

# TRAFFIC STUDY

**SABLEWOOD APARTMENTS  
NORTHWEST CORNER OF SABLEWOOD DRIVE & ROSEDALE HIGHWAY  
BAKERSFIELD, CA**

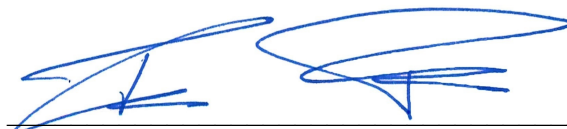
**Prepared for:  
SWANSON ENGINEERING, INC.**

**November 2023  
(Revised June 2024)**

**Prepared by:**

**RUETTIGERS  
& SCHULER  
CIVIL ENGINEERS**

**1800 30th Street, Suite 260  
Bakersfield, California 93301**



Ian J. Parks, RCE 58155



**TABLE OF CONTENTS**

	Page
INTRODUCTION .....	1
FIGURE 1: VICINITY MAP .....	2
FIGURE 2: LOCATION MAP .....	3
FIGURE 3: SITE PLAN .....	4
PROJECT TRIP GENERATION AND DESIGN HOUR VOLUMES.....	6
TABLE 1: PROJECT TRIP GENERATION .....	6
PROJECT TRIP DISTRIBUTION AND ASSIGNMENT .....	6
TABLE 2: PROJECT TRIP DISTRIBUTION .....	6
EXISTING AND FUTURE TRAFFIC.....	6
FIGURE 4: PROJECT PEAK HOUR TRAFFIC .....	8
FIGURE 5: 2023 PEAK HOUR TRAFFIC .....	9
FIGURE 6: 2023+PROJECT PEAK HOUR TRAFFIC .....	10
FIGURE 7: 2043 PEAK HOUR TRAFFIC .....	11
FIGURE 8: 2043+PROJECT PEAK HOUR TRAFFIC .....	12
INTERSECTION ANALYSIS .....	13
TABLE 3a: INTERSECTION LOS, WEEKDAY PM PEAK HOUR .....	14
TABLE 3b: INTERSECTION LOS, WEEKDAY AM PEAK HOUR .....	14
ROADWAY CAPACITY ANALYSIS .....	15
TABLE 4a: ROADWAY ADT & CAPACITY .....	15
TABLE 4b: ROADWAY LEVEL OF SERVICE .....	15
VMT ANALYSIS .....	16
TABLE 5: PROJECT VMT SUMMARY .....	16
TABLE 6: VMT MITIGATION .....	17
SUMMARY AND CONCLUSIONS .....	18
REFERENCES .....	19
APPENDIX.....	20

## **INTRODUCTION**

The purpose of this study is to evaluate the potential traffic impacts of a multifamily development to be located on the northwest corner of Sablewood Drive and Rosedale Highway. A vicinity map is presented in Figure 1 and a location map is presented in Figure 2. The project is a multi-family development which includes 128 units.

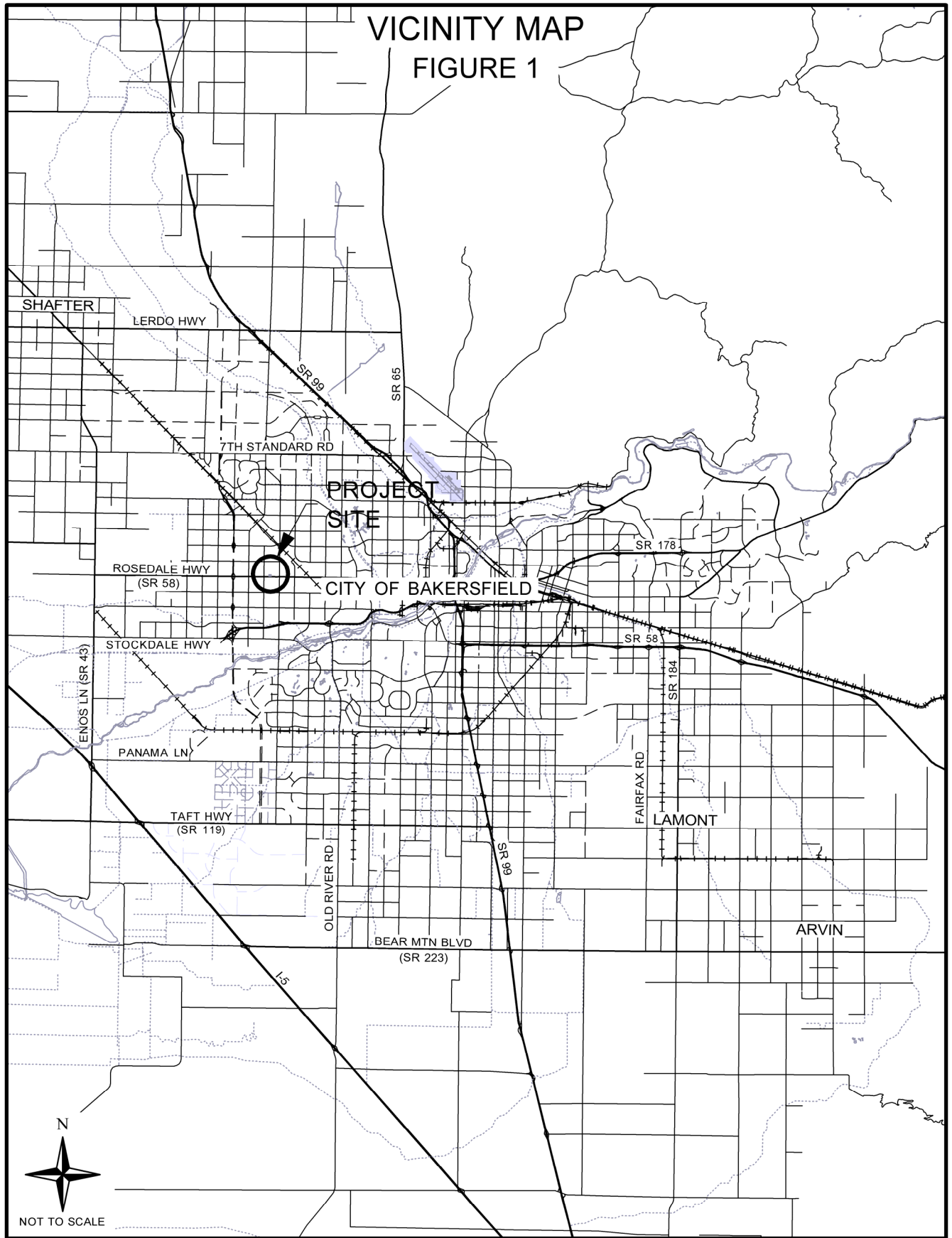
The study methodology is consistent with City of Bakersfield guidelines and the State of California Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*, dated December 2018. The scope of the study includes three intersections (all signalized) and was developed in coordination with City of Bakersfield engineering staff.

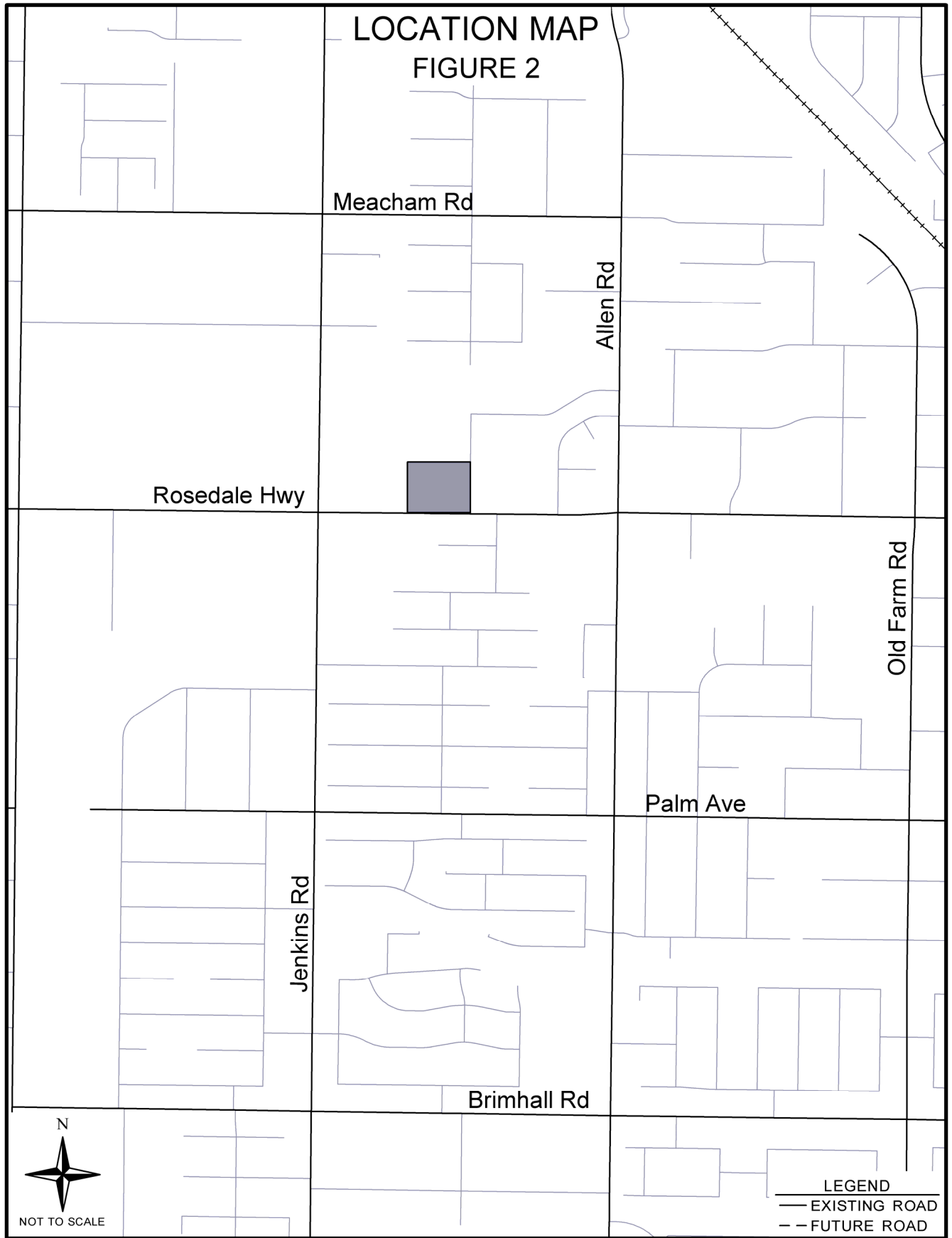
### **Project Land Use and Site Access**

The project site is situated on approximately 6.2 acres of land which is currently vacant and undeveloped. The property is zoned C-O P.C.D (Commercial Office-Planned Commercial Development) and a land use designation of UER (Urban Estate Residential). The proposed development would include residential land uses. Access to the project site would be provided by way of Sablewood Drive and Rosedale Highway. The site plan is provided in Figure 3.

### **Existing Land Uses in Project Vicinity**

Residential development is located to the north, south and east of the project site. Residential land uses also exist further out in all directions, most extensively to the east. Vacant land lies directly to the north and west of the project site. Industrial and commercial land uses exist primarily to the west along Rosedale Highway.







## Roadway Descriptions

Allen Road is a major north-south roadway that extends through western metropolitan Bakersfield and includes a grade separated crossing of the BNSF Railway. It is designated as an arterial south of Hageman Road and as a collector north of Hageman Road. Within the study area, Allen Road operates as a three-to-six-lane roadway providing access to residential and commercial land uses.

Allen Road is one of four north-south arterials that crosses the Kern River west of State Route 99, making it an important north-south link between northwest and southwest Bakersfield. Allen Road also interchanges with the Westside Parkway, a local east-west multi-lane freeway in southwestern Bakersfield.

Brimhall Road is an east-west roadway that interchanges with the Westside Parkway just east of Coffee Road. It is designated as an arterial west of Calloway Drive, as a collector between Calloway Drive and Coffee Road, and as a local street east of Coffee Road. Brimhall Road operates primarily as a four-lane roadway within the study area providing access to residential and commercial land uses.

Palm Avenue is an east-west collector located midway between Brimhall Road and Rosedale Highway. In the vicinity of the project it exists as a four-lane roadway to the east and two-lane roadway to the west with curb and gutter. Within the study area, it provides access primarily to residential land uses.

Rosedale Highway is an east-west arterial that extends from State Route 43 (Enos Lane) to State Route 99. Within the study area, it functions as a two-lane roadway at various stages of widening and improvement west of Allen Road and as a four-lane facility with a raised center median east of Allen Road. Rosedale Highway provides access to commercial, industrial, and residential land uses within the study area.

## **PROJECT TRIP GENERATION AND DESIGN HOUR VOLUMES**

The project trip generation and design hour volumes shown in Table 1 were estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition. Trip rates and peak hour directional splits for ITE Land Use Code 220 (Multifamily Housing) were used to estimate project trips for weekday peak hour of adjacent street traffic based on information provided by the project applicant.

**Table 1**  
**Project Trip Generation**

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips			
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips	
220	Multifamily Housing (Low Rise)	128 Dwelling Units	eq	896	eq	24% 15	76% 48	eq	63% 48	37% 28	
						63				76	

## **PROJECT TRIP DISTRIBUTION AND ASSIGNMENT**

The distribution of project peak hour trips is shown in Table 2 and represents the movement of traffic accessing the project site by direction. The project trip distribution was developed based on site location and travel patterns anticipated for the proposed land use.

**Table 2**  
**Project Trip Distribution**

Direction	Percent
North	15
East	50
South	30
West	5

Project peak hour trips were assigned to the study intersections as shown in Figure 4. Project trip assignment was developed based on trip generation, trip distribution and likely travel routes for traffic accessing the project site.

## **EXISTING AND FUTURE TRAFFIC**



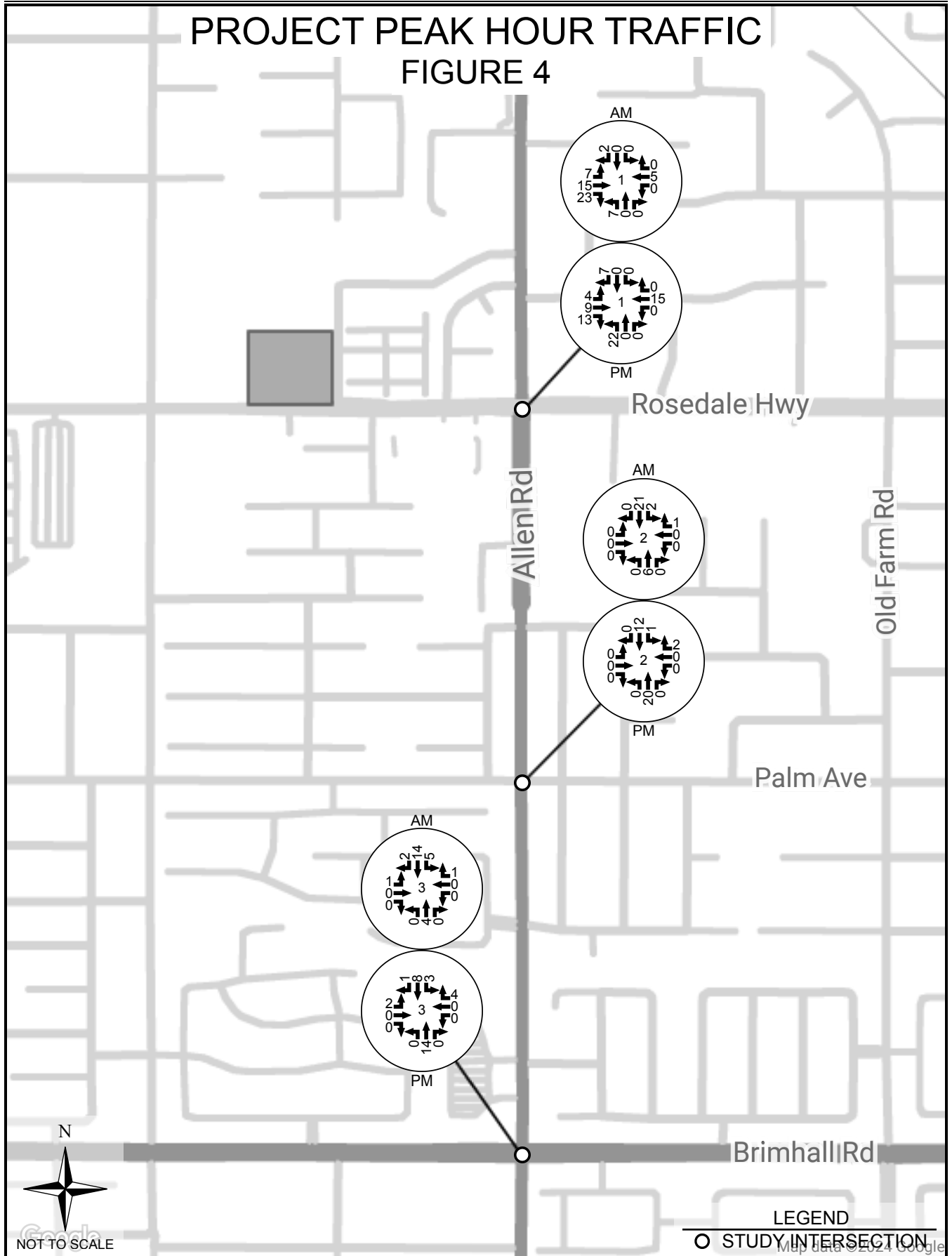
Weekday peak hour turning movements were counted at the following intersections in August 2022 (see Appendix for count data) and were grown out to 2023 using growth rates calculated from the KernCOG traffic model data.

- Allen Road & Rosedale Highway
- Allen Road & Palm Avenue
- Allen Road & Brimhall Road

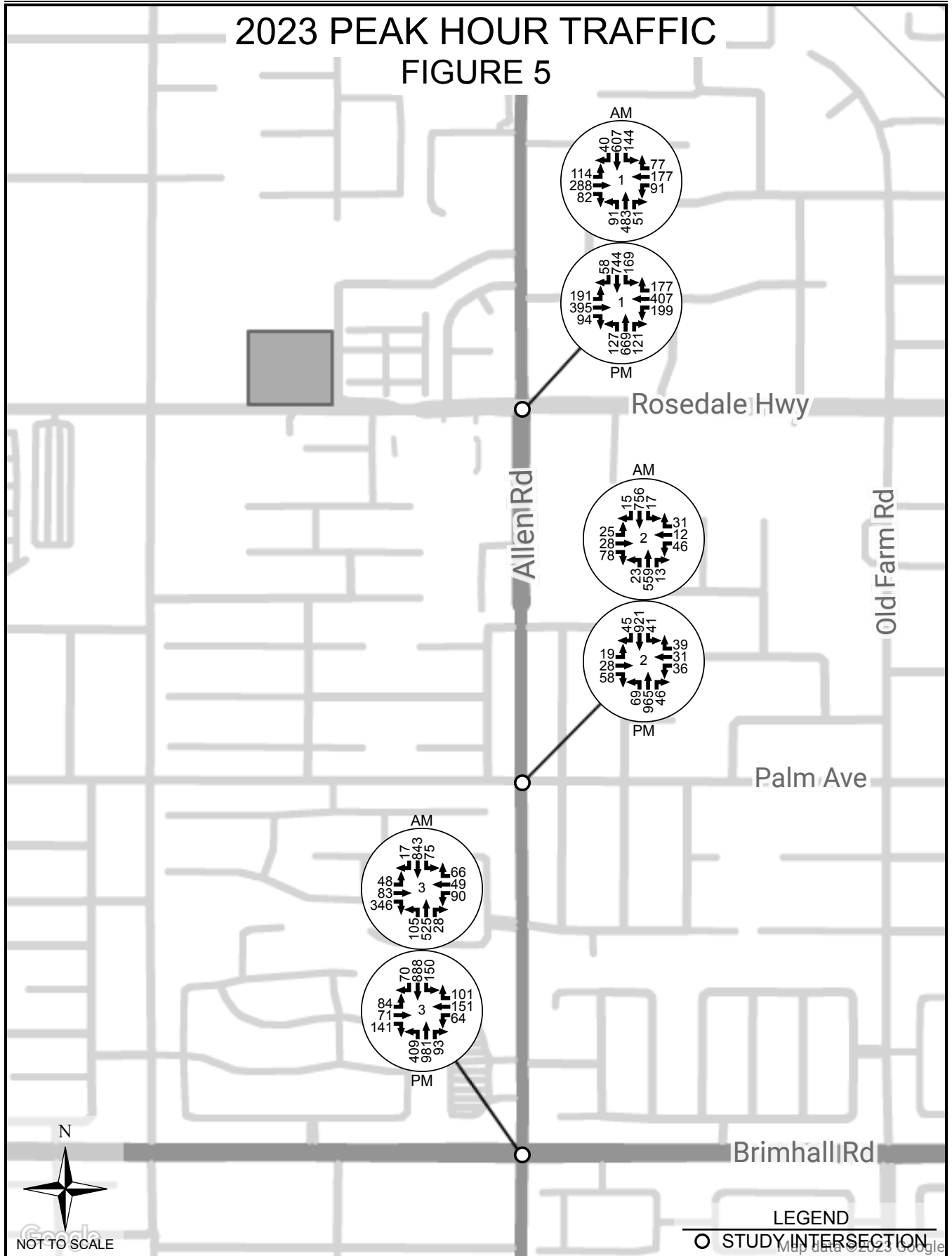
Traffic counts were conducted between the hours 7:00 to 9:00 AM and 4:00 to 6:00 PM and are shown in Figure 5. The scope of intersections was approved by Kern County Public Works. Existing + Project peak hour volumes are shown in Figure 6.

Annual growth rates ranging between 0.5% and 2.28% were applied to existing traffic volumes to estimate future traffic volumes for the year 2043. These growth rates were estimated based on a review of existing and approved future developments in the vicinity of the project and KernCOG traffic model data. Future peak hour volumes are shown in Figures 7 and 8.

