	10	-10	-220
Horizon Project Trips		-485		-20						-5	350				10	-10	-160
Build 2028 PM Volumes	0	180	0	30	0	0	0	0	0	10	380	0	0	0	110	65	775
Build 2033 PM Volumes	0	215	0	40	0	0	0	0	0	10	455	0	0	0	130	75	925
% from Existing (Build-Out)	0.0%	358.3%	0.0%	150.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	21.1%	0.0%	0.0%	0.0%	81.8%	100.0%	120.6%
% from Background Growth (Build-Out)	0.0%	11.1%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	2.6%	0.0%	0.0%	0.0%	9.1%	15.4%	6.2%
% from Project Trips (Build-Out)	0.0%	-269.4%	0.0%	-66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	76.3%	0.0%	0.0%	0.0%	9.1%	-15.4%	-28.4%
% from Existing (Horizon)	0.0%	300.0%	0.0%	112.5%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	17.6%	0.0%	0.0%	0.0%	69.2%	86.7%	101.1%
% from Background Growth (Horizon)	0.0%	9.3%	0.0%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	2.2%	0.0%	0.0%	0.0%	7.7%	13.3%	5.2%
% from Project Trips (Horizon)	0.0%	-225.6%	0.0%	-50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	63.7%	0.0%	0.0%	0.0%	7.7%	-13.3%	-23.8%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 3

Chattanooga Valley Road at GA 193

AM PEAK HOUR

	Chattanooga Valley Road <u>Eastbound</u>				<u>Westbound</u>				GA 193 <u>Northbound</u>				GA 193 <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	25	0	10	0	0	0	0	0	10	310	0	0	0	175	25	555
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	3	0	1	0	0	0	0	0	1	33	0	0	0	19	3	60
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	8	0	3	0	0	0	0	0	3	97	0	0	0	55	8	174
No-Build 2028 AM Volumes	0	30	0	15	0	0	0	0	0	15	360	0	0	0	215	30	648
No-Build 2033 AM Volumes	0	35	0	15	0	0	0	0	0	15	425	0	0	0	250	35	762
Project Traffic																	
Project Trips	0	15	0	10	0	0	0	0	0	50	-5	0	0	0	0	35	105
Horizon Project Trips	0	20	0	10	0	0	0	0	0	60	-5	0	0	0	0	40	125
Build 2028 AM Volumes	0	45	0	25	0	0	0	0	0	65	355	0	0	0	215	65	770
Build 2033 AM Volumes	0	55	0	25	0	0	0	0	0	75	420	0	0	0	250	75	900
% from Existing (Build-Out)	0.0%	55.6%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.4%	87.3%	0.0%	0.0%	0.0%	81.4%	38.5%	72.1%
% from Background Growth (Build-Out)	0.0%	11.1%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	14.1%	0.0%	0.0%	0.0%	18.6%	7.7%	12.1%
% from Project Trips (Build-Out)	0.0%	33.3%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.9%	-1.4%	0.0%	0.0%	0.0%	0.0%	53.8%	13.6%
% from Existing (Horizon)	0.0%	45.5%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	73.8%	0.0%	0.0%	0.0%	70.0%	33.3%	61.7%
% from Background Growth (Horizon)	0.0%	9.1%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	11.9%	0.0%	0.0%	0.0%	16.0%	6.7%	10.3%
% from Project Trips (Horizon)	0.0%	27.3%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	-1.2%	0.0%	0.0%	0.0%	0.0%	46.7%	11.7%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 3
Chattanooga Valley Road at GA 193
PM INGRESS PEAK HOUR

	Chattanooga Valley Road				0				GA 193				GA 193				Total Intersection
	Eastbound				Westbound				Northbound				Southbound				
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	30	0	10	0	0	0	0	0	10	410	0	0	0	355	20	835
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	3	0	1	0	0	0	0	0	1	42	0	0	0	39	2	88
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	10	0	3	0	0	0	0	0	3	122	0	0	0	113	6	257
No-Build 2028 MD Volumes	0	35	0	15	0	0	0	0	0	15	455	0	0	0	395	25	923
No-Build 2033 MD Volumes	0	40	0	15	0	0	0	0	0	15	535	0	0	0	470	30	1092
Project Traffic																	
Project Trips	0	45	0	10	0	0	0	0	0	270	-25	0	0	0	0	280	580
Horizon Project Trips		55		10						325	-25				0	335	700
Build 2028 MD Volumes	0	80	0	25	0	0	0	0	0	285	430	0	0	0	395	305	1520
Build 2033 MD Volumes	0	95	0	25	0	0	0	0	0	340	510	0	0	0	470	365	1805
% from Existing (Build-Out)	0.0%	37.5%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	95.3%	0.0%	0.0%	0.0%	89.9%	6.6%	54.9%
% from Background Growth (Build-Out)	0.0%	6.3%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	10.5%	0.0%	0.0%	0.0%	10.1%	1.6%	5.8%
% from Project Trips (Build-Out)	0.0%	56.3%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	94.7%	-5.8%	0.0%	0.0%	0.0%	0.0%	91.8%	38.2%
% from Existing (Horizon)	0.0%	31.6%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	80.4%	0.0%	0.0%	0.0%	75.5%	5.5%	46.3%
% from Background Growth (Horizon)	0.0%	5.3%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	8.8%	0.0%	0.0%	0.0%	8.5%	1.4%	4.9%
% from Project Trips (Horizon)	0.0%	47.4%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	79.4%	-4.9%	0.0%	0.0%	0.0%	0.0%	76.7%	32.1%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 3

Chattanooga Valley Road at GA 193

PM EGRESS PEAK HOUR

	Chattanooga Valley Road				0				GA 193				GA 193				Total Intersection
	Eastbound				Westbound				Northbound				Southbound				
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 PM Volumes	0	10	0	10	0	0	0	0	0	10	60	0	0	0	130	10	230
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	0	1	0	0	0	0	0	1	6	0	0	0	14	1	24
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	17	0	0	0	41	3	70
No-Build 2028 PM Volumes	0	15	0	15	0	0	0	0	0	15	90	0	0	0	160	15	290
No-Build 2033 PM Volumes	0	15	0	15	0	0	0	0	0	15	100	0	0	0	190	15	336
Project Traffic																	
Project Trips	0	290	0	205	0	0	0	0	0	10	-5	0	0	0	-20	10	490
Horizon Project Trips		350		245						10	-5				-20	10	590
Build 2028 PM Volumes	0	305	0	220	0	0	0	0	0	25	85	0	0	0	140	25	800
Build 2033 PM Volumes	0	365	0	260	0	0	0	0	0	25	95	0	0	0	170	25	940
% from Existing (Build-Out)	0.0%	3.3%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	70.6%	0.0%	0.0%	0.0%	92.9%	40.0%	28.8%
% from Background Growth (Build-Out)	0.0%	1.6%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	35.3%	0.0%	0.0%	0.0%	21.4%	20.0%	7.5%
% from Project Trips (Build-Out)	0.0%	95.1%	0.0%	93.2%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	-5.9%	0.0%	0.0%	0.0%	-14.3%	40.0%	61.3%
% from Existing (Horizon)	0.0%	2.7%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	63.2%	0.0%	0.0%	0.0%	76.5%	40.0%	24.5%
% from Background Growth (Horizon)	0.0%	1.4%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	31.6%	0.0%	0.0%	0.0%	17.6%	20.0%	6.4%
% from Project Trips (Horizon)	0.0%	79.5%	0.0%	78.8%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	-5.3%	0.0%	0.0%	0.0%	-11.8%	40.0%	52.1%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Woodburn Road at GA 193

AM PEAK HOUR

	Woodburn Road <u>Eastbound</u>				<u>Westbound</u>				GA 193 <u>Northbound</u>				GA 193 <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	10	0	10	0	0	0	0	0	10	305	0	0	0	170	10	515
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	0	1	0	0	0	0	0	1	33	0	0	0	19	1	56
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	97	0	0	0	54	3	163
No-Build 2028 AM Volumes	0	15	0	15	0	0	0	0	0	15	340	0	0	0	190	15	571
No-Build 2033 AM Volumes	0	15	0	15	0	0	0	0	0	15	405	0	0	0	225	15	678
Project Traffic																	
Project Trips	0	0	0	0	0	0	0	0	0	0	45	0	0	0	10	0	55
Horizon Project Trips											55				10		65
Build 2028 AM Volumes	0	15	0	15	0	0	0	0	0	15	385	0	0	0	200	15	645
Build 2033 AM Volumes	0	15	0	15	0	0	0	0	0	15	460	0	0	0	235	15	755
% from Existing (Build-Out)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	79.2%	0.0%	0.0%	0.0%	85.0%	66.7%	79.8%
% from Background Growth (Build-Out)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	9.1%	0.0%	0.0%	0.0%	10.0%	33.3%	8.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.7%	0.0%	0.0%	0.0%	5.0%	0.0%	8.5%
% from Existing (Horizon)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	66.3%	0.0%	0.0%	0.0%	72.3%	66.7%	68.2%
% from Background Growth (Horizon)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	7.6%	0.0%	0.0%	0.0%	8.5%	33.3%	7.4%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.8%	0.0%	0.0%	0.0%	4.3%	0.0%	7.3%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Woodburn Road at GA 193

PM INGRESS PEAK HOUR

	Woodburn Road Eastbound				0 Westbound				GA 193 Northbound				GA 193 Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	10	0	10	0	0	0	0	0	10	390	0	0	0	355	10	785
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	0	1	0	0	0	0	0	1	43	0	0	0	39	1	86
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	124	0	0	0	113	3	249
No-Build 2028 MD Volumes	0	15	0	15	0	0	0	0	0	15	435	0	0	0	395	15	871
No-Build 2033 MD Volumes	0	15	0	15	0	0	0	0	0	15	515	0	0	0	470	15	1034
Project Traffic																	
Project Trips	0	0	0	0	0	0	0	0	0	0	245	0	0	0	10	0	255
Horizon Project Trips											300				10		310
Build 2028 MD Volumes	0	15	0	15	0	0	0	0	0	15	680	0	0	0	405	15	1145
Build 2033 MD Volumes	0	15	0	15	0	0	0	0	0	15	815	0	0	0	480	15	1355
% from Existing (Build-Out)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	57.4%	0.0%	0.0%	0.0%	87.7%	66.7%	68.6%
% from Background Growth (Build-Out)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	6.6%	0.0%	0.0%	0.0%	9.9%	33.3%	7.5%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	36.0%	0.0%	0.0%	0.0%	2.5%	0.0%	22.3%
% from Existing (Horizon)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	47.9%	0.0%	0.0%	0.0%	74.0%	66.7%	57.9%
% from Background Growth (Horizon)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	5.5%	0.0%	0.0%	0.0%	8.3%	33.3%	6.3%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.1%	0.0%	0.0%	0.0%	2.1%	0.0%	18.8%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Woodburn Road at GA 193

PM EGRESS PEAK HOUR

	Woodburn Road				0				GA 193				GA 193				Total Intersection	
	Eastbound				Westbound				Northbound				Southbound					
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right		
Existing Traffic																		
Existing 2025 PM Volumes	0	10	0	10	0	0	0	0	0	10	60	0	0	0	120	10		220
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85		
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Background Traffic																		
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%		
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109		
Growth Trips	0	1	0	1	0	0	0	0	0	1	7	0	0	0	13	1		24
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035		
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317		
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	19	0	0	0	38	3		69
No-Build 2028 PM Volumes	0	10	0	10	0	0	0	0	0	10	65	0	0	0	135	10		244
No-Build 2033 PM Volumes	0	15	0	15	0	0	0	0	0	15	80	0	0	0	160	15		289
Project Traffic																		
Project Trips	0	0	0	0	0	0	0	0	0	0	5	0	0	0	185	0		190
Horizon Project Trips											5				225			230
Build 2028 PM Volumes	0	10	0	10	0	0	0	0	0	10	70	0	0	0	320	10		430
Build 2033 PM Volumes	0	15	0	15	0	0	0	0	0	15	85	0	0	0	385	15		530
% from Existing (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	85.7%	0.0%	0.0%	0.0%	37.5%	100.0%		51.2%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	4.7%	0.0%		5.6%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	57.8%	0.0%		44.2%
% from Existing (Horizon)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	70.6%	0.0%	0.0%	0.0%	31.2%	66.7%		41.5%
% from Background Growth (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	3.9%	0.0%		4.5%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	48.1%	0.0%		35.8%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Red Riding Hood Trail at Mockingbird Lane/Fleetwood Drive

AM PEAK HOUR

	Red Riding Hood Trail <u>Eastbound</u>				Red Riding Hood Trail <u>Westbound</u>				Mockingbird Lane <u>Northbound</u>				Fleetwood Drive <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	10	215	25	0	70	115	10	0	10	10	20	0	10	10	10	515
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	23	1	0	1	13	1	0	1	1	1	0	1	1	1	46
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	68	2	0	2	36	3	0	3	3	2	0	3	3	3	131
No-Build 2028 AM Volumes	0	15	240	30	0	75	130	15	0	15	15	25	0	15	15	15	561
No-Build 2033 AM Volumes	0	15	285	30	0	75	155	15	0	15	15	25	0	15	15	15	646
Project Traffic																	
Project Trips	0	0	0	-20	0	-65	0	0	0	-10	0	-15	0	0	0	0	-110
Horizon Project Trips	0	0	0	-20	0	-65	0	0	0	-10	0	-15					-110
Build 2028 AM Volumes	0	15	240	10	0	10	130	15	0	5	15	10	0	15	15	15	495
Build 2033 AM Volumes	0	15	285	10	0	10	155	15	0	5	15	10	0	15	15	15	536
% from Existing (Build-Out)	0.0%	66.7%	89.6%	250.0%	0.0%	700.0%	88.5%	66.7%	0.0%	200.0%	66.7%	200.0%	0.0%	66.7%	66.7%	66.7%	104.0%
% from Background Growth (Build-Out)	0.0%	33.3%	10.4%	50.0%	0.0%	50.0%	11.5%	33.3%	0.0%	100.0%	33.3%	50.0%	0.0%	33.3%	33.3%	33.3%	9.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	-200.0%	0.0%	-650.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-150.0%	0.0%	0.0%	0.0%	0.0%	-22.2%
% from Existing (Horizon)	0.0%	66.7%	75.4%	250.0%	0.0%	700.0%	74.2%	66.7%	0.0%	200.0%	66.7%	200.0%	0.0%	66.7%	66.7%	66.7%	96.1%
% from Background Growth (Horizon)	0.0%	33.3%	8.8%	50.0%	0.0%	50.0%	9.7%	33.3%	0.0%	100.0%	33.3%	50.0%	0.0%	33.3%	33.3%	33.3%	8.6%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	-200.0%	0.0%	-650.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-150.0%	0.0%	0.0%	0.0%	0.0%	-20.5%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Red Riding Hood Trail at Mockingbird Lane/Fleetwood Drive

PM INGRESS PEAK HOUR

	Red Riding Hood Trail <u>Eastbound</u>				Red Riding Hood Trail <u>Westbound</u>				Mockingbird Lane <u>Northbound</u>				Fleetwood Drive <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	10	120	75	0	520	225	20	0	10	10	60	0	10	20	10	1090
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	13	2	0	3	25	2	0	1	1	2	0	1	2	1	54
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	38	6	0	8	71	6	0	3	3	5	0	3	6	3	155
No-Build 2028 MD Volumes	0	15	135	80	0	525	250	25	0	15	15	65	0	15	25	15	1144
No-Build 2033 MD Volumes	0	15	160	85	0	530	300	30	0	15	15	65	0	15	30	15	1245
Project Traffic																	
Project Trips	0	0	0	-55	0	-495	0	0	0	-10	0	-45	0	0	0	0	-605
Horizon Project Trips	0	0	0	-55	0	-495	0	0	0	-10	0	-45					-605
Build 2028 MD Volumes	0	15	135	25	0	30	250	25	0	5	15	20	0	15	25	15	575
Build 2033 MD Volumes	0	15	160	30	0	35	300	30	0	5	15	20	0	15	30	15	640
% from Existing (Build-Out)	0.0%	66.7%	88.9%	300.0%	0.0%	1733.3%	90.0%	80.0%	0.0%	200.0%	66.7%	300.0%	0.0%	66.7%	80.0%	66.7%	189.6%
% from Background Growth (Build-Out)	0.0%	33.3%	11.1%	20.0%	0.0%	16.7%	10.0%	20.0%	0.0%	100.0%	33.3%	25.0%	0.0%	33.3%	20.0%	33.3%	9.4%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	-220.0%	0.0%	-1650.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-225.0%	0.0%	0.0%	0.0%	0.0%	-105.2%
% from Existing (Horizon)	0.0%	66.7%	75.0%	250.0%	0.0%	1485.7%	75.0%	66.7%	0.0%	200.0%	66.7%	300.0%	0.0%	66.7%	66.7%	66.7%	170.3%
% from Background Growth (Horizon)	0.0%	33.3%	9.4%	16.7%	0.0%	14.3%	8.3%	16.7%	0.0%	100.0%	33.3%	25.0%	0.0%	33.3%	16.7%	33.3%	8.4%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	-183.3%	0.0%	-1414.3%	0.0%	0.0%	0.0%	-200.0%	0.0%	-225.0%	0.0%	0.0%	0.0%	0.0%	-94.5%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Red Riding Hood Trail at Mockingbird Lane/Fleetwood Drive

PM EGRESS PEAK HOUR

	Red Riding Hood Trail Eastbound				Red Riding Hood Trail Westbound				Mockingbird Lane Northbound				Fleetwood Drive Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 PM Volumes	0	10	35	10	0	15	50	10	0	10	10	280	0	10	10	10	460
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	4	1	0	0	5	1	0	1	1	8	0	1	1	1	25
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	11	2	0	0	16	3	0	3	3	22	0	3	3	3	72
No-Build 2028 PM Volumes	0	15	40	15	0	15	55	15	0	15	15	290	0	15	15	15	485
No-Build 2033 PM Volumes	0	15	50	15	0	15	70	15	0	15	15	305	0	15	15	15	532
Project Traffic																	
Project Trips	0	0	0	-5	0	-15	0	0	0	-10	0	-210	0	0	0	0	-240
Horizon Project Trips	0	0	0	-5	0	-15	0	0	0	-10	0	-210					-240
Build 2028 PM Volumes	0	15	40	10	0	0	55	15	0	5	15	80	0	15	15	15	280
Build 2033 PM Volumes	0	15	50	10	0	0	70	15	0	5	15	95	0	15	15	15	292
% from Existing (Build-Out)	0.0%	66.7%	87.5%	100.0%	0.0%	0.0%	90.9%	66.7%	0.0%	200.0%	66.7%	350.0%	0.0%	66.7%	66.7%	66.7%	164.3%
% from Background Growth (Build-Out)	0.0%	33.3%	12.5%	50.0%	0.0%	0.0%	9.1%	33.3%	0.0%	100.0%	33.3%	12.5%	0.0%	33.3%	33.3%	33.3%	8.9%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	-50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-262.5%	0.0%	0.0%	0.0%	0.0%	-85.7%
% from Existing (Horizon)	0.0%	66.7%	70.0%	100.0%	0.0%	0.0%	71.4%	66.7%	0.0%	200.0%	66.7%	294.7%	0.0%	66.7%	66.7%	66.7%	157.5%
% from Background Growth (Horizon)	0.0%	33.3%	10.0%	50.0%	0.0%	0.0%	7.1%	33.3%	0.0%	100.0%	33.3%	10.5%	0.0%	33.3%	33.3%	33.3%	8.6%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	-50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-200.0%	0.0%	-221.1%	0.0%	0.0%	0.0%	0.0%	-82.2%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
TN 58 / Ochs Highway at TN 17 / St Elmo Avenue
AM PEAK HOUR

	TN 58 / Ochs Highway <u>Eastbound</u>				<u>Westbound</u>				TN 17 / St Elmo Avenue <u>Northbound</u>				TN 17 / St Elmo Avenue <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	265	0	10	0	0	0	0	0	10	415	0	0	0	200	245	1145
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	27	0	1	0	0	0	0	0	1	45	0	0	0	22	20	116
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	79	0	3	0	0	0	0	0	2	132	0	0	0	63	59	338
No-Build 2028 AM Volumes	0	295	0	15	0	0	0	0	0	15	460	0	0	0	225	265	1261
No-Build 2033 AM Volumes	0	345	0	15	0	0	0	0	0	15	550	0	0	0	265	305	1483
Project Traffic																	
Project Trips	0	-15	0	0	0	0	0	0	0	-5	15	0	0	0	35	-60	-30
Horizon Project Trips	0	-15	0	0	0	0	0	0	0	-5	20	0	0	0	40	-60	-20
Build 2028 AM Volumes	0	280	0	15	0	0	0	0	0	10	475	0	0	0	260	205	1245
Build 2033 AM Volumes	0	330	0	15	0	0	0	0	0	10	570	0	0	0	305	245	1453
% from Existing (Build-Out)	0.0%	94.6%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	87.4%	0.0%	0.0%	0.0%	76.9%	119.5%	92.0%
% from Background Growth (Build-Out)	0.0%	10.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	9.5%	0.0%	0.0%	0.0%	9.6%	9.8%	9.3%
% from Project Trips (Build-Out)	0.0%	-5.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	3.2%	0.0%	0.0%	0.0%	13.5%	-29.3%	-2.4%
% from Existing (Horizon)	0.0%	80.3%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	72.8%	0.0%	0.0%	0.0%	65.6%	100.0%	78.8%
% from Background Growth (Horizon)	0.0%	9.1%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	7.9%	0.0%	0.0%	0.0%	8.2%	8.2%	8.0%
% from Project Trips (Horizon)	0.0%	-4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	2.6%	0.0%	0.0%	0.0%	11.5%	-24.5%	-2.1%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
TN 58 / Ochs Highway at TN 17 / St Elmo Avenue
PM INGRESS PEAK HOUR

