

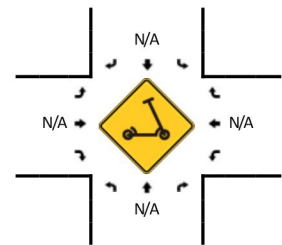
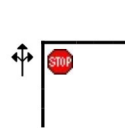
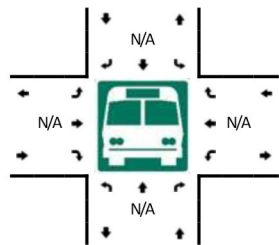
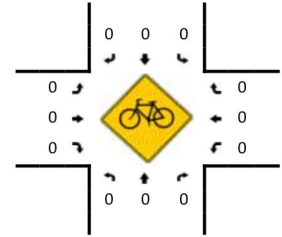
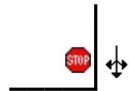
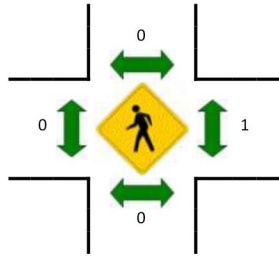
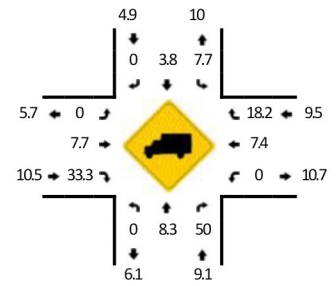
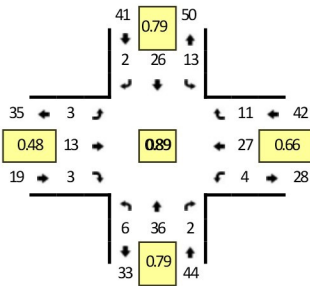
Appendix

Appendix A: Traffic Count Data

LOCATION: Altman Road -- Lusted Road
CITY/STATE: Multnomah, OR

QC JOB #: 15711501
DATE: Wed, Feb 23 2022

Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM



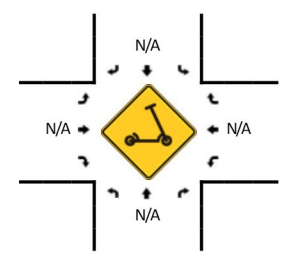
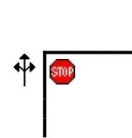
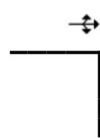
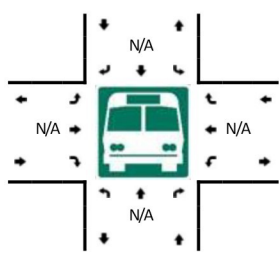
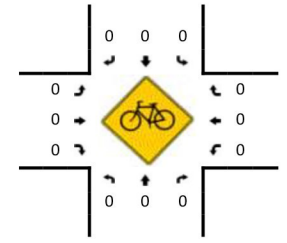
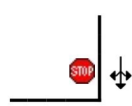
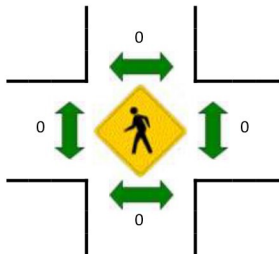
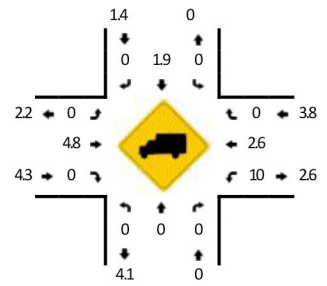
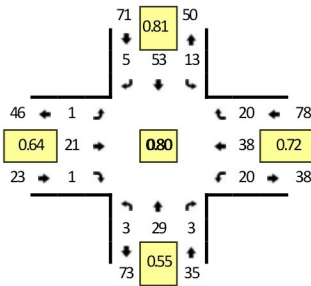
5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U				
7:00 AM	0	4	0	0	0	1	0	0	0	0	3	0	0	0	1	1	0	0	10	
7:05 AM	0	2	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	6	
7:10 AM	0	2	0	0	2	3	0	0	0	0	1	0	0	0	0	0	1	0	9	
7:15 AM	1	5	2	0	0	3	0	0	0	1	2	0	0	0	3	0	0	0	17	
7:20 AM	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	7	
7:25 AM	0	3	0	0	1	6	0	0	0	1	0	0	0	0	2	0	0	0	13	
7:30 AM	0	2	0	0	2	5	0	0	0	0	1	0	0	0	2	0	0	0	12	
7:35 AM	0	3	0	0	1	1	0	0	0	0	1	0	0	0	3	1	0	0	10	
7:40 AM	0	5	0	0	1	2	0	0	0	0	0	0	0	1	2	0	0	0	11	
7:45 AM	0	3	0	0	1	4	0	0	0	0	0	0	0	0	3	0	0	0	11	
7:50 AM	1	3	0	0	0	2	1	0	0	0	2	0	0	0	2	1	0	0	12	
7:55 AM	1	5	1	0	2	3	0	0	0	0	1	1	0	0	2	2	0	0	18	136
8:00 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	1	1	2	0	0	7	133
8:05 AM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	5	3	0	0	14	141
8:10 AM	0	6	1	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0	11	143
8:15 AM	2	3	0	0	1	3	0	0	0	2	0	0	0	0	1	0	0	0	12	138
8:20 AM	0	1	0	0	1	2	1	0	0	0	2	1	0	1	3	1	0	0	13	144
8:25 AM	1	2	0	0	3	1	0	0	0	0	5	0	0	1	1	1	0	0	15	146
8:30 AM	0	0	1	0	0	3	1	0	0	0	0	1	0	1	0	2	0	0	9	143
8:35 AM	0	2	0	0	1	3	0	0	0	1	2	1	0	0	1	1	0	0	12	145
8:40 AM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	5	139
8:45 AM	1	1	0	0	0	2	0	0	0	0	1	0	0	0	2	1	0	0	8	136
8:50 AM	1	2	0	0	1	3	0	0	0	0	2	0	0	0	0	0	0	0	9	133
8:55 AM	0	1	1	0	1	2	0	0	0	0	4	0	0	1	3	3	0	0	16	131
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U				
All Vehicles	8	44	4	0	12	36	4	0	0	12	4	0	0	28	12	0	0	164		
Heavy Trucks	0	4	4	0	4	4	0	0	0	0	4	0	0	4	0	0	0	24		
Buses																		0		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Scoters																		0		

Comments:

LOCATION: Altman Road -- Lusted Road
CITY/STATE: Multnomah, OR

QC JOB #: 15711502
DATE: Wed, Feb 23 2022

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:25 PM -- 4:40 PM



5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	2	0	0	2	3	0	0	0	2	0	0	0	0	1	1	0	11	
4:05 PM	0	1	1	0	1	7	0	0	0	0	4	0	0	1	7	4	0	26	
4:10 PM	0	2	0	0	2	4	0	0	0	0	2	0	0	2	2	1	0	15	
4:15 PM	0	1	0	0	0	3	0	0	0	0	3	0	0	3	5	1	0	16	
4:20 PM	0	1	0	0	1	7	0	0	0	0	1	0	0	0	2	3	1	16	
4:25 PM	0	4	1	0	0	6	1	0	0	0	2	1	0	0	3	1	0	19	
4:30 PM	1	5	0	0	0	2	3	0	0	0	0	0	0	2	2	1	0	16	
4:35 PM	1	3	1	0	0	5	0	0	0	0	2	0	0	5	10	3	0	30	
4:40 PM	1	3	0	0	1	1	0	0	0	1	2	0	0	1	1	1	0	12	
4:45 PM	0	3	0	0	1	7	0	0	0	0	2	0	0	1	3	0	0	17	
4:50 PM	0	2	0	0	1	4	0	0	0	0	0	0	0	2	1	1	0	11	
4:55 PM	0	2	0	0	4	4	0	0	0	0	1	0	0	2	1	3	0	18	
5:00 PM	0	4	2	0	0	2	0	0	0	0	0	0	0	0	1	1	0	10	207
5:05 PM	0	4	2	0	0	5	1	0	0	0	3	0	0	1	0	1	0	10	190
5:10 PM	1	1	1	0	0	0	0	0	0	0	3	0	0	0	1	3	0	11	186
5:15 PM	0	1	0	0	1	8	0	0	0	0	2	0	0	1	2	1	0	16	186
5:20 PM	0	3	0	0	0	3	0	0	0	0	2	1	0	0	1	1	0	11	181
5:25 PM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	2	0	0	6	168
5:30 PM	0	5	0	0	0	4	1	0	0	0	3	0	0	1	1	1	0	16	168
5:35 PM	0	2	0	0	1	4	0	0	0	0	0	0	0	1	2	0	0	10	148
5:40 PM	1	3	0	0	3	1	1	0	0	0	1	0	0	0	2	2	0	14	150
5:45 PM	1	3	2	0	0	2	0	0	0	1	0	1	0	1	1	3	0	15	148
5:50 PM	0	1	1	0	0	5	0	0	0	0	2	1	0	2	2	1	0	15	152
5:55 PM	1	0	1	0	1	1	0	0	0	1	0	0	0	0	4	0	0	9	143

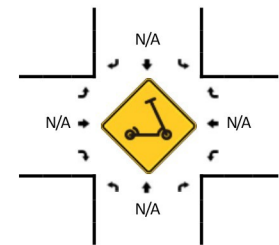
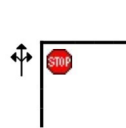
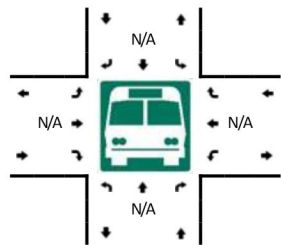
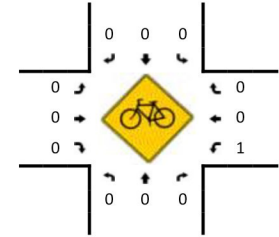
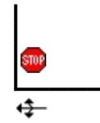
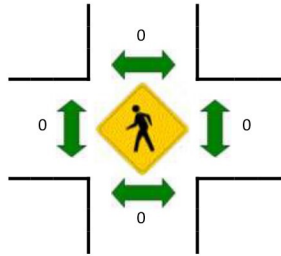
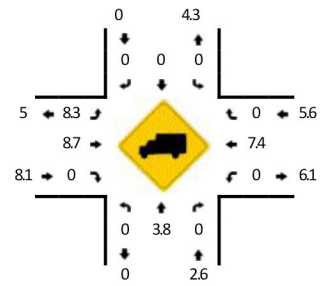
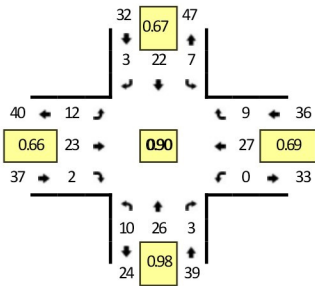
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	48	8	0	0	52	16	0	0	16	4	0	28	60	20	0	260
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

LOCATION: Altman Road -- Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 15711503
DATE: Wed, Feb 23 2022

Peak-Hour: 7:00 AM -- 8:00 AM
 Peak 15-Min: 7:35 AM -- 7:50 AM



5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Dodge Park Blvd (Eastbound)				Dodge Park Blvd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	1	2	0	0	1	1	0	0	2	1	0	0	0	1	0	0	0	9	
7:05 AM	2	3	1	0	1	0	0	0	2	4	1	0	0	0	2	0	0	16	
7:10 AM	0	0	0	0	0	3	0	0	1	1	0	0	0	0	2	1	0	8	
7:15 AM	0	3	0	0	0	3	0	0	2	2	1	0	0	0	0	1	0	12	
7:20 AM	1	2	0	0	0	0	0	0	1	1	0	0	0	0	5	1	0	11	
7:25 AM	0	2	2	0	1	3	1	0	0	3	0	0	0	0	0	1	0	13	
7:30 AM	2	0	0	0	0	3	1	0	0	1	0	0	0	0	3	2	0	12	
7:35 AM	1	2	0	0	1	1	1	0	1	1	0	0	0	0	0	1	0	9	
7:40 AM	2	3	0	0	0	3	0	0	0	2	0	0	0	0	5	0	0	15	
7:45 AM	0	2	0	0	2	2	0	0	2	4	0	0	0	0	3	1	0	16	
7:50 AM	1	1	0	0	1	1	0	0	0	1	0	0	0	0	3	1	0	9	
7:55 AM	1	6	0	0	0	2	0	0	1	2	0	0	0	0	1	0	0	14	144
8:00 AM	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0	7	142
8:05 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3	2	0	8	134
8:10 AM	0	2	0	0	0	0	1	0	2	2	0	0	0	3	1	0	0	11	137
8:15 AM	1	2	0	0	0	1	0	0	1	1	0	0	0	2	1	0	0	9	134
8:20 AM	0	1	0	0	0	2	1	0	2	2	0	0	0	0	3	0	0	11	134
8:25 AM	1	2	0	0	1	2	1	0	0	1	0	0	0	0	1	0	0	9	130
8:30 AM	0	0	0	0	0	3	1	0	1	0	1	0	0	1	1	0	0	8	126
8:35 AM	1	1	0	0	2	2	0	0	0	2	0	0	0	0	1	0	0	9	126
8:40 AM	1	3	1	0	0	1	2	0	1	0	0	0	0	0	3	0	0	12	123
8:45 AM	2	1	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	9	116
8:50 AM	1	1	0	0	0	3	1	0	1	2	0	0	0	0	2	1	0	12	119
8:55 AM	1	2	0	0	0	2	1	0	0	2	1	0	0	0	2	0	0	11	116

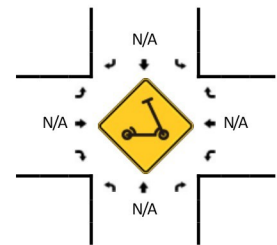
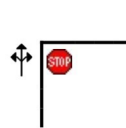
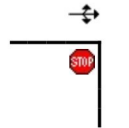
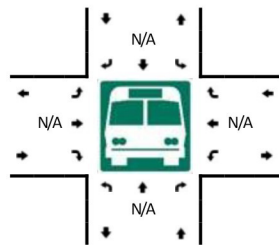
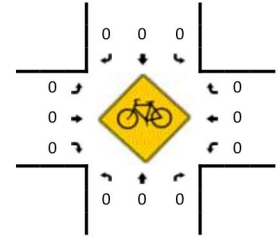
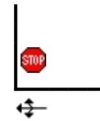
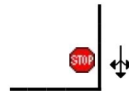
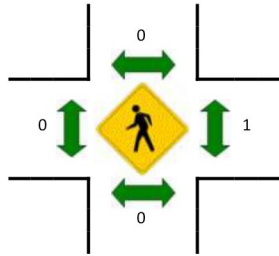
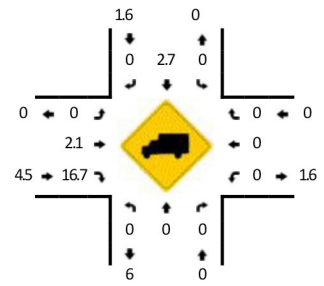
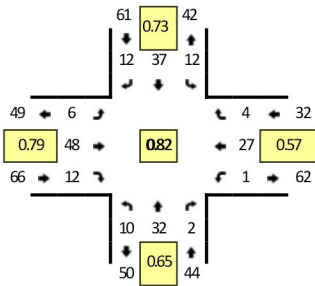
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	28	0	0	12	24	4	0	12	28	0	0	0	32	8	0	160
Heavy Trucks	0	0	0	0	0	0	0	0	0	4	0	0	0	8	0	0	12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

LOCATION: Altman Road -- Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 15711504
DATE: Wed, Feb 23 2022

Peak-Hour: 4:25 PM -- 5:25 PM
 Peak 15-Min: 4:25 PM -- 4:40 PM



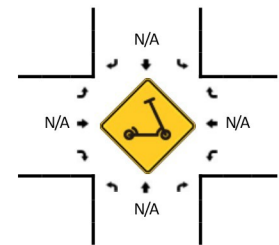
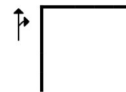
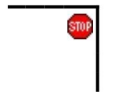
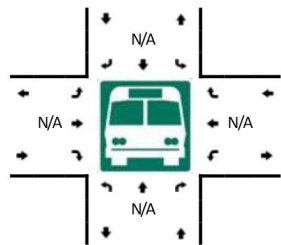
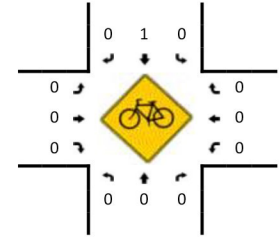
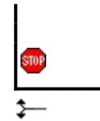
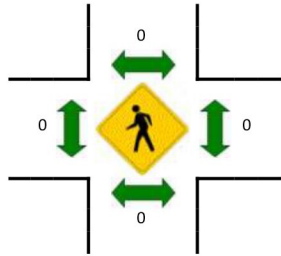
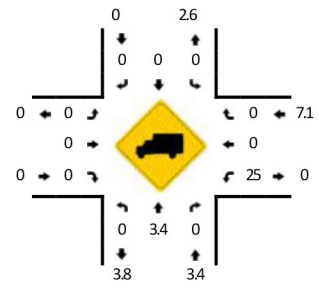
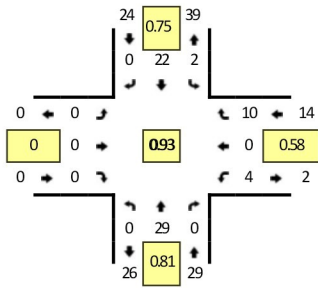
5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Dodge Park Blvd (Eastbound)				Dodge Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	2	0	0	0	3	1	0	0	0	0	0	0	5	0	0	12	
4:05 PM	0	2	0	0	1	2	1	0	0	0	0	0	0	2	0	0	8	
4:10 PM	1	1	0	0	1	5	2	0	1	3	1	0	0	2	0	0	17	
4:15 PM	0	1	0	0	1	1	4	0	0	4	1	0	0	2	1	0	15	
4:20 PM	0	2	0	0	0	5	4	0	0	1	2	0	0	0	0	0	14	
4:25 PM	1	6	0	0	2	4	0	0	0	4	0	0	0	3	1	0	21	
4:30 PM	1	2	1	0	0	3	2	0	0	4	1	0	0	1	1	0	16	
4:35 PM	1	4	1	0	3	4	3	0	1	3	2	0	0	3	0	0	25	
4:40 PM	2	4	0	0	0	1	2	0	0	6	1	0	0	0	1	0	17	
4:45 PM	0	3	0	0	1	4	1	0	2	0	3	0	0	2	0	0	16	
4:50 PM	0	1	0	0	1	3	1	0	0	5	0	0	0	3	0	0	14	
4:55 PM	1	2	0	0	2	1	2	0	2	7	2	0	0	2	0	0	18	193
5:00 PM	1	5	0	0	2	4	0	0	0	3	0	0	0	0	0	0	15	196
5:05 PM	1	1	0	0	1	3	0	0	0	1	1	0	0	1	0	0	9	197
5:10 PM	2	1	0	0	0	1	0	0	1	6	1	0	0	2	0	0	14	194
5:15 PM	0	1	0	0	0	5	0	0	0	4	1	0	0	4	0	0	15	194
5:20 PM	1	2	0	0	2	4	1	0	0	5	0	0	1	6	1	0	23	203
5:25 PM	0	0	0	0	1	2	0	0	0	7	0	0	0	9	1	0	20	202
5:30 PM	0	4	1	0	0	4	0	0	0	4	0	0	1	2	1	0	17	203
5:35 PM	2	2	0	0	1	2	2	0	1	2	0	0	0	1	0	0	13	191
5:40 PM	0	3	0	0	1	1	0	0	1	2	0	0	0	0	1	0	9	183
5:45 PM	0	2	0	0	2	0	0	0	1	4	1	0	0	1	0	0	11	178
5:50 PM	1	1	0	0	3	6	1	0	2	4	0	0	0	1	0	0	19	183
5:55 PM	1	2	0	0	0	0	1	0	1	2	4	0	0	0	0	0	11	176
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	48	8	0	20	44	20	0	4	44	12	0	0	28	8	0	248	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

LOCATION: Altman Road -- Carpenter Lane
CITY/STATE: Multnomah, OR

QC JOB #: 15711505
DATE: Wed, Feb 23 2022

Peak-Hour: 7:00 AM -- 8:00 AM
 Peak 15-Min: 7:05 AM -- 7:20 AM

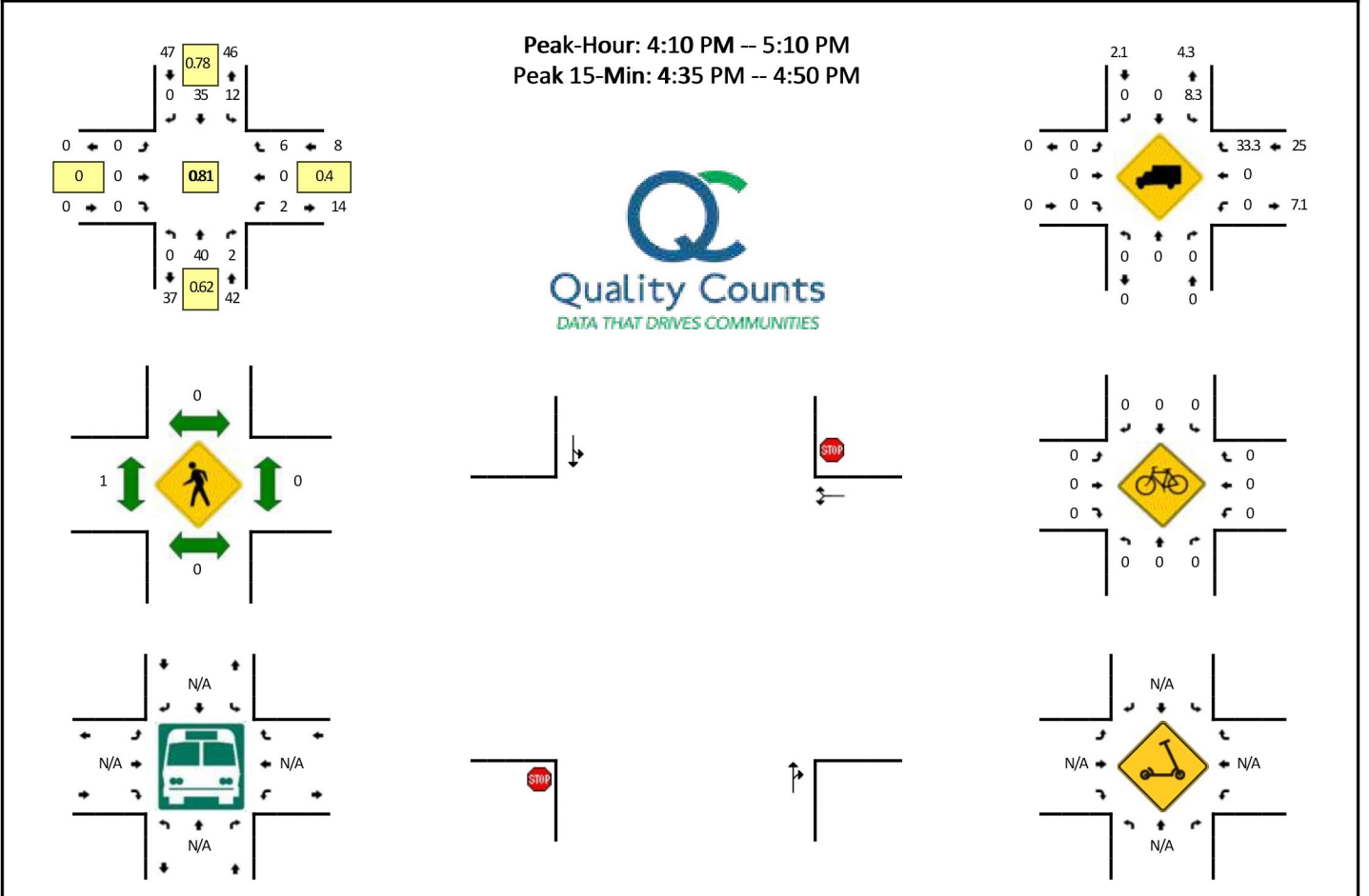


5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Carpenter Lane (Eastbound)				Carpenter Lane (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	3	0	0	0	1	0	0	0	0	0	0	1	0	1	0	6	
7:05 AM	0	3	0	0	1	0	0	0	0	0	0	0	1	0	2	0	7	
7:10 AM	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	4	
7:15 AM	0	2	0	0	1	3	0	0	0	0	0	0	0	0	1	0	7	
7:20 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
7:25 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	2	0	7	
7:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	4	
7:35 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	
7:40 AM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	2	0	8	
7:45 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	
7:50 AM	0	2	0	0	0	1	0	0	0	0	0	0	1	0	1	0	7	
7:55 AM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	67
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
8:05 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	6	58
8:10 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	58
8:15 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	54
8:20 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	3	54
8:25 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4	51
8:30 AM	0	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0	6	53
8:35 AM	0	2	0	0	1	2	0	0	0	0	0	0	0	0	1	0	6	54
8:40 AM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	1	0	5	51
8:45 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	2	0	5	52
8:50 AM	0	1	0	0	2	1	0	0	0	0	0	0	0	0	1	0	5	52
8:55 AM	0	2	0	0	1	2	0	0	0	0	0	0	0	0	1	0	6	51
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	20	0	0	8	24	0	0	0	0	0	0	8	0	12	0	72	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4	
Scoters																		

Comments:

LOCATION: Altman Road -- Carpenter Lane
CITY/STATE: Multnomah, OR

QC JOB #: 15711506
DATE: Wed, Feb 23 2022



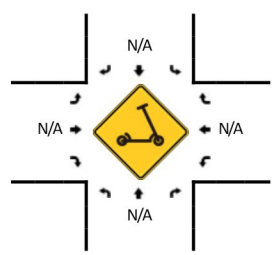
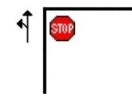
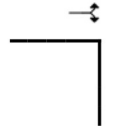
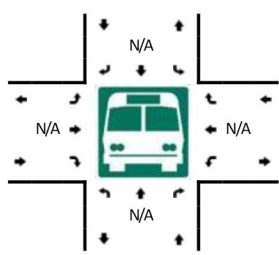
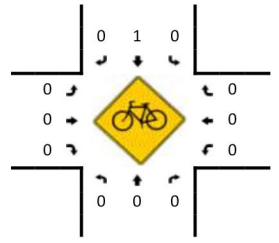
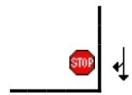
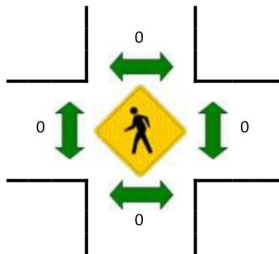
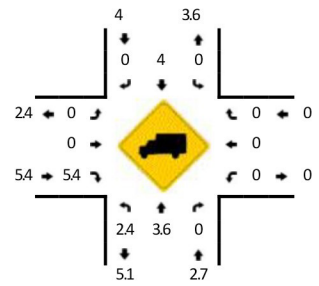
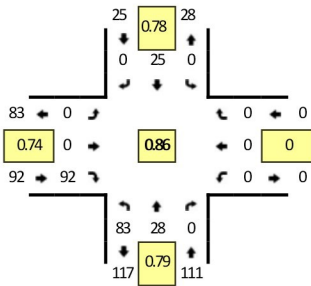
5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Carpenter Lane (Eastbound)				Carpenter Lane (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	2	0	0	0	2	0	0	0	0	0	0	2	0	1	0	7	
4:05 PM	0	2	0	0	0	3	0	0	0	0	0	0	1	0	0	0	6	
4:10 PM	0	1	0	0	0	6	0	0	0	0	0	0	1	0	1	0	9	
4:15 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3	
4:20 PM	0	3	0	0	3	3	0	0	0	0	0	0	1	0	0	0	10	
4:25 PM	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	0	9	
4:30 PM	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	8	
4:35 PM	0	7	0	0	0	4	0	0	0	0	0	0	0	0	0	0	11	
4:40 PM	0	6	0	0	2	1	0	0	0	0	0	0	0	0	0	0	9	
4:45 PM	0	2	0	0	4	4	0	0	0	0	0	0	0	0	0	0	10	
4:50 PM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4	
4:55 PM	0	5	2	0	0	1	0	0	0	0	0	0	0	0	0	0	8	
5:00 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	2	0	7	
5:05 PM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	3	0	9	
5:10 PM	0	0	0	0	2	1	0	0	0	0	0	0	1	0	1	0	5	
5:15 PM	0	1	0	0	0	6	0	0	0	0	0	0	0	0	1	0	7	
5:20 PM	0	3	0	0	0	4	0	0	0	0	0	0	1	0	0	0	8	
5:25 PM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4	
5:30 PM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	2	0	9	
5:35 PM	0	4	1	0	0	2	0	0	0	0	0	0	1	0	0	0	8	
5:40 PM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	
5:45 PM	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	
5:50 PM	0	1	1	0	0	6	0	0	0	0	0	0	0	0	1	0	9	
5:55 PM	0	1	0	0	2	2	0	0	0	0	0	0	0	0	2	0	7	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	60	0	0	24	36	0	0	0	0	0	0	0	0	0	0	120	
Heavy Trucks	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
Buses																		
Pedestrians		0				0					4			0			4	
Bicycles	0	0	0			0	0				0			0	0		0	
Scoters																		

Comments:

LOCATION: Altman Road -- Bluff Road (north)
CITY/STATE: Clackamas, OR

QC JOB #: 15711507
DATE: Wed, Feb 23 2022

Peak-Hour: 7:00 AM -- 8:00 AM
 Peak 15-Min: 7:20 AM -- 7:35 AM

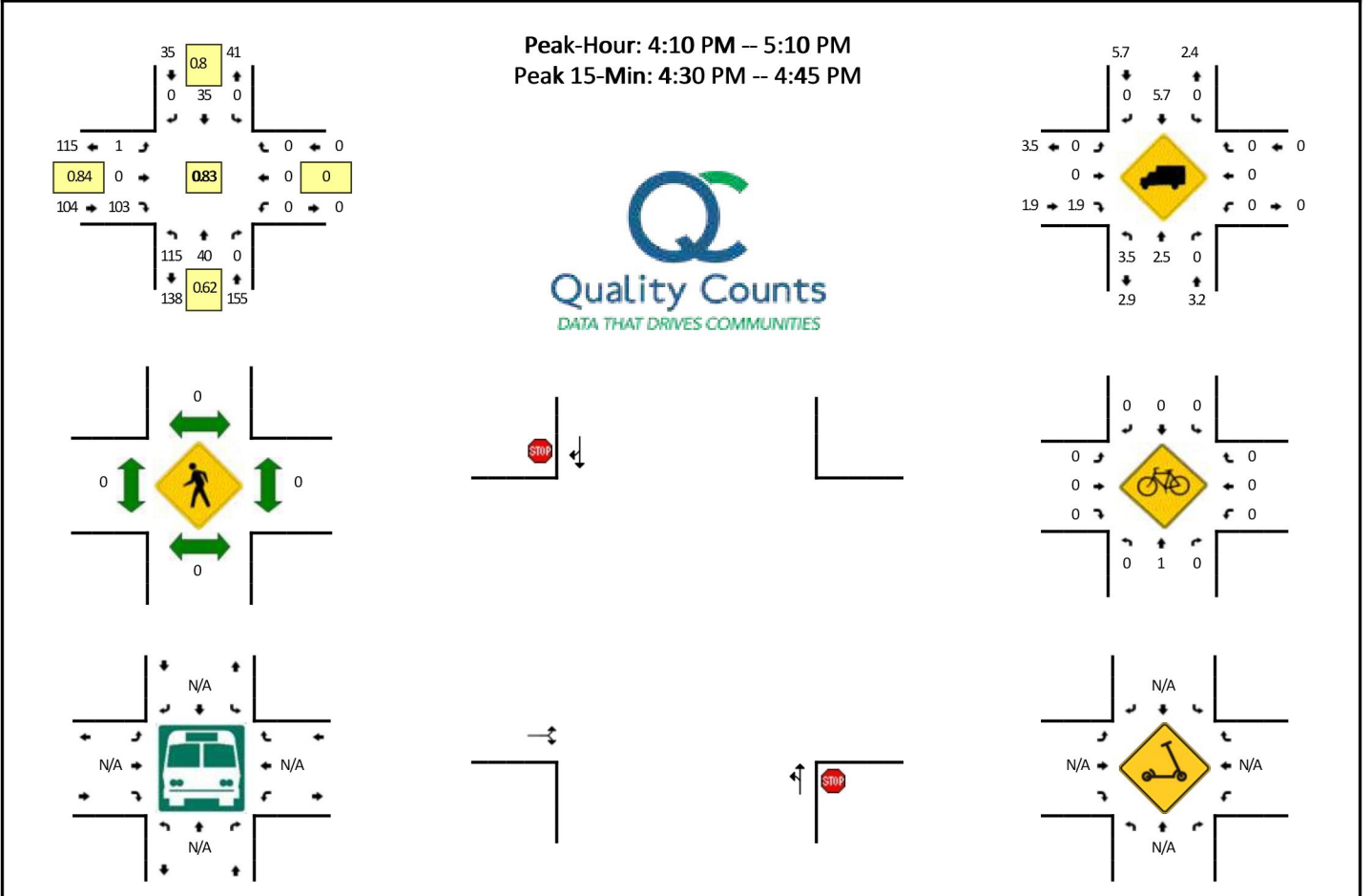


5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Bluff Road (north) (Eastbound)				Bluff Road (north) (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	3	4	0	0	0	2	0	0	0	0	0	10	0	0	0	0	0	19	
7:05 AM	5	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	11	
7:10 AM	7	1	0	0	0	4	0	0	0	0	0	9	0	0	0	0	0	21	
7:15 AM	9	1	0	0	0	2	0	0	0	0	0	7	0	0	0	0	0	19	
7:20 AM	6	3	0	0	0	1	0	0	0	0	0	12	0	0	0	0	0	22	
7:25 AM	10	3	0	0	0	2	0	0	0	0	0	7	0	0	0	0	0	22	
7:30 AM	6	1	0	0	0	3	0	0	0	0	0	12	0	0	0	0	0	22	
7:35 AM	8	1	0	0	0	2	0	0	0	0	0	9	0	0	0	0	0	20	
7:40 AM	4	2	0	0	0	2	0	0	0	0	0	7	0	0	0	0	0	15	
7:45 AM	12	2	0	0	0	4	0	0	0	0	0	5	0	0	0	0	0	23	
7:50 AM	11	3	0	0	0	1	0	0	0	0	0	5	0	0	0	0	0	20	
7:55 AM	2	5	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	14	
8:00 AM	7	1	0	0	0	3	0	0	0	0	0	4	0	0	0	0	0	15	228
8:05 AM	2	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	8	224
8:10 AM	1	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	7	221
8:15 AM	1	2	0	0	0	1	0	0	0	0	0	5	0	0	0	0	0	9	207
8:20 AM	4	2	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	9	197
8:25 AM	2	1	0	0	0	1	0	0	0	0	0	6	0	0	0	0	0	9	184
8:30 AM	3	1	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	10	172
8:35 AM	4	2	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	10	160
8:40 AM	8	3	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	12	152
8:45 AM	4	1	0	0	0	1	0	0	0	0	0	4	0	0	0	0	0	14	151
8:50 AM	4	1	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	10	138
8:55 AM	4	2	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	11	129
	4	2	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	12	127
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	88	28	0	0	0	24	0	0	0	0	0	124	0	0	0	0	0	264	
Heavy Trucks	4	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	12	
Buses																			
Pedestrians		0				0					0				0			0	
Bicycles	0	0	0		0	0	0			0	0	0		0	0	0		0	
Scooters																			

Comments:

LOCATION: Altman Road -- Bluff Road (north)
CITY/STATE: Clackamas, OR

QC JOB #: 15711508
DATE: Wed, Feb 23 2022



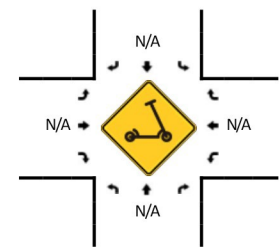
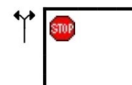
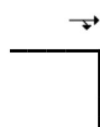
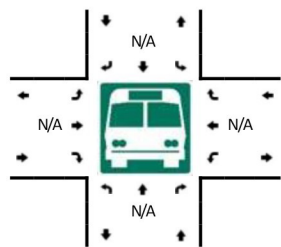
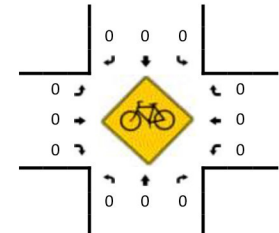
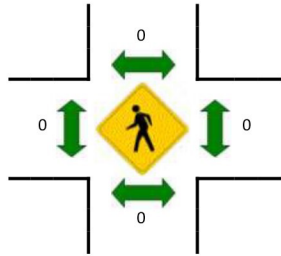
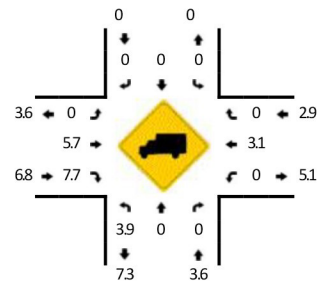
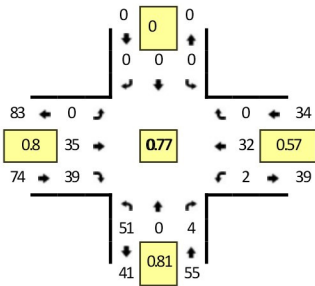
5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Bluff Road (north) (Eastbound)				Bluff Road (north) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	2	0	0	0	2	1	0	0	0	0	3	0	0	0	0	11	
4:05 PM	7	1	0	0	0	4	0	0	0	0	0	7	0	0	0	0	19	
4:10 PM	13	1	0	0	0	8	0	0	0	0	0	15	0	0	0	0	37	
4:15 PM	7	1	0	0	0	1	0	0	0	0	0	7	0	0	0	0	16	
4:20 PM	5	5	0	0	0	2	0	0	0	0	0	9	0	0	0	0	21	
4:25 PM	9	3	0	0	0	4	0	0	0	0	0	7	0	0	0	0	23	
4:30 PM	10	7	0	0	0	2	0	0	0	0	0	6	0	0	0	0	25	
4:35 PM	21	6	0	0	0	2	0	0	0	0	0	2	0	0	0	0	31	
4:40 PM	14	5	0	0	0	2	0	0	0	0	0	12	0	0	0	0	33	
4:45 PM	10	2	0	0	0	2	0	0	0	0	0	9	0	0	0	0	23	
4:50 PM	5	1	0	0	0	5	0	0	0	0	0	10	0	0	0	0	21	
4:55 PM	6	6	0	0	0	1	0	0	0	0	0	8	0	0	0	0	21	281
5:00 PM	4	1	0	0	0	4	0	0	0	0	1	7	0	0	0	0	17	287
5:05 PM	11	2	0	0	0	2	0	0	0	0	0	11	0	0	0	0	26	294
5:10 PM	6	0	0	0	0	4	0	0	0	0	0	7	0	0	0	0	17	274
5:15 PM	6	2	0	0	0	5	0	0	0	0	0	10	0	0	0	0	23	281
5:20 PM	4	2	0	0	0	5	0	0	0	0	0	9	0	0	0	0	20	280
5:25 PM	3	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	7	264
5:30 PM	5	3	0	0	0	5	0	0	0	0	0	13	0	0	0	0	26	265
5:35 PM	12	5	0	0	0	3	0	0	0	0	0	8	0	0	0	0	28	262
5:40 PM	2	2	0	0	0	2	0	0	0	0	0	6	0	0	0	0	12	241
5:45 PM	5	4	0	0	0	0	0	0	0	0	0	8	0	0	0	0	17	235
5:50 PM	4	2	0	0	0	5	0	0	0	0	0	8	0	0	0	0	19	233
5:55 PM	5	1	0	0	0	2	1	0	0	0	0	6	0	0	0	0	15	227
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	180	72	0	0	0	24	0	0	0	0	0	80	0	0	0	0	356	
Heavy Trucks	0	4	0	0	0	0	0	0	0	0	0	4	0	0	0	0	8	
Buses																		
Pedestrians		0				0					0			0			0	
Bicycles	0	4	0		0	0	0			0	0	0		0	0		4	
Scoters																		

Comments:

LOCATION: Altman Road -- Oxbow Drive
CITY/STATE: Multnomah, OR

QC JOB #: 15711511
DATE: Wed, Feb 23 2022

Peak-Hour: 7:05 AM -- 8:05 AM
 Peak 15-Min: 7:15 AM -- 7:30 AM



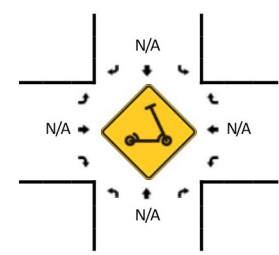
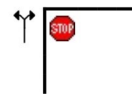
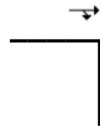
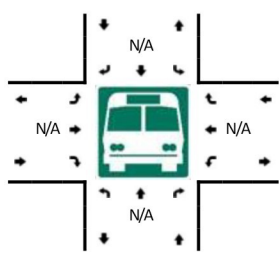
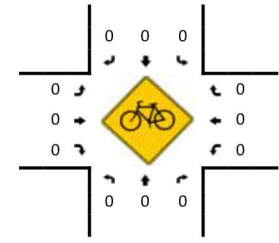
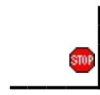
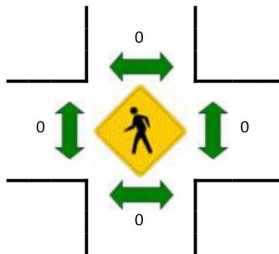
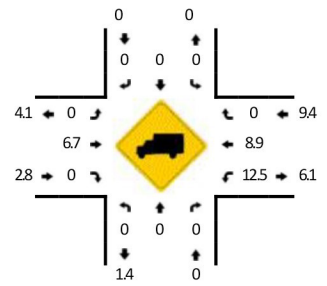
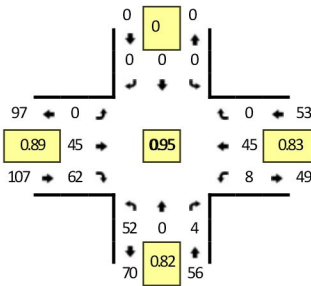
5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Oxbow Drive (Eastbound)				Oxbow Drive (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	3	0	2	0	0	0	0	0	0	0	3	1	0	0	0	0	0	9	
7:05 AM	4	0	1	0	0	0	0	0	0	0	2	2	0	0	0	0	0	9	
7:10 AM	4	0	0	0	0	0	0	0	0	0	3	4	0	0	2	0	0	13	
7:15 AM	5	0	0	0	0	0	0	0	0	0	5	3	0	0	5	0	0	18	
7:20 AM	6	0	0	0	0	0	0	0	0	0	4	1	0	0	5	0	0	16	
7:25 AM	4	0	0	0	0	0	0	0	0	0	3	7	0	1	4	0	0	19	
7:30 AM	2	0	0	0	0	0	0	0	0	0	1	6	0	0	3	0	0	12	
7:35 AM	3	0	1	0	0	0	0	0	0	0	5	1	0	1	2	0	0	13	
7:40 AM	5	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	9	
7:45 AM	2	0	1	0	0	0	0	0	0	0	3	3	0	0	2	0	0	11	
7:50 AM	4	0	1	0	0	0	0	0	0	0	1	3	0	0	6	0	0	15	
7:55 AM	7	0	0	0	0	0	0	0	0	0	5	5	0	0	2	0	0	17	163
8:00 AM	5	0	0	0	0	0	0	0	0	0	3	1	0	0	2	0	0	11	162
8:05 AM	5	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	8	162
8:10 AM	6	0	0	0	0	0	0	0	0	0	1	3	0	0	3	0	0	13	162
8:15 AM	3	0	1	0	0	0	0	0	0	0	1	2	0	0	5	0	0	12	156
8:20 AM	1	0	0	0	0	0	0	0	0	0	3	4	0	2	3	0	0	13	153
8:25 AM	3	0	0	0	0	0	0	0	0	0	1	3	0	0	1	0	0	8	142
8:30 AM	2	0	0	0	0	0	0	0	0	0	1	4	0	0	3	0	0	10	140
8:35 AM	1	0	1	0	0	0	0	0	0	0	1	3	0	0	0	0	0	6	133
8:40 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	4	128
8:45 AM	2	0	2	0	0	0	0	0	0	0	2	2	0	0	3	0	0	11	128
8:50 AM	2	0	0	0	0	0	0	0	0	0	1	4	0	0	2	0	0	9	122
8:55 AM	3	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	9	114
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	60	0	0	0	0	0	0	0	0	0	48	44	0	4	56	0	0	212	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	
Buses																		0	
Pedestrians		0				0					0				0			0	
Bicycles	0	0	0		0	0	0			0	0	0		0	0	0		0	
Scooters																		0	

Comments:

LOCATION: Altman Road -- Oxbow Drive
CITY/STATE: Multnomah, OR

QC JOB #: 15711512
DATE: Wed, Feb 23 2022

Peak-Hour: 4:05 PM -- 5:05 PM
 Peak 15-Min: 4:20 PM -- 4:35 PM

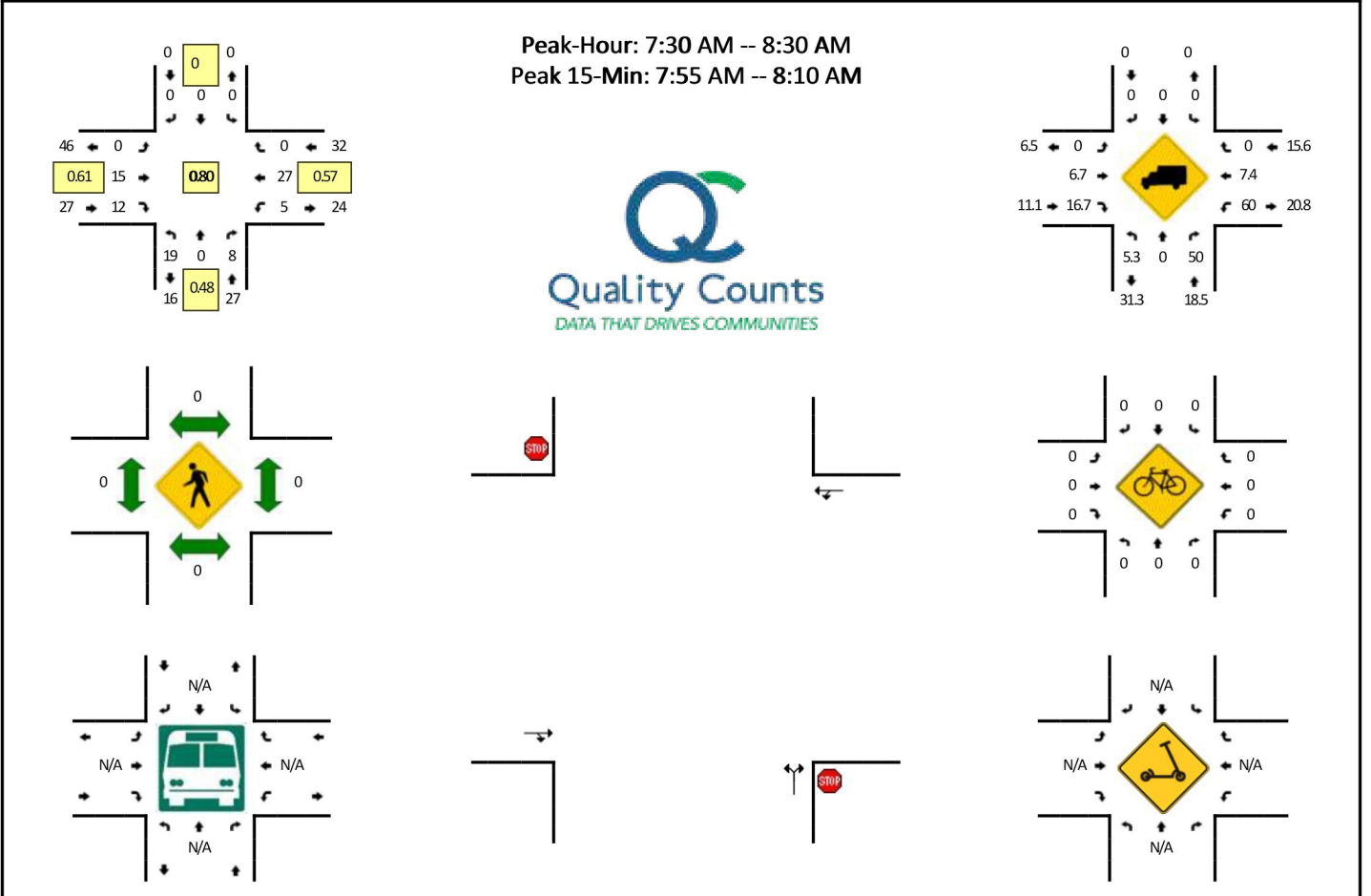


5-Min Count Period Beginning At	Altman Road (Northbound)				Altman Road (Southbound)				Oxbow Drive (Eastbound)				Oxbow Drive (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	2	0	0	0	0	0	0	0	0	0	0	6	0	1	2	0	0	11	
4:05 PM	5	0	0	0	0	0	0	0	0	0	8	8	0	0	2	0	0	23	
4:10 PM	2	0	1	0	0	0	0	0	0	0	4	4	0	2	2	0	0	15	
4:15 PM	3	0	1	0	0	0	0	0	0	0	1	2	0	1	4	0	0	12	
4:20 PM	3	0	0	0	0	0	0	0	0	0	6	7	0	2	5	0	0	23	
4:25 PM	4	0	0	0	0	0	0	0	0	0	2	6	0	1	3	0	0	16	
4:30 PM	7	0	0	0	0	0	0	0	0	0	3	6	0	1	1	0	0	18	
4:35 PM	4	0	1	0	0	0	0	0	0	0	6	4	0	0	5	0	0	20	
4:40 PM	4	0	1	0	0	0	0	0	0	0	5	4	0	0	4	0	0	18	
4:45 PM	5	0	0	0	0	0	0	0	0	0	2	6	0	1	3	0	0	17	
4:50 PM	3	0	0	0	0	0	0	0	0	0	1	4	0	0	4	0	0	12	
4:55 PM	6	0	0	0	0	0	0	0	0	0	3	9	0	0	6	0	0	24	209
5:00 PM	6	0	0	0	0	0	0	0	0	0	4	2	0	0	6	0	0	18	216
5:05 PM	4	0	0	0	0	0	0	0	0	0	2	5	0	1	1	0	0	9	200
5:10 PM	4	0	1	0	0	0	0	0	0	0	2	1	0	0	1	0	0	9	200
5:15 PM	2	0	1	0	0	0	0	0	0	0	4	10	0	0	2	0	0	19	207
5:20 PM	2	0	0	0	0	0	0	0	0	0	1	3	0	1	5	0	0	12	196
5:25 PM	4	0	0	0	0	0	0	0	0	0	2	3	0	0	2	0	0	11	191
5:30 PM	5	0	0	0	0	0	0	0	0	0	5	3	0	1	2	0	0	16	189
5:35 PM	3	0	0	0	0	0	0	0	0	0	4	5	0	0	3	0	0	15	184
5:40 PM	5	0	0	0	0	0	0	0	0	0	5	5	0	0	1	0	0	16	182
5:45 PM	7	0	0	0	0	0	0	0	0	0	4	6	0	0	2	0	0	19	184
5:50 PM	2	0	0	0	0	0	0	0	0	0	5	1	0	0	2	0	0	10	182
5:55 PM	2	0	0	0	0	0	0	0	0	0	5	4	0	0	0	0	0	11	169
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	56	0	0	0	0	0	0	0	0	44	76	0	16	36	0	0	228		
Heavy Trucks	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8		
Buses																	0		
Pedestrians		0				0				0				0			0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scooters																	0		