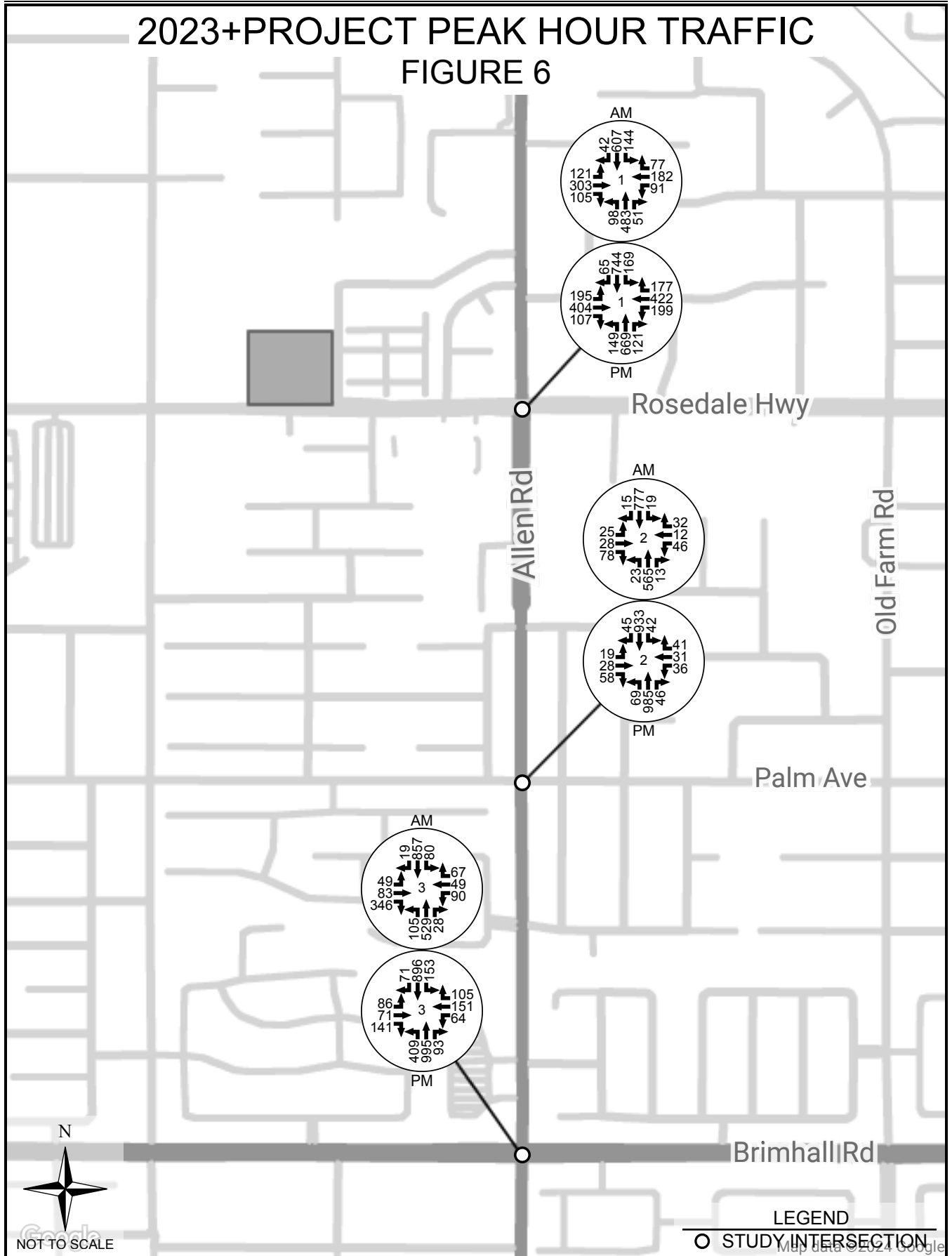
# PROJECT PEAK HOUR TRAFFIC FIGURE 4



# 2023 PEAK HOUR TRAFFIC FIGURE 5

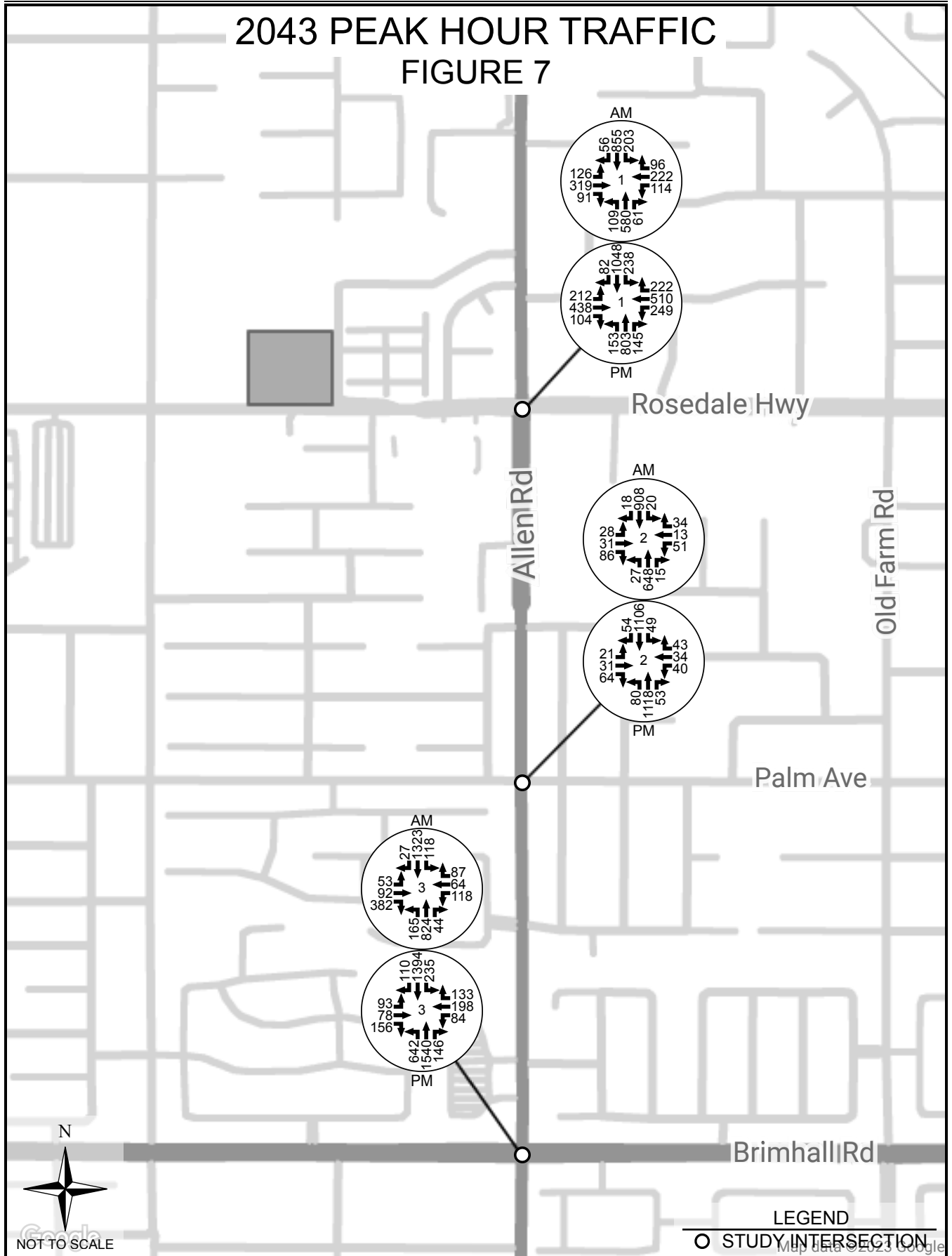


# 2023+PROJECT PEAK HOUR TRAFFIC FIGURE 6



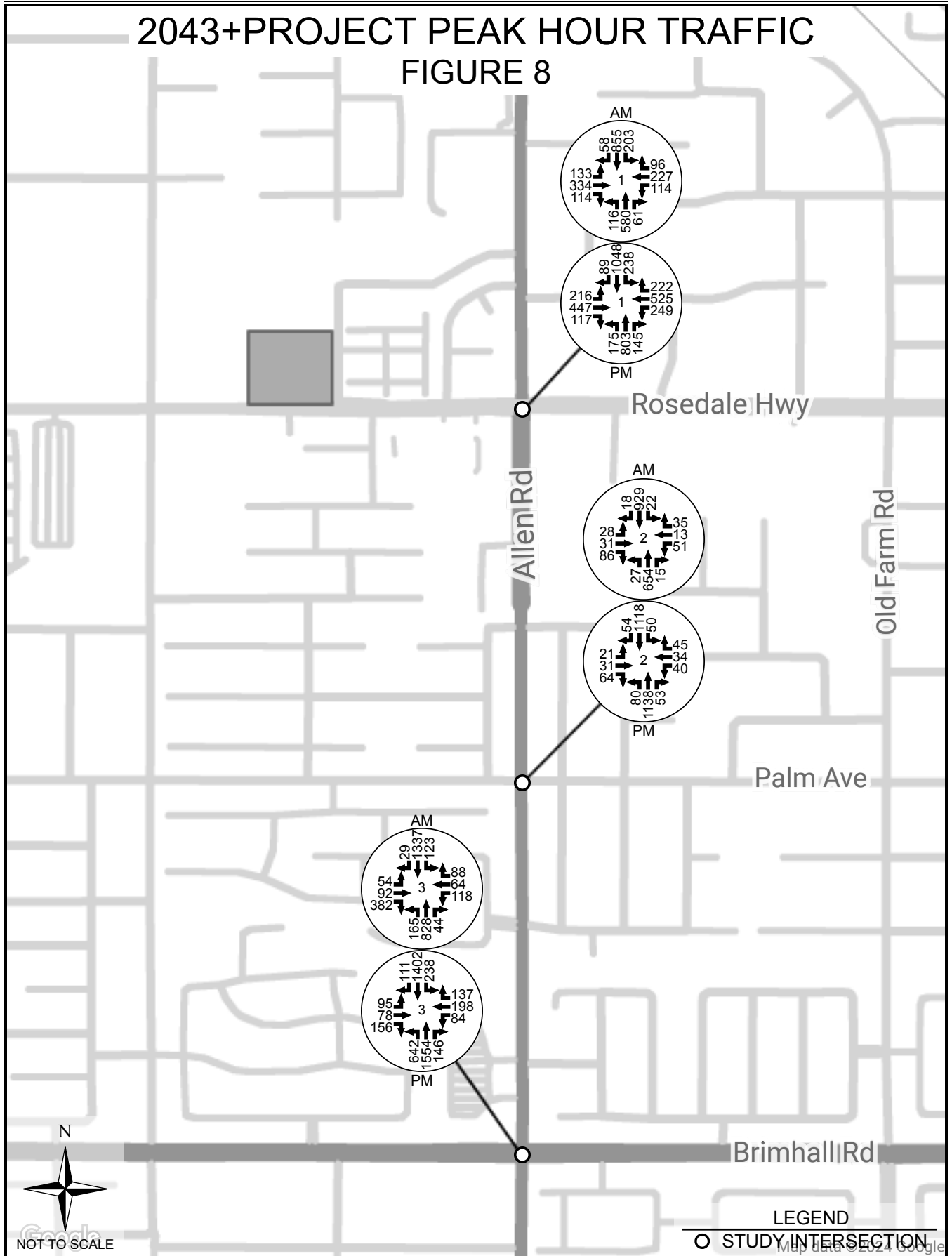
Sablewood Apartments  
Bakersfield, CA

# 2043 PEAK HOUR TRAFFIC FIGURE 7



Sablewood Apartments  
Bakersfield, CA

# 2043+PROJECT PEAK HOUR TRAFFIC FIGURE 8



LEGEND  
○ STUDY INTERSECTION  
Map data © 2024 Google

## **INTERSECTION ANALYSIS**

A capacity analysis of the study intersections was conducted using Synchro software from Trafficware (see Appendix for Synchro analysis results). This software utilizes the capacity analysis methodology in the Transportation Research Board's *Highway Capacity Manual 2010* (HCM 2010). The analysis was performed for each of the following traffic scenarios.

- Existing Year (2023)
- Existing Year (2023) + Project
- Future Year (2043)
- Future Year (2043) + Project

Level of service (LOS) criteria for unsignalized and signalized intersections, as defined in HCM 2010, are presented in the tables below.

### **Level of Service Criteria Unsignalized Intersections**

Level of Service	Average Control Delay (sec/veh)	Expected Delay to Minor Street Traffic
A	$\leq 10$	Little or no delay
B	$> 10$ and $\leq 15$	Short delays
C	$> 15$ and $\leq 25$	Average delays
D	$> 25$ and $\leq 35$	Long delays
E	$> 35$ and $\leq 50$	Very long delays
F	$> 50$	Extreme delays

### **Level of Service Criteria Signalized Intersections**

Level of Service	Average Control Delay (sec/veh)	Volume-to-Capacity Ratio
A	$\leq 10$	$< 0.60$
B	$> 10$ and $\leq 20$	0.61 - 0.70
C	$> 20$ and $\leq 35$	0.71 - 0.80
D	$> 35$ and $\leq 55$	0.81 - 0.90
E	$> 55$ and $\leq 80$	0.91 - 1.00
F	$> 80$	$> 1.00$

Level of service for the study intersections is presented in Tables 3a and 3b. The level of service goal for roadway facilities in Kern County is LOS "C" within the metropolitan Bakersfield area and LOS "D" outside the metro area. The City of Bakersfield generally utilizes three performance criteria for

determining whether a traffic forecast generated by a project would cause a significant impact and therefore require mitigation. First, a significant impact is found where the addition of project traffic causes the level of service of an intersection or roadway segment to drop below LOS C. Second, a significant impact is found if an intersection or roadway segment operates below LOS C in the base year prior to the addition of project traffic, and the added project traffic lowers the level of service below its pre-project status. Third, a significant impact occurs if the addition of the project traffic creates an additional control or average delay per vehicle of more than 5 seconds to the existing or projected congestion at an intersection already or projected to operate at LOS D, E, or F. Intersection delays are shown for all intersections that operate below LOS “C”.

**Table 3a**  
**Intersection Level of Service**  
**Weekday PM Peak Hour**

#	Intersection	Control Type	2023	2023+ Project	2043	2043+ Project
1	Allen Rd & Rosedale Hwy	Signal	C	C	D (47.9)	D <sup>1</sup> (48.6)
2	Allen Rd & Palm Ave	Signal	C	C	C	C
3	Allen Rd & Brimhall Rd	Signal	C	C	C	C

<sup>1</sup>The project does not impact LOS; therefore, no mitigation is required

**Table 3b**  
**Intersection Level of Service**  
**Weekday AM Peak Hour**

#	Intersection	Control Type	2023	2023+ Project	2043	2043+ Project
1	Allen Rd & Rosedale Hwy	Signal	C	C	C	C
2	Allen Rd & Palm Ave	Signal	C	C	C	C
3	Allen Rd & Brimhall Rd	Signal	C	C	D (37.6)	D <sup>1</sup> (38.8)

<sup>1</sup>Project traffic does not add more than 5 seconds of delay; therefore, no mitigation is required.



## **ROADWAY ANALYSIS**

Published ADT information and future projected traffic, as shown in Table 4a, were used to calculate the volume-to-capacity ratios shown in Table 4b.

A volume-to-capacity ratio (v/c) of greater than 0.80 corresponds to a LOS of less than “C”, as defined in the Highway Capacity Manual. As mentioned previously, a level of service “C” is an accepted standard in Rosamond. A significant impact is generally defined as a condition where the addition of project traffic reduces the LOS to below LOS C, or where the pre-existing condition of the roadway is below LOS C, and the LOS degrades below the pre-existing level of service with the addition of the project.

**Table 4a**  
**Roadway ADT & Capacity**

Roadway Segment	2023 <sup>1</sup>	Project ADT	2023+Proj ADT	2043 ADT	2043+ Project ADT
Allen Road: Rosedale Highway - Palm Avenue	22,116	402	22,518	31,166	31,568
Allen Road: Palm Avenue - Brimhall Road	23,738	368	24,106	26,228	26,596

<sup>1</sup>Published ADT Counts Grown out to 2023

**Table 4b**  
**Roadway Level of Service**

Roadway Segment	Existing Capacity	v/c 2023	v/c 2023+Proj	v/c 2043	v/c 2043+ Project
Allen Road: Rosedale Highway - Palm Avenue	60,000	0.37	0.38	0.52	0.53
Allen Road: Palm Avenue - Brimhall Road	60,000	0.40	0.40	0.44	0.44

## VMT ANALYSIS

In 2013 the State of California approved legislation (SB 743) to change the primary basis of evaluation of traffic impacts in CEQA from Level of Service (LOS) to Vehicle Miles Traveled (VMT). CEQA Guidelines section 15064.3 was approved in December 2018, and became effective in early 2019. Section 15064.3 required agencies to begin implementing the new VMT requirement no later than July 1, 2020. The Governor’s Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts In CEQA in December 2018, which provides guidelines and recommendations for VMT evaluation and thresholds. As of November 2023, the City of Bakersfield has not finalized or adopted any policies or thresholds for VMT analysis, therefore the OPR Technical Advisory was used as the basis for this evaluation.

The Technical Advisory provides initial screening criteria and thresholds of significance for the VMT evaluation. The VMT evaluation is limited to automobiles and light trucks. The OPR TA recommends usage of VMT per capita as the VMT metric to evaluate residential land uses. A 15% reduction in VMT per capita is recommended by the OPR TA for residential land uses.

The OPR TA provides multiple screening criteria for land use VMT evaluation, however, the daily volume of traffic anticipated for this development does not screen out under any of the available criteria.

The regional transportation model, maintained by the Kern Council of Governments (KernCOG), was used to estimate baseline VMT for existing conditions. The KernCOG model is developed for use in adoption of the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS). The KernCOG model contains “gateway” points to State transportation model data and the VMT scripts within the KernCOG model account for Statewide travel, to assure that the model does not terminate at TAZ or jurisdictional boundaries. The model run and VMT analysis were prepared by LSA Associates, Inc. using a model baseline year of 2015 (see appendix for LSA report).

Per capita VMT for residential trips for the project and City of Bakersfield threshold values are shown in Table 5.

**Table 5  
Project VMT Summary**

2020	Sablewood Apartments (project)	City of Bakersfield Threshold *	Difference	% Difference
VMT per capita	17.30	14.96	2.34	15.6%

\* Estimated using “No project” VMIP III base year (2020) model run

From Table 5a, the project VMT is 17.3 miles per capita. This value is 15.6% greater than the OPR recommended threshold, therefore, based on the OPR TA the project will have a significant VMT impact.

### **VMT MITIGATION**

A review of possible mitigation measures to reduce VMT from the project was performed. The goal of reducing VMT is to lower emissions from combustion engines. One way to reduce the emissions is to encourage the use of electric vehicles by adding EV charging stations. A calculation was prepared to determine how many vehicles would need to switch to electric vehicles in order to reduce the total VMT from the project. It was assumed that the switch to an electric vehicle would reduce the VMT from the previously used combustion engine vehicle. The following table shows the calculation of how many charging stations would need to be added to reduce the VMT impacts to less than significant.

**Table 6  
VMT Mitigation**

<b>Parking Spaces</b>	<b>Sablewood Total VMT</b>	<b>Total VMT Threshold</b>	<b>Total VMT Reduction Needed</b>	<b>Number of EV Charging Stations</b>
224	4,463	3,351	604	35

It was assumed that over time a switch from combustion engine vehicles to electric vehicles would occur as they become more popular and there are available charging stations. In order to reduce the VMT impacts of this project, it is recommended that the project install 35 EV charging stations. With the implementation of the charging stations, the VMT impacts would be reduced to less than significant.

## **SUMMARY AND CONCLUSIONS**

The purpose of this study is to analyze the potential traffic impacts of a proposed multifamily residential development located on the northwest corner of Sablewood Drive and Rosedale Highway in Bakersfield, CA.

### **Level of Service Analysis**

All intersections are anticipated to operate at an acceptable level of service in 2023 through 2043, prior to and with the addition of project traffic. The intersections Allen Road & Rosedale Highway and Allen Road & Brimhall Road are expected to operate at an LOS D in 2043 prior to the addition of project traffic. The addition of project traffic does not increase the LOS delay by more than five seconds. Therefore, no improvements are required.

### **Roadway Capacity**

All roadway segments within the scope of the study currently operate at or above LOS C and are expected to continue to do so through the year 2043, both with and without the project. Therefore, no improvements are required.

### **VMT**

The project's per capita VMT is 15.6% greater than the assumed threshold and therefore, based upon the OPT TA, will have a significant impact for VMT. With the proposed mitigation listed in table 6, VMT impacts will be less than significant.

### **Conclusion**

Based on the City of Bakersfield's standards for determining whether project traffic impacts level of service standards for intersections and roadways, the mitigation measures needed in order to maintain level of service standards by the year 2043, will be accomplished through improvements identified in the Regional Transportation Impact Fee program, where this project is expected to pay into the fee program.

