

To: Utah Department of Transportation/
Grantsville City
File: Deseret Meadows

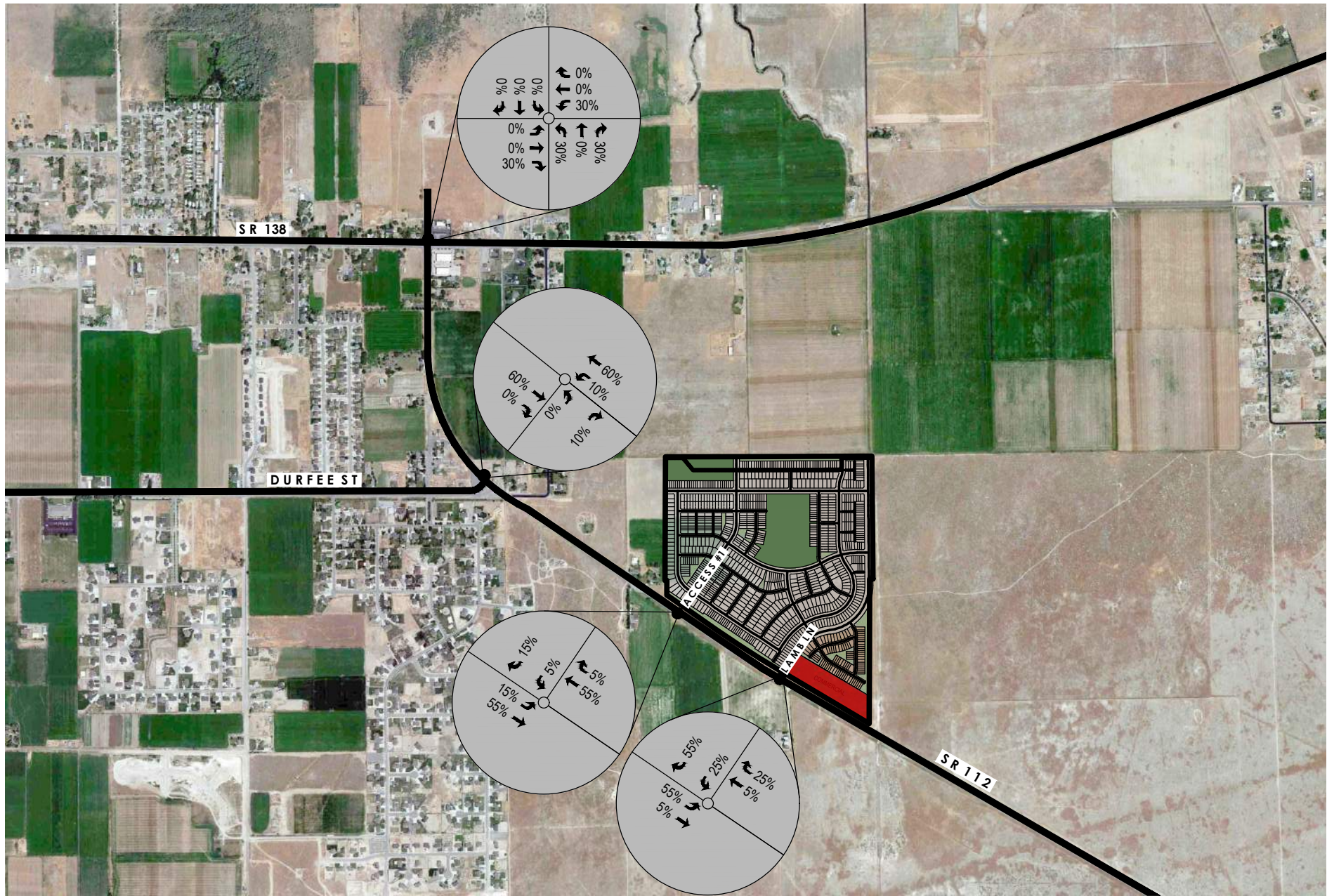
From: Jason Watson, PE, PTOE
FOCUS Engineering & Surveying, LLC
Date: August, 2024

Reference: Deseret Meadows Traffic Study Update

This memorandum is to illustrate an update to the original traffic impact study for the Deseret Commons development dated March 2023. The site plan has been revised with new unit counts, and this memo illustrates the updated trip generation numbers with the projected future traffic volumes. The memo also analyzes the level of service at the two accesses onto SR-112. The revised unit counts are as follows; 78,400 square feet of commercial/retail, 475 townhomes, and 409 single-family units.

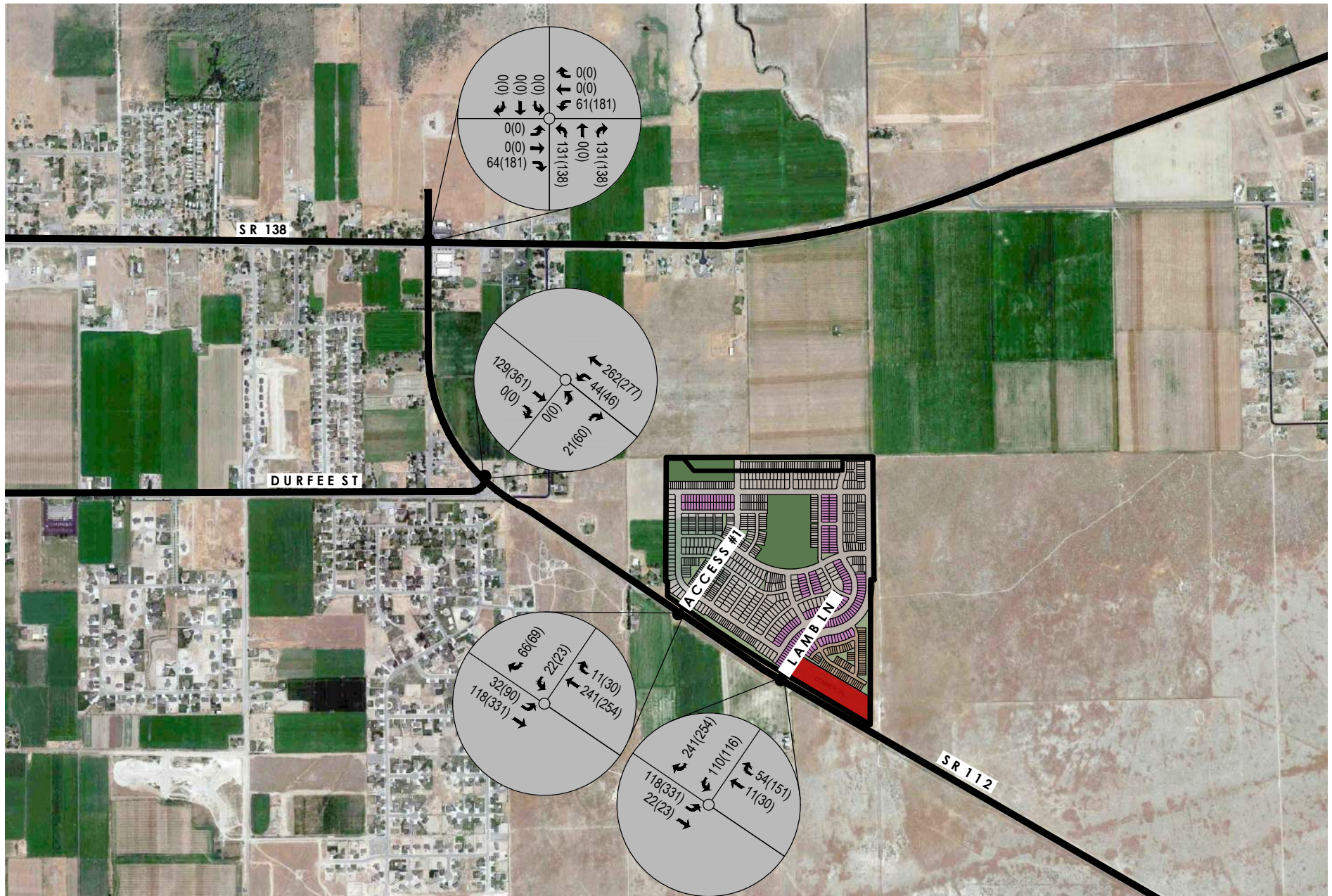
This memorandum analyzes the two proposed accesses onto SR-112. One access is located along Lamb Lane and the second access is located to the west. Figure 7 illustrates the projected travel distribution percentages produced by the Deseret Meadows development. Using these distribution percentages and the forecasted trip generation volumes, Figure 8 illustrates the trip generation from this development during the AM and PM peak hours.