	TN 58 / Ochs Highway				0				TN 17 / St Elmo Avenue				TN 17 / St Elmo Avenue				Total Intersection
	Eastbound				Westbound				Northbound				Southbound				
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	295	0	10	0	0	0	0	0	40	375	0	0	0	370	740	1830
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	27	0	1	0	0	0	0	0	2	41	0	0	0	40	29	140
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	79	0	3	0	0	0	0	0	5	119	0	0	0	117	86	409
No-Build 2028 MD Volumes	0	325	0	15	0	0	0	0	0	45	420	0	0	0	410	770	1970
No-Build 2033 MD Volumes	0	375	0	15	0	0	0	0	0	45	495	0	0	0	490	830	2239
Project Traffic																	
Project Trips	0	-45	0	0	0	0	0	0	0	-25	45	0	0	0	280	-470	-215
Horizon Project Trips	0	-45	0	0	0	0	0	0	0	-25	55	0	0	0	335	-470	-150
Build 2028 MD Volumes	0	280	0	15	0	0	0	0	0	20	465	0	0	0	690	300	1770
Build 2033 MD Volumes	0	330	0	15	0	0	0	0	0	20	550	0	0	0	825	360	2024
% from Existing (Build-Out)	0.0%	105.4%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	200.0%	80.6%	0.0%	0.0%	0.0%	53.6%	246.7%	103.4%
% from Background Growth (Build-Out)	0.0%	10.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	9.7%	0.0%	0.0%	0.0%	5.8%	10.0%	7.9%
% from Project Trips (Build-Out)	0.0%	-16.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-125.0%	9.7%	0.0%	0.0%	0.0%	40.6%	-156.7%	-12.1%
% from Existing (Horizon)	0.0%	89.4%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	200.0%	68.2%	0.0%	0.0%	0.0%	44.8%	205.6%	90.4%
% from Background Growth (Horizon)	0.0%	9.1%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	8.2%	0.0%	0.0%	0.0%	4.8%	8.3%	6.9%
% from Project Trips (Horizon)	0.0%	-13.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-125.0%	8.2%	0.0%	0.0%	0.0%	33.9%	-130.6%	-10.6%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
TN 58 / Ochs Highway at TN 17 / St Elmo Avenue
PM EGRESS PEAK HOUR

	TN 58 / Ochs Highway <u>Eastbound</u>				0 <u>Westbound</u>				TN 17 / St Elmo Avenue <u>Northbound</u>				TN 17 / St Elmo Avenue <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 PM Volumes	0	645	0	45	0	0	0	0	0	10	80	0	0	0	90	65	935
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109
Growth Trips	0	17	0	5	0	0	0	0	0	1	9	0	0	0	10	6	48
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
Growth Trips (Horizon)	0	51	0	14	0	0	0	0	0	2	25	0	0	0	29	17	138
No-Build 2028 PM Volumes	0	665	0	50	0	0	0	0	0	15	90	0	0	0	100	75	983
No-Build 2033 PM Volumes	0	700	0	60	0	0	0	0	0	15	105	0	0	0	120	85	1073
Project Traffic																	
Project Trips	0	-485	0	-20	0	0	0	0	0	-5	290	0	0	0	10	-10	-220
Horizon Project Trips	0	-485	0	-20	0	0	0	0	0	-5	350	0	0	0	10	-10	-160
Build 2028 PM Volumes	0	180	0	30	0	0	0	0	0	10	380	0	0	0	110	65	775
Build 2033 PM Volumes	0	215	0	40	0	0	0	0	0	10	455	0	0	0	130	75	853
% from Existing (Build-Out)	0.0%	358.3%	0.0%	150.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	21.1%	0.0%	0.0%	0.0%	81.8%	100.0%	120.6%
% from Background Growth (Build-Out)	0.0%	11.1%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	2.6%	0.0%	0.0%	0.0%	9.1%	15.4%	6.2%
% from Project Trips (Build-Out)	0.0%	-269.4%	0.0%	-66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	76.3%	0.0%	0.0%	0.0%	9.1%	-15.4%	-28.4%
% from Existing (Horizon)	0.0%	300.0%	0.0%	112.5%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	17.6%	0.0%	0.0%	0.0%	69.2%	86.7%	109.6%
% from Background Growth (Horizon)	0.0%	9.3%	0.0%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	2.2%	0.0%	0.0%	0.0%	7.7%	13.3%	5.6%
% from Project Trips (Horizon)	0.0%	-225.6%	0.0%	-50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-50.0%	63.7%	0.0%	0.0%	0.0%	7.7%	-13.3%	-25.8%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 3
Chattanooga Valley Road at GA 193
AM PEAK HOUR

	Chattanooga Valley Road <u>Eastbound</u>				<u>Westbound</u>				GA 193 <u>Northbound</u>				GA 193 <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	25	0	10	0	0	0	0	0	10	310	0	0	0	175	25	555
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	3	0	1	0	0	0	0	0	1	35	0	0	0	19	3	62
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	8	0	3	0	0	0	0	0	3	105	0	0	0	55	8	182
No-Build 2028 AM Volumes	0	30	0	15	0	0	0	0	0	15	360	0	0	0	215	30	650
No-Build 2033 AM Volumes	0	35	0	15	0	0	0	0	0	15	430	0	0	0	250	35	770
Project Traffic																	
Project Trips	0	0	0	0	0	0	0	0	0	0	15	0	0	0	35	0	50
Horizon Project Trips	0	0	0	0	0	0	0	0	0	0	20	0	0	0	40	0	
Build 2028 AM Volumes	0	30	0	15	0	0	0	0	0	15	375	0	0	0	250	30	715
Build 2033 AM Volumes	0	35	0	15	0	0	0	0	0	15	450	0	0	0	290	35	820
% from Existing (Build-Out)	0.0%	83.3%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	82.7%	0.0%	0.0%	0.0%	70.0%	83.3%	77.6%
% from Background Growth (Build-Out)	0.0%	16.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	13.3%	0.0%	0.0%	0.0%	16.0%	16.7%	13.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	14.0%	0.0%	7.0%
% from Existing (Horizon)	0.0%	71.4%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	68.9%	0.0%	0.0%	0.0%	60.3%	71.4%	67.7%
% from Background Growth (Horizon)	0.0%	14.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	11.1%	0.0%	0.0%	0.0%	13.8%	14.3%	11.6%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	12.1%	0.0%	6.1%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 3
Chattanooga Valley Road at GA 193
PM INGRESS PEAK HOUR

	Chattanooga Valley Road				0				GA 193				GA 193				Total Intersection	
	<u>Eastbound</u>				<u>Westbound</u>				<u>Northbound</u>				<u>Southbound</u>					
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right		
Existing Traffic																		
Existing 2025 MD Volumes	0	30	0	10	0	0	0	0	0	10	410	0	0	0	355	20	835	
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85		
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Background Traffic																		
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%		
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109		
Growth Trips	0	3	0	1	0	0	0	0	0	1	50	0	0	0	39	2	96	
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035		
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317		
Growth Trips (Horizon)	0	10	0	3	0	0	0	0	0	3	147	0	0	0	113	6	282	
No-Build 2028 MD Volumes	0	35	0	15	0	0	0	0	0	15	460	0	0	0	395	25	931	
No-Build 2033 MD Volumes	0	40	0	15	0	0	0	0	0	15	560	0	0	0	470	30	1117	
Project Traffic																		
Project Trips	0	0	0	0	0	0	0	0	0	0	45	0	0	0	280	0	325	
Horizon Project Trips	0	0	0	0	0	0	0	0	0	0	55	0	0	0	335	0		
Build 2028 MD Volumes	0	35	0	15	0	0	0	0	0	15	505	0	0	0	675	25	1270	
Build 2033 MD Volumes	0	40	0	15	0	0	0	0	0	15	615	0	0	0	805	30	1442	
% from Existing (Build-Out)	0.0%	85.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	81.2%	0.0%	0.0%	0.0%	52.6%	80.0%	65.7%	
% from Background Growth (Build-Out)	0.0%	14.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	9.9%	0.0%	0.0%	0.0%	5.9%	20.0%	7.6%	
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.9%	0.0%	0.0%	0.0%	41.5%	0.0%	25.6%	
% from Existing (Horizon)	0.0%	75.0%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	66.7%	0.0%	0.0%	0.0%	44.1%	66.7%	57.9%	
% from Background Growth (Horizon)	0.0%	12.5%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	8.1%	0.0%	0.0%	0.0%	5.0%	16.7%	6.7%	
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	0.0%	34.8%	0.0%	22.5%	

INTERSECTION VOLUME WORKSHEET

INTERSECTION 3

Chattanooga Valley Road at GA 193

PM EGRESS PEAK HOUR

	Chattanooga Valley Road				0				GA 193				GA 193				Total Intersection	
	<u>Eastbound</u>				<u>Westbound</u>				<u>Northbound</u>				<u>Southbound</u>					
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right		
Existing Traffic																		
Existing 2025 PM Volumes	0	10	0	10	0	0	0	0	0	10	60	0	0	0	130	10	230	
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85		
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Background Traffic																		
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%		
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109		
Growth Trips	0	1	0	1	0	0	0	0	0	1	38	0	0	0	14	1	56	
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035		
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317		
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	130	0	0	0	41	3	183	
No-Build 2028 PM Volumes	0	15	0	15	0	0	0	0	0	15	120	0	0	0	160	15	322	
No-Build 2033 PM Volumes	0	15	0	15	0	0	0	0	0	15	215	0	0	0	190	15	449	
Project Traffic																		
Project Trips	0	0	0	0	0	0	0	0	0	0	290	0	0	0	10	0	300	
Horizon Project Trips	0	0	0	0	0	0	0	0	0	0	350	0	0	0	10	0		
Build 2028 PM Volumes	0	15	0	15	0	0	0	0	0	15	410	0	0	0	170	15	640	
Build 2033 PM Volumes	0	15	0	15	0	0	0	0	0	15	565	0	0	0	200	15	749	
% from Existing (Build-Out)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	14.6%	0.0%	0.0%	0.0%	76.5%	66.7%	35.9%	
% from Background Growth (Build-Out)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	14.6%	0.0%	0.0%	0.0%	17.6%	33.3%	14.4%	
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	70.7%	0.0%	0.0%	0.0%	5.9%	0.0%	46.9%	
% from Existing (Horizon)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	10.6%	0.0%	0.0%	0.0%	65.0%	66.7%	30.7%	
% from Background Growth (Horizon)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	10.6%	0.0%	0.0%	0.0%	15.0%	33.3%	12.3%	
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	51.3%	0.0%	0.0%	0.0%	5.0%	0.0%	40.1%	

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Woodburn Road at GA 193

AM PEAK HOUR

	Woodburn Road <u>Eastbound</u>				<u>Westbound</u>				GA 193 <u>Northbound</u>				GA 193 <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	10	0	10	0	0	0	0	0	10	305	0	0	0	170	10	515
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	0	1	0	0	0	0	0	1	33	0	0	0	19	1	56
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	97	0	0	0	54	3	163
No-Build 2028 AM Volumes	0	15	0	15	0	0	0	0	0	15	340	0	0	0	190	15	571
No-Build 2033 AM Volumes	0	15	0	15	0	0	0	0	0	15	405	0	0	0	225	15	678
Project Traffic																	
Project Trips	0	0	0	0	0	0	0	0	0	0	50	0	0	0	10	0	60
Horizon Project Trips											60				10		
Build 2028 AM Volumes	0	15	0	15	0	0	0	0	0	15	390	0	0	0	200	15	650
Build 2033 AM Volumes	0	15	0	15	0	0	0	0	0	15	465	0	0	0	235	15	738
% from Existing (Build-Out)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	78.2%	0.0%	0.0%	0.0%	85.0%	66.7%	79.2%
% from Background Growth (Build-Out)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	9.0%	0.0%	0.0%	0.0%	10.0%	33.3%	8.6%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.8%	0.0%	0.0%	0.0%	5.0%	0.0%	9.2%
% from Existing (Horizon)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	65.6%	0.0%	0.0%	0.0%	72.3%	66.7%	69.8%
% from Background Growth (Horizon)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	7.5%	0.0%	0.0%	0.0%	8.5%	33.3%	7.6%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.8%	0.0%	0.0%	0.0%	4.3%	0.0%	8.1%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Woodburn Road at GA 193

PM INGRESS PEAK HOUR

	Woodburn Road Eastbound				0 Westbound				GA 193 Northbound				GA 193 Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	10	0	10	0	0	0	0	0	10	390	0	0	0	355	10	785
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	0	1	0	0	0	0	0	1	43	0	0	0	39	1	86
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	124	0	0	0	113	3	249
No-Build 2028 MD Volumes	0	15	0	15	0	0	0	0	0	15	435	0	0	0	395	15	871
No-Build 2033 MD Volumes	0	15	0	15	0	0	0	0	0	15	515	0	0	0	470	15	1034
Project Traffic																	
Project Trips	0	0	0	0	0	0	0	0	0	0	270	0	0	0	10	0	280
Horizon Project Trips											325				10		
Build 2028 MD Volumes	0	15	0	15	0	0	0	0	0	15	705	0	0	0	405	15	1170
Build 2033 MD Volumes	0	15	0	15	0	0	0	0	0	15	840	0	0	0	480	15	1314
% from Existing (Build-Out)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	55.3%	0.0%	0.0%	0.0%	87.7%	66.7%	67.1%
% from Background Growth (Build-Out)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	6.4%	0.0%	0.0%	0.0%	9.9%	33.3%	7.4%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	38.3%	0.0%	0.0%	0.0%	2.5%	0.0%	23.9%
% from Existing (Horizon)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	46.4%	0.0%	0.0%	0.0%	74.0%	66.7%	59.7%
% from Background Growth (Horizon)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	5.4%	0.0%	0.0%	0.0%	8.3%	33.3%	6.5%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.1%	0.0%	0.0%	0.0%	2.1%	0.0%	21.3%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Woodburn Road at GA 193

PM EGRESS PEAK HOUR

	Woodburn Road <u>Eastbound</u>				0 <u>Westbound</u>				GA 193 <u>Northbound</u>				GA 193 <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 PM Volumes	0	10	0	10	0	0	0	0	0	10	60	0	0	0	120	10	220
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	1	0	1	0	0	0	0	0	1	7	0	0	0	13	1	24
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	3	0	3	0	0	0	0	0	3	19	0	0	0	38	3	69
No-Build 2028 PM Volumes	0	15	0	15	0	0	0	0	0	15	70	0	0	0	135	15	244
No-Build 2033 PM Volumes	0	15	0	15	0	0	0	0	0	15	80	0	0	0	160	15	289
Project Traffic																	
Project Trips	0	0	0	0	0	0	0	0	0	0	10	0	0	0	205	0	215
Horizon Project Trips											10				245		
Build 2028 PM Volumes	0	15	0	15	0	0	0	0	0	15	80	0	0	0	340	15	480
Build 2033 PM Volumes	0	15	0	15	0	0	0	0	0	15	90	0	0	0	405	15	504
% from Existing (Build-Out)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	75.0%	0.0%	0.0%	0.0%	35.3%	66.7%	45.8%
% from Background Growth (Build-Out)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	12.5%	0.0%	0.0%	0.0%	4.4%	33.3%	5.0%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	0.0%	0.0%	60.3%	0.0%	44.8%
% from Existing (Horizon)	0.0%	66.7%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	66.7%	0.0%	0.0%	0.0%	29.6%	66.7%	43.7%
% from Background Growth (Horizon)	0.0%	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	11.1%	0.0%	0.0%	0.0%	3.7%	33.3%	4.8%
% from Project Trips (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%	0.0%	50.6%	0.0%	42.7%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 5

Site Driveway A at GA 193

AM PEAK HOUR

	Site Driveway A Eastbound				Westbound				GA 193 Northbound				GA 193 Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 AM Volumes	0	0	0	0	0	0	0	0	0	0	315	0	0	0	180	0	495
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	0	0	0	0	0	0	0	0	0	34	0	0	0	20	0	54
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	0	0	0	0	0	0	0	0	0	100	0	0	0	57	0	157
No-Build 2028 AM Volumes	0	0	0	0	0	0	0	0	0	0	350	0	0	0	200	0	549
No-Build 2033 AM Volumes	0	0	0	0	0	0	0	0	0	0	415	0	0	0	235	0	652
Project Traffic																	
Project Trips	0	15	0	10	0	0	0	0	0	50	-5	0	0	0	0	35	105
Horizon Project Trips		20		10						60	-5		0	0	0	40	
Build 2028 AM Volumes	0	15	0	10	0	0	0	0	0	50	345	0	0	0	200	35	655
Build 2033 AM Volumes	0	20	0	10	0	0	0	0	0	60	410	0	0	0	235	40	757
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.3%	0.0%	0.0%	0.0%	90.0%	0.0%	75.6%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.1%	0.0%	0.0%	0.0%	10.0%	0.0%	8.2%
% from Project Trips (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	-1.4%	0.0%	0.0%	0.0%	0.0%	100.0%	16.0%
% from Existing (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	76.8%	0.0%	0.0%	0.0%	76.6%	0.0%	65.4%
% from Background Growth (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.5%	0.0%	0.0%	0.0%	8.5%	0.0%	7.1%
% from Project Trips (Horizon)	0.0%	75.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	83.3%	-1.2%	0.0%	0.0%	0.0%	0.0%	87.5%	13.9%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 5

Site Driveway A at GA 193

PM INGRESS PEAK HOUR

	Site Driveway A <u>Eastbound</u>				0 <u>Westbound</u>				GA 193 <u>Northbound</u>				GA 193 <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 MD Volumes	0	0	0	0	0	0	0	0	0	0	400	0	0	0	365	0	765
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	0	0	0	0	0	0	0	0	0	44	0	0	0	40	0	84
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	0	0	0	0	0	0	0	0	0	127	0	0	0	116	0	243
No-Build 2028 MD Volumes	0	0	0	0	0	0	0	0	0	0	445	0	0	0	405	0	849
No-Build 2033 MD Volumes	0	0	0	0	0	0	0	0	0	0	525	0	0	0	480	0	1008
Project Traffic																	
Project Trips	0	45	0	10	0	0	0	0	0	270	-25	0	0	0	0	280	580
Horizon Project Trips		55		10						325	-25		0	0	0	335	
Build 2028 MD Volumes	0	45	0	10	0	0	0	0	0	270	420	0	0	0	405	280	1430
Build 2033 MD Volumes	0	55	0	10	0	0	0	0	0	325	500	0	0	0	480	335	1588
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	95.2%	0.0%	0.0%	0.0%	90.1%	0.0%	53.5%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.7%	0.0%	0.0%	0.0%	9.9%	0.0%	5.9%
% from Project Trips (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	-6.0%	0.0%	0.0%	0.0%	0.0%	100.0%	40.6%
% from Existing (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.0%	0.0%	0.0%	0.0%	76.0%	0.0%	48.2%
% from Background Growth (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.0%	0.0%	0.0%	0.0%	8.3%	0.0%	5.3%
% from Project Trips (Horizon)	0.0%	81.8%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	83.1%	-5.0%	0.0%	0.0%	0.0%	0.0%	83.6%	36.5%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 5

Site Driveway A at GA 193

PM EGRESS PEAK HOUR

	Site Driveway A Eastbound				0 Westbound				GA 193 Northbound				GA 193 Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2025 PM Volumes	0	0	0	0	0	0	0	0	0	0	70	0	0	0	130	0	200
Existing Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Growth Factor	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	1.109	
Growth Trips	0	0	0	0	0	0	0	0	0	0	8	0	0	0	14	0	22
Annual Growth Rate (Horizon)	3.5%	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	
Growth Factor (Horizon)	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	
Growth Trips (Horizon)	0	0	0	0	0	0	0	0	0	0	22	0	0	0	41	0	63
No-Build 2028 PM Volumes	0	0	0	0	0	0	0	0	0	0	80	0	0	0	145	0	222
No-Build 2033 PM Volumes	0	0	0	0	0	0	0	0	0	0	90	0	0	0	170	0	263
Project Traffic																	
Project Trips	0	290	0	205	0	0	0	0	0	10	-5	0	0	0	0	10	510
Horizon Project Trips		350		245						10	-5		0	0	0	10	
Build 2028 PM Volumes	0	290	0	205	0	0	0	0	0	10	75	0	0	0	145	10	735
Build 2033 PM Volumes	0	350	0	245	0	0	0	0	0	10	85	0	0	0	170	10	773
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.3%	0.0%	0.0%	0.0%	89.7%	0.0%	27.2%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	0.0%	0.0%	0.0%	10.3%	0.0%	3.0%
% from Project Trips (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	-6.7%	0.0%	0.0%	0.0%	0.0%	100.0%	69.4%
% from Existing (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	82.4%	0.0%	0.0%	0.0%	76.5%	0.0%	25.9%
% from Background Growth (Horizon)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.8%	0.0%	0.0%	0.0%	8.8%	0.0%	2.8%
% from Project Trips (Horizon)	0.0%	82.9%	0.0%	83.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	-5.9%	0.0%	0.0%	0.0%	0.0%	100.0%	66.0%