Comments:

LOCATION: Cottrell Road -- Lusted Road
CITY/STATE: Multnomah, OR

QC JOB #: 15711513
DATE: Wed, Feb 23 2022



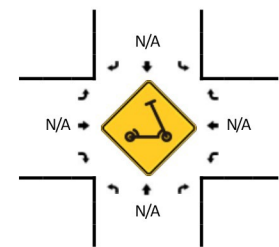
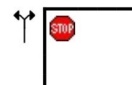
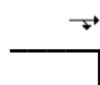
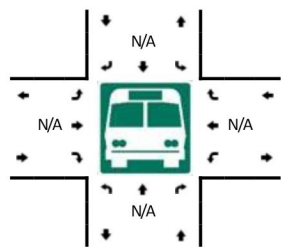
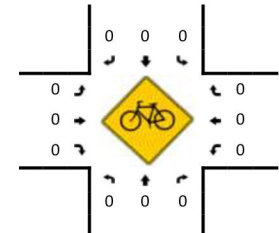
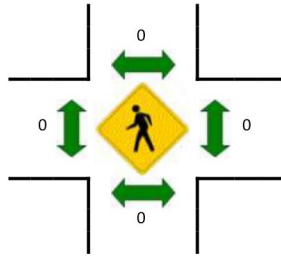
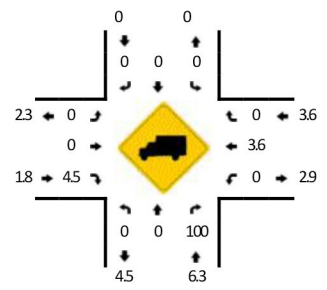
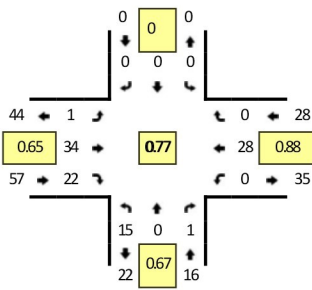
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3		
7:05 AM	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	4	
7:10 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	2	1	0	0	7	
7:15 AM	4	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	7	
7:20 AM	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	
7:25 AM	1	0	0	0	0	0	0	0	0	0	1	1	0	0	3	0	0	6	
7:30 AM	3	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	7	
7:35 AM	1	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0	0	6	
7:40 AM	2	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	5	
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0	0	5	
7:50 AM	2	0	0	0	0	0	0	0	0	0	3	1	0	1	1	0	0	8	
7:55 AM	1	0	0	0	0	0	0	0	0	0	2	2	0	0	5	0	0	10	72
8:00 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	1	4	0	0	7	76
8:05 AM	4	0	0	0	0	0	0	0	0	0	0	2	0	1	2	0	1	10	82
8:10 AM	3	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	9	84
8:15 AM	1	0	1	0	0	0	0	0	0	0	1	0	0	0	3	0	0	6	83
8:20 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	4	83
8:25 AM	1	0	1	0	0	0	0	0	0	0	3	2	0	0	2	0	0	9	86
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	82
8:35 AM	1	0	0	0	0	0	0	0	0	0	2	0	0	1	4	0	0	8	84
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	3	82
8:45 AM	0	0	1	0	0	0	0	0	0	0	2	2	0	2	1	0	0	8	85
8:50 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	81
8:55 AM	2	0	1	0	0	0	0	0	0	0	5	0	0	1	1	0	0	10	81
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	24	0	0	0	0	0	0	0	0	12	16	0	8	44	0	4	108		
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	8		
Buses																			
Pedestrians		0				0					0			0			0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scoters																			

Comments:

LOCATION: Cottrell Road -- Lusted Road
CITY/STATE: Multnomah, OR

QC JOB #: 15711514
DATE: Wed, Feb 23 2022

Peak-Hour: 4:05 PM -- 5:05 PM
 Peak 15-Min: 4:05 PM -- 4:20 PM



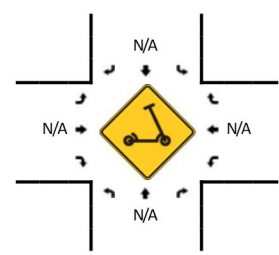
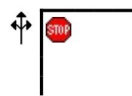
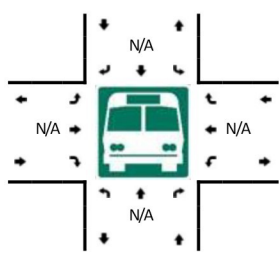
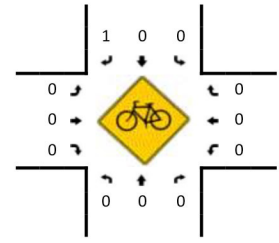
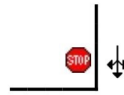
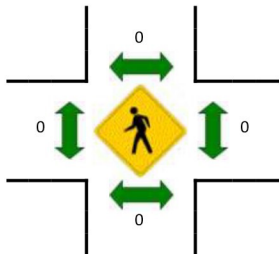
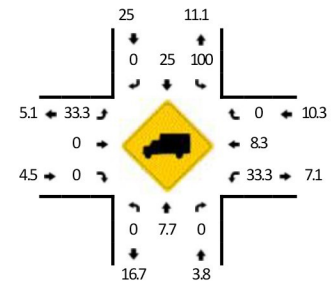
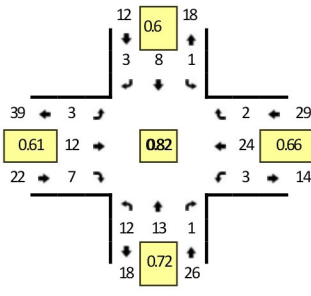
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	3	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	6	
4:05 PM	1	0	0	0	0	0	0	0	0	0	8	2	0	0	4	0	0	15	
4:10 PM	2	0	0	0	0	0	0	0	0	0	7	2	0	0	1	0	0	12	
4:15 PM	1	0	0	0	0	0	0	0	0	0	2	1	0	0	2	0	0	6	
4:20 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
4:25 PM	0	0	1	0	0	0	0	0	0	0	3	2	0	0	1	0	0	7	
4:30 PM	1	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	9	
4:35 PM	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	4	
4:40 PM	1	0	0	0	0	0	0	0	0	0	3	3	1	0	3	0	0	11	
4:45 PM	4	0	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	9	
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	
4:55 PM	3	0	0	0	0	0	0	0	0	0	4	3	0	0	1	0	0	14	99
5:00 PM	1	0	0	0	0	0	0	0	0	0	1	3	0	0	1	0	0	8	101
5:05 PM	1	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	9	91
5:10 PM	3	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	10	89
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	85
5:20 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	84
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	3	80
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	5	76
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	0	5	77
5:40 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	69
5:45 PM	2	0	1	0	0	0	0	0	0	0	4	1	0	0	3	0	0	11	71
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	1	4	0	0	10	79
5:55 PM	2	0	0	0	0	0	0	0	0	0	4	1	0	0	1	0	0	8	73
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	16	0	0	0	0	0	0	0	0	68	20	0	0	28	0	0	132		
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	8		
Buses																			
Pedestrians		0				0				0				0			0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scooters																			

Comments:

LOCATION: Cottrell Road -- Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 15711515
DATE: Wed, Feb 23 2022

Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:35 AM -- 7:50 AM



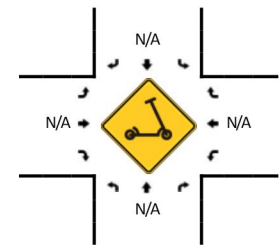
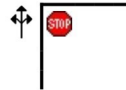
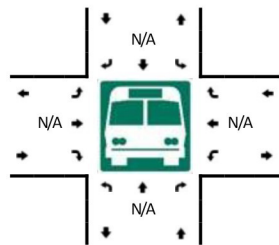
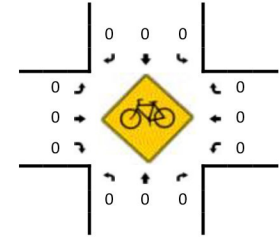
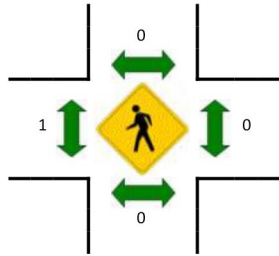
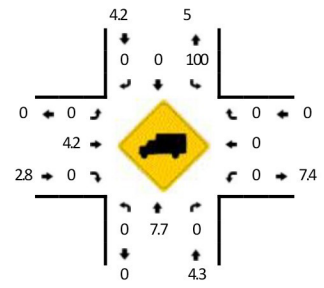
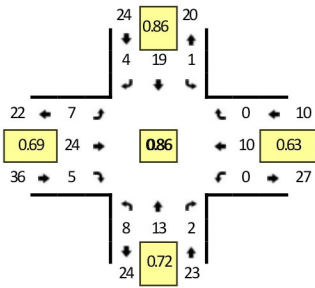
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Dodge Park Blvd (Eastbound)				Dodge Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	2	1	0	0	0	0	3	0	0	0	0	6	
7:05 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	3	
7:10 AM	1	0	0	0	0	0	0	0	1	2	0	0	0	2	0	0	6	
7:15 AM	3	2	0	0	0	0	0	0	0	1	0	0	0	2	0	0	8	
7:20 AM	1	1	0	0	0	0	0	0	0	0	1	0	0	2	1	0	6	
7:25 AM	0	2	0	0	0	0	0	0	0	3	1	0	0	1	0	0	7	
7:30 AM	2	1	0	0	0	1	1	0	1	0	2	0	0	2	0	0	10	
7:35 AM	1	0	1	0	0	1	0	0	0	1	1	0	1	1	1	0	8	
7:40 AM	1	2	0	0	0	1	0	0	0	1	0	0	0	2	0	0	7	
7:45 AM	1	0	0	0	0	3	0	0	1	1	0	0	0	6	0	0	12	
7:50 AM	1	1	0	0	1	0	0	0	0	1	1	0	1	1	0	0	7	
7:55 AM	0	1	0	0	0	1	0	0	0	0	1	0	0	2	0	0	5	85
8:00 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	5	84
8:05 AM	0	3	0	0	0	0	2	0	0	0	0	0	1	2	0	0	8	89
8:10 AM	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	4	87
8:15 AM	2	0	0	0	0	0	1	0	2	1	0	0	0	1	0	0	7	86
8:20 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	3	83
8:25 AM	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	80
8:30 AM	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	73
8:35 AM	0	0	0	0	0	0	1	0	0	4	0	0	0	1	0	0	6	71
8:40 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	3	67
8:45 AM	0	0	0	0	0	4	1	0	1	2	0	0	0	0	0	0	8	63
8:50 AM	1	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	4	60
8:55 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	2	1	0	6	61
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	8	4	0	0	20	0	0	4	12	4	0	4	36	4	0	108	
Heavy Trucks	0	0	0		0	4	0		4	0	0		0	8	0		16	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

LOCATION: Cottrell Road -- Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 15711516
DATE: Wed, Feb 23 2022

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:25 PM -- 4:40 PM



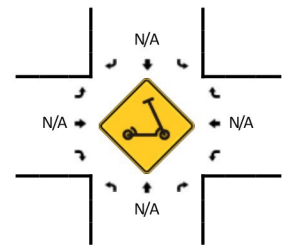
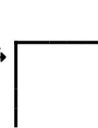
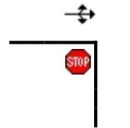
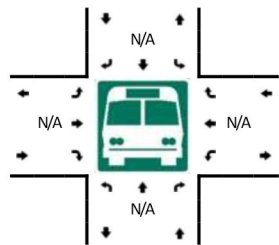
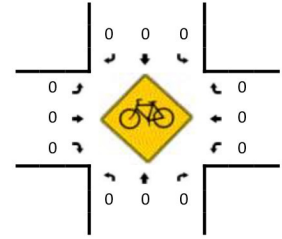
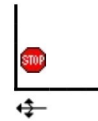
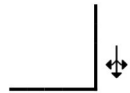
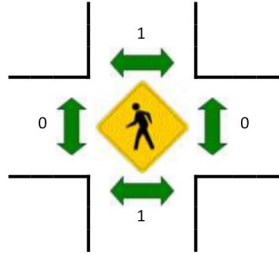
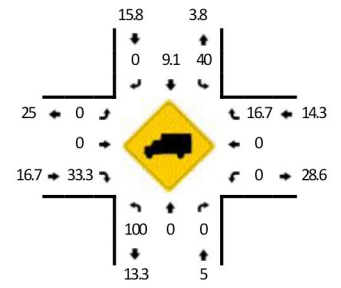
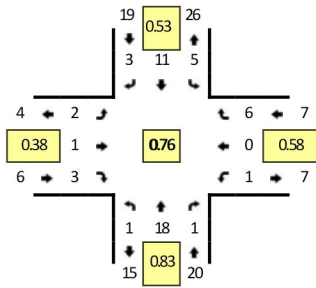
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Dodge Park Blvd (Eastbound)				Dodge Park Blvd (Westbound)				Total	Hourly Totals			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U					
4:00 PM	2	2	0	0	0	2	1	0	0	0	1	0	0	0	1	0	0	0	9		
4:05 PM	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	4	
4:10 PM	1	3	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	7	
4:15 PM	1	0	0	0	0	2	0	0	0	1	5	0	0	0	0	2	0	0	0	11	
4:20 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	
4:25 PM	1	1	0	0	0	2	1	0	0	0	2	0	0	0	0	0	0	0	0	7	
4:30 PM	1	1	0	0	0	1	1	0	0	0	4	2	0	0	0	1	0	0	0	11	
4:35 PM	1	1	1	0	0	2	0	0	0	1	2	1	0	0	0	0	0	0	0	9	
4:40 PM	0	0	1	0	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0	7	
4:45 PM	0	3	0	0	0	2	0	0	0	1	1	0	0	0	0	1	0	0	0	8	
4:50 PM	1	0	0	0	0	1	0	0	0	0	4	0	0	0	0	2	0	0	0	8	
4:55 PM	0	2	0	0	0	2	1	0	0	1	2	1	0	0	0	1	0	0	0	10	93
5:00 PM	0	1	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	4	91
5:05 PM	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	2	91
5:10 PM	1	2	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	4	91
5:15 PM	0	0	0	0	1	0	0	0	0	0	2	0	0	0	1	2	0	0	0	6	86
5:20 PM	1	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	5	89
5:25 PM	1	0	0	0	0	1	0	0	0	1	2	2	0	0	0	1	0	0	0	8	90
5:30 PM	0	0	0	0	0	1	1	0	0	0	4	2	0	0	0	0	0	0	0	8	87
5:35 PM	0	0	0	0	1	2	0	0	0	0	2	0	0	0	0	1	0	0	0	6	84
5:40 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	3	80
5:45 PM	1	0	0	0	0	1	0	0	0	2	1	1	0	0	0	0	0	0	0	6	78
5:50 PM	0	0	0	0	0	3	0	0	0	0	2	7	0	0	0	0	0	0	0	12	82
5:55 PM	0	2	0	0	0	1	0	0	0	1	1	2	0	0	0	0	0	0	0	7	79
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total				
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U					
All Vehicles	12	12	4	0	0	20	8	0	4	32	12	0	0	4	0	0	0	0	108		
Heavy Trucks	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4		
Buses																				0	
Pedestrians		0				0				0					0					0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0				0		
Scooters																				0	

Comments:

LOCATION: Cottrell Road -- Carpenter Lane
CITY/STATE: Multnomah, OR

QC JOB #: 15711517
DATE: Wed, Feb 23 2022

Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM



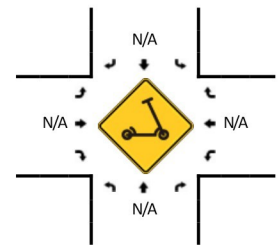
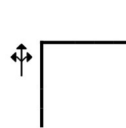
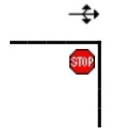
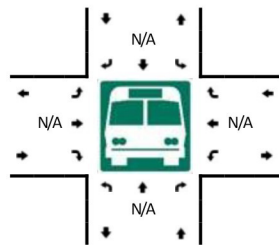
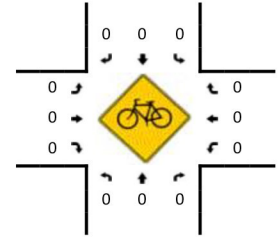
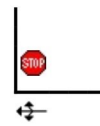
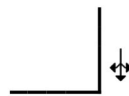
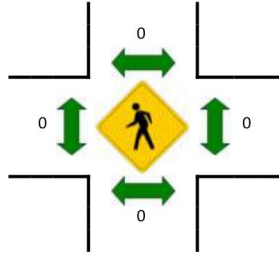
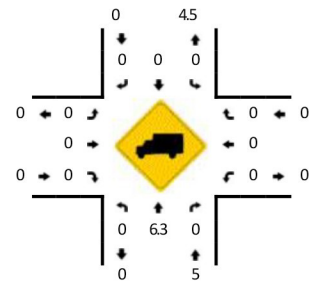
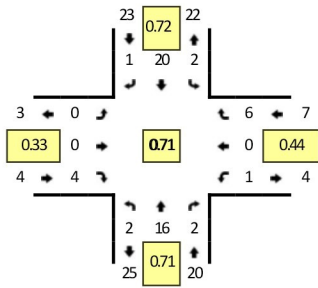
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Carpenter Lane (Eastbound)				Carpenter Lane (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4	
7:05 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
7:10 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
7:15 AM	0	3	0	0	0	0	0	0	1	0	1	0	0	0	1	0	6	
7:20 AM	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	
7:25 AM	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	4	
7:30 AM	0	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	6	
7:35 AM	0	1	0	0	0	3	0	0	1	0	0	0	0	0	0	0	5	
7:40 AM	0	2	0	0	0	2	1	0	0	0	0	0	0	0	1	0	6	
7:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	3	
7:50 AM	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3	
7:55 AM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	48
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	46
8:05 AM	0	1	1	0	0	1	0	0	0	0	0	0	1	0	2	0	3	51
8:10 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	52
8:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	48
8:20 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	46
8:25 AM	0	3	0	0	1	1	0	0	0	0	0	0	0	1	0	0	6	48
8:30 AM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3	45
8:35 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	41
8:40 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	37
8:45 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4	38
8:50 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	35
8:55 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	24	0	0	4	24	8	0	4	0	0	0	0	0	4	0	68	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters																	0	

Comments:

LOCATION: Cottrell Road -- Carpenter Lane
CITY/STATE: Multnomah, OR

QC JOB #: 15711518
DATE: Wed, Feb 23 2022

Peak-Hour: 4:00 PM -- 5:00 PM
 Peak 15-Min: 4:00 PM -- 4:15 PM



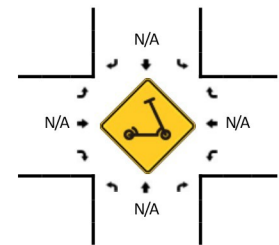
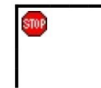
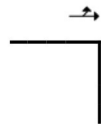
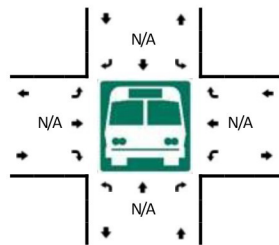
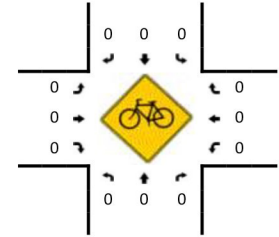
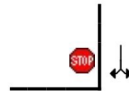
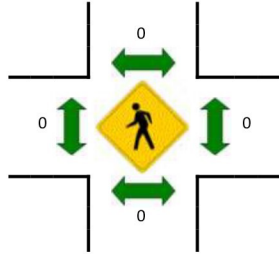
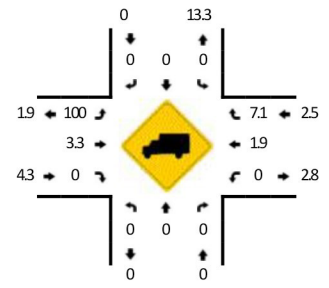
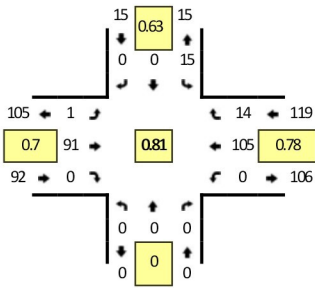
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Carpenter Lane (Eastbound)				Carpenter Lane (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	2	0	0	0	2	0	0	0	0	2	0	0	0	2	0	8	
4:05 PM	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	4	
4:10 PM	2	3	0	0	0	1	0	0	0	0	0	0	0	0	1	0	7	
4:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	3	
4:20 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
4:25 PM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	
4:30 PM	0	1	1	0	1	2	0	0	0	0	0	0	0	0	1	0	6	
4:35 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	
4:40 PM	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	4	
4:45 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	
4:50 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	
4:55 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	1	0	5	54
5:00 PM	0	2	0	0	1	3	0	0	0	0	0	0	0	0	0	0	6	
5:05 PM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4	52
5:10 PM	0	1	0	0	0	2	0	0	2	0	1	0	0	0	0	0	5	50
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	3	50
5:20 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	51
5:25 PM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4	50
5:30 PM	0	0	0	0	1	2	0	0	0	0	1	0	0	0	0	0	4	48
5:35 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	45
5:40 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	43
5:45 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	42
5:50 PM	0	0	0	0	2	7	0	0	0	0	0	0	0	0	1	0	10	50
5:55 PM	0	1	0	0	1	3	0	0	0	0	0	0	0	0	0	0	5	50
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	20	0	0	4	16	0	0	0	0	12	0	4	0	12	0	76	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Cottrell Road -- Bluff Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711519
DATE: Wed, Feb 23 2022

Peak-Hour: 7:00 AM -- 8:00 AM
 Peak 15-Min: 7:30 AM -- 7:45 AM



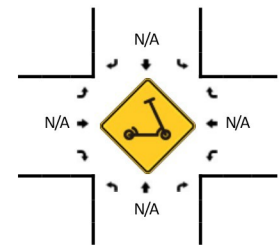
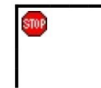
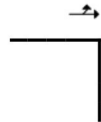
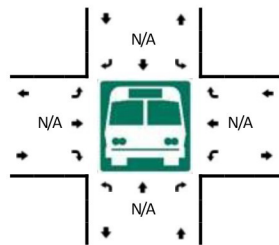
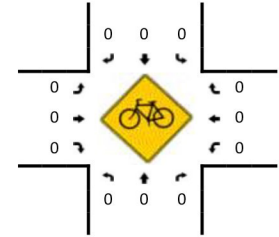
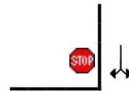
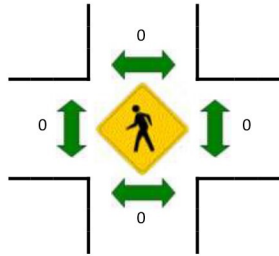
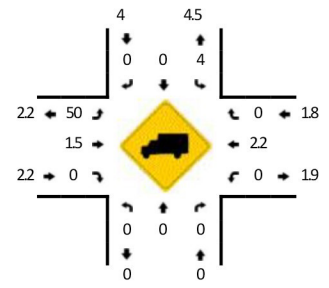
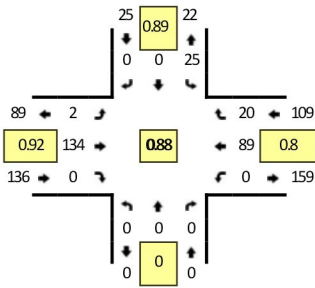
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Bluff Road (Eastbound)				Bluff Road (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	0	10	
7:05 AM	0	0	0	0	3	0	0	0	0	4	0	0	0	7	0	0	14	
7:10 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	6	3	0	12	
7:15 AM	0	0	0	0	0	0	0	0	0	13	0	0	0	9	1	0	23	
7:20 AM	0	0	0	0	1	0	0	0	0	8	0	0	0	12	0	0	21	
7:25 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	10	3	0	21	
7:30 AM	0	0	0	0	1	0	0	0	0	15	0	0	0	10	1	0	27	
7:35 AM	0	0	0	0	3	0	0	0	0	10	0	0	0	7	1	0	21	
7:40 AM	0	0	0	0	2	0	0	0	0	8	0	0	0	10	2	0	22	
7:45 AM	0	0	0	0	0	0	0	0	1	6	0	0	0	16	1	0	24	
7:50 AM	0	0	0	0	2	0	0	0	0	5	0	0	0	8	1	0	16	
7:55 AM	0	0	0	0	3	0	0	0	0	4	0	0	0	4	1	0	15	226
8:00 AM	0	0	0	0	2	0	0	0	0	7	0	0	0	4	1	0	9	225
8:05 AM	0	0	0	0	2	0	0	0	0	7	0	0	0	4	2	0	15	226
8:10 AM	0	0	0	0	2	0	0	0	0	7	0	0	0	3	3	0	8	222
8:15 AM	0	0	0	0	2	0	0	0	0	7	0	0	0	3	0	0	12	211
8:20 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	3	1	0	7	197
8:25 AM	0	0	0	0	1	0	0	0	0	7	0	0	0	4	2	0	14	190
8:30 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	0	9	172
8:35 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	2	1	0	8	159
8:40 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	9	2	0	14	151
8:45 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	0	10	137
8:50 AM	0	0	0	0	2	0	0	0	0	5	0	0	0	6	1	0	14	135
8:55 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	4	1	0	6	126
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	24	0	0	0	0	132	0	0	0	108	16	0	280	
Heavy Trucks	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	8	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Cottrell Road -- Bluff Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711520
DATE: Wed, Feb 23 2022

Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:10 PM -- 4:25 PM



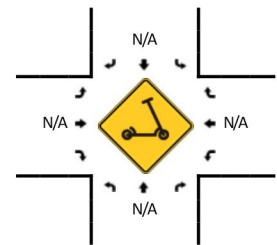
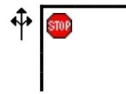
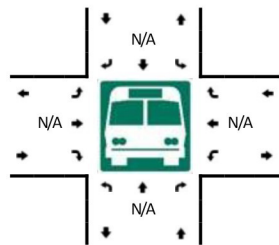
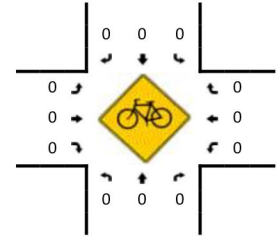
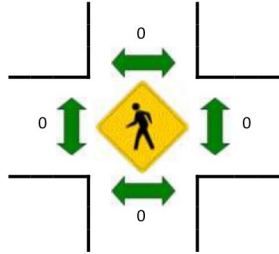
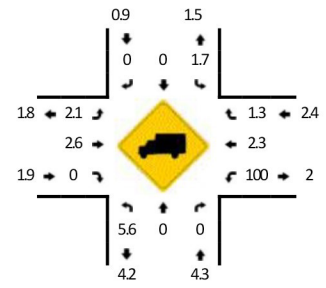
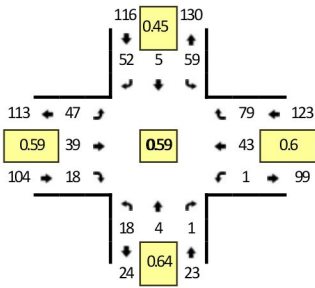
5-Min Count Period Beginning At	Cottrell Road (Northbound)				Cottrell Road (Southbound)				Bluff Road (Eastbound)				Bluff Road (Westbound)				Total	Hourly Totals		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U				
4:00 PM	0	0	0	0	7	0	0	0	0	0	7	0	0	0	0	5	1	0	20	
4:05 PM	0	0	0	0	1	0	0	0	0	0	14	0	0	0	5	1	0	0	21	
4:10 PM	0	0	0	0	3	0	0	0	0	0	17	0	0	0	11	4	0	0	35	
4:15 PM	0	0	0	0	2	0	0	0	0	0	10	0	0	0	11	0	0	0	23	
4:20 PM	0	0	0	0	2	0	0	0	0	1	8	0	0	0	8	0	0	0	19	
4:25 PM	0	0	0	0	1	0	0	0	0	1	10	0	0	0	10	1	0	0	23	
4:30 PM	0	0	0	0	3	0	0	0	0	0	14	0	0	0	4	2	0	0	23	
4:35 PM	0	0	0	0	2	0	0	0	0	0	12	0	0	0	6	2	0	0	22	
4:40 PM	0	0	0	0	2	0	0	0	0	0	9	0	0	0	7	4	0	0	22	
4:45 PM	0	0	0	0	3	0	0	0	0	0	12	0	0	0	4	1	0	0	20	
4:50 PM	0	0	0	0	1	0	0	0	0	0	11	0	0	0	4	1	0	0	17	
4:55 PM	0	0	0	0	2	0	0	0	0	0	7	0	0	0	11	3	0	0	23	268
5:00 PM	0	0	0	0	2	0	0	0	0	0	14	0	0	0	4	0	0	0	20	
5:05 PM	0	0	0	0	2	0	0	0	0	0	10	0	0	0	9	2	0	0	23	270
5:10 PM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	6	0	0	0	17	252
5:15 PM	0	0	0	0	2	0	0	0	0	0	12	0	0	0	6	1	0	0	21	250
5:20 PM	0	0	0	0	1	0	0	0	0	0	11	0	0	0	4	1	0	0	17	248
5:25 PM	0	0	0	0	0	0	0	0	0	0	8	0	0	0	5	0	0	0	13	238
5:30 PM	0	0	0	0	4	0	0	0	0	0	9	0	0	0	3	0	0	0	16	231
5:35 PM	0	0	0	0	2	0	1	0	0	0	12	0	0	0	14	0	0	0	29	238
5:40 PM	0	0	0	0	2	0	0	0	0	0	11	0	0	0	5	1	0	0	19	235
5:45 PM	0	0	0	0	1	0	1	0	0	0	6	0	0	0	7	0	0	0	15	230
5:50 PM	0	0	0	0	4	0	0	0	0	0	12	0	0	0	2	0	0	0	18	231
5:55 PM	0	0	0	0	4	0	0	0	0	0	9	0	0	0	10	1	0	0	24	232
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U				
All Vehicles	0	0	0	0	28	0	0	0	4	140	0	0	0	120	16	0	0	308		
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8		
Buses																				
Pedestrians		0				0				0				0				0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0			0		
Scooters																				

Comments:

LOCATION: Proctor Road -- Bluff Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711521
DATE: Wed, Feb 23 2022

Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:30 AM -- 7:45 AM



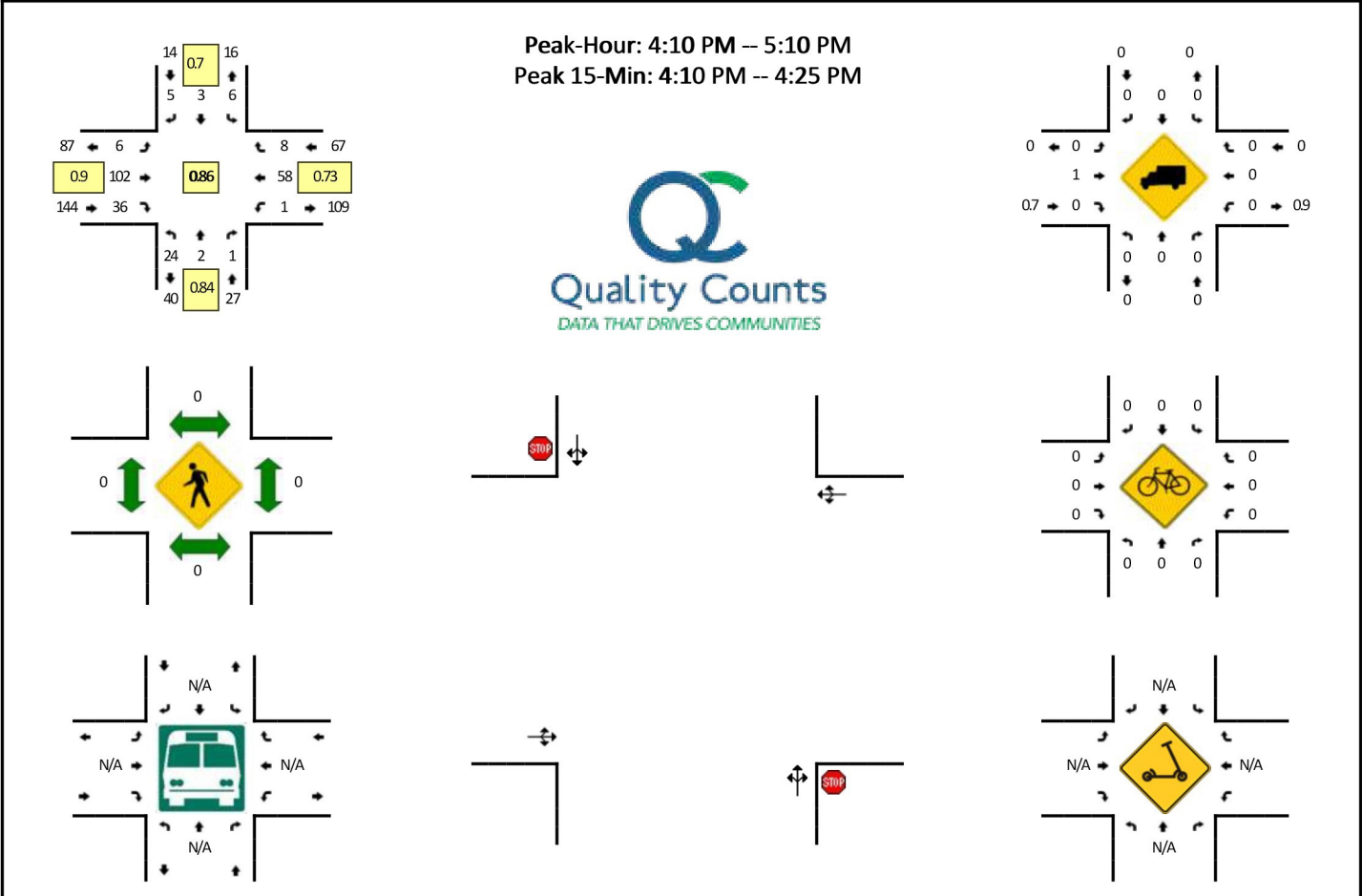
5-Min Count Period Beginning At	Proctor Road (Northbound)				Proctor Road (Southbound)				Bluff Road (Eastbound)				Bluff Road (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	4	0	0	0	0	0	1	0	0	2	0	0	0	3	1	0	0	11	
7:05 AM	3	0	0	0	0	0	0	0	0	1	2	2	0	0	1	0	0	9	
7:10 AM	2	0	0	0	1	0	0	0	0	3	1	0	0	0	8	3	0	18	
7:15 AM	3	0	1	0	1	0	1	0	0	2	3	1	0	0	6	2	0	20	
7:20 AM	3	0	0	0	1	0	0	0	0	3	5	1	0	0	5	7	0	25	
7:25 AM	1	1	0	0	7	1	10	0	0	5	1	1	0	0	3	9	0	39	
7:30 AM	1	0	0	0	8	0	6	0	0	9	4	2	0	0	3	14	0	47	
7:35 AM	0	0	0	0	7	2	6	0	0	8	5	1	0	0	2	16	0	47	
7:40 AM	0	2	0	0	17	0	12	0	0	8	5	2	0	0	2	14	0	62	
7:45 AM	2	0	0	0	9	0	11	0	0	6	0	1	0	0	4	9	0	42	
7:50 AM	3	0	0	0	5	0	4	0	0	1	3	1	0	0	2	3	0	22	
7:55 AM	1	0	0	0	3	0	1	0	0	1	4	3	0	0	2	0	0	14	356
8:00 AM	1	0	0	0	0	1	1	0	0	1	6	1	0	0	2	1	0	15	366
8:05 AM	2	1	0	0	0	1	0	0	0	0	2	4	0	0	4	1	0	15	366
8:10 AM	3	0	0	0	2	0	0	0	0	0	3	1	0	1	2	0	0	12	360
8:15 AM	1	0	0	0	0	0	1	0	0	0	7	5	0	0	2	0	0	16	356
8:20 AM	3	0	0	0	1	2	0	0	0	2	1	1	0	0	2	1	0	13	344
8:25 AM	2	0	0	0	1	0	1	0	0	1	1	5	0	0	1	0	0	12	317
8:30 AM	2	0	0	0	0	0	0	0	0	0	3	2	0	0	3	0	0	10	280
8:35 AM	0	0	0	0	0	1	0	0	0	0	2	3	0	0	1	1	0	8	241
8:40 AM	3	0	0	0	0	0	0	0	0	0	1	1	0	0	6	0	0	11	190
8:45 AM	1	0	0	0	0	0	0	0	0	1	0	2	0	0	2	0	0	6	154
8:50 AM	1	0	0	0	2	0	3	0	0	0	6	0	0	1	3	0	0	16	148
8:55 AM	0	0	0	0	1	0	0	0	0	0	0	2	0	1	3	0	0	7	141
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	4	8	0	0	128	8	96	0	100	56	20	0	0	28	176	0	624		
Heavy Trucks	0	0	0	0	4	0	0	0	0	0	0	0	0	4	4	0	12		
Buses																	0		
Pedestrians		0				0				0				0			0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scoters																	0		

Comments:

LOCATION: Proctor Road -- Bluff Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711522
DATE: Wed, Feb 23 2022

Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

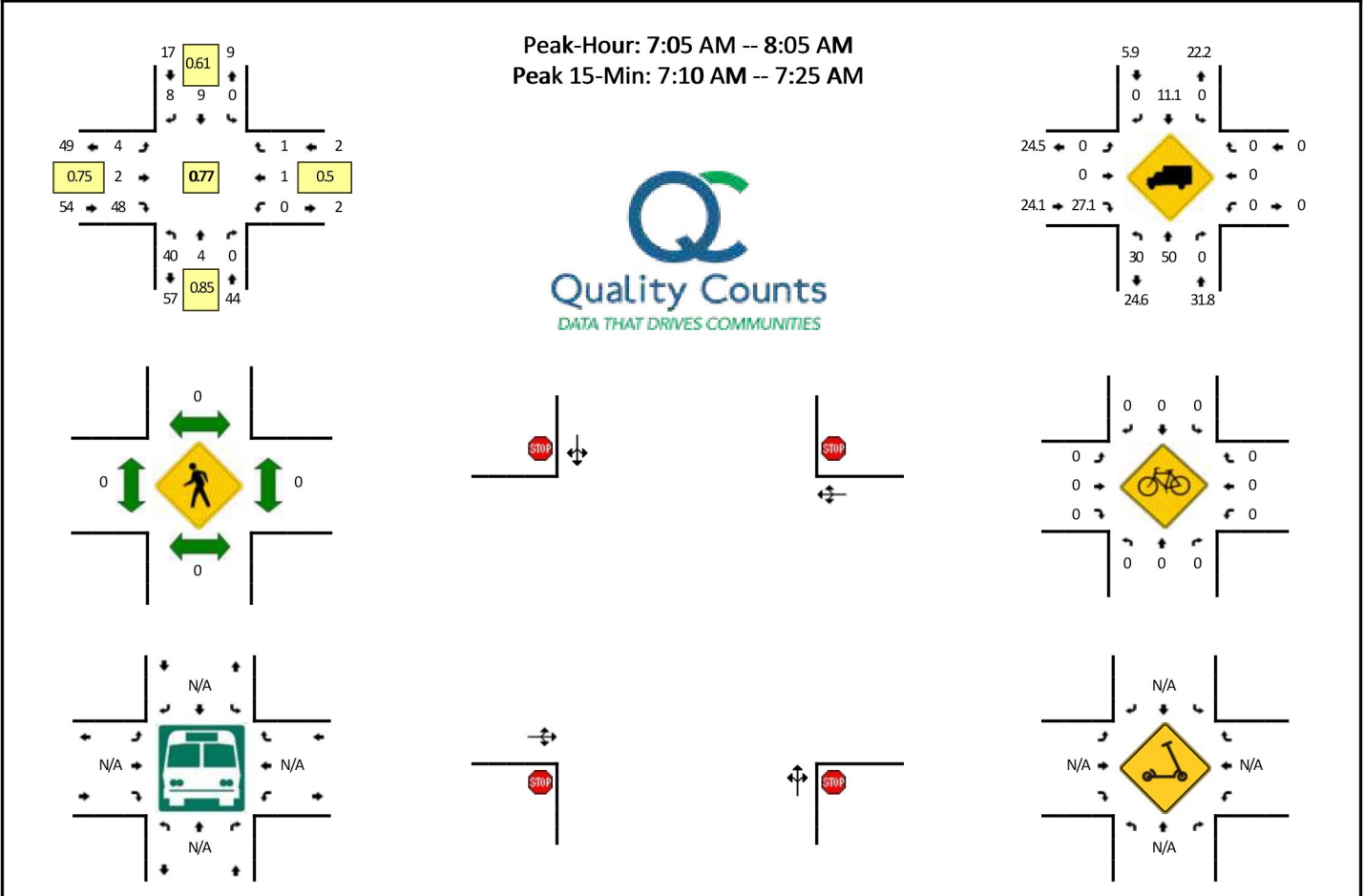


5-Min Count Period Beginning At	Proctor Road (Northbound)				Proctor Road (Southbound)				Bluff Road (Eastbound)				Bluff Road (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	0	0	0	2	0	1	0	3	8	0	0	0	5	0	0	21	
4:05 PM	0	0	2	0	1	1	0	0	0	8	2	0	1	2	0	0	17	
4:10 PM	1	0	0	0	0	0	0	0	1	10	7	0	1	7	1	0	28	
4:15 PM	2	0	0	0	0	0	2	0	0	6	4	0	0	8	0	0	22	
4:20 PM	4	1	0	0	0	0	0	0	0	11	1	0	0	6	0	0	23	
4:25 PM	0	0	1	0	1	1	0	0	0	6	3	0	0	5	2	0	19	
4:30 PM	1	0	0	0	2	1	0	0	0	10	4	0	0	4	3	0	25	
4:35 PM	3	1	0	0	0	0	0	0	0	8	2	0	0	5	0	0	19	
4:40 PM	2	0	0	0	1	1	0	0	0	9	4	0	0	6	1	0	24	
4:45 PM	1	0	0	0	0	0	1	0	0	8	2	0	0	2	0	0	14	
4:50 PM	2	0	0	0	0	0	0	0	1	9	2	0	0	2	0	0	16	
4:55 PM	2	0	0	0	2	0	0	0	1	9	2	0	0	7	0	0	23	251
5:00 PM	2	0	0	0	0	0	0	0	0	8	2	0	0	3	0	0	15	245
5:05 PM	4	0	0	0	0	0	2	0	3	8	3	0	0	3	1	0	24	252
5:10 PM	3	0	0	0	0	0	0	0	2	4	3	0	0	5	1	0	18	242
5:15 PM	1	1	0	0	0	0	0	0	1	8	5	0	1	3	1	0	21	241
5:20 PM	2	0	1	0	0	0	2	0	0	7	0	0	0	2	0	0	14	232
5:25 PM	3	1	1	0	1	0	1	0	1	10	0	0	0	1	1	0	20	233
5:30 PM	2	0	0	0	0	1	1	0	1	5	4	0	0	2	1	0	17	225
5:35 PM	5	0	0	0	0	0	0	0	2	12	1	0	0	4	2	0	26	232
5:40 PM	1	1	0	0	1	1	0	0	1	8	2	0	0	5	0	0	20	228
5:45 PM	3	0	0	0	1	0	0	0	0	7	1	0	0	1	0	0	13	227
5:50 PM	0	1	0	0	1	0	0	0	1	3	4	0	0	1	1	0	12	223
5:55 PM	5	0	0	0	0	0	1	0	0	10	2	0	0	4	1	0	23	223
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	4	0	0	0	0	8	0	4	108	48	0	4	84	4	0	292	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

Comments:

LOCATION: SE Hosner Rd -- Homan Road/Oxbow Drive
CITY/STATE: Multnomah, OR

QC JOB #: 15711523
DATE: Wed, Feb 23 2022



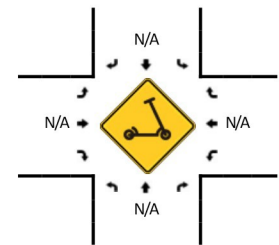
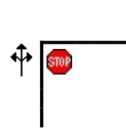
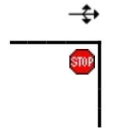
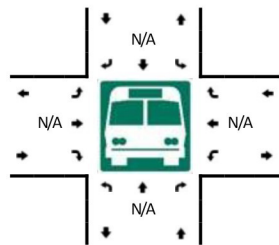
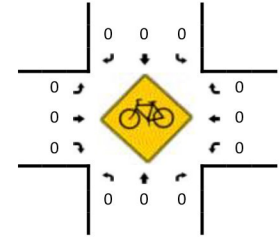
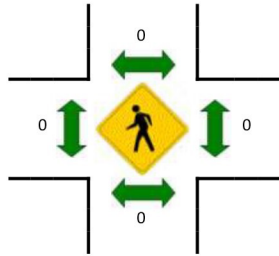
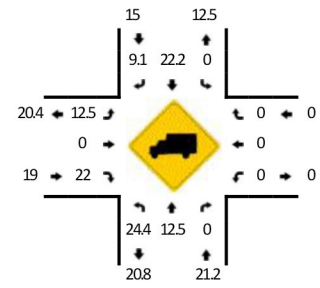
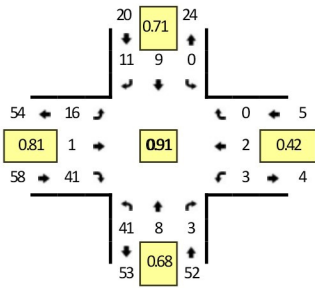
5-Min Count Period Beginning At	SE Hosner Rd (Northbound)				SE Hosner Rd (Southbound)				Homan Road/Oxbow Drive (Eastbound)				Homan Road/Oxbow Drive (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	1	0	0	0	1	0	0	0	0	2	0	0	0	0	0	7	
7:05 AM	4	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	7	
7:10 AM	3	1	0	0	0	2	1	0	0	1	5	0	0	0	0	0	13	
7:15 AM	4	1	0	0	0	1	2	0	0	0	7	0	0	0	1	0	16	
7:20 AM	3	0	0	0	0	1	0	0	0	0	5	0	0	0	0	0	9	
7:25 AM	5	0	0	0	0	1	0	0	0	1	3	0	0	0	0	0	10	
7:30 AM	2	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	5	
7:35 AM	5	0	0	0	0	1	1	0	1	0	7	0	0	1	0	0	16	
7:40 AM	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
7:45 AM	1	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	7	
7:50 AM	3	1	0	0	0	0	2	0	1	0	3	0	0	0	0	0	10	
7:55 AM	5	1	0	0	0	1	0	0	1	0	6	0	0	0	0	0	9	112
8:00 AM	2	1	0	0	0	0	0	0	0	0	5	0	0	0	0	0	12	117
8:05 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	112
8:10 AM	4	1	0	0	0	1	0	0	1	0	1	0	0	1	0	0	9	108
8:15 AM	4	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	6	98
8:20 AM	1	0	0	0	0	1	4	0	0	0	2	0	0	1	0	0	9	98
8:25 AM	1	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	5	93
8:30 AM	1	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4	92
8:35 AM	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	5	81
8:40 AM	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	82
8:45 AM	4	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	8	83
8:50 AM	2	1	0	0	0	1	1	0	1	1	2	0	0	0	0	0	9	82
8:55 AM	0	0	0	0	0	1	1	0	2	0	1	0	0	0	0	0	5	78
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	40	8	0	0	0	16	12	0	0	4	68	0	0	0	4	0	152	
Heavy Trucks	8	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	40	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles		0				0				0				0			0	
Scooters		0				0				0				0			0	

Comments:

LOCATION: SE Hosner Rd -- Homan Road/Oxbow Drive
CITY/STATE: Multnomah, OR

QC JOB #: 15711524
DATE: Wed, Feb 23 2022

Peak-Hour: 4:05 PM -- 5:05 PM
 Peak 15-Min: 4:50 PM -- 5:05 PM

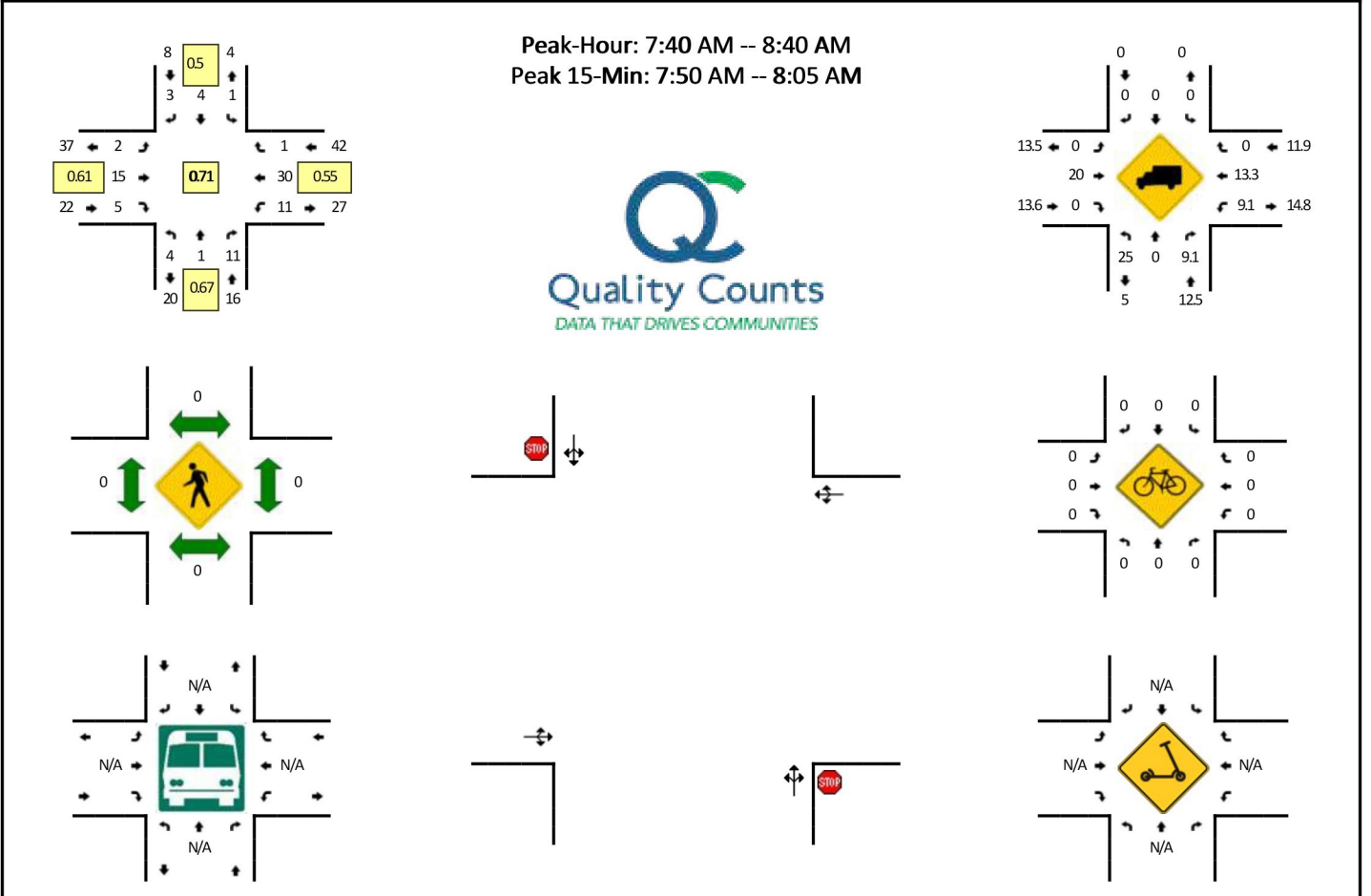


5-Min Count Period Beginning At	SE Hosner Rd (Northbound)				SE Hosner Rd (Southbound)				Homan Road/Oxbow Drive (Eastbound)				Homan Road/Oxbow Drive (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	4	
4:05 PM	3	1	0	0	0	1	1	0	3	0	8	0	0	0	0	0	17	
4:10 PM	1	1	0	0	0	0	1	0	0	0	4	0	0	1	0	0	8	
4:15 PM	2	0	0	0	0	2	2	0	0	0	3	0	0	0	0	0	9	
4:20 PM	4	1	0	0	0	0	1	0	3	0	4	0	2	0	0	0	15	
4:25 PM	1	0	1	0	0	0	1	0	0	0	3	0	0	0	0	0	6	
4:30 PM	4	1	0	0	0	0	0	0	1	0	2	0	0	1	0	0	9	
4:35 PM	1	1	0	0	0	0	2	0	4	0	2	0	1	0	0	0	11	
4:40 PM	7	0	0	0	0	2	0	0	1	1	4	0	0	0	0	0	15	
4:45 PM	2	2	0	0	0	1	1	0	0	0	2	0	0	0	0	0	8	
4:50 PM	3	0	0	0	0	2	1	0	1	0	3	0	0	0	0	0	10	
4:55 PM	4	1	0	0	0	1	0	0	1	0	3	0	0	0	0	0	10	122
5:00 PM	9	0	2	0	0	0	1	0	2	0	3	0	0	0	0	0	17	135
5:05 PM	0	0	0	0	0	0	1	0	1	0	4	0	0	0	0	0	6	124
5:10 PM	3	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	6	122
5:15 PM	2	1	0	0	0	1	0	0	3	0	3	0	0	0	0	0	10	123
5:20 PM	1	0	0	0	0	0	3	0	0	0	2	0	0	0	0	0	6	114
5:25 PM	0	0	0	0	0	2	2	0	0	1	2	0	0	3	0	0	10	118
5:30 PM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	4	113
5:35 PM	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	4	106
5:40 PM	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0	6	97
5:45 PM	1	0	0	0	0	0	1	0	2	0	1	0	0	0	0	0	5	94
5:50 PM	2	0	0	0	0	0	0	0	2	0	5	0	0	0	0	0	9	93
5:55 PM	0	0	0	0	0	1	0	0	1	0	6	0	0	0	0	0	8	91
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	64	4	8	0	0	12	8	0	16	0	36	0	0	0	0	0	148	
Heavy Trucks	12	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	20	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

Comments:

LOCATION: Dodge Park Blvd -- Lusted Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711531
DATE: Wed, Feb 23 2022

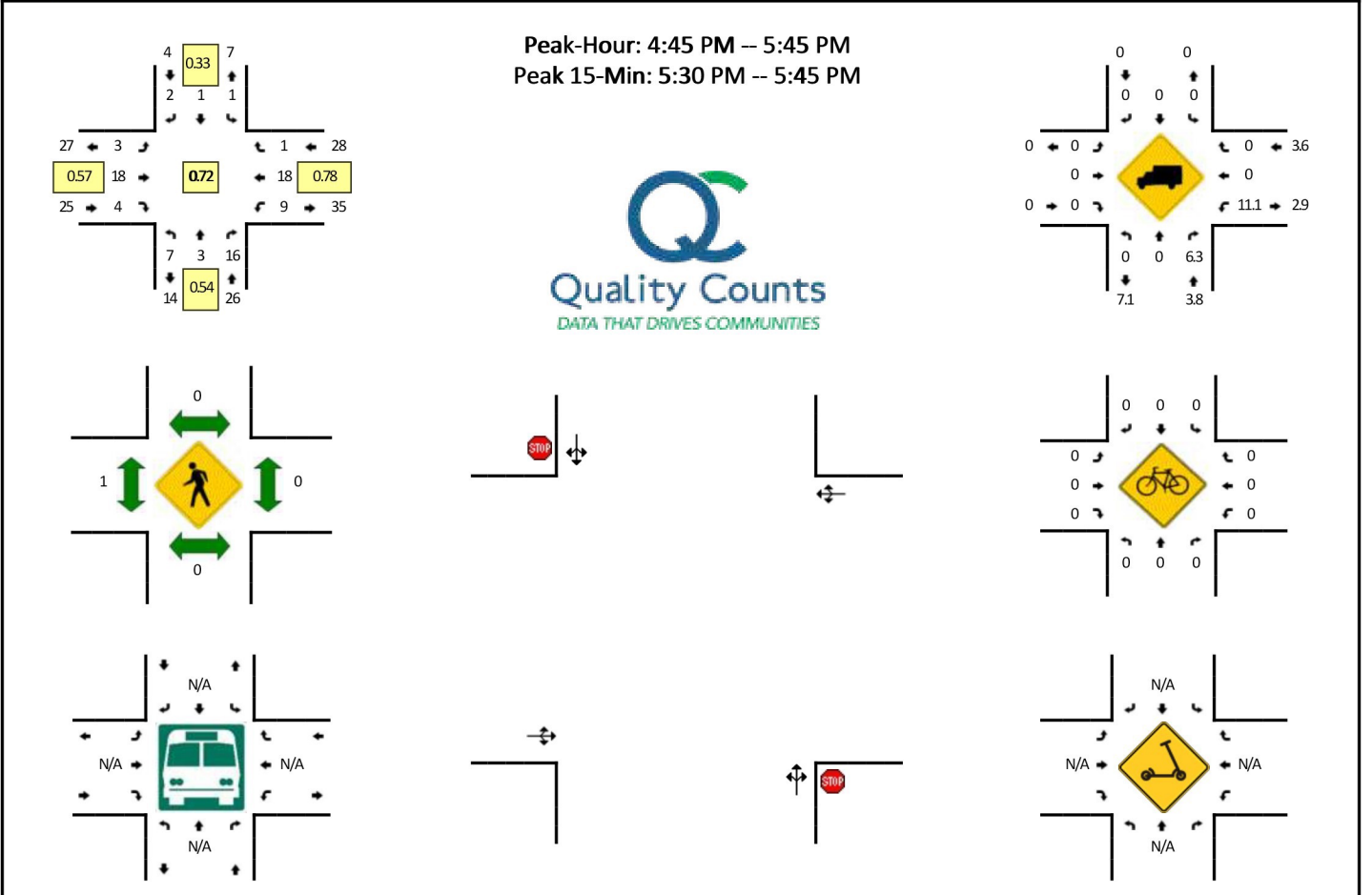


5-Min Count Period Beginning At	Dodge Park Blvd (Northbound)				Dodge Park Blvd (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
7:05 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
7:10 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:20 AM	0	0	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	4
7:25 AM	0	0	2	0	0	0	0	0	0	0	1	0	0	2	0	0	0	5
7:30 AM	0	0	1	0	0	0	1	0	0	0	3	0	0	2	0	0	0	7
7:35 AM	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3
7:40 AM	1	1	2	0	1	0	0	0	0	0	2	0	0	0	1	0	0	8
7:45 AM	0	0	1	0	0	0	0	0	0	0	1	1	0	2	3	0	0	8
7:50 AM	0	0	1	0	0	1	0	0	0	0	2	1	0	1	5	1	0	12
7:55 AM	1	0	0	0	0	0	1	0	0	1	0	0	0	1	6	0	0	10
8:00 AM	0	0	2	0	0	1	1	0	0	1	0	0	0	2	2	0	0	9
8:05 AM	1	0	0	0	0	1	0	0	0	0	1	1	0	1	2	0	0	7
8:10 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	1	0	0	0	3	0	0	1	1	0	0	7
8:20 AM	1	0	2	0	0	0	0	0	0	0	1	2	0	0	1	0	0	7
8:25 AM	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	0	7
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4
8:35 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	3	3	0	0	8
8:40 AM	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4
8:45 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0	4
8:50 AM	0	0	2	0	0	0	0	0	0	0	1	1	0	1	2	0	0	7
8:55 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	4	0	12	0	0	8	8	0	8	8	4	0	16	52	4	0	124	
Heavy Trucks	4	0	0	0	0	0	0	0	0	0	0	0	4	8	0	0	16	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Dodge Park Blvd -- Lusted Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711532
DATE: Wed, Feb 23 2022



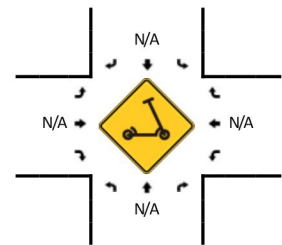
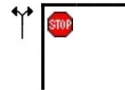
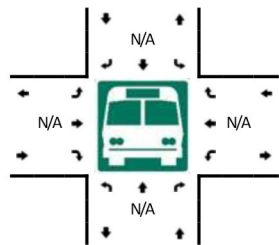
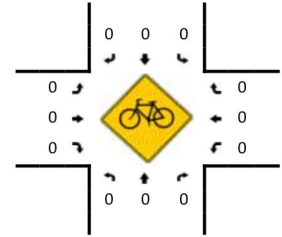
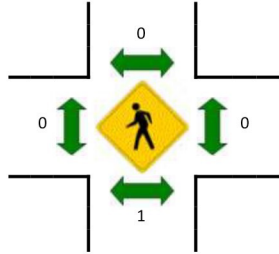
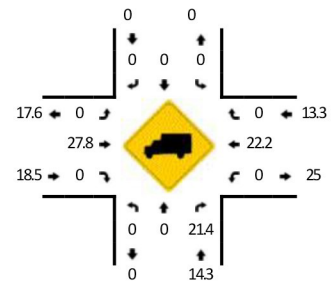
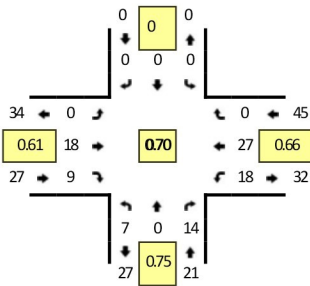
5-Min Count Period Beginning At	Dodge Park Blvd (Northbound)				Dodge Park Blvd (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	2	3	0	0	6		
4:05 PM	0	0	1	0	0	0	0	0	0	1	0	1	0	0	3	0	0	6	
4:10 PM	1	0	1	0	0	0	0	0	0	0	5	1	0	0	1	0	0	9	
4:15 PM	1	1	2	0	0	0	0	0	0	0	2	0	0	0	2	0	0	8	
4:20 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	5	
4:25 PM	0	1	0	0	0	0	0	0	0	0	3	1	0	0	2	0	0	7	
4:30 PM	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	2	0	7	
4:35 PM	1	1	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	7	
4:40 PM	1	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	5	
4:45 PM	0	0	3	0	0	0	0	0	0	0	2	1	0	0	2	0	0	8	
4:50 PM	0	1	1	0	0	0	0	0	0	0	2	1	0	0	1	4	1	11	
4:55 PM	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	82
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	77
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
5:10 PM	2	0	2	0	0	0	0	0	0	1	0	1	0	0	1	0	0	3	74
5:15 PM	1	0	1	0	0	0	0	0	0	0	2	0	0	0	2	0	0	11	76
5:20 PM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	1	0	0	6	74
5:25 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	74
5:30 PM	2	1	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	8	77
5:35 PM	0	0	2	0	1	0	1	0	0	2	0	1	0	1	2	0	0	10	74
5:40 PM	1	0	3	0	0	0	1	0	0	0	2	0	0	1	3	0	0	11	77
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	77
5:50 PM	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	4	70
5:55 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	70
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	12	4	32	0	4	0	8	0	8	12	4	0	8	24	0	0	116		
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0		
Buses																			
Pedestrians		0				0				0				0			0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scoters																			

Comments:

LOCATION: Hudson Road -- Lusted Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711533
DATE: Wed, Feb 23 2022

Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:20 AM -- 8:35 AM

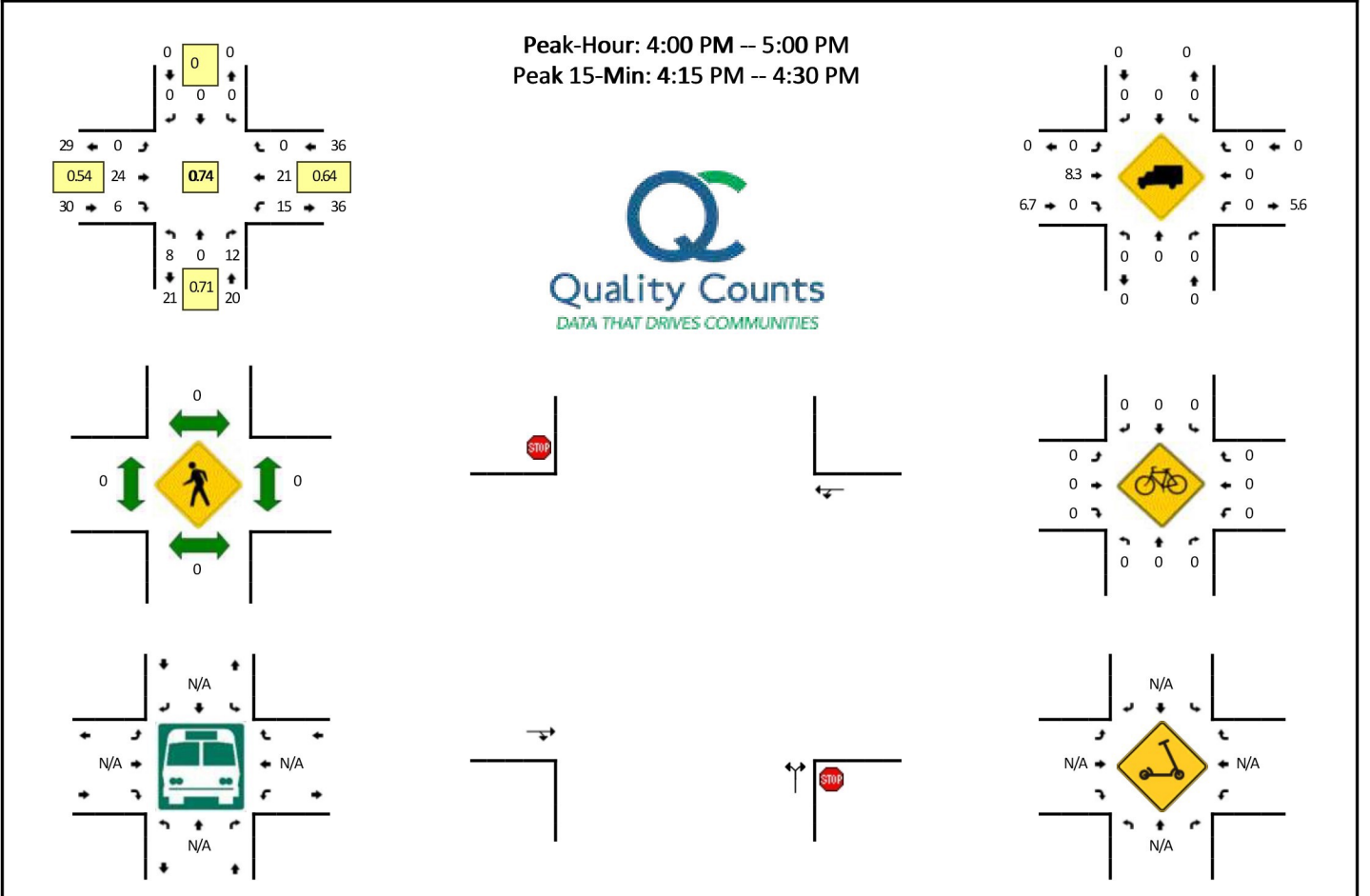


5-Min Count Period Beginning At	Hudson Road (Northbound)				Hudson Road (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:05 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	0	0	
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	
7:20 AM	0	0	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	
7:25 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	
7:35 AM	0	0	0	0	0	0	0	0	0	1	2	0	1	1	0	0	0	
7:40 AM	0	0	1	0	0	0	0	0	0	2	1	0	1	0	0	0	0	
7:45 AM	1	0	4	0	0	0	0	0	0	3	0	0	1	4	0	0	13	
7:50 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	4	
7:55 AM	1	0	1	0	0	0	0	0	0	3	1	0	1	8	0	0	14	
8:00 AM	0	0	1	0	0	0	0	0	0	0	1	0	1	3	0	0	6	
8:05 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
8:10 AM	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	6	
8:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	2	1	0	0	5	
8:20 AM	0	0	2	0	0	0	0	0	0	3	1	0	3	2	0	0	11	
8:25 AM	4	0	0	0	0	0	0	0	0	2	1	0	3	1	0	0	11	
8:30 AM	0	0	0	0	0	0	0	0	0	2	2	0	4	3	0	0	11	
8:35 AM	0	0	1	0	0	0	0	0	0	0	2	0	1	0	0	0	4	
8:40 AM	0	0	3	0	0	0	0	0	0	3	0	0	0	2	0	0	8	
8:45 AM	0	0	2	0	0	0	0	0	0	0	0	0	1	2	0	0	5	
8:50 AM	0	0	2	0	0	0	0	0	0	1	0	0	0	2	0	0	5	
8:55 AM	0	0	2	0	0	0	0	0	0	3	0	0	1	0	0	0	6	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	0	8	0	0	0	0	0	0	28	16	0	40	24	0	0	132	
Heavy Trucks	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Hudson Road -- Lusted Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711534
DATE: Wed, Feb 23 2022



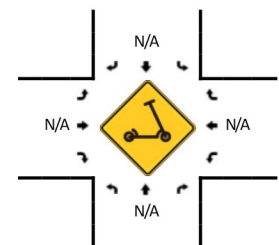
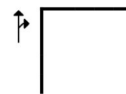
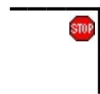
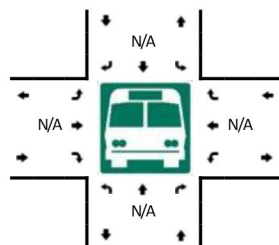
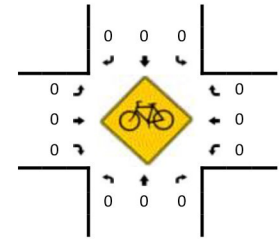
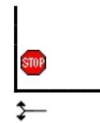
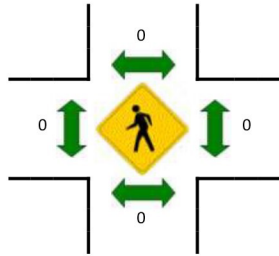
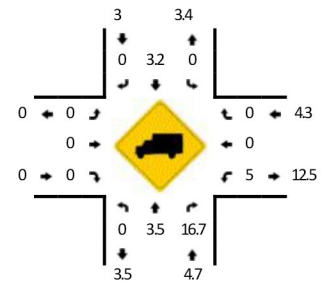
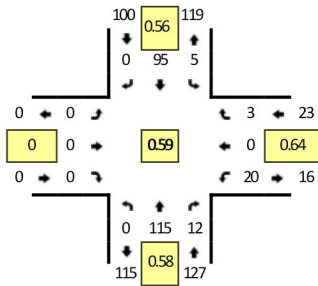
5-Min Count Period Beginning At	Hudson Road (Northbound)				Hudson Road (Southbound)				Lusted Road (Eastbound)				Lusted Road (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	0	0	0	0	0	0	0	2	1	0	5	7	0	0	16	
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	
4:10 PM	0	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	6	
4:15 PM	0	0	2	0	0	0	0	0	0	7	1	0	2	2	0	0	14	
4:20 PM	0	0	2	0	0	0	0	0	0	1	1	0	2	1	0	0	7	
4:25 PM	2	0	1	0	0	0	0	0	0	0	1	0	0	4	0	0	8	
4:30 PM	1	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	6	
4:35 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
4:40 PM	2	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	5	
4:45 PM	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	
4:50 PM	2	0	2	0	0	0	0	0	0	3	1	0	1	3	0	0	11	
4:55 PM	0	0	3	0	0	0	0	0	0	2	1	0	0	1	0	0	6	86
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74
5:05 PM	1	0	4	0	0	0	0	0	0	0	1	0	1	2	0	0	8	80
5:10 PM	1	0	3	0	0	0	0	0	0	0	1	0	0	3	0	0	8	82
5:15 PM	0	0	1	0	0	0	0	0	0	3	1	0	1	0	0	0	6	74
5:20 PM	0	0	1	0	0	0	0	0	0	3	1	0	1	2	0	0	8	75
5:25 PM	1	0	1	0	0	0	0	0	0	2	1	0	0	1	0	0	6	73
5:30 PM	2	0	1	0	0	0	0	0	0	2	0	0	0	1	0	0	6	73
5:35 PM	2	0	1	0	0	0	0	0	0	2	0	0	0	1	0	0	6	77
5:40 PM	0	0	1	0	0	0	0	0	0	3	1	0	1	2	0	0	8	80
5:45 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	1	0	0	4	81
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3	73
5:55 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	69
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	0	20	0	0	0	0	0	0	32	12	0	16	28	0	0	116	
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	0	0		4	
Buses																		
Pedestrians		0			0				0				0				0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

LOCATION: Bluff Road -- Hudson Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711535
DATE: Wed, Feb 23 2022

Peak-Hour: 7:10 AM -- 8:10 AM
 Peak 15-Min: 7:30 AM -- 7:45 AM



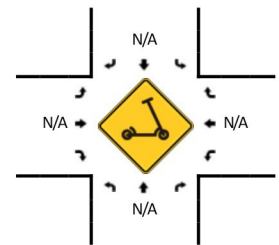
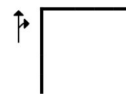
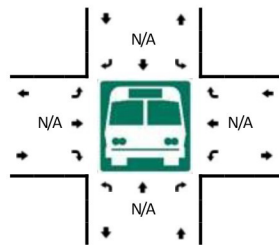
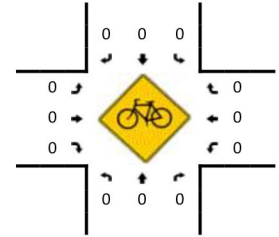
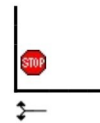
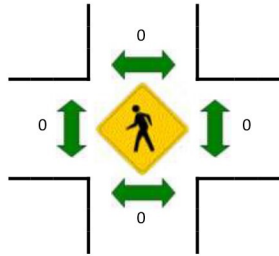
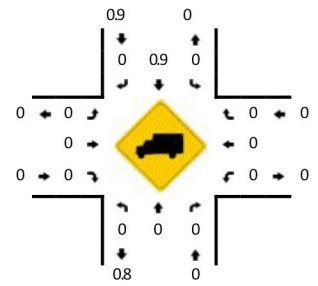
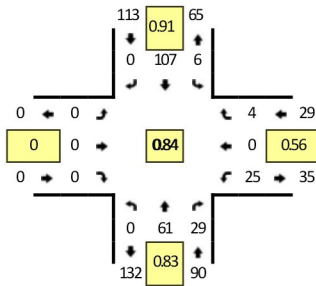
5-Min Count Period Beginning At	Bluff Road (Northbound)				Bluff Road (Southbound)				Hudson Road (Eastbound)				Hudson Road (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	0	3	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	9	
7:05 AM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	
7:10 AM	0	9	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	11	
7:15 AM	0	8	1	0	0	4	0	0	0	0	0	0	0	1	0	1	0	15	
7:20 AM	0	9	1	0	0	3	0	0	0	0	0	0	0	3	0	0	0	16	
7:25 AM	0	15	0	0	0	7	0	0	0	0	0	0	0	2	0	1	0	25	
7:30 AM	0	16	1	0	0	13	0	0	0	0	0	0	0	3	0	0	0	33	
7:35 AM	0	18	1	0	0	14	0	0	0	0	0	0	0	1	0	0	0	34	
7:40 AM	0	17	2	0	0	17	0	0	0	0	0	0	0	3	0	0	0	39	
7:45 AM	0	8	3	0	0	13	0	1	0	0	0	0	0	1	0	0	0	26	
7:50 AM	0	4	0	0	0	9	0	0	0	0	0	0	0	1	0	0	0	14	
7:55 AM	0	3	2	0	2	4	0	0	0	0	0	0	0	2	0	1	0	14	240
8:00 AM	0	3	1	0	2	5	0	0	0	0	0	0	0	1	0	0	0	12	243
8:05 AM	0	5	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0	11	250
8:10 AM	0	2	3	0	0	4	0	0	0	0	0	0	0	1	0	0	0	10	249
8:15 AM	0	1	1	0	0	7	0	0	0	0	0	0	0	1	0	0	0	10	244
8:20 AM	0	4	3	0	0	3	0	0	0	0	0	0	0	3	0	0	0	13	241
8:25 AM	0	2	3	0	0	1	0	0	0	0	0	0	0	5	0	0	0	11	227
8:30 AM	0	1	1	0	0	2	0	0	0	0	0	0	0	7	0	1	0	12	206
8:35 AM	0	3	1	0	0	3	0	0	0	0	0	0	0	5	0	1	0	13	185
8:40 AM	0	4	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	9	155
8:45 AM	0	2	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	135
8:50 AM	0	3	3	1	0	8	0	0	0	0	0	0	0	1	0	1	0	17	138
8:55 AM	0	2	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	5	129
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	204	16	0	0	176	0	0	0	0	0	0	0	28	0	0	0	424	
Heavy Trucks	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
Buses																		0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters																		0	

Comments:

LOCATION: Bluff Road -- Hudson Road
CITY/STATE: Clackamas, OR

QC JOB #: 15711536
DATE: Wed, Feb 23 2022

Peak-Hour: 4:00 PM -- 5:00 PM
 Peak 15-Min: 4:10 PM -- 4:25 PM



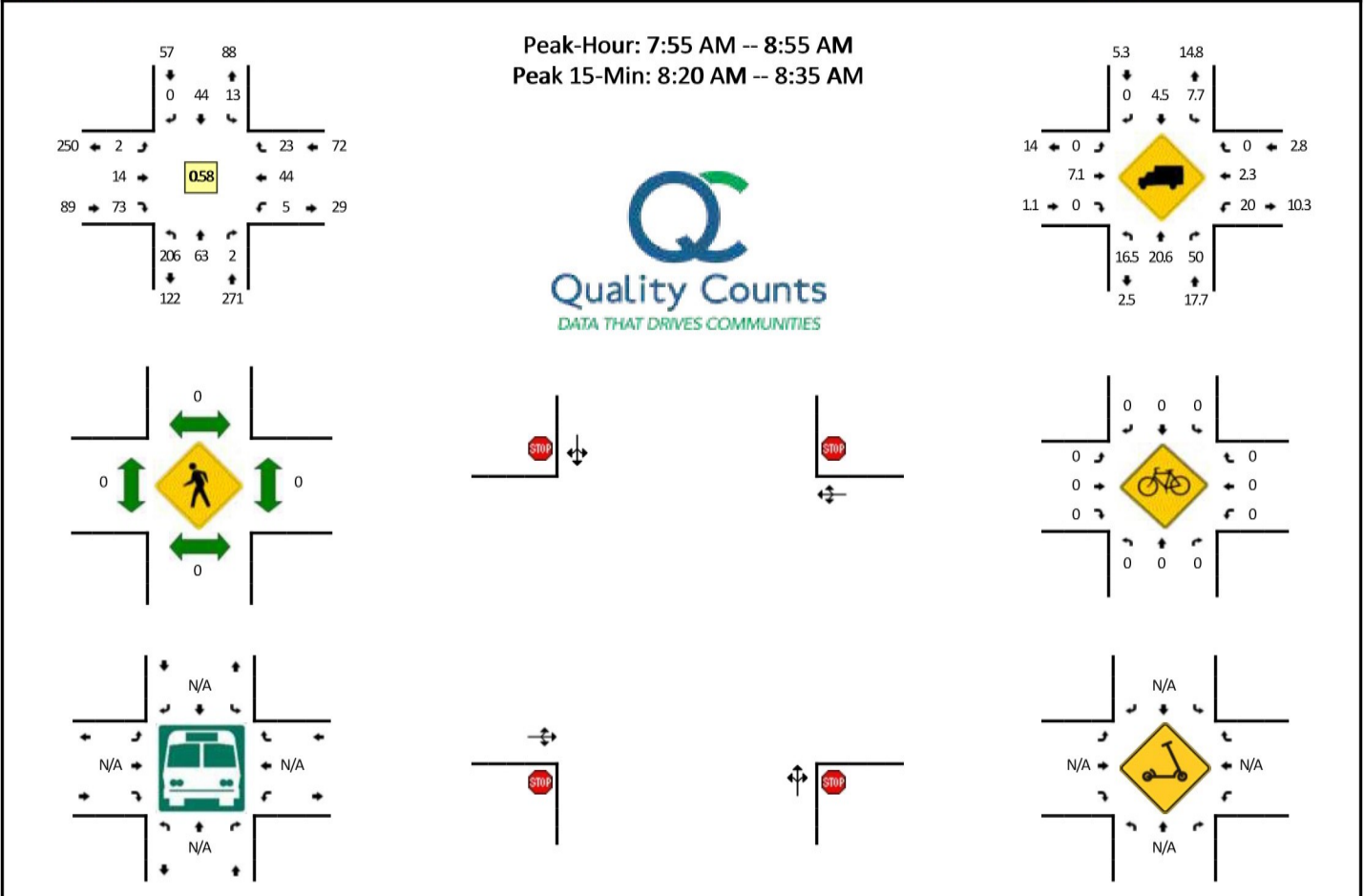
5-Min Count Period Beginning At	Bluff Road (Northbound)				Bluff Road (Southbound)				Hudson Road (Eastbound)				Hudson Road (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	4	4	0	2	9	0	0	0	0	0	0	5	0	1	0	25	
4:05 PM	0	3	1	0	0	10	0	0	0	0	0	0	3	0	0	0	17	
4:10 PM	0	9	2	0	0	10	0	0	0	0	0	0	2	0	2	0	25	
4:15 PM	0	4	2	0	0	9	0	0	0	0	0	0	2	0	0	0	17	
4:20 PM	0	8	2	0	0	11	0	0	0	0	0	0	6	0	0	0	27	
4:25 PM	0	5	3	0	1	8	0	0	0	0	0	0	0	0	0	0	17	
4:30 PM	0	7	1	0	0	10	0	0	0	0	0	0	3	0	0	0	21	
4:35 PM	0	4	2	0	0	10	0	0	0	0	0	0	0	0	0	0	16	
4:40 PM	0	7	1	0	0	5	0	0	0	0	0	0	0	0	1	0	14	
4:45 PM	0	2	1	0	1	10	0	0	0	0	0	0	2	0	0	0	16	
4:50 PM	0	1	7	0	1	9	0	0	0	0	0	0	0	0	0	0	18	
4:55 PM	0	7	3	0	1	6	0	0	0	0	0	0	2	0	0	0	19	
5:00 PM	0	4	3	0	0	9	0	0	0	0	0	0	2	0	0	0	16	232
5:05 PM	0	2	5	0	1	8	0	0	0	0	0	0	0	0	0	0	18	224
5:10 PM	0	4	3	0	2	5	0	0	0	0	0	0	1	0	1	0	16	215
5:15 PM	0	3	1	0	0	6	0	0	0	0	0	0	0	0	0	0	10	208
5:20 PM	0	2	2	0	1	7	0	0	0	0	0	0	2	0	1	0	15	196
5:25 PM	0	2	1	0	1	12	0	0	0	0	0	0	1	0	0	0	17	196
5:30 PM	0	3	6	0	1	4	0	0	0	0	0	0	1	0	1	0	16	191
5:35 PM	0	5	4	0	0	12	0	0	0	0	0	0	0	0	0	0	21	196
5:40 PM	0	3	1	0	2	8	0	0	0	0	0	0	3	0	0	0	17	199
5:45 PM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7	190
5:50 PM	0	2	1	0	0	4	0	0	0	0	0	0	2	0	0	0	9	181
5:55 PM	0	5	2	0	1	9	0	0	0	0	0	0	1	0	0	0	18	180

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	84	24	0	0	120	0	0	0	0	0	0	40	0	8	0	276
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0					0			0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

LOCATION: SE 302nd Ave -- SE Lusted Rd
CITY/STATE: Multnomah, OR

QC JOB #: 16123903
DATE: Wed, Mar 15 2023

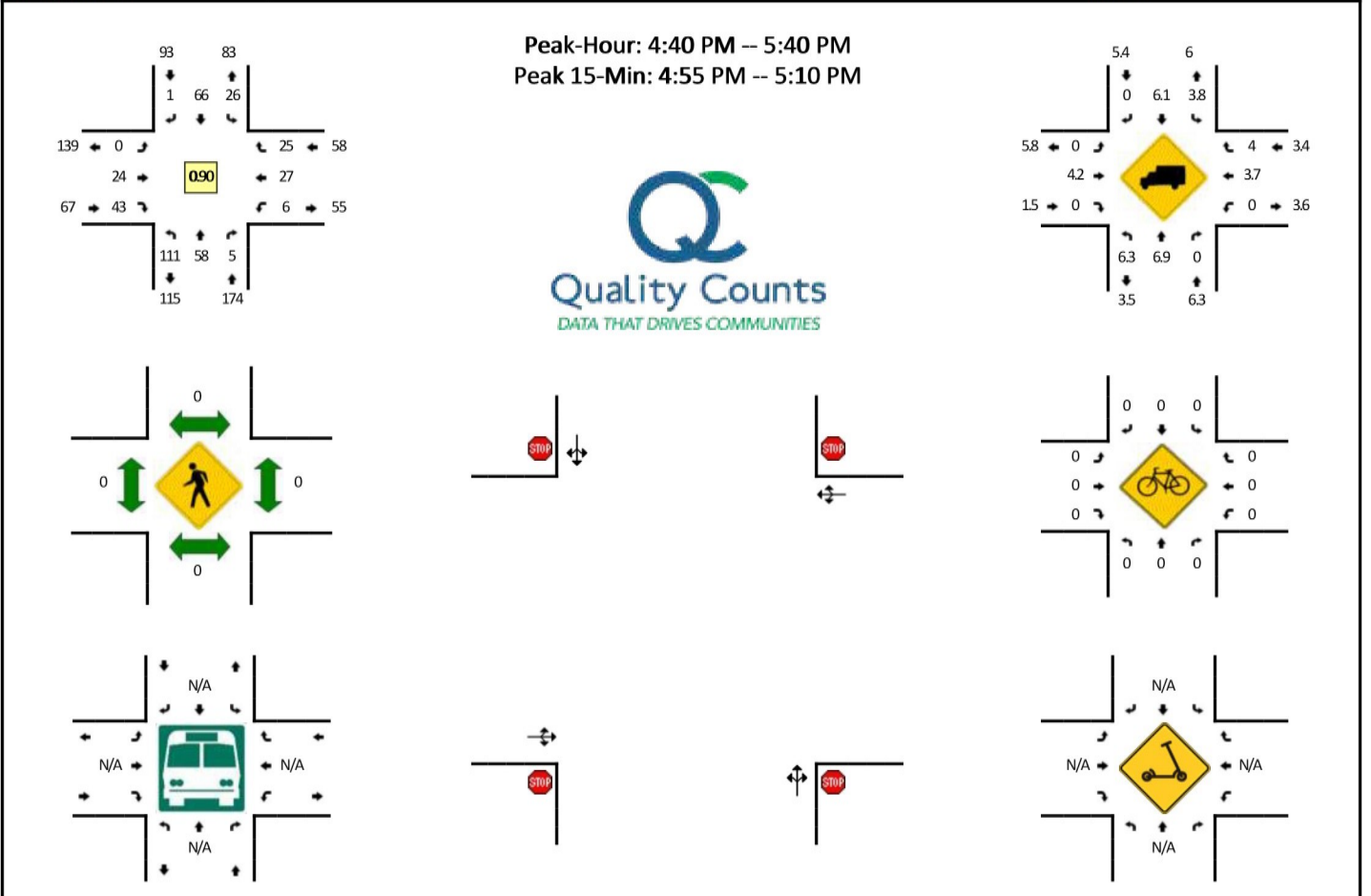


5-Min Count Period Beginning At	SE 302nd Ave (Northbound)				SE 302nd Ave (Southbound)				SE Lusted Rd (Eastbound)				SE Lusted Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	6	5	0	0	0	1	0	0	0	0	1	2	0	0	2	2	0	19	
7:05 AM	6	4	0	0	1	3	0	0	0	0	1	3	0	0	3	1	0	22	
7:10 AM	6	2	1	0	0	7	0	0	0	0	2	1	0	0	2	1	0	22	
7:15 AM	1	4	1	0	1	3	0	0	0	0	1	1	0	0	1	2	0	15	
7:20 AM	2	8	0	0	0	3	0	0	0	0	1	0	0	0	3	5	0	22	
7:25 AM	1	5	0	0	1	3	0	0	0	0	0	1	0	0	0	1	0	12	
7:30 AM	3	5	0	0	1	3	0	0	0	0	2	1	0	0	1	0	0	16	
7:35 AM	3	8	0	0	2	3	0	0	0	0	0	1	0	0	1	3	0	21	
7:40 AM	1	6	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0	13	
7:45 AM	4	4	0	0	1	0	0	0	0	0	0	1	0	0	2	1	0	13	
7:50 AM	4	1	0	0	2	4	0	0	0	0	2	1	0	0	4	0	0	18	
7:55 AM	7	5	0	0	0	3	0	0	0	0	2	0	0	0	1	2	0	20	213
8:00 AM	9	2	1	0	0	3	0	0	0	0	0	1	0	1	1	2	0	20	214
8:05 AM	21	5	0	0	2	2	0	0	0	0	0	6	0	1	5	0	0	42	234
8:10 AM	32	6	0	0	2	3	0	0	0	0	0	6	0	0	5	4	0	58	270
8:15 AM	34	11	0	0	1	3	0	0	0	0	0	11	0	0	3	3	0	66	321
8:20 AM	30	6	0	0	3	6	0	0	0	0	3	14	0	0	12	2	0	76	375
8:25 AM	25	2	0	0	0	9	0	0	0	1	3	10	0	1	7	1	0	59	422
8:30 AM	30	11	0	0	2	4	0	0	0	1	5	15	0	1	4	2	0	75	481
8:35 AM	4	3	0	0	0	0	0	0	0	0	1	5	0	1	1	0	0	15	475
8:40 AM	2	3	1	0	1	2	0	0	0	0	0	2	0	0	4	2	0	17	479
8:45 AM	6	5	0	0	1	5	0	0	0	0	0	1	0	0	1	1	0	20	486
8:50 AM	6	4	0	0	1	4	0	0	0	0	0	2	0	0	0	4	0	21	489
8:55 AM	3	5	0	0	0	1	0	0	0	0	1	1	0	0	3	0	0	14	483
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	340	76	0	0	20	76	0	0	8	44	156	0	8	92	20	0	840		
Heavy Trucks	40	24	0	0	0	4	0	0	0	4	0	0	0	0	0	0	72		
Buses																	0		
Pedestrians		0				0				0				0			0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scoters																	0		

Comments:

LOCATION: SE 302nd Ave -- SE Lusted Rd
CITY/STATE: Multnomah, OR

QC JOB #: 16123904
DATE: Wed, Mar 15 2023



5-Min Count Period Beginning At	SE 302nd Ave (Northbound)				SE 302nd Ave (Southbound)				SE Lusted Rd (Eastbound)				SE Lusted Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	9	1	0	1	6	1	0	0	4	1	0	0	4	0	0	34	
4:05 PM	6	6	0	0	3	5	0	0	0	1	2	0	0	6	3	0	32	
4:10 PM	8	2	0	0	0	5	0	0	0	1	1	0	0	5	2	0	24	
4:15 PM	5	7	0	0	1	5	0	0	0	3	0	0	0	4	4	0	29	
4:20 PM	7	3	0	0	4	5	0	0	0	2	0	0	1	5	0	0	27	
4:25 PM	5	8	0	0	2	6	0	0	0	3	4	0	0	1	1	0	30	
4:30 PM	5	5	0	0	2	6	0	0	0	1	1	0	1	5	0	0	26	
4:35 PM	3	5	0	0	0	7	0	0	0	1	3	0	1	2	0	0	22	
4:40 PM	8	2	0	0	1	14	0	0	0	3	3	0	0	0	4	0	35	
4:45 PM	9	6	1	0	4	7	0	0	0	1	2	0	0	2	2	0	34	
4:50 PM	9	3	0	0	1	5	0	0	0	2	4	0	0	1	3	0	28	
4:55 PM	17	3	1	0	1	5	0	0	0	2	6	0	1	2	1	0	39	360
5:00 PM	15	4	0	0	2	3	1	0	0	3	4	0	0	2	3	0	37	363
5:05 PM	7	3	1	0	3	6	0	0	0	3	5	0	2	2	1	0	33	364
5:10 PM	10	6	0	0	2	3	0	0	0	1	4	0	1	3	3	0	33	373
5:15 PM	10	5	0	0	1	5	0	0	0	2	4	0	1	2	2	0	32	376
5:20 PM	8	5	0	0	4	2	0	0	0	1	4	0	0	2	0	0	26	375
5:25 PM	6	7	0	0	4	3	0	0	0	4	3	0	0	4	1	0	32	377
5:30 PM	6	8	1	0	1	3	0	0	0	1	1	0	0	5	5	0	31	382
5:35 PM	6	6	1	0	2	10	0	0	0	1	3	0	1	2	0	0	32	392
5:40 PM	4	4	1	0	0	7	0	0	0	3	0	0	0	1	4	0	24	381
5:45 PM	6	7	0	0	0	1	0	0	0	2	1	0	0	1	1	0	19	366
5:50 PM	6	2	0	0	2	3	0	0	0	0	2	0	0	3	3	0	21	359
5:55 PM	6	3	0	0	2	2	0	0	0	1	1	0	0	5	3	0	23	343
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	156	40	8	0	24	56	4	0	0	32	60	0	12	24	20	0	436	
Heavy Trucks	8	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	16	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:



Location: SE Orient Dr -- SE Bluff Rd/SE Teton Dr
 Date: 3/15/2023
 Site Code: 16123905

Start Time	SE Orient Dr Southbound			Flat Creek Garden Center Dwy Southwestbound			SE Bluff Rd Westbound			SE Orient Dr Northbound			SE Teton Dr Eastbound					
	Right	Thru	Left	Right to SE Orient Dr	Left to SE Orient Dr	Left to SE Bluff Rd	Right to Flat Creek Garden Center Dwy	Thru	Left	U-Turn	Right to Flat Creek Garden Center Dwy	Thru	Left	U-Turn	Right	Thru	Left	U-Turn
07:00 AM	0	9	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	8	13	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	6	14	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	11	12	0	0	0	0	7	0	2	0	0	0	0	0	0	0	0
07:20 AM	0	4	22	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	3	13	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	11	16	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
07:35 AM	1	9	9	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	9	11	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	11	11	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	6	3	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	2	4	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	4	8	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	8	3	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0
08:10 AM	0	5	10	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	10	9	0	0	0	0	10	0	3	0	0	0	0	0	0	0	0
08:20 AM	0	6	9	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
08:25 AM	0	4	3	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	7	2	0	0	0	0	7	0	3	0	0	0	0	0	0	0	0
08:35 AM	0	4	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	5	4	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0
08:45 AM	0	9	2	0	0	0	0	10	0	1	0	0	0	0	0	0	0	0
08:50 AM	0	6	4	0	0	0	0	6	0	2	0	0	0	0	0	0	0	0
08:55 AM	0	9	7	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0
Total	1	166	203	0	0	0	0	163	1	33	1	58	0	150	1	0	3	0