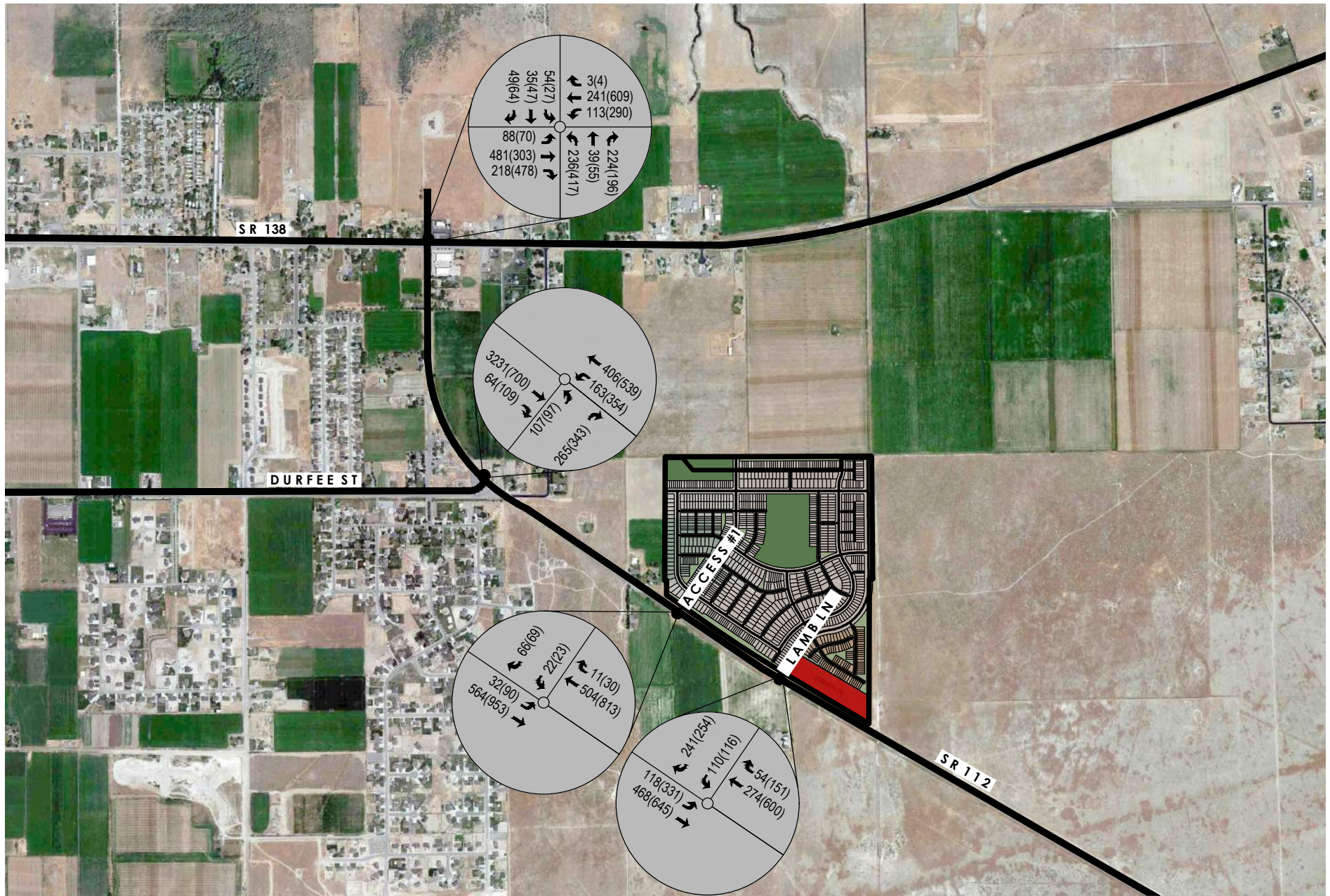
Use the same 2025 Opening Year, 2030 Future Year and 2045 Future Year traffic volumes from the traffic impact study, the projected traffic volumes from Figure 8 were combined with these Opening and Future scenarios to produce the full build-out traffic volumes of the Deseret Meadows development. Figure 9 illustrates the 2025 Opening Year with Project traffic volumes. Figure 10 illustrates the 2030 Future Year with Project traffic volumes. Figure 11 illustrates the 2045 Future Year with Project traffic volumes.