Capacity Reports



HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	10	215	25	70	115	10	10	10	20	10	10	10
Future Volume (vph)	10	215	25	70	115	10	10	10	20	10	10	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	12	253	29	82	135	12	12	12	24	12	12	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	294	229	48	36
Volume Left (vph)	12	82	12	12
Volume Right (vph)	29	12	24	12
Hadj (s)	-0.02	0.07	-0.22	-0.10
Departure Headway (s)	4.4	4.5	4.9	5.0
Degree Utilization, x	0.36	0.29	0.07	0.05
Capacity (veh/h)	805	769	655	633
Control Delay (s/veh)	9.7	9.3	8.3	8.3
Approach Delay (s/veh)	9.7	9.3	8.3	8.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.4	
Level of Service		A	
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	265	10	10	415	200	245
Future Volume (vph)	265	10	10	415	200	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1768		1770	1863	1863	1583
Flt Permitted	0.95		0.61	1.00	1.00	1.00
Satd. Flow (perm)	1768		1141	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	312	12	12	488	235	288
RTOR Reduction (vph)	2	0	0	0	0	96
Lane Group Flow (vph)	322	0	12	488	235	192
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	23.3		66.7	66.7	66.7	66.7
Effective Green, g (s)	23.3		66.7	66.7	66.7	66.7
Actuated g/C Ratio	0.23		0.67	0.67	0.67	0.67
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	411		761	1242	1242	1055
v/s Ratio Prot	c0.18			c0.26	0.13	
v/s Ratio Perm			0.01			0.12
v/c Ratio	0.78		0.02	0.39	0.19	0.18
Uniform Delay, d1	36.0		5.6	7.5	6.3	6.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5		0.0	0.9	0.3	0.4
Delay (s)	45.5		5.6	8.4	6.7	6.7
Level of Service	D		A	A	A	A
Approach Delay (s/veh)	45.5			8.4	6.7	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗
Traffic Vol, veh/h	25	10	10	310	175	25
Future Vol, veh/h	25	10	10	310	175	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	12	12	365	206	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	609	221	206	0	-	0
Stage 1	221	-	-	-	-	-
Stage 2	388	-	-	-	-	-
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	458	819	1365	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	454	819	1365	-	-	-
Mov Cap-2 Maneuver	454	-	-	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	685	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.32	0.24	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1365	-	454	819	-	-
HCM Lane V/C Ratio	0.009	-	0.065	0.014	-	-
HCM Ctrl Dly (s/v)	7.7	-	13.5	9.5	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	10	10	10	305	170	10
Future Vol, veh/h	10	10	10	305	170	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	12	359	200	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	588	206	212	0	0
Stage 1	206	-	-	-	-
Stage 2	382	-	-	-	-
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	471	835	1359	-	-
Stage 1	829	-	-	-	-
Stage 2	690	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	466	835	1359	-	-
Mov Cap-2 Maneuver	466	-	-	-	-
Stage 1	820	-	-	-	-
Stage 2	690	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.26	0.24	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	57	-	598	-	-
HCM Lane V/C Ratio	0.009	-	0.039	-	-
HCM Ctrl Dly (s/v)	7.7	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	10	120	75	520	225	20	10	10	60	10	20	10
Future Volume (vph)	10	120	75	520	225	20	10	10	60	10	20	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	12	141	88	612	265	24	12	12	71	12	24	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	241	901	95	48
Volume Left (vph)	12	612	12	12
Volume Right (vph)	88	24	71	12
Hadj (s)	-0.18	0.15	-0.39	-0.07
Departure Headway (s)	5.1	4.8	5.9	6.4
Degree Utilization, x	0.34	1.21	0.16	0.08
Capacity (veh/h)	695	737	580	531
Control Delay (s/veh)	10.6	124.2	10.0	10.0
Approach Delay (s/veh)	10.6	124.2	10.0	10.0
Approach LOS	B	F	B	A

Intersection Summary			
Delay		90.2	
Level of Service		F	
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	W	W	W
Traffic Volume (vph)	295	10	40	375	370	740
Future Volume (vph)	295	10	40	375	370	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1769		1770	1863	1863	1583
Flt Permitted	0.95		0.47	1.00	1.00	1.00
Satd. Flow (perm)	1769		878	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	347	12	47	441	435	871
RTOR Reduction (vph)	2	0	0	0	0	299
Lane Group Flow (vph)	357	0	47	441	435	572
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	23.3		65.7	65.7	65.7	65.7
Effective Green, g (s)	23.3		65.7	65.7	65.7	65.7
Actuated g/C Ratio	0.23		0.66	0.66	0.66	0.66
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	412		576	1223	1223	1040
v/s Ratio Prot	c0.20			0.24	0.23	
v/s Ratio Perm			0.05			c0.36
v/c Ratio	0.87		0.08	0.36	0.36	0.55
Uniform Delay, d1	36.9		6.2	7.7	7.7	9.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	17.2		0.3	0.8	0.8	2.1
Delay (s)	54.1		6.5	8.5	8.5	11.3
Level of Service	D		A	A	A	B
Approach Delay (s/veh)	54.1			8.3	10.4	
Approach LOS	D			A	B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	10	10	410	355	20
Future Vol, veh/h	30	10	10	410	355	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	12	12	482	418	24

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	935	429	418	0	-	0
Stage 1	429	-	-	-	-	-
Stage 2	506	-	-	-	-	-
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	295	626	1141	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	291	626	1141	-	-	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	606	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17	0.19	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1141	-	291	626	-	-
HCM Lane V/C Ratio	0.01	-	0.121	0.019	-	-
HCM Ctrl Dly (s/v)	8.2	-	19	10.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.1	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	10	10	10	390	355	10
Future Vol, veh/h	10	10	10	390	355	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	12	459	418	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	906	424	429	0	0
Stage 1	424	-	-	-	-
Stage 2	482	-	-	-	-
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	307	630	1130	-	-
Stage 1	660	-	-	-	-
Stage 2	621	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	302	630	1130	-	-
Mov Cap-2 Maneuver	302	-	-	-	-
Stage 1	651	-	-	-	-
Stage 2	621	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.35	0.21	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	45	-	409	-	-
HCM Lane V/C Ratio	0.01	-	0.058	-	-
HCM Ctrl Dly (s/v)	8.2	0	14.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	10	35	10	15	50	10	10	10	280	10	10	10
Future Volume (vph)	10	35	10	15	50	10	10	10	280	10	10	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	12	41	12	18	59	12	12	12	329	12	12	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	65	89	353	36
Volume Left (vph)	12	18	12	12
Volume Right (vph)	12	12	329	12
Hadj (s)	-0.04	-0.01	-0.52	-0.10
Departure Headway (s)	4.8	4.8	3.8	4.5
Degree Utilization, x	0.09	0.12	0.37	0.05
Capacity (veh/h)	686	690	913	741
Control Delay (s/veh)	8.2	8.4	9.1	7.7
Approach Delay (s/veh)	8.2	8.4	9.1	7.7
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.8	
Level of Service		A	
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	645	45	10	80	90	65
Future Volume (vph)	645	45	10	80	90	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1764		1770	1863	1863	1583
Flt Permitted	0.96		0.69	1.00	1.00	1.00
Satd. Flow (perm)	1764		1283	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	759	53	12	94	106	76
RTOR Reduction (vph)	1	0	0	0	0	57
Lane Group Flow (vph)	811	0	12	94	106	19
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	63.4		25.6	25.6	25.6	25.6
Effective Green, g (s)	63.4		25.6	25.6	25.6	25.6
Actuated g/C Ratio	0.63		0.26	0.26	0.26	0.26
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1118		328	476	476	405
v/s Ratio Prot	c0.46			0.05	c0.06	
v/s Ratio Perm			0.01			0.01
v/c Ratio	0.73		0.04	0.20	0.22	0.05
Uniform Delay, d1	12.4		27.9	29.2	29.3	28.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4		0.2	0.9	1.1	0.2
Delay (s)	14.8		28.1	30.1	30.4	28.2
Level of Service	B		C	C	C	C
Approach Delay (s/veh)	14.8			29.9	29.5	
Approach LOS	B			C	C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	10	60	130	10
Future Vol, veh/h	10	10	10	60	130	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	12	71	153	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	253	159	153	0	-	0
Stage 1	159	-	-	-	-	-
Stage 2	94	-	-	-	-	-
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	736	886	1428	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	730	886	1428	-	-	-
Mov Cap-2 Maneuver	730	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	930	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.57	1.08	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1428	-	730	886	-	-
HCM Lane V/C Ratio	0.008	-	0.016	0.013	-	-
HCM Ctrl Dly (s/v)	7.5	-	10	9.1	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	10	10	10	60	120	10
Future Vol, veh/h	10	10	10	60	120	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	12	71	141	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	241	147	153	0	0
Stage 1	147	-	-	-	-
Stage 2	94	-	-	-	-
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	747	900	1428	-	-
Stage 1	880	-	-	-	-
Stage 2	930	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	741	900	1428	-	-
Mov Cap-2 Maneuver	741	-	-	-	-
Stage 1	873	-	-	-	-
Stage 2	930	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.56	1.08	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	257	-	813	-	-
HCM Lane V/C Ratio	0.008	-	0.029	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	240	30	75	130	15	15	15	25	15	15	15
Future Volume (vph)	15	240	30	75	130	15	15	15	25	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	282	35	88	153	18	18	18	29	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	335	259	65	54
Volume Left (vph)	18	88	18	18
Volume Right (vph)	35	18	29	18
Hadj (s)	-0.02	0.06	-0.18	-0.10
Departure Headway (s)	4.5	4.7	5.2	5.3
Degree Utilization, x	0.42	0.34	0.09	0.08
Capacity (veh/h)	775	740	605	599
Control Delay (s/veh)	10.7	10.0	8.7	8.7
Approach Delay (s/veh)	10.7	10.0	8.7	8.7
Approach LOS	B	B	A	A

Intersection Summary			
Delay		10.1	
Level of Service		B	
Intersection Capacity Utilization		41.1%	ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	295	15	15	460	225	275
Future Volume (vph)	295	15	15	460	225	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1766		1770	1863	1863	1583
Flt Permitted	0.95		0.58	1.00	1.00	1.00
Satd. Flow (perm)	1766		1089	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	347	18	18	541	265	324
RTOR Reduction (vph)	1	0	0	0	0	116
Lane Group Flow (vph)	364	0	18	541	265	208
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	25.8		64.2	64.2	64.2	64.2
Effective Green, g (s)	25.8		64.2	64.2	64.2	64.2
Actuated g/C Ratio	0.26		0.64	0.64	0.64	0.64
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	455		699	1196	1196	1016
v/s Ratio Prot	c0.21			c0.29	0.14	
v/s Ratio Perm			0.02			0.13
v/c Ratio	0.80		0.03	0.45	0.22	0.20
Uniform Delay, d1	34.7		6.5	9.0	7.5	7.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5		0.1	1.2	0.4	0.5
Delay (s)	44.2		6.6	10.3	7.9	7.8
Level of Service	D		A	B	A	A
Approach Delay (s/veh)	44.2			10.1	7.9	
Approach LOS	D			B	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	15	15	360	215	30
Future Vol, veh/h	30	15	15	360	215	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	18	18	424	253	35

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	729	271	253	0	-	0
Stage 1	271	-	-	-	-	-
Stage 2	459	-	-	-	-	-
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	390	768	1312	-	-	-
Stage 1	775	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	384	768	1312	-	-	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.47	0.31	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1312	-	384	768	-	-
HCM Lane V/C Ratio	0.013	-	0.092	0.023	-	-
HCM Ctrl Dly (s/v)	7.8	-	15.3	9.8	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.1	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	340	190	15
Future Vol, veh/h	15	15	15	340	190	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	400	224	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	668	232	241	0	0
Stage 1	232	-	-	-	-
Stage 2	435	-	-	-	-
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	424	807	1325	-	-
Stage 1	806	-	-	-	-
Stage 2	652	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	416	807	1325	-	-
Mov Cap-2 Maneuver	416	-	-	-	-
Stage 1	792	-	-	-	-
Stage 2	652	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12	0.33	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	76	-	549	-	-
HCM Lane V/C Ratio	0.013	-	0.064	-	-
HCM Ctrl Dly (s/v)	7.8	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	135	80	525	250	25	15	15	65	15	25	15
Future Volume (vph)	15	135	80	525	250	25	15	15	65	15	25	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	159	94	618	294	29	18	18	76	18	29	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	271	941	112	65
Volume Left (vph)	18	618	18	18
Volume Right (vph)	94	29	76	18
Hadj (s)	-0.16	0.15	-0.34	-0.08
Departure Headway (s)	5.2	5.0	6.1	6.5
Degree Utilization, x	0.39	1.31	0.19	0.12
Capacity (veh/h)	661	709	561	517
Control Delay (s/veh)	11.6	165.6	10.5	10.4
Approach Delay (s/veh)	11.6	165.6	10.5	10.4
Approach LOS	B	F	B	B

Intersection Summary			
Delay		115.8	
Level of Service		F	
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	325	15	45	420	410	770
Future Volume (vph)	325	15	45	420	410	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1767		1770	1863	1863	1583
Flt Permitted	0.95		0.43	1.00	1.00	1.00
Satd. Flow (perm)	1767		807	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	382	18	53	494	482	906
RTOR Reduction (vph)	1	0	0	0	0	327
Lane Group Flow (vph)	399	0	53	494	482	579
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	25.1		63.9	63.9	63.9	63.9
Effective Green, g (s)	25.1		63.9	63.9	63.9	63.9
Actuated g/C Ratio	0.25		0.64	0.64	0.64	0.64
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	443		515	1190	1190	1011
v/s Ratio Prot	c0.23			0.27	0.26	
v/s Ratio Perm			0.07			c0.37
v/c Ratio	0.90		0.10	0.42	0.41	0.57
Uniform Delay, d1	36.2		7.0	8.9	8.8	10.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	20.6		0.4	1.1	1.0	2.4
Delay (s)	56.8		7.4	9.9	9.8	12.6
Level of Service	E		A	A	A	B
Approach Delay (s/veh)	56.8			9.7	11.7	
Approach LOS	E			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	15	15	455	395	25
Future Vol, veh/h	35	15	15	455	395	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	18	18	535	465	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1050	479	465	0	-	0
Stage 1	479	-	-	-	-	-
Stage 2	571	-	-	-	-	-
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	252	586	1097	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	248	586	1097	-	-	-
Mov Cap-2 Maneuver	248	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.09	0.27	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1097	-	248	586	-	-
HCM Lane V/C Ratio	0.016	-	0.166	0.03	-	-
HCM Ctrl Dly (s/v)	8.3	-	22.4	11.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	435	395	15
Future Vol, veh/h	15	15	15	435	395	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	512	465	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1021	474	482	0	0
Stage 1	474	-	-	-	-
Stage 2	547	-	-	-	-
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	262	591	1080	-	-
Stage 1	627	-	-	-	-
Stage 2	580	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	256	591	1080	-	-
Mov Cap-2 Maneuver	256	-	-	-	-
Stage 1	612	-	-	-	-
Stage 2	580	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	16.18	0.28	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	60	-	357	-	-
HCM Lane V/C Ratio	0.016	-	0.099	-	-
HCM Ctrl Dly (s/v)	8.4	0	16.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	40	15	15	55	15	15	15	290	15	15	15
Future Volume (vph)	15	40	15	15	55	15	15	15	290	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	47	18	18	65	18	18	18	341	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	83	101	377	54
Volume Left (vph)	18	18	18	18
Volume Right (vph)	18	18	341	18
Hadj (s)	-0.05	-0.04	-0.50	-0.10
Departure Headway (s)	4.9	4.9	3.9	4.7
Degree Utilization, x	0.11	0.14	0.41	0.07
Capacity (veh/h)	663	668	881	716
Control Delay (s/veh)	8.5	8.7	9.7	8.0
Approach Delay (s/veh)	8.5	8.7	9.7	8.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.2	
Level of Service		A	
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	665	50	15	90	100	75
Future Volume (vph)	665	50	15	90	100	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1763		1770	1863	1863	1583
Flt Permitted	0.96		0.68	1.00	1.00	1.00
Satd. Flow (perm)	1763		1269	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	782	59	18	106	118	88
RTOR Reduction (vph)	1	0	0	0	0	66
Lane Group Flow (vph)	840	0	18	106	118	22
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	63.6		25.4	25.4	25.4	25.4
Effective Green, g (s)	63.6		25.4	25.4	25.4	25.4
Actuated g/C Ratio	0.64		0.25	0.25	0.25	0.25
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1121		322	473	473	402
v/s Ratio Prot	c0.48			0.06	c0.06	
v/s Ratio Perm			0.01			0.01
v/c Ratio	0.75		0.06	0.22	0.25	0.06
Uniform Delay, d1	12.7		28.2	29.5	29.7	28.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8		0.3	1.1	1.3	0.3
Delay (s)	15.4		28.6	30.6	31.0	28.5
Level of Service	B		C	C	C	C
Approach Delay (s/veh)	15.4			30.3	29.9	
Approach LOS	B			C	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	15	90	160	15
Future Vol, veh/h	15	15	15	90	160	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	106	188	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	338	197	188	0	-	0
Stage 1	197	-	-	-	-	-
Stage 2	141	-	-	-	-	-
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	657	844	1386	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	649	844	1386	-	-	-
Mov Cap-2 Maneuver	649	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	886	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.03	1.09	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1386	-	649	844	-	-
HCM Lane V/C Ratio	0.013	-	0.027	0.021	-	-
HCM Ctrl Dly (s/v)	7.6	-	10.7	9.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	10	10	10	65	135	10
Future Vol, veh/h	10	10	10	65	135	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	12	76	159	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	265	165	171	0	0
Stage 1	165	-	-	-	-
Stage 2	100	-	-	-	-
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	724	880	1407	-	-
Stage 1	865	-	-	-	-
Stage 2	924	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	718	880	1407	-	-
Mov Cap-2 Maneuver	718	-	-	-	-
Stage 1	857	-	-	-	-
Stage 2	924	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.69	1.01	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	240	-	791	-	-
HCM Lane V/C Ratio	0.008	-	0.03	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	240	10	10	130	15	5	15	10	15	15	15
Future Volume (vph)	15	240	10	10	130	15	5	15	10	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	282	12	12	153	18	6	18	12	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	312	183	36	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	12	18
Hadj (s)	0.02	-0.01	-0.13	-0.10
Departure Headway (s)	4.4	4.5	5.0	5.0
Degree Utilization, x	0.38	0.23	0.05	0.07
Capacity (veh/h)	806	774	650	649
Control Delay (s/veh)	10.0	8.8	8.2	8.4
Approach Delay (s/veh)	10.0	8.8	8.2	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.3	
Level of Service		A	
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	280	15	10	475	265	215
Future Volume (vph)	280	15	10	475	265	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1766		1770	1863	1863	1583
Flt Permitted	0.95		0.55	1.00	1.00	1.00
Satd. Flow (perm)	1766		1026	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	329	18	12	559	312	253
RTOR Reduction (vph)	2	0	0	0	0	88
Lane Group Flow (vph)	345	0	12	559	312	165
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	24.8		65.2	65.2	65.2	65.2
Effective Green, g (s)	24.8		65.2	65.2	65.2	65.2
Actuated g/C Ratio	0.25		0.65	0.65	0.65	0.65
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	437		668	1214	1214	1032
v/s Ratio Prot	c0.20			c0.30	0.17	
v/s Ratio Perm			0.01			0.10
v/c Ratio	0.79		0.02	0.46	0.26	0.16
Uniform Delay, d1	35.2		6.1	8.7	7.3	6.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.2		0.0	1.3	0.5	0.3
Delay (s)	44.3		6.2	9.9	7.8	7.1
Level of Service	D		A	A	A	A
Approach Delay (s/veh)	44.3			9.8	7.5	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	45	25	65	355	215	65
Future Vol, veh/h	45	25	65	355	215	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	300
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	29	76	418	253	76

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	824	253	253	0	-	0
Stage 1	253	-	-	-	-	-
Stage 2	571	-	-	-	-	-
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	343	786	1312	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	323	786	1312	-	-	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	743	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.26	1.22	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1312	-	323	786	-	-
HCM Lane V/C Ratio	0.058	-	0.164	0.037	-	-
HCM Ctrl Dly (s/v)	7.9	-	18.3	9.8	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	0.1	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	385	200	15
Future Vol, veh/h	15	15	15	385	200	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	453	235	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	732	244	253	0	0
Stage 1	244	-	-	-	-
Stage 2	488	-	-	-	-
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	388	795	1312	-	-
Stage 1	796	-	-	-	-
Stage 2	617	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	381	795	1312	-	-
Mov Cap-2 Maneuver	381	-	-	-	-
Stage 1	782	-	-	-	-
Stage 2	617	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.5	0.29	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	68	-	515	-	-
HCM Lane V/C Ratio	0.013	-	0.069	-	-
HCM Ctrl Dly (s/v)	7.8	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	135	25	30	250	25	5	15	20	15	25	15
Future Volume (vph)	15	135	25	30	250	25	5	15	20	15	25	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	159	29	35	294	29	6	18	24	18	29	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	206	358	48	65
Volume Left (vph)	18	35	6	18
Volume Right (vph)	29	29	24	18
Hadj (s)	-0.03	0.00	-0.24	-0.08
Departure Headway (s)	4.6	4.4	5.0	5.2
Degree Utilization, x	0.26	0.44	0.07	0.09
Capacity (veh/h)	758	783	630	617
Control Delay (s/veh)	9.2	10.9	8.4	8.7
Approach Delay (s/veh)	9.2	10.9	8.4	8.7
Approach LOS	A	B	A	A

Intersection Summary			
Delay		10.0	
Level of Service		A	
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	280	15	20	465	690	300
Future Volume (vph)	280	15	20	465	690	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1766		1770	1863	1863	1583
Flt Permitted	0.95		0.24	1.00	1.00	1.00
Satd. Flow (perm)	1766		449	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	329	18	24	547	812	353
RTOR Reduction (vph)	2	0	0	0	0	119
Lane Group Flow (vph)	345	0	24	547	812	234
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	22.8		66.2	66.2	66.2	66.2
Effective Green, g (s)	22.8		66.2	66.2	66.2	66.2
Actuated g/C Ratio	0.23		0.66	0.66	0.66	0.66
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	402		297	1233	1233	1047
v/s Ratio Prot	c0.20			0.29	c0.44	
v/s Ratio Perm			0.05			0.15
v/c Ratio	0.86		0.08	0.44	0.66	0.22
Uniform Delay, d1	37.0		6.0	8.1	10.1	6.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	16.3		0.5	1.2	2.8	0.5
Delay (s)	53.4		6.6	9.2	12.9	7.2
Level of Service	D		A	A	B	A
Approach Delay (s/veh)	53.4			9.1	11.2	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	16.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	80	25	285	430	395	305
Future Vol, veh/h	80	25	285	430	395	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	300
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	94	29	335	506	465	359