Peak Hour: 7:00 AM - 8:00 AM
 Peak 15: 7:35 AM - 7:50 AM
 PHF: 0.893145



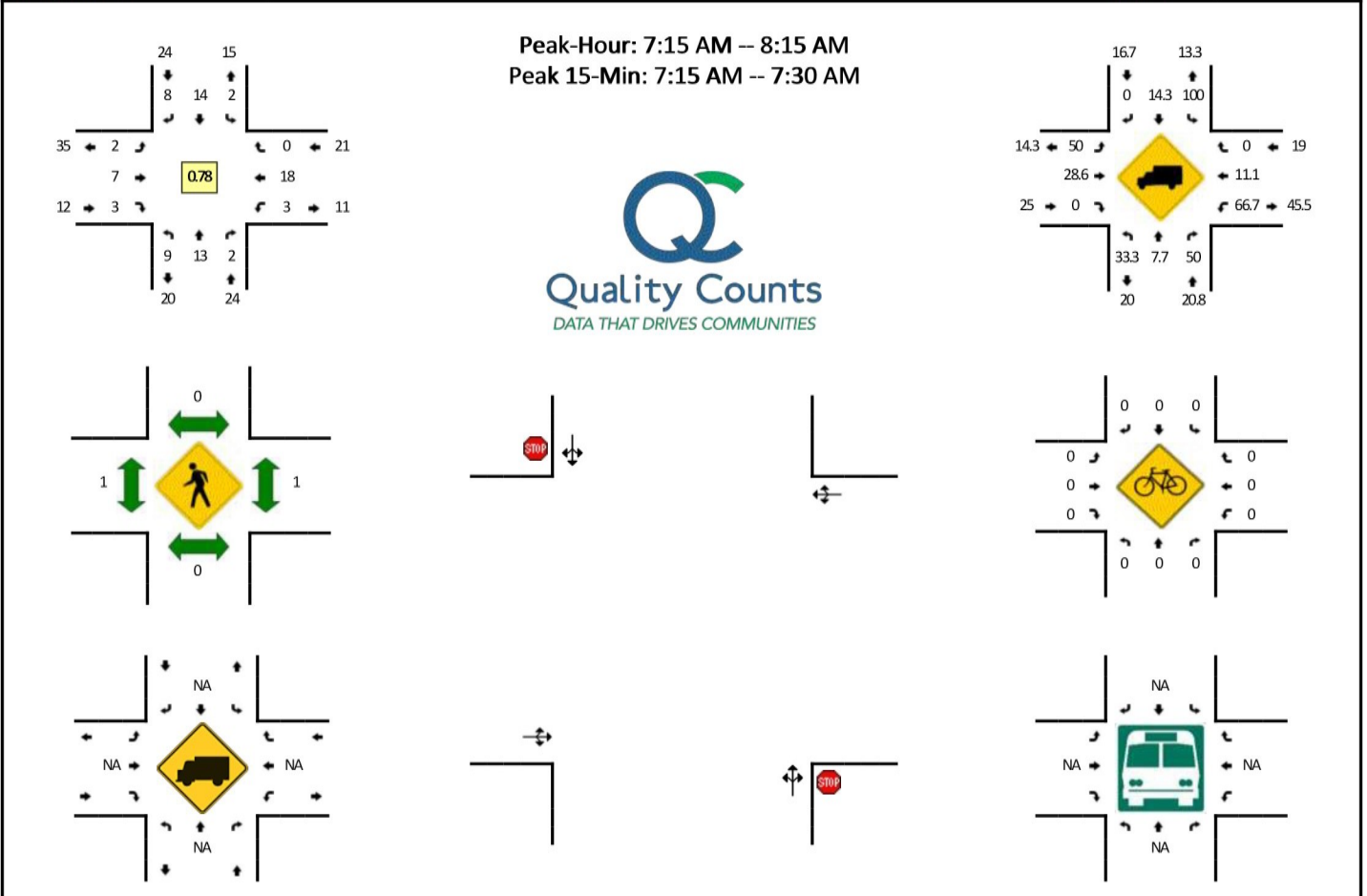
Location: SE Orient Dr -- SE Bluff Rd/SE Teton Dr
 Date: 3/15/2023
 Site Code: 16123906

Start Time	SE Orient Dr Southbound			Flat Creek Garden Center Dwy Southwestbound			SE Bluff Rd Westbound			SE Orient Dr Northbound			SE Teton Dr Eastbound					
	Right	Thru	Left	Right to SE Orient Dr	Left to SE Orient Dr	Left to SE Bluff Rd	Right to Flat Creek Garden Center Dwy	Thru	Left	U-Turn	Right to Flat Creek Garden Center Dwy	Thru	Left	U-Turn	Right	Thru	Left	U-Turn
04:00 PM	0	14	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	1	19	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	1	14	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	19	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	16	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	15	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	22	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	1	20	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	23	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	18	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	10	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	17	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	15	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	22	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	18	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	10	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	10	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	12	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	15	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	12	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	15	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	1	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	1	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	366	215	1	0	0	0	0	63	0	50	1	0	1	0	0	0	0

Peak Hour: 4:00 PM - 5:00 PM
 Peak 15: 4:00 PM - 4:15 PM
 PHF: 0.854369

LOCATION: SE Cottell Rd -- SE Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 14910307
DATE: Thu, Feb 28 2019

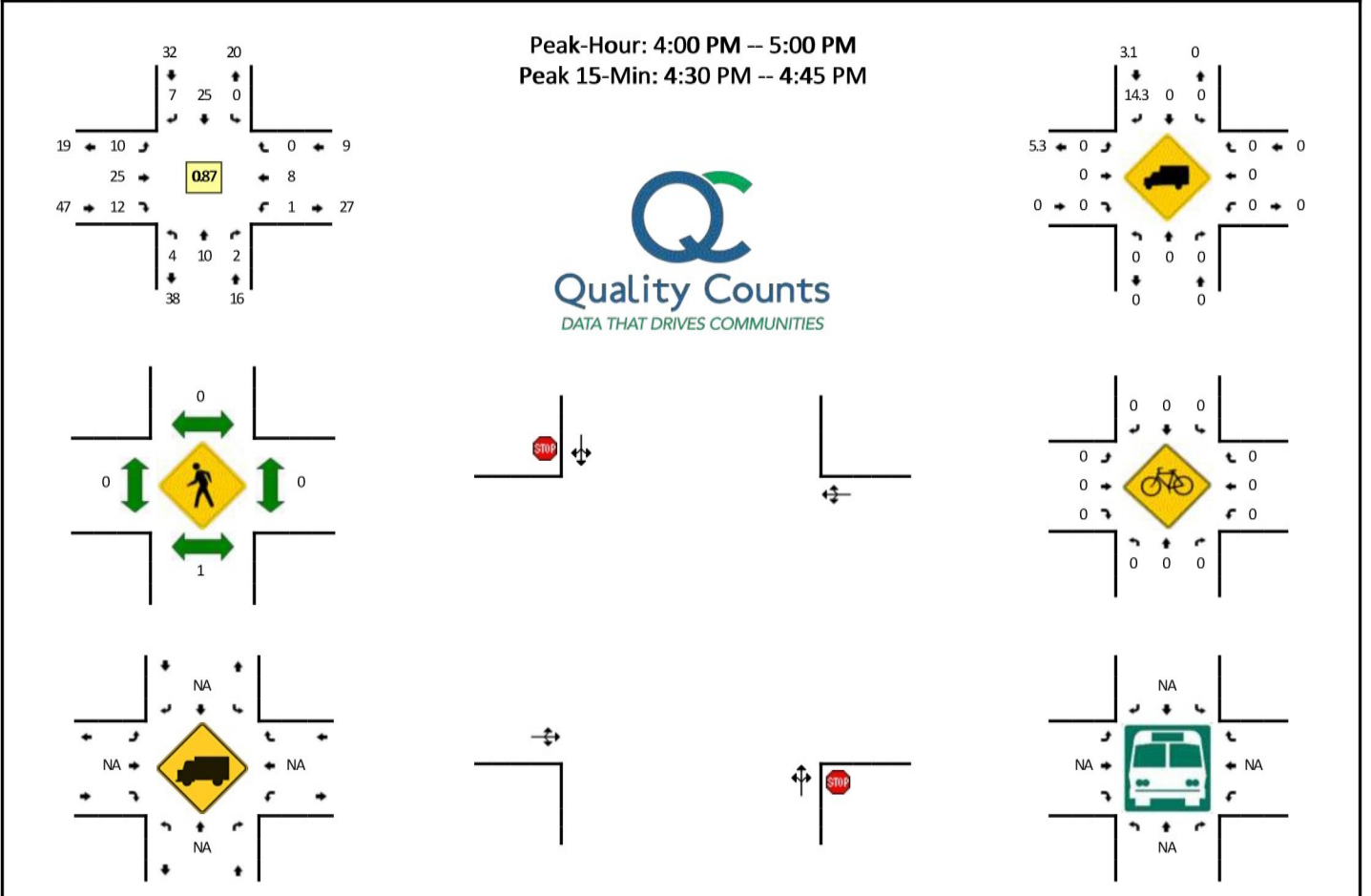


15-Min Count Period Beginning At	SE Cottell Rd (Northbound)				SE Cottell Rd (Southbound)				SE Dodge Park Blvd (Eastbound)				SE Dodge Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	3	0	0	0	1	1	0	1	0	2	0	0	3	0	0	14	
7:15 AM	3	5	1	0	1	4	2	0	0	1	2	0	1	6	0	0	26	
7:30 AM	3	4	1	0	1	5	0	0	1	1	0	0	0	5	0	0	21	
7:45 AM	2	3	0	0	0	1	2	0	1	4	1	0	0	5	0	0	19	80
8:00 AM	1	1	0	0	0	4	4	0	0	1	0	0	2	2	0	0	15	81
8:15 AM	4	2	0	0	0	0	1	0	1	1	1	0	0	2	0	0	12	67
8:30 AM	2	1	1	0	1	1	2	0	1	2	5	0	0	4	0	0	20	66
8:45 AM	2	1	0	0	0	2	2	0	0	1	0	0	1	1	0	0	10	57
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	20	4	0	4	16	8	0	0	4	8	0	4	24	0	0	104	
Heavy Trucks	0	0	4		4	0	0		0	0	0		4	4	0		16	
Pedestrians		0				0				0				0			0	
Bicycles		0				0				0				0			0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Cottell Rd -- SE Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 14910308
DATE: Thu, Mar 7 2019

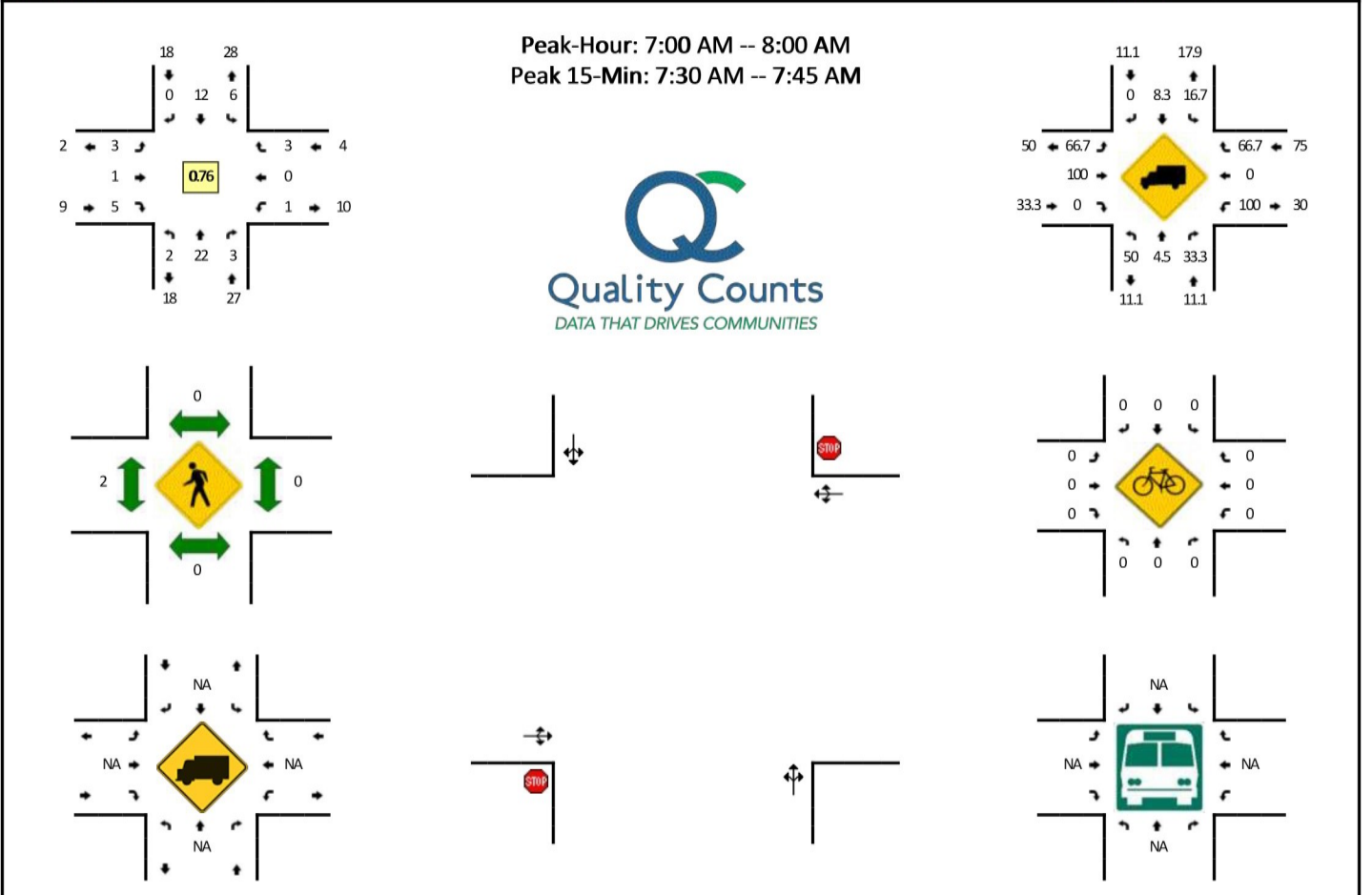


15-Min Count Period Beginning At	SE Cottell Rd (Northbound)				SE Cottell Rd (Southbound)				SE Dodge Park Blvd (Eastbound)				SE Dodge Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	6	1	0	0	7	3	0	0	5	4	0	0	0	0	0	27	
4:15 PM	0	2	0	0	0	2	3	0	3	6	3	0	1	2	0	0	22	
4:30 PM	2	1	0	0	0	12	1	0	4	7	1	0	0	2	0	0	30	
4:45 PM	1	1	1	0	0	4	0	0	3	7	4	0	0	4	0	0	25	104
5:00 PM	2	1	0	0	1	7	0	0	1	2	1	0	0	4	0	0	19	96
5:15 PM	3	3	0	0	0	3	0	0	2	6	2	0	0	4	0	0	23	97
5:30 PM	1	1	0	0	1	2	1	0	2	8	5	0	1	3	0	0	25	92
5:45 PM	1	1	0	0	0	1	0	0	2	11	3	0	0	3	0	0	22	89
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	4	0	0	0	48	4	0	16	28	4	0	0	8	0	0	120	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Cottell Rd -- SE Carpenter Ln
CITY/STATE: Multnomah, OR

QC JOB #: 14910309
DATE: Thu, Feb 28 2019

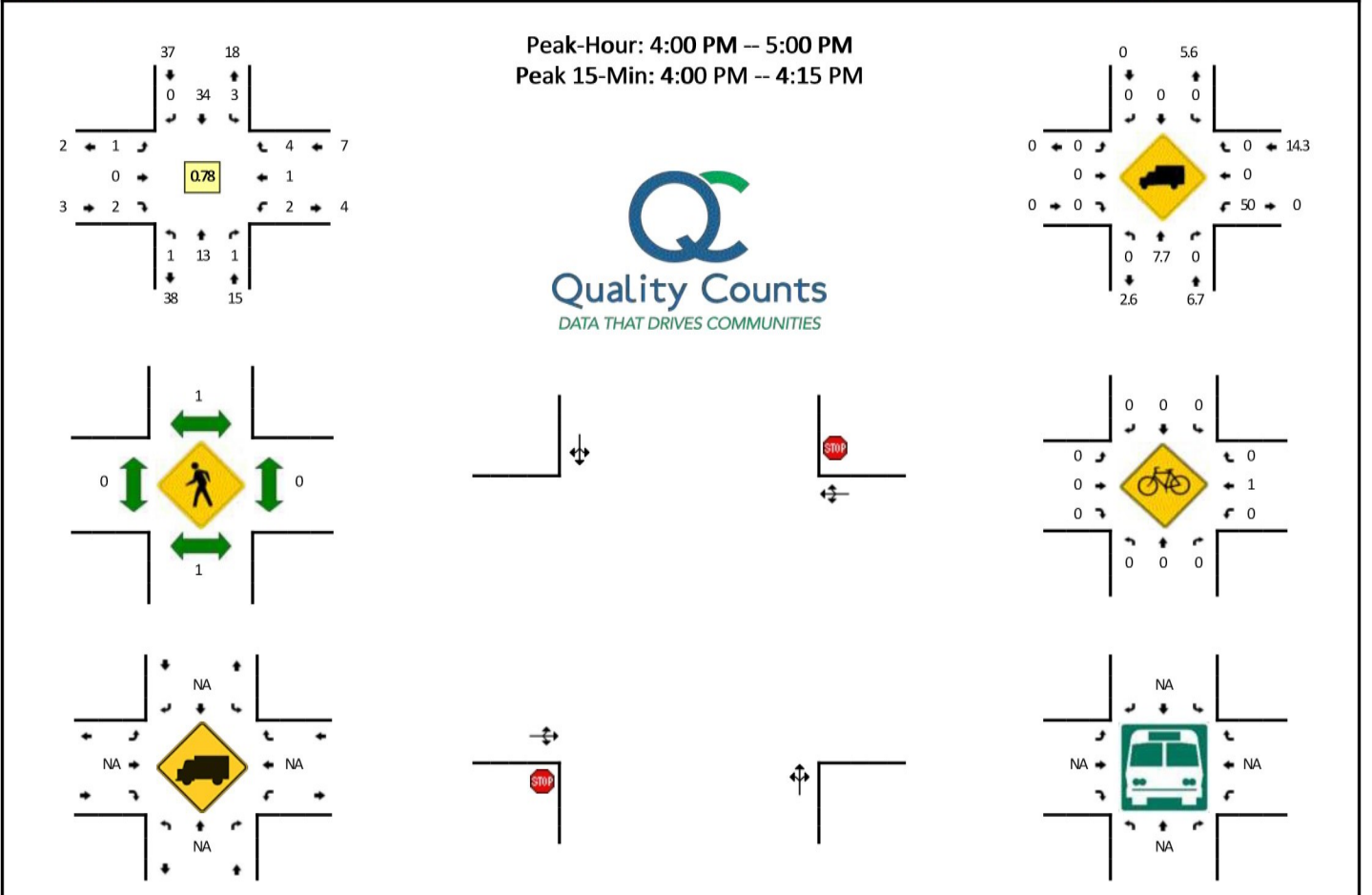


15-Min Count Period Beginning At	SE Cottell Rd (Northbound)				SE Cottell Rd (Southbound)				SE Carpenter Ln (Eastbound)				SE Carpenter Ln (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	5	0	0	2	2	0	0	1	0	2	0	0	0	0	0	12	
7:15 AM	0	8	1	0	2	4	0	0	1	0	1	0	0	0	0	0	17	
7:30 AM	0	6	2	0	1	5	0	0	0	1	1	0	1	0	2	0	19	
7:45 AM	2	3	0	0	1	1	0	0	1	0	1	0	0	0	1	0	10	58
8:00 AM	1	1	0	0	1	4	1	0	1	0	0	0	0	0	0	0	9	55
8:15 AM	1	3	1	0	1	0	0	0	0	0	1	0	0	0	2	0	9	47
8:30 AM	0	3	1	0	2	1	1	0	1	0	0	0	0	0	0	0	9	37
8:45 AM	0	2	0	0	2	1	0	0	0	0	0	0	0	0	1	0	6	33
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	24	8	0	4	20	0	0	0	4	4	0	4	0	8	0	76	
Heavy Trucks	0	0	4		4	0	0		0	4	0		4	0	4		20	
Pedestrians	0	0	0		0	0	0		4	0	0		0	0	0		4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Cottell Rd -- SE Carpenter Ln
CITY/STATE: Multnomah, OR

QC JOB #: 14910310
DATE: Thu, Mar 7 2019



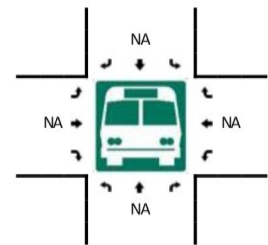
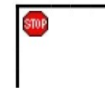
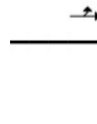
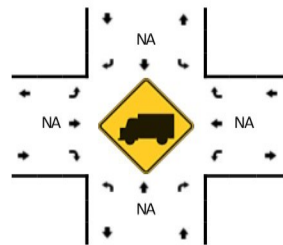
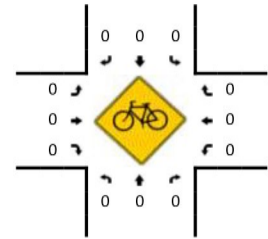
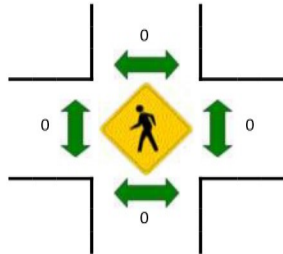
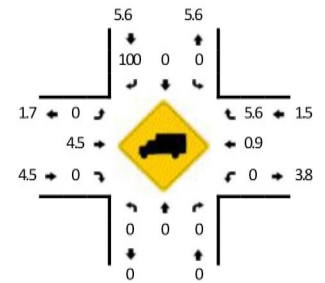
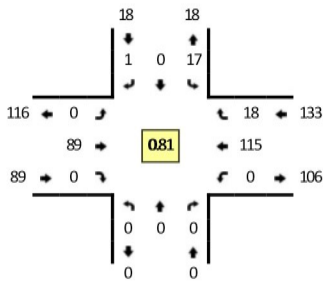
15-Min Count Period Beginning At	SE Cottell Rd (Northbound)				SE Cottell Rd (Southbound)				SE Carpenter Ln (Eastbound)				SE Carpenter Ln (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	6	0	0	1	8	0	0	0	0	2	0	1	0	2	0	20	
4:15 PM	0	3	0	0	0	7	0	0	0	0	0	0	1	0	1	0	12	
4:30 PM	0	2	0	0	0	13	0	0	0	0	0	0	0	0	1	0	16	
4:45 PM	1	2	1	0	2	6	0	0	1	0	0	0	0	1	0	0	14	62
5:00 PM	1	2	0	0	0	7	1	1	0	0	1	0	0	0	1	0	14	56
5:15 PM	1	5	0	0	0	5	0	0	0	0	0	0	0	0	1	0	12	56
5:30 PM	0	1	0	0	1	7	0	0	0	0	3	0	0	0	1	0	13	53
5:45 PM	0	2	1	0	0	3	1	0	0	0	1	0	0	0	0	0	8	47
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	24	0	0	4	32	0	0	0	0	8	0	4	0	8	0	80	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Cottell Rd -- SE Bluff Rd
CITY/STATE: Clackamas, OR

QC JOB #: 14910311
DATE: Thu, Feb 28 2019

Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

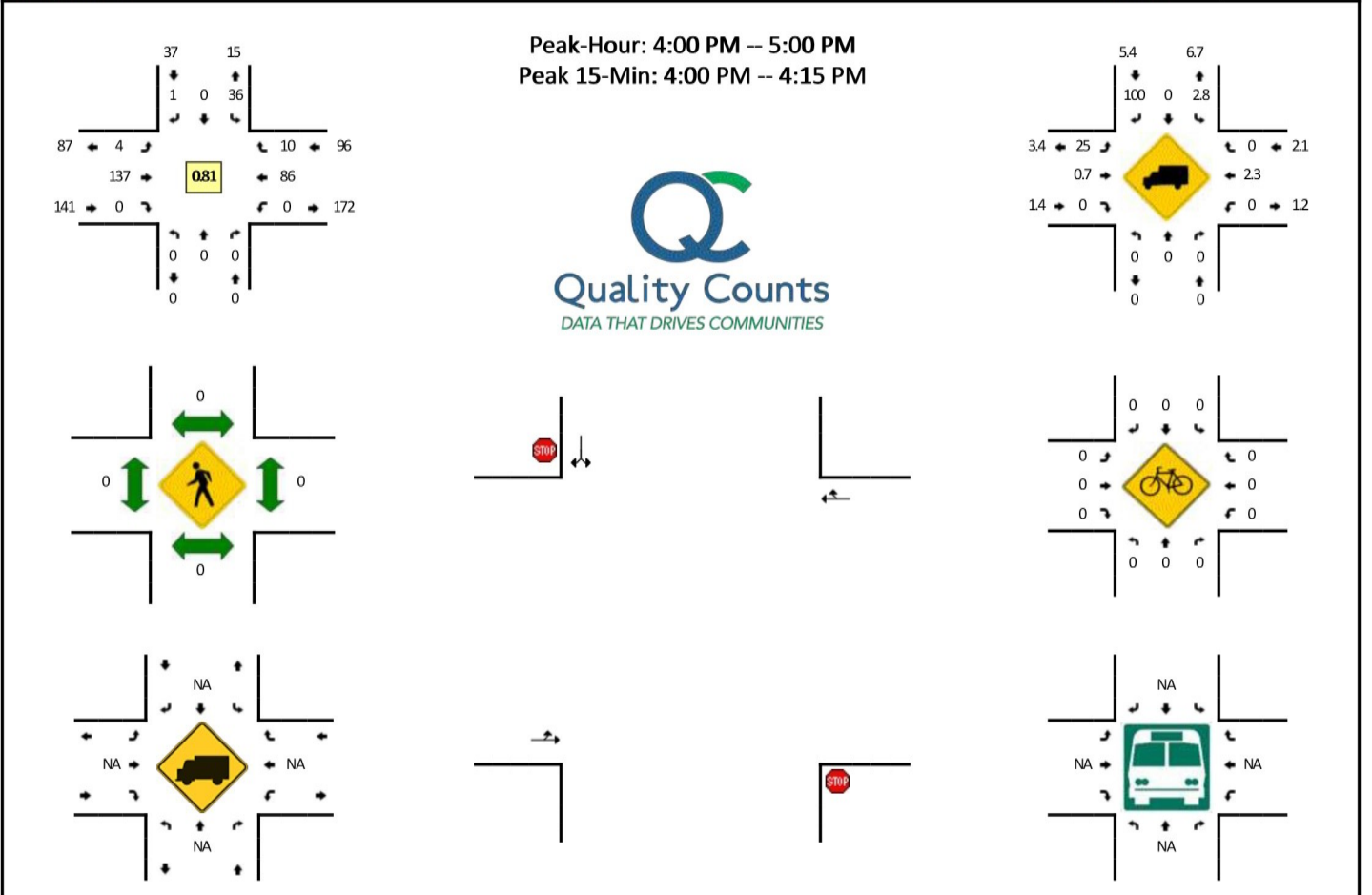


15-Min Count Period Beginning At	SE Cottell Rd (Northbound)				SE Cottell Rd (Southbound)				SE Bluff Rd (Eastbound)				SE Bluff Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	0	0	0	0	12	0	0	0	31	3	0	50	
7:15 AM	0	0	0	0	5	0	0	0	0	28	0	0	0	26	4	0	63	
7:30 AM	0	0	0	0	6	0	1	0	0	29	0	0	0	32	6	0	74	
7:45 AM	0	0	0	0	2	0	0	0	0	20	0	0	0	26	5	0	53	240
8:00 AM	0	0	0	0	6	0	0	0	1	14	0	0	0	14	1	0	36	226
8:15 AM	0	0	0	0	1	0	0	0	2	8	0	0	0	14	4	0	29	192
8:30 AM	0	0	0	0	2	0	0	0	0	8	0	0	0	15	2	0	27	145
8:45 AM	0	0	0	0	1	0	0	0	1	3	0	0	0	8	1	0	14	106
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	24	0	4	0	0	116	0	0	0	128	24	0	296	
Heavy Trucks	0	0	0	0	0	0	4	0	0	0	0	0	0	4	0	0	8	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

LOCATION: SE Cottell Rd -- SE Bluff Rd
CITY/STATE: Clackamas, OR

QC JOB #: 14910312
DATE: Thu, Mar 7 2019



15-Min Count Period Beginning At	SE Cottell Rd (Northbound)				SE Cottell Rd (Southbound)				SE Bluff Rd (Eastbound)				SE Bluff Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	11	0	0	0	2	46	0	0	0	22	4	0	85	
4:15 PM	0	0	0	0	9	0	0	0	2	27	0	0	0	25	3	0	66	
4:30 PM	0	0	0	0	10	0	1	0	0	34	0	0	0	23	1	0	69	
4:45 PM	0	0	0	0	5	0	0	1	0	30	0	0	0	16	2	0	54	274
5:00 PM	0	0	0	0	7	0	0	0	2	27	0	0	0	15	2	0	53	242
5:15 PM	0	0	0	0	5	0	0	0	0	15	0	0	0	16	4	0	40	216
5:30 PM	0	0	0	0	7	0	1	0	0	24	0	0	0	15	4	0	51	198
5:45 PM	0	0	0	0	3	0	0	0	1	28	0	0	0	11	0	0	43	187
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	44	0	0	0	8	184	0	0	0	88	16	0	340	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

Type of report: Tube Count - Volume Data

LOCATION: SE Bluff Rd 300' west of SE 352nd Ave

SPECIFIC LOCATION:

CITY/STATE: Clackamas, OR

QC JOB #: 14910315

DIRECTION: EB, WB

DATE: Mar 7 2019 - Mar 7 2019

Start Time	Mon	Tue	Wed	Thu 7 Mar 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				12		12			12	
1:00 AM				2		2			2	
2:00 AM				6		6			6	
3:00 AM				3		3			3	
4:00 AM				12		12			12	
5:00 AM				40		40			40	
6:00 AM				83		83			83	
7:00 AM				114		114			114	
8:00 AM				92		92			92	
9:00 AM				162		162			162	
10:00 AM				97		97			97	
11:00 AM				106		106			106	
12:00 PM				128		128			128	
1:00 PM				126		126			126	
2:00 PM				179		179			179	
3:00 PM				165		165			165	
4:00 PM				267		267			267	
5:00 PM				175		175			175	
6:00 PM				106		106			106	
7:00 PM				69		69			69	
8:00 PM				49		49			49	
9:00 PM				41		41			41	
10:00 PM				31		31			31	
11:00 PM				22		22			22	
Day Total				2087		2087			2087	
% Weekday Average				100%						
% Week Average				100%		100%				
AM Peak Volume				9:00 AM 162		9:00 AM 162			9:00 AM 162	
PM Peak Volume				4:00 PM 267		4:00 PM 267			4:00 PM 267	

Comments:

Report generated on 3/14/2019 4:21 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

Type of report: Tube Count - Volume Data

LOCATION: SE Dodge Park Blvd 0.5m east of Cottell Rd

SPECIFIC LOCATION:

CITY/STATE: Multnomah, OR

QC JOB #: 14910316

DIRECTION: EB, WB

DATE: Mar 7 2019 - Mar 7 2019

Start Time	Mon	Tue	Wed	Thu 7 Mar 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				1		1			1	
1:00 AM				1		1			1	
2:00 AM				0		0			0	
3:00 AM				1		1			1	
4:00 AM				10		10			10	
5:00 AM				16		16			16	
6:00 AM				24		24			24	
7:00 AM				28		28			28	
8:00 AM				25		25			25	
9:00 AM				18		18			18	
10:00 AM				25		25			25	
11:00 AM				30		30			30	
12:00 PM				29		29			29	
1:00 PM				22		22			22	
2:00 PM				23		23			23	
3:00 PM				27		27			27	
4:00 PM				36		36			36	
5:00 PM				40		40			40	
6:00 PM				27		27			27	
7:00 PM				14		14			14	
8:00 PM				12		12			12	
9:00 PM				11		11			11	
10:00 PM				7		7			7	
11:00 PM				6		6			6	
Day Total				433		433			433	
% Weekday Average				100%						
% Week Average				100%		100%				
AM Peak Volume				11:00 AM 30		11:00 AM 30			11:00 AM 30	
PM Peak Volume				5:00 PM 40		5:00 PM 40			5:00 PM 40	
Comments:										

Report generated on 3/14/2019 4:21 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)



Location: SE Proctor Rd -- SE Bluff Rd

Date: 2/28/2019

Site Code: 14910313

Start Time	SE Proctor Rd Southbound				SE Bluff Rd Westbound				SE 362nd Ave Northbound				SE Bluff Rd Eastbound				Oregon Trail Academy Dwy Southeastbound					
	Right School Dwy	Thru	Left	U-Turn	Right School Dwy	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right School Dwy	Thru	Left	U-Turn	Right to Bluff Rd	Left to Bluff Rd	Right to 362nd Ave	Left to Proctor Rd	U-Turn	
07:00 AM	0	0	0	0	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	1	0	0	0	5	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	10	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	3	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	2	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	1	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	3	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	9	1	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	6	1	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	4	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	3	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	36	2	27	0	78	2	0	0	0	1	4	0	20	68	49	2	0	28	1	43	2

Peak Hour: 7:00 AM - 8:00 AM

Peak 15: 7:30 AM - 7:45 AM

PHF: 0.56768



Location: SE Proctor Rd -- SE Bluff Rd

Date: 3/7/2019

Site Code: 14910314

Start Time	SE Proctor Rd Southbound				SE Bluff Rd Westbound				SE 362nd Ave Northbound				SE Bluff Rd Eastbound				Oregon Trail Academy Dwy Southeastbound							
	Right to School Dwy	Thru	Left	U-Turn	Right to School Dwy	Thru	Left	U-Turn	Right	Thru	Left to School Dwy	Left	U-Turn	Right to SE Bluff SE Bluff Rd	Thru	Left to School Dwy	Left to SE Bluff Rd	U-Turn	Right to SE Bluff SE Bluff Rd	Thru	Left to School Dwy	Left to SE Proctor Rd	U-Turn	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	2	0	1	0	0	3	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
4:10 PM	0	1	0	2	0	0	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	2	0
4:15 PM	0	2	0	0	0	0	4	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
4:20 PM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:25 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
4:35 PM	0	2	0	0	0	0	8	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:40 PM	0	1	0	2	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
4:50 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:25 PM	0	1	0	0	0	0	6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	1	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total	1	11	3	14	0	27	0	66	0	6	0	0	0	2	60	171	10	0	2	0	3	0	0	

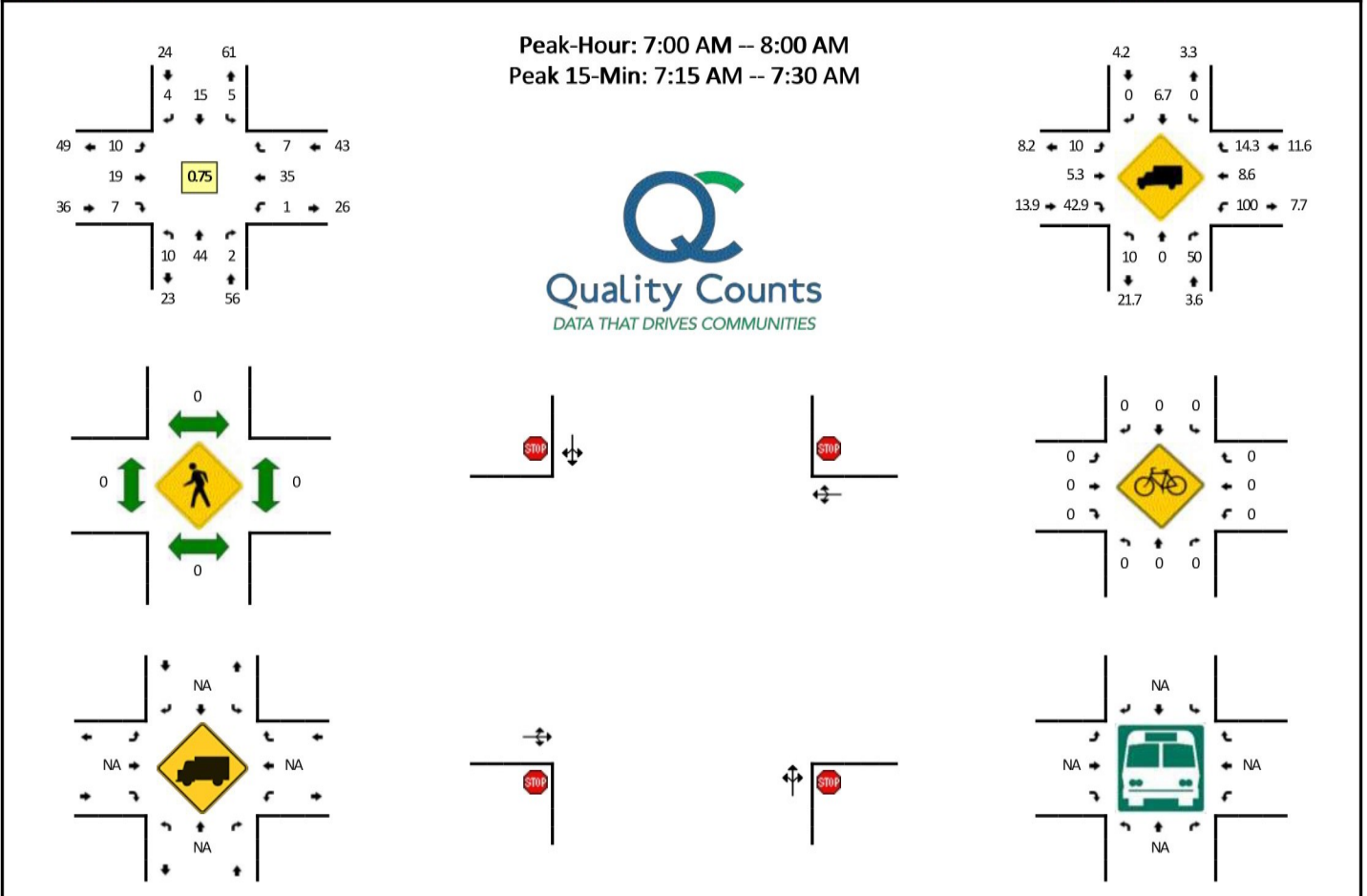
Peak Hour: 4:00 PM - 5:00 PM

Peak 15: 4:00 PM - 4:15 PM

PHF: 0.86333

LOCATION: SE Altman Rd -- SE Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 14910301
DATE: Thu, Feb 28 2019

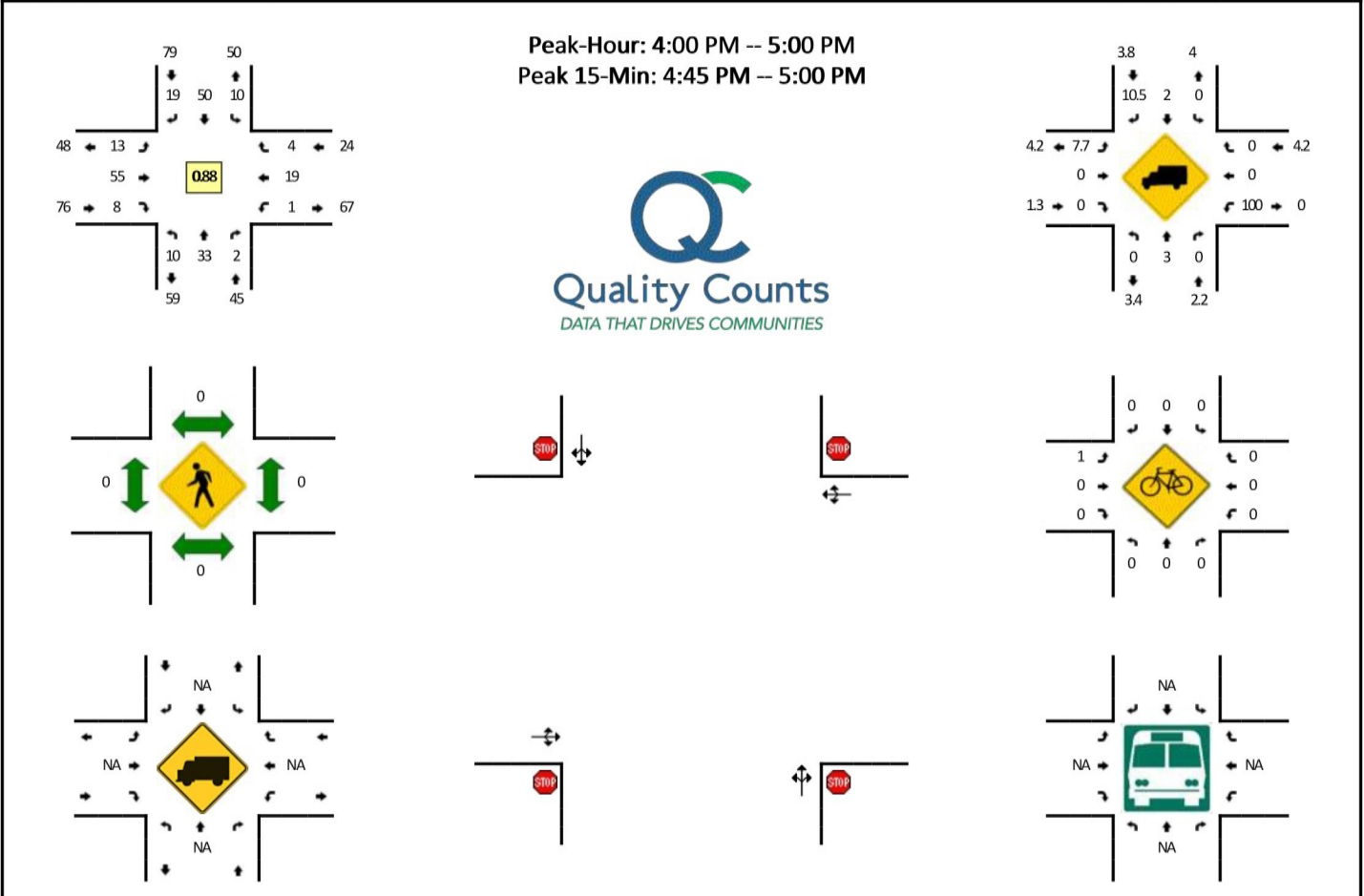


15-Min Count Period Beginning At	SE Altman Rd (Northbound)				SE Altman Rd (Southbound)				SE Dodge Park Blvd (Eastbound)				SE Dodge Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	12	0	0	0	2	1	0	2	3	1	0	0	6	2	0	30	
7:15 AM	3	17	0	0	2	6	1	0	6	5	1	0	0	10	2	0	53	
7:30 AM	6	9	1	0	0	4	1	0	1	4	2	0	0	10	1	0	39	
7:45 AM	0	6	1	0	3	3	1	0	1	7	3	0	1	9	2	0	37	159
8:00 AM	1	3	1	0	1	4	3	0	2	2	0	0	1	8	0	0	26	155
8:15 AM	3	0	1	0	0	4	5	0	1	3	2	0	0	4	3	0	26	128
8:30 AM	4	4	1	0	0	8	3	0	4	8	0	0	0	6	2	0	40	129
8:45 AM	2	4	1	0	0	4	5	0	2	0	0	0	0	7	0	0	25	117
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	68	0	0	8	24	4	0	24	20	4	0	0	40	8	0	212	
Heavy Trucks	4	0	0	0	0	4	0	0	0	0	0	0	0	4	0	0	12	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Altman Rd -- SE Dodge Park Blvd
CITY/STATE: Multnomah, OR

QC JOB #: 14910302
DATE: Thu, Mar 7 2019



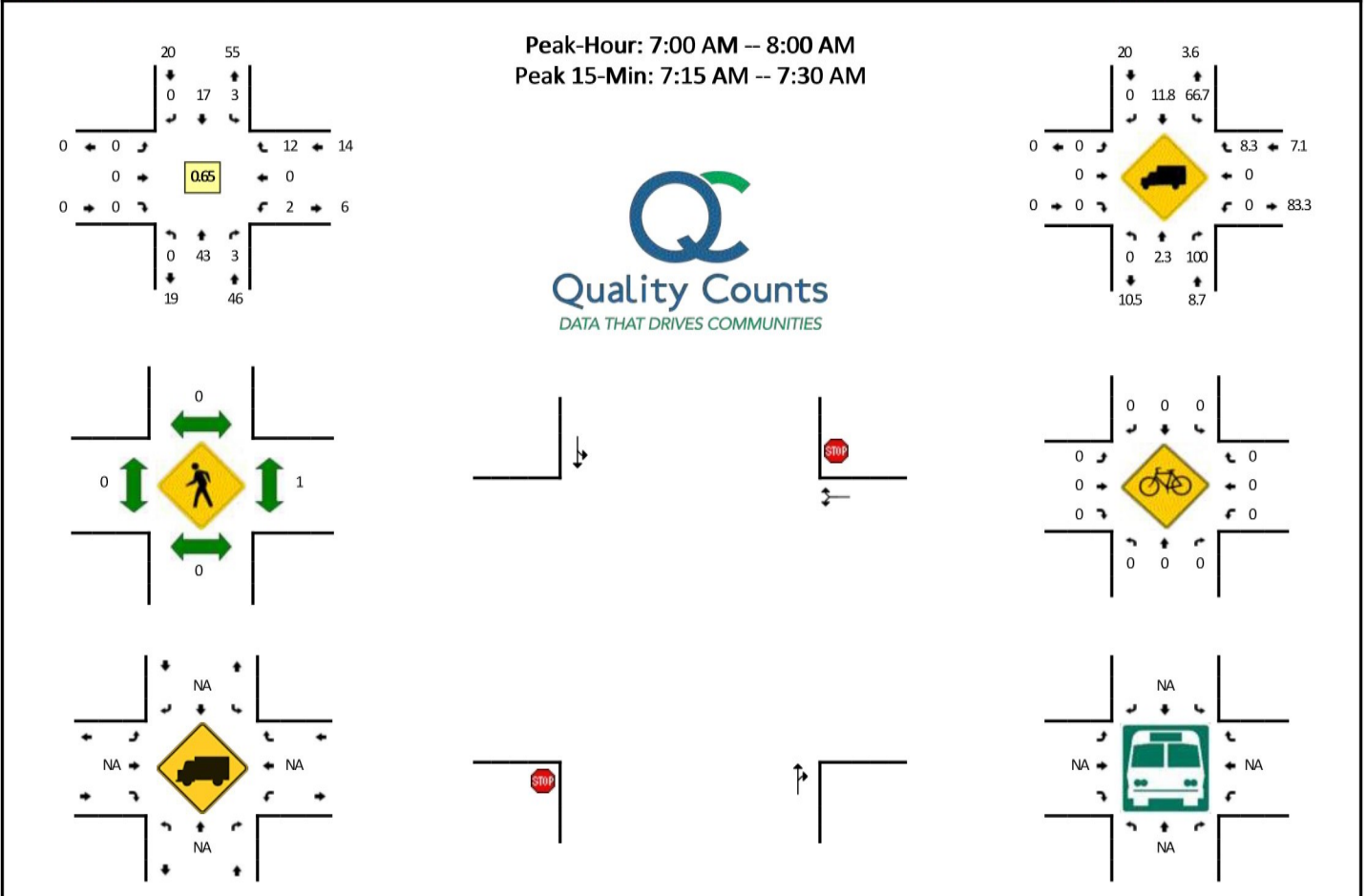
15-Min Count Period Beginning At	SE Altman Rd (Northbound)				SE Altman Rd (Southbound)				SE Dodge Park Blvd (Eastbound)				SE Dodge Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	13	0	0	1	11	9	0	2	9	3	0	1	4	1	0	56	
4:15 PM	1	8	0	0	3	16	6	0	2	14	2	0	0	4	1	0	57	
4:30 PM	2	6	2	0	2	9	3	0	5	11	2	0	0	5	0	0	47	
4:45 PM	5	6	0	0	4	14	1	0	4	21	1	0	0	6	2	0	64	224
5:00 PM	4	7	0	0	1	7	3	0	0	6	3	0	0	8	1	0	40	208
5:15 PM	2	4	0	0	4	5	2	0	0	6	5	0	1	13	0	0	42	193
5:30 PM	2	4	2	0	1	6	5	0	1	11	4	0	0	6	6	0	48	194
5:45 PM	0	5	0	0	3	14	2	0	1	13	3	0	1	3	0	0	45	175