DESERET MEADOWS
FIGURE 7 - PROJECT DISTRIBUTION PERCENTAGES

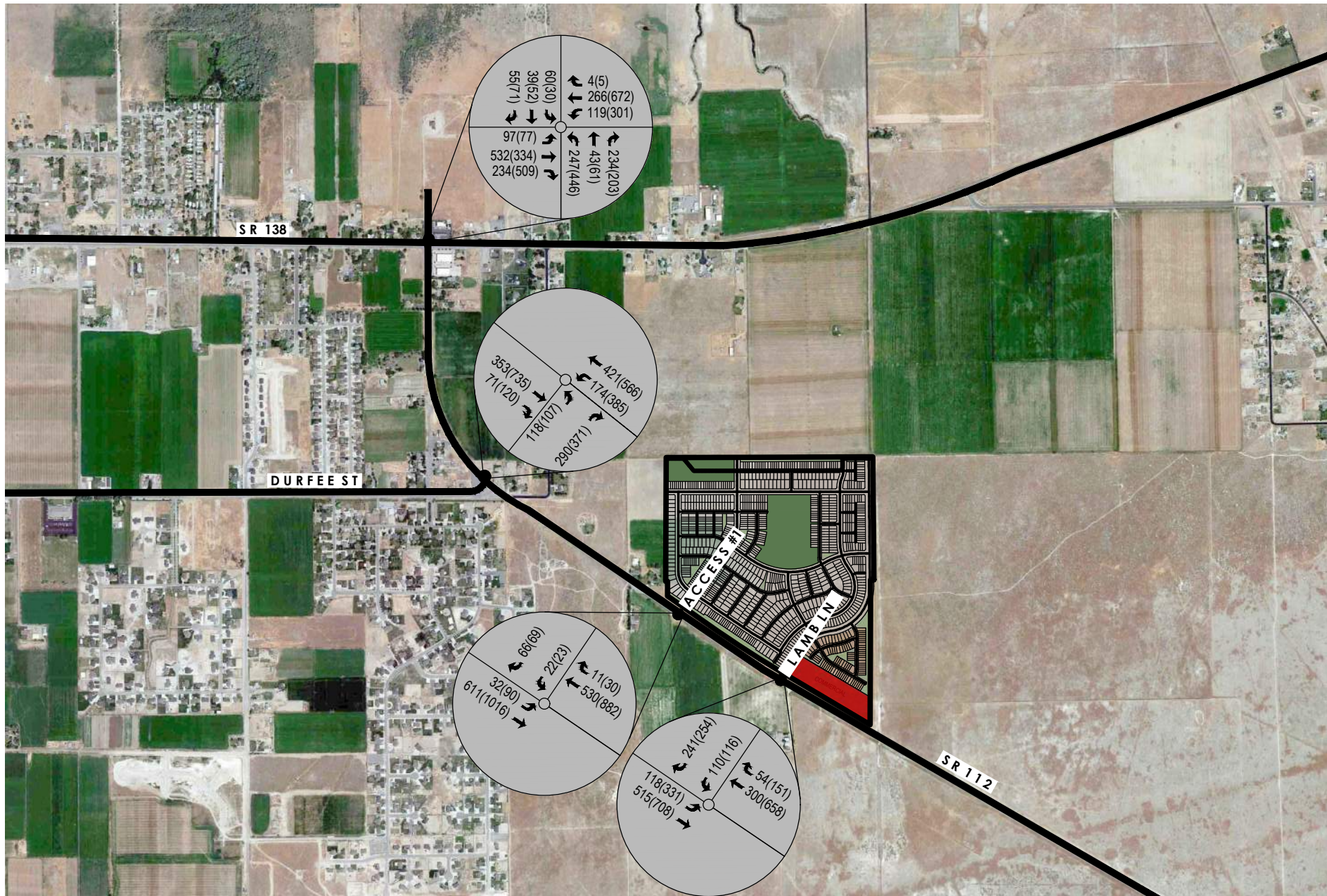






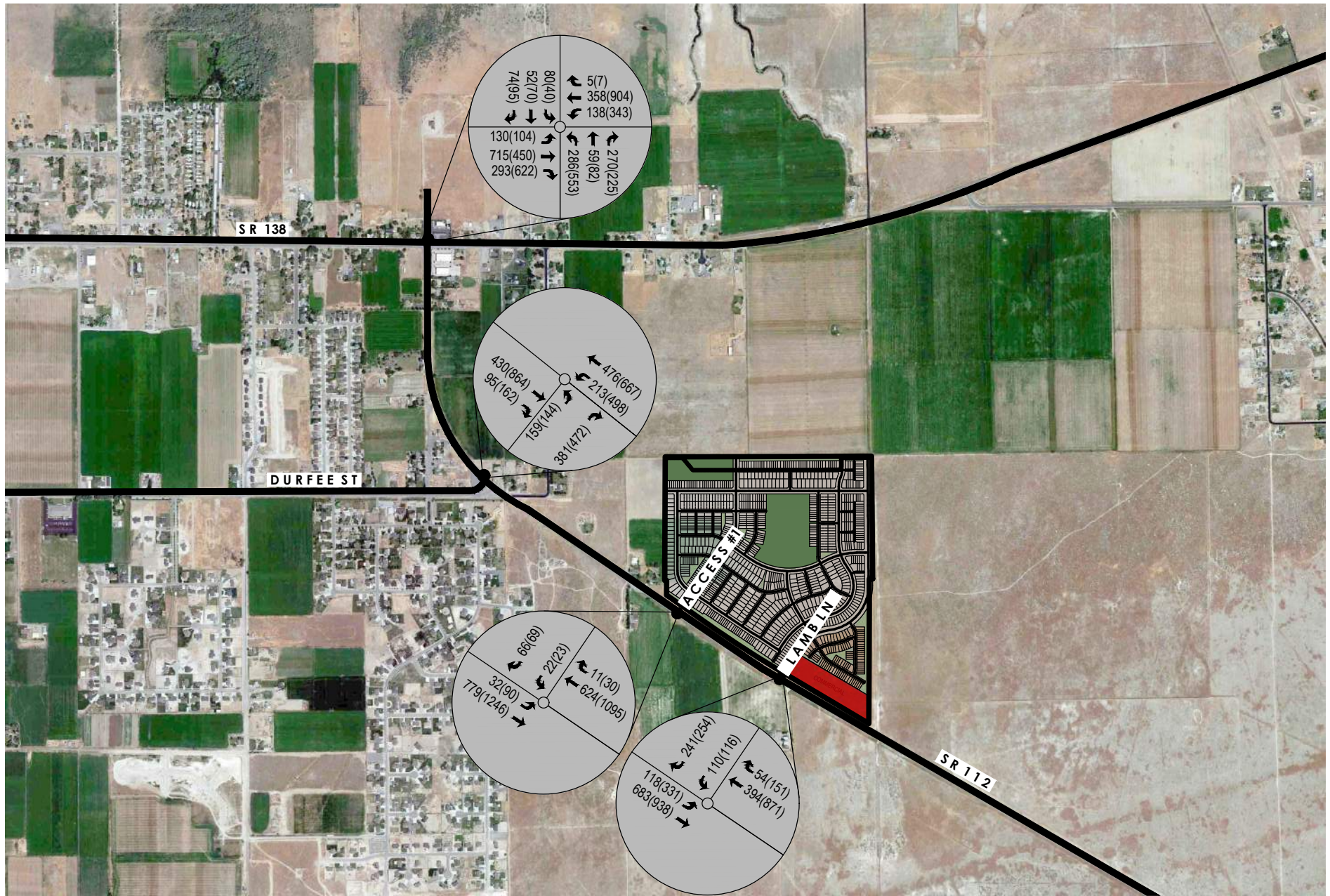
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FIGURE 9 - 2025 OPENING YEAR WITH PROJECT