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1641	465	465	0	-	0
Stage 1	465	-	-	-	-	-
Stage 2	1176	-	-	-	-	-
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	110	598	1097	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 76	598	1097	-	-	-
Mov Cap-2 Maneuver	~ 76	-	-	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	293	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	211.54	3.88	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1097	-	76	598	-	-
HCM Lane V/C Ratio	0.306	-	1.232	0.049	-	-
HCM Ctrl Dly (s/v)	9.7	-	274.1	11.3	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	1.3	-	7.2	0.2	-	-

Notes	
-: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	680	405	15
Future Vol, veh/h	15	15	15	680	405	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	800	476	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1321	485	494	0	0
Stage 1	485	-	-	-	-
Stage 2	835	-	-	-	-
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	173	582	1070	-	-
Stage 1	619	-	-	-	-
Stage 2	426	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	168	582	1070	-	-
Mov Cap-2 Maneuver	168	-	-	-	-
Stage 1	601	-	-	-	-
Stage 2	426	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	20.98	0.18	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	39	-	260	-	-
HCM Lane V/C Ratio	0.017	-	0.136	-	-
HCM Ctrl Dly (s/v)	8.4	0	21	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	40	10	10	55	15	5	15	80	15	15	15
Future Volume (vph)	15	40	10	10	55	15	5	15	80	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	47	12	12	65	18	6	18	94	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	77	95	118	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	94	18
Hadj (s)	-0.01	-0.05	-0.43	-0.10
Departure Headway (s)	4.4	4.3	3.9	4.3
Degree Utilization, x	0.09	0.11	0.13	0.06
Capacity (veh/h)	788	791	873	785
Control Delay (s/veh)	7.8	7.8	7.5	7.6
Approach Delay (s/veh)	7.8	7.8	7.5	7.6
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.7	
Level of Service		A	
Intersection Capacity Utilization	20.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	180	30	10	380	110	65
Future Volume (vph)	180	30	10	380	110	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1752		1770	1863	1863	1583
Flt Permitted	0.96		0.67	1.00	1.00	1.00
Satd. Flow (perm)	1752		1256	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	212	35	12	447	129	76
RTOR Reduction (vph)	6	0	0	0	0	23
Lane Group Flow (vph)	241	0	12	447	129	53
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	18.9		70.1	70.1	70.1	70.1
Effective Green, g (s)	18.9		70.1	70.1	70.1	70.1
Actuated g/C Ratio	0.19		0.70	0.70	0.70	0.70
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331		880	1305	1305	1109
v/s Ratio Prot	c0.14			c0.24	0.07	
v/s Ratio Perm			0.01			0.03
v/c Ratio	0.73		0.01	0.34	0.10	0.05
Uniform Delay, d1	38.1		4.5	5.9	4.8	4.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.7		0.0	0.7	0.2	0.1
Delay (s)	45.8		4.5	6.6	5.0	4.7
Level of Service	D		A	A	A	A
Approach Delay (s/veh)	45.8			6.5	4.9	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	9.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	305	220	25	85	140	25
Future Vol, veh/h	305	220	25	85	140	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	300
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	359	259	29	100	165	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	324	165	165	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	159	-	-	-	-	-
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	670	880	1414	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	870	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	656	880	1414	-	-	-
Mov Cap-2 Maneuver	656	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.34	1.73	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1414	-	656	880	-	-
HCM Lane V/C Ratio	0.021	-	0.547	0.294	-	-
HCM Ctrl Dly (s/v)	7.6	-	16.9	10.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	3.3	1.2	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	10	10	10	70	320	10
Future Vol, veh/h	10	10	10	70	320	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	12	82	376	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	488	382	388	0	-	0
Stage 1	382	-	-	-	-	-
Stage 2	106	-	-	-	-	-
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	539	665	1170	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	533	665	1170	-	-	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	918	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.34	1.01	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	225	-	592	-	-
HCM Lane V/C Ratio	0.01	-	0.04	-	-
HCM Ctrl Dly (s/v)	8.1	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	240	10	10	130	15	5	15	10	15	15	15
Future Volume (vph)	15	240	10	10	130	15	5	15	10	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	282	12	12	153	18	6	18	12	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	312	183	36	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	12	18
Hadj (s)	0.02	-0.01	-0.13	-0.10
Departure Headway (s)	4.4	4.5	5.0	5.0
Degree Utilization, x	0.38	0.23	0.05	0.07
Capacity (veh/h)	806	774	650	649
Control Delay (s/veh)	10.0	8.8	8.2	8.4
Approach Delay (s/veh)	10.0	8.8	8.2	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.3	
Level of Service		A	
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	280	15	10	475	265	205
Future Volume (vph)	280	15	10	475	265	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1766		1770	1863	1863	1583
Flt Permitted	0.95		0.55	1.00	1.00	1.00
Satd. Flow (perm)	1766		1026	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	329	18	12	559	312	241
RTOR Reduction (vph)	2	0	0	0	0	84
Lane Group Flow (vph)	345	0	12	559	312	157
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	24.8		65.2	65.2	65.2	65.2
Effective Green, g (s)	24.8		65.2	65.2	65.2	65.2
Actuated g/C Ratio	0.25		0.65	0.65	0.65	0.65
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	437		668	1214	1214	1032
v/s Ratio Prot	c0.20			c0.30	0.17	
v/s Ratio Perm			0.01			0.10
v/c Ratio	0.79		0.02	0.46	0.26	0.15
Uniform Delay, d1	35.2		6.1	8.7	7.3	6.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.2		0.0	1.3	0.5	0.3
Delay (s)	44.3		6.2	9.9	7.8	7.0
Level of Service	D		A	A	A	A
Approach Delay (s/veh)	44.3			9.8	7.5	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	15	15	375	250	30
Future Vol, veh/h	30	15	15	375	250	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	18	18	441	294	35

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	788	312	294	0	-	0
Stage 1	312	-	-	-	-	-
Stage 2	476	-	-	-	-	-
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	360	728	1267	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	355	728	1267	-	-	-
Mov Cap-2 Maneuver	355	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	625	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1267	-	355	728	-	-
HCM Lane V/C Ratio	0.014	-	0.099	0.024	-	-
HCM Ctrl Dly (s/v)	7.9	-	16.3	10.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.1	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	390	200	15
Future Vol, veh/h	15	15	15	390	200	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	459	235	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	738	244	253	0	0
Stage 1	244	-	-	-	-
Stage 2	494	-	-	-	-
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	385	795	1312	-	-
Stage 1	796	-	-	-	-
Stage 2	613	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	378	795	1312	-	-
Mov Cap-2 Maneuver	378	-	-	-	-
Stage 1	782	-	-	-	-
Stage 2	613	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.54	0.29	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	67	-	512	-	-
HCM Lane V/C Ratio	0.013	-	0.069	-	-
HCM Ctrl Dly (s/v)	7.8	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM Signalized Intersection Capacity Analysis

5: GA 193 & Site Driveway A

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	10	50	345	200	35
Future Volume (vph)	15	10	50	345	200	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1825	
Flt Permitted	0.95	1.00	0.59	1.00	1.00	
Satd. Flow (perm)	1770	1583	1099	1863	1825	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	18	12	59	406	235	41
RTOR Reduction (vph)	0	12	0	0	6	0
Lane Group Flow (vph)	18	0	59	406	270	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	1.2	1.2	30.4	30.4	30.4	
Effective Green, g (s)	1.2	1.2	30.4	30.4	30.4	
Actuated g/C Ratio	0.03	0.03	0.77	0.77	0.77	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	53	47	843	1430	1401	
v/s Ratio Prot	c0.01			c0.22	0.15	
v/s Ratio Perm		0.00	0.05			
v/c Ratio	0.34	0.01	0.07	0.28	0.19	
Uniform Delay, d1	18.8	18.6	1.1	1.4	1.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.8	0.1	0.2	0.5	0.3	
Delay (s)	22.6	18.7	1.3	1.9	1.6	
Level of Service	C	B	A	A	A	
Approach Delay (s/veh)	21.0			1.8	1.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	2.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	39.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	29.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 7th Signalized Intersection Summary
 5: GA 193 & Site Driveway A

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	10	50	345	200	35
Future Volume (veh/h)	15	10	50	345	200	35
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	12	59	406	235	41
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	54	48	935	1209	1003	175
Arrive On Green	0.03	0.03	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1781	1585	1103	1870	1551	271
Grp Volume(v), veh/h	18	12	59	406	0	276
Grp Sat Flow(s),veh/h/ln	1781	1585	1103	1870	0	1822
Q Serve(g_s), s	0.2	0.2	0.6	2.4	0.0	1.6
Cycle Q Clear(g_c), s	0.2	0.2	2.1	2.4	0.0	1.6
Prop In Lane	1.00	1.00	1.00			0.15
Lane Grp Cap(c), veh/h	54	48	935	1209	0	1178
V/C Ratio(X)	0.34	0.25	0.06	0.34	0.00	0.23
Avail Cap(c_a), veh/h	1152	1025	935	1209	0	1178
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	0.00	1.00
Uniform Delay (d), s/veh	11.8	11.7	2.3	2.0	0.0	1.8
Incr Delay (d2), s/veh	3.6	2.7	0.1	0.8	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	15.4	14.4	2.4	2.7	0.0	2.3
LnGrp LOS	B	B	A	A		A
Approach Vol, veh/h	30			465	276	
Approach Delay, s/veh	15.0			2.7	2.3	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		20.0		4.7		20.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		16.0		16.0		16.0
Max Q Clear Time (g_c+I1), s		4.4		2.2		3.6
Green Ext Time (p_c), s		1.8		0.0		1.0
Intersection Summary						
HCM 7th Control Delay, s/veh			3.0			
HCM 7th LOS			A			

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	135	25	30	250	25	5	15	20	15	25	15
Future Volume (vph)	15	135	25	30	250	25	5	15	20	15	25	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	159	29	35	294	29	6	18	24	18	29	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	206	358	48	65
Volume Left (vph)	18	35	6	18
Volume Right (vph)	29	29	24	18
Hadj (s)	-0.03	0.00	-0.24	-0.08
Departure Headway (s)	4.6	4.4	5.0	5.2
Degree Utilization, x	0.26	0.44	0.07	0.09
Capacity (veh/h)	758	783	630	617
Control Delay (s/veh)	9.2	10.9	8.4	8.7
Approach Delay (s/veh)	9.2	10.9	8.4	8.7
Approach LOS	A	B	A	A

Intersection Summary			
Delay		10.0	
Level of Service		A	
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	280	15	20	465	690	300
Future Volume (vph)	280	15	20	465	690	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1766		1770	1863	1863	1583
Flt Permitted	0.95		0.24	1.00	1.00	1.00
Satd. Flow (perm)	1766		449	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	329	18	24	547	812	353
RTOR Reduction (vph)	2	0	0	0	0	119
Lane Group Flow (vph)	345	0	24	547	812	234
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	22.8		66.2	66.2	66.2	66.2
Effective Green, g (s)	22.8		66.2	66.2	66.2	66.2
Actuated g/C Ratio	0.23		0.66	0.66	0.66	0.66
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	402		297	1233	1233	1047
v/s Ratio Prot	c0.20			0.29	c0.44	
v/s Ratio Perm			0.05			0.15
v/c Ratio	0.86		0.08	0.44	0.66	0.22
Uniform Delay, d1	37.0		6.0	8.1	10.1	6.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	16.3		0.5	1.2	2.8	0.5
Delay (s)	53.4		6.6	9.2	12.9	7.2
Level of Service	D		A	A	B	A
Approach Delay (s/veh)	53.4			9.1	11.2	
Approach LOS	D			A	B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	15	15	505	675	25
Future Vol, veh/h	35	15	15	505	675	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	18	18	594	794	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1438	809	794	0	-	0
Stage 1	809	-	-	-	-	-
Stage 2	629	-	-	-	-	-
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	147	381	827	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	143	381	827	-	-	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	32.4	0.27	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	827	-	143	381	-	-
HCM Lane V/C Ratio	0.021	-	0.287	0.046	-	-
HCM Ctrl Dly (s/v)	9.4	-	39.9	14.9	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	705	405	15
Future Vol, veh/h	15	15	15	705	405	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	829	476	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1350	485	494	0	0
Stage 1	485	-	-	-	-
Stage 2	865	-	-	-	-
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	166	582	1070	-	-
Stage 1	619	-	-	-	-
Stage 2	412	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	161	582	1070	-	-
Mov Cap-2 Maneuver	161	-	-	-	-
Stage 1	600	-	-	-	-
Stage 2	412	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	21.6	0.18	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	38	-	252	-	-
HCM Lane V/C Ratio	0.017	-	0.14	-	-
HCM Ctrl Dly (s/v)	8.4	0	21.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

HCM 7th Signalized Intersection Summary
 5: GA 193 & Site Driveway A

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	10	270	420	405	280
Future Volume (veh/h)	45	10	270	420	405	280
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	12	318	494	476	329
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	83	73	565	1504	828	573
Arrive On Green	0.05	0.05	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1781	1585	677	1870	1030	712
Grp Volume(v), veh/h	53	12	318	494	0	805
Grp Sat Flow(s),veh/h/ln	1781	1585	677	1870	0	1742
Q Serve(g_s), s	1.6	0.4	17.3	3.8	0.0	9.0
Cycle Q Clear(g_c), s	1.6	0.4	26.3	3.8	0.0	9.0
Prop In Lane	1.00	1.00	1.00			0.41
Lane Grp Cap(c), veh/h	83	73	565	1504	0	1401
V/C Ratio(X)	0.64	0.16	0.56	0.33	0.00	0.57
Avail Cap(c_a), veh/h	133	119	565	1504	0	1401
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	0.00	1.00
Uniform Delay (d), s/veh	25.1	24.5	6.7	1.4	0.0	1.9
Incr Delay (d2), s/veh	8.1	1.0	4.0	0.6	0.0	1.7
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	0.2	1.5	0.2	0.0	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	33.1	25.5	10.7	2.0	0.0	3.6
LnGrp LOS	C	C	B	A		A
Approach Vol, veh/h	65			812	805	
Approach Delay, s/veh	31.7			5.4	3.6	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		47.0		6.5		47.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		43.0		4.0		43.0
Max Q Clear Time (g_c+I1), s		28.3		3.6		11.0
Green Ext Time (p_c), s		4.7		0.0		5.9
Intersection Summary						
HCM 7th Control Delay, s/veh			5.6			
HCM 7th LOS			A			

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	40	10	10	55	15	5	15	80	15	15	15
Future Volume (vph)	15	40	10	10	55	15	5	15	80	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	47	12	12	65	18	6	18	94	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	77	95	118	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	94	18
Hadj (s)	-0.01	-0.05	-0.43	-0.10
Departure Headway (s)	4.4	4.3	3.9	4.3
Degree Utilization, x	0.09	0.11	0.13	0.06
Capacity (veh/h)	788	791	873	785
Control Delay (s/veh)	7.8	7.8	7.5	7.6
Approach Delay (s/veh)	7.8	7.8	7.5	7.6
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.7	
Level of Service		A	
Intersection Capacity Utilization	20.9%		ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	180	30	10	380	110	65
Future Volume (vph)	180	30	10	380	110	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1752		1770	1863	1863	1583
Flt Permitted	0.96		0.67	1.00	1.00	1.00
Satd. Flow (perm)	1752		1256	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	212	35	12	447	129	76
RTOR Reduction (vph)	6	0	0	0	0	23
Lane Group Flow (vph)	241	0	12	447	129	53
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	18.9		70.1	70.1	70.1	70.1
Effective Green, g (s)	18.9		70.1	70.1	70.1	70.1
Actuated g/C Ratio	0.19		0.70	0.70	0.70	0.70
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331		880	1305	1305	1109
v/s Ratio Prot	c0.14			c0.24	0.07	
v/s Ratio Perm			0.01			0.03
v/c Ratio	0.73		0.01	0.34	0.10	0.05
Uniform Delay, d1	38.1		4.5	5.9	4.8	4.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.7		0.0	0.7	0.2	0.1
Delay (s)	45.8		4.5	6.6	5.0	4.7
Level of Service	D		A	A	A	A
Approach Delay (s/veh)	45.8			6.5	4.9	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	15	410	170	15
Future Vol, veh/h	15	15	15	410	170	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	482	200	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	726	209	200	0	-	0
Stage 1	209	-	-	-	-	-
Stage 2	518	-	-	-	-	-
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	391	831	1372	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	386	831	1372	-	-	-
Mov Cap-2 Maneuver	386	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	598	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.1	0.27	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1372	-	386	831	-	-
HCM Lane V/C Ratio	0.013	-	0.046	0.021	-	-
HCM Ctrl Dly (s/v)	7.7	-	14.8	9.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	10	80	340	15
Future Vol, veh/h	15	15	10	80	340	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	12	94	400	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	526	409	418	0	-	0
Stage 1	409	-	-	-	-	-
Stage 2	118	-	-	-	-	-
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	512	643	1141	-	-	-
Stage 1	671	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	506	643	1141	-	-	-
Mov Cap-2 Maneuver	506	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.78	0.91	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	200	-	566	-	-
HCM Lane V/C Ratio	0.01	-	0.062	-	-
HCM Ctrl Dly (s/v)	8.2	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 7th Signalized Intersection Summary
 5: GA 193 & Site Driveway A

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	290	205	10	75	145	10
Future Volume (veh/h)	290	205	10	75	145	10
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	341	241	12	88	171	12
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	466	415	754	956	883	62
Arrive On Green	0.26	0.26	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1781	1585	1201	1870	1727	121
Grp Volume(v), veh/h	341	241	12	88	0	183
Grp Sat Flow(s),veh/h/ln	1781	1585	1201	1870	0	1849
Q Serve(g_s), s	6.2	4.7	0.2	0.9	0.0	1.9
Cycle Q Clear(g_c), s	6.2	4.7	2.1	0.9	0.0	1.9
Prop In Lane	1.00	1.00	1.00			0.07
Lane Grp Cap(c), veh/h	466	415	754	956	0	945
V/C Ratio(X)	0.73	0.58	0.02	0.09	0.00	0.19
Avail Cap(c_a), veh/h	708	630	754	956	0	945
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	0.00	1.00
Uniform Delay (d), s/veh	11.9	11.3	5.2	4.4	0.0	4.7
Incr Delay (d2), s/veh	2.2	1.3	0.0	0.2	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	1.4	0.0	0.1	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	14.1	12.6	5.3	4.6	0.0	5.1
LnGrp LOS	B	B	A	A		A
Approach Vol, veh/h	582			100	183	
Approach Delay, s/veh	13.5			4.7	5.1	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.0		13.2		22.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		14.0		18.0
Max Q Clear Time (g_c+I1), s		4.1		8.2		3.9
Green Ext Time (p_c), s		0.3		1.1		0.6
Intersection Summary						
HCM 7th Control Delay, s/veh			10.7			
HCM 7th LOS			B			

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	285	30	75	155	15	15	15	25	15	15	15
Future Volume (vph)	15	285	30	75	155	15	15	15	25	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	335	35	88	182	18	18	18	29	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	388	288	65	54
Volume Left (vph)	18	88	18	18
Volume Right (vph)	35	18	29	18
Hadj (s)	-0.01	0.06	-0.18	-0.10
Departure Headway (s)	4.6	4.7	5.4	5.5
Degree Utilization, x	0.49	0.38	0.10	0.08
Capacity (veh/h)	766	729	577	568
Control Delay (s/veh)	11.9	10.6	9.0	9.0
Approach Delay (s/veh)	11.9	10.6	9.0	9.0
Approach LOS	B	B	A	A

Intersection Summary			
Delay		11.0	
Level of Service		B	
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	350	15	15	550	265	325
Future Volume (vph)	350	15	15	550	265	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1768		1770	1863	1863	1583
Flt Permitted	0.95		0.54	1.00	1.00	1.00
Satd. Flow (perm)	1768		1007	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	412	18	18	647	312	382
RTOR Reduction (vph)	1	0	0	0	0	149
Lane Group Flow (vph)	429	0	18	647	312	233
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	29.1		60.9	60.9	60.9	60.9
Effective Green, g (s)	29.1		60.9	60.9	60.9	60.9
Actuated g/C Ratio	0.29		0.61	0.61	0.61	0.61
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	514		613	1134	1134	964
v/s Ratio Prot	c0.24			c0.35	0.17	
v/s Ratio Perm			0.02			0.15
v/c Ratio	0.83		0.03	0.57	0.28	0.24
Uniform Delay, d1	33.2		7.8	11.7	9.2	9.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	11.1		0.1	2.1	0.6	0.6
Delay (s)	44.3		7.9	13.8	9.8	9.6
Level of Service	D		A	B	A	A
Approach Delay (s/veh)	44.3			13.6	9.7	
Approach LOS	D			B	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	15	15	425	250	35
Future Vol, veh/h	35	15	15	425	250	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	18	18	500	294	41