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	24	0	0	16	56	4	0	16	84	4	0	0	24	8	0	256
Heavy Trucks	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railroad																	
Stopped Buses																	

Comments:

LOCATION: SE Altman Rd -- SE Carpenter Ln
CITY/STATE: Multnomah, OR

QC JOB #: 14910303
DATE: Thu, Feb 28 2019

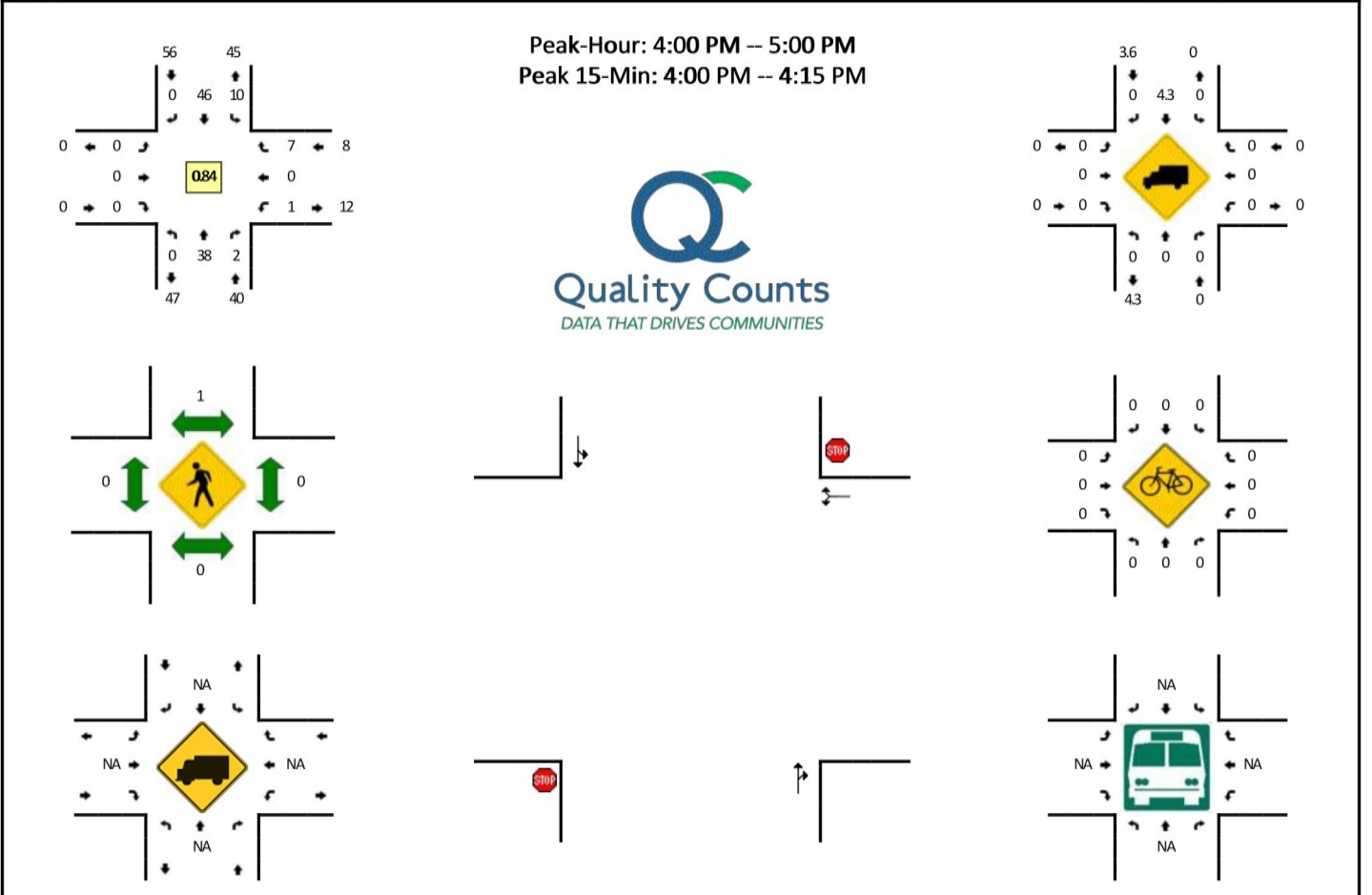


15-Min Count Period Beginning At	SE Altman Rd (Northbound)				SE Altman Rd (Southbound)				SE Carpenter Ln (Eastbound)				SE Carpenter Ln (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	9	1	0	1	2	0	0	0	0	0	0	0	0	3	0	16	
7:15 AM	0	16	0	0	1	7	0	0	0	0	0	0	2	0	5	0	31	
7:30 AM	0	12	1	0	0	5	0	0	0	0	0	0	0	0	3	0	21	
7:45 AM	0	6	1	0	1	3	0	0	0	0	0	0	0	0	1	0	12	80
8:00 AM	0	4	1	0	0	5	0	0	0	0	0	0	0	0	1	0	11	75
8:15 AM	0	2	0	0	1	5	0	0	0	0	0	0	0	0	3	0	11	55
8:30 AM	0	5	2	0	1	6	0	0	0	0	0	0	2	0	3	0	19	53
8:45 AM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	2	0	10	51
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	64	0	0	4	28	0	0	0	0	0	0	8	0	20	0	124	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	8	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Altman Rd -- SE Carpenter Ln
CITY/STATE: Multnomah, OR

QC JOB #: 14910304
DATE: Thu, Mar 7 2019

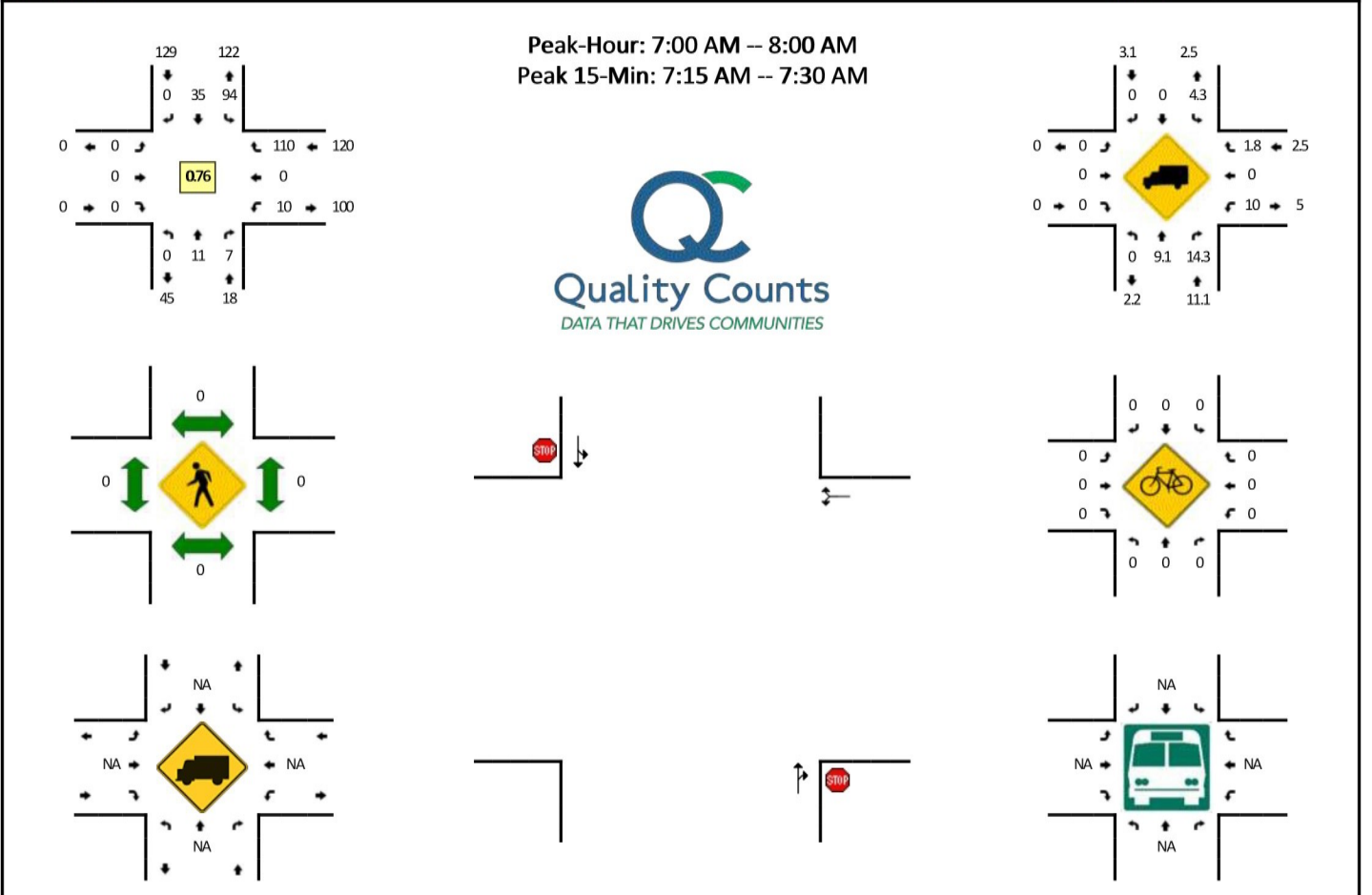


15-Min Count Period Beginning At	SE Altman Rd (Northbound)				SE Altman Rd (Southbound)				SE Carpenter Ln (Eastbound)				SE Carpenter Ln (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	15	1	0	2	12	0	0	0	0	0	0	0	0	1	0	31	
4:15 PM	0	7	0	0	3	14	0	0	0	0	0	0	0	0	1	0	25	
4:30 PM	0	8	0	0	2	9	0	0	0	0	0	0	0	0	2	0	21	
4:45 PM	0	8	1	0	3	11	0	0	0	0	0	0	1	0	3	0	27	104
5:00 PM	0	7	1	0	2	8	0	0	0	0	0	0	0	0	4	0	22	95
5:15 PM	0	5	0	0	4	6	0	0	0	0	0	0	0	0	1	0	16	86
5:30 PM	0	7	1	0	3	6	0	0	0	0	0	0	0	0	2	0	19	84
5:45 PM	0	2	0	0	4	14	0	0	0	0	0	0	0	0	2	0	22	79
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	60	4	0	8	48	0	0	0	0	0	0	0	0	4	0	124	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Altman Rd -- SE Bluff Rd
CITY/STATE: Clackamas, OR

QC JOB #: 14910305
DATE: Thu, Feb 28 2019

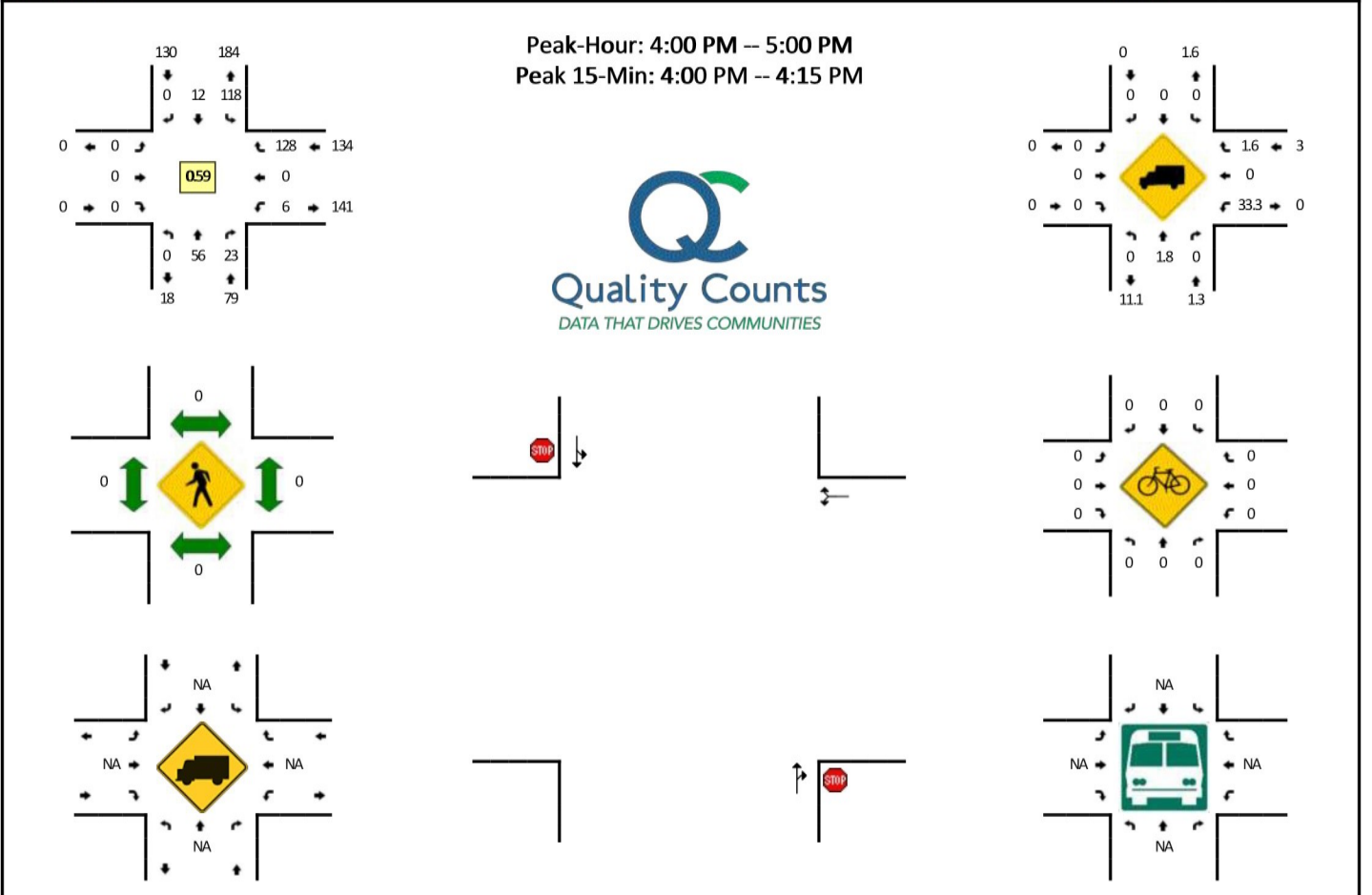


15-Min Count Period Beginning At	SE Altman Rd (Northbound)				SE Altman Rd (Southbound)				SE Bluff Rd (Eastbound)				SE Bluff Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	4	0	22	17	0	0	0	0	0	0	3	0	21	0	68	
7:15 AM	0	4	1	0	35	14	0	0	0	0	0	0	5	0	29	0	88	
7:30 AM	0	5	1	0	21	4	0	1	0	0	0	0	1	0	31	0	64	
7:45 AM	0	1	1	0	15	0	0	0	0	0	0	0	1	0	29	0	47	267
8:00 AM	0	3	2	0	12	4	0	0	0	0	0	0	3	0	12	0	36	235
8:15 AM	0	1	2	0	11	3	0	1	0	0	0	0	0	0	14	0	32	179
8:30 AM	0	3	0	0	7	7	0	0	0	0	0	0	1	0	17	0	35	150
8:45 AM	0	3	2	0	7	0	0	0	0	0	0	0	1	0	10	0	23	126
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	16	4	0	140	56	0	0	0	0	0	0	20	0	116	0	352	
Heavy Trucks	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: SE Altman Rd -- SE Bluff Rd
CITY/STATE: Clackamas, OR

QC JOB #: 14910306
DATE: Thu, Mar 7 2019



15-Min Count Period Beginning At	SE Altman Rd (Northbound)				SE Altman Rd (Southbound)				SE Bluff Rd (Eastbound)				SE Bluff Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	32	16	0	33	5	0	0	0	0	0	0	3	0	56	0	145		
4:15 PM	0	5	2	0	30	5	0	0	0	0	0	0	0	0	27	0	69		
4:30 PM	0	14	3	0	25	1	0	0	0	0	0	0	3	0	25	0	71		
4:45 PM	0	5	2	0	30	1	0	0	0	0	0	0	0	0	20	0	58	343	
5:00 PM	0	7	1	0	28	2	0	0	0	0	0	0	0	0	15	0	53	251	
5:15 PM	0	5	1	0	18	5	0	0	0	0	0	0	0	0	15	0	44	226	
5:30 PM	0	3	1	0	23	0	0	0	0	0	0	0	0	0	13	0	40	195	
5:45 PM	0	1	1	0	31	3	0	0	0	0	0	0	0	0	16	0	52	189	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	128	64	0	132	20	0	0	0	0	0	0	12	0	224	0	580		
Heavy Trucks	0	4	0	0	0	0	0	0	0	0	0	0	4	0	4	0	12		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Railroad																			
Stopped Buses																			

Comments:

**Appendix B: Filtration Facility and Pipelines Trip Counts
Trip Assignment Figures**

Vehicle Per Day 3.8.23 Bull Run Filtration Facility

Category	Average Daily (A)	Peak Daily (B)	Total Vehicles (C=A x 5 days/wk x 208 wks)	Trips In/Out (D=C x 2)
Staffing				-
Client	15	25	15,600	31,200
Staff	40	70	41,600	83,200
All Craft	215	350	223,600	447,200
Staff Subtotal	270	445	280,800	561,600
Export/Import Trucking				
Export Trucking	76	110	79,040	158,080
Import Trucking	24	50	24,960	49,920
Material Subtotal =	100	160	104,000	208,000
Concrete				
Ready-Mix	8	75	7,500	15,000
Concrete Subtotal =	8	75	7,500	15,000
Miscellaneous Deliveries				
Miscellaneous Deliveries	10	20	10,400	20,800
Miscellaneous Subtotal =	10	20	10,400	20,800
Water Off-haul				
Start-up water offhaul	30	40	1,450	2,900
Water Subtotal=Subtotal=	30	175	3,675	7,350

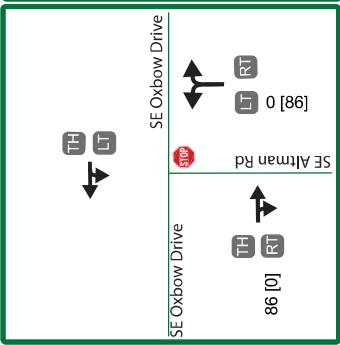
Bull Run- Pipelines
updated

Items highlighted yellow cannot be completed simultaneously as other items in the category, and were omitted from subtotals.

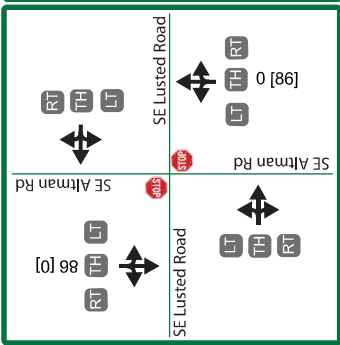
Construction Traffic- Trip Count

3/3/2023 12:03

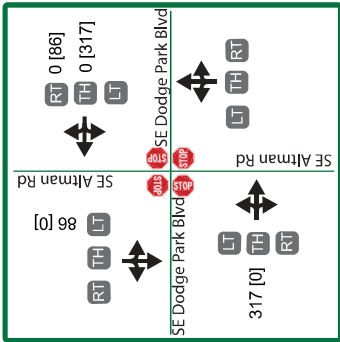
Category	Average Daily (A)	Peak Daily (B)	Total Vehicles	Total Trips In/Out	Estimated No of Activity Days
Staffing			(C = A x 5days/wk. x 208 wks.)	(D= Cx2)	
PWB Staff	5	10	5,200	10,400	
CM/GC Staff	20	30	20,800	41,600	
Craft Labor	60	90	62,400	124,800	
Staffing Subtotal	85	130	88,400	176,800	
Export/Import Materials			(C = A x Estimated Activity Days)	Total Trips In/Out	Estimated No of Activity Days
Export Trucking					
Pipeline- Dodge Park Segment	14	28	3,460	6,920	250
Pipeline- Farm Field Segment	12	24	1,480	2,960	125
Pipeline- Altman Rd Segment	13	26	1,940	3,880	150
Pipeline- Lusted Rd Segment(C2/C4)	16	33	2,060	4,120	125
Pipeline- Lusted Rd Segment(C3)	10	20	1,020	2,040	100
Pipeline- Cottrell Segment	3	6	303	605	110
Pipeline- Lusted Raw Segment	11	23	1,710	3,420	150
Tunnel Excavation	3	6	600	1,200	200
Tunnel - Shaft Excavation	5	11	650	1,300	120
Import Trucking					
Pipeline- Dodge Park Segment	11	23	2,967	5,933	260
Pipeline- Farm Field Segment	10	20	1,219	2,438	125
Pipeline- Altman Rd Segment	13	25	1,762	3,524	140
Pipeline- Lusted Rd Segment	13	27	1,667	3,333	125
Pipeline- Lusted Rd Segment(C3)	8	17	829	1,657	100
Pipeline- Cottrell Segment	2	5	257	514	110
Pipeline- Lusted Raw Segment	15	29	1,452	2,905	100
Tunnel - Shaft Backfill	6	12	588	1,176	100
Export/ Import-Materials Subtotal	108	216	23,375	46,750	
Concrete/Pipe			(C = A x Estimated Activity Days)	Total Trips In/Out	
Outside Ready-Mix Plant	6	25	1,111	2,222	200
Pipe Deliveries	5	25	700	1,400	150
Concrete/Pipe Subtotal	11	50	1,811	3,622	
Miscellaneous Deliveries			(C = A x 5days/wk. x 208 wks.)	Total Trips In/Out	
Miscellaneous Deliveries	3	10	3,120	6,240	
Miscellaneous Subtotal	3	10	3,120	6,240	



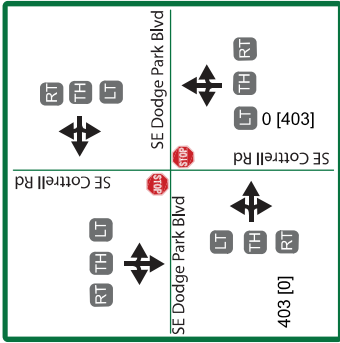
① SE Altman Road at SE Oxbow Drive



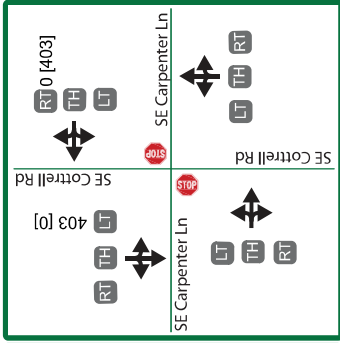
③ SE Altman Road at SE Lusted Road



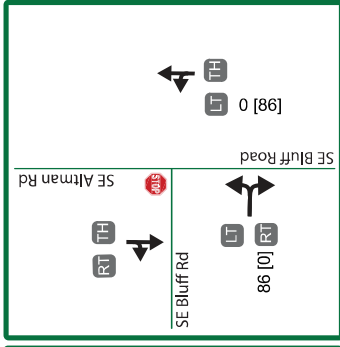
⑤ SE Altman Road at SE Dodge Park Boulevard



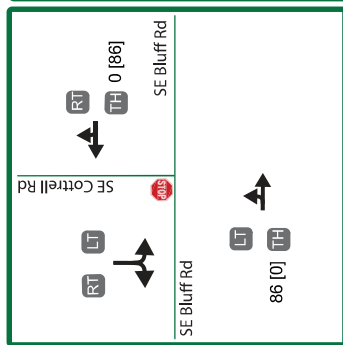
⑥ SE Cottrell Road at SE Dodge Park Boulevard



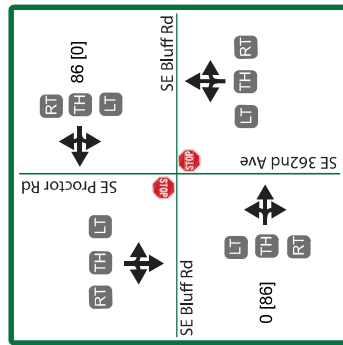
⑧ SE Cottrell Road at SE Carpenter Lane



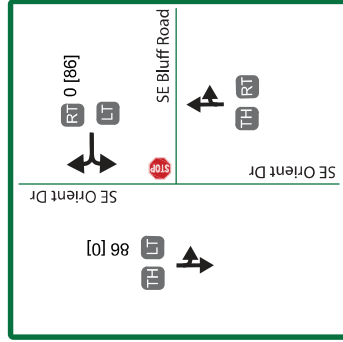
⑨ SE Altman Road at SE Bluff Road



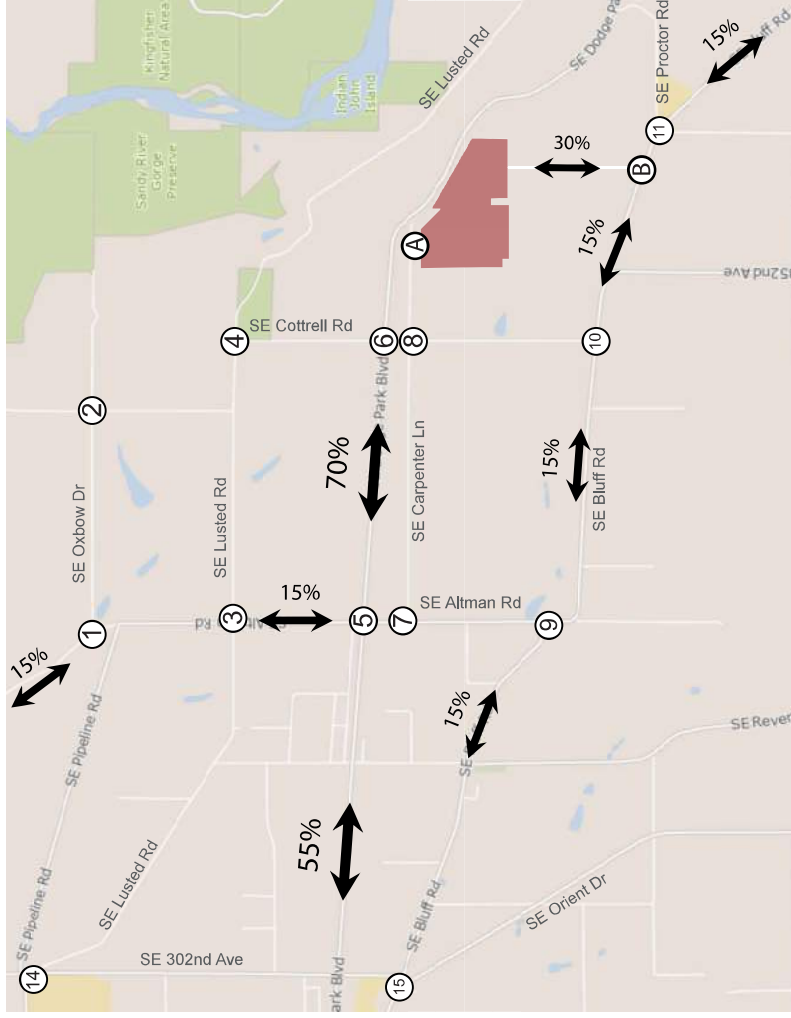
⑩ SE Cottrell Road at SE Bluff Road



⑪ SE Bluff Road at SE Proctor Road



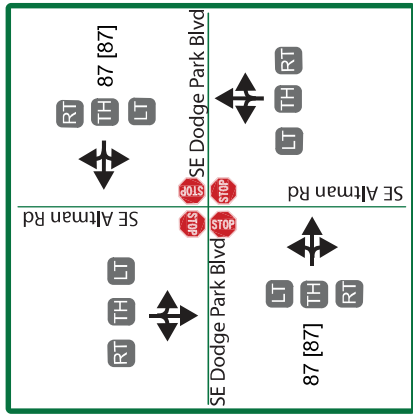
⑮ SE Orient Drive at SE Bluff Road



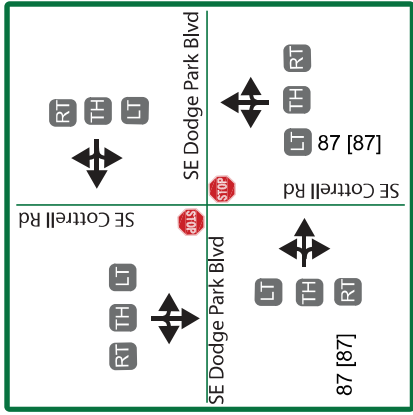
⊗ = Study Intersection
 ↙ = Lane Configuration
 LT TH RT = Left / Through / Right Turn
 AM [PM] = Peak Hour Traffic Volumes

STOP Sign

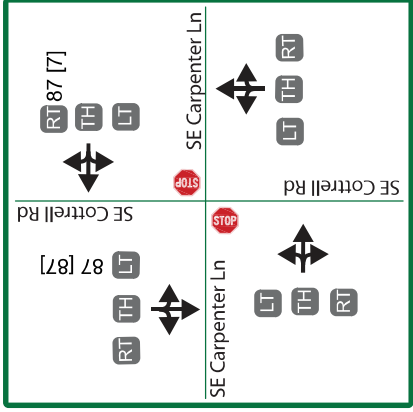
Appendix B: Traffic Volumes Peak Construction Traffic Site Trip Distribution Commuters



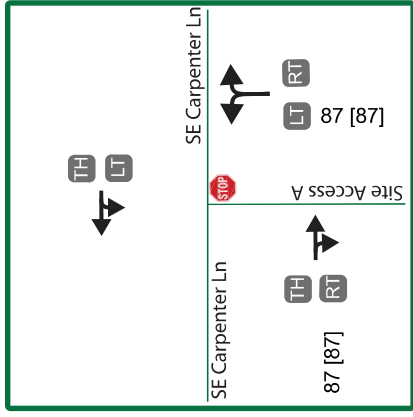
⑤ SE Altman Road at SE Dodge Park Boulevard



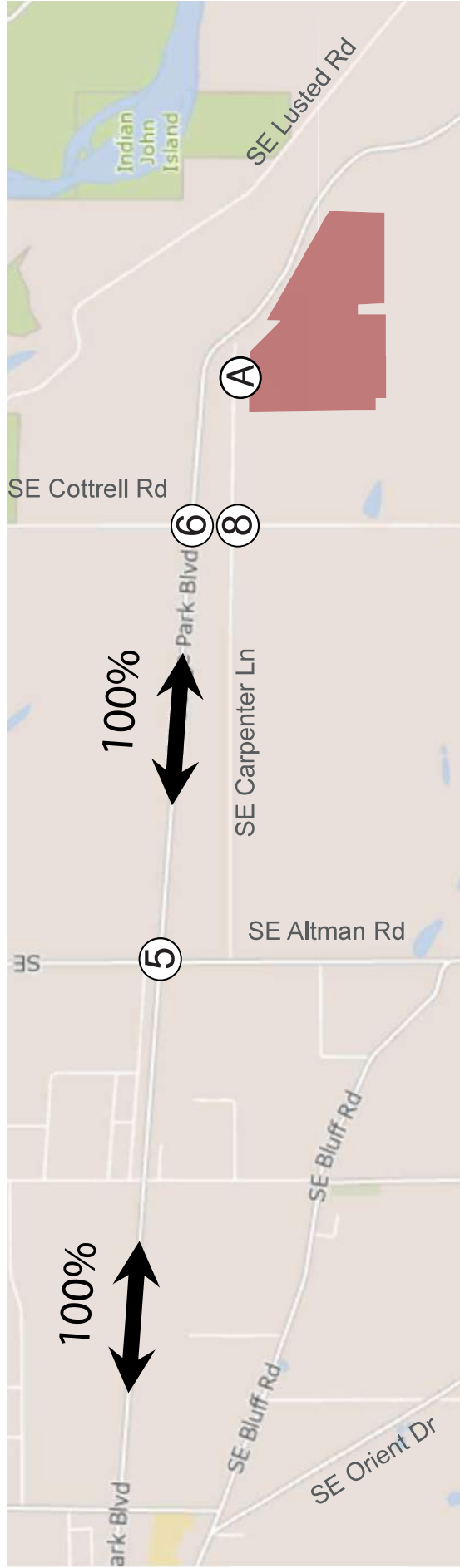
⑥ SE Cottrell Road at SE Dodge Park Boulevard



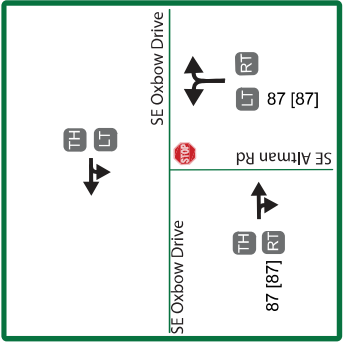
⑧ SE Cottrell Road at SE Carpenter Lane



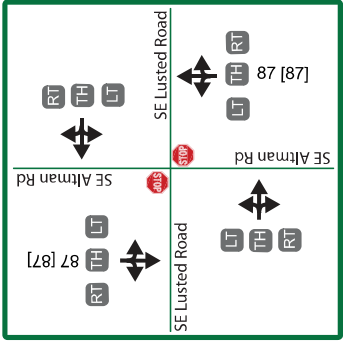
Ⓐ SE Carpenter Lane at Site Access A



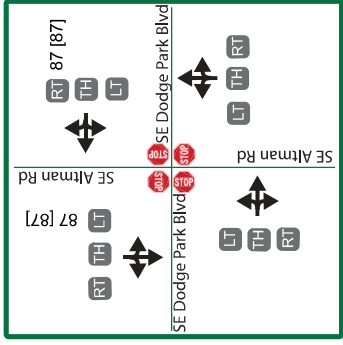
⊗ = Study Intersection
 ↶ = Lane Configuration
 ⓧ = Stop Sign
 ⓧ = Left / Through / Right Turn
 AM [PM] = Peak Hour Traffic Volumes



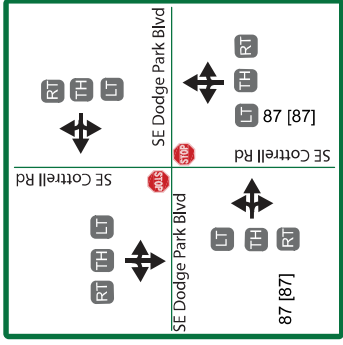
① SE Altman Road at SE Oxbow Drive



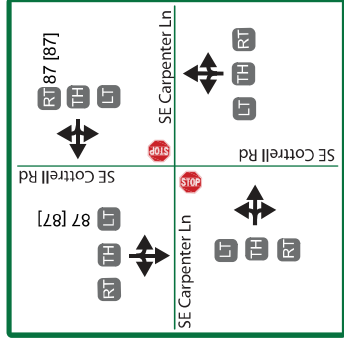
③ SE Altman Road at SE Lusted Road



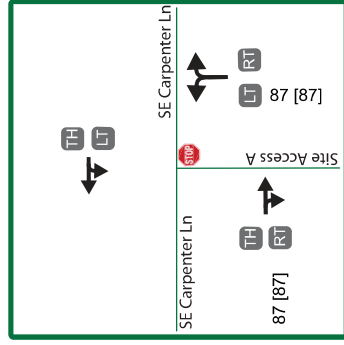
⑤ SE Altman Road at SE Dodge Park Boulevard



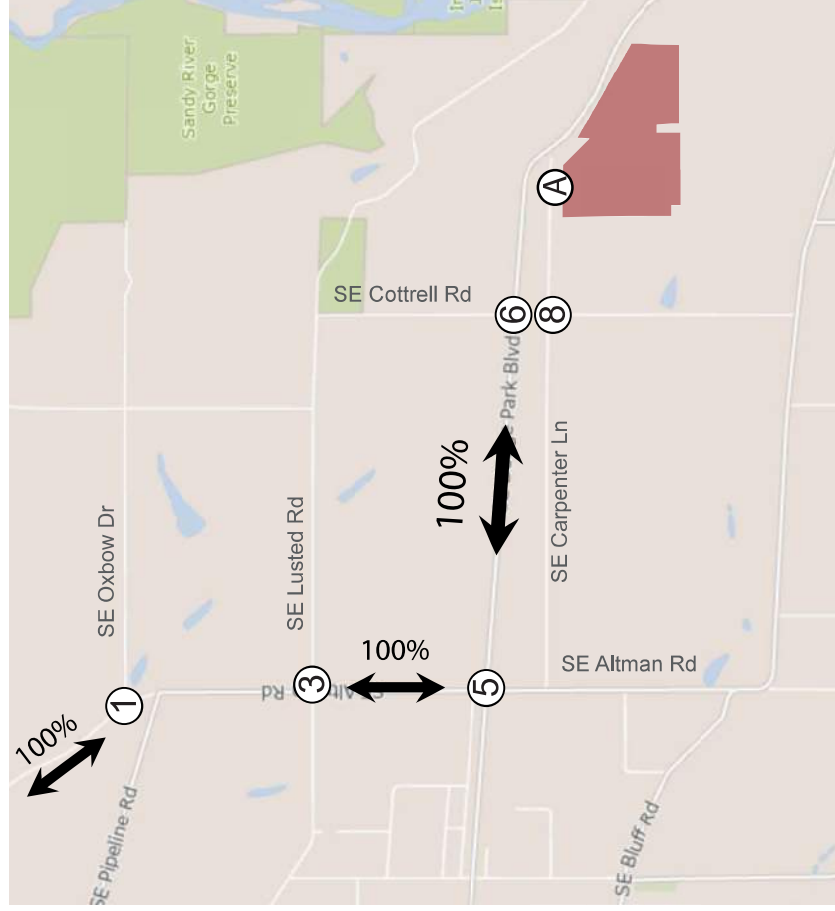
⑥ SE Cottrell Road at SE Dodge Park Boulevard



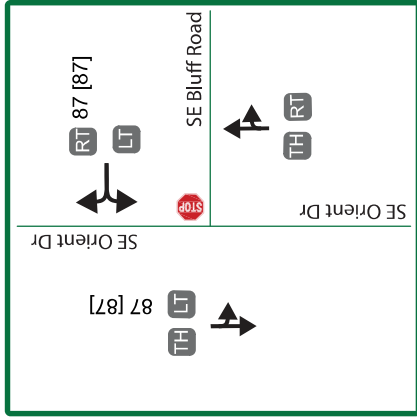
⑧ SE Cottrell Road at SE Carpenter Lane



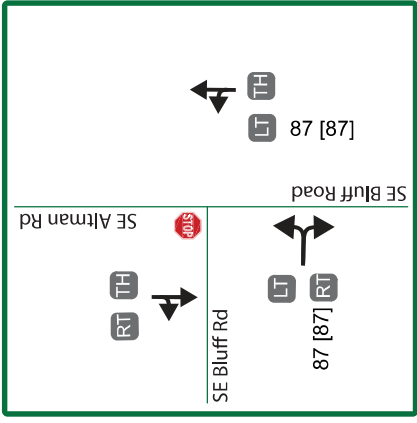
Ⓐ SE Carpenter Lane at Site Access A



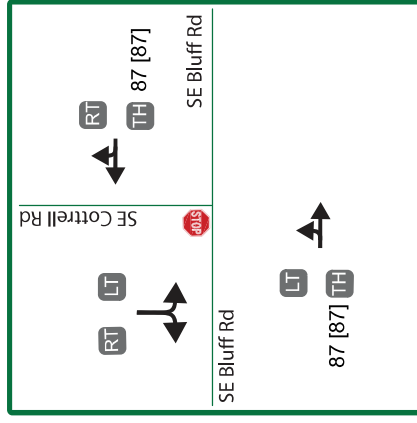
⊗ = Study Intersection
 ↶ = Lane Configuration
 ⏹ = Left / Through / Right Turn
 AM [PM] = Peak Hour Traffic Volumes
 ⏹ = Stop Sign



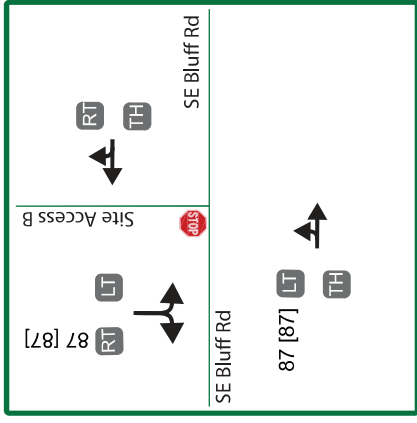
15 SE Orient Drive at SE Bluff Road



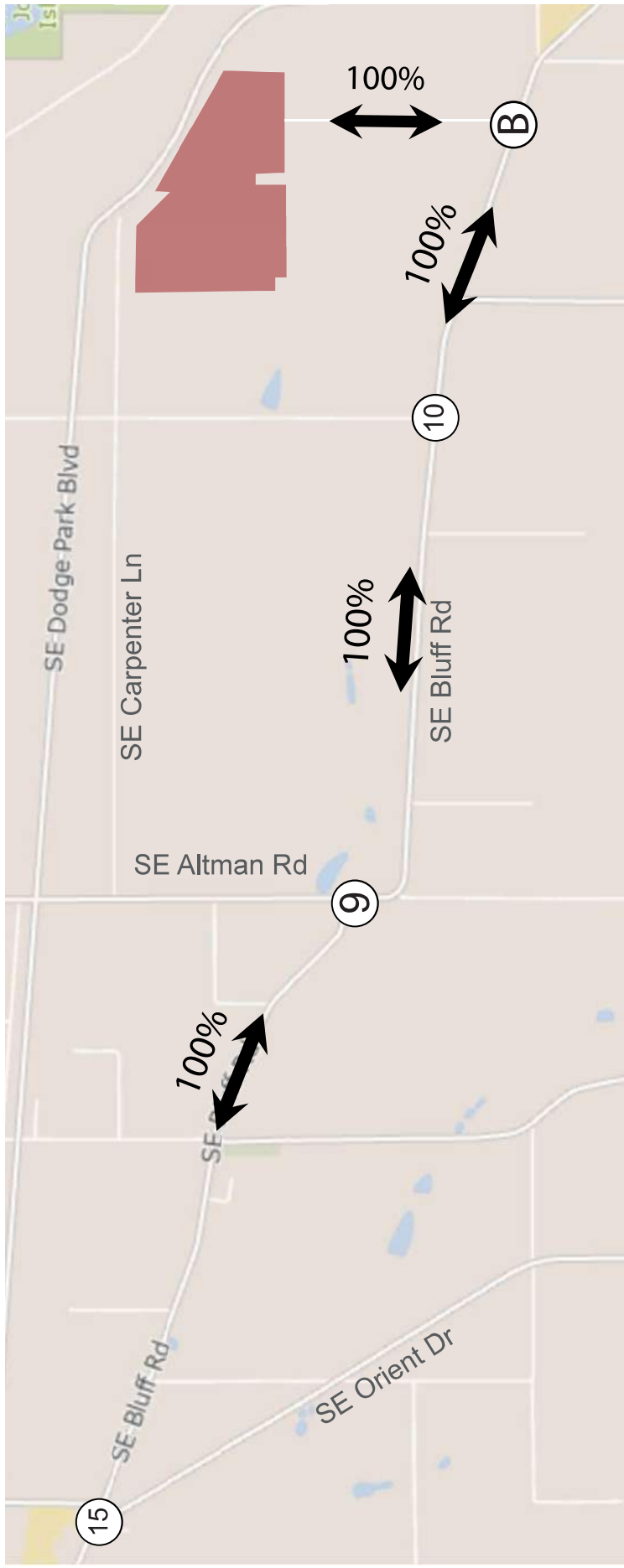
9 SE Altman Road at SE Bluff Road



10 SE Cottrell Road at SE Bluff Road



B SE Bluff Road at Site Access B



⊗ = Study Intersection

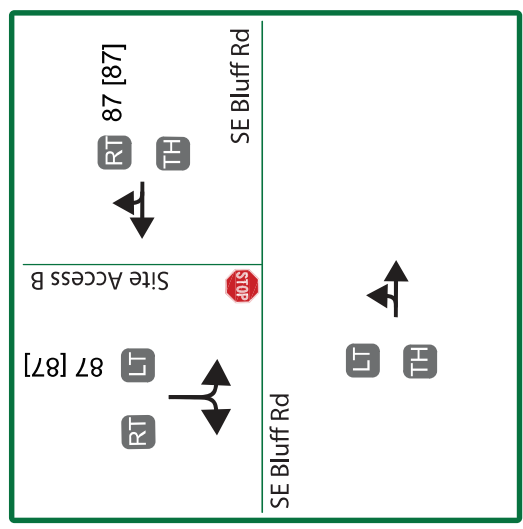
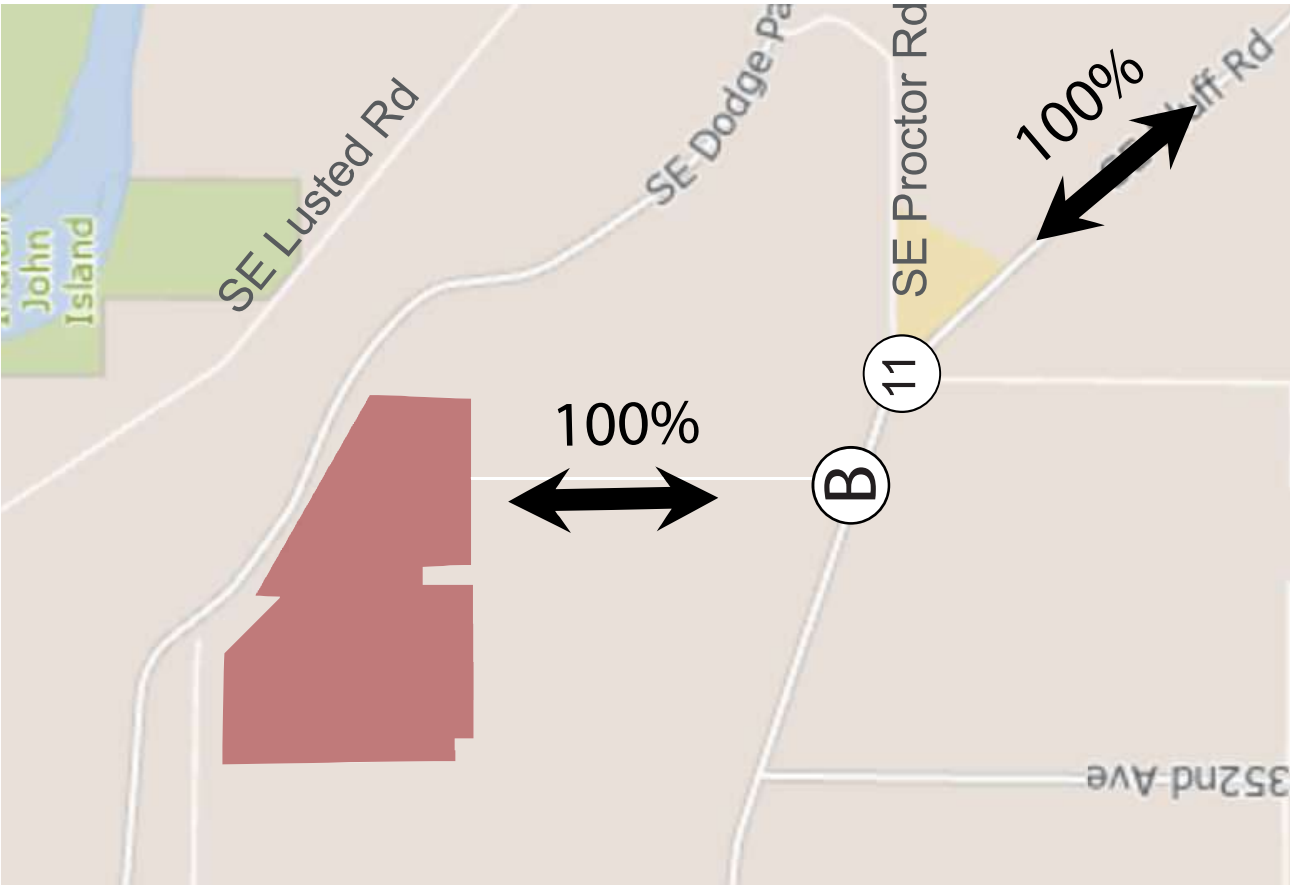
↩ = Lane Configuration