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FIGURE 10 - 2030 FUTURE YEAR WITH PROJECT





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FIGURE 11 - 2045 FUTURE YEAR WITH PROJECT



LEVELS OF SERVICE

The following tables show the updated levels of service for the 2025 Opening Year with Project scenario, the 2030 Future Year with Project scenario, and the 2045 Future Year with Project scenarios.

Table 1 – 2025 Opening Year with Project Traffic LOS

Intersection	2025 Opening Year w/ Project Traffic LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
3. SR 112 & Access 1					
AM Peak Hour	-	-	B(13.8)	A(0.5)	A(0)
PM Peak Hour	-	-	C(21.6)	A(0.9)	A(0)
4. SR 112 & Lamb Lane					
AM Peak Hour	-	-	C(15.1)	A(1.7)	A(0)
PM Peak Hour	-	-	F(58.6)	A(4.4)	A(0)

Table 2 – 2030 Future Year with Project Traffic LOS

Intersection	2030 Future Year w/ Project Year Traffic LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
3. SR 112 & Access 1					
AM Peak Hour	-	-	B(14.3)	A(0.3)	A(0)
PM Peak Hour	-	-	C(23.8)	A(0.9)	A(0)
4. SR 112 & Lamb Lane					
AM Peak Hour	-	-	C(23.8)	A(1.6)	A(0)
PM Peak Hour	-	-	F(75.2)	A(4.4)	A(0)

Table 3 – 2045 Future Year with Project Traffic LOS

Intersection	2045 Future Year w/ Project Year Traffic LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
3. SR 112 & Access 1					
AM Peak Hour	-	-	C(16.2)	A(0.4)	A(0)
PM Peak Hour	-	-	D(33.4)	A(0.9)	A(0)
4. SR 112 & Lamb Lane					
AM Peak Hour	-	-	C(19.8)	A(1.3)	A(0)
PM Peak Hour	-	-	F(176.0)	A(4.7)	A(0)

As seen in the above tables, the SR 112 and Access 1 intersection will function with acceptable levels of service under all three scenarios. This intersection is planned to function with full left and right turn movements from Access 1 onto and off of SR 112. The Access at Lamb Lane, which will function as the primary access to the site, will function with a LOS "F" under all three scenarios. In order to mitigate the failing southbound movement at the Lamb Lane and SR 112 intersection, a signal warrant analysis was performed.

TRAFFIC SIGNAL WARRANT

Warrant 3 (Peak Hour)

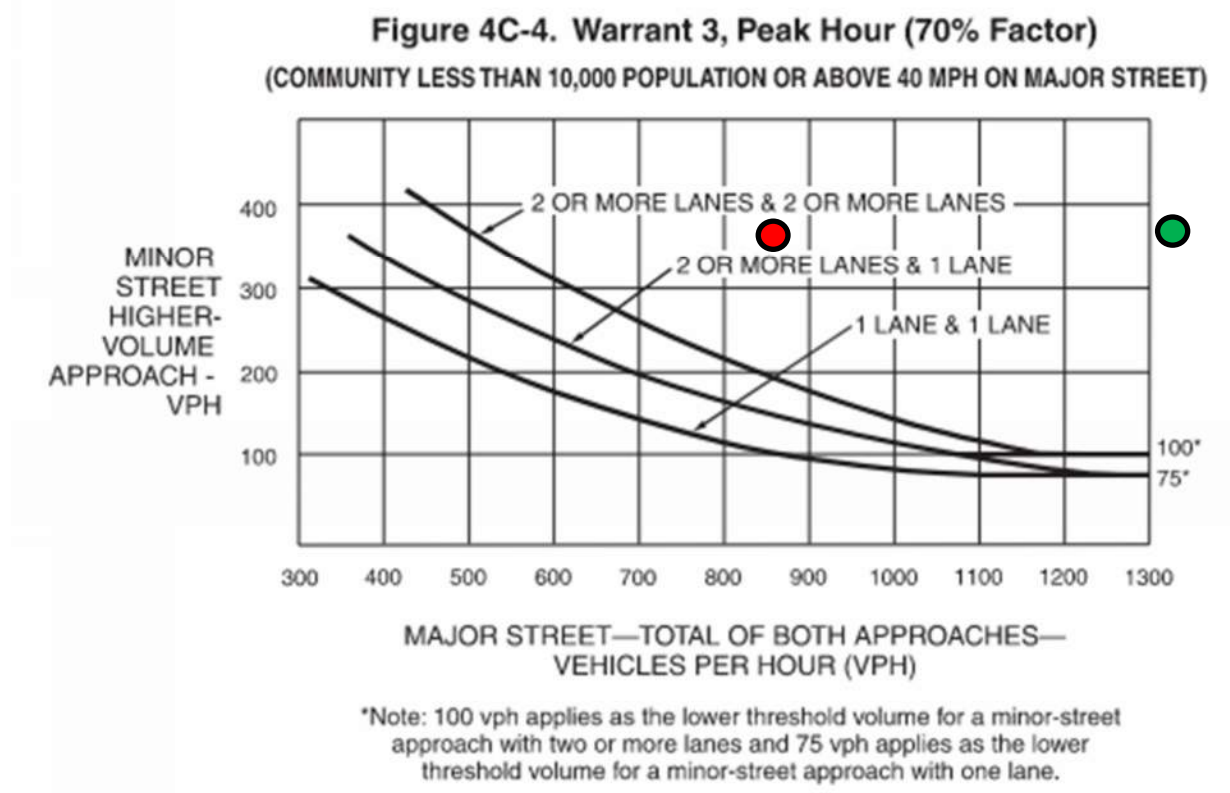
SR 112 and Lamb Lane

This traffic signal warrant analysis was performed at the SR-112 and Lamb Lane intersection in order to mitigate the level of service for southbound movements. The major street is SR-112 and the minor street is Lamb Lane. It is anticipated that for the Opening and Future Years used in this analysis, SR-112 will be one lane in each direction with a separate left turn lane in the southbound direction. Lamb Lane will be one lane in each direction with separate right and left turn lanes that connect to SR-112.