**REFERENCES**

1. *California Manual on Uniform Traffic Control Devices for Streets and Highways*, 2014 Edition, California Department of Transportation (Caltrans)
2. *Highway Capacity Manual 2010*, Transportation Research Board
3. *Metropolitan Bakersfield General Plan Circulation Element*, updated October 21, 2021
4. San Joaquin Valley Model Improvement Program Phase 2 (VMIP III) Travel Demand Model, Kern Council of Governments (KernCOG)
5. *Technical Advisory on Evaluating Transportation Impacts in CEQA*, State of California, Office of Planning and Research (OPR), dated December 2018
6. *Trip Generation Manual*, 11th Edition, Institute of Transportation Engineers (ITE), September 2021

## APPENDIX

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2023  
 06/11/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	395	94	199	407	177	127	669	121	169	744	58
Future Volume (veh/h)	191	395	94	199	407	177	127	669	121	169	744	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	197	407	97	203	415	181	146	769	139	172	759	59
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.98	0.98	0.98	0.87	0.87	0.87	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	249	661	266	249	661	266	213	1262	511	213	1185	92
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.15	0.19	0.19	0.15	0.19	0.19	0.13	0.36	0.36	0.13	0.36	0.33
Ln Grp Delay, s/veh	53.5	35.3	15.9	56.4	35.4	19.1	46.9	26.5	22.4	58.9	29.6	29.6
Ln Grp LOS	D	D	B	E	D	B	D	C	C	E	C	C
Approach Vol, veh/h		701			799			1054			990	
Approach Delay, s/veh		37.7			37.1			28.8			34.7	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	6	5	8	7			
Case No		2.0	3.0	2.0	3.0	4.0	2.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		16.0	36.8	18.0	21.2	36.8	16.0	21.2	18.0			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		10.0	30.8	12.0	24.2	30.8	10.0	24.2	12.0			
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1			
Max Q Clear (g_c+I1), s		11.4	18.4	13.1	11.7	19.6	9.8	11.9	12.7			
Green Ext Time (g_e), s		0.0	3.2	0.0	1.7	2.5	0.0	2.0	0.0			
Prob of Phs Call (p_c)		0.99	1.00	0.99	1.00	1.00	0.98	1.00	0.99			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.03	0.00	1.00	0.05	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3			5		7			
Mvmt Sat Flow, veh/h		1634		1634			1634		1634			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4	6		8				
Mvmt Sat Flow, veh/h			3539		3539	3323		3539				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14	16		18				
Mvmt Sat Flow, veh/h			1433		1426	258		1426				
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	0	5	0	7			
Lane Assignment		(Prot)		(Prot)			(Prot)		(Prot)			

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2023  
 06/11/2024

Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	172	0	203	0	0	146	0	197
Grp Sat Flow (s), veh/h/ln	1634	0	1634	0	0	1634	0	1634
Q Serve Time (g_s), s	9.4	0.0	11.1	0.0	0.0	7.8	0.0	10.7
Cycle Q Clear Time (g_c), s	9.4	0.0	11.1	0.0	0.0	7.8	0.0	10.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	213	0	249	0	0	213	0	249
V/C Ratio (X)	0.81	0.00	0.82	0.00	0.00	0.68	0.00	0.79
Avail Cap (c_a), veh/h	213	0	249	0	0	213	0	249
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	38.9	0.0	37.7	0.0	0.0	38.2	0.0	37.6
Incr Delay (d2), s/veh	20.0	0.0	18.7	0.0	0.0	8.7	0.0	15.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.9	0.0	56.4	0.0	0.0	46.9	0.0	53.5
1st-Term Q (Q1), veh/ln	4.3	0.0	5.0	0.0	0.0	3.5	0.0	4.8
2nd-Term Q (Q2), veh/ln	1.2	0.0	1.3	0.0	0.0	0.5	0.0	1.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	5.4	0.0	6.3	0.0	0.0	4.0	0.0	5.9
%ile Storage Ratio (RQ%)	0.69	0.00	0.79	0.00	0.00	0.51	0.00	0.75
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	6	0	8	0
Lane Assignment		T		T	T		T	
Lanes in Grp	0	2	0	2	1	0	2	0
Grp Vol (v), veh/h	0	769	0	407	404	0	415	0
Grp Sat Flow (s), veh/h/ln	0	1770	0	1770	1770	0	1770	0
Q Serve Time (g_s), s	0.0	16.4	0.0	9.7	17.5	0.0	9.9	0.0
Cycle Q Clear Time (g_c), s	0.0	16.4	0.0	9.7	17.5	0.0	9.9	0.0
Lane Grp Cap (c), veh/h	0	1262	0	661	631	0	661	0
V/C Ratio (X)	0.00	0.61	0.00	0.62	0.64	0.00	0.63	0.00
Avail Cap (c_a), veh/h	0	1262	0	1008	631	0	1008	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	24.3	0.0	34.4	24.7	0.0	34.5	0.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.9	4.9	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.5	0.0	35.3	29.6	0.0	35.4	0.0
1st-Term Q (Q1), veh/ln	0.0	8.0	0.0	4.7	8.5	0.0	4.8	0.0



HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2023  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.9	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.4	0.0	4.8	9.4	0.0	4.9	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.03	0.12	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	0	12	0	14	16	0	18	0
Lane Assignment		R		R	T+R		R	
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	139	0	97	414	0	181	0
Grp Sat Flow (s), veh/h/ln	0	1433	0	1426	1812	0	1426	0
Q Serve Time (g_s), s	0.0	6.4	0.0	3.7	17.6	0.0	7.4	0.0
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	3.7	17.6	0.0	7.4	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.14	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	511	0	266	646	0	266	0
V/C Ratio (X)	0.00	0.27	0.00	0.36	0.64	0.00	0.68	0.00
Avail Cap (c_a), veh/h	0	511	0	406	646	0	406	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	21.1	0.0	15.1	24.8	0.0	16.1	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.8	4.8	0.0	3.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.4	0.0	15.9	29.6	0.0	19.1	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	1.4	8.8	0.0	2.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.9	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	1.5	9.6	0.0	3.1	0.0
%ile Storage Ratio (RQ%)	0.00	0.46	0.00	0.26	0.12	0.00	0.53	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	34.1
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
2: Allen Rd & Palm Ave

PM 2023  
06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	28	58	36	31	39	69	965	46	41	921	45
Future Volume (veh/h)	19	28	58	36	31	39	69	965	46	41	921	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	22	32	66	43	37	47	75	1049	50	43	969	47
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	60	296	122	83	182	143	756	3309	158	83	1259	61
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.08	0.08	0.05	0.10	0.10	0.93	1.00	1.00	0.05	0.25	0.23
Ln Grp Delay, s/veh	54.1	45.5	50.7	54.4	45.0	46.3	2.2	0.3	0.6	53.0	41.7	45.7
Ln Grp LOS	D	D	D	D	D	D	A	A	A	D	D	D
Approach Vol, veh/h		120			127			1174			1059	
Approach Delay, s/veh		49.9			48.7			0.6			43.5	
Approach LOS		D			D			A			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.4	75.2	13.0	9.4	31.1	53.5	7.9	14.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		7.0	39.0	30.0	7.0	36.0	10.0	6.0	31.0			
Max Allow Headway (MAH), s		4.1	4.0	4.4	4.2	4.0	4.1	4.2	4.3			
Max Q Clear (g_c+I1), s		4.7	2.0	6.6	4.7	21.4	2.4	3.4	5.2			
Green Ext Time (g_e), s		0.0	5.0	0.3	0.0	3.7	0.1	0.0	0.3			
Prob of Phs Call (p_c)		0.72	1.00	1.00	0.72	1.00	0.89	0.48	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	1.00	0.10	0.02	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1634			1634		1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			4974	3539		4970			1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			237	1458		241			1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		(Prot)			(Prot)		(Prot)	(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
2: Allen Rd & Palm Ave

PM 2023  
06/11/2024

Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	43	0	0	43	0	75	22	0
Grp Sat Flow (s), veh/h/ln	1634	0	0	1634	0	1634	1634	0
Q Serve Time (g_s), s	2.7	0.0	0.0	2.7	0.0	0.4	1.4	0.0
Cycle Q Clear Time (g_c), s	2.7	0.0	0.0	2.7	0.0	0.4	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	83	0	0	83	0	756	60	0
V/C Ratio (X)	0.52	0.00	0.00	0.52	0.00	0.10	0.37	0.00
Avail Cap (c_a), veh/h	137	0	0	137	0	756	122	0
Upstream Filter (I)	0.71	0.00	0.00	1.00	0.00	0.93	1.00	0.00
Uniform Delay (d1), s/veh	49.5	0.0	0.0	49.5	0.0	2.2	50.3	0.0
Incr Delay (d2), s/veh	3.5	0.0	0.0	4.9	0.0	0.1	3.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	53.0	0.0	0.0	54.4	0.0	2.2	54.1	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	0.0	1.2	0.0	0.2	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	0.0	1.4	0.0	0.2	0.7	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.00	0.03	0.00	0.02	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	2	0	2	0	0	1
Grp Vol (v), veh/h	0	715	32	0	661	0	0	37
Grp Sat Flow (s), veh/h/ln	0	1695	1770	0	1695	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.9	0.0	19.3	0.0	0.0	2.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.9	0.0	19.3	0.0	0.0	2.0
Lane Grp Cap (c), veh/h	0	2255	296	0	859	0	0	182
V/C Ratio (X)	0.00	0.32	0.11	0.00	0.77	0.00	0.00	0.20
Avail Cap (c_a), veh/h	0	2255	1058	0	1204	0	0	574
Upstream Filter (I)	0.00	0.93	1.00	0.00	0.71	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	45.3	0.0	37.0	0.0	0.0	44.4
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	4.7	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	45.5	0.0	41.7	0.0	0.0	45.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.4	0.0	9.0	0.0	0.0	1.0

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2023  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.4	0.0	9.6	0.0	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.10	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		T+R	R		T+R			R
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	384	66	0	355	0	0	47
Grp Sat Flow (s), veh/h/ln	0	1821	1458	0	1820	0	0	1458
Q Serve Time (g_s), s	0.0	0.0	4.6	0.0	19.4	0.0	0.0	3.2
Cycle Q Clear Time (g_c), s	0.0	0.0	4.6	0.0	19.4	0.0	0.0	3.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.13	1.00	0.00	0.13	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1211	122	0	461	0	0	143
V/C Ratio (X)	0.00	0.32	0.54	0.00	0.77	0.00	0.00	0.33
Avail Cap (c_a), veh/h	0	1211	436	0	646	0	0	450
Upstream Filter (I)	0.00	0.93	1.00	0.00	0.71	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	47.1	0.0	37.2	0.0	0.0	45.0
Incr Delay (d2), s/veh	0.0	0.6	3.7	0.0	8.5	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.6	50.7	0.0	45.7	0.0	0.0	46.3
1st-Term Q (Q1), veh/ln	0.0	0.0	1.9	0.0	9.8	0.0	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.0	1.1	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	2.0	0.0	10.9	0.0	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.34	0.00	0.11	0.00	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	23.8
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2023  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	71	141	64	151	101	409	981	93	150	888	70
Future Volume (veh/h)	84	71	141	64	151	101	409	981	93	150	888	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	105	89	176	83	196	131	422	1011	96	165	976	77
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.97	0.97	0.97	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	251	651	262	178	819	229	526	1920	541	738	2260	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.18	0.18	0.06	0.16	0.16	0.17	0.38	0.38	0.47	0.89	0.89
Ln Grp Delay, s/veh	48.0	36.6	43.6	50.9	39.3	43.7	51.4	26.9	12.5	23.0	4.1	1.8
Ln Grp LOS	D	D	D	D	D	D	D	C	B	C	A	A
Approach Vol, veh/h		370			410			1529			1218	
Approach Delay, s/veh		43.2			43.1			32.8			6.5	
Approach LOS		D			D			C			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	8	7			
Case No		3.0	2.0	2.0	3.0	2.0	3.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		44.4	28.9	10.0	23.7	21.8	51.5	21.2	12.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		38.4	8.0	4.0	32.6	16.0	30.4	32.6	4.0			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.3	4.1	4.0	4.2	4.1			
Max Q Clear (g_c+I1), s		18.5	5.3	4.7	14.3	15.7	5.7	11.1	5.4			
Green Ext Time (g_e), s		4.9	0.1	0.0	0.9	0.1	4.9	1.3	0.0			
Prob of Phs Call (p_c)		1.00	0.99	0.92	1.00	1.00	1.00	1.00	0.96			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5			7			
Mvmt Sat Flow, veh/h			3170	3170		3170			3170			
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6	8				
Mvmt Sat Flow, veh/h		5085			3539		5085	5085				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16	18				
Mvmt Sat Flow, veh/h		1433			1426		1435	1424				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	0	7			
Lane Assignment			(Prot)	(Prot)		(Prot)			(Prot)			

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2023  
 06/11/2024

Lanes in Grp	0	2	2	0	2	0	0	2
Grp Vol (v), veh/h	0	165	83	0	422	0	0	105
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	3.3	2.7	0.0	13.7	0.0	0.0	3.4
Cycle Q Clear Time (g_c), s	0.0	3.3	2.7	0.0	13.7	0.0	0.0	3.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	738	178	0	526	0	0	251
V/C Ratio (X)	0.00	0.22	0.47	0.00	0.80	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	738	178	0	533	0	0	251
Upstream Filter (I)	0.00	0.96	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.8	48.9	0.0	42.9	0.0	0.0	46.9
Incr Delay (d2), s/veh	0.0	0.1	1.9	0.0	8.5	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.0	50.9	0.0	51.4	0.0	0.0	48.0
1st-Term Q (Q1), veh/ln	0.0	1.4	1.2	0.0	6.0	0.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	1.2	0.0	6.6	0.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.19	0.16	0.00	0.84	0.00	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	0	6	8	0
Lane Assignment	T			T		T	T	
Lanes in Grp	3	0	0	2	0	3	3	0
Grp Vol (v), veh/h	1011	0	0	89	0	976	196	0
Grp Sat Flow (s), veh/h/ln	1695	0	0	1770	0	1695	1695	0
Q Serve Time (g_s), s	16.5	0.0	0.0	2.3	0.0	3.7	3.6	0.0
Cycle Q Clear Time (g_c), s	16.5	0.0	0.0	2.3	0.0	3.7	3.6	0.0
Lane Grp Cap (c), veh/h	1920	0	0	651	0	2260	819	0
V/C Ratio (X)	0.53	0.00	0.00	0.14	0.00	0.43	0.24	0.00
Avail Cap (c_a), veh/h	1920	0	0	1144	0	2260	1644	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.96	1.00	0.00
Uniform Delay (d1), s/veh	25.9	0.0	0.0	36.5	0.0	3.5	39.2	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.1	0.0	0.6	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.9	0.0	0.0	36.6	0.0	4.1	39.3	0.0
1st-Term Q (Q1), veh/ln	7.7	0.0	0.0	1.1	0.0	1.5	1.7	0.0

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2023  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.9	0.0	0.0	1.1	0.0	1.6	1.7	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.00	0.02	0.00	0.02	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	12	0	0	14	0	16	18	0
Lane Assignment	R			R		R	R	
Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	96	0	0	176	0	77	131	0
Grp Sat Flow (s), veh/h/ln	1433	0	0	1426	0	1435	1424	0
Q Serve Time (g_s), s	3.5	0.0	0.0	12.3	0.0	0.5	9.1	0.0
Cycle Q Clear Time (g_c), s	3.5	0.0	0.0	12.3	0.0	0.5	9.1	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	541	0	0	262	0	637	229	0
V/C Ratio (X)	0.18	0.00	0.00	0.67	0.00	0.12	0.57	0.00
Avail Cap (c_a), veh/h	541	0	0	461	0	637	460	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.96	1.00	0.00
Uniform Delay (d1), s/veh	11.8	0.0	0.0	40.6	0.0	1.4	41.5	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	3.0	0.0	0.4	2.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.5	0.0	0.0	43.6	0.0	1.8	43.7	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.0	4.9	0.0	0.2	3.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	0.0	5.1	0.0	0.3	3.7	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.00	0.86	0.00	0.03	0.47	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	26.0
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2023+Project  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	404	107	199	422	177	149	669	121	169	744	65
Future Volume (veh/h)	195	404	107	199	422	177	149	669	121	169	744	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	201	416	110	203	431	181	162	727	132	172	759	66
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.98	0.98	0.98	0.92	0.92	0.92	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	262	643	259	272	664	268	223	1213	491	232	1147	100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.16	0.18	0.18	0.17	0.19	0.19	0.14	0.34	0.34	0.14	0.35	0.33
Ln Grp Delay, s/veh	49.2	37.4	17.2	47.6	37.0	19.2	48.2	28.2	24.1	49.2	31.9	31.9
Ln Grp LOS	D	D	B	D	D	B	D	C	C	D	C	C
Approach Vol, veh/h		727			815			1021			997	
Approach Delay, s/veh		37.6			35.7			30.8			34.9	
Approach LOS		D			D			C			C	
<b>Timer:</b>		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	4	3	5	6	7	8			
Case No		3.0	2.0	3.0	2.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		36.8	17.6	21.4	19.9	17.0	37.4	19.3	22.0			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		30.8	13.0	24.2	15.0	13.0	30.8	15.0	24.2			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.1	4.1	4.0	4.1	4.1			
Max Q Clear (g_c+I1), s		18.3	11.7	12.4	13.3	11.1	20.7	13.3	12.8			
Green Ext Time (g_e), s		3.1	0.1	1.7	0.1	0.1	2.4	0.1	2.0			
Prob of Phs Call (p_c)		1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	1.00	0.04	1.00	1.00	0.00	1.00	0.08			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1		3	5		7				
Mvmt Sat Flow, veh/h			1634		1634	1634		1634				
<b>Through Movement Data</b>												
Assigned Mvmt		2		4			6		8			
Mvmt Sat Flow, veh/h		3539		3539			3290		3539			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12		14			16		18			
Mvmt Sat Flow, veh/h		1433		1426			286		1426			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	0	3	5	0	7	0			
Lane Assignment			(Prot)		(Prot)	(Prot)		(Prot)				



HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2023+Project  
 06/11/2024

Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	172	0	203	162	0	201	0
Grp Sat Flow (s), veh/h/ln	0	1634	0	1634	1634	0	1634	0
Q Serve Time (g_s), s	0.0	9.7	0.0	11.3	9.1	0.0	11.3	0.0
Cycle Q Clear Time (g_c), s	0.0	9.7	0.0	11.3	9.1	0.0	11.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	232	0	272	223	0	262	0
V/C Ratio (X)	0.00	0.74	0.00	0.75	0.73	0.00	0.77	0.00
Avail Cap (c_a), veh/h	0	256	0	290	256	0	290	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	39.3	0.0	38.0	39.6	0.0	38.5	0.0
Incr Delay (d2), s/veh	0.0	9.9	0.0	9.6	8.6	0.0	10.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.2	0.0	47.6	48.2	0.0	49.2	0.0
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	5.1	4.1	0.0	5.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.7	0.5	0.0	0.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	5.8	4.6	0.0	5.9	0.0
%ile Storage Ratio (RQ%)	0.00	0.63	0.00	0.74	0.59	0.00	0.74	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	2	0	4	0	0	6	0	8
Lane Assignment	T		T			T		T
Lanes in Grp	2	0	2	0	0	1	0	2
Grp Vol (v), veh/h	727	0	416	0	0	408	0	431
Grp Sat Flow (s), veh/h/ln	1770	0	1770	0	0	1770	0	1770
Q Serve Time (g_s), s	16.3	0.0	10.4	0.0	0.0	18.7	0.0	10.8
Cycle Q Clear Time (g_c), s	16.3	0.0	10.4	0.0	0.0	18.7	0.0	10.8
Lane Grp Cap (c), veh/h	1213	0	643	0	0	617	0	664
V/C Ratio (X)	0.60	0.00	0.65	0.00	0.00	0.66	0.00	0.65
Avail Cap (c_a), veh/h	1213	0	969	0	0	617	0	969
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	26.0	0.0	36.3	0.0	0.0	26.4	0.0	35.9
Incr Delay (d2), s/veh	2.2	0.0	1.1	0.0	0.0	5.5	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	28.2	0.0	37.4	0.0	0.0	31.9	0.0	37.0
1st-Term Q (Q1), veh/ln	7.9	0.0	5.1	0.0	0.0	9.1	0.0	5.3

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2023+Project  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.0	0.9	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	8.2	0.0	5.2	0.0	0.0	10.0	0.0	5.4
%ile Storage Ratio (RQ%)	0.08	0.00	0.03	0.00	0.00	0.13	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	12	0	14	0	0	16	0	18
Lane Assignment	R		R			T+R		R
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	132	0	110	0	0	417	0	181
Grp Sat Flow (s), veh/h/ln	1433	0	1426	0	0	1806	0	1426
Q Serve Time (g_s), s	6.4	0.0	4.5	0.0	0.0	18.7	0.0	7.6
Cycle Q Clear Time (g_c), s	6.4	0.0	4.5	0.0	0.0	18.7	0.0	7.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	1.00	0.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	491	0	259	0	0	630	0	268
V/C Ratio (X)	0.27	0.00	0.42	0.00	0.00	0.66	0.00	0.68
Avail Cap (c_a), veh/h	491	0	390	0	0	630	0	390
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	22.8	0.0	16.1	0.0	0.0	26.5	0.0	16.3
Incr Delay (d2), s/veh	1.3	0.0	1.1	0.0	0.0	5.4	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.1	0.0	17.2	0.0	0.0	31.9	0.0	19.2
1st-Term Q (Q1), veh/ln	2.5	0.0	1.8	0.0	0.0	9.3	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	0.0	0.9	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.7	0.0	1.8	0.0	0.0	10.2	0.0	3.2
%ile Storage Ratio (RQ%)	0.46	0.00	0.31	0.00	0.00	0.13	0.00	0.54
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	34.5
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2023+Project  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	28	58	36	31	41	69	985	46	42	933	45
Future Volume (veh/h)	19	28	58	36	31	41	69	985	46	42	933	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	22	32	66	43	37	49	75	1071	50	44	982	47
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	60	296	122	83	182	143	752	3309	154	84	1273	61
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.08	0.08	0.05	0.10	0.10	0.92	1.00	1.00	0.05	0.26	0.24
Ln Grp Delay, s/veh	54.1	45.5	50.7	54.4	45.0	46.5	2.4	0.4	0.7	52.9	41.5	45.4
Ln Grp LOS	D	D	D	D	D	D	A	A	A	D	D	D
Approach Vol, veh/h		120			129			1196			1073	
Approach Delay, s/veh		49.9			48.7			0.6			43.3	
Approach LOS		D			D			A			D	
<b>Timer:</b>		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.5	75.1	13.0	9.4	31.4	53.2	7.9	14.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		7.0	39.0	30.0	7.0	36.0	10.0	6.0	31.0			
Max Allow Headway (MAH), s		4.1	4.0	4.4	4.2	4.0	4.1	4.2	4.3			
Max Q Clear (g_c+I1), s		4.8	2.0	6.6	4.7	21.6	2.4	3.4	5.4			
Green Ext Time (g_e), s		0.0	5.1	0.3	0.0	3.7	0.1	0.0	0.3			
Prob of Phs Call (p_c)		0.73	1.00	1.00	0.72	1.00	0.89	0.48	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	1.00	0.11	0.02	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1634			1634		1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			4980	3539		4973			1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			232	1458		238			1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		(Prot)			(Prot)		(Prot)	(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2023+Project  
 06/11/2024

Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	44	0	0	43	0	75	22	0
Grp Sat Flow (s), veh/h/ln	1634	0	0	1634	0	1634	1634	0
Q Serve Time (g_s), s	2.8	0.0	0.0	2.7	0.0	0.4	1.4	0.0
Cycle Q Clear Time (g_c), s	2.8	0.0	0.0	2.7	0.0	0.4	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	84	0	0	83	0	752	60	0
V/C Ratio (X)	0.52	0.00	0.00	0.52	0.00	0.10	0.37	0.00
Avail Cap (c_a), veh/h	137	0	0	137	0	752	122	0
Upstream Filter (I)	0.69	0.00	0.00	1.00	0.00	0.93	1.00	0.00
Uniform Delay (d1), s/veh	49.5	0.0	0.0	49.5	0.0	2.3	50.3	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.0	4.9	0.0	0.1	3.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	52.9	0.0	0.0	54.4	0.0	2.4	54.1	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.0	1.2	0.0	0.2	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	0.0	1.4	0.0	0.2	0.7	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.00	0.03	0.00	0.03	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	2	0	2	0	0	1
Grp Vol (v), veh/h	0	729	32	0	669	0	0	37
Grp Sat Flow (s), veh/h/ln	0	1695	1770	0	1695	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.9	0.0	19.6	0.0	0.0	2.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.9	0.0	19.6	0.0	0.0	2.0
Lane Grp Cap (c), veh/h	0	2253	296	0	868	0	0	182
V/C Ratio (X)	0.00	0.32	0.11	0.00	0.77	0.00	0.00	0.20
Avail Cap (c_a), veh/h	0	2253	1058	0	1204	0	0	574
Upstream Filter (I)	0.00	0.93	1.00	0.00	0.69	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	45.3	0.0	36.9	0.0	0.0	44.4
Incr Delay (d2), s/veh	0.0	0.4	0.2	0.0	4.6	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	45.5	0.0	41.5	0.0	0.0	45.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.4	0.0	9.2	0.0	0.0	1.0

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2023+Project  
 06/11/2024

























2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.4	0.0	9.8	0.0	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.10	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		T+R	R		T+R			R
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	392	66	0	360	0	0	49
Grp Sat Flow (s), veh/h/ln	0	1822	1458	0	1821	0	0	1458
Q Serve Time (g_s), s	0.0	0.0	4.6	0.0	19.6	0.0	0.0	3.4
Cycle Q Clear Time (g_c), s	0.0	0.0	4.6	0.0	19.6	0.0	0.0	3.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.13	1.00	0.00	0.13	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1210	122	0	466	0	0	143
V/C Ratio (X)	0.00	0.32	0.54	0.00	0.77	0.00	0.00	0.34
Avail Cap (c_a), veh/h	0	1210	436	0	647	0	0	450
Upstream Filter (I)	0.00	0.93	1.00	0.00	0.69	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	47.1	0.0	37.0	0.0	0.0	45.1
Incr Delay (d2), s/veh	0.0	0.7	3.7	0.0	8.4	0.0	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	50.7	0.0	45.4	0.0	0.0	46.5
1st-Term Q (Q1), veh/ln	0.0	0.0	1.9	0.0	9.9	0.0	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.0	1.1	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	2.0	0.0	11.0	0.0	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.34	0.00	0.11	0.00	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	23.6
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	71	141	64	151	105	409	995	93	153	896	71
Future Volume (veh/h)	86	71	141	64	151	105	409	995	93	153	896	71
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	108	89	176	83	196	136	422	1026	96	168	985	78
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.97	0.97	0.97	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	241	651	262	178	834	233	526	1920	541	738	2260	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.18	0.18	0.06	0.16	0.16	0.17	0.38	0.38	0.47	0.89	0.89
Ln Grp Delay, s/veh	48.6	36.6	43.6	50.9	39.0	43.6	51.4	27.0	12.5	23.0	4.1	1.8
Ln Grp LOS	D	D	D	D	D	D	D	C	B	C	A	A
Approach Vol, veh/h		373			415			1544			1231	
Approach Delay, s/veh		43.4			42.9			32.8			6.5	
Approach LOS		D			D			C			A	
<b>Timer:</b>		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	8	7			
Case No		3.0	2.0	2.0	3.0	2.0	3.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		44.4	28.9	10.0	23.7	21.8	51.5	21.5	12.1			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		38.4	8.0	4.0	32.6	16.0	30.4	32.6	4.0			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.3	4.1	4.0	4.2	4.1			
Max Q Clear (g_c+I1), s		18.8	5.4	4.7	14.3	15.7	5.8	11.4	5.5			
Green Ext Time (g_e), s		5.0	0.1	0.0	0.9	0.1	5.0	1.3	0.0			
Prob of Phs Call (p_c)		1.00	0.99	0.92	1.00	1.00	1.00	1.00	0.96			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5			7			
Mvmt Sat Flow, veh/h			3170	3170		3170			3170			
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6	8				
Mvmt Sat Flow, veh/h		5085			3539		5085	5085				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16	18				
Mvmt Sat Flow, veh/h		1433			1426		1435	1424				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	0	7			
Lane Assignment			(Prot)	(Prot)		(Prot)			(Prot)			

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2023+Project  
 06/11/2024

Lanes in Grp	0	2	2	0	2	0	0	2
Grp Vol (v), veh/h	0	168	83	0	422	0	0	108
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	3.4	2.7	0.0	13.7	0.0	0.0	3.5
Cycle Q Clear Time (g_c), s	0.0	3.4	2.7	0.0	13.7	0.0	0.0	3.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	738	178	0	526	0	0	241
V/C Ratio (X)	0.00	0.23	0.47	0.00	0.80	0.00	0.00	0.45
Avail Cap (c_a), veh/h	0	738	178	0	533	0	0	241
Upstream Filter (I)	0.00	0.96	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.8	48.9	0.0	42.9	0.0	0.0	47.3
Incr Delay (d2), s/veh	0.0	0.1	1.9	0.0	8.5	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.0	50.9	0.0	51.4	0.0	0.0	48.6
1st-Term Q (Q1), veh/ln	0.0	1.5	1.2	0.0	6.0	0.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	1.2	0.0	6.6	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.19	0.16	0.00	0.84	0.00	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	0	6	8	0
Lane Assignment	T			T		T	T	
Lanes in Grp	3	0	0	2	0	3	3	0
Grp Vol (v), veh/h	1026	0	0	89	0	985	196	0
Grp Sat Flow (s), veh/h/ln	1695	0	0	1770	0	1695	1695	0
Q Serve Time (g_s), s	16.8	0.0	0.0	2.3	0.0	3.8	3.6	0.0
Cycle Q Clear Time (g_c), s	16.8	0.0	0.0	2.3	0.0	3.8	3.6	0.0
Lane Grp Cap (c), veh/h	1920	0	0	651	0	2260	834	0
V/C Ratio (X)	0.53	0.00	0.00	0.14	0.00	0.44	0.24	0.00
Avail Cap (c_a), veh/h	1920	0	0	1144	0	2260	1644	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.96	1.00	0.00
Uniform Delay (d1), s/veh	26.0	0.0	0.0	36.5	0.0	3.5	38.9	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.1	0.0	0.6	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.0	0.0	0.0	36.6	0.0	4.1	39.0	0.0
1st-Term Q (Q1), veh/ln	7.9	0.0	0.0	1.1	0.0	1.5	1.7	0.0

2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	8.1	0.0	0.0	1.1	0.0	1.7	1.7	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.00	0.02	0.00	0.02	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	12	0	0	14	0	16	18	0
Lane Assignment	R			R		R	R	
Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	96	0	0	176	0	78	136	0
Grp Sat Flow (s), veh/h/ln	1433	0	0	1426	0	1435	1424	0
Q Serve Time (g_s), s	3.5	0.0	0.0	12.3	0.0	0.5	9.4	0.0
Cycle Q Clear Time (g_c), s	3.5	0.0	0.0	12.3	0.0	0.5	9.4	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	541	0	0	262	0	637	233	0
V/C Ratio (X)	0.18	0.00	0.00	0.67	0.00	0.12	0.58	0.00
Avail Cap (c_a), veh/h	541	0	0	461	0	637	460	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.96	1.00	0.00
Uniform Delay (d1), s/veh	11.8	0.0	0.0	40.6	0.0	1.5	41.3	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	3.0	0.0	0.4	2.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.5	0.0	0.0	43.6	0.0	1.8	43.6	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.0	4.9	0.0	0.3	3.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	0.0	5.1	0.0	0.3	3.9	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.00	0.86	0.00	0.03	0.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

























**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	26.0
HCM 2010 LOS	C



HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2043  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	438	104	249	510	222	153	803	145	238	1048	82
Future Volume (veh/h)	212	438	104	249	510	222	153	803	145	238	1048	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	219	452	107	254	520	227	166	873	158	243	1069	84
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.98	0.98	0.98	0.92	0.92	0.92	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	259	638	257	288	700	282	202	1186	480	274	1258	99
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.16	0.18	0.18	0.18	0.20	0.20	0.12	0.33	0.33	0.17	0.38	0.36
Ln Grp Delay, s/veh	68.1	45.8	42.3	71.2	45.4	29.2	71.8	37.4	11.2	73.9	45.0	44.9
Ln Grp LOS	E	D	D	E	D	C	E	D	B	E	D	D
Approach Vol, veh/h		778			1001			1197			1396	
Approach Delay, s/veh		51.6			48.3			38.7			50.0	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	7	8			
Case No		3.0	2.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		42.0	23.0	24.0	24.4	18.0	47.0	22.0	26.4			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		36.0	17.0	18.0	24.0	12.0	41.0	16.0	26.0			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.1	4.1	4.0	4.1	4.1			
Max Q Clear (g_c+I1), s		26.7	18.5	19.2	15.6	13.2	35.5	16.8	17.7			
Green Ext Time (g_e), s		3.2	0.0	0.0	1.5	0.0	2.4	0.0	2.1			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.18	1.00	0.00	1.00	0.29			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5		7				
Mvmt Sat Flow, veh/h			1634	1634		1634		1634				
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6		8			
Mvmt Sat Flow, veh/h		3539			3539		3320		3539			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16		18			
Mvmt Sat Flow, veh/h		1433			1425		261		1427			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	7	0			
Lane Assignment			(Prot)	(Prot)		(Prot)		(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2043  
 06/11/2024

Lanes in Grp	0	1	1	0	1	0	1	0
Grp Vol (v), veh/h	0	243	254	0	166	0	219	0
Grp Sat Flow (s), veh/h/ln	0	1634	1634	0	1634	0	1634	0
Q Serve Time (g_s), s	0.0	16.5	17.2	0.0	11.2	0.0	14.8	0.0
Cycle Q Clear Time (g_c), s	0.0	16.5	17.2	0.0	11.2	0.0	14.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	274	288	0	202	0	259	0
V/C Ratio (X)	0.00	0.89	0.88	0.00	0.82	0.00	0.84	0.00
Avail Cap (c_a), veh/h	0	274	288	0	202	0	259	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	46.2	45.6	0.0	48.5	0.0	46.4	0.0
Incr Delay (d2), s/veh	0.0	27.7	25.6	0.0	23.3	0.0	21.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	73.9	71.2	0.0	71.8	0.0	68.1	0.0
1st-Term Q (Q1), veh/ln	0.0	7.4	7.8	0.0	5.1	0.0	6.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.1	2.0	0.0	1.3	0.0	1.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.5	9.8	0.0	6.4	0.0	8.3	0.0
%ile Storage Ratio (RQ%)	0.00	1.21	1.25	0.00	0.81	0.00	1.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	2	0	0	4	0	6	0	8
Lane Assignment	T			T		T		T
Lanes in Grp	2	0	0	2	0	1	0	2
Grp Vol (v), veh/h	873	0	0	452	0	570	0	520
Grp Sat Flow (s), veh/h/ln	1770	0	0	1770	0	1770	0	1770
Q Serve Time (g_s), s	24.7	0.0	0.0	13.6	0.0	33.4	0.0	15.7
Cycle Q Clear Time (g_c), s	24.7	0.0	0.0	13.6	0.0	33.4	0.0	15.7
Lane Grp Cap (c), veh/h	1186	0	0	638	0	671	0	700
V/C Ratio (X)	0.74	0.00	0.00	0.71	0.00	0.85	0.00	0.74
Avail Cap (c_a), veh/h	1186	0	0	811	0	671	0	874
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	33.3	0.0	0.0	43.7	0.0	32.3	0.0	42.8
Incr Delay (d2), s/veh	4.1	0.0	0.0	2.1	0.0	12.7	0.0	2.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	37.4	0.0	0.0	45.8	0.0	45.0	0.0	45.4
1st-Term Q (Q1), veh/ln	12.0	0.0	0.0	6.7	0.0	16.3	0.0	7.7

HCM 2010 Signalized Intersection Capacity Analysis  
1: Allen Rd & Rosedale Hwy

PM 2043  
06/11/2024

2nd-Term Q (Q2), veh/ln	0.7	0.0	0.0	0.2	0.0	2.4	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	12.7	0.0	0.0	6.8	0.0	18.7	0.0	7.9
%ile Storage Ratio (RQ%)	0.13	0.00	0.00	0.04	0.00	0.24	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data




























Assigned Mvmt	12	0	0	14	0	16	0	18
Lane Assignment	R			R		T+R		R
Lanes in Grp	1	0	0	1	0	1	0	1
Grp Vol (v), veh/h	158	0	0	107	0	583	0	227
Grp Sat Flow (s), veh/h/ln	1433	0	0	1425	0	1811	0	1427
Q Serve Time (g_s), s	5.4	0.0	0.0	7.5	0.0	33.5	0.0	11.4
Cycle Q Clear Time (g_c), s	5.4	0.0	0.0	7.5	0.0	33.5	0.0	11.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	0.14	0.00	1.00
Lane Grp Cap (c), veh/h	480	0	0	257	0	687	0	282
V/C Ratio (X)	0.33	0.00	0.00	0.42	0.00	0.85	0.00	0.80
Avail Cap (c_a), veh/h	480	0	0	327	0	687	0	352
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	9.4	0.0	0.0	41.2	0.0	32.4	0.0	18.9
Incr Delay (d2), s/veh	1.8	0.0	0.0	1.1	0.0	12.5	0.0	10.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.2	0.0	0.0	42.3	0.0	44.9	0.0	29.2
1st-Term Q (Q1), veh/ln	3.3	0.0	0.0	3.0	0.0	16.7	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.1	0.0	2.4	0.0	0.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.5	0.0	0.0	3.0	0.0	19.1	0.0	5.3
%ile Storage Ratio (RQ%)	0.60	0.00	0.00	0.52	0.00	0.24	0.00	0.90
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay, s/veh	46.8
HCM 2010 LOS	D

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2043  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  			  	
Traffic Volume (veh/h)	21	31	64	40	34	43	80	1118	53	49	1106	54
Future Volume (veh/h)	21	31	64	40	34	43	80	1118	53	49	1106	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	24	35	73	48	41	52	87	1215	58	52	1164	57
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	58	300	124	87	191	150	715	3339	159	92	1442	71
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.08	0.08	0.05	0.10	0.10	0.87	1.00	1.00	0.06	0.29	0.27
Ln Grp Delay, s/veh	61.0	50.5	56.9	60.4	49.5	51.1	4.3	0.4	0.7	57.1	42.3	45.1
Ln Grp LOS	E	D	E	E	D	D	A	A	A	E	D	D
Approach Vol, veh/h		132			141			1360			1273	
Approach Delay, s/veh		55.9			53.8			0.7			43.9	
Approach LOS		E			D			A			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.7	83.9	14.1	10.3	38.5	56.0	8.2	16.2			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		9.0	47.0	30.0	9.0	43.0	13.0	4.0	35.0			
Max Allow Headway (MAH), s		4.1	4.0	4.4	4.2	4.0	4.1	4.2	4.3			
Max Q Clear (g_c+I1), s		5.7	2.0	7.7	5.4	27.9	2.9	3.7	5.9			
Green Ext Time (g_e), s		0.0	6.1	0.4	0.0	4.7	0.1	0.0	0.3			
Prob of Phs Call (p_c)		0.82	1.00	1.00	0.80	1.00	0.94	0.55	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	1.00	0.16	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1634			1634		1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			4974	3539		4967			1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			237	1458		243			1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		(Prot)			(Prot)		(Prot)	(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2043  
 06/11/2024

Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	52	0	0	48	0	87	24	0
Grp Sat Flow (s), veh/h/ln	1634	0	0	1634	0	1634	1634	0
Q Serve Time (g_s), s	3.7	0.0	0.0	3.4	0.0	0.9	1.7	0.0
Cycle Q Clear Time (g_c), s	3.7	0.0	0.0	3.4	0.0	0.9	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	92	0	0	87	0	715	58	0
V/C Ratio (X)	0.57	0.00	0.00	0.55	0.00	0.12	0.42	0.00
Avail Cap (c_a), veh/h	151	0	0	151	0	715	82	0
Upstream Filter (I)	0.43	0.00	0.00	1.00	0.00	0.82	1.00	0.00
Uniform Delay (d1), s/veh	54.7	0.0	0.0	55.0	0.0	4.3	56.2	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	5.4	0.0	0.1	4.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.1	0.0	0.0	60.4	0.0	4.3	61.0	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.0	1.5	0.0	0.4	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	0.0	1.7	0.0	0.4	0.8	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.00	0.03	0.00	0.05	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	2	0	2	0	0	1
Grp Vol (v), veh/h	0	828	35	0	794	0	0	41
Grp Sat Flow (s), veh/h/ln	0	1695	1770	0	1695	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	1.1	0.0	25.8	0.0	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	0.0	1.1	0.0	25.8	0.0	0.0	2.4
Lane Grp Cap (c), veh/h	0	2276	300	0	984	0	0	191
V/C Ratio (X)	0.00	0.36	0.12	0.00	0.81	0.00	0.00	0.21
Avail Cap (c_a), veh/h	0	2276	952	0	1282	0	0	579
Upstream Filter (I)	0.00	0.82	1.00	0.00	0.43	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	50.3	0.0	39.1	0.0	0.0	49.0
Incr Delay (d2), s/veh	0.0	0.4	0.2	0.0	3.2	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	50.5	0.0	42.3	0.0	0.0	49.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.5	0.0	12.1	0.0	0.0	1.2

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2043  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.5	0.0	12.6	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.13	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		T+R	R		T+R			R
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	445	73	0	427	0	0	52
Grp Sat Flow (s), veh/h/ln	0	1821	1458	0	1820	0	0	1458
Q Serve Time (g_s), s	0.0	0.0	5.7	0.0	25.9	0.0	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	0.0	5.7	0.0	25.9	0.0	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.13	1.00	0.00	0.13	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1223	124	0	528	0	0	150
V/C Ratio (X)	0.00	0.36	0.59	0.00	0.81	0.00	0.00	0.35
Avail Cap (c_a), veh/h	0	1223	392	0	688	0	0	453
Upstream Filter (I)	0.00	0.82	1.00	0.00	0.43	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	52.5	0.0	39.3	0.0	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.7	4.4	0.0	5.8	0.0	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	56.9	0.0	45.1	0.0	0.0	51.1
1st-Term Q (Q1), veh/ln	0.0	0.0	2.3	0.0	13.0	0.0	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.2	0.0	0.9	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	2.5	0.0	13.9	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.42	0.00	0.14	0.00	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	24.7
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2043  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	78	156	84	198	133	642	1540	146	235	1394	110
Future Volume (veh/h)	93	78	156	84	198	133	642	1540	146	235	1394	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	116	98	195	109	257	173	662	1588	151	258	1532	121
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.97	0.97	0.97	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	160	669	270	160	962	270	666	2154	607	642	2115	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.05	0.19	0.19	0.05	0.19	0.19	0.21	0.42	0.42	0.40	0.83	0.83
Ln Grp Delay, s/veh	70.8	40.3	49.0	66.8	41.4	20.0	80.2	31.1	13.0	30.7	9.2	6.7
Ln Grp LOS	E	D	D	E	D	B	F	C	B	C	A	A
Approach Vol, veh/h		409			539			2401			1911	
Approach Delay, s/veh		53.1			39.6			43.5			11.9	
Approach LOS		D			D			D			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	7	8			
Case No		3.0	2.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		54.4	28.1	10.0	26.5	29.0	53.5	10.0	26.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		48.4	10.0	4.0	32.6	23.0	35.4	4.0	32.6			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.3	4.1	4.0	4.1	4.2			
Max Q Clear (g_c+I1), s		33.1	8.9	6.0	17.3	26.8	17.2	6.3	10.3			
Green Ext Time (g_e), s		7.5	0.1	0.0	1.0	0.0	7.8	0.0	1.8			
Prob of Phs Call (p_c)		1.00	1.00	0.97	1.00	1.00	1.00	0.98	1.00			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5		7				
Mvmt Sat Flow, veh/h			3170	3170		3170		3170				
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6		8			
Mvmt Sat Flow, veh/h		5085			3539		5085		5085			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16		18			
Mvmt Sat Flow, veh/h		1434			1426		1434		1426			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	7	0			
Lane Assignment			(Prot)	(Prot)		(Prot)		(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2043  
 06/11/2024