⊛ = Stop Sign

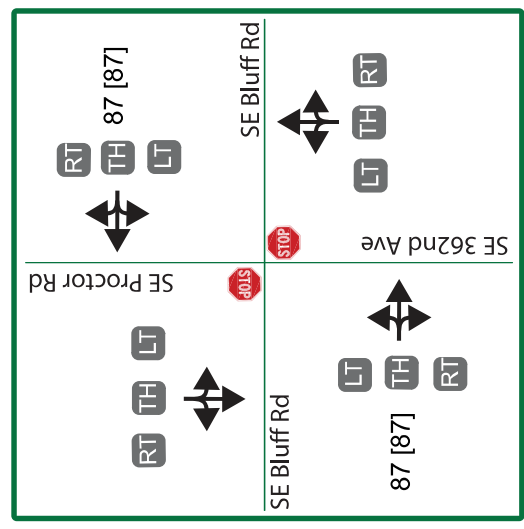
LT TH RT = Left / Through / Right Turn

AM [PM] = Peak Hour Traffic Volumes

Appendix B: Traffic Volumes
 Peak Construction Traffic
 Site Trip Distribution
 Truck Route 3



B SE Bluff Road at Site Access B



11 SE Bluff Road at SE Proctor Road

Appendix B: Traffic Volumes
 Peak Construction Traffic
 Site Trip Distribution
 Truck Route 4

(X) = Study Intersection
(↔) = Lane Configuration
(↶) = Left / Through / Right Turn
(STOP) = Stop Sign
 AM [PM] = Peak Hour Traffic Volumes



Appendix C: 2022 HCM Results
2025 HCM Results

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	35	39	2	32	51	4
Future Volume (Veh/h)	35	39	2	32	51	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	45	51	3	42	66	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			96		118	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			96		118	70
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	99
cM capacity (veh/h)			1510		871	998
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	96	45	71			
Volume Left	0	3	66			
Volume Right	51	0	5			
cSH	1700	1510	879			
Volume to Capacity	0.06	0.00	0.08			
Queue Length 95th (ft)	0	0	7			
Control Delay (s)	0.0	0.5	9.5			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.5	9.5			
Approach LOS			A			
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			14.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	2	48	0	1	1	40	4	0	0	9	8
Future Volume (vph)	4	2	48	0	1	1	40	4	0	0	9	8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	5	3	62	0	1	1	52	5	0	0	12	10

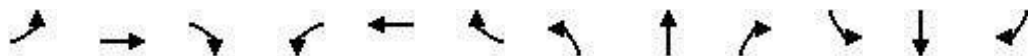
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	70	2	57	22
Volume Left (vph)	5	0	52	0
Volume Right (vph)	62	1	0	10
Hadj (s)	-0.11	-0.30	0.72	-0.17
Departure Headway (s)	4.0	3.9	4.8	3.9
Degree Utilization, x	0.08	0.00	0.08	0.02
Capacity (veh/h)	882	906	730	889
Control Delay (s)	7.3	6.9	8.2	7.0
Approach Delay (s)	7.3	6.9	8.2	7.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.6	
Level of Service		A	
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	13	3	4	27	11	6	36	2	13	26	2
Future Volume (Veh/h)	3	13	3	4	27	11	6	36	2	13	26	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	15	3	4	30	12	7	40	2	15	29	2
Pedestrians					1							
Lane Width (ft)					12.0							
Walking Speed (ft/s)					3.5							
Percent Blockage					0							
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	42			18			83	72	18	90	68	36
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	42			18			83	72	18	90	68	36
tC, single (s)	4.1			4.1			7.1	6.6	6.7	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.8	3.6	4.0	3.3
p0 queue free %	100			100			99	95	100	98	96	100
cM capacity (veh/h)	1580			1612			880	803	937	842	815	1042
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	46	49	46								
Volume Left	3	4	7	15								
Volume Right	3	12	2	2								
cSH	1580	1612	818	832								
Volume to Capacity	0.00	0.00	0.06	0.06								
Queue Length 95th (ft)	0	0	5	4								
Control Delay (s)	1.1	0.6	9.7	9.6								
Lane LOS	A	A	A	A								
Approach Delay (s)	1.1	0.6	9.7	9.6								
Approach LOS			A	A								
Intersection Summary												
Average Delay			6.0									
Intersection Capacity Utilization			14.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

















05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	15	12	5	27	19	8
Future Volume (Veh/h)	15	12	5	27	19	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	19	15	6	34	24	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			34		72	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			34		72	26
tC, single (s)			4.7		6.4	6.7
tC, 2 stage (s)						
tF (s)			2.7		3.5	3.8
p0 queue free %			100		97	99
cM capacity (veh/h)			1273		920	926
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	34	40	34			
Volume Left	0	6	24			
Volume Right	15	0	10			
cSH	1700	1273	922			
Volume to Capacity	0.02	0.00	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	1.2	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.2	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			15.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: SE 302nd Avenue & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	14	73	5	44	23	206	63	2	13	44	0
Future Volume (vph)	2	14	73	5	44	23	206	63	2	13	44	0
Peak Hour Factor	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Hourly flow rate (vph)	3	24	126	9	76	40	355	109	3	22	76	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	153	125	467	98								
Volume Left (vph)	3	9	355	22								
Volume Right (vph)	126	40	3	0								
Hadj (s)	-0.47	-0.13	0.46	0.14								
Departure Headway (s)	5.2	5.6	5.3	5.5								
Degree Utilization, x	0.22	0.19	0.69	0.15								
Capacity (veh/h)	617	572	659	594								
Control Delay (s)	9.7	9.9	19.0	9.5								
Approach Delay (s)	9.7	9.9	19.0	9.5								
Approach LOS	A	A	C	A								
Intersection Summary												
Delay			14.9									
Level of Service			B									
Intersection Capacity Utilization			34.5%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	95	79	24	141	89
Future Volume (Veh/h)	11	95	79	24	141	89
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	12	107	89	27	158	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	518	102			116	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	518	102			116	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	97	89			89	
cM capacity (veh/h)	449	942			1466	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	119	116	258			
Volume Left	12	0	158			
Volume Right	107	27	0			
cSH	848	1700	1466			
Volume to Capacity	0.14	0.07	0.11			
Queue Length 95th (ft)	12	0	9			
Control Delay (s)	9.9	0.0	5.1			
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	5.1			
Approach LOS	A					
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			32.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	12	23	2	0	27	9	10	26	3	7	22	3
Future Volume (vph)	12	23	2	0	27	9	10	26	3	7	22	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	13	26	2	0	30	10	11	29	3	8	24	3
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	41	40	43	35								
Volume Left (vph)	13	0	11	8								
Volume Right (vph)	2	10	3	3								
Hadj (s)	0.17	-0.05	0.06	-0.01								
Departure Headway (s)	4.3	4.1	4.2	4.1								
Degree Utilization, x	0.05	0.05	0.05	0.04								
Capacity (veh/h)	819	863	836	852								
Control Delay (s)	7.5	7.3	7.4	7.3								
Approach Delay (s)	7.5	7.3	7.4	7.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.4									
Level of Service			A									
Intersection Capacity Utilization			18.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	12	7	3	24	2	12	13	1	1	8	3
Future Volume (Veh/h)	3	12	7	3	24	2	12	13	1	1	8	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	4	15	9	4	29	2	15	16	1	1	10	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	31			24			74	66	20	74	70	30
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31			24			74	66	20	74	70	30
tC, single (s)	4.4			4.4			7.1	6.6	6.2	8.1	6.8	6.2
tC, 2 stage (s)												
tF (s)	2.5			2.5			3.5	4.1	3.3	4.4	4.2	3.3
p0 queue free %	100			100			98	98	100	100	99	100
cM capacity (veh/h)	1403			1411			904	808	1064	709	774	1050
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	28	35	32	15								
Volume Left	4	4	15	1								
Volume Right	9	2	1	4								
cSH	1403	1411	857	827								
Volume to Capacity	0.00	0.00	0.04	0.02								
Queue Length 95th (ft)	0	0	3	1								
Control Delay (s)	1.1	0.9	9.4	9.4								
Lane LOS	A	A	A	A								
Approach Delay (s)	1.1	0.9	9.4	9.4								
Approach LOS			A	A								
Intersection Summary												
Average Delay			4.6									
Intersection Capacity Utilization			14.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

05/04/2023

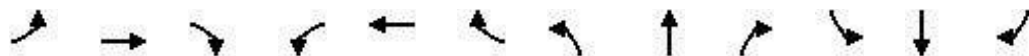


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	10	29	0	2	22
Future Volume (Veh/h)	4	10	29	0	2	22
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	11	31	0	2	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	59	31			31	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	59	31			31	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.7	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	892	1049			1595	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	15	31	26			
Volume Left	4	0	2			
Volume Right	11	0	0			
cSH	1002	1700	1595			
Volume to Capacity	0.01	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.6	0.0	0.6			
Lane LOS	A		A			
Approach Delay (s)	8.6	0.0	0.6			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	2	1	3	1	0	6	1	18	1	5	11	3
Future Volume (Veh/h)	2	1	3	1	0	6	1	18	1	5	11	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	3	1	4	1	0	8	1	24	1	7	14	4
Pedestrians		2										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None						None				
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	66	59	18	61	60	24	20			25		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	66	59	18	61	60	24	20			25		
tC, single (s)	7.8	7.5	6.2	8.1	6.5	6.9	4.6			4.3		
tC, 2 stage (s)												
tF (s)	4.1	4.9	3.3	4.4	4.0	3.9	2.7			2.4		
p0 queue free %	100	100	100	100	100	99	100			100		
cM capacity (veh/h)	776	671	1064	732	828	892	1331			1497		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	8	9	26	25								
Volume Left	3	1	1	7								
Volume Right	4	8	1	4								
cSH	878	871	1331	1497								
Volume to Capacity	0.01	0.01	0.00	0.00								
Queue Length 95th (ft)	1	1	0	0								
Control Delay (s)	9.1	9.2	0.3	2.1								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.1	9.2	0.3	2.1								
Approach LOS	A	A										
Intersection Summary												
Average Delay			3.2									
Intersection Capacity Utilization			14.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	0	92	83	28	25	0
Future Volume (Veh/h)	0	92	83	28	25	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	107	97	33	29	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	130				220	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				220	114
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	100
cM capacity (veh/h)	1468				763	945
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	107	130	29			
Volume Left	0	0	29			
Volume Right	0	33	0			
cSH	1468	1700	763			
Volume to Capacity	0.00	0.08	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	9.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			16.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

05/04/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	91	105	14	15	0
Future Volume (Veh/h)	1	91	105	14	15	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	1	112	130	17	19	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	147				252	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	147				252	138
tC, single (s)	4.1				6.4	7.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	4.2
p0 queue free %	100				97	100
cM capacity (veh/h)	1447				740	704
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	113	147	19			
Volume Left	1	0	19			
Volume Right	0	17	0			
cSH	1447	1700	740			
Volume to Capacity	0.00	0.09	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.1	0.0	10.0			
Lane LOS	A		A			
Approach Delay (s)	0.1	0.0	10.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		16.4%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

















05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	39	18	1	43	79	18	4	1	59	5	52
Future Volume (Veh/h)	47	39	18	1	43	79	18	4	1	59	5	52
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	42	20	1	47	86	20	4	1	64	5	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	133			62			306	289	52	249	256	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	133			62			306	289	52	249	256	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			97	99	100	91	99	94
cM capacity (veh/h)	1452			1541			589	599	1016	681	625	968
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	113	134	25	126								
Volume Left	51	1	20	64								
Volume Right	20	86	1	57								
cSH	1452	1541	600	783								
Volume to Capacity	0.04	0.00	0.04	0.16								
Queue Length 95th (ft)	3	0	3	14								
Control Delay (s)	3.6	0.1	11.3	10.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	3.6	0.1	11.3	10.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			5.1									
Intersection Capacity Utilization			29.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

12: SE Dodge Park Blvd & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	15	5	11	30	1	4	1	11	1	4	3
Future Volume (Veh/h)	2	15	5	11	30	1	4	1	11	1	4	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	3	21	7	15	42	1	6	1	15	1	6	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	43			28			110	104	24	118	106	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	43			28			110	104	24	118	106	42
tC, single (s)	4.1			4.2			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	100	99	100
cM capacity (veh/h)	1579			1541			802	781	1032	841	778	1034
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	31	58	22	11								
Volume Left	3	15	6	1								
Volume Right	7	1	15	4								
cSH	1579	1541	944	862								
Volume to Capacity	0.00	0.01	0.02	0.01								
Queue Length 95th (ft)	0	1	2	1								
Control Delay (s)	0.7	2.0	8.9	9.2								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.7	2.0	8.9	9.2								
Approach LOS			A	A								
Intersection Summary												
Average Delay			3.6									
Intersection Capacity Utilization			14.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: SE Hudson Road & SE Lusted Road

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	18	9	18	27	7	14
Future Volume (Veh/h)	18	9	18	27	7	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	26	13	26	39	10	20
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			40		124	34
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			40		124	34
tC, single (s)			4.1		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.5
p0 queue free %			98		99	98
cM capacity (veh/h)			1581		860	987
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	39	65	30			
Volume Left	0	26	10			
Volume Right	13	0	20			
cSH	1700	1581	941			
Volume to Capacity	0.02	0.02	0.03			
Queue Length 95th (ft)	0	1	2			
Control Delay (s)	0.0	3.0	9.0			
Lane LOS			A			
Approach Delay (s)	0.0	3.0	9.0			
Approach LOS			A			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			19.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

















05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	45	62	8	45	52	4
Future Volume (Veh/h)	45	62	8	45	52	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	65	8	47	55	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			112			80
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			112			80
tC, single (s)			4.2			6.2
tC, 2 stage (s)						
tF (s)			2.3			3.3
p0 queue free %			99			100
cM capacity (veh/h)			1412			986
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	112	55	59			
Volume Left	0	8	55			
Volume Right	65	0	4			
cSH	1700	1412	858			
Volume to Capacity	0.07	0.01	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	1.1	9.5			
Lane LOS			A			
Approach Delay (s)	0.0	1.1	9.5			
Approach LOS			A			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			19.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

















05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	1	41	3	2	0	41	8	3	0	9	11
Future Volume (vph)	16	1	41	3	2	0	41	8	3	0	9	11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	18	1	45	3	2	0	45	9	3	0	10	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	64	5	57	22								
Volume Left (vph)	18	3	45	0								
Volume Right (vph)	45	0	3	12								
Hadj (s)	-0.04	0.12	0.48	-0.07								
Departure Headway (s)	4.0	4.3	4.6	4.0								
Degree Utilization, x	0.07	0.01	0.07	0.02								
Capacity (veh/h)	867	821	769	870								
Control Delay (s)	7.4	7.3	7.9	7.1								
Approach Delay (s)	7.4	7.3	7.9	7.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.5									
Level of Service			A									
Intersection Capacity Utilization			19.8%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	21	1	20	38	20	3	29	3	13	53	5
Future Volume (Veh/h)	1	21	1	20	38	20	3	29	3	13	53	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	26	1	25	48	25	4	36	4	16	66	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			27			178	152	26	161	140	60
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			27			178	152	26	161	140	60
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			99	95	100	98	91	99
cM capacity (veh/h)	1540			1536			721	731	1055	766	739	1010
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	28	98	44	88								
Volume Left	1	25	4	16								
Volume Right	1	25	4	6								
cSH	1540	1536	751	758								
Volume to Capacity	0.00	0.02	0.06	0.12								
Queue Length 95th (ft)	0	1	5	10								
Control Delay (s)	0.3	2.0	10.1	10.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.3	2.0	10.1	10.4								
Approach LOS			B	B								
Intersection Summary												
Average Delay			6.0									
Intersection Capacity Utilization			24.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

















05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	34	22	0	28	15	1
Future Volume (Veh/h)	34	22	0	28	15	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	44	29	0	36	19	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			73		94	58
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			73		94	58
tC, single (s)			4.1		6.4	7.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	4.2
p0 queue free %			100		98	100
cM capacity (veh/h)			1540		910	789
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	73	36	20			
Volume Left	0	0	19			
Volume Right	29	0	1			
cSH	1700	1540	903			
Volume to Capacity	0.04	0.00	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: SE 302nd Avenue & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	24	43	6	27	25	111	58	5	26	66	1
Future Volume (vph)	0	24	43	6	27	25	111	58	5	26	66	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	27	48	7	30	28	123	64	6	29	73	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	75	65	193	103								
Volume Left (vph)	0	7	123	29								
Volume Right (vph)	48	28	6	1								
Hadj (s)	-0.36	-0.18	0.21	0.14								
Departure Headway (s)	4.3	4.5	4.6	4.6								
Degree Utilization, x	0.09	0.08	0.24	0.13								
Capacity (veh/h)	765	734	761	744								
Control Delay (s)	7.8	7.9	9.0	8.3								
Approach Delay (s)	7.8	7.9	9.0	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.5									
Level of Service			A									
Intersection Capacity Utilization			31.1%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

05/04/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	183	143	26	107	204
Future Volume (Veh/h)	36	183	143	26	107	204
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	42	215	168	31	126	240
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	676	184			199	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	676	184			199	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	89	75			91	
cM capacity (veh/h)	372	846			1361	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	257	199	366			
Volume Left	42	0	126			
Volume Right	215	31	0			
cSH	700	1700	1361			
Volume to Capacity	0.37	0.12	0.09			
Queue Length 95th (ft)	42	0	8			
Control Delay (s)	13.1	0.0	3.3			
Lane LOS	B		A			
Approach Delay (s)	13.1	0.0	3.3			
Approach LOS	B					
Intersection Summary						
Average Delay			5.6			
Intersection Capacity Utilization			49.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

04/11/2023



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	48	12	1	27	4	10	32	2	12	37	12
Future Volume (vph)	6	48	12	1	27	4	10	32	2	12	37	12
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	7	59	15	1	33	5	12	39	2	15	45	15
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	81	39	53	75								
Volume Left (vph)	7	1	12	15								
Volume Right (vph)	15	5	2	15								
Hadj (s)	-0.02	-0.07	0.02	-0.05								
Departure Headway (s)	4.2	4.2	4.3	4.2								
Degree Utilization, x	0.09	0.05	0.06	0.09								
Capacity (veh/h)	826	825	810	835								
Control Delay (s)	7.6	7.4	7.5	7.6								
Approach Delay (s)	7.6	7.4	7.5	7.6								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			17.0%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

04/11/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	24	5	0	10	0	8	13	2	1	19	4
Future Volume (Veh/h)	7	24	5	0	10	0	8	13	2	1	19	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	8	28	6	0	12	0	9	15	2	1	22	5
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			34			76	59	31	68	62	13
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			34			76	59	31	68	62	13
tC, single (s)	4.1			4.1			7.1	6.6	6.2	8.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	4.4	4.0	3.3
p0 queue free %	100			100			99	98	100	100	97	100
cM capacity (veh/h)	1620			1591			891	816	1049	717	829	1072
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	42	12	26	28								
Volume Left	8	0	9	1								
Volume Right	6	0	2	5								
cSH	1620	1591	856	859								
Volume to Capacity	0.00	0.00	0.03	0.03								
Queue Length 95th (ft)	0	0	2	3								
Control Delay (s)	1.4	0.0	9.3	9.3								
Lane LOS	A		A	A								
Approach Delay (s)	1.4	0.0	9.3	9.3								
Approach LOS			A	A								
Intersection Summary												
Average Delay			5.2									
Intersection Capacity Utilization			18.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

04/11/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	6	40	2	12	35
Future Volume (Veh/h)	2	6	40	2	12	35
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	2	7	49	2	15	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	123	50			51	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	123	50			51	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	100	99			99	
cM capacity (veh/h)	868	937			1518	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	9	51	58			
Volume Left	2	0	15			
Volume Right	7	2	0			
cSH	921	1700	1518			
Volume to Capacity	0.01	0.03	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	8.9	0.0	2.0			
Lane LOS	A		A			
Approach Delay (s)	8.9	0.0	2.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			19.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

04/11/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	4	1	0	6	2	16	2	2	20	1
Future Volume (Veh/h)	0	0	4	1	0	6	2	16	2	2	20	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	0	0	6	1	0	8	3	23	3	3	28	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73	66	28	71	66	24	29			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73	66	28	71	66	24	29			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	100	100	99	100			100		
cM capacity (veh/h)	913	825	1052	917	826	1058	1597			1601		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	6	9	29	32								
Volume Left	0	1	3	3								
Volume Right	6	8	3	1								
cSH	1052	1040	1597	1601								
Volume to Capacity	0.01	0.01	0.00	0.00								
Queue Length 95th (ft)	0	1	0	0								
Control Delay (s)	8.4	8.5	0.8	0.7								
Lane LOS	A	A	A	A								
Approach Delay (s)	8.4	8.5	0.8	0.7								
Approach LOS	A	A										
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			13.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

04/11/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	103	115	40	35	0
Future Volume (Veh/h)	1	103	115	40	35	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	1	124	139	48	42	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	187				289	163
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	187				289	163
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				94	100
cM capacity (veh/h)	1399				693	887
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	125	187	42			
Volume Left	1	0	42			
Volume Right	0	48	0			
cSH	1399	1700	693			
Volume to Capacity	0.00	0.11	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.1	0.0	10.5			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			18.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

04/11/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	2	134	89	20	25	0
Future Volume (Veh/h)	2	134	89	20	25	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	152	101	23	28	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	124			268	112	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124			268	112	
tC, single (s)	4.6			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.7			3.5	3.3	
p0 queue free %	100			96	100	
cM capacity (veh/h)	1213			715	946	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	154	124	28			
Volume Left	2	0	28			
Volume Right	0	23	0			
cSH	1213	1700	715			
Volume to Capacity	0.00	0.07	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.1	0.0	10.2			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			18.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

04/11/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	102	36	1	58	8	24	2	1	6	3	5
Future Volume (Veh/h)	6	102	36	1	58	8	24	2	1	6	3	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	119	42	1	67	9	28	2	1	7	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	76			161			235	232	140	230	248	72
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	76			161			235	232	140	230	248	72
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	100	100	99	100	99
cM capacity (veh/h)	1536			1430			714	668	913	724	654	996
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	168	77	31	16								
Volume Left	7	1	28	7								
Volume Right	42	9	1	6								
cSH	1536	1430	716	789								
Volume to Capacity	0.00	0.00	0.04	0.02								
Queue Length 95th (ft)	0	0	3	2								
Control Delay (s)	0.3	0.1	10.3	9.7								
Lane LOS	A	A	B	A								
Approach Delay (s)	0.3	0.1	10.3	9.7								
Approach LOS			B	A								
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			21.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

12: SE Dodge Park Blvd & SE Lusted Road

04/11/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	18	4	9	18	1	7	3	16	1	1	2
Future Volume (Veh/h)	3	18	4	9	18	1	7	3	16	1	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	4	25	6	12	25	1	10	4	22	1	1	3
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	26			31			90	86	28	110	88	26
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			31			90	86	28	110	88	26
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			99			99	99	98	100	100	100
cM capacity (veh/h)	1601			1595			888	800	1036	845	797	1054
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	35	38	36	5								
Volume Left	4	12	10	1								
Volume Right	6	1	22	3								
cSH	1601	1595	960	946								
Volume to Capacity	0.00	0.01	0.04	0.01								
Queue Length 95th (ft)	0	1	3	0								
Control Delay (s)	0.8	2.3	8.9	8.8								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.8	2.3	8.9	8.8								
Approach LOS			A	A								
Intersection Summary												
Average Delay			4.2									
Intersection Capacity Utilization			13.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: SE Hudson Road & SE Lusted Road

04/11/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	24	6	15	21	8	12
Future Volume (Veh/h)	24	6	15	21	8	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	32	8	20	28	11	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			40		104	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			40		104	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1583		888	1042
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	40	48	27			
Volume Left	0	20	11			
Volume Right	8	0	16			
cSH	1700	1583	973			
Volume to Capacity	0.02	0.01	0.03			
Queue Length 95th (ft)	0	1	2			
Control Delay (s)	0.0	3.1	8.8			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.1	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			18.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	37	127	2	34	54	4
Future Volume (Veh/h)	37	127	2	34	54	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	48	165	3	44	70	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			213		180	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			213		180	130
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	99
cM capacity (veh/h)			1369		803	924
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	213	47	75			
Volume Left	0	3	70			
Volume Right	165	0	5			
cSH	1700	1369	810			
Volume to Capacity	0.13	0.00	0.09			
Queue Length 95th (ft)	0	0	8			
Control Delay (s)	0.0	0.5	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.5	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			19.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Future Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	5	3	66	0	1	1	55	5	0	0	13	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	74	2	60	23
Volume Left (vph)	5	0	55	0
Volume Right (vph)	66	1	0	10
Hadj (s)	-0.11	-0.30	0.72	-0.16
Departure Headway (s)	4.0	3.9	4.8	4.0
Degree Utilization, x	0.08	0.00	0.08	0.03
Capacity (veh/h)	879	902	728	882
Control Delay (s)	7.3	6.9	8.2	7.1
Approach Delay (s)	7.3	6.9	8.2	7.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.6	
Level of Service		A	
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	3	14	3	4	29	12	6	38	2	14	114	2
Future Volume (Veh/h)	3	14	3	4	29	12	6	38	2	14	114	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	16	3	4	33	13	7	43	2	16	128	2
Pedestrians					1							
Lane Width (ft)					12.0							
Walking Speed (ft/s)					3.5							
Percent Blockage					0							
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	46			19			137	78	18	96	72	40
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	46			19			137	78	18	96	72	40
tC, single (s)	4.1			4.1			7.1	6.6	6.7	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.8	3.6	4.0	3.3
p0 queue free %	100			100			99	95	100	98	84	100
cM capacity (veh/h)	1575			1611			733	798	936	832	811	1038
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	22	50	52	146								
Volume Left	3	4	7	16								
Volume Right	3	13	2	2								
cSH	1575	1611	793	815								
Volume to Capacity	0.00	0.00	0.07	0.18								
Queue Length 95th (ft)	0	0	5	16								
Control Delay (s)	1.0	0.6	9.9	10.4								
Lane LOS	A	A	A	B								
Approach Delay (s)	1.0	0.6	9.9	10.4								
Approach LOS			A	B								
Intersection Summary												
Average Delay			7.7									
Intersection Capacity Utilization			18.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

















05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	16	13	5	29	20	8
Future Volume (Veh/h)	16	13	5	29	20	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	20	16	6	36	25	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			36		76	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			36		76	28
tC, single (s)			4.7		6.4	6.7
tC, 2 stage (s)						
tF (s)			2.7		3.5	3.8
p0 queue free %			100		97	99
cM capacity (veh/h)			1271		915	925
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	36	42	35			
Volume Left	0	6	25			
Volume Right	16	0	10			
cSH	1700	1271	918			
Volume to Capacity	0.02	0.00	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	1.2	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.2	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			15.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: SE 302nd Avenue & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Future Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	18	91	6	55	28	256	79	2	16	55	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	111	89	337	71								
Volume Left (vph)	2	6	256	16								
Volume Right (vph)	91	28	2	0								
Hadj (s)	-0.35	-0.13	0.46	0.14								
Departure Headway (s)	4.7	5.0	5.0	5.0								
Degree Utilization, x	0.15	0.12	0.46	0.10								
Capacity (veh/h)	690	655	704	672								
Control Delay (s)	8.5	8.7	12.2	8.5								
Approach Delay (s)	8.5	8.7	12.2	8.5								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay			10.6									
Level of Service			B									
Intersection Capacity Utilization			35.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	99	82	25	233	93
Future Volume (Veh/h)	11	99	82	25	233	93
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	12	111	92	28	262	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	734	106			120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	734	106			120	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	96	88			82	
cM capacity (veh/h)	308	937			1462	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	123	120	366			
Volume Left	12	0	262			
Volume Right	111	28	0			
cSH	782	1700	1462			
Volume to Capacity	0.16	0.07	0.18			
Queue Length 95th (ft)	14	0	16			
Control Delay (s)	10.5	0.0	6.2			
Lane LOS	B		A			
Approach Delay (s)	10.5	0.0	6.2			
Approach LOS	B					
Intersection Summary						
Average Delay			5.8			
Intersection Capacity Utilization			37.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















04/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	428	2	0	116	10	11	28	3	93	23	3
Future Volume (vph)	13	428	2	0	116	10	11	28	3	93	23	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	14	476	2	0	129	11	12	31	3	103	26	3
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	492	140	46	132								
Volume Left (vph)	14	0	12	103								
Volume Right (vph)	2	11	3	3								
Hadj (s)	0.37	1.13	0.06	1.40								
Departure Headway (s)	5.2	6.4	6.1	7.2								
Degree Utilization, x	0.71	0.25	0.08	0.26								
Capacity (veh/h)	681	534	511	462								
Control Delay (s)	19.5	11.5	9.6	12.7								
Approach Delay (s)	19.5	11.5	9.6	12.7								
Approach LOS	C	B	A	B								
Intersection Summary												
Delay			16.5									
Level of Service			C									
Intersection Capacity Utilization			53.0%		ICU Level of Service	A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

04/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	13	497	3	25	2	100	14	1	1	8	3
Future Volume (Veh/h)	3	13	497	3	25	2	100	14	1	1	8	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	15	585	4	29	2	118	16	1	1	9	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	31			600			362	354	308	362	646	30
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31			600			362	354	308	362	646	30
tC, single (s)	4.4			4.4			8.0	6.6	6.2	8.1	6.8	6.2
tC, 2 stage (s)												
tF (s)	2.5			2.5			4.3	4.1	3.3	4.4	4.2	3.3
p0 queue free %	100			100			74	97	100	100	97	100
cM capacity (veh/h)	1403			842			451	557	737	435	359	1050
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	604	35	135	14								
Volume Left	4	4	118	1								
Volume Right	585	2	1	4								
cSH	1403	842	463	449								
Volume to Capacity	0.00	0.00	0.29	0.03								
Queue Length 95th (ft)	0	0	30	2								
Control Delay (s)	0.1	1.1	16.0	13.3								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.1	1.1	16.0	13.3								
Approach LOS			C	B								
Intersection Summary												
Average Delay			3.1									
Intersection Capacity Utilization			51.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

04/06/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	11	31	0	2	23
Future Volume (Veh/h)	4	11	31	0	2	23
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	12	33	0	2	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	62	33			33	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	62	33			33	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.7	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	889	1046			1592	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	33	27			
Volume Left	4	0	2			
Volume Right	12	0	0			
cSH	1002	1700	1592			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.7	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	8.7	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

04/06/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	2	1	3	1	0	93	1	19	1	495	12	3
Future Volume (Veh/h)	2	1	3	1	0	93	1	19	1	495	12	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	3	1	4	1	0	122	1	25	1	651	16	4
Pedestrians		2										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1472	1350	20	1352	1352	26	22			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1472	1350	20	1352	1352	26	22			26		
tC, single (s)	7.8	7.5	6.2	8.1	6.5	7.2	4.6			4.3		
tC, 2 stage (s)												
tF (s)	4.1	4.9	3.3	4.4	4.0	4.2	2.7			2.4		
p0 queue free %	93	98	100	98	100	85	100			55		
cM capacity (veh/h)	42	53	1062	51	83	836	1329			1451		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	8	123	27	671								
Volume Left	3	1	1	651								
Volume Right	4	122	1	4								
cSH	85	743	1329	1451								
Volume to Capacity	0.09	0.17	0.00	0.45								
Queue Length 95th (ft)	8	15	0	60								
Control Delay (s)	51.9	10.8	0.3	9.3								
Lane LOS	F	B	A	A								
Approach Delay (s)	51.9	10.8	0.3	9.3								
Approach LOS	F	B										
Intersection Summary												
Average Delay			9.7									
Intersection Capacity Utilization			47.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

04/06/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	0	184	88	30	27	0
Future Volume (Veh/h)	0	184	88	30	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	214	102	35	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	137				334	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137				334	120
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1459				657	938
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	214	137	31			
Volume Left	0	0	31			
Volume Right	0	35	0			
cSH	1459	1700	657			
Volume to Capacity	0.00	0.08	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.0	0.0	10.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			19.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

04/06/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	1	182	111	15	16	0
Future Volume (Veh/h)	1	182	111	15	16	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	214	131	18	19	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	149				356	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149				356	140
tC, single (s)	4.1				6.4	7.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	4.2
p0 queue free %	100				97	100
cM capacity (veh/h)	1445				646	702
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	215	149	19			
Volume Left	1	0	19			
Volume Right	0	18	0			
cSH	1445	1700	646			
Volume to Capacity	0.00	0.09	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			20.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

04/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	41	19	1	132	84	19	4	1	63	5	55
Future Volume (Veh/h)	50	41	19	1	132	84	19	4	1	63	5	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	45	21	1	143	91	21	4	1	68	5	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	234			66			416	400	56	357	364	188
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			66			416	400	56	357	364	188
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			96	99	100	88	99	93
cM capacity (veh/h)	1333			1536			489	516	1011	576	540	853
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	120	235	26	133								
Volume Left	54	1	21	68								
Volume Right	21	91	1	60								
cSH	1333	1536	503	673								
Volume to Capacity	0.04	0.00	0.05	0.20								
Queue Length 95th (ft)	3	0	4	18								
Control Delay (s)	3.7	0.0	12.5	11.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	3.7	0.0	12.5	11.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			35.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Site Access A

04/06/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	2	
Traffic Volume (veh/h)	7	490	0	7	87	0
Future Volume (Veh/h)	7	490	0	7	87	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	533	0	8	95	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			541		282	274
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			541		282	274
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		87	100
cM capacity (veh/h)			1028		708	764
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	541	8	95			
Volume Left	0	0	95			
Volume Right	533	0	0			
cSH	1700	1028	708			
Volume to Capacity	0.32	0.00	0.13			
Queue Length 95th (ft)	0	0	12			
Control Delay (s)	0.0	0.0	10.9			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			42.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

04/06/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	86	110	120	86	0	0
Future Volume (Veh/h)	86	110	120	86	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	93	120	130	93	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	223				482	176
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	223				482	176
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				100	100
cM capacity (veh/h)	1346				505	867
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	213	223	0			
Volume Left	93	0	0			
Volume Right	0	93	0			
cSH	1346	1700	1700			
Volume to Capacity	0.07	0.13	0.00			
Queue Length 95th (ft)	6	0	0			
Control Delay (s)	3.8	0.0	0.0			
Lane LOS	A		A			
Approach Delay (s)	3.8	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			28.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	48	66	8	48	141	4
Future Volume (Veh/h)	48	66	8	48	141	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	51	69	8	51	148	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			120			86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			120			86
tC, single (s)			4.2			6.2
tC, 2 stage (s)						
tF (s)			2.3			3.3
p0 queue free %			99			100
cM capacity (veh/h)			1402			979
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	120	59	152			
Volume Left	0	8	148			
Volume Right	69	0	4			
cSH	1700	1402	842			
Volume to Capacity	0.07	0.01	0.18			
Queue Length 95th (ft)	0	0	16			
Control Delay (s)	0.0	1.1	10.2			
Lane LOS			A		B	
Approach Delay (s)	0.0	1.1	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			24.0%		ICU Level of Service A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Future Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	19	1	47	3	2	0	47	9	3	0	11	13
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	67	5	59	24								
Volume Left (vph)	19	3	47	0								
Volume Right (vph)	47	0	3	13								
Hadj (s)	-0.04	0.12	0.49	-0.07								
Departure Headway (s)	4.1	4.3	4.6	4.0								
Degree Utilization, x	0.08	0.01	0.07	0.03								
Capacity (veh/h)	864	818	766	867								
Control Delay (s)	7.4	7.3	7.9	7.2								
Approach Delay (s)	7.4	7.3	7.9	7.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			20.0%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	22	1	21	40	21	3	117	3	14	56	5
Future Volume (Veh/h)	1	22	1	21	40	21	3	117	3	14	56	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	28	1	26	50	26	4	146	4	18	70	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	76			29			186	158	28	222	146	63
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	76			29			186	158	28	222	146	63
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			99	80	100	97	90	99
cM capacity (veh/h)	1536			1534			708	724	1052	613	732	1007
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	30	102	154	94								
Volume Left	1	26	4	18								
Volume Right	1	26	4	6								
cSH	1536	1534	730	718								
Volume to Capacity	0.00	0.02	0.21	0.13								
Queue Length 95th (ft)	0	1	20	11								
Control Delay (s)	0.2	2.0	11.2	10.8								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	2.0	11.2	10.8								
Approach LOS			B	B								
Intersection Summary												
Average Delay			7.8									
Intersection Capacity Utilization			28.6%	ICU Level of Service		A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

04/07/2023



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	36	23	0	30	16	1
Future Volume (Veh/h)	36	23	0	30	16	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	47	30	0	39	21	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			77		101	62
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		101	62
tC, single (s)			4.1		6.4	7.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	4.2
p0 queue free %			100		98	100
cM capacity (veh/h)			1535		902	785
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	77	39	22			
Volume Left	0	0	21			
Volume Right	30	0	1			
cSH	1700	1535	896			
Volume to Capacity	0.05	0.00	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

14: SE 302nd Avenue & SE Lusted Road

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Future Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	28	51	7	32	30	131	68	6	31	78	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	69	205	110								
Volume Left (vph)	0	7	131	31								
Volume Right (vph)	51	30	6	1								
Hadj (s)	-0.36	-0.18	0.21	0.14								
Departure Headway (s)	4.4	4.6	4.6	4.6								
Degree Utilization, x	0.10	0.09	0.26	0.14								
Capacity (veh/h)	754	724	755	737								
Control Delay (s)	7.8	8.0	9.2	8.4								
Approach Delay (s)	7.8	8.0	9.2	8.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.6									
Level of Service			A									
Intersection Capacity Utilization			31.9%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

04/07/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	37	276	149	27	111	212
Future Volume (Veh/h)	37	276	149	27	111	212
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	44	325	175	32	131	249
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	702	191			207	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	702	191			207	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	88	61			90	
cM capacity (veh/h)	357	838			1352	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	369	207	380			
Volume Left	44	0	131			
Volume Right	325	32	0			
cSH	722	1700	1352			
Volume to Capacity	0.51	0.12	0.10			
Queue Length 95th (ft)	73	0	8			
Control Delay (s)	15.1	0.0	3.3			
Lane LOS	C		A			
Approach Delay (s)	15.1	0.0	3.3			
Approach LOS	C					
Intersection Summary						
Average Delay			7.1			
Intersection Capacity Utilization			55.9%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	138	13	1	433	4	11	34	2	13	39	13
Future Volume (vph)	6	138	13	1	433	4	11	34	2	13	39	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	162	15	1	509	5	13	40	2	15	46	15

















Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	184	515	55	76
Volume Left (vph)	7	1	13	15
Volume Right (vph)	15	5	2	15
Hadj (s)	0.94	0.35	0.03	-0.05
Departure Headway (s)	5.9	4.9	5.9	5.8
Degree Utilization, x	0.30	0.71	0.09	0.12
Capacity (veh/h)	579	716	525	545
Control Delay (s)	11.4	18.9	9.5	9.6
Approach Delay (s)	11.4	18.9	9.5	9.6
Approach LOS	B	C	A	A

Intersection Summary			
Delay		15.7	
Level of Service		C	
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	25	92	0	11	0	498	14	2	1	20	4
Future Volume (Veh/h)	7	25	92	0	11	0	498	14	2	1	20	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	8	29	107	0	13	0	579	16	2	1	23	5
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			136			129	112	82	122	165	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			136			129	112	82	122	165	14
tC, single (s)	4.1			4.1			7.3	6.6	6.2	8.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.1	3.3	4.4	4.0	3.3
p0 queue free %	100			100			26	98	100	100	97	100
cM capacity (veh/h)	1619			1461			781	764	983	655	728	1071
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	144	13	597	29								
Volume Left	8	0	579	1								
Volume Right	107	0	2	5								
cSH	1619	1461	781	767								
Volume to Capacity	0.00	0.00	0.76	0.04								
Queue Length 95th (ft)	0	0	184	3								
Control Delay (s)	0.4	0.0	22.9	9.9								
Lane LOS	A		C	A								
Approach Delay (s)	0.4	0.0	22.9	9.9								
Approach LOS			C	A								
Intersection Summary												
Average Delay			17.9									
Intersection Capacity Utilization			55.2%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	6	42	2	13	37
Future Volume (Veh/h)	2	6	42	2	13	37
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	2	7	52	2	16	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	131	53			54	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	131	53			54	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	100	99			99	
cM capacity (veh/h)	859	933			1514	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	9	54	62			
Volume Left	2	0	16			
Volume Right	7	2	0			
cSH	916	1700	1514			
Volume to Capacity	0.01	0.03	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	9.0	0.0	2.0			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	2.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	4	1	0	496	2	17	2	89	21	1
Future Volume (Veh/h)	0	0	4	1	0	496	2	17	2	89	21	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	5	1	0	584	2	20	2	105	25	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	844	262	26	266	261	21	26			22		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844	262	26	266	261	21	26			22		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			5.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			3.1		
p0 queue free %	100	100	100	100	100	42	100			91		
cM capacity (veh/h)	112	586	1056	639	587	1012	1601			1140		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	5	585	24	131								
Volume Left	0	1	2	105								
Volume Right	5	584	2	1								
cSH	1056	1011	1601	1140								
Volume to Capacity	0.00	0.58	0.00	0.09								
Queue Length 95th (ft)	0	96	0	8								
Control Delay (s)	8.4	13.3	0.6	7.0								
Lane LOS	A	B	A	A								
Approach Delay (s)	8.4	13.3	0.6	7.0								
Approach LOS	A	B										
Intersection Summary												
Average Delay			11.8									
Intersection Capacity Utilization			51.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	1	109	208	42	37	0
Future Volume (Veh/h)	1	109	208	42	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	128	245	49	44	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	294				400	270
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	294				400	270
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				93	100
cM capacity (veh/h)	1279				598	774
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	129	294	44			
Volume Left	1	0	44			
Volume Right	0	49	0			
cSH	1279	1700	598			
Volume to Capacity	0.00	0.17	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.1	0.0	11.5			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			23.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

05/04/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	142	180	21	27	0
Future Volume (Veh/h)	2	142	180	21	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	161	205	24	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	229				382	217
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	229				382	217
tC, single (s)	4.6				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.7				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1102				615	828
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	163	229	31			
Volume Left	2	0	31			
Volume Right	0	24	0			
cSH	1102	1700	615			
Volume to Capacity	0.00	0.13	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.1	0.0	11.2			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			20.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	194	38	1	61	8	25	2	1	6	3	5
Future Volume (Veh/h)	6	194	38	1	61	8	25	2	1	6	3	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	226	44	1	71	9	29	2	1	7	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	80			270			347	344	248	342	362	76
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	80			270			347	344	248	342	362	76
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			95	100	100	99	99	99
cM capacity (veh/h)	1531			1305			603	579	796	611	566	991
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	277	81	32	16								
Volume Left	7	1	29	7								
Volume Right	44	9	1	6								
cSH	1531	1305	606	702								
Volume to Capacity	0.00	0.00	0.05	0.02								
Queue Length 95th (ft)	0	0	4	2								
Control Delay (s)	0.2	0.1	11.3	10.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.1	11.3	10.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			26.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 16: Site Access A

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	4	87	0	7	490	0
Future Volume (Veh/h)	4	87	0	7	490	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	95	0	8	533	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			99		60	52
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			99		60	52
tC, single (s)			4.1		6.6	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.7	3.3
p0 queue free %			100		41	100
cM capacity (veh/h)			1494		909	1016
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	99	8	533			
Volume Left	0	0	533			
Volume Right	95	0	0			
cSH	1700	1494	909			
Volume to Capacity	0.06	0.00	0.59			
Queue Length 95th (ft)	0	0	98			
Control Delay (s)	0.0	0.0	14.4			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	14.4			
Approach LOS			B			
Intersection Summary						
Average Delay			12.0			
Intersection Capacity Utilization			39.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	↙
Traffic Volume (veh/h)	0	153	92	0	86	86
Future Volume (Veh/h)	0	153	92	0	86	86
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	166	100	0	93	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100				266	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100				266	100
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				87	90
cM capacity (veh/h)	1493				723	956
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	166	100	186			
Volume Left	0	0	93			
Volume Right	0	0	93			
cSH	1493	1700	823			
Volume to Capacity	0.00	0.06	0.23			
Queue Length 95th (ft)	0	0	22			
Control Delay (s)	0.0	0.0	10.6			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.6			
Approach LOS			B			
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			24.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	37	214	2	34	141	4
Future Volume (Veh/h)	37	214	2	34	141	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	48	278	3	44	183	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			326		237	187
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			326		237	187
tC, single (s)			4.1		7.0	6.2
tC, 2 stage (s)						
tF (s)			2.2		4.1	3.3
p0 queue free %			100		71	99
cM capacity (veh/h)			1245		635	860
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	326	47	188			
Volume Left	0	3	183			
Volume Right	278	0	5			
cSH	1700	1245	640			
Volume to Capacity	0.19	0.00	0.29			
Queue Length 95th (ft)	0	0	31			
Control Delay (s)	0.0	0.5	13.0			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	13.0			
Approach LOS			B			
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			29.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Future Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	5	3	66	0	1	1	55	5	0	0	13	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	74	2	60	23
Volume Left (vph)	5	0	55	0
Volume Right (vph)	66	1	0	10
Hadj (s)	-0.11	-0.30	0.72	-0.16
Departure Headway (s)	4.0	3.9	4.8	4.0
Degree Utilization, x	0.08	0.00	0.08	0.03
Capacity (veh/h)	879	902	728	882
Control Delay (s)	7.3	6.9	8.2	7.1
Approach Delay (s)	7.3	6.9	8.2	7.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.6	
Level of Service		A	
Intersection Capacity Utilization	22.9%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	3	14	3	4	29	12	6	125	2	14	201	2
Future Volume (Veh/h)	3	14	3	4	29	12	6	125	2	14	201	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	16	3	4	33	13	7	140	2	16	226	2
Pedestrians					1							
Lane Width (ft)					12.0							
Walking Speed (ft/s)					3.5							
Percent Blockage					0							
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	46			19			186	78	18	144	72	40
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	46			19			186	78	18	144	72	40
tC, single (s)	4.1			4.1			7.1	7.2	6.7	7.2	6.9	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.6	3.8	3.6	4.4	3.3
p0 queue free %	100			100			99	80	100	98	69	100
cM capacity (veh/h)	1575			1611			592	697	936	682	741	1038
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	22	50	149	244								
Volume Left	3	4	7	16								
Volume Right	3	13	2	2								
cSH	1575	1611	693	738								
Volume to Capacity	0.00	0.00	0.21	0.33								
Queue Length 95th (ft)	0	0	20	36								
Control Delay (s)	1.0	0.6	11.6	12.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.0	0.6	11.6	12.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			10.3									
Intersection Capacity Utilization			25.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

















05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Volume (veh/h)	16	13	5	29	20	8
Future Volume (Veh/h)	16	13	5	29	20	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	20	16	6	36	25	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			36		76	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			36		76	28
tC, single (s)			4.7		6.4	6.7
tC, 2 stage (s)						
tF (s)			2.7		3.5	3.8
p0 queue free %			100		97	99
cM capacity (veh/h)			1271		915	925
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	36	42	35			
Volume Left	0	6	25			
Volume Right	16	0	10			
cSH	1700	1271	918			
Volume to Capacity	0.02	0.00	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	1.2	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.2	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			15.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: SE 302nd Avenue & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Future Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	18	91	6	55	28	256	79	2	16	55	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	111	89	337	71								
Volume Left (vph)	2	6	256	16								
Volume Right (vph)	91	28	2	0								
Hadj (s)	-0.35	-0.13	0.46	0.14								
Departure Headway (s)	4.7	5.0	5.0	5.0								
Degree Utilization, x	0.15	0.12	0.46	0.10								
Capacity (veh/h)	690	655	704	672								
Control Delay (s)	8.5	8.7	12.2	8.5								
Approach Delay (s)	8.5	8.7	12.2	8.5								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay			10.6									
Level of Service			B									
Intersection Capacity Utilization			35.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	99	82	25	233	93
Future Volume (Veh/h)	11	99	82	25	233	93
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	12	111	92	28	262	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	734	106			120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	734	106			120	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	96	88			82	
cM capacity (veh/h)	308	937			1462	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	123	120	366			
Volume Left	12	0	262			
Volume Right	111	28	0			
cSH	782	1700	1462			
Volume to Capacity	0.16	0.07	0.18			
Queue Length 95th (ft)	14	0	16			
Control Delay (s)	10.5	0.0	6.2			
Lane LOS	B		A			
Approach Delay (s)	10.5	0.0	6.2			
Approach LOS	B					
Intersection Summary						
Average Delay			5.8			
Intersection Capacity Utilization			37.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	341	2	0	29	97	11	28	3	180	23	3
Future Volume (vph)	13	341	2	0	29	97	11	28	3	180	23	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	14	379	2	0	32	108	12	31	3	200	26	3
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	395	140	46	229								
Volume Left (vph)	14	0	12	200								
Volume Right (vph)	2	108	3	3								
Hadj (s)	0.04	0.79	0.06	0.91								
Departure Headway (s)	5.1	6.2	5.9	6.4								
Degree Utilization, x	0.56	0.24	0.08	0.41								
Capacity (veh/h)	678	541	520	528								
Control Delay (s)	14.4	11.2	9.4	13.7								
Approach Delay (s)	14.4	11.2	9.4	13.7								
Approach LOS	B	B	A	B								
Intersection Summary												
Delay			13.4									
Level of Service			B									
Intersection Capacity Utilization			53.3%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	13	497	3	25	2	100	14	1	1	8	3
Future Volume (Veh/h)	3	13	497	3	25	2	100	14	1	1	8	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	15	585	4	29	2	118	16	1	1	9	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	31			600			362	354	308	362	646	30
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31			600			362	354	308	362	646	30
tC, single (s)	4.4			4.4			8.0	6.6	6.2	8.1	6.8	6.2
tC, 2 stage (s)												
tF (s)	2.5			2.5			4.3	4.1	3.3	4.4	4.2	3.3
p0 queue free %	100			100			74	97	100	100	97	100
cM capacity (veh/h)	1403			842			451	557	737	435	359	1050
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	604	35	135	14								
Volume Left	4	4	118	1								
Volume Right	585	2	1	4								
cSH	1403	842	463	449								
Volume to Capacity	0.00	0.00	0.29	0.03								
Queue Length 95th (ft)	0	0	30	2								
Control Delay (s)	0.1	1.1	16.0	13.3								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.1	1.1	16.0	13.3								
Approach LOS			C	B								
Intersection Summary												
Average Delay			3.1									
Intersection Capacity Utilization			51.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