It is projected under the 2025 Opening Year with Project scenario, along SR-112, the combined vehicles per hours (vph) of the major street in the AM Peak Hour will be 860 vph and in the PM Peak Hour, 1576 vph. The higher volume of the Minor Street (Lamb Lane) under the 2025 Opening Year with Project scenario, will be 351 vph in the AM peak hour and 370 vph in the PM peak hour.

As seen in Figure 12, the plotted points of these volumes fall above the applicable curve and therefore warrant a traffic signal at this time. With the addition of a traffic signal, the SR-112 & Lamb Lane intersection will function with an acceptable LOS under all three scenarios. Refer to the tables below for the levels of service for the overall intersection and each movement.

Figure 12 – SR 112 & Lamb Lane 2025 Scenarios Signal Warrant



● = 2025 Opening Year with Project Traffic Volumes (AM Peak Hour)

● = 2025 Opening Year with Project Traffic Volumes (PM Peak Hour)

Table 4 – 2025 Opening Year with Project Traffic LOS - Mitigations

Intersection	2025 Opening Year w/ Project Traffic w/ Mitigations LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
3. SR 112 & Access 1					
AM Peak Hour	-	-	B(13.8)	A(0.5)	A(0)
PM Peak Hour	-	-	C(21.6)	A(0.9)	A(0)
4. SR 112 & Lamb Lane					
AM Peak Hour	A(8.7)	-	B(10.9)	A(6.2)	B(10.8)
PM Peak Hour	B(15.4)	-	C(22.4)	A(9.5)	B(19.7)

Table 5 – 2030 Future Year with Project Traffic LOS - Mitigations

Intersection	2030 Future Year w/ Project Traffic w/ Mitigations LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
3. SR 112 & Access 1					
AM Peak Hour	-	-	B(14.3)	A(0.4)	A(0)
PM Peak Hour	-	-	C(23.8)	A(0.9)	A(0)
4. SR 112 & Lamb Lane					
AM Peak Hour	A(8.9)	-	B(11.3)	A(6.4)	B(10.9)
PM Peak Hour	B(16.9)	-	C(26.0)	B(11.2)	C(26.0)

Table 6 – 2045 Future Year with Project Traffic LOS - Mitigations

Intersection	2045 Future Year w/ Project Traffic w/ Mitigations LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
3. SR 112 & Access 1					
AM Peak Hour	-	-	C(16.2)	A(0.4)	A(0)
PM Peak Hour	-	-	D(33.4)	A(0.9)	A(0)
4. SR 112 & Lamb Lane					
AM Peak Hour	A(9.7)	-	B(13.0)	A(7.4)	B(11.2)
PM Peak Hour	C(33.7)	-	D(54.7)	C(26.6)	D(35.1)

FINDINGS AND RECOMMENDATIONS

With the projected trips generated from Deseret Meadows development, all the traffic will access onto SR-112 using Lamb Lane and Access 1. The updated trip generation with the new land uses and number of units planned for this development, it is anticipated Access 1 and SR 112 will continue to function with acceptable levels of service under all three scenarios, 2025 Opening Year, 2030 Future Year and 2045 Future Year. The Lamb Lane and SR 112 intersection will experience a failing southbound movement. With the projected traffic volumes, it is anticipated a traffic signal will be warranted at this intersection at full build-out of the development. With the addition of a traffic signal at Lamb Lane and SR 112, this intersection will improve to a LOS B or better.

With the new traffic distribution onto the SR-112 & Lamb Lane intersection, a signal warrant analysis was conducted to ensure an acceptable level of service for the southbound in 2025 Opening Year with Project, 2030 Future Year with project and the 2045 Future Year with Project Scenarios. As seen in Figure 12, Lamb Lane & SR-112 does meet the peak hour signal warrant under the AM and PM peak hours. It is recommended this intersection be monitored when traffic volumes are present to run a full signal warrant analysis to determine when and if a signal is warranted at this intersection.

As was determined in the traffic impact study for this development, at the Lamb Lane and SR-112 intersection, it is recommended a westbound right turn lane, eastbound left turn lane and a southbound left turn lane be constructed at this intersection. It is recommended separate left and right turn lanes along Lamb Lane be constructed.

The Access 1 and SR-112 is recommended to be constructed with a separate eastbound left turn lane, a separate westbound right turn lane and westbound acceleration lane as the traffic volumes will meet the requirements set forth by UDOT for turn lane installation.

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	32	564	504	11	22	66
Future Vol, veh/h	32	564	504	11	22	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	613	548	12	24	72
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	560	0	-	0	1231	548
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	683	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1011	-	-	-	196	536
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1011	-	-	-	189	536
Mov Cap-2 Maneuver	-	-	-	-	327	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	502	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.5	0		13.8		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	1011	-	-	-	327	536
HCM Lane V/C Ratio	0.034	-	-	-	0.073	0.134
HCM Control Delay (s/veh)	8.7	-	-	-	16.9	12.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.2	0.5

Intersection

Int Delay, s/veh 5

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	118	468	274	54	110	241
Future Vol, veh/h	118	468	274	54	110	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	128	509	298	59	120	262

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	357	0	0 1063 298
Stage 1	-	-	- 298 -
Stage 2	-	-	- 765 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1202	-	- 247 741
Stage 1	-	-	- 753 -
Stage 2	-	-	- 459 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1202	-	- 221 741
Mov Cap-2 Maneuver	-	-	- 344 -
Stage 1	-	-	- 673 -
Stage 2	-	-	- 459 -

Approach	EB	WB	SW
HCM Control Delay, s/v	1.7	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1SWLn2
Capacity (veh/h)	1202	-	-	- 344 741
HCM Lane V/C Ratio	0.107	-	-	- 0.348 0.354
HCM Control Delay (s/veh)	8.4	-	-	- 20.9 12.5
HCM Lane LOS	A	-	-	- C B
HCM 95th %tile Q (veh)	0.4	-	-	- 1.5 1.6

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	90	953	813	30	23	69
Future Vol, veh/h	90	953	813	30	23	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	1036	884	33	25	75
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	917	0	-	0	2116	884
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	1232	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	744	-	-	-	56	344
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	275	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	744	-	-	-	49	344
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	275	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.9	0		21.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	744	-	-	-	163	344
HCM Lane V/C Ratio	0.131	-	-	-	0.153	0.218
HCM Control Delay (s/veh)	10.6	-	-	-	31	18.4
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q (veh)	0.5	-	-	-	0.5	0.8