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	850	315	294	0	-	0
Stage 1	315	-	-	-	-	-
Stage 2	535	-	-	-	-	-
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	331	726	1267	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	326	726	1267	-	-	-
Mov Cap-2 Maneuver	326	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.36	0.27	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1267	-	326	726	-	-
HCM Lane V/C Ratio	0.014	-	0.126	0.024	-	-
HCM Ctrl Dly (s/v)	7.9	-	17.6	10.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	405	225	15
Future Vol, veh/h	15	15	15	405	225	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	476	265	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	785	274	282	0	0
Stage 1	274	-	-	-	-
Stage 2	512	-	-	-	-
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	361	765	1280	-	-
Stage 1	773	-	-	-	-
Stage 2	602	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	355	765	1280	-	-
Mov Cap-2 Maneuver	355	-	-	-	-
Stage 1	758	-	-	-	-
Stage 2	602	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.01	0.28	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	64	-	485	-	-
HCM Lane V/C Ratio	0.014	-	0.073	-	-
HCM Ctrl Dly (s/v)	7.9	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	160	85	530	300	30	15	15	65	15	30	15
Future Volume (vph)	15	160	85	530	300	30	15	15	65	15	30	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	188	100	624	353	35	18	18	76	18	35	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	306	1012	112	71
Volume Left (vph)	18	624	18	18
Volume Right (vph)	100	35	76	18
Hadj (s)	-0.15	0.14	-0.34	-0.07
Departure Headway (s)	5.3	5.1	6.2	6.6
Degree Utilization, x	0.45	1.43	0.19	0.13
Capacity (veh/h)	657	710	548	507
Control Delay (s/veh)	12.5	216.8	10.7	10.6
Approach Delay (s/veh)	12.5	216.8	10.7	10.6
Approach LOS	B	F	B	B

Intersection Summary			
Delay		150.0	
Level of Service		F	
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	375	15	45	495	490	830
Future Volume (vph)	375	15	45	495	490	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1768		1770	1863	1863	1583
Flt Permitted	0.95		0.36	1.00	1.00	1.00
Satd. Flow (perm)	1768		669	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	441	18	53	582	576	976
RTOR Reduction (vph)	1	0	0	0	0	376
Lane Group Flow (vph)	458	0	53	582	576	600
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	27.5		61.5	61.5	61.5	61.5
Effective Green, g (s)	27.5		61.5	61.5	61.5	61.5
Actuated g/C Ratio	0.28		0.62	0.62	0.62	0.62
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	486		411	1145	1145	973
v/s Ratio Prot	c0.26			0.31	0.31	
v/s Ratio Perm			0.08			c0.38
v/c Ratio	0.94		0.13	0.51	0.50	0.62
Uniform Delay, d1	35.5		8.0	10.8	10.7	11.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	26.7		0.6	1.6	1.6	2.9
Delay (s)	62.2		8.7	12.4	12.3	14.9
Level of Service	E		A	B	B	B
Approach Delay (s/veh)	62.2			12.1	13.9	
Approach LOS	E			B	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	15	15	535	470	30
Future Vol, veh/h	40	15	15	535	470	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	18	18	629	553	35

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1235	571	553	0	-	0
Stage 1	571	-	-	-	-	-
Stage 2	665	-	-	-	-	-
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	195	521	1017	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	191	521	1017	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	25.02	0.23	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1017	-	191	521	-	-
HCM Lane V/C Ratio	0.017	-	0.246	0.034	-	-
HCM Ctrl Dly (s/v)	8.6	-	29.8	12.2	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	515	470	15
Future Vol, veh/h	15	15	15	515	470	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	606	553	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1203	562	571	0	-	0
Stage 1	562	-	-	-	-	-
Stage 2	641	-	-	-	-	-
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	204	527	1002	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	198	527	1002	-	-	-
Mov Cap-2 Maneuver	198	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.24	0.25	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	51	-	288	-	-
HCM Lane V/C Ratio	0.018	-	0.123	-	-
HCM Ctrl Dly (s/v)	8.7	0	19.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	50	15	15	70	15	15	15	305	15	15	15
Future Volume (vph)	15	50	15	15	70	15	15	15	305	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	59	18	18	82	18	18	18	359	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	95	118	395	54
Volume Left (vph)	18	18	18	18
Volume Right (vph)	18	18	359	18
Hadj (s)	-0.04	-0.03	-0.50	-0.10
Departure Headway (s)	5.0	5.0	4.0	4.8
Degree Utilization, x	0.13	0.16	0.44	0.07
Capacity (veh/h)	649	656	862	691
Control Delay (s/veh)	8.8	8.9	10.1	8.1
Approach Delay (s/veh)	8.8	8.9	10.1	8.1
Approach LOS	A	A	B	A

Intersection Summary			
Delay		9.6	
Level of Service		A	
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	700	60	15	105	120	85
Future Volume (vph)	700	60	15	105	120	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1762		1770	1863	1863	1583
Flt Permitted	0.96		0.66	1.00	1.00	1.00
Satd. Flow (perm)	1762		1227	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	824	71	18	124	141	100
RTOR Reduction (vph)	1	0	0	0	0	74
Lane Group Flow (vph)	894	0	18	124	141	26
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	63.3		25.7	25.7	25.7	25.7
Effective Green, g (s)	63.3		25.7	25.7	25.7	25.7
Actuated g/C Ratio	0.63		0.26	0.26	0.26	0.26
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1115		315	478	478	406
v/s Ratio Prot	c0.51			0.07	c0.08	
v/s Ratio Perm			0.01			0.02
v/c Ratio	0.80		0.06	0.26	0.29	0.06
Uniform Delay, d1	13.7		28.0	29.6	29.9	28.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2		0.3	1.3	1.6	0.3
Delay (s)	17.9		28.4	30.9	31.4	28.4
Level of Service	B		C	C	C	C
Approach Delay (s/veh)	17.9			30.6	30.2	
Approach LOS	B			C	C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	15	100	190	15
Future Vol, veh/h	15	15	15	100	190	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	118	224	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	385	232	224	0	-	0
Stage 1	232	-	-	-	-	-
Stage 2	153	-	-	-	-	-
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	618	807	1345	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	610	807	1345	-	-	-
Mov Cap-2 Maneuver	610	-	-	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.32	1.01	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1345	-	610	807	-	-
HCM Lane V/C Ratio	0.013	-	0.029	0.022	-	-
HCM Ctrl Dly (s/v)	7.7	-	11.1	9.6	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	80	160	15
Future Vol, veh/h	15	15	15	80	160	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	94	188	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	326	197	206	0	-	0
Stage 1	197	-	-	-	-	-
Stage 2	129	-	-	-	-	-
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	668	844	1365	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	659	844	1365	-	-	-
Mov Cap-2 Maneuver	659	-	-	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	897	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.11	1.21	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	284	-	740	-	-
HCM Lane V/C Ratio	0.013	-	0.048	-	-
HCM Ctrl Dly (s/v)	7.7	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	285	10	10	155	15	5	15	10	15	15	15
Future Volume (vph)	15	285	10	10	155	15	5	15	10	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	335	12	12	182	18	6	18	12	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	365	212	36	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	12	18
Hadj (s)	0.02	-0.01	-0.13	-0.10
Departure Headway (s)	4.4	4.5	5.2	5.2
Degree Utilization, x	0.45	0.27	0.05	0.08
Capacity (veh/h)	799	761	617	618
Control Delay (s/veh)	10.9	9.2	8.4	8.6
Approach Delay (s/veh)	10.9	9.2	8.4	8.6
Approach LOS	B	A	A	A

Intersection Summary			
Delay		10.0	
Level of Service		B	
Intersection Capacity Utilization		31.7%	ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	335	15	10	570	305	265
Future Volume (vph)	335	15	10	570	305	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1767		1770	1863	1863	1583
Flt Permitted	0.95		0.51	1.00	1.00	1.00
Satd. Flow (perm)	1767		947	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	394	18	12	671	359	312
RTOR Reduction (vph)	1	0	0	0	0	118
Lane Group Flow (vph)	411	0	12	671	359	194
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	27.7		62.3	62.3	62.3	62.3
Effective Green, g (s)	27.7		62.3	62.3	62.3	62.3
Actuated g/C Ratio	0.28		0.62	0.62	0.62	0.62
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	489		589	1160	1160	986
v/s Ratio Prot	c0.23			c0.36	0.19	
v/s Ratio Perm			0.01			0.12
v/c Ratio	0.84		0.02	0.58	0.31	0.20
Uniform Delay, d1	34.1		7.2	11.1	8.8	8.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.0		0.1	2.1	0.7	0.4
Delay (s)	46.1		7.3	13.2	9.5	8.5
Level of Service	D		A	B	A	A
Approach Delay (s/veh)	46.1			13.1	9.1	
Approach LOS	D			B	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	55	25	75	420	250	75
Future Vol, veh/h	55	25	75	420	250	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	29	88	494	294	88

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	965	294	294	0	-	0
Stage 1	294	-	-	-	-	-
Stage 2	671	-	-	-	-	-
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	283	745	1267	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	263	745	1267	-	-	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	508	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19	1.22	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1267	-	263	745	-	-
HCM Lane V/C Ratio	0.07	-	0.246	0.039	-	-
HCM Ctrl Dly (s/v)	8.1	-	23.1	10	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	460	235	15
Future Vol, veh/h	15	15	15	460	235	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	541	276	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	862	285	294	0	0
Stage 1	285	-	-	-	-
Stage 2	576	-	-	-	-
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	326	754	1267	-	-
Stage 1	763	-	-	-	-
Stage 2	562	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	319	754	1267	-	-
Mov Cap-2 Maneuver	319	-	-	-	-
Stage 1	748	-	-	-	-
Stage 2	562	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.71	0.25	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	57	-	448	-	-
HCM Lane V/C Ratio	0.014	-	0.079	-	-
HCM Ctrl Dly (s/v)	7.9	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	160	30	35	300	30	5	15	20	15	30	15
Future Volume (vph)	15	160	30	35	300	30	5	15	20	15	30	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	188	35	41	353	35	6	18	24	18	35	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	241	429	48	71
Volume Left (vph)	18	41	6	18
Volume Right (vph)	35	35	24	18
Hadj (s)	-0.04	0.00	-0.24	-0.07
Departure Headway (s)	4.7	4.5	5.3	5.5
Degree Utilization, x	0.31	0.54	0.07	0.11
Capacity (veh/h)	738	772	579	577
Control Delay (s/veh)	9.8	12.7	8.7	9.1
Approach Delay (s/veh)	9.8	12.7	8.7	9.1
Approach LOS	A	B	A	A

Intersection Summary			
Delay		11.2	
Level of Service		B	
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	330	15	20	550	825	360
Future Volume (vph)	330	15	20	550	825	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1767		1770	1863	1863	1583
Flt Permitted	0.95		0.14	1.00	1.00	1.00
Satd. Flow (perm)	1767		259	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	388	18	24	647	971	424
RTOR Reduction (vph)	2	0	0	0	0	133
Lane Group Flow (vph)	404	0	24	647	971	291
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	24.5		64.5	64.5	64.5	64.5
Effective Green, g (s)	24.5		64.5	64.5	64.5	64.5
Actuated g/C Ratio	0.25		0.65	0.65	0.65	0.65
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	432		167	1201	1201	1021
v/s Ratio Prot	c0.23			0.35	c0.52	
v/s Ratio Perm			0.09			0.18
v/c Ratio	0.94		0.14	0.54	0.81	0.28
Uniform Delay, d1	37.0		6.9	9.7	13.2	7.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	27.7		1.8	1.7	5.9	0.7
Delay (s)	64.7		8.7	11.4	19.1	8.4
Level of Service	E		A	B	B	A
Approach Delay (s/veh)	64.7			11.3	15.8	
Approach LOS	E			B	B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	51.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	95	25	340	510	470	365
Future Vol, veh/h	95	25	340	510	470	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	300
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	29	400	600	553	429

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1953	553	553	0	-	0
Stage 1	553	-	-	-	-	-
Stage 2	1400	-	-	-	-	-
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	~ 70	533	1017	-	-	-
Stage 1	576	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 43	533	1017	-	-	-
Mov Cap-2 Maneuver	~ 43	-	-	-	-	-
Stage 1	350	-	-	-	-	-
Stage 2	228	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	\$ 741.35	4.33	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1017	-	43	533	-	-
HCM Lane V/C Ratio	0.393	-	2.615	0.055	-	-
HCM Ctrl Dly (s/v)	10.8	-	\$ 933.2	12.2	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	1.9	-	12.1	0.2	-	-

Notes	
-: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	815	480	15
Future Vol, veh/h	15	15	15	815	480	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	959	565	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1568	574	582	0	-	0
Stage 1	574	-	-	-	-	-
Stage 2	994	-	-	-	-	-
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	122	519	992	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	117	519	992	-	-	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	358	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	27.99	0.16	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	33	-	192	-	-
HCM Lane V/C Ratio	0.018	-	0.184	-	-
HCM Ctrl Dly (s/v)	8.7	0	28	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	50	10	10	70	15	5	15	95	15	15	15
Future Volume (vph)	15	50	10	10	70	15	5	15	95	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	59	12	12	82	18	6	18	112	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	89	112	136	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	112	18
Hadj (s)	-0.01	-0.04	-0.45	-0.10
Departure Headway (s)	4.4	4.4	4.0	4.4
Degree Utilization, x	0.11	0.14	0.15	0.07
Capacity (veh/h)	773	776	857	763
Control Delay (s/veh)	8.0	8.1	7.7	7.7
Approach Delay (s/veh)	8.0	8.1	7.7	7.7
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.9	
Level of Service		A	
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	215	40	10	455	130	75
Future Volume (vph)	215	40	10	455	130	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1750		1770	1863	1863	1583
Flt Permitted	0.96		0.66	1.00	1.00	1.00
Satd. Flow (perm)	1750		1229	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	253	47	12	535	153	88
RTOR Reduction (vph)	7	0	0	0	0	29
Lane Group Flow (vph)	293	0	12	535	153	59
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	21.7		67.3	67.3	67.3	67.3
Effective Green, g (s)	21.7		67.3	67.3	67.3	67.3
Actuated g/C Ratio	0.22		0.67	0.67	0.67	0.67
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	379		827	1253	1253	1065
v/s Ratio Prot	c0.17			c0.29	0.08	
v/s Ratio Perm			0.01			0.04
v/c Ratio	0.77		0.01	0.43	0.12	0.06
Uniform Delay, d1	36.8		5.4	7.5	5.8	5.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4		0.0	1.1	0.2	0.1
Delay (s)	46.3		5.4	8.6	6.0	5.7
Level of Service	D		A	A	A	A
Approach Delay (s/veh)	46.3			8.5	5.9	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	12.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	365	260	25	95	170	25
Future Vol, veh/h	365	260	25	95	170	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	300
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	429	306	29	112	200	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	371	200	200	0	-	0
Stage 1	200	-	-	-	-	-
Stage 2	171	-	-	-	-	-
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	630	841	1372	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	616	841	1372	-	-	-
Mov Cap-2 Maneuver	616	-	-	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.39	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1372	-	616	841	-	-
HCM Lane V/C Ratio	0.021	-	0.697	0.364	-	-
HCM Ctrl Dly (s/v)	7.7	-	23.1	11.7	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	5.6	1.7	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	85	385	15
Future Vol, veh/h	15	15	15	85	385	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	100	453	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	597	462	471	0	-	0
Stage 1	462	-	-	-	-	-
Stage 2	135	-	-	-	-	-
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	466	600	1091	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	458	600	1091	-	-	-
Mov Cap-2 Maneuver	458	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	891	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.44	1.25	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	270	-	519	-	-
HCM Lane V/C Ratio	0.016	-	0.068	-	-
HCM Ctrl Dly (s/v)	8.4	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	285	10	10	155	15	5	15	10	15	15	15
Future Volume (vph)	15	285	10	10	155	15	5	15	10	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	335	12	12	182	18	6	18	12	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	365	212	36	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	12	18
Hadj (s)	0.02	-0.01	-0.13	-0.10
Departure Headway (s)	4.4	4.5	5.2	5.2
Degree Utilization, x	0.45	0.27	0.05	0.08
Capacity (veh/h)	799	761	617	618
Control Delay (s/veh)	10.9	9.2	8.4	8.6
Approach Delay (s/veh)	10.9	9.2	8.4	8.6
Approach LOS	B	A	A	A

Intersection Summary			
Delay		10.0	
Level of Service		B	
Intersection Capacity Utilization		31.7%	ICU Level of Service
Analysis Period (min)		15	A

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	U	U	W
Traffic Volume (vph)	330	15	10	570	305	245
Future Volume (vph)	330	15	10	570	305	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1767		1770	1863	1863	1583
Flt Permitted	0.95		0.51	1.00	1.00	1.00
Satd. Flow (perm)	1767		949	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	388	18	12	671	359	288
RTOR Reduction (vph)	1	0	0	0	0	107
Lane Group Flow (vph)	405	0	12	671	359	181
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	27.3		62.7	62.7	62.7	62.7
Effective Green, g (s)	27.3		62.7	62.7	62.7	62.7
Actuated g/C Ratio	0.27		0.63	0.63	0.63	0.63
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	482		595	1168	1168	992
v/s Ratio Prot	c0.23			c0.36	0.19	
v/s Ratio Perm			0.01			0.11
v/c Ratio	0.84		0.02	0.57	0.31	0.18
Uniform Delay, d1	34.3		7.0	10.9	8.6	7.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2		0.1	2.1	0.7	0.4
Delay (s)	46.4		7.1	12.9	9.3	8.3
Level of Service	D		A	B	A	A
Approach Delay (s/veh)	46.4			12.8	8.8	
Approach LOS	D			B	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	15	15	450	290	35
Future Vol, veh/h	35	15	15	450	290	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	18	18	529	341	41

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	926	362	341	0	-	0
Stage 1	362	-	-	-	-	-
Stage 2	565	-	-	-	-	-
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	298	683	1218	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	294	683	1218	-	-	-
Mov Cap-2 Maneuver	294	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	16.59	0.26	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1218	-	294	683	-	-
HCM Lane V/C Ratio	0.014	-	0.14	0.026	-	-
HCM Ctrl Dly (s/v)	8	-	19.2	10.4	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	465	235	15
Future Vol, veh/h	15	15	15	465	235	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	547	276	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	868	285	294	0	0
Stage 1	285	-	-	-	-
Stage 2	582	-	-	-	-
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	323	754	1267	-	-
Stage 1	763	-	-	-	-
Stage 2	558	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	317	754	1267	-	-
Mov Cap-2 Maneuver	317	-	-	-	-
Stage 1	748	-	-	-	-
Stage 2	558	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.77	0.25	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	56	-	446	-	-
HCM Lane V/C Ratio	0.014	-	0.079	-	-
HCM Ctrl Dly (s/v)	7.9	0	13.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM 7th Signalized Intersection Summary
 5: GA 193 & Site Driveway A

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	10	60	410	235	40
Future Volume (veh/h)	20	10	60	410	235	40
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	12	71	482	276	47
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	63	56	888	1203	1002	171
Arrive On Green	0.04	0.04	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1781	1585	1057	1870	1557	265
Grp Volume(v), veh/h	24	12	71	482	0	323
Grp Sat Flow(s),veh/h/ln	1781	1585	1057	1870	0	1823
Q Serve(g_s), s	0.3	0.2	0.8	3.1	0.0	1.9
Cycle Q Clear(g_c), s	0.3	0.2	2.7	3.1	0.0	1.9
Prop In Lane	1.00	1.00	1.00			0.15
Lane Grp Cap(c), veh/h	63	56	888	1203	0	1172
V/C Ratio(X)	0.38	0.21	0.08	0.40	0.00	0.28
Avail Cap(c_a), veh/h	1145	1019	888	1203	0	1172
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	0.00	1.00
Uniform Delay (d), s/veh	11.7	11.7	2.5	2.1	0.0	1.9
Incr Delay (d2), s/veh	3.7	1.9	0.2	1.0	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	15.5	13.5	2.7	3.1	0.0	2.5
LnGrp LOS	B	B	A	A		A
Approach Vol, veh/h	36			553	323	
Approach Delay, s/veh	14.8			3.1	2.5	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		20.0		4.9		20.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		16.0		16.0		16.0
Max Q Clear Time (g_c+I1), s		5.1		2.3		3.9
Green Ext Time (p_c), s		2.2		0.0		1.2
Intersection Summary						
HCM 7th Control Delay, s/veh			3.3			
HCM 7th LOS			A			

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	160	30	35	300	30	5	15	20	15	30	15
Future Volume (vph)	15	160	30	35	300	30	5	15	20	15	30	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	188	35	41	353	35	6	18	24	18	35	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	241	429	48	71
Volume Left (vph)	18	41	6	18
Volume Right (vph)	35	35	24	18
Hadj (s)	-0.04	0.00	-0.24	-0.07
Departure Headway (s)	4.7	4.5	5.3	5.5
Degree Utilization, x	0.31	0.54	0.07	0.11
Capacity (veh/h)	738	772	579	577
Control Delay (s/veh)	9.8	12.7	8.7	9.1
Approach Delay (s/veh)	9.8	12.7	8.7	9.1
Approach LOS	A	B	A	A

Intersection Summary			
Delay		11.2	
Level of Service		B	
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		R	T	T	R
Traffic Volume (vph)	330	15	20	550	825	360
Future Volume (vph)	330	15	20	550	825	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.95		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1767		1770	1863	1863	1583
Flt Permitted	0.95		0.14	1.00	1.00	1.00
Satd. Flow (perm)	1767		259	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	388	18	24	647	971	424
RTOR Reduction (vph)	2	0	0	0	0	133
Lane Group Flow (vph)	404	0	24	647	971	291
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	24.5		64.5	64.5	64.5	64.5
Effective Green, g (s)	24.5		64.5	64.5	64.5	64.5
Actuated g/C Ratio	0.25		0.65	0.65	0.65	0.65
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	432		167	1201	1201	1021
v/s Ratio Prot	c0.23			0.35	c0.52	
v/s Ratio Perm			0.09			0.18
v/c Ratio	0.94		0.14	0.54	0.81	0.28
Uniform Delay, d1	37.0		6.9	9.7	13.2	7.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	27.7		1.8	1.7	5.9	0.7
Delay (s)	64.7		8.7	11.4	19.1	8.4
Level of Service	E		A	B	B	A
Approach Delay (s/veh)	64.7			11.3	15.8	
Approach LOS	E			B	B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	15	15	615	805	30
Future Vol, veh/h	40	15	15	615	805	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	18	18	724	947	35