04/07/2023

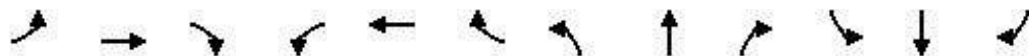


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	11	31	0	2	23
Future Volume (Veh/h)	4	11	31	0	2	23
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	12	33	0	2	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	62	33			33	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	62	33			33	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.7	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	889	1046			1592	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	33	27			
Volume Left	4	0	2			
Volume Right	12	0	0			
cSH	1002	1700	1592			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.7	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	8.7	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	1	3	1	0	93	1	19	1	495	12	3
Future Volume (Veh/h)	2	1	3	1	0	93	1	19	1	495	12	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	3	1	4	1	0	122	1	25	1	651	16	4
Pedestrians		2										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1472	1350	20	1352	1352	26	22			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1472	1350	20	1352	1352	26	22			26		
tC, single (s)	7.8	7.5	6.2	8.1	6.5	7.2	4.6			4.3		
tC, 2 stage (s)												
tF (s)	4.1	4.9	3.3	4.4	4.0	4.2	2.7			2.4		
p0 queue free %	93	98	100	98	100	85	100			55		
cM capacity (veh/h)	42	53	1062	51	83	836	1329			1451		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	8	123	27	671								
Volume Left	3	1	1	651								
Volume Right	4	122	1	4								
cSH	85	743	1329	1451								
Volume to Capacity	0.09	0.17	0.00	0.45								
Queue Length 95th (ft)	8	15	0	60								
Control Delay (s)	51.9	10.8	0.3	9.3								
Lane LOS	F	B	A	A								
Approach Delay (s)	51.9	10.8	0.3	9.3								
Approach LOS	F	B										
Intersection Summary												
Average Delay			9.7									
Intersection Capacity Utilization			47.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

04/07/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	0	184	88	30	27	0
Future Volume (Veh/h)	0	184	88	30	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	214	102	35	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	137				334	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137				334	120
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1459				657	938
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	214	137	31			
Volume Left	0	0	31			
Volume Right	0	35	0			
cSH	1459	1700	657			
Volume to Capacity	0.00	0.08	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.0	0.0	10.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			19.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

04/07/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	182	111	15	16	0
Future Volume (Veh/h)	1	182	111	15	16	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	214	131	18	19	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	149				356	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149				356	140
tC, single (s)	4.1				6.4	7.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	4.2
p0 queue free %	100				97	100
cM capacity (veh/h)	1445				646	702
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	215	149	19			
Volume Left	1	0	19			
Volume Right	0	18	0			
cSH	1445	1700	646			
Volume to Capacity	0.00	0.09	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			20.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	41	19	1	132	84	19	4	1	63	5	55
Future Volume (Veh/h)	50	41	19	1	132	84	19	4	1	63	5	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	45	21	1	143	91	21	4	1	68	5	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	234			66			416	400	56	357	364	188
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			66			416	400	56	357	364	188
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			96	99	100	88	99	93
cM capacity (veh/h)	1333			1536			489	516	1011	576	540	853
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	120	235	26	133								
Volume Left	54	1	21	68								
Volume Right	21	91	1	60								
cSH	1333	1536	503	673								
Volume to Capacity	0.04	0.00	0.05	0.20								
Queue Length 95th (ft)	3	0	4	18								
Control Delay (s)	3.7	0.0	12.5	11.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	3.7	0.0	12.5	11.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			35.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Site Access A

04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Volume (veh/h)	7	490	0	7	87	0
Future Volume (Veh/h)	7	490	0	7	87	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	533	0	8	95	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			541		282	274
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			541		282	274
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		87	100
cM capacity (veh/h)			1028		708	764
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	541	8	95			
Volume Left	0	0	95			
Volume Right	533	0	0			
cSH	1700	1028	708			
Volume to Capacity	0.32	0.00	0.13			
Queue Length 95th (ft)	0	0	12			
Control Delay (s)	0.0	0.0	10.9			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			42.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

04/07/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	86	110	120	86	0	0
Future Volume (Veh/h)	86	110	120	86	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	93	120	130	93	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	223				482	176
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	223				482	176
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				100	100
cM capacity (veh/h)	1346				505	867
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	213	223	0			
Volume Left	93	0	0			
Volume Right	0	93	0			
cSH	1346	1700	1700			
Volume to Capacity	0.07	0.13	0.00			
Queue Length 95th (ft)	6	0	0			
Control Delay (s)	3.8	0.0	0.0			
Lane LOS	A		A			
Approach Delay (s)	3.8	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			28.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

















04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	48	153	8	48	228	4
Future Volume (Veh/h)	48	153	8	48	228	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	51	161	8	51	240	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			212		198	132
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			212		198	132
tC, single (s)			4.2		6.7	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.8	3.3
p0 queue free %			99		67	100
cM capacity (veh/h)			1296		717	923
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	212	59	244			
Volume Left	0	8	240			
Volume Right	161	0	4			
cSH	1700	1296	719			
Volume to Capacity	0.12	0.01	0.34			
Queue Length 95th (ft)	0	0	38			
Control Delay (s)	0.0	1.1	12.6			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.1	12.6			
Approach LOS			B			
Intersection Summary						
Average Delay			6.1			
Intersection Capacity Utilization			31.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

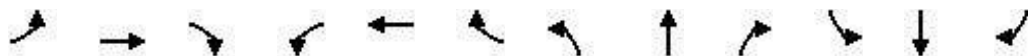
04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Future Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	19	1	47	3	2	0	47	9	3	0	11	13
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	67	5	59	24								
Volume Left (vph)	19	3	47	0								
Volume Right (vph)	47	0	3	13								
Hadj (s)	-0.04	0.12	0.49	-0.07								
Departure Headway (s)	4.1	4.3	4.6	4.0								
Degree Utilization, x	0.08	0.01	0.07	0.03								
Capacity (veh/h)	864	818	766	867								
Control Delay (s)	7.4	7.3	7.9	7.2								
Approach Delay (s)	7.4	7.3	7.9	7.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			20.0%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	22	1	21	40	21	3	204	3	14	143	5
Future Volume (Veh/h)	1	22	1	21	40	21	3	204	3	14	143	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	28	1	26	50	26	4	255	4	18	179	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	76			29			241	158	28	277	146	63
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	76			29			241	158	28	277	146	63
tC, single (s)	4.1			4.2			7.1	7.0	6.2	7.1	7.2	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.4	3.3	3.5	4.7	3.3
p0 queue free %	100			98			99	61	100	96	71	99
cM capacity (veh/h)	1536			1534			546	650	1052	464	619	1007
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	30	102	263	203								
Volume Left	1	26	4	18								
Volume Right	1	26	4	6								
cSH	1536	1534	652	608								
Volume to Capacity	0.00	0.02	0.40	0.33								
Queue Length 95th (ft)	0	1	49	37								
Control Delay (s)	0.2	2.0	14.2	13.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	2.0	14.2	13.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			11.3									
Intersection Capacity Utilization			34.1%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

04/07/2023



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	36	23	0	30	16	1
Future Volume (Veh/h)	36	23	0	30	16	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	47	30	0	39	21	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			77		101	62
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		101	62
tC, single (s)			4.1		6.4	7.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	4.2
p0 queue free %			100		98	100
cM capacity (veh/h)			1535		902	785
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	77	39	22			
Volume Left	0	0	21			
Volume Right	30	0	1			
cSH	1700	1535	896			
Volume to Capacity	0.05	0.00	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

14: SE 302nd Avenue & SE Lusted Road

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Future Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	28	51	7	32	30	131	68	6	31	78	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	69	205	110								
Volume Left (vph)	0	7	131	31								
Volume Right (vph)	51	30	6	1								
Hadj (s)	-0.36	-0.18	0.21	0.14								
Departure Headway (s)	4.4	4.6	4.6	4.6								
Degree Utilization, x	0.10	0.09	0.26	0.14								
Capacity (veh/h)	754	724	755	737								
Control Delay (s)	7.8	8.0	9.2	8.4								
Approach Delay (s)	7.8	8.0	9.2	8.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.6									
Level of Service			A									
Intersection Capacity Utilization			31.9%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 15: SE Orient Drive & SE Bluff Road

04/07/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	37	276	149	27	111	212
Future Volume (Veh/h)	37	276	149	27	111	212
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	44	325	175	32	131	249
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	702	191			207	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	702	191			207	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	88	61			90	
cM capacity (veh/h)	357	838			1352	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	369	207	380			
Volume Left	44	0	131			
Volume Right	325	32	0			
cSH	722	1700	1352			
Volume to Capacity	0.51	0.12	0.10			
Queue Length 95th (ft)	73	0	8			
Control Delay (s)	15.1	0.0	3.3			
Lane LOS	C		A			
Approach Delay (s)	15.1	0.0	3.3			
Approach LOS	C					
Intersection Summary						
Average Delay			7.1			
Intersection Capacity Utilization			55.9%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	51	13	1	346	177	11	34	2	100	39	13
Future Volume (vph)	6	51	13	1	346	177	11	34	2	100	39	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	60	15	1	407	208	13	40	2	118	46	15
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	82	616	55	179								
Volume Left (vph)	7	1	13	118								
Volume Right (vph)	15	208	2	15								
Hadj (s)	-0.01	0.38	0.03	1.07								
Departure Headway (s)	5.7	5.3	6.3	7.0								
Degree Utilization, x	0.13	0.90	0.10	0.35								
Capacity (veh/h)	597	677	538	492								
Control Delay (s)	9.5	36.9	10.0	13.8								
Approach Delay (s)	9.5	36.9	10.0	13.8								
Approach LOS	A	E	A	B								
Intersection Summary												
Delay			28.4									
Level of Service			D									
Intersection Capacity Utilization			50.9%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	25	92	0	11	0	498	14	2	1	20	4
Future Volume (Veh/h)	7	25	92	0	11	0	498	14	2	1	20	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	8	29	107	0	13	0	579	16	2	1	23	5
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			136			129	112	82	122	165	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			136			129	112	82	122	165	14
tC, single (s)	4.1			4.1			7.3	6.6	6.2	8.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.1	3.3	4.4	4.0	3.3
p0 queue free %	100			100			26	98	100	100	97	100
cM capacity (veh/h)	1619			1461			781	764	983	655	728	1071
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	144	13	597	29								
Volume Left	8	0	579	1								
Volume Right	107	0	2	5								
cSH	1619	1461	781	767								
Volume to Capacity	0.00	0.00	0.76	0.04								
Queue Length 95th (ft)	0	0	184	3								
Control Delay (s)	0.4	0.0	22.9	9.9								
Lane LOS	A		C	A								
Approach Delay (s)	0.4	0.0	22.9	9.9								
Approach LOS			C	A								
Intersection Summary												
Average Delay			17.9									
Intersection Capacity Utilization			55.2%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	6	42	2	13	37
Future Volume (Veh/h)	2	6	42	2	13	37
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	2	7	52	2	16	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	131	53			54	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	131	53			54	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	100	99			99	
cM capacity (veh/h)	859	933			1514	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	9	54	62			
Volume Left	2	0	16			
Volume Right	7	2	0			
cSH	916	1700	1514			
Volume to Capacity	0.01	0.03	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	9.0	0.0	2.0			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	2.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	4	1	0	496	2	17	2	89	21	1
Future Volume (Veh/h)	0	0	4	1	0	496	2	17	2	89	21	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	5	1	0	584	2	20	2	105	25	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	844	262	26	266	261	21	26			22		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844	262	26	266	261	21	26			22		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			5.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			3.1		
p0 queue free %	100	100	100	100	100	42	100			91		
cM capacity (veh/h)	112	586	1056	639	587	1012	1601			1140		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	5	585	24	131								
Volume Left	0	1	2	105								
Volume Right	5	584	2	1								
cSH	1056	1011	1601	1140								
Volume to Capacity	0.00	0.58	0.00	0.09								
Queue Length 95th (ft)	0	96	0	8								
Control Delay (s)	8.4	13.3	0.6	7.0								
Lane LOS	A	B	A	A								
Approach Delay (s)	8.4	13.3	0.6	7.0								
Approach LOS	A	B										
Intersection Summary												
Average Delay			11.8									
Intersection Capacity Utilization			51.1%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	1	109	208	42	37	0
Future Volume (Veh/h)	1	109	208	42	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	128	245	49	44	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	294				400	270
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	294				400	270
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				93	100
cM capacity (veh/h)	1279				598	774
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	129	294	44			
Volume Left	1	0	44			
Volume Right	0	49	0			
cSH	1279	1700	598			
Volume to Capacity	0.00	0.17	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.1	0.0	11.5			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			23.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

05/04/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	2	142	180	21	27	0
Future Volume (Veh/h)	2	142	180	21	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	161	205	24	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	229				382	217
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	229				382	217
tC, single (s)	4.6				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.7				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1102				615	828
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	163	229	31			
Volume Left	2	0	31			
Volume Right	0	24	0			
cSH	1102	1700	615			
Volume to Capacity	0.00	0.13	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.1	0.0	11.2			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			20.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	194	38	1	61	8	25	2	1	6	3	5
Future Volume (Veh/h)	6	194	38	1	61	8	25	2	1	6	3	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	226	44	1	71	9	29	2	1	7	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	80			270			347	344	248	342	362	76
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	80			270			347	344	248	342	362	76
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			95	100	100	99	99	99
cM capacity (veh/h)	1531			1305			603	579	796	611	566	991
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	277	81	32	16								
Volume Left	7	1	29	7								
Volume Right	44	9	1	6								
cSH	1531	1305	606	702								
Volume to Capacity	0.00	0.00	0.05	0.02								
Queue Length 95th (ft)	0	0	4	2								
Control Delay (s)	0.2	0.1	11.3	10.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.1	11.3	10.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			26.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Site Access A

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	2	
Traffic Volume (veh/h)	4	87	0	7	490	0
Future Volume (Veh/h)	4	87	0	7	490	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	95	0	8	533	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			99		60	52
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			99		60	52
tC, single (s)			4.1		6.6	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.7	3.3
p0 queue free %			100		41	100
cM capacity (veh/h)			1494		909	1016
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	99	8	533			
Volume Left	0	0	533			
Volume Right	95	0	0			
cSH	1700	1494	909			
Volume to Capacity	0.06	0.00	0.59			
Queue Length 95th (ft)	0	0	98			
Control Delay (s)	0.0	0.0	14.4			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	14.4			
Approach LOS			B			
Intersection Summary						
Average Delay			12.0			
Intersection Capacity Utilization			39.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	0	153	92	0	86	86
Future Volume (Veh/h)	0	153	92	0	86	86
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	166	100	0	93	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100			266	100	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100			266	100	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			87	90	
cM capacity (veh/h)	1493			723	956	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	166	100	186			
Volume Left	0	0	93			
Volume Right	0	0	93			
cSH	1493	1700	823			
Volume to Capacity	0.00	0.06	0.23			
Queue Length 95th (ft)	0	0	22			
Control Delay (s)	0.0	0.0	10.6			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.6			
Approach LOS			B			
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			24.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	37	127	2	34	54	4
Future Volume (Veh/h)	37	127	2	34	54	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	48	165	3	44	70	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			213		180	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			213		180	130
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	99
cM capacity (veh/h)			1369		803	924
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	213	47	75			
Volume Left	0	3	70			
Volume Right	165	0	5			
cSH	1700	1369	810			
Volume to Capacity	0.13	0.00	0.09			
Queue Length 95th (ft)	0	0	8			
Control Delay (s)	0.0	0.5	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.5	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			19.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Future Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	5	3	66	0	1	1	55	5	0	0	13	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	74	2	60	23
Volume Left (vph)	5	0	55	0
Volume Right (vph)	66	1	0	10
Hadj (s)	-0.11	-0.30	0.72	-0.16
Departure Headway (s)	4.0	3.9	4.8	4.0
Degree Utilization, x	0.08	0.00	0.08	0.03
Capacity (veh/h)	879	902	728	882
Control Delay (s)	7.3	6.9	8.2	7.1
Approach Delay (s)	7.3	6.9	8.2	7.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.6	
Level of Service		A	
Intersection Capacity Utilization	22.9%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	3	14	3	4	29	12	6	38	2	14	114	2
Future Volume (Veh/h)	3	14	3	4	29	12	6	38	2	14	114	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	16	3	4	33	13	7	43	2	16	128	2
Pedestrians					1							
Lane Width (ft)					12.0							
Walking Speed (ft/s)					3.5							
Percent Blockage					0							
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	46			19			137	78	18	96	72	40
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	46			19			137	78	18	96	72	40
tC, single (s)	4.1			4.1			7.1	6.6	6.7	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.8	3.6	4.0	3.3
p0 queue free %	100			100			99	95	100	98	84	100
cM capacity (veh/h)	1575			1611			733	798	936	832	811	1038
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	22	50	52	146								
Volume Left	3	4	7	16								
Volume Right	3	13	2	2								
cSH	1575	1611	793	815								
Volume to Capacity	0.00	0.00	0.07	0.18								
Queue Length 95th (ft)	0	0	5	16								
Control Delay (s)	1.0	0.6	9.9	10.4								
Lane LOS	A	A	A	B								
Approach Delay (s)	1.0	0.6	9.9	10.4								
Approach LOS			A	B								
Intersection Summary												
Average Delay			7.7									
Intersection Capacity Utilization			18.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

05/04/2023



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Volume (veh/h)	16	13	5	29	20	8
Future Volume (Veh/h)	16	13	5	29	20	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	20	16	6	36	25	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			36		76	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			36		76	28
tC, single (s)			4.7		6.4	6.7
tC, 2 stage (s)						
tF (s)			2.7		3.5	3.8
p0 queue free %			100		97	99
cM capacity (veh/h)			1271		915	925
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	36	42	35			
Volume Left	0	6	25			
Volume Right	16	0	10			
cSH	1700	1271	918			
Volume to Capacity	0.02	0.00	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	1.2	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.2	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			15.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

14: SE 302nd Avenue & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Future Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	18	91	6	55	28	256	79	2	16	55	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	111	89	337	71								
Volume Left (vph)	2	6	256	16								
Volume Right (vph)	91	28	2	0								
Hadj (s)	-0.35	-0.13	0.46	0.14								
Departure Headway (s)	4.7	5.0	5.0	5.0								
Degree Utilization, x	0.15	0.12	0.46	0.10								
Capacity (veh/h)	690	655	704	672								
Control Delay (s)	8.5	8.7	12.2	8.5								
Approach Delay (s)	8.5	8.7	12.2	8.5								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay			10.6									
Level of Service			B									
Intersection Capacity Utilization			35.7%	ICU Level of Service								A
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 15: SE Orient Drive & SE Bluff Road

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	186	82	25	320	93
Future Volume (Veh/h)	11	186	82	25	320	93
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	12	209	92	28	360	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	930	106			120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	930	106			120	
tC, single (s)	6.5	6.7			4.4	
tC, 2 stage (s)						
tF (s)	3.6	3.7			2.5	
p0 queue free %	94	75			73	
cM capacity (veh/h)	208	843			1311	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	221	120	464			
Volume Left	12	0	360			
Volume Right	209	28	0			
cSH	723	1700	1311			
Volume to Capacity	0.31	0.07	0.27			
Queue Length 95th (ft)	32	0	28			
Control Delay (s)	12.2	0.0	7.4			
Lane LOS	B		A			
Approach Delay (s)	12.2	0.0	7.4			
Approach LOS	B					
Intersection Summary						
Average Delay		7.6				
Intersection Capacity Utilization		48.1%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	341	2	0	29	10	11	28	3	93	23	3
Future Volume (vph)	13	341	2	0	29	10	11	28	3	93	23	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	14	379	2	0	32	11	12	31	3	103	26	3
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	395	43	46	132								
Volume Left (vph)	14	0	12	103								
Volume Right (vph)	2	11	3	3								
Hadj (s)	0.04	-0.12	0.06	0.17								
Departure Headway (s)	4.5	4.7	5.2	5.2								
Degree Utilization, x	0.49	0.06	0.07	0.19								
Capacity (veh/h)	774	707	626	640								
Control Delay (s)	11.7	8.0	8.6	9.4								
Approach Delay (s)	11.7	8.0	8.6	9.4								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay			10.7									
Level of Service			B									
Intersection Capacity Utilization			45.3%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	13	410	3	25	2	13	14	1	1	8	3
Future Volume (Veh/h)	3	13	410	3	25	2	13	14	1	1	8	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	15	482	4	29	2	15	16	1	1	9	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	31			497			310	303	256	311	543	30
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31			497			310	303	256	311	543	30
tC, single (s)	4.4			4.4			7.1	6.6	6.2	8.1	6.8	6.2
tC, 2 stage (s)												
tF (s)	2.5			2.5			3.5	4.1	3.3	4.4	4.2	3.3
p0 queue free %	100			100			98	97	100	100	98	100
cM capacity (veh/h)	1403			925			625	596	788	475	413	1050
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	501	35	32	14								
Volume Left	4	4	15	1								
Volume Right	482	2	1	4								
cSH	1403	925	614	506								
Volume to Capacity	0.00	0.00	0.05	0.03								
Queue Length 95th (ft)	0	0	4	2								
Control Delay (s)	0.1	1.1	11.2	12.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	1.1	11.2	12.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			38.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

04/07/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	11	31	0	2	23
Future Volume (Veh/h)	4	11	31	0	2	23
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	12	33	0	2	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	62	33			33	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	62	33			33	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.7	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	889	1046			1592	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	33	27			
Volume Left	4	0	2			
Volume Right	12	0	0			
cSH	1002	1700	1592			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.7	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	8.7	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	1	3	1	0	6	1	19	1	408	12	3
Future Volume (Veh/h)	2	1	3	1	0	6	1	19	1	408	12	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	3	1	4	1	0	8	1	25	1	537	16	4
Pedestrians		2										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1130	1122	20	1124	1124	26	22			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1130	1122	20	1124	1124	26	22			26		
tC, single (s)	7.8	7.5	6.2	8.1	6.5	6.4	4.6			4.1		
tC, 2 stage (s)												
tF (s)	4.1	4.9	3.3	4.4	4.0	3.5	2.7			2.2		
p0 queue free %	97	99	100	99	100	99	100			66		
cM capacity (veh/h)	99	91	1062	87	137	1001	1329			1588		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	8	9	27	557								
Volume Left	3	1	1	537								
Volume Right	4	8	1	4								
cSH	178	463	1329	1588								
Volume to Capacity	0.04	0.02	0.00	0.34								
Queue Length 95th (ft)	4	1	0	38								
Control Delay (s)	26.2	12.9	0.3	8.2								
Lane LOS	D	B	A	A								
Approach Delay (s)	26.2	12.9	0.3	8.2								
Approach LOS	D	B										
Intersection Summary												
Average Delay			8.2									
Intersection Capacity Utilization			40.1%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

04/07/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	0	271	175	30	27	0
Future Volume (Veh/h)	0	271	175	30	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	315	203	35	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	238				536	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	238				536	220
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	100
cM capacity (veh/h)	1341				502	824
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	315	238	31			
Volume Left	0	0	31			
Volume Right	0	35	0			
cSH	1341	1700	502			
Volume to Capacity	0.00	0.14	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.0	0.0	12.6			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	12.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			24.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

04/07/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	1	269	198	15	16	0
Future Volume (Veh/h)	1	269	198	15	16	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	316	233	18	19	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	251			560	242	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	251			560	242	
tC, single (s)	4.1			6.4	7.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	4.2	
p0 queue free %	100			96	100	
cM capacity (veh/h)	1326			493	606	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	317	251	19			
Volume Left	1	0	19			
Volume Right	0	18	0			
cSH	1326	1700	493			
Volume to Capacity	0.00	0.15	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	12.6			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	12.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			25.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	41	19	1	132	84	19	4	1	63	5	55
Future Volume (Veh/h)	50	41	19	1	132	84	19	4	1	63	5	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	45	21	1	143	91	21	4	1	68	5	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	234			66			416	400	56	357	364	188
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			66			416	400	56	357	364	188
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			96	99	100	88	99	93
cM capacity (veh/h)	1333			1536			489	516	1011	576	540	853
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	120	235	26	133								
Volume Left	54	1	21	68								
Volume Right	21	91	1	60								
cSH	1333	1536	503	673								
Volume to Capacity	0.04	0.00	0.05	0.20								
Queue Length 95th (ft)	3	0	4	18								
Control Delay (s)	3.7	0.0	12.5	11.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	3.7	0.0	12.5	11.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			35.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 16: Site Access A

04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Volume (veh/h)	7	403	0	7	0	0
Future Volume (Veh/h)	7	403	0	7	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	438	0	8	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			446		235	227
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			446		235	227
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1114		753	812
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	446	8	0			
Volume Left	0	0	0			
Volume Right	438	0	0			
cSH	1700	1114	1700			
Volume to Capacity	0.26	0.00	0.13			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			28.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

04/07/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Volume (veh/h)	173	110	120	86	0	87
Future Volume (Veh/h)	173	110	120	86	0	87
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	188	120	130	93	0	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	223			672	176	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	223			672	176	
tC, single (s)	4.6			7.4	6.2	
tC, 2 stage (s)						
tF (s)	2.7			4.4	3.3	
p0 queue free %	83			100	89	
cM capacity (veh/h)	1104			250	867	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	308	223	95			
Volume Left	188	0	0			
Volume Right	0	93	95			
cSH	1104	1700	867			
Volume to Capacity	0.17	0.13	0.11			
Queue Length 95th (ft)	15	0	9			
Control Delay (s)	6.1	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	6.1	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			4.5			
Intersection Capacity Utilization			42.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	48	66	8	48	141	4
Future Volume (Veh/h)	48	66	8	48	141	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	51	69	8	51	148	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	120			152	86	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	120			152	86	
tC, single (s)	4.2			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.3			3.5	3.3	
p0 queue free %	99			82	100	
cM capacity (veh/h)	1402			839	979	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	120	59	152			
Volume Left	0	8	148			
Volume Right	69	0	4			
cSH	1700	1402	842			
Volume to Capacity	0.07	0.01	0.18			
Queue Length 95th (ft)	0	0	16			
Control Delay (s)	0.0	1.1	10.2			
Lane LOS	A		B			
Approach Delay (s)	0.0	1.1	10.2			
Approach LOS	A		B			
Intersection Summary						
Average Delay	4.9					
Intersection Capacity Utilization	24.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Future Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	19	1	47	3	2	0	47	9	3	0	11	13
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	67	5	59	24								
Volume Left (vph)	19	3	47	0								
Volume Right (vph)	47	0	3	13								
Hadj (s)	-0.04	0.12	0.49	-0.07								
Departure Headway (s)	4.1	4.3	4.6	4.0								
Degree Utilization, x	0.08	0.01	0.07	0.03								
Capacity (veh/h)	864	818	766	867								
Control Delay (s)	7.4	7.3	7.9	7.2								
Approach Delay (s)	7.4	7.3	7.9	7.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			20.0%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	1	22	1	21	40	21	3	117	3	14	56	5
Future Volume (Veh/h)	1	22	1	21	40	21	3	117	3	14	56	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	28	1	26	50	26	4	146	4	18	70	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	76			29			186	158	28	222	146	63
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	76			29			186	158	28	222	146	63
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			99	80	100	97	90	99
cM capacity (veh/h)	1536			1534			708	724	1052	613	732	1007
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	30	102	154	94								
Volume Left	1	26	4	18								
Volume Right	1	26	4	6								
cSH	1536	1534	730	718								
Volume to Capacity	0.00	0.02	0.21	0.13								
Queue Length 95th (ft)	0	1	20	11								
Control Delay (s)	0.2	2.0	11.2	10.8								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	2.0	11.2	10.8								
Approach LOS			B	B								
Intersection Summary												
Average Delay			7.8									
Intersection Capacity Utilization			28.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

















04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	36	23	0	30	16	1
Future Volume (Veh/h)	36	23	0	30	16	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	47	30	0	39	21	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			77		101	62
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		101	62
tC, single (s)			4.1		6.4	7.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	4.2
p0 queue free %			100		98	100
cM capacity (veh/h)			1535		902	785
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	77	39	22			
Volume Left	0	0	21			
Volume Right	30	0	1			
cSH	1700	1535	896			
Volume to Capacity	0.05	0.00	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: SE 302nd Avenue & SE Lusted Road

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Future Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	28	51	7	32	30	131	68	6	31	78	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	69	205	110								
Volume Left (vph)	0	7	131	31								
Volume Right (vph)	51	30	6	1								
Hadj (s)	-0.36	-0.18	0.21	0.14								
Departure Headway (s)	4.4	4.6	4.6	4.6								
Degree Utilization, x	0.10	0.09	0.26	0.14								
Capacity (veh/h)	754	724	755	737								
Control Delay (s)	7.8	8.0	9.2	8.4								
Approach Delay (s)	7.8	8.0	9.2	8.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.6									
Level of Service			A									
Intersection Capacity Utilization			31.9%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

04/07/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	37	363	149	27	198	212
Future Volume (Veh/h)	37	363	149	27	198	212
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	44	427	175	32	233	249
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	906	191			207	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	906	191			207	
tC, single (s)	6.5	6.5			4.5	
tC, 2 stage (s)						
tF (s)	3.6	3.5			2.6	
p0 queue free %	82	46			80	
cM capacity (veh/h)	238	795			1145	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	471	207	482			
Volume Left	44	0	233			
Volume Right	427	32	0			
cSH	653	1700	1145			
Volume to Capacity	0.72	0.12	0.20			
Queue Length 95th (ft)	153	0	19			
Control Delay (s)	23.5	0.0	5.4			
Lane LOS	C		A			
Approach Delay (s)	23.5	0.0	5.4			
Approach LOS	C					
Intersection Summary						
Average Delay			11.8			
Intersection Capacity Utilization			66.1%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	51	13	1	346	90	11	34	2	13	39	13
Future Volume (vph)	6	51	13	1	346	90	11	34	2	13	39	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	60	15	1	407	106	13	40	2	15	46	15
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	82	514	55	76								
Volume Left (vph)	7	1	13	15								
Volume Right (vph)	15	106	2	15								
Hadj (s)	-0.01	-0.10	0.03	-0.05								
Departure Headway (s)	4.8	4.3	5.4	5.3								
Degree Utilization, x	0.11	0.61	0.08	0.11								
Capacity (veh/h)	707	821	592	605								
Control Delay (s)	8.4	13.7	8.9	9.0								
Approach Delay (s)	8.4	13.7	8.9	9.0								
Approach LOS	A	B	A	A								
Intersection Summary												
Delay			12.2									
Level of Service			B									
Intersection Capacity Utilization			35.1%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	25	5	0	11	0	411	14	2	1	20	4
Future Volume (Veh/h)	7	25	5	0	11	0	411	14	2	1	20	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	8	29	6	0	13	0	478	16	2	1	23	5
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			35			78	61	32	71	64	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			35			78	61	32	71	64	14
tC, single (s)	4.1			4.1			7.1	6.6	6.2	8.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	4.4	4.0	3.3
p0 queue free %	100			100			46	98	100	100	97	100
cM capacity (veh/h)	1619			1589			883	814	1048	713	827	1071
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	43	13	496	29								
Volume Left	8	0	478	1								
Volume Right	6	0	2	5								
cSH	1619	1589	881	855								
Volume to Capacity	0.00	0.00	0.56	0.03								
Queue Length 95th (ft)	0	0	90	3								
Control Delay (s)	1.4	0.0	14.2	9.4								
Lane LOS	A		B	A								
Approach Delay (s)	1.4	0.0	14.2	9.4								
Approach LOS			B	A								
Intersection Summary												
Average Delay			12.7									
Intersection Capacity Utilization			44.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	6	42	2	13	37
Future Volume (Veh/h)	2	6	42	2	13	37
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	2	7	52	2	16	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	131	53			54	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	131	53			54	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	100	99			99	
cM capacity (veh/h)	859	933			1514	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	9	54	62			
Volume Left	2	0	16			
Volume Right	7	2	0			
cSH	916	1700	1514			
Volume to Capacity	0.01	0.03	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	9.0	0.0	2.0			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	2.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			19.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	4	1	0	409	2	17	2	2	21	1
Future Volume (Veh/h)	0	0	4	1	0	409	2	17	2	2	21	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	5	1	0	481	2	20	2	2	25	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	536	56	26	60	55	21	26			22		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	536	56	26	60	55	21	26			22		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			5.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			3.1		
p0 queue free %	100	100	100	100	100	54	100			100		
cM capacity (veh/h)	249	837	1056	935	838	1056	1601			1140		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	5	482	24	28								
Volume Left	0	1	2	2								
Volume Right	5	481	2	1								
cSH	1056	1056	1601	1140								
Volume to Capacity	0.00	0.46	0.00	0.00								
Queue Length 95th (ft)	0	61	0	0								
Control Delay (s)	8.4	11.2	0.6	0.6								
Lane LOS	A	B	A	A								
Approach Delay (s)	8.4	11.2	0.6	0.6								
Approach LOS	A	B										
Intersection Summary												
Average Delay			10.2									
Intersection Capacity Utilization			36.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	196	295	42	37	0
Future Volume (Veh/h)	1	196	295	42	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	231	347	49	44	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	396				604	372
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	396				604	372
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				90	100
cM capacity (veh/h)	1174				454	679
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	232	396	44			
Volume Left	1	0	44			
Volume Right	0	49	0			
cSH	1174	1700	454			
Volume to Capacity	0.00	0.23	0.10			
Queue Length 95th (ft)	0	0	8			
Control Delay (s)	0.0	0.0	13.8			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	13.8			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			28.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

05/04/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	2	229	267	21	27	0
Future Volume (Veh/h)	2	229	267	21	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	260	303	24	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	327				579	315
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327				579	315
tC, single (s)	4.6				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.7				3.5	3.3
p0 queue free %	100				93	100
cM capacity (veh/h)	1007				473	730
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	262	327	31			
Volume Left	2	0	31			
Volume Right	0	24	0			
cSH	1007	1700	473			
Volume to Capacity	0.00	0.19	0.07			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.1	0.0	13.1			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	13.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			25.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	194	38	1	61	8	25	2	1	6	3	5
Future Volume (Veh/h)	6	194	38	1	61	8	25	2	1	6	3	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	226	44	1	71	9	29	2	1	7	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None					None					
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	80			270			347	344	248	342	362	76
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	80			270			347	344	248	342	362	76
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			95	100	100	99	99	99
cM capacity (veh/h)	1531			1305			603	579	796	611	566	991
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	277	81	32	16								
Volume Left	7	1	29	7								
Volume Right	44	9	1	6								
cSH	1531	1305	606	702								
Volume to Capacity	0.00	0.00	0.05	0.02								
Queue Length 95th (ft)	0	0	4	2								
Control Delay (s)	0.2	0.1	11.3	10.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.1	11.3	10.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			26.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Site Access A

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	4	0	0	7	403	0
Future Volume (Veh/h)	4	0	0	7	403	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	0	8	438	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			4		12	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			4		12	4
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		57	100
cM capacity (veh/h)			1618		1008	1080
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	4	8	438			
Volume Left	0	0	438			
Volume Right	0	0	0			
cSH	1700	1618	1008			
Volume to Capacity	0.00	0.00	0.43			
Queue Length 95th (ft)	0	0	56			
Control Delay (s)	0.0	0.0	11.3			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			11.0			
Intersection Capacity Utilization			32.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Volume (veh/h)	87	153	92	0	86	173
Future Volume (Veh/h)	87	153	92	0	86	173
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	95	166	100	0	93	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100			456	100	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100			456	100	
tC, single (s)	5.1			6.4	6.7	
tC, 2 stage (s)						
tF (s)	3.1			3.5	3.8	
p0 queue free %	91			82	78	
cM capacity (veh/h)	1052			512	837	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	261	100	281			
Volume Left	95	0	93			
Volume Right	0	0	188			
cSH	1052	1700	691			
Volume to Capacity	0.09	0.06	0.41			
Queue Length 95th (ft)	7	0	49			
Control Delay (s)	3.7	0.0	13.7			
Lane LOS	A		B			
Approach Delay (s)	3.7	0.0	13.7			
Approach LOS			B			
Intersection Summary						
Average Delay			7.5			
Intersection Capacity Utilization			41.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	37	127	2	34	54	4
Future Volume (Veh/h)	37	127	2	34	54	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	48	165	3	44	70	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			213		180	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			213		180	130
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	99
cM capacity (veh/h)			1369		803	924
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	213	47	75			
Volume Left	0	3	70			
Volume Right	165	0	5			
cSH	1700	1369	810			
Volume to Capacity	0.13	0.00	0.09			
Queue Length 95th (ft)	0	0	8			
Control Delay (s)	0.0	0.5	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.5	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			19.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Future Volume (vph)	4	2	51	0	1	1	42	4	0	0	10	8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	5	3	66	0	1	1	55	5	0	0	13	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	74	2	60	23
Volume Left (vph)	5	0	55	0
Volume Right (vph)	66	1	0	10
Hadj (s)	-0.11	-0.30	0.72	-0.16
Departure Headway (s)	4.0	3.9	4.8	4.0
Degree Utilization, x	0.08	0.00	0.08	0.03
Capacity (veh/h)	879	902	728	882
Control Delay (s)	7.3	6.9	8.2	7.1
Approach Delay (s)	7.3	6.9	8.2	7.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.6	
Level of Service		A	
Intersection Capacity Utilization	22.9%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	3	14	3	4	29	12	6	38	2	14	114	2
Future Volume (Veh/h)	3	14	3	4	29	12	6	38	2	14	114	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	16	3	4	33	13	7	43	2	16	128	2
Pedestrians					1							
Lane Width (ft)					12.0							
Walking Speed (ft/s)					3.5							
Percent Blockage					0							
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	46			19			137	78	18	96	72	40
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	46			19			137	78	18	96	72	40
tC, single (s)	4.1			4.1			7.1	6.6	6.7	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.8	3.6	4.0	3.3
p0 queue free %	100			100			99	95	100	98	84	100
cM capacity (veh/h)	1575			1611			733	798	936	832	811	1038
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	22	50	52	146								
Volume Left	3	4	7	16								
Volume Right	3	13	2	2								
cSH	1575	1611	793	815								
Volume to Capacity	0.00	0.00	0.07	0.18								
Queue Length 95th (ft)	0	0	5	16								
Control Delay (s)	1.0	0.6	9.9	10.4								
Lane LOS	A	A	A	B								
Approach Delay (s)	1.0	0.6	9.9	10.4								
Approach LOS			A	B								
Intersection Summary												
Average Delay			7.7									
Intersection Capacity Utilization			18.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

















05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	16	13	5	29	20	8
Future Volume (Veh/h)	16	13	5	29	20	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	20	16	6	36	25	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			36		76	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			36		76	28
tC, single (s)			4.7		6.4	6.7
tC, 2 stage (s)						
tF (s)			2.7		3.5	3.8
p0 queue free %			100		97	99
cM capacity (veh/h)			1271		915	925
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	36	42	35			
Volume Left	0	6	25			
Volume Right	16	0	10			
cSH	1700	1271	918			
Volume to Capacity	0.02	0.00	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	1.2	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.2	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			15.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: SE 302nd Avenue & SE Lusted Road

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Future Volume (vph)	2	15	77	5	47	24	218	67	2	14	47	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	18	91	6	55	28	256	79	2	16	55	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	111	89	337	71								
Volume Left (vph)	2	6	256	16								
Volume Right (vph)	91	28	2	0								
Hadj (s)	-0.35	-0.13	0.46	0.14								
Departure Headway (s)	4.7	5.0	5.0	5.0								
Degree Utilization, x	0.15	0.12	0.46	0.10								
Capacity (veh/h)	690	655	704	672								
Control Delay (s)	8.5	8.7	12.2	8.5								
Approach Delay (s)	8.5	8.7	12.2	8.5								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay			10.6									
Level of Service			B									
Intersection Capacity Utilization			35.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	99	82	25	233	93
Future Volume (Veh/h)	11	99	82	25	233	93
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	12	111	92	28	262	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	734	106			120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	734	106			120	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	96	88			82	
cM capacity (veh/h)	308	937			1462	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	123	120	366			
Volume Left	12	0	262			
Volume Right	111	28	0			
cSH	782	1700	1462			
Volume to Capacity	0.16	0.07	0.18			
Queue Length 95th (ft)	14	0	16			
Control Delay (s)	10.5	0.0	6.2			
Lane LOS	B		A			
Approach Delay (s)	10.5	0.0	6.2			
Approach LOS	B					
Intersection Summary						
Average Delay			5.8			
Intersection Capacity Utilization		37.9%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	341	2	0	29	10	11	28	3	93	23	3
Future Volume (vph)	13	341	2	0	29	10	11	28	3	93	23	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	14	379	2	0	32	11	12	31	3	103	26	3
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	395	43	46	132								
Volume Left (vph)	14	0	12	103								
Volume Right (vph)	2	11	3	3								
Hadj (s)	0.04	-0.12	0.06	0.17								
Departure Headway (s)	4.5	4.7	5.2	5.2								
Degree Utilization, x	0.49	0.06	0.07	0.19								
Capacity (veh/h)	774	707	626	640								
Control Delay (s)	11.7	8.0	8.6	9.4								
Approach Delay (s)	11.7	8.0	8.6	9.4								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay			10.7									
Level of Service			B									
Intersection Capacity Utilization			45.3%		ICU Level of Service	A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	13	410	3	25	2	13	14	1	1	8	3
Future Volume (Veh/h)	3	13	410	3	25	2	13	14	1	1	8	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	15	482	4	29	2	15	16	1	1	9	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	31			497			310	303	256	311	543	30
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31			497			310	303	256	311	543	30
tC, single (s)	4.4			4.4			7.1	6.6	6.2	8.1	6.8	6.2
tC, 2 stage (s)												
tF (s)	2.5			2.5			3.5	4.1	3.3	4.4	4.2	3.3
p0 queue free %	100			100			98	97	100	100	98	100
cM capacity (veh/h)	1403			925			625	596	788	475	413	1050
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	501	35	32	14								
Volume Left	4	4	15	1								
Volume Right	482	2	1	4								
cSH	1403	925	614	506								
Volume to Capacity	0.00	0.00	0.05	0.03								
Queue Length 95th (ft)	0	0	4	2								
Control Delay (s)	0.1	1.1	11.2	12.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	1.1	11.2	12.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			38.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

04/07/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	11	31	0	2	23
Future Volume (Veh/h)	4	11	31	0	2	23
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	12	33	0	2	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	62	33			33	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	62	33			33	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.7	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	889	1046			1592	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	33	27			
Volume Left	4	0	2			
Volume Right	12	0	0			
cSH	1002	1700	1592			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.7	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	8.7	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	2	1	3	1	0	6	1	19	1	408	12	3
Future Volume (Veh/h)	2	1	3	1	0	6	1	19	1	408	12	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	3	1	4	1	0	8	1	25	1	537	16	4
Pedestrians		2										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1130	1122	20	1124	1124	26	22			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1130	1122	20	1124	1124	26	22			26		
tC, single (s)	7.8	7.5	6.2	8.1	6.5	6.4	4.6			4.1		
tC, 2 stage (s)												
tF (s)	4.1	4.9	3.3	4.4	4.0	3.5	2.7			2.2		
p0 queue free %	97	99	100	99	100	99	100			66		
cM capacity (veh/h)	99	91	1062	87	137	1001	1329			1588		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	8	9	27	557								
Volume Left	3	1	1	537								
Volume Right	4	8	1	4								
cSH	178	463	1329	1588								
Volume to Capacity	0.04	0.02	0.00	0.34								
Queue Length 95th (ft)	4	1	0	38								
Control Delay (s)	26.2	12.9	0.3	8.2								
Lane LOS	D	B	A	A								
Approach Delay (s)	26.2	12.9	0.3	8.2								
Approach LOS	D	B										
Intersection Summary												
Average Delay			8.2									
Intersection Capacity Utilization			40.1%	ICU Level of Service			A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

04/07/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	0	184	88	30	27	0
Future Volume (Veh/h)	0	184	88	30	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	214	102	35	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	137				334	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137				334	120
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1459				657	938
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	214	137	31			
Volume Left	0	0	31			
Volume Right	0	35	0			
cSH	1459	1700	657			
Volume to Capacity	0.00	0.08	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.0	0.0	10.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			19.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

04/07/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	182	111	15	16	0
Future Volume (Veh/h)	1	182	111	15	16	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	214	131	18	19	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	149				356	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149				356	140
tC, single (s)	4.1				6.4	7.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	4.2
p0 queue free %	100				97	100
cM capacity (veh/h)	1445				646	702
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	215	149	19			
Volume Left	1	0	19			
Volume Right	0	18	0			
cSH	1445	1700	646			
Volume to Capacity	0.00	0.09	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			20.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	128	19	1	219	84	19	4	1	63	5	55
Future Volume (Veh/h)	50	128	19	1	219	84	19	4	1	63	5	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	139	21	1	238	91	21	4	1	68	5	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	329			160			606	588	150	546	554	284
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	329			160			606	588	150	546	554	284
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			94	99	100	84	99	92
cM capacity (veh/h)	1231			1419			361	402	897	429	421	755
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	214	330	26	133								
Volume Left	54	1	21	68								
Volume Right	21	91	1	60								
cSH	1231	1419	375	533								
Volume to Capacity	0.04	0.00	0.07	0.25								
Queue Length 95th (ft)	3	0	6	24								
Control Delay (s)	2.3	0.0	15.3	14.0								
Lane LOS	A	A	C	B								
Approach Delay (s)	2.3	0.0	15.3	14.0								
Approach LOS			C	B								
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			44.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Site Access A

04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Volume (veh/h)	7	403	0	7	0	0
Future Volume (Veh/h)	7	403	0	7	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	438	0	8	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			446		235	227
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			446		235	227
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1114		753	812
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	446	8	0			
Volume Left	0	0	0			
Volume Right	438	0	0			
cSH	1700	1114	1700			
Volume to Capacity	0.26	0.00	0.13			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			28.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

04/07/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	86	110	120	173	87	0
Future Volume (Veh/h)	86	110	120	173	87	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	93	120	130	188	95	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	318				530	224
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	318				530	224
tC, single (s)	4.1				7.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				4.4	3.3
p0 queue free %	93				73	100
cM capacity (veh/h)	1242				346	820
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	213	318	95			
Volume Left	93	0	95			
Volume Right	0	188	0			
cSH	1242	1700	346			
Volume to Capacity	0.07	0.19	0.27			
Queue Length 95th (ft)	6	0	27			
Control Delay (s)	3.9	0.0	19.3			
Lane LOS	A		C			
Approach Delay (s)	3.9	0.0	19.3			
Approach LOS			C			
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			42.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	48	66	8	48	141	4
Future Volume (Veh/h)	48	66	8	48	141	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	51	69	8	51	148	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			120			86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			120			86
tC, single (s)			4.2			6.2
tC, 2 stage (s)						
tF (s)			2.3			3.3
p0 queue free %			99			100
cM capacity (veh/h)			1402			979
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	120	59	152			
Volume Left	0	8	148			
Volume Right	69	0	4			
cSH	1700	1402	842			
Volume to Capacity	0.07	0.01	0.18			
Queue Length 95th (ft)	0	0	16			
Control Delay (s)	0.0	1.1	10.2			
Lane LOS			A		B	
Approach Delay (s)	0.0	1.1	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			24.0%		ICU Level of Service A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Future Volume (vph)	17	1	43	3	2	0	43	8	3	0	10	12
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	19	1	47	3	2	0	47	9	3	0	11	13
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	67	5	59	24								
Volume Left (vph)	19	3	47	0								
Volume Right (vph)	47	0	3	13								
Hadj (s)	-0.04	0.12	0.49	-0.07								
Departure Headway (s)	4.1	4.3	4.6	4.0								
Degree Utilization, x	0.08	0.01	0.07	0.03								
Capacity (veh/h)	864	818	766	867								
Control Delay (s)	7.4	7.3	7.9	7.2								
Approach Delay (s)	7.4	7.3	7.9	7.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			20.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: SE Altman Road & SE Lusted Road