Intersection						
Int Delay, s/veh	12.4					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	331	645	600	151	116	254
Future Vol, veh/h	331	645	600	151	116	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	360	701	652	164	126	276
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	816	0	-	0	2073	652
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	1421	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	812	-	-	-	~ 59	468
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	223	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	812	-	-	-	~ 33	468
Mov Cap-2 Maneuver	-	-	-	-	130	-
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	223	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	4.4	0		58.6		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	812	-	-	-	130	468
HCM Lane V/C Ratio	0.443	-	-	-	0.97	0.59
HCM Control Delay (s/veh)	12.9	-	-	-	136.1	23.2
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q (veh)	2.3	-	-	-	6.6	3.7
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	32	611	530	11	22	66
Future Vol, veh/h	32	611	530	11	22	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	664	576	12	24	72
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	588	0	-	0	1310	576
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	734	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	987	-	-	-	175	517
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	475	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	987	-	-	-	169	517
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	475	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.4	0		14.3		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	987	-	-	-	308	517
HCM Lane V/C Ratio	0.035	-	-	-	0.078	0.139
HCM Control Delay (s/veh)	8.8	-	-	-	17.7	13.1
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3	0.5

Intersection						
Int Delay, s/veh	7					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	118	515	300	54	110	241
Future Vol, veh/h	118	515	300	54	110	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	128	560	326	59	120	262
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	385	0	-	0	1142	326
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	816	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1173	-	-	-	222	715
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1173	-	-	-	198	715
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	435	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	1.6	0		23.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	1173	-	-	-	198	715
HCM Lane V/C Ratio	0.109	-	-	-	0.604	0.366
HCM Control Delay (s/veh)	8.4	-	-	-	47.6	12.9
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q (veh)	0.4	-	-	-	3.4	1.7

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	90	1016	882	30	23	69
Future Vol, veh/h	90	1016	882	30	23	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	1104	959	33	25	75
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	992	0	-	0	2259	959
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	1300	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	697	-	-	-	45	312
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	255	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	697	-	-	-	39	312
Mov Cap-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	255	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.9	0		23.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	697	-	-	-	147	312
HCM Lane V/C Ratio	0.14	-	-	-	0.17	0.24
HCM Control Delay (s/veh)	11	-	-	-	34.4	20.2
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q (veh)	0.5	-	-	-	0.6	0.9

Intersection						
Int Delay, s/veh	14.6					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	331	708	658	151	116	254
Future Vol, veh/h	331	708	658	151	116	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	360	770	715	164	126	276
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	879	0	-	0	2205	715
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	1490	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	769	-	-	-	~ 49	431
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	206	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	769	-	-	-	~ 26	431
Mov Cap-2 Maneuver	-	-	-	-	~ 116	-
Stage 1	-	-	-	-	258	-
Stage 2	-	-	-	-	206	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	4.4	0		75.2		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	769	-	-	-	116	431
HCM Lane V/C Ratio	0.468	-	-	-	1.087	0.641
HCM Control Delay (s/veh)	13.7	-	-	-	180.4	27.1
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q (veh)	2.5	-	-	-	7.5	4.4
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	32	779	624	11	22	66
Future Vol, veh/h	32	779	624	11	22	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	847	678	12	24	72
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	690	0	-	0	1595	678
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	917	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	905	-	-	-	118	452
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	390	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	905	-	-	-	113	452
Mov Cap-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	390	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.4	0		16.2		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	905	-	-	-	248	452
HCM Lane V/C Ratio	0.038	-	-	-	0.096	0.159
HCM Control Delay (s/veh)	9.1	-	-	-	21.1	14.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3	0.6

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	118	683	394	54	110	241
Future Vol, veh/h	118	683	394	54	110	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	128	742	428	59	120	262
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	487	0	-	0	1426	428
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	998	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1076	-	-	-	149	627
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	357	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1076	-	-	-	131	627
Mov Cap-2 Maneuver	-	-	-	-	257	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	357	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	1.3	0		19.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	1076	-	-	-	257	627
HCM Lane V/C Ratio	0.119	-	-	-	0.465	0.418
HCM Control Delay (s/veh)	8.8	-	-	-	30.6	14.8
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q (veh)	0.4	-	-	-	2.3	2.1

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	90	1246	1095	30	23	69
Future Vol, veh/h	90	1246	1095	30	23	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	1354	1190	33	25	75
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1223	0	-	0	2740	1190
Stage 1	-	-	-	-	1190	-
Stage 2	-	-	-	-	1550	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	570	-	-	-	~ 22	229
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	193	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	570	-	-	-	~ 18	229
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	193	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.9	0		33.4		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	570	-	-	-	106	229
HCM Lane V/C Ratio	0.172	-	-	-	0.236	0.328
HCM Control Delay (s/veh)	12.6	-	-	-	49.1	28.2
HCM Lane LOS	B	-	-	-	E	D
HCM 95th %tile Q (veh)	0.6	-	-	-	0.9	1.4
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	26.7					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	331	938	871	151	116	254
Future Vol, veh/h	331	938	871	151	116	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	360	1020	947	164	126	276
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1111	0	-	0	2687	947
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	1740	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	629	-	-	-	~ 24	317
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	155	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	629	-	-	-	~ 10	317
Mov Cap-2 Maneuver	-	-	-	-	~ 77	-
Stage 1	-	-	-	-	161	-
Stage 2	-	-	-	-	155	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	4.7	0		176		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	629	-	-	-	77	317
HCM Lane V/C Ratio	0.572	-	-	-	1.637	0.871
HCM Control Delay (s/veh)	18.1	-	-	-	\$ 429.8	60.1
HCM Lane LOS	C	-	-	-	F	F
HCM 95th %tile Q (veh)	3.6	-	-	-	10.6	7.9
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	32	564	504	11	22	66
Future Vol, veh/h	32	564	504	11	22	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	613	548	12	24	72
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	560	0	-	0	1231	548
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	683	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1011	-	-	-	196	536
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1011	-	-	-	189	536
Mov Cap-2 Maneuver	-	-	-	-	327	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	502	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.5	0		13.8		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	1011	-	-	-	327	536
HCM Lane V/C Ratio	0.034	-	-	-	0.073	0.134
HCM Control Delay (s/veh)	8.7	-	-	-	16.9	12.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.2	0.5