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1724	965	947	0	-	0
Stage 1	965	-	-	-	-	-
Stage 2	759	-	-	-	-	-
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	98	309	725	-	-	-
Stage 1	370	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	96	309	725	-	-	-
Mov Cap-2 Maneuver	96	-	-	-	-	-
Stage 1	361	-	-	-	-	-
Stage 2	462	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	59.13	0.24	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	725	-	96	309	-	-
HCM Lane V/C Ratio	0.024	-	0.493	0.057	-	-
HCM Ctrl Dly (s/v)	10.1	-	74.8	17.3	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	2.2	0.2	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	840	480	15
Future Vol, veh/h	15	15	15	840	480	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	988	565	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1597	574	582	0	-	0
Stage 1	574	-	-	-	-	-
Stage 2	1024	-	-	-	-	-
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	117	519	992	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	113	519	992	-	-	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	29	0.15	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	32	-	185	-	-
HCM Lane V/C Ratio	0.018	-	0.191	-	-
HCM Ctrl Dly (s/v)	8.7	0	29	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

HCM 7th Signalized Intersection Summary
 5: GA 193 & Site Driveway A

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	10	325	500	480	335
Future Volume (veh/h)	55	10	325	500	480	335
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	12	382	588	565	394
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	91	81	478	1583	868	606
Arrive On Green	0.05	0.05	0.85	0.85	0.85	0.85
Sat Flow, veh/h	1781	1585	586	1870	1026	716
Grp Volume(v), veh/h	65	12	382	588	0	959
Grp Sat Flow(s),veh/h/ln	1781	1585	586	1870	0	1742
Q Serve(g_s), s	2.8	0.6	50.1	5.5	0.0	14.7
Cycle Q Clear(g_c), s	2.8	0.6	64.7	5.5	0.0	14.7
Prop In Lane	1.00	1.00	1.00			0.41
Lane Grp Cap(c), veh/h	91	81	478	1583	0	1474
V/C Ratio(X)	0.71	0.15	0.80	0.37	0.00	0.65
Avail Cap(c_a), veh/h	365	325	478	1583	0	1474
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	0.00	1.00
Uniform Delay (d), s/veh	36.4	35.4	13.1	1.3	0.0	2.0
Incr Delay (d2), s/veh	9.9	0.8	9.4	0.1	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.2	5.0	0.1	0.0	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.3	36.2	22.5	1.5	0.0	3.1
LnGrp LOS	D	D	C	A		A
Approach Vol, veh/h	77			970	959	
Approach Delay, s/veh	44.8			9.8	3.1	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		70.0		8.0		70.0
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		66.0		16.0		66.0
Max Q Clear Time (g_c+I1), s		66.7		4.8		16.7
Green Ext Time (p_c), s		0.0		0.1		8.6
Intersection Summary						
HCM 7th Control Delay, s/veh			7.9			
HCM 7th LOS			A			

HCM Unsignalized Intersection Capacity Analysis
 1: Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl

12/10/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Yield			Stop			Stop	
Traffic Volume (vph)	15	50	10	10	70	15	5	15	95	15	15	15
Future Volume (vph)	15	50	10	10	70	15	5	15	95	15	15	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	59	12	12	82	18	6	18	112	18	18	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	89	112	136	54
Volume Left (vph)	18	12	6	18
Volume Right (vph)	12	18	112	18
Hadj (s)	-0.01	-0.04	-0.45	-0.10
Departure Headway (s)	4.4	4.4	4.0	4.4
Degree Utilization, x	0.11	0.14	0.15	0.07
Capacity (veh/h)	773	776	857	763
Control Delay (s/veh)	8.0	8.1	7.7	7.7
Approach Delay (s/veh)	8.0	8.1	7.7	7.7
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.9	
Level of Service		A	
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

2: St Elmo Ave & Ochs Hwy

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Volume (vph)	215	40	10	455	130	75
Future Volume (vph)	215	40	10	455	130	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1750		1770	1863	1863	1583
Flt Permitted	0.96		0.66	1.00	1.00	1.00
Satd. Flow (perm)	1750		1229	1863	1863	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	253	47	12	535	153	88
RTOR Reduction (vph)	7	0	0	0	0	29
Lane Group Flow (vph)	293	0	12	535	153	59
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	21.7		67.3	67.3	67.3	67.3
Effective Green, g (s)	21.7		67.3	67.3	67.3	67.3
Actuated g/C Ratio	0.22		0.67	0.67	0.67	0.67
Clearance Time (s)	5.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	379		827	1253	1253	1065
v/s Ratio Prot	c0.17			c0.29	0.08	
v/s Ratio Perm			0.01			0.04
v/c Ratio	0.77		0.01	0.43	0.12	0.06
Uniform Delay, d1	36.8		5.4	7.5	5.8	5.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4		0.0	1.1	0.2	0.1
Delay (s)	46.3		5.4	8.6	6.0	5.7
Level of Service	D		A	A	A	A
Approach Delay (s/veh)	46.3			8.5	5.9	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	15	565	200	15
Future Vol, veh/h	15	15	15	565	200	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	85	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	665	235	18

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	944	244	235	0	-	0
Stage 1	244	-	-	-	-	-
Stage 2	700	-	-	-	-	-
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	291	795	1332	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	287	795	1332	-	-	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	786	-	-	-	-	-
Stage 2	493	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1332	-	287	795	-	-
HCM Lane V/C Ratio	0.013	-	0.061	0.022	-	-
HCM Ctrl Dly (s/v)	7.7	-	18.4	9.6	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	15	15	90	405	15
Future Vol, veh/h	15	15	15	90	405	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	18	106	476	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	626	485	494	0	0
Stage 1	485	-	-	-	-
Stage 2	141	-	-	-	-
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	448	582	1070	-	-
Stage 1	619	-	-	-	-
Stage 2	886	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	440	582	1070	-	-
Mov Cap-2 Maneuver	440	-	-	-	-
Stage 1	608	-	-	-	-
Stage 2	886	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.73	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	257	-	501	-	-
HCM Lane V/C Ratio	0.017	-	0.07	-	-
HCM Ctrl Dly (s/v)	8.4	0	12.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM 7th Signalized Intersection Summary
 5: GA 193 & Site Driveway A

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	350	245	10	85	170	10
Future Volume (veh/h)	350	245	10	85	170	10
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	412	288	12	100	200	12
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	663	590	512	436	407	24
Arrive On Green	0.37	0.37	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	1585	1170	1870	1747	105
Grp Volume(v), veh/h	412	288	12	100	0	212
Grp Sat Flow(s),veh/h/ln	1781	1585	1170	1870	0	1851
Q Serve(g_s), s	3.8	2.8	0.2	0.9	0.0	2.0
Cycle Q Clear(g_c), s	3.8	2.8	2.2	0.9	0.0	2.0
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	663	590	512	436	0	431
V/C Ratio(X)	0.62	0.49	0.02	0.23	0.00	0.49
Avail Cap(c_a), veh/h	1408	1252	1164	1478	0	1463
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	0.00	1.00
Uniform Delay (d), s/veh	5.2	4.9	7.7	6.3	0.0	6.7
Incr Delay (d2), s/veh	1.0	0.6	0.0	0.3	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.0	0.1	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.2	5.5	7.7	6.6	0.0	7.6
LnGrp LOS	A	A	A	A		A
Approach Vol, veh/h	700			112	212	
Approach Delay, s/veh	5.9			6.7	7.6	
Approach LOS	A			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		8.7		11.5		8.7
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		16.0		16.0		16.0
Max Q Clear Time (g_c+I1), s		4.2		5.8		4.0
Green Ext Time (p_c), s		0.3		1.9		0.7
Intersection Summary						
HCM 7th Control Delay, s/veh			6.3			
HCM 7th LOS			A			

HCM 7th Signalized Intersection Summary
 3: GA 193 & Chattanooga Valley Rd

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	25	285	430	395	305
Future Volume (veh/h)	80	25	285	430	395	305
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	0	335	506	465	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	132		741	1201	1201	
Arrive On Green	0.07	0.00	0.64	0.64	0.64	0.00
Sat Flow, veh/h	1781	1585	928	1870	1870	1585
Grp Volume(v), veh/h	94	0	335	506	465	0
Grp Sat Flow(s),veh/h/ln	1781	1585	928	1870	1870	1585
Q Serve(g_s), s	1.5	0.0	7.6	3.7	3.3	0.0
Cycle Q Clear(g_c), s	1.5	0.0	10.9	3.7	3.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	132		741	1201	1201	
V/C Ratio(X)	0.71		0.45	0.42	0.39	
Avail Cap(c_a), veh/h	1643		1988	3715	3715	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.8	0.0	5.0	2.5	2.4	0.0
Incr Delay (d2), s/veh	7.0	0.0	0.4	0.2	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.1	0.1	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	19.8	0.0	5.4	2.7	2.6	0.0
LnGrp LOS	B		A	A	A	
Approach Vol, veh/h	94			841	465	
Approach Delay, s/veh	19.8			3.8	2.6	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.1		6.1		22.1
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		56.0		26.0		56.0
Max Q Clear Time (g_c+1), s		12.9		3.5		5.3
Green Ext Time (p_c), s		5.2		0.2		2.9

Intersection Summary

HCM 7th Control Delay, s/veh	4.5
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
 3: GA 193 & Chattanooga Valley Rd

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	305	220	25	85	140	25
Future Volume (veh/h)	305	220	25	85	140	25
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	359	0	29	100	165	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	520		626	454	454	
Arrive On Green	0.29	0.00	0.24	0.24	0.24	0.00
Sat Flow, veh/h	1781	1585	1221	1870	1870	1585
Grp Volume(v), veh/h	359	0	29	100	165	0
Grp Sat Flow(s),veh/h/ln	1781	1585	1221	1870	1870	1585
Q Serve(g_s), s	3.1	0.0	0.3	0.7	1.3	0.0
Cycle Q Clear(g_c), s	3.1	0.0	1.6	0.7	1.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	520		626	454	454	
V/C Ratio(X)	0.69		0.05	0.22	0.36	
Avail Cap(c_a), veh/h	2695		4308	6096	6096	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	5.4	0.0	6.1	5.2	5.4	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.2	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	7.1	0.0	6.1	5.4	5.9	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	359			129	165	
Approach Delay, s/veh	7.1			5.6	5.9	
Approach LOS	A			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		8.2		9.0		8.2
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		56.0		26.0		56.0
Max Q Clear Time (g_c+1), s		3.6		5.1		3.3
Green Ext Time (p_c), s		0.6		1.0		0.9

Intersection Summary

HCM 7th Control Delay, s/veh	6.5
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
 3: GA 193 & Chattanooga Valley Rd

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	25	340	510	470	365
Future Volume (veh/h)	95	25	340	510	470	365
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	0	400	600	553	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	149		689	1329	1329	
Arrive On Green	0.08	0.00	0.71	0.71	0.71	0.00
Sat Flow, veh/h	1781	1585	855	1870	1870	1585
Grp Volume(v), veh/h	112	0	400	600	553	0
Grp Sat Flow(s),veh/h/ln	1781	1585	855	1870	1870	1585
Q Serve(g_s), s	2.4	0.0	14.1	5.3	4.7	0.0
Cycle Q Clear(g_c), s	2.4	0.0	18.8	5.3	4.7	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	149		689	1329	1329	
V/C Ratio(X)	0.75		0.58	0.45	0.42	
Avail Cap(c_a), veh/h	1189		1310	2689	2689	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.4	0.0	6.2	2.4	2.3	0.0
Incr Delay (d2), s/veh	7.3	0.0	0.8	0.2	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.5	0.1	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.8	0.0	6.9	2.6	2.5	0.0
LnGrp LOS	C		A	A	A	
Approach Vol, veh/h	112			1000	553	
Approach Delay, s/veh	24.8			4.4	2.5	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		31.7		7.3		31.7
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		56.0		26.0		56.0
Max Q Clear Time (g_c+1), s		20.8		4.4		6.7
Green Ext Time (p_c), s		6.9		0.3		3.6

Intersection Summary

HCM 7th Control Delay, s/veh	5.1
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
 3: GA 193 & Chattanooga Valley Rd

12/10/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	365	260	25	95	170	25
Future Volume (veh/h)	365	260	25	95	170	25
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	429	0	29	112	200	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	607		557	465	465	
Arrive On Green	0.34	0.00	0.25	0.25	0.25	0.00
Sat Flow, veh/h	1781	1585	1182	1870	1870	1585
Grp Volume(v), veh/h	429	0	29	112	200	0
Grp Sat Flow(s),veh/h/ln	1781	1585	1182	1870	1870	1585
Q Serve(g_s), s	4.1	0.0	0.4	0.9	1.8	0.0
Cycle Q Clear(g_c), s	4.1	0.0	2.2	0.9	1.8	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	607		557	465	465	
V/C Ratio(X)	0.71		0.05	0.24	0.43	
Avail Cap(c_a), veh/h	2379		3665	5381	5381	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	7.1	5.8	6.2	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.3	0.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	7.1	0.0	7.1	6.1	6.8	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	429			141	200	
Approach Delay, s/veh	7.1			6.3	6.8	
Approach LOS	A			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		8.8		10.6		8.8
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		56.0		26.0		56.0
Max Q Clear Time (g_c+I1), s		4.2		6.1		3.8
Green Ext Time (p_c), s		0.6		1.3		1.1

Intersection Summary

HCM 7th Control Delay, s/veh	6.9
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Turn Lane Warrants

GDOT Count Station 295-0179: GA 193, N of Chattanooga Valley Rd

Year	ADT	Count Type
2022	8,632	Actual

Build Alt 1 - Intersection 3 - GA 193 at Chattanooga Valley NBL

Speed Limit	55	MPH
Truck Volume		5 %
Existing LT storage length		120 ft
Existing LT bay taper length		60 ft
Existing LT taper length		215 ft
Existing shift		6 ft
Peak hour LT volume		340 vph
PHF		0.85
Synchro optimal cycle length		90 s
Peak 15 min LT volume		100 veh/ 15 min
Vehicles per minute		6.66666667 veh/min
1.5 full cycles		135 s
LT arrivals		15 veh/ 1.5 cycles
Ops storage length		375 ft
M in LT storage length		310 ft
M in LT bay taper length		100 ft
M in LT taper length		330 ft
M in storage length sufficient	No	
M in bay taper length sufficient	No	
M in taper length sufficient	No	
Ops storage length sufficient	No	
Roadway modifications required	Yes	

GDOT Count Station 295-0179: GA 193, N of Chattanooga Valley Rd		
Year	ADT	Count Type
2022	8,632	Actual

Build Alt 2 - Intersection 5 - GA 193 at Site Driveway NBL

Speed Limit	55	MPH
Truck Volume		5 %
Existing LT storage length		0 ft
Existing LT bay taper length		0 ft
Existing LT taper length		0 ft
Existing shift		0 ft
Peak hour LT volume		325 vph
PHF		0.85
Synchro optimal cycle length		90 s
Peak 15 min LT volume		96 veh/15 min
Vehicles per minute		6.4 veh/min
1.5 full cycles		135 s
LT arrivals		14.4 veh/1.5 cycles
Ops storage length		360 ft
M in LT storage length		310 ft
M in LT bay taper length		100 ft
M in LT taper length		600 ft

M in storage length sufficient	No
M in bay taper length sufficient	No
M in taper length sufficient	No
Suggested storage length sufficient	No
Roadway modifications required	Yes

GDOT Count Station 295-0179: GA 193, N of Chattanooga Valley Rd		
Year	ADT	Count Type
2022	8,632	Actual

Build Alt 2 - Intersection 5 - GA 193 at Site Driveway SBR

Speed Limit		55 MPH
Truck Volume		5 %
Existing RT storage length		0 ft
Existing RT bay taper length		0 ft
Existing RT taper length		0 ft
Existing shift		0 ft
Peak hour RT volume		335 vph
PHF		0.85
Synchro optimal cycle length		90 s
Peak 15 min LT volume		99 veh/15 min
Vehicles per minute		6.6 veh/min
1.5 full cycles		135 s
RT arrivals		14.85 veh/1.5 cycles
Ops storage length		371.25 ft
M in RT storage length		310 ft
M in RT bay taper length		N/A ft
M in RT taper length		600 ft
M in storage length sufficient	No	250+ ft required
M in taper length sufficient	No	DNEbut not required
Suggested storage length sufficient	No	
Roadway modifications required	Yes	

Signal Warrants



GDOT PI#: **Rock City Gar** Request By:
 County: **Walker** GDOT District: **6 - Cartersville**
 Major Road: **GA 193** Road Class: **Minor Arterial** Speed Limit: **55 mph**
 Crossing Road: **C.V. Road** Road Class: **Local** Speed Limit: **35 mph**
 Major Rd Direction: **North/South** Area Type: **Suburb/Transition**
 Intersection Control: **Conventional (Minor Stop)** Project ID:
 Prepared By: Date:
 Project Purpose: **Accommodate large development traffic**

Existing Data Year: **2025**
 Project Opening Year: **2028**
 Project Design Year: **2033**
 Annual Growth Rate: **3.5%**
 K Factor*: **10%**

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

2028 OPENING YEAR VOLUMES

		280 (700) [12100]					
		(0)	(305)	(395)	(0)		
		0	65	215	0		
36 (90) [700]	SB GA 193	Peds ↓	↔	↕	↔	0 (0) [0]	
		↔	↕	↔	↕		
		↕	↔	↕	↔		
		↔	↕	↔	↕		
		2028 Intersection Daily Entering Volume (est):					
		15,250					
		WB C.V. Road					
		↔	↕	↔	↕		
		0	0	0	0		
		EB C.V. Road					
		↔	↕	↔	↕		
		65	355	0	0		
		(285)	(430)	(0)	(0)		
		420 (715) [11400]					
		NB GA 193					
		↔	↕	↔	↕		

2025 EXISTING YEAR VOLUMES

APPROACH SPLITS:
 GA 193: 95%
 C.V. Road: 5%

		200 (355) [8000]					
		(0)	(20)	(335)	(0)		
		0	25	175	0		
36 (90) [700]	SB GA 193	Peds ↓	↔	↕	↔	0 (0) [0]	
		↔	↕	↔	↕		
		↕	↔	↕	↔		
		↔	↕	↔	↕		
		2025 Intersection Daily Entering Volume (est):					
		8,200					
		WB C.V. Road					
		↔	↕	↔	↕		
		0	0	0	0		
		EB C.V. Road					
		↔	↕	↔	↕		
		10	310	0	0		
		(10)	(410)	(0)	(0)		
		320 (420) [7700]					
		NB GA 193					
		↔	↕	↔	↕		

PEAK HR % TRUCKS:

EB	WB	NB	SB
5%	5%	5%	5%

2033 DESIGN YEAR VOLUMES

		325 (835) [14400]					
		(0)	(365)	(470)	(0)		
		0	75	250	0		
80 (120) [8300]	SB GA 193	Peds ↓	↔	↕	↔	0 (0) [0]	
		↔	↕	↔	↕		
		↕	↔	↕	↔		
		↔	↕	↔	↕		
		2033 Intersection Daily Entering Volume (est):					
		18,100					
		WB C.V. Road					
		↔	↕	↔	↕		
		0	0	0	0		
		EB C.V. Road					
		↔	↕	↔	↕		
		75	420	0	0		
		(340)	(510)	(0)	(0)		
		495 (850) [13500]					
		NB GA 193					
		↔	↕	↔	↕		

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 PI #	Rock City Gardens Build Alt 1	<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 style="font-size: small; text-align: center;"> 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, convenience and accessibility for pedestrians and/or bicyclists? 4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)? 5. Does alternative appear feasible given the site characteristics, constraints & location context? 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:	GA 193 @ C.V. Road								
Existing Control:	Conventional (Minor Stop)								
Prepared by:									
Date:		<p>Screening Decision Justification:</p>							
<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>Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)</p>									
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	
	Conventional (All-Way Stop)	No	Yes	No	No	No	No	No	
	Mini Roundabout	No	No	No	No	No	No	No	
	Single Lane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Yes	
	Multilane Roundabout	No	Yes	No	Yes	No	No	No	
	RCUT (stop control)	No	Yes	No	No	No	No	No	
	RIRO w/down stream U-Turn	No	Yes	No	No	No	No	No	
	High-T (unsignalized)	No	Yes	No	No	No	No	No	
	Offset-T Intersections	No	No	No	No	No	No	No	
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	
	No LT Lane Improvements	No	No	No	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	
	Other unsignalized (provide description):	No	No	No	No	No	No	No	
Signalized Intersections	Traffic Signal	Yes	Yes	No	Yes	Yes	Yes	Yes	
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	
	RCUT (signalized)	No	No	No	No	No	No	No	
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	
	Continuous Green-T	No	No	No	No	No	No	No	
	Jughandle	No	No	No	No	No	No	No	
	Quadrant Roadway	No	No	No	No	No	No	No	
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	
	Diverging Diamond	No	No	No	No	No	No	No	
	Single Point Interchange	No	No	No	No	No	No	No	
	No LT Lane Improvements	No	No	No	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	
	Other Signalized (provide description):	No	No	No	No	No	No	No	

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



GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.3j Revised 11/13/2023

Project Location: GA 193 @ C.V. Road
 Existing Intersection Control: Conventional (Minor Stop)
 Type of Analysis: **Conventional Non-Safety Funded Project**

District: 6 - Cartersville
 County: Walker
 Area: Suburb/Transitio

GDOT PI #: **Rock City Gardens Build Alt 1**
 Prepared by:
 Date:

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2028 Opening Yr No-Build Peak Hr Intersection Delay	2.0 sec	19.4 sec
2028 Opening Yr No-Build Peak Hr Intersection V/C	0.25	1.26
2033 Design Yr No-Build Peak Hr Intersection Delay	2.4 sec	63.2 sec
2033 Design Yr No-Build Peak Hr Intersection V/C ratio	0.29	2.67

Complete Streets Warrants Met?