Lanes in Grp	0	2	2	0	2	0	2	0
Grp Vol (v), veh/h	0	258	109	0	662	0	116	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	1585	0
Q Serve Time (g_s), s	0.0	6.9	4.0	0.0	24.8	0.0	4.3	0.0
Cycle Q Clear Time (g_c), s	0.0	6.9	4.0	0.0	24.8	0.0	4.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	642	160	0	666	0	160	0
V/C Ratio (X)	0.00	0.40	0.68	0.00	0.99	0.00	0.73	0.00
Avail Cap (c_a), veh/h	0	642	160	0	666	0	160	0
Upstream Filter (I)	0.00	0.93	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	30.3	55.6	0.0	46.9	0.0	55.7	0.0
Incr Delay (d2), s/veh	0.0	0.4	11.2	0.0	33.3	0.0	15.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.7	66.8	0.0	80.2	0.0	70.8	0.0
1st-Term Q (Q1), veh/ln	0.0	3.0	1.8	0.0	10.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	3.1	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.0	2.0	0.0	13.9	0.0	2.2	0.0
%ile Storage Ratio (RQ%)	0.00	0.38	0.25	0.00	1.77	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	2	0	0	4	0	6	0	8
Lane Assignment	T			T		T		T
Lanes in Grp	3	0	0	2	0	3	0	3
Grp Vol (v), veh/h	1588	0	0	98	0	1532	0	257
Grp Sat Flow (s), veh/h/ln	1695	0	0	1770	0	1695	0	1695
Q Serve Time (g_s), s	31.1	0.0	0.0	2.7	0.0	15.2	0.0	5.1
Cycle Q Clear Time (g_c), s	31.1	0.0	0.0	2.7	0.0	15.2	0.0	5.1
Lane Grp Cap (c), veh/h	2154	0	0	669	0	2115	0	962
V/C Ratio (X)	0.74	0.00	0.00	0.15	0.00	0.72	0.00	0.27
Avail Cap (c_a), veh/h	2154	0	0	1029	0	2115	0	1479
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	28.8	0.0	0.0	40.2	0.0	7.1	0.0	41.2
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.1	0.0	2.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.1	0.0	0.0	40.3	0.0	9.2	0.0	41.4
1st-Term Q (Q1), veh/ln	14.6	0.0	0.0	1.3	0.0	6.6	0.0	2.4



HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2043  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.5	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	15.0	0.0	0.0	1.4	0.0	7.0	0.0	2.4
%ile Storage Ratio (RQ%)	0.43	0.00	0.00	0.03	0.00	0.07	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	12	0	0	14	0	16	0	18
Lane Assignment	R			R		R		R
Lanes in Grp	1	0	0	1	0	1	0	1
Grp Vol (v), veh/h	151	0	0	195	0	121	0	173
Grp Sat Flow (s), veh/h/ln	1434	0	0	1426	0	1434	0	1426
Q Serve Time (g_s), s	6.0	0.0	0.0	15.3	0.0	2.0	0.0	8.3
Cycle Q Clear Time (g_c), s	6.0	0.0	0.0	15.3	0.0	2.0	0.0	8.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	607	0	0	270	0	597	0	270
V/C Ratio (X)	0.25	0.00	0.00	0.72	0.00	0.20	0.00	0.64
Avail Cap (c_a), veh/h	607	0	0	415	0	597	0	415
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	12.0	0.0	0.0	45.3	0.0	6.0	0.0	17.4
Incr Delay (d2), s/veh	1.0	0.0	0.0	3.7	0.0	0.7	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.0	0.0	0.0	49.0	0.0	6.7	0.0	20.0
1st-Term Q (Q1), veh/ln	2.8	0.0	0.0	6.0	0.0	0.7	0.0	4.6
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.3	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.0	0.0	0.0	6.3	0.0	0.9	0.0	4.8
%ile Storage Ratio (RQ%)	0.38	0.00	0.00	1.07	0.00	0.09	0.00	0.60
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	32.4
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2043+Project  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	447	117	249	525	222	175	803	145	238	1048	89
Future Volume (veh/h)	216	447	117	249	525	222	175	803	145	238	1048	89
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	223	461	121	254	536	227	190	873	158	243	1069	91
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.98	0.98	0.98	0.92	0.92	0.92	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	251	645	260	286	721	291	222	1185	480	266	1193	102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.15	0.18	0.18	0.18	0.20	0.20	0.14	0.33	0.33	0.16	0.36	0.34
Ln Grp Delay, s/veh	75.1	44.5	21.1	71.2	43.9	26.6	73.3	36.6	29.3	78.6	50.8	50.8
Ln Grp LOS	E	D	C	E	D	C	E	D	C	E	D	D
Approach Vol, veh/h		805			1017			1221			1403	
Approach Delay, s/veh		49.5			46.9			41.3			55.6	
Approach LOS		D			D			D			E	
<b>Timer:</b>		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	4	3	5	6	7	8			
Case No		3.0	2.0	3.0	2.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		41.0	22.0	24.1	23.4	19.0	44.0	21.0	26.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		35.0	16.0	24.0	17.0	13.0	38.0	15.0	26.0			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.1	4.1	4.0	4.1	4.1			
Max Q Clear (g_c+I1), s		26.1	18.2	15.5	18.8	14.6	35.9	16.8	17.7			
Green Ext Time (g_e), s		3.2	0.0	1.6	0.0	0.0	1.1	0.0	2.2			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	1.00	0.19	1.00	1.00	0.00	1.00	0.30			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1		3	5		7				
Mvmt Sat Flow, veh/h			1634		1634	1634		1634				
<b>Through Movement Data</b>												
Assigned Mvmt		2		4			6		8			
Mvmt Sat Flow, veh/h		3539		3539			3297		3539			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12		14			16		18			
Mvmt Sat Flow, veh/h		1433		1426			280		1427			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	0	3	5	0	7	0			
Lane Assignment			(Prot)		(Prot)	(Prot)		(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2043+Project  
 06/11/2024

Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	243	0	254	190	0	223	0
Grp Sat Flow (s), veh/h/ln	0	1634	0	1634	1634	0	1634	0
Q Serve Time (g_s), s	0.0	16.2	0.0	16.8	12.6	0.0	14.8	0.0
Cycle Q Clear Time (g_c), s	0.0	16.2	0.0	16.8	12.6	0.0	14.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	266	0	286	222	0	251	0
V/C Ratio (X)	0.00	0.91	0.00	0.89	0.86	0.00	0.89	0.00
Avail Cap (c_a), veh/h	0	266	0	286	222	0	251	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	45.5	0.0	44.5	46.7	0.0	45.8	0.0
Incr Delay (d2), s/veh	0.0	33.2	0.0	26.7	26.6	0.0	29.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	78.6	0.0	71.2	73.3	0.0	75.1	0.0
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	7.5	5.6	0.0	6.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.5	0.0	2.1	1.6	0.0	2.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.7	0.0	9.7	7.3	0.0	8.7	0.0
%ile Storage Ratio (RQ%)	0.00	1.24	0.00	1.23	0.93	0.00	1.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	4	0	0	6	0	8
Lane Assignment	T		T			T		T
Lanes in Grp	2	0	2	0	0	1	0	2
Grp Vol (v), veh/h	873	0	461	0	0	574	0	536
Grp Sat Flow (s), veh/h/ln	1770	0	1770	0	0	1770	0	1770
Q Serve Time (g_s), s	24.1	0.0	13.5	0.0	0.0	33.8	0.0	15.7
Cycle Q Clear Time (g_c), s	24.1	0.0	13.5	0.0	0.0	33.8	0.0	15.7
Lane Grp Cap (c), veh/h	1185	0	645	0	0	641	0	721
V/C Ratio (X)	0.74	0.00	0.71	0.00	0.00	0.90	0.00	0.74
Avail Cap (c_a), veh/h	1185	0	833	0	0	641	0	897
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	32.4	0.0	42.5	0.0	0.0	33.3	0.0	41.3
Incr Delay (d2), s/veh	4.1	0.0	2.1	0.0	0.0	17.5	0.0	2.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	36.6	0.0	44.5	0.0	0.0	50.8	0.0	43.9
1st-Term Q (Q1), veh/ln	11.8	0.0	6.6	0.0	0.0	16.4	0.0	7.7

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

PM 2043+Project  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.7	0.0	0.2	0.0	0.0	3.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	12.4	0.0	6.8	0.0	0.0	19.5	0.0	7.9
%ile Storage Ratio (RQ%)	0.12	0.00	0.04	0.00	0.00	0.25	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**





























Assigned Mvmt	12	0	14	0	0	16	0	18
Lane Assignment	R		R			T+R		R
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	158	0	121	0	0	586	0	227
Grp Sat Flow (s), veh/h/ln	1433	0	1426	0	0	1807	0	1427
Q Serve Time (g_s), s	9.1	0.0	5.9	0.0	0.0	33.9	0.0	11.0
Cycle Q Clear Time (g_c), s	9.1	0.0	5.9	0.0	0.0	33.9	0.0	11.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	1.00	0.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	480	0	260	0	0	654	0	291
V/C Ratio (X)	0.33	0.00	0.47	0.00	0.00	0.90	0.00	0.78
Avail Cap (c_a), veh/h	480	0	335	0	0	654	0	362
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	27.5	0.0	19.8	0.0	0.0	33.4	0.0	18.1
Incr Delay (d2), s/veh	1.8	0.0	1.3	0.0	0.0	17.3	0.0	8.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.3	0.0	21.1	0.0	0.0	50.8	0.0	26.6
1st-Term Q (Q1), veh/ln	3.6	0.0	2.3	0.0	0.0	16.8	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	0.0	3.2	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.8	0.0	2.4	0.0	0.0	19.9	0.0	5.0
%ile Storage Ratio (RQ%)	0.65	0.00	0.40	0.00	0.00	0.25	0.00	0.84
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	48.6
HCM 2010 LOS	D

HCM 2010 Signalized Intersection Capacity Analysis  
2: Allen Rd & Palm Ave

PM 2043+Project  
06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  			  	
Traffic Volume (veh/h)	21	31	64	40	34	45	80	1138	53	50	1118	54
Future Volume (veh/h)	21	31	64	40	34	45	80	1138	53	50	1118	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	24	35	73	48	41	54	87	1237	58	53	1177	57
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	59	303	125	87	193	151	702	3313	155	94	1456	70
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.09	0.09	0.05	0.10	0.10	0.86	1.00	1.00	0.06	0.29	0.28
Ln Grp Delay, s/veh	59.3	49.1	55.3	58.8	48.2	49.9	4.8	0.4	0.7	55.3	40.7	43.1
Ln Grp LOS	E	D	E	E	D	D	A	A	A	E	D	D
Approach Vol, veh/h		132			143			1382			1287	
Approach Delay, s/veh		54.4			52.4			0.8			42.1	
Approach LOS		D			D			A			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.7	81.2	13.9	10.2	38.0	53.9	8.2	16.0			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		8.0	46.0	30.0	8.0	41.0	13.0	4.0	34.0			
Max Allow Headway (MAH), s		4.1	4.0	4.4	4.2	4.0	4.1	4.2	4.3			
Max Q Clear (g_c+I1), s		5.7	2.0	7.6	5.3	27.5	3.0	3.7	6.0			
Green Ext Time (g_e), s		0.0	6.3	0.4	0.0	4.5	0.1	0.0	0.3			
Prob of Phs Call (p_c)		0.82	1.00	1.00	0.79	1.00	0.94	0.54	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	1.00	0.21	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1634			1634		1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			4978	3539		4970			1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			233	1458		241			1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		(Prot)			(Prot)		(Prot)	(Prot)				

Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	53	0	0	48	0	87	24	0
Grp Sat Flow (s), veh/h/ln	1634	0	0	1634	0	1634	1634	0
Q Serve Time (g_s), s	3.7	0.0	0.0	3.3	0.0	1.0	1.7	0.0
Cycle Q Clear Time (g_c), s	3.7	0.0	0.0	3.3	0.0	1.0	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	94	0	0	87	0	702	59	0
V/C Ratio (X)	0.57	0.00	0.00	0.55	0.00	0.12	0.41	0.00
Avail Cap (c_a), veh/h	141	0	0	141	0	702	85	0
Upstream Filter (I)	0.37	0.00	0.00	1.00	0.00	0.80	1.00	0.00
Uniform Delay (d1), s/veh	53.3	0.0	0.0	53.5	0.0	4.7	54.7	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	5.3	0.0	0.1	4.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.3	0.0	0.0	58.8	0.0	4.8	59.3	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.0	1.5	0.0	0.4	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	0.0	1.6	0.0	0.4	0.8	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.00	0.03	0.00	0.06	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	2	0	2	0	0	1
Grp Vol (v), veh/h	0	842	35	0	803	0	0	41
Grp Sat Flow (s), veh/h/ln	0	1695	1770	0	1695	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	1.1	0.0	25.4	0.0	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	0.0	1.1	0.0	25.4	0.0	0.0	2.3
Lane Grp Cap (c), veh/h	0	2256	303	0	993	0	0	193
V/C Ratio (X)	0.00	0.37	0.12	0.00	0.81	0.00	0.00	0.21
Avail Cap (c_a), veh/h	0	2256	976	0	1257	0	0	578
Upstream Filter (I)	0.00	0.80	1.00	0.00	0.37	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	49.0	0.0	38.0	0.0	0.0	47.7
Incr Delay (d2), s/veh	0.0	0.4	0.2	0.0	2.8	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	49.1	0.0	40.7	0.0	0.0	48.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.5	0.0	11.9	0.0	0.0	1.2

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

PM 2043+Project  
 06/11/2024

























2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.5	0.0	12.3	0.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.12	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		T+R	R		T+R			R
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	453	73	0	431	0	0	54
Grp Sat Flow (s), veh/h/ln	0	1822	1458	0	1820	0	0	1458
Q Serve Time (g_s), s	0.0	0.0	5.6	0.0	25.5	0.0	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	0.0	5.6	0.0	25.5	0.0	0.0	4.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.13	1.00	0.00	0.13	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1212	125	0	533	0	0	151
V/C Ratio (X)	0.00	0.37	0.58	0.00	0.81	0.00	0.00	0.36
Avail Cap (c_a), veh/h	0	1212	402	0	675	0	0	453
Upstream Filter (I)	0.00	0.80	1.00	0.00	0.37	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	51.0	0.0	38.1	0.0	0.0	48.4
Incr Delay (d2), s/veh	0.0	0.7	4.3	0.0	5.0	0.0	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	55.3	0.0	43.1	0.0	0.0	49.9
1st-Term Q (Q1), veh/ln	0.0	0.0	2.3	0.0	12.8	0.0	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.0	0.7	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	2.4	0.0	13.6	0.0	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.41	0.00	0.13	0.00	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	23.8
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	78	156	84	198	137	642	1554	146	238	1402	111
Future Volume (veh/h)	95	78	156	84	198	137	642	1554	146	238	1402	111
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	119	98	195	109	257	178	662	1602	151	262	1541	122
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.97	0.97	0.97	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	164	675	272	164	969	272	656	2078	586	669	2099	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.05	0.19	0.19	0.05	0.19	0.19	0.21	0.41	0.41	0.42	0.83	0.83
Ln Grp Delay, s/veh	69.0	39.2	47.5	63.7	40.2	18.9	83.5	32.5	13.4	28.7	9.5	6.9
Ln Grp LOS	E	D	D	E	D	B	F	C	B	C	A	A
Approach Vol, veh/h		412			544			2415			1925	
Approach Delay, s/veh		51.7			37.9			45.3			11.9	
Approach LOS		D			D			D			B	
<b>Timer:</b>		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	7	8			
Case No		3.0	2.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		51.4	28.5	10.0	26.1	28.0	51.9	10.0	26.1			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		45.4	10.0	4.0	32.6	22.0	33.4	4.0	32.6			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.3	4.1	4.0	4.1	4.2			
Max Q Clear (g_c+I1), s		33.5	8.6	5.9	16.9	26.0	17.6	6.3	10.2			
Green Ext Time (g_e), s		6.5	0.1	0.0	1.0	0.0	7.3	0.0	1.8			
Prob of Phs Call (p_c)		1.00	1.00	0.97	1.00	1.00	1.00	0.98	1.00			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5		7				
Mvmt Sat Flow, veh/h			3170	3170		3170		3170				
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6		8			
Mvmt Sat Flow, veh/h		5085			3539		5085		5085			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16		18			
Mvmt Sat Flow, veh/h		1434			1426		1434		1426			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	7	0			
Lane Assignment			(Prot)	(Prot)		(Prot)		(Prot)				



HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2043+Project  
 06/11/2024

Lanes in Grp	0	2	2	0	2	0	2	0
Grp Vol (v), veh/h	0	262	109	0	662	0	119	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	1585	0
Q Serve Time (g_s), s	0.0	6.6	3.9	0.0	24.0	0.0	4.3	0.0
Cycle Q Clear Time (g_c), s	0.0	6.6	3.9	0.0	24.0	0.0	4.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	669	164	0	656	0	164	0
V/C Ratio (X)	0.00	0.39	0.66	0.00	1.01	0.00	0.73	0.00
Avail Cap (c_a), veh/h	0	669	164	0	656	0	164	0
Upstream Filter (I)	0.00	0.93	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	28.4	54.0	0.0	46.0	0.0	54.2	0.0
Incr Delay (d2), s/veh	0.0	0.3	9.7	0.0	37.5	0.0	14.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.7	63.7	0.0	83.5	0.0	69.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.9	1.7	0.0	10.5	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	3.4	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.9	1.9	0.0	13.9	0.0	2.2	0.0
%ile Storage Ratio (RQ%)	0.00	0.37	0.25	0.00	1.76	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	0	6	0	8
Lane Assignment	T			T		T		T
Lanes in Grp	3	0	0	2	0	3	0	3
Grp Vol (v), veh/h	1602	0	0	98	0	1541	0	257
Grp Sat Flow (s), veh/h/ln	1695	0	0	1770	0	1695	0	1695
Q Serve Time (g_s), s	31.5	0.0	0.0	2.7	0.0	15.6	0.0	5.0
Cycle Q Clear Time (g_c), s	31.5	0.0	0.0	2.7	0.0	15.6	0.0	5.0
Lane Grp Cap (c), veh/h	2078	0	0	675	0	2099	0	969
V/C Ratio (X)	0.77	0.00	0.00	0.15	0.00	0.73	0.00	0.27
Avail Cap (c_a), veh/h	2078	0	0	1056	0	2099	0	1517
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	29.6	0.0	0.0	39.1	0.0	7.3	0.0	40.0
Incr Delay (d2), s/veh	2.8	0.0	0.0	0.1	0.0	2.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	32.5	0.0	0.0	39.2	0.0	9.5	0.0	40.2
1st-Term Q (Q1), veh/ln	14.7	0.0	0.0	1.3	0.0	6.8	0.0	2.3

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

PM 2043+Project  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.5	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	15.2	0.0	0.0	1.3	0.0	7.2	0.0	2.3
%ile Storage Ratio (RQ%)	0.44	0.00	0.00	0.03	0.00	0.07	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	12	0	0	14	0	16	0	18
Lane Assignment	R			R		R		R
Lanes in Grp	1	0	0	1	0	1	0	1
Grp Vol (v), veh/h	151	0	0	195	0	122	0	178
Grp Sat Flow (s), veh/h/ln	1434	0	0	1426	0	1434	0	1426
Q Serve Time (g_s), s	6.0	0.0	0.0	14.9	0.0	2.1	0.0	8.2
Cycle Q Clear Time (g_c), s	6.0	0.0	0.0	14.9	0.0	2.1	0.0	8.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	586	0	0	272	0	592	0	272
V/C Ratio (X)	0.26	0.00	0.00	0.72	0.00	0.21	0.00	0.65
Avail Cap (c_a), veh/h	586	0	0	425	0	592	0	425
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	12.3	0.0	0.0	44.0	0.0	6.1	0.0	16.2
Incr Delay (d2), s/veh	1.1	0.0	0.0	3.5	0.0	0.7	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.4	0.0	0.0	47.5	0.0	6.9	0.0	18.9
1st-Term Q (Q1), veh/ln	2.8	0.0	0.0	5.8	0.0	0.8	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.3	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.0	0.0	0.0	6.1	0.0	0.9	0.0	4.8
%ile Storage Ratio (RQ%)	0.38	0.00	0.00	1.03	0.00	0.09	0.00	0.60
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	32.9
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
1: Allen Rd & Rosedale Hwy

AM 2023  
06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	288	82	91	177	77	91	483	51	144	607	40
Future Volume (veh/h)	114	288	82	91	177	77	91	483	51	144	607	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	116	294	84	102	199	87	96	508	54	171	723	48
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.89	0.89	0.89	0.95	0.95	0.95	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	180	561	226	164	527	212	163	1426	578	241	1516	101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.16	0.16	0.10	0.15	0.15	0.10	0.40	0.40	0.15	0.45	0.43
Ln Grp Delay, s/veh	39.6	33.2	17.0	40.0	32.7	15.3	39.5	18.2	5.8	38.3	18.2	18.2
Ln Grp LOS	D	C	B	D	C	B	D	B	A	D	B	B
Approach Vol, veh/h		494			388			658			942	
Approach Delay, s/veh		31.9			30.7			20.3			21.9	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	6	5	7	8			
Case No		3.0	2.0	2.0	3.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		37.8	16.4	12.4	17.3	41.8	12.4	13.2	16.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		31.8	15.0	10.0	24.2	35.8	11.0	10.0	24.2			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.1	4.0	4.1	4.1	4.1			
Max Q Clear (g_c+I1), s		10.4	10.4	7.0	8.4	14.7	6.7	7.7	6.3			
Green Ext Time (g_e), s		2.2	0.2	0.1	1.3	2.8	0.1	0.1	1.0			
Prob of Phs Call (p_c)		1.00	0.98	0.91	1.00	1.00	0.89	0.93	1.00			
Prob of Max Out (p_x)		0.00	0.66	1.00	0.00	0.00	0.82	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3			5	7				
Mvmt Sat Flow, veh/h			1634	1634			1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt		2			4	6			8			
Mvmt Sat Flow, veh/h		3539			3539	3365			3539			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14	16			18			
Mvmt Sat Flow, veh/h		1434			1423	223			1422			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	0	5	7	0			
Lane Assignment			(Prot)	(Prot)			(Prot)	(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2023  
 06/11/2024

Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	171	102	0	0	96	116	0
Grp Sat Flow (s), veh/h/ln	0	1634	1634	0	0	1634	1634	0
Q Serve Time (g_s), s	0.0	8.4	5.0	0.0	0.0	4.7	5.7	0.0
Cycle Q Clear Time (g_c), s	0.0	8.4	5.0	0.0	0.0	4.7	5.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	241	164	0	0	163	180	0
V/C Ratio (X)	0.00	0.71	0.62	0.00	0.00	0.59	0.64	0.00
Avail Cap (c_a), veh/h	0	331	234	0	0	253	234	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	34.1	36.2	0.0	0.0	36.1	35.8	0.0
Incr Delay (d2), s/veh	0.0	4.3	3.8	0.0	0.0	3.4	3.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	38.3	40.0	0.0	0.0	39.5	39.6	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	2.3	0.0	0.0	2.1	2.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.2	0.0	0.0	0.2	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.0	2.4	0.0	0.0	2.3	2.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.51	0.31	0.00	0.00	0.29	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	6	0	0	8
Lane Assignment	T			T	T			T
Lanes in Grp	2	0	0	2	1	0	0	2
Grp Vol (v), veh/h	508	0	0	294	380	0	0	199
Grp Sat Flow (s), veh/h/ln	1770	0	0	1770	1770	0	0	1770
Q Serve Time (g_s), s	8.4	0.0	0.0	6.4	12.6	0.0	0.0	4.3
Cycle Q Clear Time (g_c), s	8.4	0.0	0.0	6.4	12.6	0.0	0.0	4.3
Lane Grp Cap (c), veh/h	1426	0	0	561	797	0	0	527
V/C Ratio (X)	0.36	0.00	0.00	0.52	0.48	0.00	0.00	0.38
Avail Cap (c_a), veh/h	1426	0	0	1105	797	0	0	1105
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	17.5	0.0	0.0	32.4	16.1	0.0	0.0	32.2
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.8	2.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.2	0.0	0.0	33.2	18.2	0.0	0.0	32.7
1st-Term Q (Q1), veh/ln	4.1	0.0	0.0	3.1	6.1	0.0	0.0	2.1

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2023  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	4.2	0.0	0.0	3.2	6.6	0.0	0.0	2.1
%ile Storage Ratio (RQ%)	0.04	0.00	0.00	0.02	0.08	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	12	0	0	14	16	0	0	18
Lane Assignment	R			R	T+R			R
Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	54	0	0	84	391	0	0	87
Grp Sat Flow (s), veh/h/ln	1434	0	0	1423	1819	0	0	1422
Q Serve Time (g_s), s	1.2	0.0	0.0	3.2	12.7	0.0	0.0	3.1
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	3.2	12.7	0.0	0.0	3.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.12	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	578	0	0	226	819	0	0	212
V/C Ratio (X)	0.09	0.00	0.00	0.37	0.48	0.00	0.00	0.41
Avail Cap (c_a), veh/h	578	0	0	444	819	0	0	444
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	5.5	0.0	0.0	16.0	16.2	0.0	0.0	14.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.0	2.0	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	5.8	0.0	0.0	17.0	18.2	0.0	0.0	15.3
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	1.2	6.3	0.0	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.5	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.8	0.0	0.0	1.3	6.8	0.0	0.0	1.8
%ile Storage Ratio (RQ%)	0.13	0.00	0.00	0.22	0.09	0.00	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	24.8
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
2: Allen Rd & Palm Ave

AM 2023  
06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	28	78	46	12	31	23	559	13	17	756	15
Future Volume (veh/h)	25	28	78	46	12	31	23	559	13	17	756	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	28	31	88	60	16	40	25	608	14	20	911	18
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.77	0.77	0.77	0.92	0.92	0.92	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	67	356	147	106	232	182	719	3278	75	60	1218	24
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.10	0.10	0.07	0.12	0.12	0.88	1.00	1.00	0.04	0.24	0.22
Ln Grp Delay, s/veh	51.8	41.7	47.8	50.9	39.5	40.8	3.4	0.2	0.3	50.8	41.6	46.0
Ln Grp LOS	D	D	D	D	D	D	A	A	A	D	D	D
Approach Vol, veh/h		147			116			647			949	
Approach Delay, s/veh		47.3			45.9			0.4			43.3	
Approach LOS		D			D			A			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		7.7	69.4	14.3	10.6	28.2	48.9	8.2	16.7			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		5.0	34.0	30.0	9.0	34.0	5.0	5.0	34.0			
Max Allow Headway (MAH), s		4.1	4.0	4.4	4.2	4.0	4.1	4.2	4.4			
Max Q Clear (g_c+I1), s		3.2	2.0	7.9	5.6	18.8	2.2	3.7	4.5			
Green Ext Time (g_e), s		0.0	2.4	0.4	0.0	3.4	0.0	0.0	0.2			
Prob of Phs Call (p_c)		0.43	1.00	1.00	0.82	1.00	0.51	0.55	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	1.00	0.07	1.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1634			1634		1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			5115	3539		5134			1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			117	1458		101			1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		(Prot)			(Prot)		(Prot)	(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

AM 2023  
 06/11/2024

Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	20	0	0	60	0	25	28	0
Grp Sat Flow (s), veh/h/ln	1634	0	0	1634	0	1634	1634	0
Q Serve Time (g_s), s	1.2	0.0	0.0	3.6	0.0	0.2	1.7	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	3.6	0.0	0.2	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	60	0	0	106	0	719	67	0
V/C Ratio (X)	0.33	0.00	0.00	0.56	0.00	0.03	0.42	0.00
Avail Cap (c_a), veh/h	112	0	0	176	0	719	112	0
Upstream Filter (I)	0.88	0.00	0.00	1.00	0.00	0.99	1.00	0.00
Uniform Delay (d1), s/veh	47.9	0.0	0.0	46.3	0.0	3.4	47.7	0.0
Incr Delay (d2), s/veh	2.8	0.0	0.0	4.6	0.0	0.0	4.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.8	0.0	0.0	50.9	0.0	3.4	51.8	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.0	1.6	0.0	0.1	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.0	1.8	0.0	0.1	0.8	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	0.04	0.00	0.01	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	2	0	2	0	0	1
Grp Vol (v), veh/h	0	403	31	0	601	0	0	16
Grp Sat Flow (s), veh/h/ln	0	1695	1770	0	1695	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.8	0.0	16.8	0.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.8	0.0	16.8	0.0	0.0	0.8
Lane Grp Cap (c), veh/h	0	2173	356	0	804	0	0	232
V/C Ratio (X)	0.00	0.19	0.09	0.00	0.75	0.00	0.00	0.07
Avail Cap (c_a), veh/h	0	2173	1110	0	1197	0	0	657
Upstream Filter (I)	0.00	0.99	1.00	0.00	0.88	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	41.6	0.0	36.1	0.0	0.0	39.4
Incr Delay (d2), s/veh	0.0	0.2	0.1	0.0	5.5	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	41.7	0.0	41.6	0.0	0.0	39.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.4	0.0	7.9	0.0	0.0	0.4

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

AM 2023  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.4	0.0	8.5	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.08	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		T+R	R		T+R			R
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	219	88	0	328	0	0	40
Grp Sat Flow (s), veh/h/ln	0	1842	1458	0	1845	0	0	1458
Q Serve Time (g_s), s	0.0	0.0	5.9	0.0	16.8	0.0	0.0	2.5
Cycle Q Clear Time (g_c), s	0.0	0.0	5.9	0.0	16.8	0.0	0.0	2.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.06	1.00	0.00	0.05	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1181	147	0	438	0	0	182
V/C Ratio (X)	0.00	0.19	0.60	0.00	0.75	0.00	0.00	0.22
Avail Cap (c_a), veh/h	0	1181	458	0	651	0	0	515
Upstream Filter (I)	0.00	0.99	1.00	0.00	0.88	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	43.9	0.0	36.1	0.0	0.0	40.2
Incr Delay (d2), s/veh	0.0	0.3	3.9	0.0	9.9	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	47.8	0.0	46.0	0.0	0.0	40.8
1st-Term Q (Q1), veh/ln	0.0	0.0	2.4	0.0	8.6	0.0	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	1.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	2.5	0.0	9.8	0.0	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.43	0.00	0.10	0.00	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

























**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	28.8
HCM 2010 LOS	C



HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

AM 2023  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	83	346	90	49	66	105	525	28	75	843	17
Future Volume (veh/h)	48	83	346	90	49	66	105	525	28	75	843	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	61	105	438	96	52	70	117	583	31	85	958	19
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	875	1203	487	186	625	174	218	1795	506	290	1911	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.28	0.34	0.34	0.06	0.12	0.12	0.07	0.35	0.35	0.18	0.75	0.75
Ln Grp Delay, s/veh	27.3	22.9	49.2	49.0	39.7	42.8	48.6	24.6	11.8	39.4	9.8	1.2
Ln Grp LOS	C	C	D	D	D	D	D	C	B	D	A	A
Approach Vol, veh/h		604			218			731			1062	
Approach Delay, s/veh		42.4			44.8			27.9			12.0	
Approach LOS		D			D			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	8	7			
Case No		3.0	2.0	2.0	3.0	2.0	3.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		40.0	13.3	10.0	38.7	11.0	42.3	16.5	32.1			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		34.0	4.0	4.0	36.0	5.0	33.0	36.0	4.0			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.3	4.1	4.0	4.3	4.1			
Max Q Clear (g_c+I1), s		10.5	4.4	5.0	31.6	5.6	9.7	6.6	3.4			
Green Ext Time (g_e), s		2.6	0.0	0.0	1.0	0.0	4.5	0.5	0.0			
Prob of Phs Call (p_c)		1.00	0.91	0.93	1.00	0.96	1.00	1.00	0.82			
Prob of Max Out (p_x)		0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5			7			
Mvmt Sat Flow, veh/h			3170	3170		3170			3170			
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6	8				
Mvmt Sat Flow, veh/h		5085			3539		5085	5085				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16	18				
Mvmt Sat Flow, veh/h		1433			1433		1433	1418				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	0	7			
Lane Assignment			(Prot)	(Prot)		(Prot)			(Prot)			

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

AM 2023  
 06/11/2024

Lanes in Grp	0	2	2	0	2	0	0	2
Grp Vol (v), veh/h	0	85	96	0	117	0	0	61
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	2.4	3.0	0.0	3.6	0.0	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	2.4	3.0	0.0	3.6	0.0	0.0	1.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	290	186	0	218	0	0	875
V/C Ratio (X)	0.00	0.29	0.51	0.00	0.54	0.00	0.00	0.07
Avail Cap (c_a), veh/h	0	290	186	0	218	0	0	875
Upstream Filter (I)	0.00	0.97	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	38.8	46.6	0.0	45.9	0.0	0.0	27.3
Incr Delay (d2), s/veh	0.0	0.5	2.4	0.0	2.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.4	49.0	0.0	48.6	0.0	0.0	27.3
1st-Term Q (Q1), veh/ln	0.0	1.0	1.3	0.0	1.6	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	1.4	0.0	1.7	0.0	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.13	0.17	0.00	0.21	0.00	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	0	6	8	0
Lane Assignment	T			T		T	T	
Lanes in Grp	3	0	0	2	0	3	3	0
Grp Vol (v), veh/h	583	0	0	105	0	958	52	0
Grp Sat Flow (s), veh/h/ln	1695	0	0	1770	0	1695	1695	0
Q Serve Time (g_s), s	8.5	0.0	0.0	2.1	0.0	7.7	0.9	0.0
Cycle Q Clear Time (g_c), s	8.5	0.0	0.0	2.1	0.0	7.7	0.9	0.0
Lane Grp Cap (c), veh/h	1795	0	0	1203	0	1911	625	0
V/C Ratio (X)	0.32	0.00	0.00	0.09	0.00	0.50	0.08	0.00
Avail Cap (c_a), veh/h	1795	0	0	1319	0	1911	1895	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.97	1.00	0.00
Uniform Delay (d1), s/veh	24.1	0.0	0.0	22.9	0.0	8.9	39.6	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.0	0.0	0.9	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.6	0.0	0.0	22.9	0.0	9.8	39.7	0.0
1st-Term Q (Q1), veh/ln	4.0	0.0	0.0	1.0	0.0	3.4	0.4	0.0

HCM 2010 Signalized Intersection Capacity Analysis  
3: Allen Rd & Brimhall Rd

AM 2023  
06/11/2024

2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.1	0.0	0.0	1.0	0.0	3.5	0.4	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.00	0.02	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	12	0	0	14	0	16	18	0
Lane Assignment	R			R		R	R	
Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	31	0	0	438	0	19	70	0
Grp Sat Flow (s), veh/h/ln	1433	0	0	1433	0	1433	1418	0
Q Serve Time (g_s), s	1.1	0.0	0.0	29.6	0.0	0.1	4.6	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	0.0	29.6	0.0	0.1	4.6	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	506	0	0	487	0	539	174	0
V/C Ratio (X)	0.06	0.00	0.00	0.90	0.00	0.04	0.40	0.00
Avail Cap (c_a), veh/h	506	0	0	534	0	539	528	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.97	1.00	0.00
Uniform Delay (d1), s/veh	11.5	0.0	0.0	32.0	0.0	1.1	41.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	17.2	0.0	0.1	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.8	0.0	0.0	49.2	0.0	1.2	42.8	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	0.0	11.7	0.0	0.1	1.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.0	14.0	0.0	0.1	1.9	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	2.38	0.00	0.02	0.24	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay, s/veh	26.2
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2023+Project  
 06/11/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	302	104	91	182	77	98	483	51	144	607	42
Future Volume (veh/h)	121	302	104	91	182	77	98	483	51	144	607	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	123	308	106	102	204	87	103	508	54	171	723	50
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.89	0.89	0.89	0.95	0.95	0.95	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	188	576	232	164	524	211	182	1417	574	240	1463	101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.16	0.16	0.10	0.15	0.15	0.11	0.40	0.40	0.15	0.44	0.41
Ln Grp Delay, s/veh	39.6	33.2	17.0	40.2	33.0	15.5	38.3	18.4	5.9	39.6	19.4	19.4
Ln Grp LOS	D	C	B	D	C	B	D	B	A	D	B	B
Approach Vol, veh/h		537			393			665			944	
Approach Delay, s/veh		31.4			31.0			20.5			23.1	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	6	5	7	8			
Case No		3.0	2.0	2.0	3.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		37.8	16.4	12.5	17.7	40.8	13.4	13.7	16.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		31.8	14.0	11.0	24.2	34.8	11.0	11.0	24.2			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.1	4.0	4.1	4.1	4.1			
Max Q Clear (g_c+I1), s		10.5	10.4	7.1	8.7	15.1	7.0	8.1	6.4			
Green Ext Time (g_e), s		2.2	0.2	0.1	1.4	2.7	0.1	0.1	1.0			
Prob of Phs Call (p_c)		1.00	0.98	0.91	1.00	1.00	0.91	0.94	1.00			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3			5	7				
Mvmt Sat Flow, veh/h			1634	1634			1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt		2			4	6			8			
Mvmt Sat Flow, veh/h		3539			3539	3355			3539			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14	16			18			
Mvmt Sat Flow, veh/h		1434			1424	232			1422			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	0	5	7	0			
Lane Assignment			(Prot)	(Prot)			(Prot)	(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2023+Project  
 06/11/2024

Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	171	102	0	0	103	123	0
Grp Sat Flow (s), veh/h/ln	0	1634	1634	0	0	1634	1634	0
Q Serve Time (g_s), s	0.0	8.4	5.1	0.0	0.0	5.0	6.1	0.0
Cycle Q Clear Time (g_c), s	0.0	8.4	5.1	0.0	0.0	5.0	6.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	240	164	0	0	182	188	0
V/C Ratio (X)	0.00	0.71	0.62	0.00	0.00	0.57	0.65	0.00
Avail Cap (c_a), veh/h	0	310	252	0	0	252	252	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	34.3	36.4	0.0	0.0	35.6	35.7	0.0
Incr Delay (d2), s/veh	0.0	5.3	3.8	0.0	0.0	2.8	3.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.6	40.2	0.0	0.0	38.3	39.6	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	2.3	0.0	0.0	2.3	2.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.2	0.0	0.0	0.1	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.2	2.4	0.0	0.0	2.4	2.9	0.0
%ile Storage Ratio (RQ%)	0.00	0.53	0.31	0.00	0.00	0.31	0.37	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	6	0	0	8
Lane Assignment	T			T	T			T
Lanes in Grp	2	0	0	2	1	0	0	2
Grp Vol (v), veh/h	508	0	0	308	381	0	0	204
Grp Sat Flow (s), veh/h/ln	1770	0	0	1770	1770	0	0	1770
Q Serve Time (g_s), s	8.5	0.0	0.0	6.7	13.1	0.0	0.0	4.4
Cycle Q Clear Time (g_c), s	8.5	0.0	0.0	6.7	13.1	0.0	0.0	4.4
Lane Grp Cap (c), veh/h	1417	0	0	576	772	0	0	524
V/C Ratio (X)	0.36	0.00	0.00	0.53	0.49	0.00	0.00	0.39
Avail Cap (c_a), veh/h	1417	0	0	1099	772	0	0	1099
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	17.7	0.0	0.0	32.4	17.1	0.0	0.0	32.5
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.8	2.3	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.4	0.0	0.0	33.2	19.4	0.0	0.0	33.0
1st-Term Q (Q1), veh/ln	4.2	0.0	0.0	3.3	6.4	0.0	0.0	2.2

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2023+Project  
 06/11/2024

























2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	4.3	0.0	0.0	3.4	6.8	0.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.04	0.00	0.00	0.02	0.09	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	12	0	0	14	16	0	0	18
Lane Assignment	R			R	T+R			R
Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	54	0	0	106	392	0	0	87
Grp Sat Flow (s), veh/h/ln	1434	0	0	1424	1817	0	0	1422
Q Serve Time (g_s), s	1.2	0.0	0.0	4.0	13.1	0.0	0.0	3.1
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	4.0	13.1	0.0	0.0	3.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.13	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	574	0	0	232	792	0	0	211
V/C Ratio (X)	0.09	0.00	0.00	0.46	0.49	0.00	0.00	0.41
Avail Cap (c_a), veh/h	574	0	0	442	792	0	0	441
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	5.6	0.0	0.0	15.5	17.2	0.0	0.0	14.2
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.4	2.2	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	5.9	0.0	0.0	17.0	19.4	0.0	0.0	15.5
1st-Term Q (Q1), veh/ln	0.8	0.0	0.0	1.5	6.5	0.0	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.5	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.8	0.0	0.0	1.6	7.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.14	0.00	0.00	0.28	0.09	0.00	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	25.4
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	28	78	46	12	32	23	565	13	19	777	15
Future Volume (veh/h)	25	28	78	46	12	32	23	565	13	19	777	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	28	31	88	60	16	42	25	614	14	23	936	18
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.77	0.77	0.77	0.92	0.92	0.92	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	67	355	146	106	232	181	716	3281	75	62	1240	24
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.10	0.10	0.06	0.12	0.12	0.88	1.00	1.00	0.04	0.24	0.22
Ln Grp Delay, s/veh	52.4	42.2	48.3	51.4	40.0	41.3	3.6	0.2	0.3	51.5	41.8	46.3
Ln Grp LOS	D	D	D	D	D	D	A	A	A	D	D	D
Approach Vol, veh/h		147			118			653			977	
Approach Delay, s/veh		47.8			46.3			0.4			43.6	
Approach LOS		D			D			A			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		7.9	70.1	14.3	10.7	28.9	49.1	8.2	16.8			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		6.0	34.0	30.0	9.0	34.0	6.0	6.0	33.0			
Max Allow Headway (MAH), s		4.1	4.0	4.4	4.2	4.0	4.1	4.2	4.4			
Max Q Clear (g_c+I1), s		3.4	2.0	8.0	5.7	19.4	2.2	3.7	4.7			
Green Ext Time (g_e), s		0.0	2.5	0.4	0.0	3.4	0.0	0.0	0.2			
Prob of Phs Call (p_c)		0.48	1.00	1.00	0.82	1.00	0.51	0.55	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	1.00	0.08	1.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1634			1634		1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			5116	3539		5137			1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			116	1458		99			1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		(Prot)			(Prot)		(Prot)	(Prot)				

Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	23	0	0	60	0	25	28	0
Grp Sat Flow (s), veh/h/ln	1634	0	0	1634	0	1634	1634	0
Q Serve Time (g_s), s	1.4	0.0	0.0	3.7	0.0	0.2	1.7	0.0
Cycle Q Clear Time (g_c), s	1.4	0.0	0.0	3.7	0.0	0.2	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	62	0	0	106	0	716	67	0
V/C Ratio (X)	0.37	0.00	0.00	0.57	0.00	0.03	0.42	0.00
Avail Cap (c_a), veh/h	127	0	0	175	0	716	127	0
Upstream Filter (I)	0.87	0.00	0.00	1.00	0.00	0.99	1.00	0.00
Uniform Delay (d1), s/veh	48.3	0.0	0.0	46.8	0.0	3.6	48.2	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	4.7	0.0	0.0	4.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	51.5	0.0	0.0	51.4	0.0	3.6	52.4	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	0.0	1.7	0.0	0.1	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.0	1.8	0.0	0.1	0.9	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.00	0.04	0.00	0.01	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	2	0	2	0	0	1
Grp Vol (v), veh/h	0	406	31	0	618	0	0	16
Grp Sat Flow (s), veh/h/ln	0	1695	1770	0	1695	0	0	1863
Q Serve Time (g_s), s	0.0	0.0	0.8	0.0	17.4	0.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.8	0.0	17.4	0.0	0.0	0.8
Lane Grp Cap (c), veh/h	0	2174	355	0	818	0	0	232
V/C Ratio (X)	0.00	0.19	0.09	0.00	0.75	0.00	0.00	0.07
Avail Cap (c_a), veh/h	0	2174	1100	0	1185	0	0	633
Upstream Filter (I)	0.00	0.99	1.00	0.00	0.87	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	42.1	0.0	36.2	0.0	0.0	39.8
Incr Delay (d2), s/veh	0.0	0.2	0.1	0.0	5.6	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	42.2	0.0	41.8	0.0	0.0	40.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.4	0.0	8.1	0.0	0.0	0.4