04/07/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	22	1	21	40	21	3	117	3	14	56	5
Future Volume (Veh/h)	1	22	1	21	40	21	3	117	3	14	56	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	28	1	26	50	26	4	146	4	18	70	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	76			29			186	158	28	222	146	63
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	76			29			186	158	28	222	146	63
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			99	80	100	97	90	99
cM capacity (veh/h)	1536			1534			708	724	1052	613	732	1007
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	30	102	154	94								
Volume Left	1	26	4	18								
Volume Right	1	26	4	6								
cSH	1536	1534	730	718								
Volume to Capacity	0.00	0.02	0.21	0.13								
Queue Length 95th (ft)	0	1	20	11								
Control Delay (s)	0.2	2.0	11.2	10.8								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	2.0	11.2	10.8								
Approach LOS			B	B								
Intersection Summary												
Average Delay			7.8									
Intersection Capacity Utilization			28.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: SE Cottrell Road & SE Lusted Road

















04/07/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	36	23	0	30	16	1
Future Volume (Veh/h)	36	23	0	30	16	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	47	30	0	39	21	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			77		101	62
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		101	62
tC, single (s)			4.1		6.4	7.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	4.2
p0 queue free %			100		98	100
cM capacity (veh/h)			1535		902	785
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	77	39	22			
Volume Left	0	0	21			
Volume Right	30	0	1			
cSH	1700	1535	896			
Volume to Capacity	0.05	0.00	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: SE 302nd Avenue & SE Lusted Road

04/07/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Future Volume (vph)	0	25	46	6	29	27	118	61	5	28	70	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	28	51	7	32	30	131	68	6	31	78	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	69	205	110								
Volume Left (vph)	0	7	131	31								
Volume Right (vph)	51	30	6	1								
Hadj (s)	-0.36	-0.18	0.21	0.14								
Departure Headway (s)	4.4	4.6	4.6	4.6								
Degree Utilization, x	0.10	0.09	0.26	0.14								
Capacity (veh/h)	754	724	755	737								
Control Delay (s)	7.8	8.0	9.2	8.4								
Approach Delay (s)	7.8	8.0	9.2	8.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.6									
Level of Service			A									
Intersection Capacity Utilization			31.9%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

15: SE Orient Drive & SE Bluff Road

04/07/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	37	276	149	27	111	212
Future Volume (Veh/h)	37	276	149	27	111	212
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	44	325	175	32	131	249
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	702	191			207	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	702	191			207	
tC, single (s)	6.5	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.2	
p0 queue free %	88	61			90	
cM capacity (veh/h)	357	838			1352	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	369	207	380			
Volume Left	44	0	131			
Volume Right	325	32	0			
cSH	722	1700	1352			
Volume to Capacity	0.51	0.12	0.10			
Queue Length 95th (ft)	73	0	8			
Control Delay (s)	15.1	0.0	3.3			
Lane LOS	C		A			
Approach Delay (s)	15.1	0.0	3.3			
Approach LOS	C					
Intersection Summary						
Average Delay			7.1			
Intersection Capacity Utilization			55.9%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

5: Altman Rd & Dodge Park Blvd

















05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	51	13	1	346	90	11	34	2	13	39	13
Future Volume (vph)	6	51	13	1	346	90	11	34	2	13	39	13
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	7	60	15	1	407	106	13	40	2	15	46	15
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	82	514	55	76								
Volume Left (vph)	7	1	13	15								
Volume Right (vph)	15	106	2	15								
Hadj (s)	-0.01	-0.10	0.03	-0.05								
Departure Headway (s)	4.8	4.3	5.4	5.3								
Degree Utilization, x	0.11	0.61	0.08	0.11								
Capacity (veh/h)	707	821	592	605								
Control Delay (s)	8.4	13.7	8.9	9.0								
Approach Delay (s)	8.4	13.7	8.9	9.0								
Approach LOS	A	B	A	A								
Intersection Summary												
Delay			12.2									
Level of Service			B									
Intersection Capacity Utilization			35.1%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

6: Cottrell Rd & Dodge Park Blvd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	25	5	0	11	0	411	14	2	1	20	4
Future Volume (Veh/h)	7	25	5	0	11	0	411	14	2	1	20	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	8	29	6	0	13	0	478	16	2	1	23	5
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			35			78	61	32	71	64	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			35			78	61	32	71	64	14
tC, single (s)	4.1			4.1			7.1	6.6	6.2	8.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	4.4	4.0	3.3
p0 queue free %	100			100			46	98	100	100	97	100
cM capacity (veh/h)	1619			1589			883	814	1048	713	827	1071
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	43	13	496	29								
Volume Left	8	0	478	1								
Volume Right	6	0	2	5								
cSH	1619	1589	881	855								
Volume to Capacity	0.00	0.00	0.56	0.03								
Queue Length 95th (ft)	0	0	90	3								
Control Delay (s)	1.4	0.0	14.2	9.4								
Lane LOS	A		B	A								
Approach Delay (s)	1.4	0.0	14.2	9.4								
Approach LOS			B	A								
Intersection Summary												
Average Delay			12.7									
Intersection Capacity Utilization			44.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: SE Altman Road/Altman Rd & Carpenter Ln

05/04/2023



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	6	42	2	13	37
Future Volume (Veh/h)	2	6	42	2	13	37
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	2	7	52	2	16	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	131	53			54	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	131	53			54	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	100	99			99	
cM capacity (veh/h)	859	933			1514	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	9	54	62			
Volume Left	2	0	16			
Volume Right	7	2	0			
cSH	916	1700	1514			
Volume to Capacity	0.01	0.03	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	9.0	0.0	2.0			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	2.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: Cottrell Rd & Carpenter Ln

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	4	1	0	409	2	17	2	2	21	1
Future Volume (Veh/h)	0	0	4	1	0	409	2	17	2	2	21	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	5	1	0	481	2	20	2	2	25	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	536	56	26	60	55	21	26			22		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	536	56	26	60	55	21	26			22		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			5.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			3.1		
p0 queue free %	100	100	100	100	100	54	100			100		
cM capacity (veh/h)	249	837	1056	935	838	1056	1601			1140		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	5	482	24	28								
Volume Left	0	1	2	2								
Volume Right	5	481	2	1								
cSH	1056	1056	1601	1140								
Volume to Capacity	0.00	0.46	0.00	0.00								
Queue Length 95th (ft)	0	61	0	0								
Control Delay (s)	8.4	11.2	0.6	0.6								
Lane LOS	A	B	A	A								
Approach Delay (s)	8.4	11.2	0.6	0.6								
Approach LOS	A	B										
Intersection Summary												
Average Delay			10.2									
Intersection Capacity Utilization			36.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

9: SE Bluff Road & SE Altman Road

05/04/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Volume (veh/h)	1	109	208	42	37	0
Future Volume (Veh/h)	1	109	208	42	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	128	245	49	44	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	294				400	270
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	294				400	270
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				93	100
cM capacity (veh/h)	1279				598	774
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	129	294	44			
Volume Left	1	0	44			
Volume Right	0	49	0			
cSH	1279	1700	598			
Volume to Capacity	0.00	0.17	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.1	0.0	11.5			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		23.5%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Bluff Rd & Cottrell Rd

05/04/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	2	142	180	21	27	0
Future Volume (Veh/h)	2	142	180	21	27	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	161	205	24	31	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	229			382	217	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	229			382	217	
tC, single (s)	4.6			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.7			3.5	3.3	
p0 queue free %	100			95	100	
cM capacity (veh/h)	1102			615	828	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	163	229	31			
Volume Left	2	0	31			
Volume Right	0	24	0			
cSH	1102	1700	615			
Volume to Capacity	0.00	0.13	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.1	0.0	11.2			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			20.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: 362nd Ave/Proctor Rd & Bluff Rd

05/04/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	281	38	1	148	8	25	2	1	6	3	5
Future Volume (Veh/h)	6	281	38	1	148	8	25	2	1	6	3	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	327	44	1	172	9	29	2	1	7	3	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	181			371			549	546	349	544	564	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	181			371			549	546	349	544	564	176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			93	100	100	98	99	99
cM capacity (veh/h)	1407			1199			442	445	699	449	435	872
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	378	182	32	16								
Volume Left	7	1	29	7								
Volume Right	44	9	1	6								
cSH	1407	1199	447	545								
Volume to Capacity	0.00	0.00	0.07	0.03								
Queue Length 95th (ft)	0	0	6	2								
Control Delay (s)	0.2	0.1	13.7	11.8								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.1	13.7	11.8								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			31.2%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 16: Site Access A

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	4	0	0	7	403	0
Future Volume (Veh/h)	4	0	0	7	403	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	0	8	438	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			4		12	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			4		12	4
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		57	100
cM capacity (veh/h)			1618		1008	1080
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	4	8	438			
Volume Left	0	0	438			
Volume Right	0	0	0			
cSH	1700	1618	1008			
Volume to Capacity	0.00	0.00	0.43			
Queue Length 95th (ft)	0	0	56			
Control Delay (s)	0.0	0.0	11.3			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			11.0			
Intersection Capacity Utilization			32.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Bluff Rd & Site Access B

05/04/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	↙
Traffic Volume (veh/h)	0	153	92	87	173	86
Future Volume (Veh/h)	0	153	92	87	173	86
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	166	100	95	188	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	195				314	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	195				314	148
tC, single (s)	4.1				6.9	6.2
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.3
p0 queue free %	100				68	90
cM capacity (veh/h)	1390				589	899
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	166	195	281			
Volume Left	0	0	188			
Volume Right	0	95	93			
cSH	1390	1700	665			
Volume to Capacity	0.00	0.11	0.42			
Queue Length 95th (ft)	0	0	53			
Control Delay (s)	0.0	0.0	14.3			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	14.3			
Approach LOS			B			
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			31.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

12: SE Dodge Park Blvd & SE Lusted Road

11/16/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	5	12	32	1	4	1	12	1	4	3
Future Volume (Veh/h)	2	16	5	12	32	1	4	1	12	1	4	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	3	23	7	17	45	1	6	1	17	1	6	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	46			30			119	112	26	130	116	46
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	46			30			119	112	26	130	116	46
tC, single (s)	4.1			4.2			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			99			99	100	98	100	99	100
cM capacity (veh/h)	1575			1539			790	771	1029	825	768	1030
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	33	63	24	11								
Volume Left	3	17	6	1								
Volume Right	7	1	17	4								
cSH	1575	1539	945	852								
Volume to Capacity	0.00	0.01	0.03	0.01								
Queue Length 95th (ft)	0	1	2	1								
Control Delay (s)	0.7	2.0	8.9	9.3								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.7	2.0	8.9	9.3								
Approach LOS			A	A								
Intersection Summary												
Average Delay			3.6									
Intersection Capacity Utilization			15.2%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: SE Hudson Road & SE Lusted Road

11/16/2022



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	19	10	19	29	7	15
Future Volume (Veh/h)	19	10	19	29	7	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	27	14	27	41	10	21
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			42		130	35
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			42		130	35
tC, single (s)			4.1		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.5
p0 queue free %			98		99	98
cM capacity (veh/h)			1579		853	985
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	41	68	31			
Volume Left	0	27	10			
Volume Right	14	0	21			
cSH	1700	1579	938			
Volume to Capacity	0.02	0.02	0.03			
Queue Length 95th (ft)	0	1	3			
Control Delay (s)	0.0	3.0	9.0			
Lane LOS			A			
Approach Delay (s)	0.0	3.0	9.0			
Approach LOS			A			
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			19.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

12: SE Dodge Park Blvd & SE Lusted Road

05/16/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	19	4	10	19	1	7	3	17	1	1	2
Future Volume (Veh/h)	3	19	4	10	19	1	7	3	17	1	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	4	26	6	14	26	1	10	4	24	1	1	3
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	27			32			96	92	29	118	94	28
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			32			96	92	29	118	94	28
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			99			99	99	98	100	100	100
cM capacity (veh/h)	1600			1593			880	793	1034	833	790	1053
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	36	41	38	5								
Volume Left	4	14	10	1								
Volume Right	6	1	24	3								
cSH	1600	1593	959	941								
Volume to Capacity	0.00	0.01	0.04	0.01								
Queue Length 95th (ft)	0	1	3	0								
Control Delay (s)	0.8	2.5	8.9	8.8								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.8	2.5	8.9	8.8								
Approach LOS			A	A								
Intersection Summary												
Average Delay			4.3									
Intersection Capacity Utilization			13.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

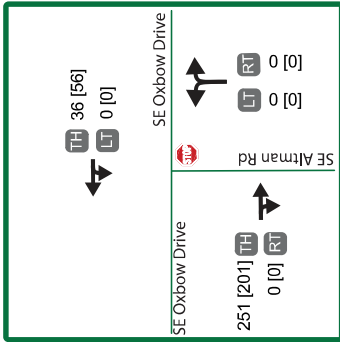
13: SE Hudson Road & SE Lusted Road

05/16/2022

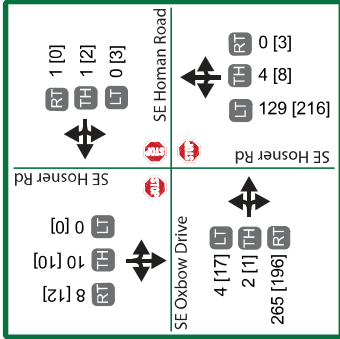


Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	6	16	22	8	13
Future Volume (Veh/h)	25	6	16	22	8	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	34	8	22	30	11	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			42		112	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			42		112	38
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1580		877	1040
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	42	52	29			
Volume Left	0	22	11			
Volume Right	8	0	18			
cSH	1700	1580	971			
Volume to Capacity	0.02	0.01	0.03			
Queue Length 95th (ft)	0	1	2			
Control Delay (s)	0.0	3.2	8.8			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.2	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			18.7%	ICU Level of Service		A
Analysis Period (min)			15			

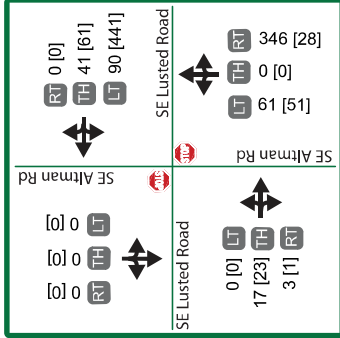
Appendix D: Roadway Closure Detour Routes
Detour HCM Results
Detour Volumes Figures



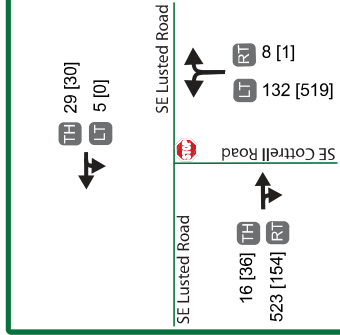
① SE Altman Road at SE Oxbow Drive



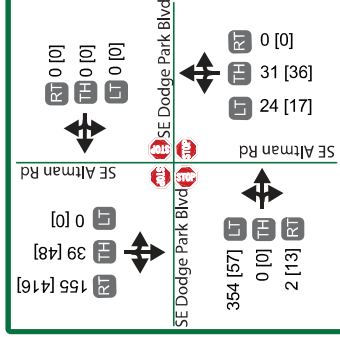
② SE Hosner Road at SE Oxbow Dr / SE Homan Rd



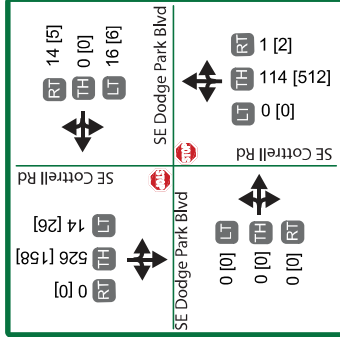
③ SE Altman Road at SE Lusted Road



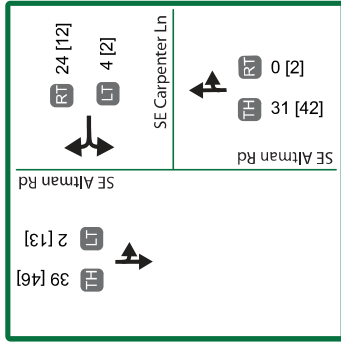
④ SE Cottrell Road at SE Lusted Road



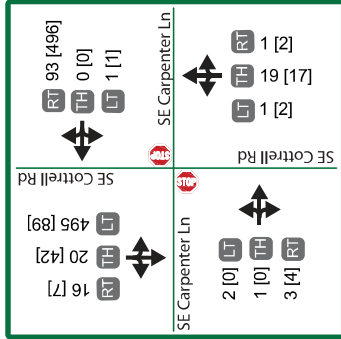
⑤ SE Altman Road at SE Dodge Park Boulevard



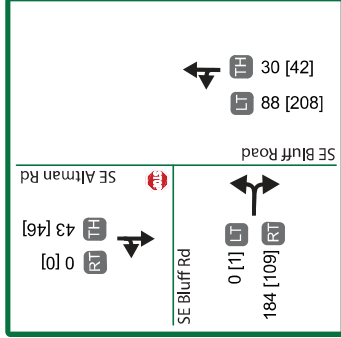
⑥ SE Cottrell Road at SE Dodge Park Boulevard



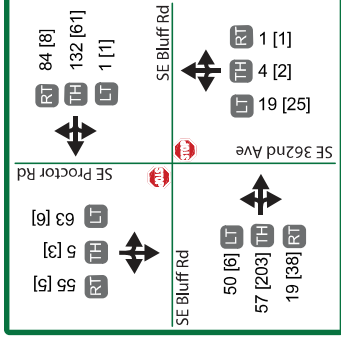
⑦ SE Altman Road at SE Carpenter Lane



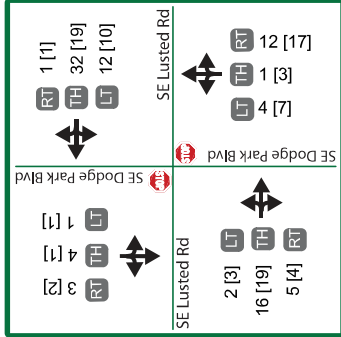
⑧ SE Cottrell Road at SE Carpenter Lane



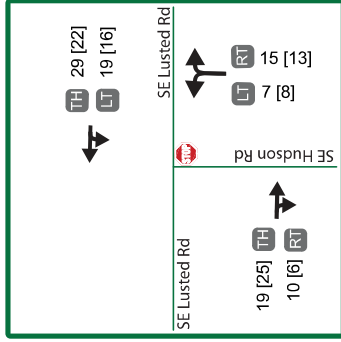
⑨ SE Altman Road at SE Bluff Road



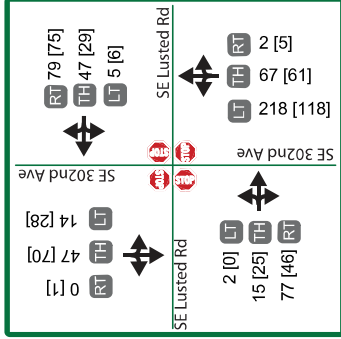
⑩ SE Bluff Road at SE Proctor Road



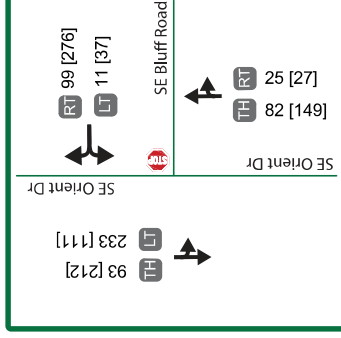
⑪ SE Dodge Park Boulevard at SE Lusted Road



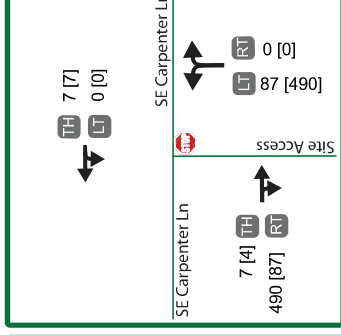
⑫ SE Lusted Road at SE Hudson Road



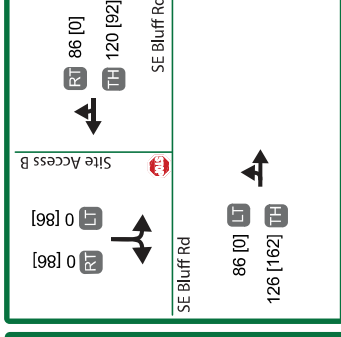
⑬ SE Lusted Road at SE 302nd Avenue



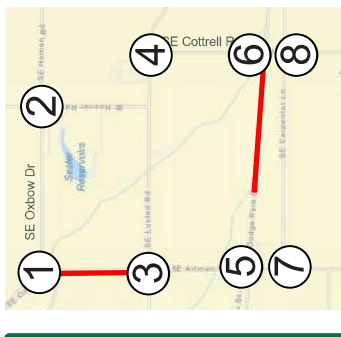
⑭ SE Orient Drive at SE Bluff Road



⑮ SE Carpenter Lane at Site Access A

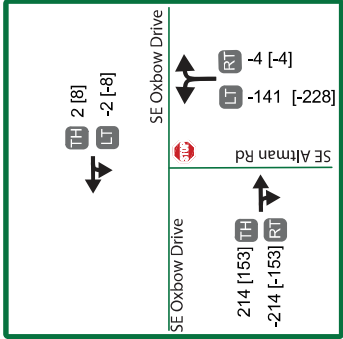


⑯ SE Bluff Road at Site Access B

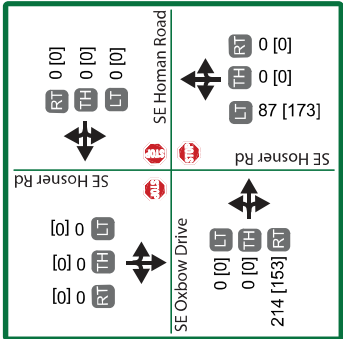


⊗ = Study Intersection
 ↶ = Lane Configuration
 ⏹ = Stop Sign
 LT TH RT = Left / Through / Right Turn
 AM [PM] = Peak Hour Traffic Volumes
 = Dodge/Altman Closure

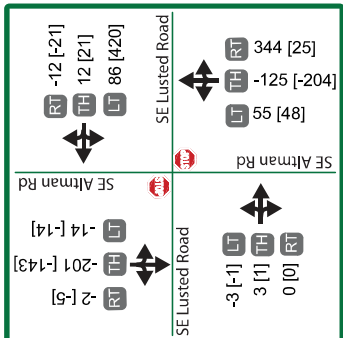
Appendix D: Traffic Volumes 2025 Peak Construction Conditions Dodge/Altman Closure



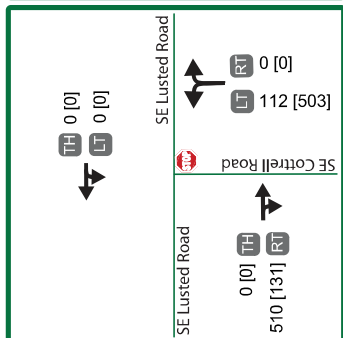
① SE Altman Road at SE Oxbow Drive



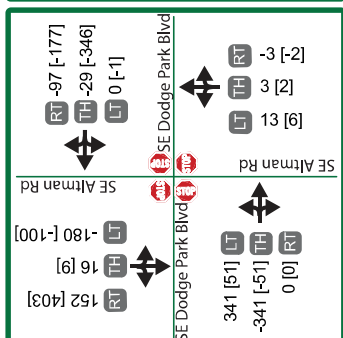
② SE Hosner Road at SE Oxbow Dr / SE Homan Rd



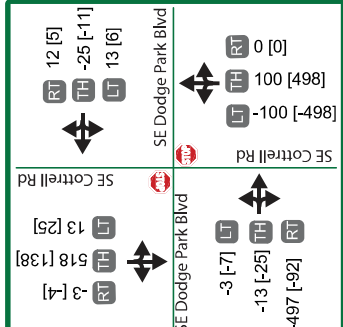
③ SE Altman Road at SE Lusted Road



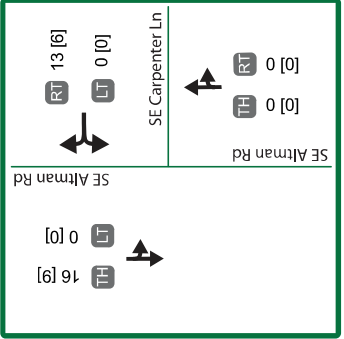
④ SE Cottrell Road at SE Lusted Road



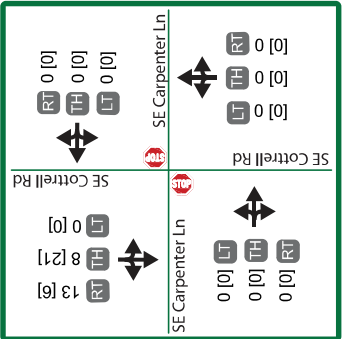
⑤ SE Altman Road at SE Dodge Park Boulevard



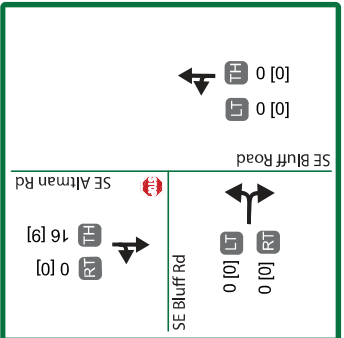
⑥ SE Cottrell Road at SE Dodge Park Boulevard



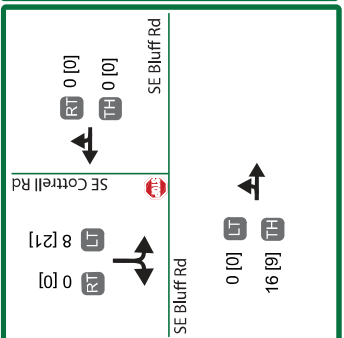
⑦ SE Altman Road at SE Carpenter Lane



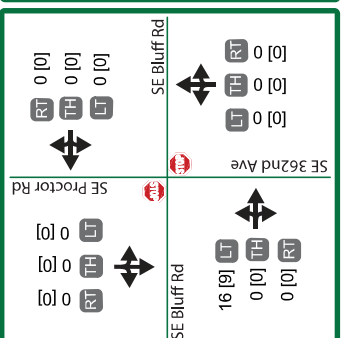
⑧ SE Cottrell Road at SE Carpenter Lane



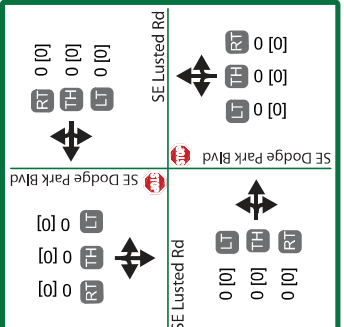
⑨ SE Altman Road at SE Bluff Road



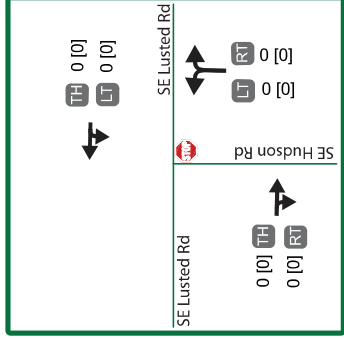
⑩ SE Cottrell Road at SE Bluff Road



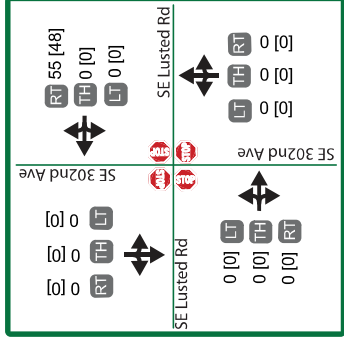
⑪ SE Bluff Road at SE Proctor Road



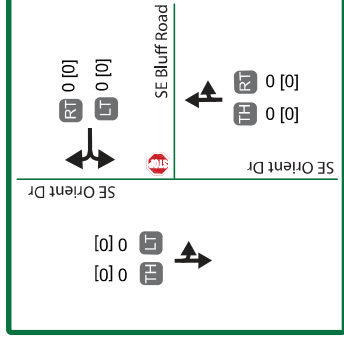
⑫ SE Dodge Park Boulevard at SE Lusted Road



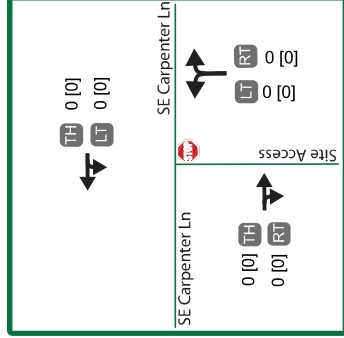
⑬ SE Bluff Road at SE Proctor Road



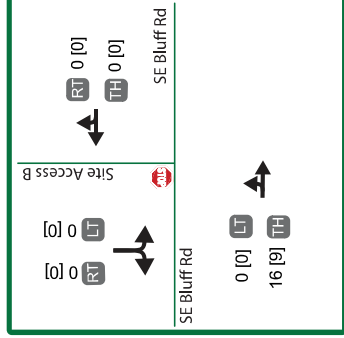
⑭ SE Lusted Road at SE 302nd Avenue



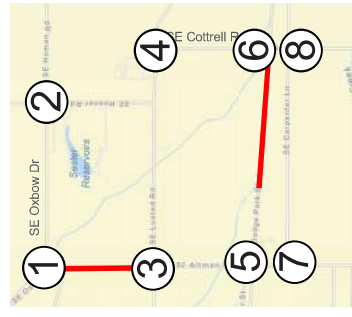
⑮ SE Orient Drive at SE Bluff Road



⑯ SE Carpenter Lane at Site Access A

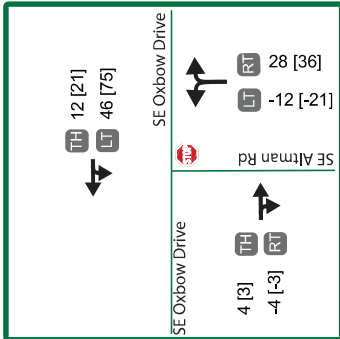


⑰ SE Bluff Road at Site Access B

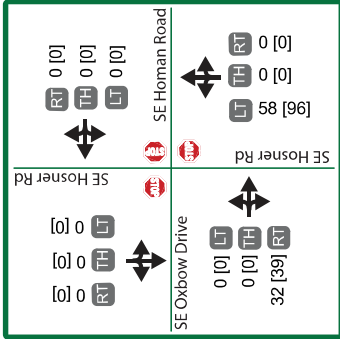


- ⊗ = Study Intersection
- ↶ = Lane Configuration
- ⊞ = Stop Sign
- LT TH RT = Left / Through / Right Turn
- AM [PM] = Peak Hour Traffic Volumes
- = Dodge/Altman Closure

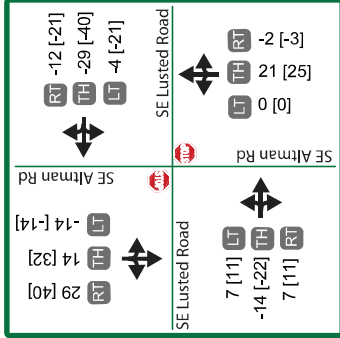
Appendix D: Traffic Volumes 2025 Peak Construction Conditions Change in Volumes with Dodge/Altman Closure



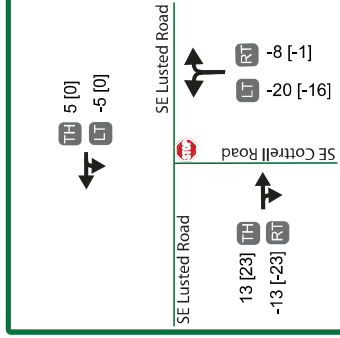
① SE Altman Road at SE Oxbow Drive



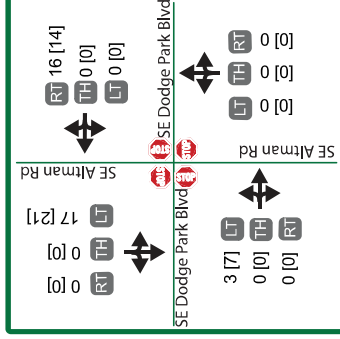
② SE Hosner Road at SE Oxbow Dr / SE Homan Rd



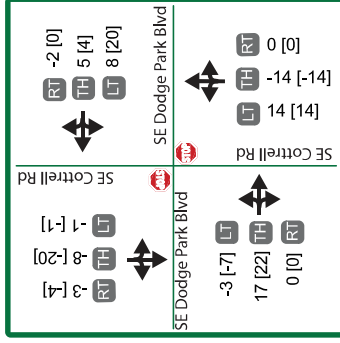
③ SE Altman Road at SE Lusted Road



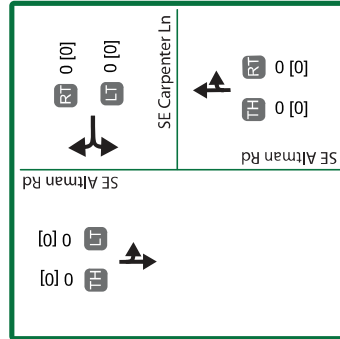
④ SE Cottrell Road at SE Lusted Road



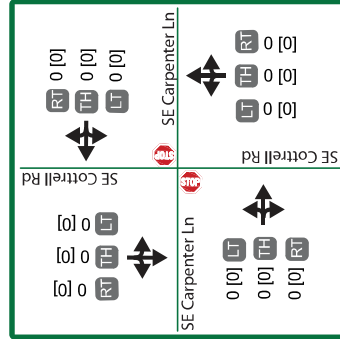
⑤ SE Altman Road at SE Dodge Park Boulevard



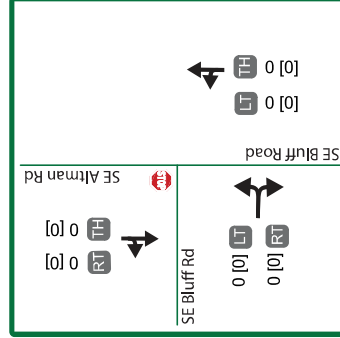
⑥ SE Cottrell Road at SE Dodge Park Boulevard



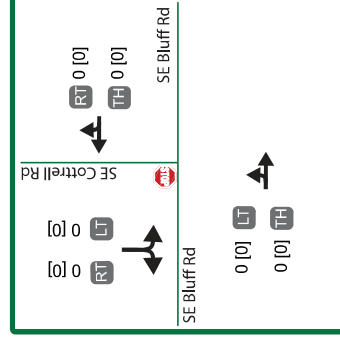
⑦ SE Altman Road at SE Carpenter Lane



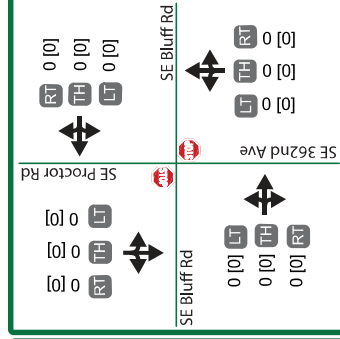
⑧ SE Cottrell Road at SE Carpenter Lane



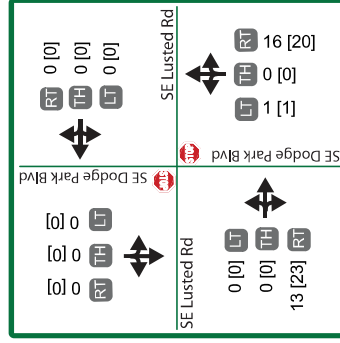
⑨ SE Altman Road at SE Bluff Road



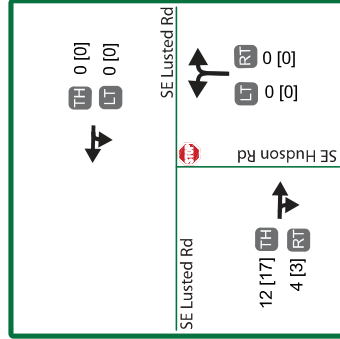
⑩ SE Cottrell Road at SE Bluff Road



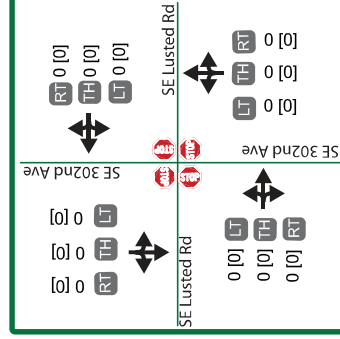
⑪ SE Bluff Road at SE Proctor Road



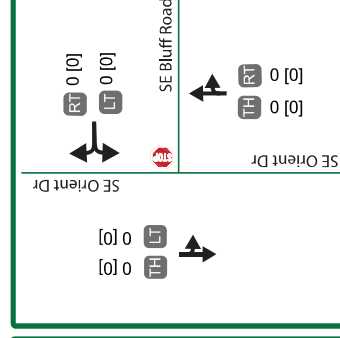
⑫ SE Dodge Park Boulevard at SE Lusted Road



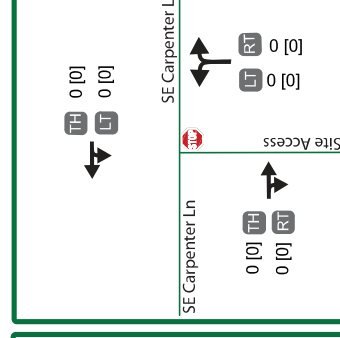
⑬ SE Lusted Road at SE Hudson Road



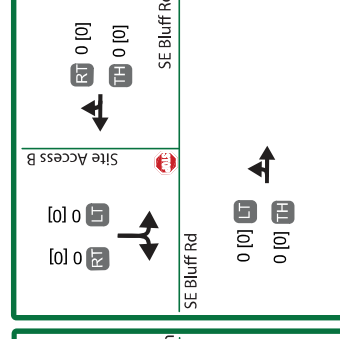
⑭ SE Lusted Road at SE 302nd Avenue



⑮ SE Orient Drive at SE Bluff Road



Ⓐ SE Carpenter Lane at Site Access A

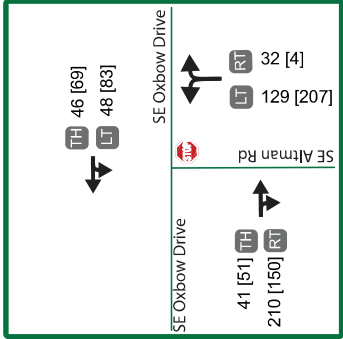


Ⓑ SE Bluff Road at Site Access B

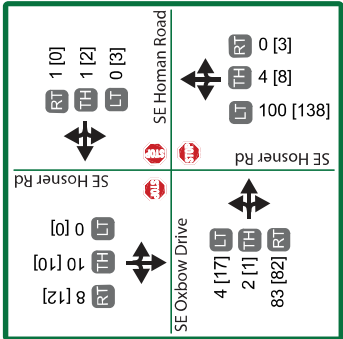


⊗ = Study Intersection
 ↙ = Lane Configuration
 ⓧ = Stop Sign
 ⊗ = Left / Through / Right Turn
 — = Lusted/Cottrell Closure
 AM [PM] = Peak Hour Traffic Volumes

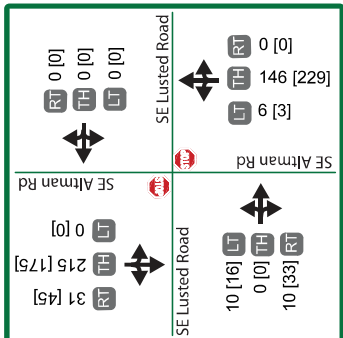
Appendix D: Traffic Volumes 2025 Peak Construction Conditions Change In Volumes with Lusted/Cottrell Detours



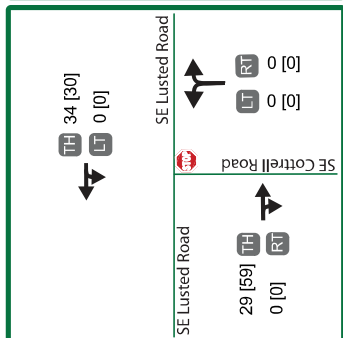
① SE Altman Road at SE Oxbow Drive



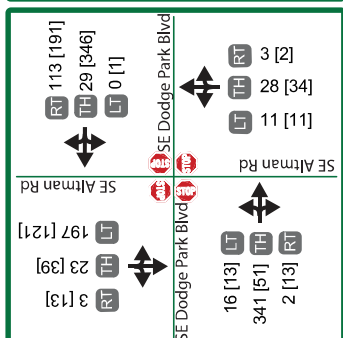
② SE Hosner Road at SE Oxbow Drive / SE Homan Rd



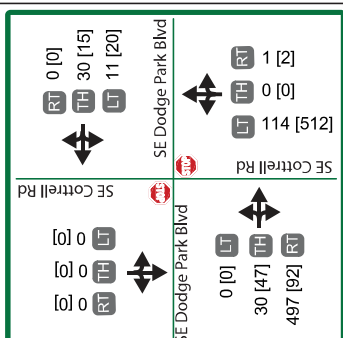
③ SE Altman Road at SE Lusted Road



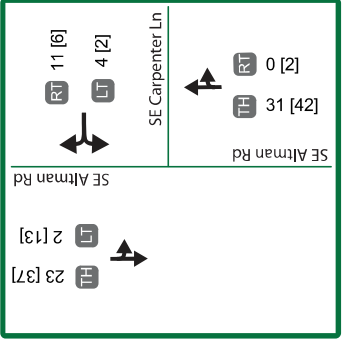
④ SE Cottrell Road at SE Lusted Road



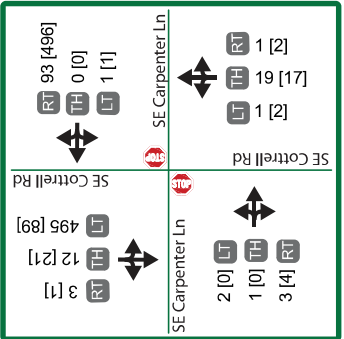
⑤ SE Altman Road at SE Dodge Park Boulevard



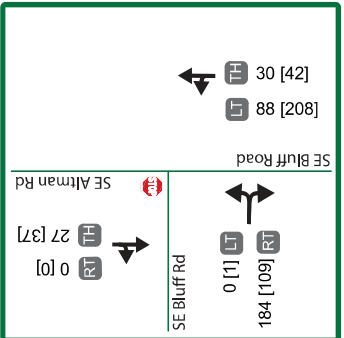
⑥ SE Cottrell Road at SE Dodge Park Boulevard



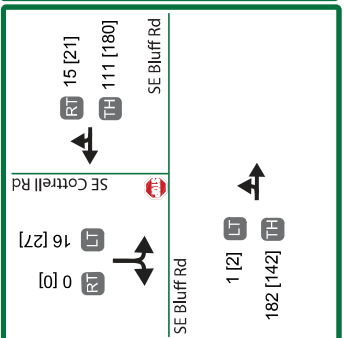
⑦ SE Altman Road at SE Carpenter Lane



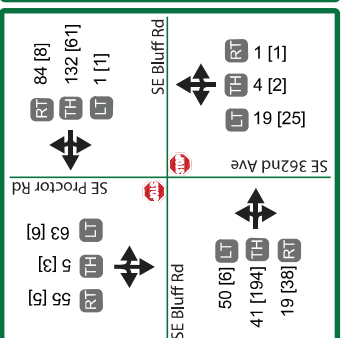
⑧ SE Cottrell Road at SE Carpenter Lane



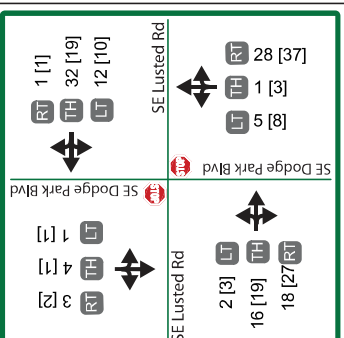
⑨ SE Altman Road at SE Bluff Road



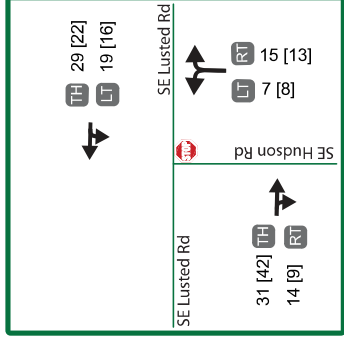
⑩ SE Cottrell Road at SE Bluff Road



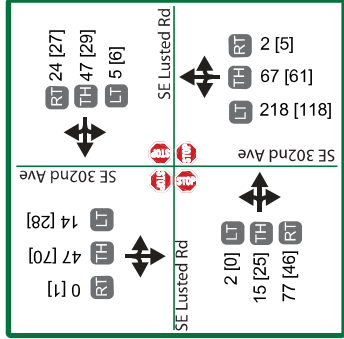
⑪ SE Bluff Road at SE Proctor Road



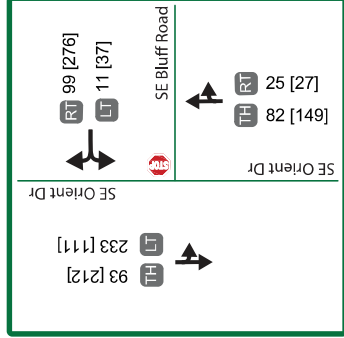
⑫ SE Dodge Park Boulevard at SE Lusted Road



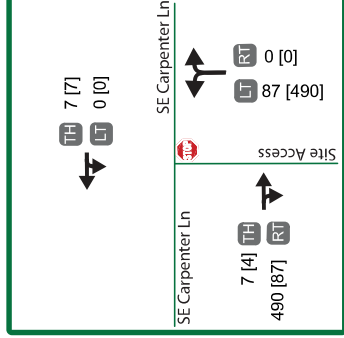
⑬ SE Lusted Road at SE Hudson Road



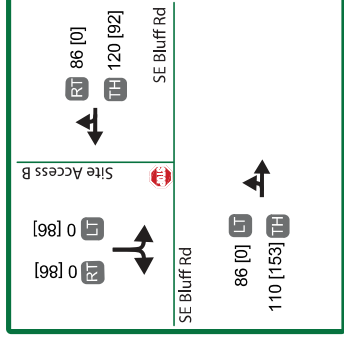
⑭ SE Lusted Road at SE 302nd Avenue



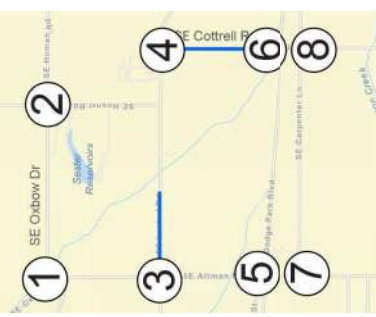
⑮ SE Orient Drive at SE Bluff Road



⑯ SE Carpenter Lane at Site Access A



⑰ SE Bluff Road at Site Access B



Appendix D: Traffic Volumes
2025 Peak Construction
Conditions Lusted Cottrell
Closure Scenario

⊗ = Study Intersection
↔ = Lane Configuration
↔ = Left / Through / Right Turn
↔ = Peak Hour Traffic Volumes
STOP = Stop Sign
— = Lusted/Cottrell Closure

HCM Unsignalized Intersection Capacity Analysis

1: SE Altman Road & SE Oxbow Drive

05/04/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	251	0	0	36	0	0
Future Volume (Veh/h)	251	0	0	36	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	326	0	0	47	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	326			373	326	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	326			373	326	
tC, single (s)	4.1			7.0	6.2	
tC, 2 stage (s)						
tF (s)	2.2			4.1	3.3	
p0 queue free %	100			100	100	
cM capacity (veh/h)	1245			525	720	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	326	47	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1245	1700			
Volume to Capacity	0.19	0.00	0.39			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	16.5%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 2: SE Hosner Road & SE Oxbow Drive/SE Homan Road

05/04/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	2	265	0	1	1	129	4	0	0	10	8
Future Volume (vph)	4	2	265	0	1	1	129	4	0	0	10	8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	5	3	344	0	1	1	168	5	0	0	13	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	352	2	173	23
Volume Left (vph)	5	0	168	0
Volume Right (vph)	344	1	0	10
Hadj (s)	-0.13	-0.30	0.71	-0.16
Departure Headway (s)	4.3	4.6	5.5	4.8
Degree Utilization, x	0.42	0.00	0.26	0.03
Capacity (veh/h)	797	727	623	677
Control Delay (s)	10.5	7.6	10.4	8.0
Approach Delay (s)	10.5	7.6	10.4	8.0
Approach LOS	B	A	B	A

Intersection Summary			
Delay		10.3	
Level of Service		B	
Intersection Capacity Utilization	40.9%		ICU Level of Service A
Analysis Period (min)		15	