- PEDESTRIANS
- BICYCLES
- TRANSIT

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	1	17%
Head-On	0	0	0	0	0	0%
Rear End	0	0	0	0	1	17%
Sideswipe - same	0	0	0	0	0	0%
Sideswipe - opposite	0	0	0	0	1	17%
Not Collision w/Motor Veh	0	0	2	0	1	50%
TOTALS:	0	0	2	0	4	6

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

Alternatives Analysis:

Proposed Control Type/Improvement:

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Single Lane Roundabout		Traffic Signal	N/A	N/A	N/A
<i>Additional description here</i>			<i>Additional description here</i>	<i>Additional description here</i>	<i>Additional description here</i>
Construction Cost	\$1,037,000	\$176,000			
ROW Cost	\$176,000	\$0			
Environmental Cost	\$13,000	\$10,000			
Reimbursable Utility Cost	\$13,000	\$3,000			
Design & Contingency Cost	\$405,000	\$83,000			
Cost Adjustment (justification req'd)	0%	0%			
Total Cost	\$1,644,000	\$272,000			

Traffic Operations:

	Sidra		Synchro					
Traffic Analysis Software Used	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr				
Analysis Period								
2033 Design Yr Build Intersection Delay		32.0 sec		6.6 sec				
2033 Design Yr Build Intersection V/C		1.00		0.62				

Safety Analysis:

Predefined CRF: PDO	39%	39%			
Predefined CRF: Fatal/Inj	78%	40%			
Predefined CRF Source:	FHWA Clearinghouse #s 233 / 234	FHWA Clearinghouse #s 7982 / 7984			
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					

Environmental Impacts:¹

Historic District/Property	None	None			
Archaeology Resources	None	None			
Graveyard	None	None			
Stream	None	None			
Underground Tank/Hazmat	None	None			
Park Land	None	None			
EJ Community	None	None			
Wooded Area	Minimal	Minimal			
Wetland	None	None			

Note: If environmental impact is significant (RED), provide justification impact won't jeopardize project delivery using "Env" worksheet
¹ Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report

Stakeholder Posture:

Local Community Support	Unknown	Unknown			
GDOT Support	Unknown	Unknown			

Final ICE Stage 2 Score:	5.4	6.9			
Rank of Control Type Alternatives:	2	1			
Final Intersection Control Selection:	1 - Traffic Signal				

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary):

GDOT PI#: **Rock City Gar** Request By:
 County: **Walker** GDOT District: **6 - Cartersville**
 Major Road: **GA 193** Road Class: **Minor Arterial** Speed Limit: **55 mph**
 Crossing Road: **Site Driveway A** Road Class: **Local** Speed Limit: **< 35 mph**
 Major Rd Direction: **North/South** Area Type: **Suburb/Transition**
 Intersection Control: **New Intersection or Other** Project ID:
 Prepared By: Date:
 Project Purpose: **Accommodate large development traffic**


Existing Data Year: **2025**
 Project Opening Year: **2028**
 Project Design Year: **2033**
 Annual Growth Rate: **3.5%**
 K Factor*: **10%**

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

2028 OPENING YEAR VOLUMES

		240 (720) [11900]					
		(0)	(315)	(405)	(0)		
		0	40	200	0		
		SB GA 193				WB Site Driveway A	
[0] (0) [0]	Peds ↓	↔	↕	↔	↔	0	(0)
	2028 Intersection Daily Entering Volume (est):				↔	0	(0)
	14,350				↔	0	(0)
	↔				↔	0	(0)
		EB Site Driveway A				NB GA 193	
		50	340	0	0		
		(235)	(420)	(0)	(0)		
		390 (655) [10700]					

2025 EXISTING YEAR VOLUMES


APPROACH SPLITS:
 GA 193: 100%
 Site Driveway A: 0%

		180 (365) [7700]					
		(0)	(0)	(365)	(0)		
		0	0	180	0		
		SB GA 193				WB Site Driveway A	
[0] (0) [0]	Peds ↓	↔	↕	↔	↔	0	(0)
	2025 Intersection Daily Entering Volume (est):				↔	0	(0)
	7,700				↔	0	(0)
	↔				↔	0	(0)
		EB Site Driveway A				NB GA 193	
		0	305	0	0		
		(0)	(400)	(0)	(0)		
		305 (400) [7700]					

PEAK HR % TRUCKS:

EB	WB	NB	SB
5%	5%	5%	5%

2033 DESIGN YEAR VOLUMES

		285 (795) [13400]					
		(0)	(315)	(480)	(0)		
		0	50	235	0		
		SB GA 193				WB Site Driveway A	
[0] (0) [0]	Peds ↓	↔	↕	↔	↔	0	(0)
	2033 Intersection Daily Entering Volume (est):				↔	0	(0)
	15,900				↔	0	(0)
	↔				↔	0	(0)
		EB Site Driveway A				NB GA 193	
		60	405	0	0		
		(235)	(500)	(0)	(0)		
		465 (735) [12300]					

LEGEND:

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

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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 PI #	Rock City Gardens Build Alt 2	<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 style="font-size: small; text-align: center;"> 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, convenience and accessibility for pedestrians and/or bicyclists? 4. Does alternative improve (or preserve) traffic characteristics (congestion, 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:	GA 193 @ Site Driveway A								
Existing Control:	New Intersection or Other								
Prepared by:									
Date:		<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>Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)</p>									
		Screening Decision Justification:							
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	
	Mini Roundabout	No	No	No	No	No	No	No	
	Single Lane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Yes	
	Multilane Roundabout	No	No	No	No	No	No	No	
	RCUT (stop control)	No	No	No	No	No	No	No	
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	
	High-T (unsignalized)	No	No	No	No	No	No	No	
	Offset-T Intersections	No	No	No	No	No	No	No	
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	
	No LT Lane Improvements	No	No	No	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	
	Other unsignalized (provide description):	No	No	No	No	No	No	No	
Signalized Intersections	Traffic Signal	Yes	Yes	No	Yes	Yes	Yes	Yes	
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	
	RCUT (signalized)	No	No	No	No	No	No	No	
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	
	Continuous Green-T	Yes	Yes	No	Yes	Yes	No	No	
	Jughandle	No	No	No	No	No	No	No	
	Quadrant Roadway	No	No	No	No	No	No	No	
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	
	Diverging Diamond	No	No	No	No	No	No	No	
	Single Point Interchange	No	No	No	No	No	No	No	
	No LT Lane Improvements	No	No	No	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	
	Other Signalized (provide description):	No	No	No	No	No	No	No	

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



GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.3| Revised 11/13/2023

Project Location: GA 193 @ Site Driveway A
 Existing Intersection Control: New Intersection or Other
 Type of Analysis: **Conventional Non-Safety Funded Project**

District: 6 - Cartersville
 County: Walker
 Area: Suburb/Transitio

GDOT PI #: **Rock City Gardens Build Alt 2**
 Prepared by:
 Date:

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2028 Opening Yr No-Build Peak Hr Intersection Delay	1.4 sec	11.4 sec
2028 Opening Yr No-Build Peak Hr Intersection V/C	0.24	0.95
2033 Design Yr No-Build Peak Hr Intersection Delay	14.0 sec	174.3 sec
2033 Design Yr No-Build Peak Hr Intersection V/C ratio	0.68	1.40

- Complete Streets Warrants Met?
- PEDESTRIANS
 - BICYCLES
 - TRANSIT

Crash Type	Crash Severity					Years:
	K*	A*	B*	C*	O	0
Crash Data: Enter most recent 0 years of crash data						0
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

Alternatives Analysis:

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement:	Single Lane Roundabout	Traffic Signal	N/A	N/A	N/A
Project Cost: (From CostEst Worksheet)	<i>Additional description here</i>	<i>Add LT bays all approaches</i>	<i>Additional description here</i>	<i>Additional description here</i>	<i>Additional description here</i>
Construction Cost	\$587,000	\$353,000			
ROW Cost	\$52,000	\$0			
Environmental Cost	\$13,000	\$10,000			
Reimbursable Utility Cost	\$7,000	\$7,000			
Design & Contingency Cost	\$232,000	\$163,000			
Cost Adjustment (justification req'd)	0%	0%			
Total Cost	\$891,000	\$533,000			

Traffic Operations:

	Sidra		Synchro	
	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr
Traffic Analysis Software Used				
Analysis Period				
2033 Design Yr Build Intersection Delay	5.9 sec	26.9 sec	2.2 sec	10.7 sec
2033 Design Yr Build Intersection V/C	0.40	0.96	0.28	0.86

Safety Analysis:

Predefined CRF: PDO	0%	0%		
Predefined CRF: Fatal/Inj	0%	0%		
Predefined CRF Source:	CRF unavailable; provide user defined CRF below	CRF unavailable; provide user defined CRF below		
User Defined CRF: PDO				
User Defined CRF: Fatal/Inj				
User Defined CRF Source (write in if applicable):				

Environmental Impacts:¹

Historic District/Property	None	None		
Archaeology Resources	None	None		
Graveyard	None	None		
Stream	None	None		
Underground Tank/Hazmat	None	None		
Park Land	None	None		
EJ Community	None	None		
Wooded Area	Minimal	Minimal		
Wetland	None	None		

Note: If environmental impact is significant (RED), provide justification impact won't jeopardize project delivery using "Env" worksheet
¹ Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report

Stakeholder Posture:

Local Community Support	Unknown	Unknown		
GDOT Support	Unknown	Unknown		

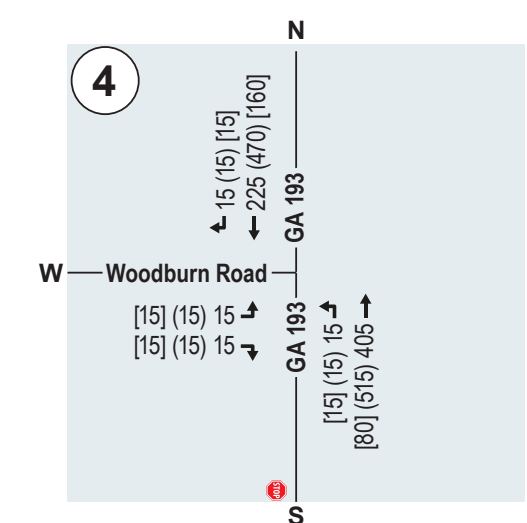
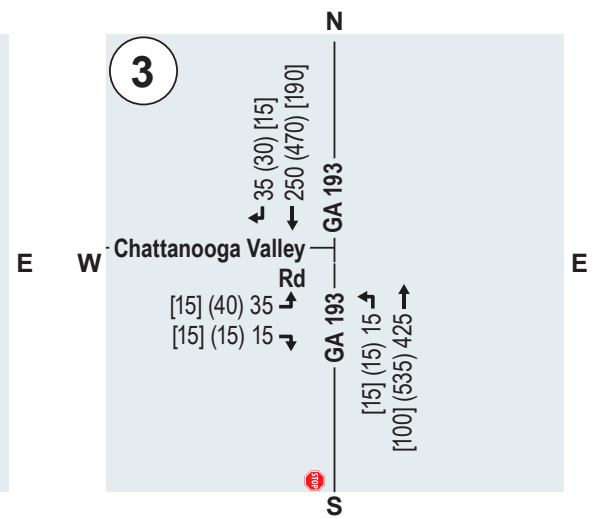
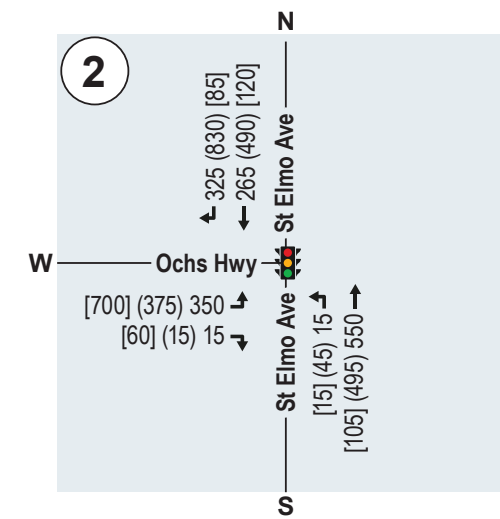
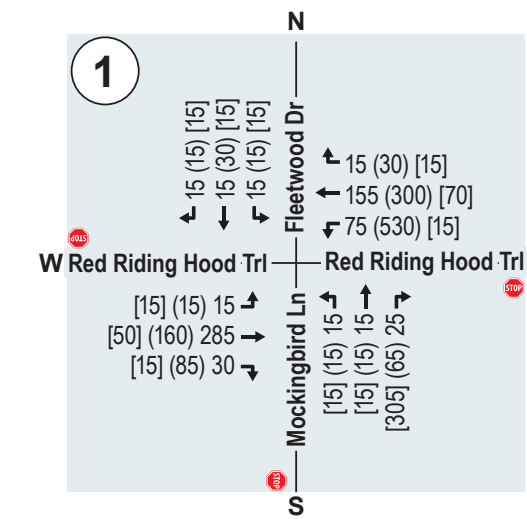
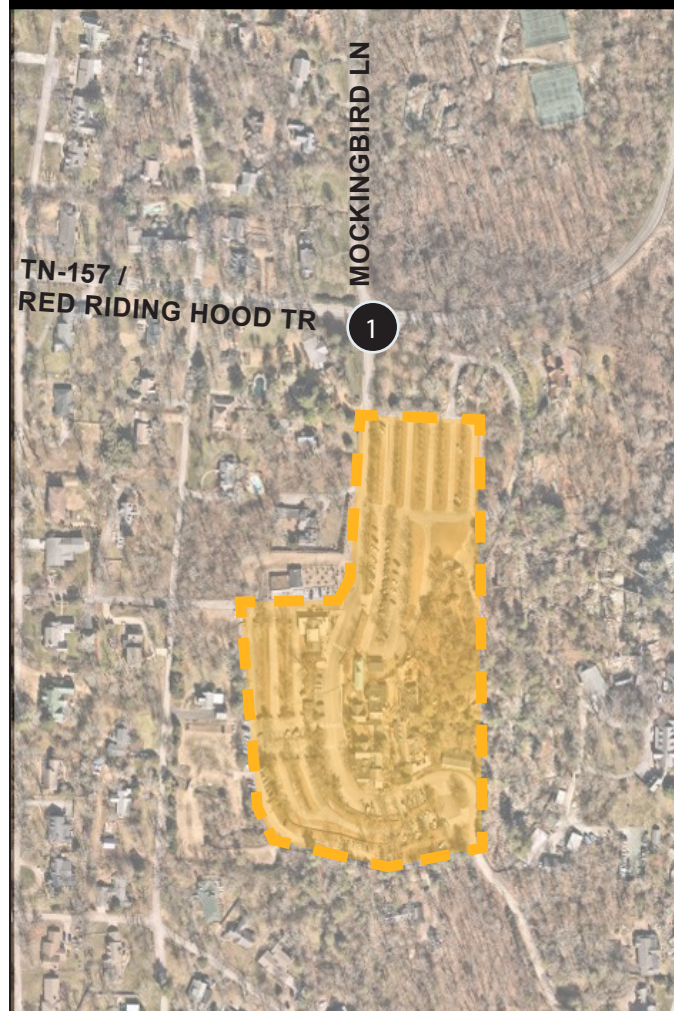
Final ICE Stage 2 Score:	4.0	5.1		
Rank of Control Type Alternatives:	2	1		
Final Intersection Control Selection:	1 - Traffic Signal			

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

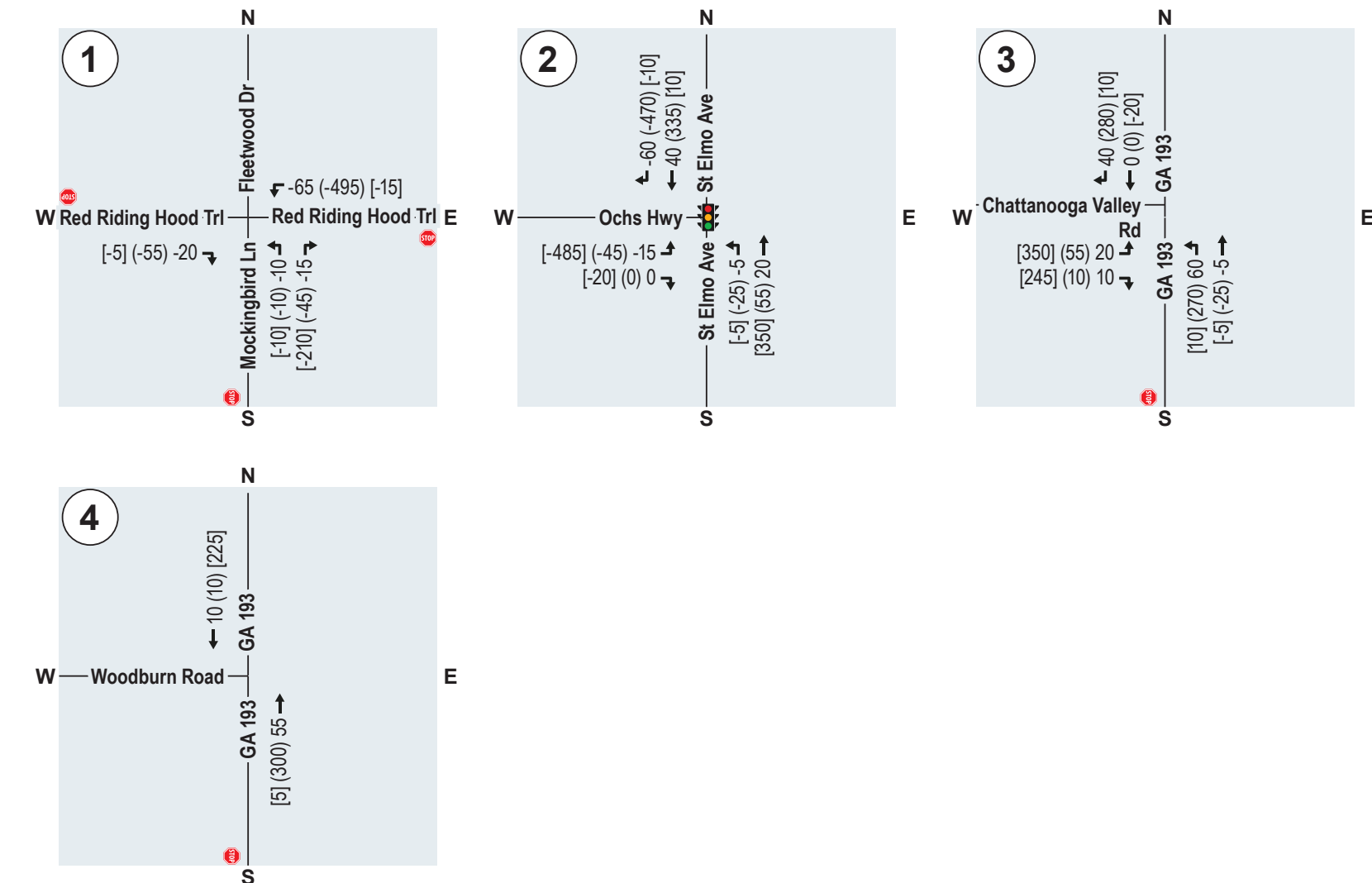
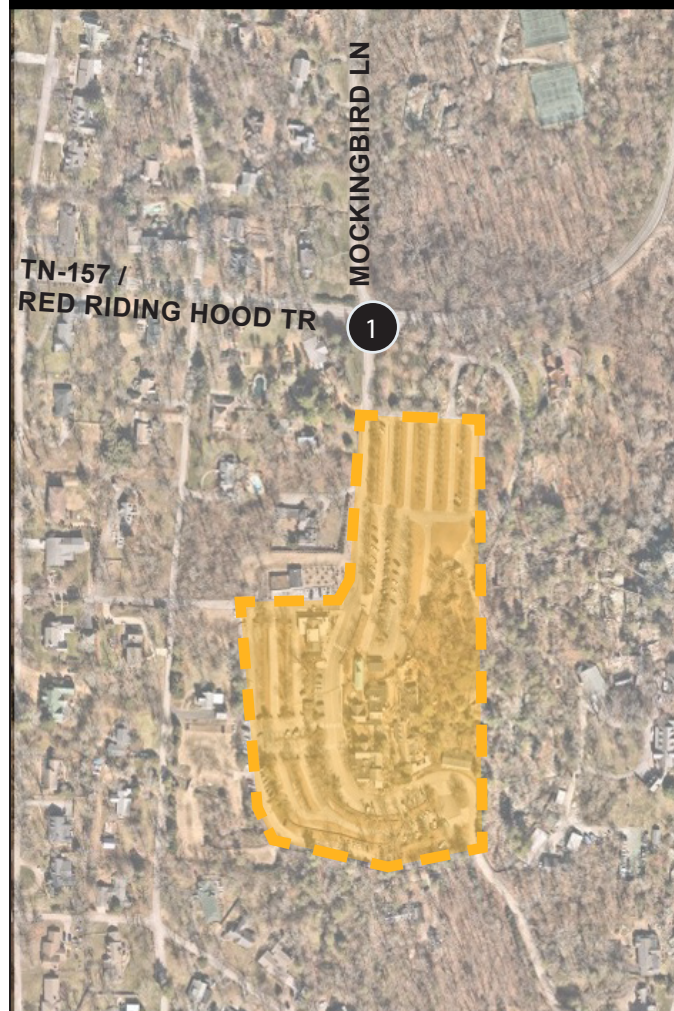
Provide additional comments and/or explain any unique analysis inputs, or results (as necessary):