2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.4	0.0	8.8	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		T+R	R		T+R			R
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	222	88	0	336	0	0	42
Grp Sat Flow (s), veh/h/ln	0	1842	1458	0	1845	0	0	1458
Q Serve Time (g_s), s	0.0	0.0	6.0	0.0	17.4	0.0	0.0	2.7
Cycle Q Clear Time (g_c), s	0.0	0.0	6.0	0.0	17.4	0.0	0.0	2.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.06	1.00	0.00	0.05	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1182	146	0	445	0	0	181
V/C Ratio (X)	0.00	0.19	0.60	0.00	0.76	0.00	0.00	0.23
Avail Cap (c_a), veh/h	0	1182	453	0	645	0	0	496
Upstream Filter (I)	0.00	0.99	1.00	0.00	0.87	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	44.4	0.0	36.3	0.0	0.0	40.7
Incr Delay (d2), s/veh	0.0	0.3	3.9	0.0	10.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.3	48.3	0.0	46.3	0.0	0.0	41.3
1st-Term Q (Q1), veh/ln	0.0	0.0	2.4	0.0	8.9	0.0	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	1.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	2.5	0.0	10.1	0.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.43	0.00	0.10	0.00	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	29.2
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
3: Allen Rd & Brimhall Rd

AM 2023+Project  
06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	83	346	90	49	67	105	530	28	80	856	19
Future Volume (veh/h)	49	83	346	90	49	67	105	530	28	80	856	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	62	105	438	96	52	71	117	589	31	91	973	22
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	870	1200	486	185	625	174	215	1827	515	279	1929	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.27	0.34	0.34	0.06	0.12	0.12	0.07	0.36	0.36	0.18	0.76	0.76
Ln Grp Delay, s/veh	27.7	23.2	50.1	49.7	40.1	43.2	49.2	24.4	11.7	40.4	9.6	1.2
Ln Grp LOS	C	C	D	D	D	D	D	C	B	D	A	A
Approach Vol, veh/h		605			219			737			1086	
Approach Delay, s/veh		43.1			45.3			27.8			12.0	
Approach LOS		D			D			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	8	7			
Case No		3.0	2.0	2.0	3.0	2.0	3.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		41.0	13.1	10.0	38.9	11.0	43.1	16.7	32.3			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		35.0	4.0	4.0	36.0	5.0	34.0	36.0	4.0			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.3	4.1	4.0	4.3	4.1			
Max Q Clear (g_c+I1), s		10.6	4.6	5.0	32.0	5.7	9.7	6.8	3.5			
Green Ext Time (g_e), s		2.7	0.0	0.0	1.0	0.0	4.6	0.5	0.0			
Prob of Phs Call (p_c)		1.00	0.93	0.94	1.00	0.96	1.00	1.00	0.83			
Prob of Max Out (p_x)		0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5			7			
Mvmt Sat Flow, veh/h			3170	3170		3170			3170			
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6	8				
Mvmt Sat Flow, veh/h		5085			3539		5085	5085				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16	18				
Mvmt Sat Flow, veh/h		1433			1433		1433	1418				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	0	7			
Lane Assignment			(Prot)	(Prot)		(Prot)			(Prot)			

Lanes in Grp	0	2	2	0	2	0	0	2
Grp Vol (v), veh/h	0	91	96	0	117	0	0	62
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	2.6	3.0	0.0	3.7	0.0	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	2.6	3.0	0.0	3.7	0.0	0.0	1.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	279	185	0	215	0	0	870
V/C Ratio (X)	0.00	0.33	0.52	0.00	0.54	0.00	0.00	0.07
Avail Cap (c_a), veh/h	0	279	185	0	215	0	0	870
Upstream Filter (I)	0.00	0.97	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.8	47.1	0.0	46.5	0.0	0.0	27.6
Incr Delay (d2), s/veh	0.0	0.7	2.6	0.0	2.8	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.4	49.7	0.0	49.2	0.0	0.0	27.7
1st-Term Q (Q1), veh/ln	0.0	1.1	1.3	0.0	1.6	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	1.4	0.0	1.7	0.0	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.15	0.18	0.00	0.21	0.00	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	0	6	8	0
Lane Assignment	T			T		T	T	
Lanes in Grp	3	0	0	2	0	3	3	0
Grp Vol (v), veh/h	589	0	0	105	0	973	52	0
Grp Sat Flow (s), veh/h/ln	1695	0	0	1770	0	1695	1695	0
Q Serve Time (g_s), s	8.6	0.0	0.0	2.1	0.0	7.7	0.9	0.0
Cycle Q Clear Time (g_c), s	8.6	0.0	0.0	2.1	0.0	7.7	0.9	0.0
Lane Grp Cap (c), veh/h	1827	0	0	1200	0	1929	625	0
V/C Ratio (X)	0.32	0.00	0.00	0.09	0.00	0.50	0.08	0.00
Avail Cap (c_a), veh/h	1827	0	0	1306	0	1929	1876	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.97	1.00	0.00
Uniform Delay (d1), s/veh	23.9	0.0	0.0	23.2	0.0	8.7	40.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.0	0.0	0.9	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.4	0.0	0.0	23.2	0.0	9.6	40.1	0.0
1st-Term Q (Q1), veh/ln	4.0	0.0	0.0	1.0	0.0	3.5	0.4	0.0

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

AM 2023+Project  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.1	0.0	0.0	1.0	0.0	3.7	0.4	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.00	0.02	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	12	0	0	14	0	16	18	0
Lane Assignment	R			R		R	R	
Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	31	0	0	438	0	22	71	0
Grp Sat Flow (s), veh/h/ln	1433	0	0	1433	0	1433	1418	0
Q Serve Time (g_s), s	1.1	0.0	0.0	30.0	0.0	0.1	4.8	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	0.0	30.0	0.0	0.1	4.8	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	515	0	0	486	0	544	174	0
V/C Ratio (X)	0.06	0.00	0.00	0.90	0.00	0.04	0.41	0.00
Avail Cap (c_a), veh/h	515	0	0	529	0	544	523	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.97	1.00	0.00
Uniform Delay (d1), s/veh	11.4	0.0	0.0	32.4	0.0	1.1	41.7	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	17.7	0.0	0.1	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.7	0.0	0.0	50.1	0.0	1.2	43.2	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	0.0	11.8	0.0	0.1	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.4	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.0	14.2	0.0	0.2	1.9	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	2.40	0.00	0.02	0.25	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	26.3
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2043  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	319	91	114	222	96	109	580	61	203	855	56
Future Volume (veh/h)	126	319	91	114	222	96	109	580	61	203	855	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	129	326	93	128	249	108	115	611	64	242	1018	67
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.89	0.89	0.89	0.95	0.95	0.95	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	211	566	228	187	514	207	173	1244	504	331	1508	99
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.16	0.16	0.11	0.15	0.15	0.11	0.35	0.35	0.20	0.45	0.43
Ln Grp Delay, s/veh	43.5	37.2	19.5	48.9	37.4	38.9	49.1	25.1	8.5	42.8	25.0	25.0
Ln Grp LOS	D	D	B	D	D	D	D	C	A	D	C	C
Approach Vol, veh/h		548			485			790			1327	
Approach Delay, s/veh		35.7			40.8			27.3			28.2	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	6	5	8	7			
Case No		3.0	2.0	2.0	3.0	4.0	2.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		36.8	22.9	14.7	18.9	45.8	13.9	17.6	16.1			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		30.8	17.0	9.0	24.2	39.8	8.0	24.2	9.0			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.1	4.0	4.1	4.1	4.1			
Max Q Clear (g_c+I1), s		14.6	14.9	9.0	10.0	24.4	8.3	8.6	9.0			
Green Ext Time (g_e), s		2.6	0.2	0.0	1.4	3.9	0.0	1.2	0.0			
Prob of Phs Call (p_c)		1.00	1.00	0.96	1.00	1.00	0.95	1.00	0.96			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.01	0.00	1.00	0.00	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3			5		7			
Mvmt Sat Flow, veh/h			1634	1634			1634		1634			
<b>Through Movement Data</b>												
Assigned Mvmt		2			4	6		8				
Mvmt Sat Flow, veh/h		3539			3539	3367		3539				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14	16		18				
Mvmt Sat Flow, veh/h		1433			1423	222		1422				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	0	5	0	7			
Lane Assignment			(Prot)	(Prot)			(Prot)		(Prot)			

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2043  
 06/11/2024

Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	242	128	0	0	115	0	129
Grp Sat Flow (s), veh/h/ln	0	1634	1634	0	0	1634	0	1634
Q Serve Time (g_s), s	0.0	12.9	7.0	0.0	0.0	6.3	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	12.9	7.0	0.0	0.0	6.3	0.0	7.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	331	187	0	0	173	0	211
V/C Ratio (X)	0.00	0.73	0.68	0.00	0.00	0.66	0.00	0.61
Avail Cap (c_a), veh/h	0	333	193	0	0	175	0	211
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	34.8	39.7	0.0	0.0	40.1	0.0	38.4
Incr Delay (d2), s/veh	0.0	8.0	9.2	0.0	0.0	8.9	0.0	5.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	42.8	48.9	0.0	0.0	49.1	0.0	43.5
1st-Term Q (Q1), veh/ln	0.0	5.8	3.2	0.0	0.0	2.8	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.5	0.0	0.0	0.4	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.6	3.6	0.0	0.0	3.3	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.84	0.46	0.00	0.00	0.42	0.00	0.44
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	2	0	0	4	6	0	8	0
Lane Assignment	T			T	T		T	
Lanes in Grp	2	0	0	2	1	0	2	0
Grp Vol (v), veh/h	611	0	0	326	535	0	249	0
Grp Sat Flow (s), veh/h/ln	1770	0	0	1770	1770	0	1770	0
Q Serve Time (g_s), s	12.6	0.0	0.0	8.0	22.3	0.0	6.0	0.0
Cycle Q Clear Time (g_c), s	12.6	0.0	0.0	8.0	22.3	0.0	6.0	0.0
Lane Grp Cap (c), veh/h	1244	0	0	566	793	0	514	0
V/C Ratio (X)	0.49	0.00	0.00	0.58	0.67	0.00	0.48	0.00
Avail Cap (c_a), veh/h	1244	0	0	994	793	0	994	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	23.7	0.0	0.0	36.3	20.4	0.0	36.7	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	4.6	0.0	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.1	0.0	0.0	37.2	25.0	0.0	37.4	0.0
1st-Term Q (Q1), veh/ln	6.2	0.0	0.0	3.9	10.8	0.0	2.9	0.0

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2043  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.1	1.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	6.4	0.0	0.0	4.0	11.9	0.0	3.0	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.00	0.03	0.15	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data
























Assigned Mvmt	12	0	0	14	16	0	18	0
Lane Assignment	R			R	T+R		R	
Lanes in Grp	1	0	0	1	1	0	1	0
Grp Vol (v), veh/h	64	0	0	93	550	0	108	0
Grp Sat Flow (s), veh/h/ln	1433	0	0	1423	1819	0	1422	0
Q Serve Time (g_s), s	1.8	0.0	0.0	3.9	22.4	0.0	6.6	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	0.0	3.9	22.4	0.0	6.6	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.12	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	504	0	0	228	815	0	207	0
V/C Ratio (X)	0.13	0.00	0.00	0.41	0.68	0.00	0.52	0.00
Avail Cap (c_a), veh/h	504	0	0	400	815	0	399	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	8.0	0.0	0.0	18.3	20.5	0.0	36.9	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.2	4.5	0.0	2.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	8.5	0.0	0.0	19.5	25.0	0.0	38.9	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	1.5	11.2	0.0	2.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	1.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	0.0	1.6	12.2	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.00	0.27	0.16	0.00	0.46	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay, s/veh	31.2
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
2: Allen Rd & Palm Ave

AM 2043  
06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	31	86	51	13	34	27	648	15	20	908	18
Future Volume (veh/h)	28	31	86	51	13	34	27	648	15	20	908	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	31	35	97	66	17	44	29	704	16	24	1094	22
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.77	0.77	0.77	0.92	0.92	0.92	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	69	376	155	113	249	195	648	3234	73	63	1405	28
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.11	0.11	0.07	0.13	0.13	0.40	0.63	0.61	0.04	0.27	0.25
Ln Grp Delay, s/veh	53.2	42.1	48.6	51.6	39.5	40.8	19.3	8.4	8.6	51.4	39.3	42.9
Ln Grp LOS	D	D	D	D	D	D	B	A	A	D	D	D
Approach Vol, veh/h		163			127			749			1140	
Approach Delay, s/veh		48.1			46.3			8.9			40.8	
Approach LOS		D			D			A			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.0	69.7	15.1	11.2	32.5	45.3	8.4	17.9			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		4.0	36.0	30.0	10.0	36.0	4.0	4.0	36.0			
Max Allow Headway (MAH), s		4.1	4.0	4.4	4.2	4.0	4.1	4.2	4.4			
Max Q Clear (g_c+I1), s		3.5	8.1	8.6	6.1	22.5	3.1	3.9	4.8			
Green Ext Time (g_e), s		0.0	2.9	0.4	0.0	4.0	0.0	0.0	0.2			
Prob of Phs Call (p_c)		0.50	1.00	1.00	0.85	1.00	0.57	0.59	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	1.00	0.16	1.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1634			1634		1634	1634				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			5116	3539		5132			1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			116	1458		103			1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		(Prot)			(Prot)		(Prot)	(Prot)				



Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	24	0	0	66	0	29	31	0
Grp Sat Flow (s), veh/h/ln	1634	0	0	1634	0	1634	1634	0
Q Serve Time (g_s), s	1.5	0.0	0.0	4.1	0.0	1.1	1.9	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	0.0	4.1	0.0	1.1	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	63	0	0	113	0	648	69	0
V/C Ratio (X)	0.38	0.00	0.00	0.58	0.00	0.04	0.45	0.00
Avail Cap (c_a), veh/h	94	0	0	189	0	648	94	0
Upstream Filter (I)	0.69	0.00	0.00	1.00	0.00	0.91	1.00	0.00
Uniform Delay (d1), s/veh	48.8	0.0	0.0	46.9	0.0	19.3	48.6	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	4.7	0.0	0.0	4.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	51.4	0.0	0.0	51.6	0.0	19.3	53.2	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	1.8	0.0	0.5	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.0	2.0	0.0	0.5	1.0	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.00	0.04	0.00	0.07	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	2	0	2	0	0	1
Grp Vol (v), veh/h	0	466	35	0	723	0	0	17
Grp Sat Flow (s), veh/h/ln	0	1695	1770	0	1695	0	0	1863
Q Serve Time (g_s), s	0.0	6.1	0.9	0.0	20.5	0.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	6.1	0.9	0.0	20.5	0.0	0.0	0.8
Lane Grp Cap (c), veh/h	0	2143	376	0	928	0	0	249
V/C Ratio (X)	0.00	0.22	0.09	0.00	0.78	0.00	0.00	0.07
Avail Cap (c_a), veh/h	0	2143	1089	0	1239	0	0	681
Upstream Filter (I)	0.00	0.91	1.00	0.00	0.69	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	41.9	0.0	34.9	0.0	0.0	39.4
Incr Delay (d2), s/veh	0.0	0.2	0.1	0.0	4.5	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.4	42.1	0.0	39.3	0.0	0.0	39.5
1st-Term Q (Q1), veh/ln	0.0	2.8	0.5	0.0	9.5	0.0	0.0	0.4

HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

AM 2043  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.9	0.5	0.0	10.1	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.01	0.00	0.10	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		T+R	R		T+R			R
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	254	97	0	393	0	0	44
Grp Sat Flow (s), veh/h/ln	0	1842	1458	0	1845	0	0	1458
Q Serve Time (g_s), s	0.0	6.1	6.6	0.0	20.5	0.0	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	6.1	6.6	0.0	20.5	0.0	0.0	2.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.06	1.00	0.00	0.06	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1164	155	0	505	0	0	195
V/C Ratio (X)	0.00	0.22	0.63	0.00	0.78	0.00	0.00	0.23
Avail Cap (c_a), veh/h	0	1164	449	0	674	0	0	533
Upstream Filter (I)	0.00	0.91	1.00	0.00	0.69	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	44.5	0.0	34.9	0.0	0.0	40.2
Incr Delay (d2), s/veh	0.0	0.4	4.1	0.0	8.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.6	48.6	0.0	42.9	0.0	0.0	40.8
1st-Term Q (Q1), veh/ln	0.0	3.1	2.7	0.0	10.4	0.0	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	1.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	2.8	0.0	11.5	0.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.03	0.48	0.00	0.11	0.00	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	30.7
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

AM 2043  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	92	382	118	64	87	165	824	44	118	1323	27
Future Volume (veh/h)	53	92	382	118	64	87	165	824	44	118	1323	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	67	116	484	126	68	93	183	916	49	134	1503	31
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	172	1225	496	190	1789	504	254	1902	536	190	1800	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.35	0.35	0.06	0.35	0.35	0.08	0.37	0.37	0.06	0.35	0.35
Ln Grp Delay, s/veh	47.1	22.1	66.5	54.3	21.3	22.6	54.5	24.8	20.6	56.8	34.1	21.5
Ln Grp LOS	D	C	E	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		667			287			1148			1668	
Approach Delay, s/veh		56.9			36.2			29.3			35.7	
Approach LOS		E			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.0	41.4	10.0	38.6	12.0	39.4	9.4	39.2			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		4.0	35.4	4.0	32.6	6.0	33.4	4.0	32.6			
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.3	4.1	4.0	4.1	4.3			
Max Q Clear (g_c+I1), s		6.1	15.8	5.9	35.4	7.6	29.1	4.0	6.5			
Green Ext Time (g_e), s		0.0	4.2	0.0	0.0	0.0	2.7	0.0	0.6			
Prob of Phs Call (p_c)		0.98	1.00	0.97	1.00	0.99	1.00	0.84	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3170		3170		3170		3170				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5085		3539		5085		5085			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1433		1433		1433		1433			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Prot)		(Prot)		(Prot)		(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

AM 2043  
 06/11/2024

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	134	0	126	0	183	0	67	0
Grp Sat Flow (s), veh/h/ln	1585	0	1585	0	1585	0	1585	0
Q Serve Time (g_s), s	4.1	0.0	3.9	0.0	5.6	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	4.1	0.0	3.9	0.0	5.6	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	190	0	190	0	254	0	172	0
V/C Ratio (X)	0.70	0.00	0.66	0.00	0.72	0.00	0.39	0.00
Avail Cap (c_a), veh/h	190	0	190	0	254	0	190	0
Upstream Filter (I)	0.95	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	46.1	0.0	46.0	0.0	44.9	0.0	45.7	0.0
Incr Delay (d2), s/veh	10.6	0.0	8.3	0.0	9.6	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.8	0.0	54.3	0.0	54.5	0.0	47.1	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	1.7	0.0	2.5	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.2	0.0	0.3	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	1.9	0.0	2.8	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.24	0.00	0.36	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	3
Grp Vol (v), veh/h	0	916	0	116	0	1503	0	68
Grp Sat Flow (s), veh/h/ln	0	1695	0	1770	0	1695	0	1695
Q Serve Time (g_s), s	0.0	13.8	0.0	2.2	0.0	27.1	0.0	0.9
Cycle Q Clear Time (g_c), s	0.0	13.8	0.0	2.2	0.0	27.1	0.0	0.9
Lane Grp Cap (c), veh/h	0	1902	0	1225	0	1800	0	1789
V/C Ratio (X)	0.00	0.48	0.00	0.09	0.00	0.83	0.00	0.04
Avail Cap (c_a), veh/h	0	1902	0	1225	0	1800	0	1789
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.95	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.9	0.0	22.1	0.0	29.6	0.0	21.3
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	4.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.8	0.0	22.1	0.0	34.1	0.0	21.3
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	1.1	0.0	12.7	0.0	0.4

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

AM 2043  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.8	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.6	0.0	1.1	0.0	13.4	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.02	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

























Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	49	0	484	0	31	0	93
Grp Sat Flow (s), veh/h/ln	0	1433	0	1433	0	1433	0	1433
Q Serve Time (g_s), s	0.0	2.2	0.0	33.4	0.0	1.4	0.0	4.5
Cycle Q Clear Time (g_c), s	0.0	2.2	0.0	33.4	0.0	1.4	0.0	4.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	536	0	496	0	507	0	504
V/C Ratio (X)	0.00	0.09	0.00	0.98	0.00	0.06	0.00	0.18
Avail Cap (c_a), veh/h	0	536	0	496	0	507	0	504
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.95	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.3	0.0	32.3	0.0	21.3	0.0	22.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	34.2	0.0	0.2	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.6	0.0	66.5	0.0	21.5	0.0	22.6
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	13.1	0.0	0.6	0.0	1.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	4.7	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	17.8	0.0	0.6	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	3.02	0.00	0.06	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	37.6
HCM 2010 LOS	D