HCM 6th Signalized Intersection Summary 4: SR -112 & Lamb Lane

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Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations							
Traffic Volume (veh/h)	118	468	274	54	110	241	
Future Volume (veh/h)	118	468	274	54	110	241	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	128	509	298	59	120	262	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	515	890	468	397	445	396	
Arrive On Green	0.09	0.48	0.25	0.25	0.25	0.25	
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585	
Grp Volume(v), veh/h	128	509	298	59	120	262	
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585	
Q Serve(g_s), s	1.3	5.7	4.1	0.8	1.6	4.3	
Cycle Q Clear(g_c), s	1.3	5.7	4.1	0.8	1.6	4.3	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	515	890	468	397	445	396	
V/C Ratio(X)	0.25	0.57	0.64	0.15	0.27	0.66	
Avail Cap(c_a), veh/h	663	1602	1025	869	1038	923	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	6.3	5.5	9.8	8.5	8.8	9.8	
Incr Delay (d2), s/veh	0.2	0.6	1.4	0.2	0.3	1.9	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.2	0.5	1.0	0.2	0.4	3.9	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	6.5	6.1	11.2	8.7	9.1	11.7	
LnGrp LOS	A	A	B	A	A	B	
Approach Vol, veh/h		637	357	382			
Approach Delay, s/veh		6.2	10.8	10.9			
Approach LOS		A	B	B			
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				17.9	11.3	6.6	11.3
Change Period (Y+Rc), s				4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s				25.0	17.0	5.0	16.0
Max Q Clear Time (g_c+I1), s				7.7	6.3	3.3	6.1
Green Ext Time (p_c), s				2.6	1.0	0.0	1.2
Intersection Summary							
HCM 6th Ctrl Delay, s/veh			8.7				
HCM 6th LOS			A				

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	90	953	813	30	23	69
Future Vol, veh/h	90	953	813	30	23	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	1036	884	33	25	75
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	917	0	-	0	2116	884
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	1232	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	744	-	-	-	56	344
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	275	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	744	-	-	-	49	344
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	275	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.9	0		21.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	744	-	-	-	163	344
HCM Lane V/C Ratio	0.131	-	-	-	0.153	0.218
HCM Control Delay (s/veh)	10.6	-	-	-	31	18.4
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q (veh)	0.5	-	-	-	0.5	0.8

HCM 6th Signalized Intersection Summary 4: SR -112 & Lamb Lane

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Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations							
Traffic Volume (veh/h)	331	645	600	151	116	254	
Future Volume (veh/h)	331	645	600	151	116	254	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	360	701	652	164	126	276	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	459	1176	754	639	388	345	
Arrive On Green	0.15	0.63	0.40	0.40	0.22	0.22	
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585	
Grp Volume(v), veh/h	360	701	652	164	126	276	
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585	
Q Serve(g_s), s	5.4	11.6	16.7	3.6	3.1	8.6	
Cycle Q Clear(g_c), s	5.4	11.6	16.7	3.6	3.1	8.6	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	459	1176	754	639	388	345	
V/C Ratio(X)	0.78	0.60	0.86	0.26	0.32	0.80	
Avail Cap(c_a), veh/h	570	1435	897	760	581	517	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	10.2	5.7	14.3	10.4	17.2	19.3	
Incr Delay (d2), s/veh	5.7	0.5	7.7	0.2	0.5	5.3	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.7	1.9	6.5	0.9	1.2	0.5	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	15.9	6.2	22.0	10.6	17.6	24.6	
LnGrp LOS	B	A	C	B	B	C	
Approach Vol, veh/h		1061	816		402		
Approach Delay, s/veh		9.5	19.7		22.4		
Approach LOS		A	B		C		
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			36.8		15.4	11.8	25.0
Change Period (Y+Rc), s			4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s			40.0		17.0	11.0	25.0
Max Q Clear Time (g_c+I1), s			13.6		10.6	7.4	18.7
Green Ext Time (p_c), s			4.5		0.8	0.4	2.4
Intersection Summary							
HCM 6th Ctrl Delay, s/veh			15.4				
HCM 6th LOS			B				

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	32	611	530	11	22	66
Future Vol, veh/h	32	611	530	11	22	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	664	576	12	24	72
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	588	0	-	0	1310	576
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	734	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	987	-	-	-	175	517
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	475	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	987	-	-	-	169	517
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	475	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.4	0		14.3		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	987	-	-	-	308	517
HCM Lane V/C Ratio	0.035	-	-	-	0.078	0.139
HCM Control Delay (s/veh)	8.8	-	-	-	17.7	13.1
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3	0.5

HCM 6th Signalized Intersection Summary 4: SR -112 & Lamb Lane

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Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations	↰	↑	↑	↱	↰	↱	
Traffic Volume (veh/h)	118	515	300	54	110	241	
Future Volume (veh/h)	118	515	300	54	110	241	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	128	560	326	59	120	262	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	506	908	494	419	439	391	
Arrive On Green	0.09	0.49	0.26	0.26	0.25	0.25	
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585	
Grp Volume(v), veh/h	128	560	326	59	120	262	
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585	
Q Serve(g_s), s	1.3	6.6	4.6	0.8	1.6	4.5	
Cycle Q Clear(g_c), s	1.3	6.6	4.6	0.8	1.6	4.5	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	506	908	494	419	439	391	
V/C Ratio(X)	0.25	0.62	0.66	0.14	0.27	0.67	
Avail Cap(c_a), veh/h	708	1628	1002	849	954	849	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	6.3	5.6	9.8	8.4	9.1	10.2	
Incr Delay (d2), s/veh	0.3	0.7	1.5	0.2	0.3	2.0	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.2	0.5	1.1	0.2	0.5	4.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	6.5	6.3	11.3	8.6	9.4	12.2	
LnGrp LOS	A	A	B	A	A	B	
Approach Vol, veh/h		688	385		382		
Approach Delay, s/veh		6.4	10.9		11.3		
Approach LOS		A	B		B		
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			18.5		11.4	6.6	11.9
Change Period (Y+Rc), s			4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s			26.0		16.0	6.0	16.0
Max Q Clear Time (g_c+I1), s			8.6		6.5	3.3	6.6
Green Ext Time (p_c), s			2.9		0.9	0.1	1.3
Intersection Summary							
HCM 6th Ctrl Delay, s/veh			8.9				
HCM 6th LOS			A				

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	90	1016	882	30	23	69
Future Vol, veh/h	90	1016	882	30	23	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	1104	959	33	25	75
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	992	0	-	0	2259	959
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	1300	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	697	-	-	-	45	312
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	255	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	697	-	-	-	39	312
Mov Cap-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	255	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.9	0		23.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	697	-	-	-	147	312
HCM Lane V/C Ratio	0.14	-	-	-	0.17	0.24
HCM Control Delay (s/veh)	11	-	-	-	34.4	20.2
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q (veh)	0.5	-	-	-	0.6	0.9