Horizon Year Analyses

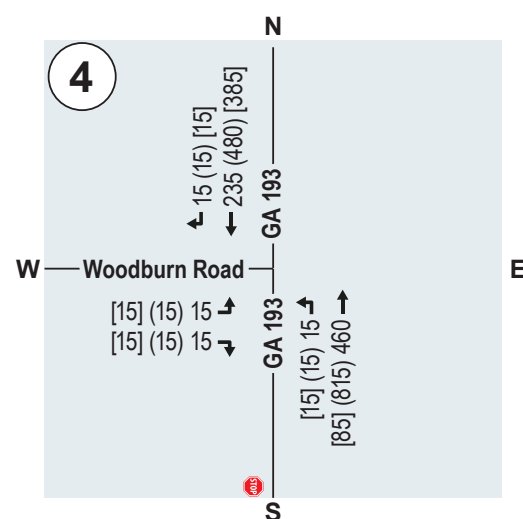
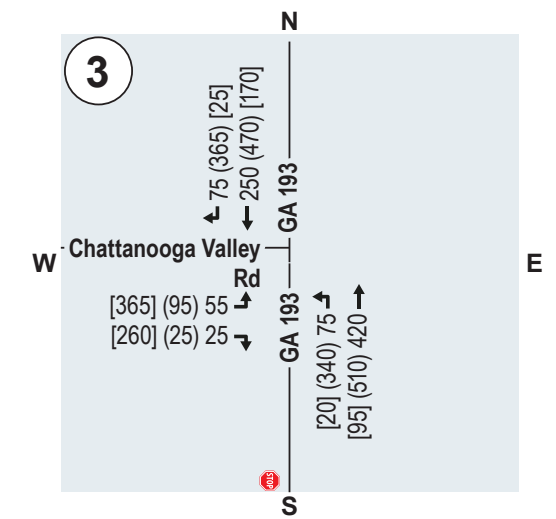
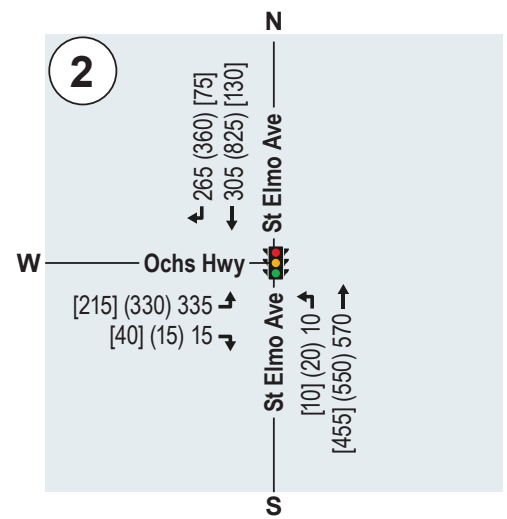
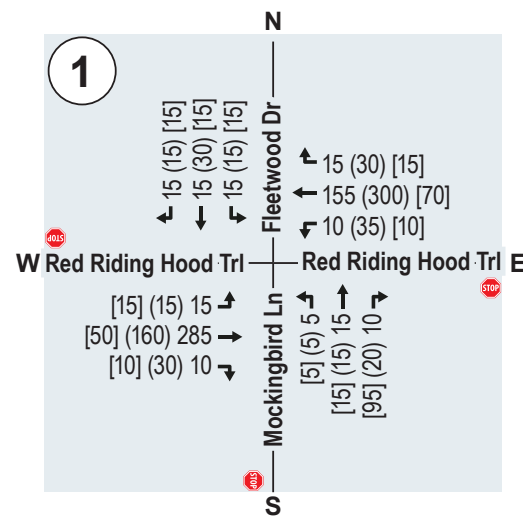
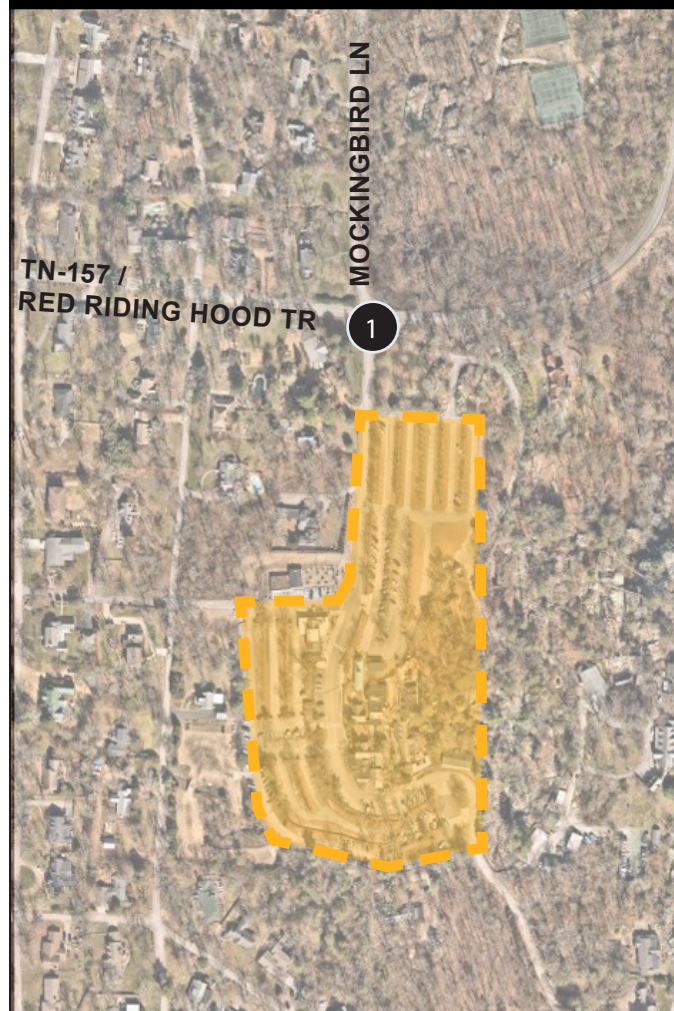




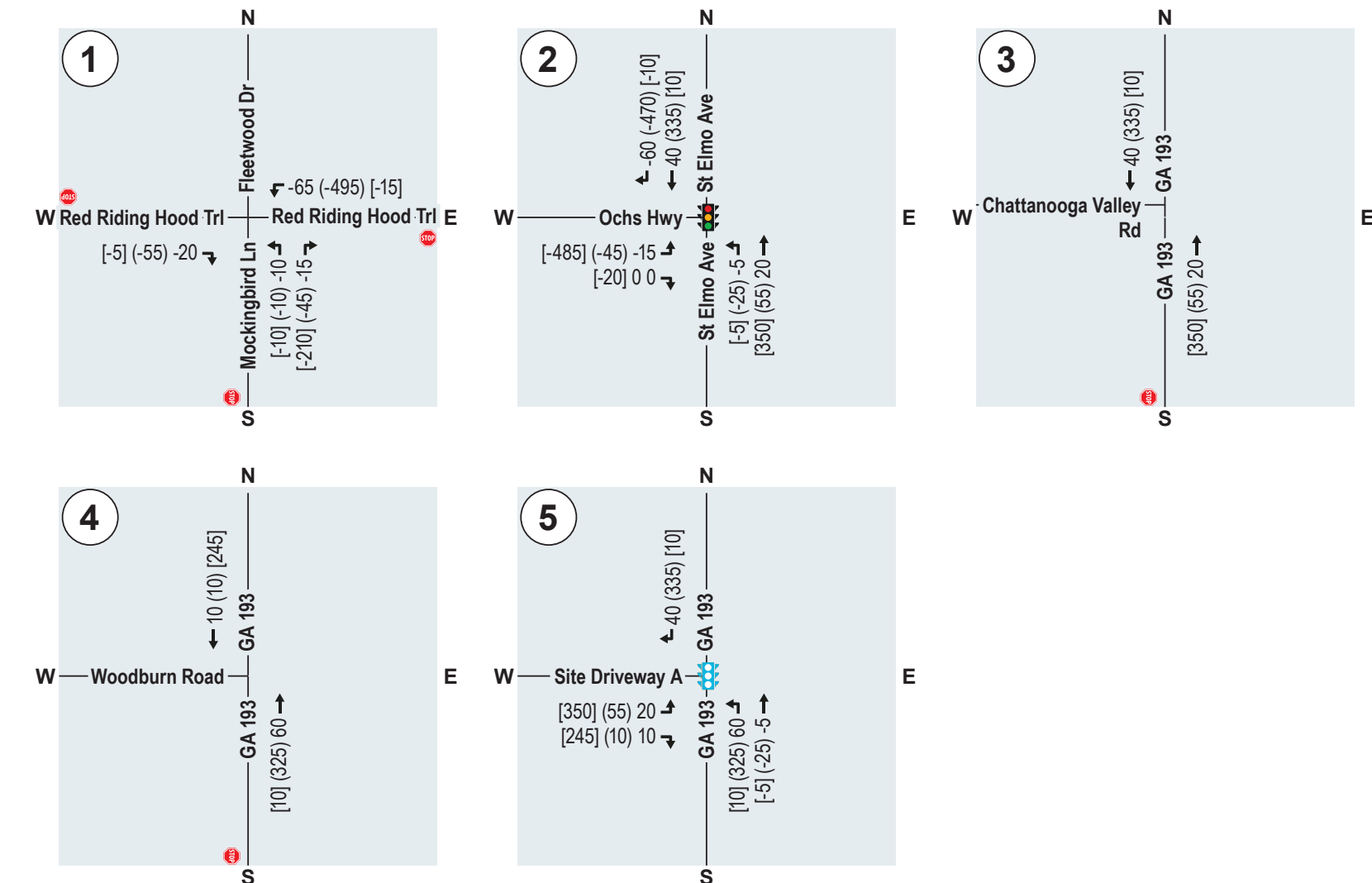
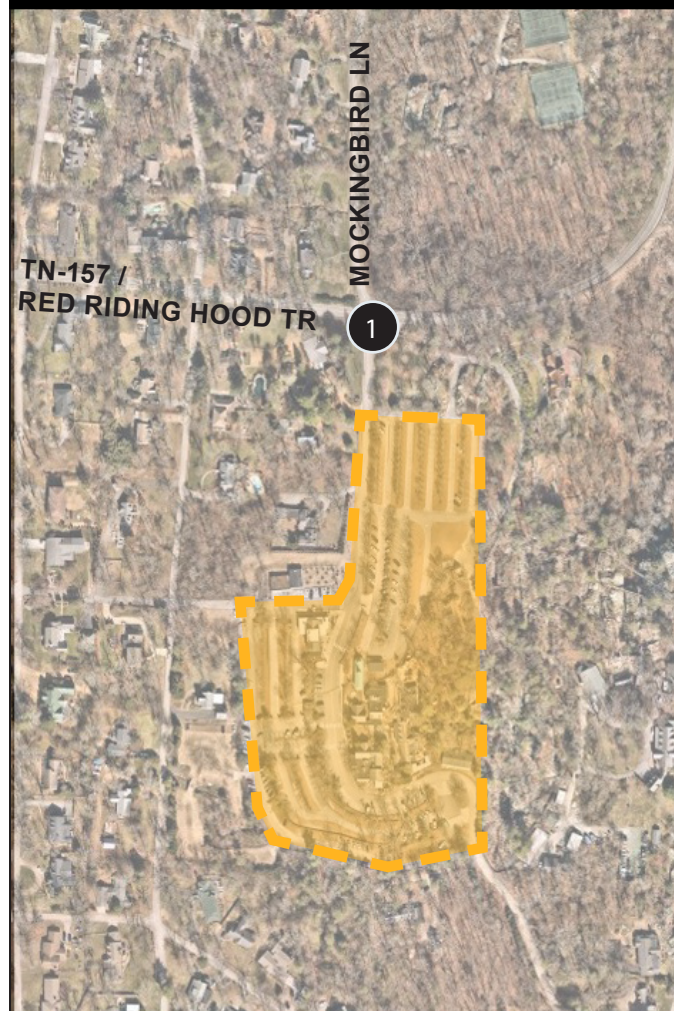
LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement		[XX] PM Egress Peak Hour Traffic Volumes



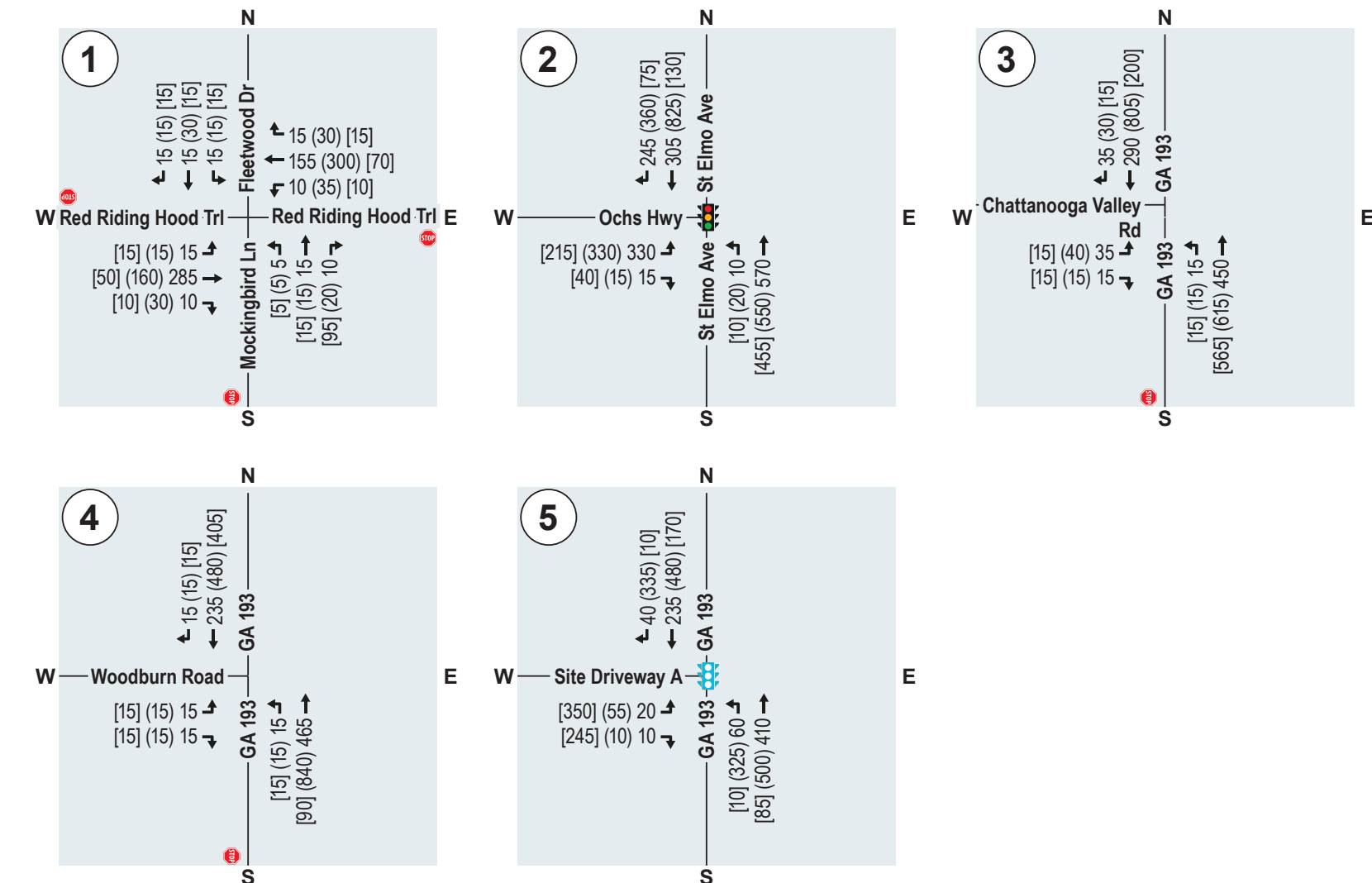
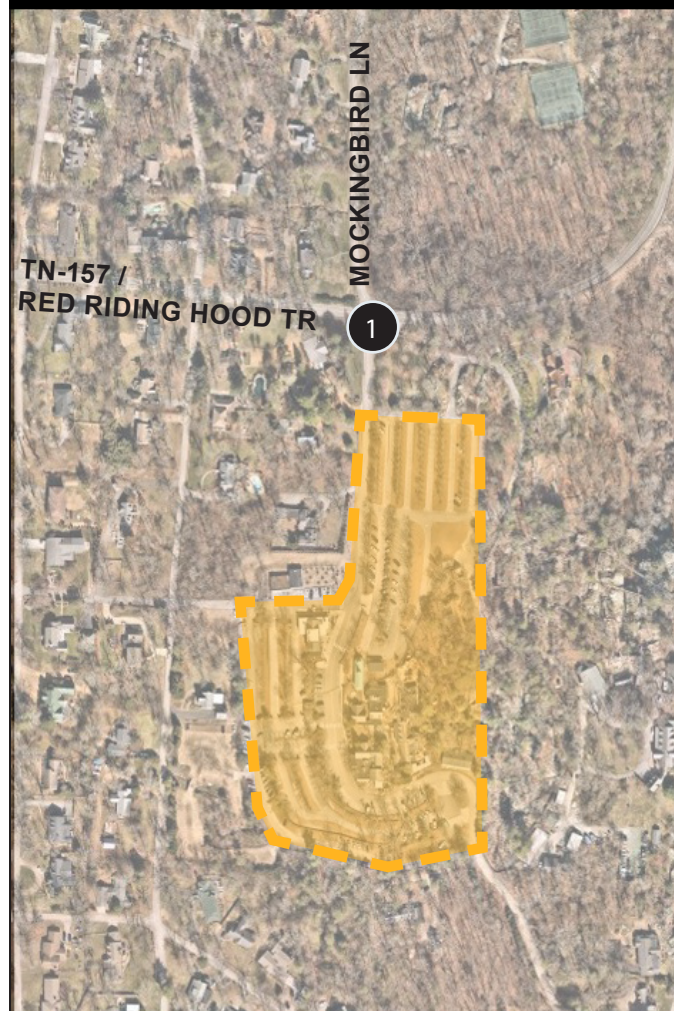
LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Ingress Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	[XX] PM Egress Peak Hour Traffic Volumes

Appendix G.6: Horizon Year LOS Summary

Num	Intersection Name	Movement/Approach /Intersection	Horizon No-Build AM		Horizon No-Build PM Ingress		Horizon No-Build PM Egress		Horizon Build Alt 1 AM		Horizon Build Alt 1 PM Ingress		Horizon Build Alt 1 PM Egress		Horizon Build Alt 2 AM		Horizon Build Alt 2 PM Ingress		Horizon Build Alt 2 PM Egress	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	Mockingbird Ln/Fleetwood Dr & Red Riding Hood Trl	EB	B	11.9	B	12.5	A	8.8	B	10.9	A	9.8	A	8	B	10.9	A	9.8	A	8
		WB	B	10.6	F	216.8	A	8.9	A	9.2	B	12.7	A	8.1	A	9.2	B	12.7	A	8.1
		NB	A	9	B	10.7	B	10.1	A	8.4	A	8.7	A	7.7	A	8.4	A	8.7	A	7.7
		SB	A	9	B	10.6	A	8.1	A	8.6	A	9.1	A	7.7	A	8.6	A	9.1	A	7.7
2	St Elmo Ave & Ochs Hwy	EBL	D	44.3	E	62.2	B	17.9	D	46.1	E	64.7	D	46.3	D	46.4	E	64.7	D	46.3
		NBL	A	7.9	A	8.7	C	28.4	A	7.3	A	8.7	A	5.4	A	7.1	A	8.7	A	5.4
		NBT	B	13.8	B	12.4	C	30.9	B	13.2	B	11.4	A	8.6	B	12.9	B	11.4	A	8.6
		SBT	A	9.8	B	12.3	C	31.4	A	9.5	B	19.1	A	6	A	9.3	B	19.1	A	6
		SBR	A	9.6	B	14.9	C	28.4	A	8.5	A	8.4	A	5.7	A	8.3	A	8.4	A	5.7
		NB	B	13.6	B	12.1	C	30.6	B	13.1	B	11.3	A	8.5	B	12.8	B	11.3	A	8.5
		SB	A	9.7	B	13.9	C	30.2	A	9.1	B	15.8	A	5.9	A	8.8	B	15.8	A	5.9
		EB	D	44.3	E	62.2	B	17.9	D	46.1	E	64.7	D	46.3	D	46.4	E	64.7	D	46.3
		Intersection	B	19.5	C	21.9	C	21.6	B	19.3	C	22.6	B	18.3	B	19.2	C	22.6	C	18.3
3	GA 193 & Chattanooga Valley Rd	EBL	C	17.6	D	29.8	B	11.1	C	23.1	F	~*	C	23.1	C	29.2	F	74.8	C	18.4
		EBR	B	10.1	B	12.2	A	9.6	B	10	B	12.2	B	11.7	B	10.4	C	17.3	A	9.6
		NBL	A	7.9	A	8.6	A	7.7	A	8.1	B	10.8	A	7.7	A	8	B	10.1	A	7.7
4	GA 193 & Woodburn Road	EBL	B	13	C	19.2	B	10.1	B	13.7	D	28	B	12.4	B	13.8	C	29	B	12.7
		NBL	A	7.9	A	8.7	A	7.7	A	7.9	A	8.7	A	8.4	A	7.9	A	8.7	A	8.4
5	GA 193 & Site Driveway A	EBL													B	15.5	D	46.3	A	6.5
		EBR													B	13.5	D	36.2	A	5.5
		NBL													A	2.7	D	22.5	A	7.7
		NBT													A	3.1	A	1.5	A	6.6
		SBT													A	2.5	A	3.1	A	7.6
		NB													A	2.5	B	9.8	A	6.7
		SB													A	3.1	A	3.1	A	7.6
		EB													B	14.8	D	44.8	A	5.9
Intersection														A	3.3	B	7.9	A	6.3	