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2043+Project  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	333	113	114	227	96	116	580	61	203	855	58
Future Volume (veh/h)	133	333	113	114	227	96	116	580	61	203	855	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1750
Adj Flow Rate, veh/h	136	340	115	128	255	108	122	611	64	242	1018	69
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.89	0.89	0.89	0.95	0.95	0.95	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	193	582	234	187	570	229	181	1247	505	321	1472	100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.16	0.16	0.11	0.16	0.16	0.11	0.35	0.35	0.20	0.44	0.42
Ln Grp Delay, s/veh	50.5	36.9	36.9	48.8	35.9	14.8	48.0	25.0	8.5	44.3	26.1	26.1
Ln Grp LOS	D	D	D	D	D	B	D	C	A	D	C	C
Approach Vol, veh/h		591			491			797			1329	
Approach Delay, s/veh		40.0			34.6			27.2			29.4	
Approach LOS		D			C			C			C	
<b>Timer:</b>		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	3	4	5	6	7	8			
Case No		3.0	2.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		36.8	22.3	14.7	19.3	14.3	44.8	15.0	19.0			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		30.8	17.0	9.0	24.2	9.0	38.8	9.0	24.2			
Max Allow Headway (MAH), s		4.0	4.1	4.1	4.1	4.1	4.0	4.1	4.1			
Max Q Clear (g_c+I1), s		14.6	15.0	9.0	10.3	8.7	24.8	9.5	8.1			
Green Ext Time (g_e), s		2.6	0.2	0.0	1.5	0.0	3.8	0.0	1.3			
Prob of Phs Call (p_c)		1.00	1.00	0.96	1.00	0.96	1.00	0.97	1.00			
Prob of Max Out (p_x)		0.00	1.00	1.00	0.01	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1	3		5		7				
Mvmt Sat Flow, veh/h			1634	1634		1634		1634				
<b>Through Movement Data</b>												
Assigned Mvmt		2			4		6		8			
Mvmt Sat Flow, veh/h		3539			3539		3360		3539			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12			14		16		18			
Mvmt Sat Flow, veh/h		1433			1424		228		1424			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	3	0	5	0	7	0			
Lane Assignment			(Prot)	(Prot)		(Prot)		(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2043+Project  
 06/11/2024

Lanes in Grp	0	1	1	0	1	0	1	0
Grp Vol (v), veh/h	0	242	128	0	122	0	136	0
Grp Sat Flow (s), veh/h/ln	0	1634	1634	0	1634	0	1634	0
Q Serve Time (g_s), s	0.0	13.0	7.0	0.0	6.7	0.0	7.5	0.0
Cycle Q Clear Time (g_c), s	0.0	13.0	7.0	0.0	6.7	0.0	7.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	321	187	0	181	0	193	0
V/C Ratio (X)	0.00	0.75	0.68	0.00	0.67	0.00	0.70	0.00
Avail Cap (c_a), veh/h	0	333	193	0	193	0	193	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	35.3	39.6	0.0	39.8	0.0	39.5	0.0
Incr Delay (d2), s/veh	0.0	9.0	9.2	0.0	8.2	0.0	11.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	44.3	48.8	0.0	48.0	0.0	50.5	0.0
1st-Term Q (Q1), veh/ln	0.0	5.8	3.2	0.0	3.0	0.0	3.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.5	0.0	0.4	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.7	3.6	0.0	3.4	0.0	4.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.84	0.46	0.00	0.44	0.00	0.50	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	2	0	0	4	0	6	0	8
Lane Assignment	T			T		T		T
Lanes in Grp	2	0	0	2	0	1	0	2
Grp Vol (v), veh/h	611	0	0	340	0	536	0	255
Grp Sat Flow (s), veh/h/ln	1770	0	0	1770	0	1770	0	1770
Q Serve Time (g_s), s	12.6	0.0	0.0	8.3	0.0	22.7	0.0	6.1
Cycle Q Clear Time (g_c), s	12.6	0.0	0.0	8.3	0.0	22.7	0.0	6.1
Lane Grp Cap (c), veh/h	1247	0	0	582	0	775	0	570
V/C Ratio (X)	0.49	0.00	0.00	0.58	0.00	0.69	0.00	0.45
Avail Cap (c_a), veh/h	1247	0	0	996	0	775	0	996
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	23.6	0.0	0.0	36.0	0.0	21.1	0.0	35.3
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	5.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.0	0.0	0.0	36.9	0.0	26.1	0.0	35.9
1st-Term Q (Q1), veh/ln	6.1	0.0	0.0	4.0	0.0	11.0	0.0	3.0

HCM 2010 Signalized Intersection Capacity Analysis  
 1: Allen Rd & Rosedale Hwy

AM 2043+Project  
 06/11/2024

2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.1	0.0	1.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	6.3	0.0	0.0	4.1	0.0	12.1	0.0	3.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.00	0.03	0.00	0.15	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	12	0	0	14	0	16	0	18
Lane Assignment	R			R		T+R		R
Lanes in Grp	1	0	0	1	0	1	0	1
Grp Vol (v), veh/h	64	0	0	115	0	551	0	108
Grp Sat Flow (s), veh/h/ln	1433	0	0	1424	0	1818	0	1424
Q Serve Time (g_s), s	1.8	0.0	0.0	6.8	0.0	22.8	0.0	3.9
Cycle Q Clear Time (g_c), s	1.8	0.0	0.0	6.8	0.0	22.8	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	0.13	0.00	1.00
Lane Grp Cap (c), veh/h	505	0	0	234	0	797	0	229
V/C Ratio (X)	0.13	0.00	0.00	0.49	0.00	0.69	0.00	0.47
Avail Cap (c_a), veh/h	505	0	0	401	0	797	0	401
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	8.0	0.0	0.0	35.4	0.0	21.2	0.0	13.3
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.6	0.0	4.9	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	8.5	0.0	0.0	36.9	0.0	26.1	0.0	14.8
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	2.7	0.0	11.3	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.0	1.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.1	0.0	0.0	2.8	0.0	12.4	0.0	2.4
%ile Storage Ratio (RQ%)	0.19	0.00	0.00	0.47	0.00	0.16	0.00	0.41
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

























**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	31.6
HCM 2010 LOS	C



HCM 2010 Signalized Intersection Capacity Analysis  
 2: Allen Rd & Palm Ave

AM 2043+Project  
 06/11/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	31	86	51	13	35	27	654	15	22	929	18
Future Volume (veh/h)	28	31	86	51	13	35	27	654	15	22	929	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	31	35	97	66	17	45	29	711	16	27	1119	22
Adj No. of Lanes	1	2	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.77	0.77	0.77	0.92	0.92	0.92	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	70	343	141	114	231	181	68	1007	23	781	3251	64
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.10	0.10	0.07	0.12	0.12	0.04	0.20	0.18	0.48	0.63	0.61
Ln Grp Delay, s/veh	51.5	41.7	35.6	50.1	39.3	4.8	51.0	43.5	48.1	14.0	9.0	9.3
Ln Grp LOS	D	D	D	D	D	A	D	D	D	B	A	A
Approach Vol, veh/h		163			128			756			1168	
Approach Delay, s/veh		39.9			32.7			45.3			9.2	
Approach LOS		D			C			D			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	4	3	5	6	7	8			
Case No		4.0	2.0	3.0	2.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		23.9	52.3	13.8	11.0	8.2	67.9	8.3	16.5			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		35.0	4.0	30.0	8.0	4.0	35.0	4.0	34.0			
Max Allow Headway (MAH), s		4.0	4.1	4.4	4.2	4.1	4.0	4.2	4.4			
Max Q Clear (g_c+I1), s		15.1	2.9	7.3	6.0	3.7	12.4	3.9	2.9			
Green Ext Time (g_e), s		2.7	0.0	0.5	0.0	0.0	4.8	0.0	0.2			
Prob of Phs Call (p_c)		1.00	0.53	1.00	0.84	0.56	1.00	0.58	1.00			
Prob of Max Out (p_x)		0.01	1.00	0.00	1.00	1.00	0.03	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			1		3	5		7				
Mvmt Sat Flow, veh/h			1634		1634	1634		1634				
<b>Through Movement Data</b>												
Assigned Mvmt		2		4			6		8			
Mvmt Sat Flow, veh/h		5118		3539			5134		1863			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt		12		14			16		18			
Mvmt Sat Flow, veh/h		115		1458			101		1458			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	1	0	3	5	0	7	0			
Lane Assignment			(Prot)		(Prot)	(Prot)		(Prot)				

Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	27	0	66	29	0	31	0
Grp Sat Flow (s), veh/h/ln	0	1634	0	1634	1634	0	1634	0
Q Serve Time (g_s), s	0.0	0.9	0.0	4.0	1.7	0.0	1.9	0.0
Cycle Q Clear Time (g_c), s	0.0	0.9	0.0	4.0	1.7	0.0	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	781	0	114	68	0	70	0
V/C Ratio (X)	0.00	0.03	0.00	0.58	0.42	0.00	0.44	0.00
Avail Cap (c_a), veh/h	0	781	0	162	97	0	97	0
Upstream Filter (I)	0.00	0.67	0.00	1.00	0.91	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	14.0	0.0	45.5	47.2	0.0	47.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.6	3.8	0.0	4.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	50.1	51.0	0.0	51.5	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	1.8	0.8	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.9	0.9	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.04	0.11	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	2	0	4	0	0	6	0	8
Lane Assignment	T		T			T		T
Lanes in Grp	2	0	2	0	0	2	0	1
Grp Vol (v), veh/h	471	0	35	0	0	739	0	17
Grp Sat Flow (s), veh/h/ln	1695	0	1770	0	0	1695	0	1863
Q Serve Time (g_s), s	13.1	0.0	0.9	0.0	0.0	10.3	0.0	0.8
Cycle Q Clear Time (g_c), s	13.1	0.0	0.9	0.0	0.0	10.3	0.0	0.8
Lane Grp Cap (c), veh/h	667	0	343	0	0	2146	0	231
V/C Ratio (X)	0.71	0.00	0.10	0.00	0.00	0.34	0.00	0.07
Avail Cap (c_a), veh/h	1242	0	1121	0	0	2146	0	664
Upstream Filter (I)	0.91	0.00	1.00	0.00	0.00	0.67	0.00	1.00
Uniform Delay (d1), s/veh	37.8	0.0	41.6	0.0	0.0	8.7	0.0	39.1
Incr Delay (d2), s/veh	5.7	0.0	0.1	0.0	0.0	0.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.5	0.0	41.7	0.0	0.0	9.0	0.0	39.3
1st-Term Q (Q1), veh/ln	6.1	0.0	0.4	0.0	0.0	4.8	0.0	0.4

























2nd-Term Q (Q2), veh/ln	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	6.7	0.0	0.5	0.0	0.0	4.9	0.0	0.4
%ile Storage Ratio (RQ%)	0.07	0.00	0.01	0.00	0.00	0.05	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	12	0	14	0	0	16	0	18
Lane Assignment	T+R		R			T+R		R
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	256	0	97	0	0	402	0	45
Grp Sat Flow (s), veh/h/ln	1842	0	1458	0	0	1845	0	1458
Q Serve Time (g_s), s	13.1	0.0	5.3	0.0	0.0	10.4	0.0	0.9
Cycle Q Clear Time (g_c), s	13.1	0.0	5.3	0.0	0.0	10.4	0.0	0.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.06	0.00	1.00	0.00	0.00	0.05	0.00	1.00
Lane Grp Cap (c), veh/h	362	0	141	0	0	1168	0	181
V/C Ratio (X)	0.71	0.00	0.69	0.00	0.00	0.34	0.00	0.25
Avail Cap (c_a), veh/h	675	0	462	0	0	1168	0	520
Upstream Filter (I)	0.91	0.00	1.00	0.00	0.00	0.67	0.00	1.00
Uniform Delay (d1), s/veh	37.9	0.0	29.8	0.0	0.0	8.7	0.0	4.1
Incr Delay (d2), s/veh	10.2	0.0	5.8	0.0	0.0	0.5	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.1	0.0	35.6	0.0	0.0	9.3	0.0	4.8
1st-Term Q (Q1), veh/ln	6.7	0.0	2.4	0.0	0.0	5.3	0.0	1.1
2nd-Term Q (Q2), veh/ln	1.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	7.7	0.0	2.7	0.0	0.0	5.4	0.0	1.1
%ile Storage Ratio (RQ%)	0.08	0.00	0.45	0.00	0.00	0.05	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	25.2
HCM 2010 LOS	C

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	92	382	118	64	88	165	829	44	123	1336	29
Future Volume (veh/h)	54	92	382	118	64	88	165	829	44	123	1336	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1716	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	68	116	484	126	68	94	183	921	49	140	1518	33
Adj No. of Lanes	2	2	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.90	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	169	1180	477	181	1714	483	242	1937	546	242	1937	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.33	0.33	0.06	0.34	0.34	0.08	0.38	0.38	0.08	0.38	0.38
Ln Grp Delay, s/veh	49.6	24.2	79.7	59.6	23.4	24.9	60.5	25.4	21.2	50.1	31.8	20.8
Ln Grp LOS	D	C	F	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		668			288			1153			1691	
Approach Delay, s/veh		67.0			39.7			30.8			33.1	
Approach LOS		E			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.0	44.0	10.0	39.0	12.0	44.0	9.6	39.4			
Change Period (Y+Rc), s		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0			
Max Green (Gmax), s		6.0	38.0	4.0	33.0	6.0	38.0	4.0	33.0			
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.3	4.1	4.0	4.1	4.3			
Max Q Clear (g_c+I1), s		6.5	16.4	6.1	37.0	7.9	29.7	4.2	6.9			
Green Ext Time (g_e), s		0.0	4.3	0.0	0.0	0.0	4.6	0.0	0.6			
Prob of Phs Call (p_c)		0.98	1.00	0.97	1.00	1.00	1.00	0.86	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3170		3170		3170		3170				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5085		3539		5085		5085			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1434		1432		1434		1433			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		(Prot)		(Prot)		(Prot)		(Prot)				

HCM 2010 Signalized Intersection Capacity Analysis  
 3: Allen Rd & Brimhall Rd

AM 2043+Project  
 06/11/2024

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	140	0	126	0	183	0	68	0
Grp Sat Flow (s), veh/h/ln	1585	0	1585	0	1585	0	1585	0
Q Serve Time (g_s), s	4.5	0.0	4.1	0.0	5.9	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	4.5	0.0	4.1	0.0	5.9	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	242	0	181	0	242	0	169	0
V/C Ratio (X)	0.58	0.00	0.70	0.00	0.76	0.00	0.40	0.00
Avail Cap (c_a), veh/h	242	0	181	0	242	0	181	0
Upstream Filter (I)	0.94	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	46.9	0.0	48.6	0.0	47.5	0.0	48.1	0.0
Incr Delay (d2), s/veh	3.3	0.0	11.0	0.0	12.9	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.1	0.0	59.6	0.0	60.5	0.0	49.6	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	1.8	0.0	2.6	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.3	0.0	0.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	2.1	0.0	3.0	0.0	1.0	0.0
%ile Storage Ratio (RQ%)	0.26	0.00	0.26	0.00	0.38	0.00	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	3
Grp Vol (v), veh/h	0	921	0	116	0	1518	0	68
Grp Sat Flow (s), veh/h/ln	0	1695	0	1770	0	1695	0	1695
Q Serve Time (g_s), s	0.0	14.4	0.0	2.4	0.0	27.7	0.0	0.9
Cycle Q Clear Time (g_c), s	0.0	14.4	0.0	2.4	0.0	27.7	0.0	0.9
Lane Grp Cap (c), veh/h	0	1937	0	1180	0	1937	0	1714
V/C Ratio (X)	0.00	0.48	0.00	0.10	0.00	0.78	0.00	0.04
Avail Cap (c_a), veh/h	0	1937	0	1180	0	1937	0	1714
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.6	0.0	24.1	0.0	28.7	0.0	23.4
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	3.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.4	0.0	24.2	0.0	31.8	0.0	23.4
1st-Term Q (Q1), veh/ln	0.0	6.7	0.0	1.2	0.0	12.9	0.0	0.4

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.9	0.0	1.2	0.0	13.5	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.02	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	49	0	484	0	33	0	94
Grp Sat Flow (s), veh/h/ln	0	1434	0	1432	0	1434	0	1433
Q Serve Time (g_s), s	0.0	2.3	0.0	35.0	0.0	1.5	0.0	4.9
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	35.0	0.0	1.5	0.0	4.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	546	0	477	0	546	0	483
V/C Ratio (X)	0.00	0.09	0.00	1.01	0.00	0.06	0.00	0.19
Avail Cap (c_a), veh/h	0	546	0	477	0	546	0	483
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.94	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.8	0.0	35.0	0.0	20.6	0.0	24.7
Incr Delay (d2), s/veh	0.0	0.3	0.0	44.6	0.0	0.2	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.2	0.0	79.7	0.0	20.8	0.0	24.9
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	13.8	0.0	0.6	0.0	1.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	19.7	0.0	0.6	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	3.34	0.00	0.06	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 2010 Ctrl Delay, s/veh	38.8
HCM 2010 LOS	D

Location ID: 12  
 North/South: Allen Rd  
 East/West: Rosedale Hwy

Date: 8/2/2022  
 City: Bakersfield, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	10	62	11	13	36	13	5	86	21	8	35	16	316
7:15	6	75	16	15	45	20	7	100	21	11	47	23	386
7:30	6	99	24	20	36	19	10	114	12	23	38	27	428
7:45	9	104	25	33	45	14	16	117	12	6	77	25	483
8:00	8	114	32	15	34	26	12	115	26	16	72	33	503
8:15	11	145	29	22	56	18	11	114	18	25	63	32	544
8:30	14	172	46	18	45	25	20	118	25	27	73	18	601
8:45	6	166	35	21	40	21	8	132	21	14	79	30	573

Total Volume:	70	937	218	157	337	156	89	896	156	130	484	204	3834
Approach %	6%	76%	18%	24%	52%	24%	8%	79%	14%	16%	59%	25%	

Peak Hr Begin:	8:00												
PHV	39	597	142	76	175	90	51	479	90	82	287	113	2221
PHF	0.838			0.888			0.951			0.980			0.924

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	11	188	44	44	93	71	42	141	25	17	102	47	825
16:15	15	181	38	36	81	38	41	163	42	21	92	53	801
16:30	20	180	46	36	95	66	31	146	29	27	111	47	834
16:45	8	184	47	36	96	55	27	157	29	23	101	60	823
17:00	19	184	35	46	98	53	32	145	31	18	113	44	818
17:15	14	190	36	34	104	53	30	197	25	28	105	43	859
17:30	16	173	48	59	104	36	31	164	41	25	74	43	814
17:45	17	134	46	36	82	49	37	131	19	14	102	57	724

Total Volume:	120	1414	340	327	753	421	271	1244	241	173	800	394	6498
Approach %	6%	75%	18%	22%	50%	28%	15%	71%	14%	13%	59%	29%	

Location ID: 14  
 North/South: Renfro Rd  
 East/West: Allen Rd

Date: 8/2/2022  
 City: Bakersfield, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	4	78	5	7	4	3	2	102	2	5	0	5	217
7:15	2	99	1	6	2	7	3	119	1	7	1	4	252
7:30	1	120	5	10	1	1	5	115	1	6	2	9	276
7:45	3	127	2	7	1	9	4	147	7	9	4	3	323
8:00	1	146	3	6	4	9	4	129	5	19	5	8	339
8:15	4	190	4	5	3	12	3	130	9	22	3	4	389
8:30	7	222	6	9	2	10	4	143	3	24	8	5	443
8:45	3	191	4	11	3	15	2	153	6	13	12	8	421

Total Volume:	25	1173	30	61	20	66	27	1038	34	105	35	46	2660
Approach %	2%	96%	2%	41%	14%	45%	2%	94%	3%	56%	19%	25%	

Peak Hr Begin:	8:00												
PHV	15	749	17	31	12	46	13	555	23	78	28	25	1592
PHF	0.831			0.767			0.918			0.885			0.898

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	13	250	8	5	7	7	8	210	8	14	6	10	546
16:15	12	224	9	6	6	7	13	245	27	12	6	8	575
16:30	15	206	11	8	9	8	8	235	9	17	10	10	546
16:45	12	245	6	10	10	12	7	232	16	8	5	7	570
17:00	12	215	14	6	9	9	12	251	18	19	8	2	575
17:15	12	238	10	12	5	6	9	219	17	17	9	4	558
17:30	9	215	11	11	7	9	18	256	17	14	6	6	579
17:45	10	180	8	9	5	6	14	212	18	11	12	5	490

Total Volume:	95	1773	77	67	58	64	89	1860	130	112	62	52	4439
Approach %	5%	91%	4%	35%	31%	34%	4%	89%	6%	50%	27%	23%	



Location ID: 17  
 North/South: Allen Rd  
 East/West: Brimhall Rd

Date: 8/2/2022  
 City: Bakersfield, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	78	7	6	9	13	6	103	13	20	5	4	264
7:15	3	103	10	12	6	7	7	111	16	35	6	6	322
7:30	2	114	9	7	5	11	6	120	15	52	6	8	355
7:45	0	156	8	12	7	14	4	137	26	58	6	10	438
8:00	1	148	13	19	9	21	5	104	30	80	8	18	456
8:15	6	217	21	20	10	24	4	131	22	73	12	6	546
8:30	5	240	14	16	13	20	7	138	23	116	22	12	626
8:45	5	219	25	10	16	24	11	140	28	75	41	12	606

Total Volume:	22	1275	107	102	75	134	50	984	173	509	106	76	3613
Approach %	2%	91%	8%	33%	24%	43%	4%	82%	14%	74%	15%	11%	

Peak Hr Begin:	8:00												
PHV	17	824	73	65	48	89	27	513	103	344	83	48	2234
PHF	0.882			0.935			0.898			0.792			0.892

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	14	244	30	24	27	18	22	225	91	25	10	18	748
16:15	14	190	31	20	49	10	24	240	75	22	20	15	710
16:30	4	208	28	20	41	11	24	230	89	36	16	17	724
16:45	13	253	31	30	30	12	16	240	88	24	17	23	777
17:00	14	216	38	28	27	18	26	245	95	34	15	18	774
17:15	19	227	38	26	58	17	27	235	112	47	18	27	851
17:30	22	172	40	16	34	16	22	239	105	35	21	16	738
17:45	16	205	30	15	45	4	29	207	62	26	21	36	696

Total Volume:	116	1715	266	179	311	106	190	1861	717	249	138	170	6018
Approach %	6%	82%	13%	30%	52%	18%	7%	67%	26%	45%	25%	31%	

Peak Hr Begin:	16:45												
PHV	68	868	147	100	149	63	91	959	400	140	71	84	3140
PHF	0.912			0.772			0.969			0.802			0.922