HCM 6th Signalized Intersection Summary 4: SR -112 & Lamb Lane

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Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations							
Traffic Volume (veh/h)	331	708	658	151	116	254	
Future Volume (veh/h)	331	708	658	151	116	254	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	360	770	715	164	126	276	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	431	1210	818	693	380	338	
Arrive On Green	0.14	0.65	0.44	0.44	0.21	0.21	
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585	
Grp Volume(v), veh/h	360	770	715	164	126	276	
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585	
Q Serve(g_s), s	5.6	14.1	19.9	3.7	3.4	9.5	
Cycle Q Clear(g_c), s	5.6	14.1	19.9	3.7	3.4	9.5	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	431	1210	818	693	380	338	
V/C Ratio(X)	0.84	0.64	0.87	0.24	0.33	0.82	
Avail Cap(c_a), veh/h	526	1474	983	833	530	472	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	11.4	6.1	14.6	10.1	19.0	21.4	
Incr Delay (d2), s/veh	9.5	0.7	7.7	0.2	0.5	7.6	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	2.5	2.6	7.7	1.0	1.4	8.5	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	20.9	6.7	22.3	10.3	19.5	29.0	
LnGrp LOS	C	A	C	B	B	C	
Approach Vol, veh/h		1130	879	402			
Approach Delay, s/veh		11.2	20.1	26.0			
Approach LOS		B	C	C			
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				40.9	16.2	12.0	29.0
Change Period (Y+Rc), s				4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s				45.0	17.0	11.0	30.0
Max Q Clear Time (g_c+I1), s				16.1	11.5	7.6	21.9
Green Ext Time (p_c), s				5.3	0.7	0.4	3.1
Intersection Summary							
HCM 6th Ctrl Delay, s/veh			16.9				
HCM 6th LOS			B				

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	32	779	624	11	22	66
Future Vol, veh/h	32	779	624	11	22	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	847	678	12	24	72
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	690	0	-	0	1595	678
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	917	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	905	-	-	-	118	452
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	390	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	905	-	-	-	113	452
Mov Cap-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	390	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.4	0		16.2		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	905	-	-	-	248	452
HCM Lane V/C Ratio	0.038	-	-	-	0.096	0.159
HCM Control Delay (s/veh)	9.1	-	-	-	21.1	14.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3	0.6

HCM 6th Signalized Intersection Summary 4: SR -112 & Lamb Lane

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Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations	↰	↱	↰	↰	↰	↰	
Traffic Volume (veh/h)	118	683	394	54	110	241	
Future Volume (veh/h)	118	683	394	54	110	241	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	128	742	428	59	120	262	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	472	979	599	508	422	376	
Arrive On Green	0.08	0.52	0.32	0.32	0.24	0.24	
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585	
Grp Volume(v), veh/h	128	742	428	59	120	262	
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585	
Q Serve(g_s), s	1.4	10.5	6.7	0.9	1.8	5.0	
Cycle Q Clear(g_c), s	1.4	10.5	6.7	0.9	1.8	5.0	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	472	979	599	508	422	376	
V/C Ratio(X)	0.27	0.76	0.71	0.12	0.28	0.70	
Avail Cap(c_a), veh/h	643	1736	1176	996	853	759	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	6.5	6.3	10.0	8.0	10.4	11.6	
Incr Delay (d2), s/veh	0.3	1.2	1.6	0.1	0.4	2.3	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.2	1.1	1.7	0.2	0.6	0.2	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	6.8	7.5	11.6	8.1	10.8	14.0	
LnGrp LOS	A	A	B	A	B	B	
Approach Vol, veh/h		870	487		382		
Approach Delay, s/veh		7.4	11.2		13.0		
Approach LOS		A	B		B		
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			21.5		11.9	6.8	14.7
Change Period (Y+Rc), s			4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s			31.0		16.0	6.0	21.0
Max Q Clear Time (g_c+I1), s			12.5		7.0	3.4	8.7
Green Ext Time (p_c), s			4.4		0.9	0.1	2.0
Intersection Summary							
HCM 6th Ctrl Delay, s/veh			9.7				
HCM 6th LOS			A				

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	90	1246	1095	30	23	69
Future Vol, veh/h	90	1246	1095	30	23	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	100	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	1354	1190	33	25	75
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1223	0	-	0	2740	1190
Stage 1	-	-	-	-	1190	-
Stage 2	-	-	-	-	1550	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	570	-	-	-	~ 22	229
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	193	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	570	-	-	-	~ 18	229
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	193	-
Approach	EB	WB		SW		
HCM Control Delay, s/v	0.9	0		33.4		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2	
Capacity (veh/h)	570	-	-	-	106	229
HCM Lane V/C Ratio	0.172	-	-	-	0.236	0.328
HCM Control Delay (s/veh)	12.6	-	-	-	49.1	28.2
HCM Lane LOS	B	-	-	-	E	D
HCM 95th %tile Q (veh)	0.6	-	-	-	0.9	1.4
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th Signalized Intersection Summary 4: SR -112 & Lamb Lane

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Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations							
Traffic Volume (veh/h)	331	938	871	151	116	254	
Future Volume (veh/h)	331	938	871	151	116	254	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	360	1020	947	164	126	276	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	363	1344	987	836	341	303	
Arrive On Green	0.15	0.72	0.53	0.53	0.19	0.19	
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585	
Grp Volume(v), veh/h	360	1020	947	164	126	276	
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585	
Q Serve(g_s), s	12.8	30.0	43.1	4.8	5.5	15.2	
Cycle Q Clear(g_c), s	12.8	30.0	43.1	4.8	5.5	15.2	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	363	1344	987	836	341	303	
V/C Ratio(X)	0.99	0.76	0.96	0.20	0.37	0.91	
Avail Cap(c_a), veh/h	363	1368	1010	856	341	303	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	28.2	7.7	20.1	11.1	31.3	35.2	
Incr Delay (d2), s/veh	44.7	2.5	19.1	0.1	0.7	29.8	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	11.7	8.0	20.4	1.5	2.4	14.8	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh	72.9	10.2	39.2	11.2	32.0	65.0	
LnGrp LOS	E	B	D	B	C	E	
Approach Vol, veh/h		1380	1111		402		
Approach Delay, s/veh		26.6	35.1		54.7		
Approach LOS		C	D		D		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				67.9	21.0	17.0	50.9
Change Period (Y+Rc), s				4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s				65.0	17.0	13.0	48.0
Max Q Clear Time (g_c+I1), s				32.0	17.2	14.8	45.1
Green Ext Time (p_c), s				8.9	0.0	0.0	1.8
Intersection Summary							
HCM 6th Ctrl Delay, s/veh			33.7				
HCM 6th LOS			C				