

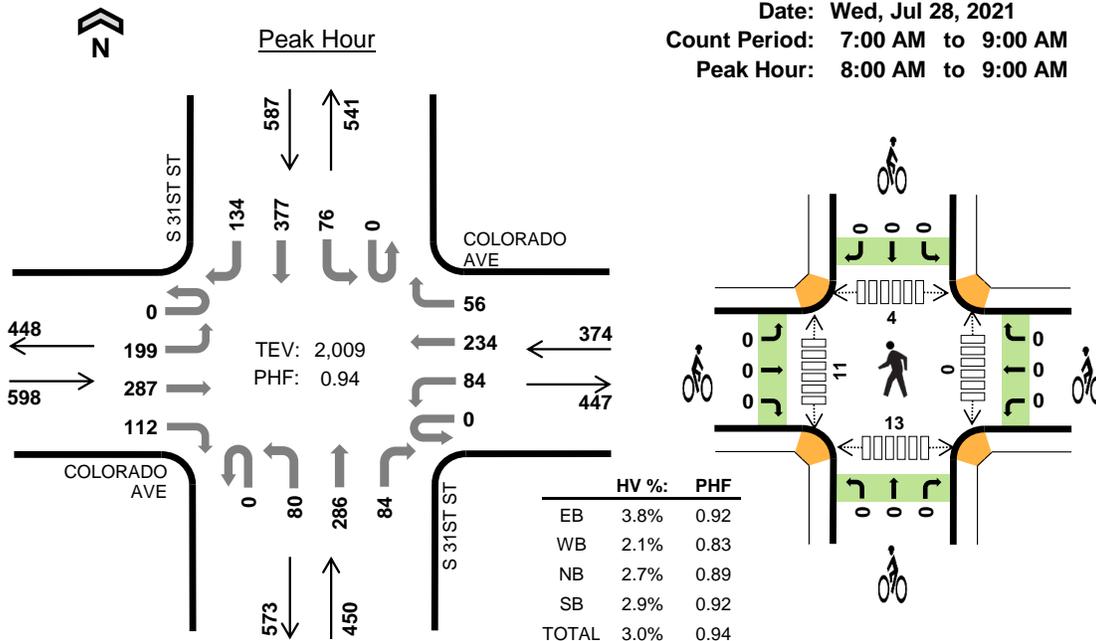
**MIDLAND CORRIDOR
TRAFFIC STUDY**

APPENDIX A
Count Data

S 31ST ST COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 8:00 AM to 9:00 AM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 31ST ST Northbound				S 31ST ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	37	41	24	0	21	23	7	0	15	61	12	1	12	67	22	343	0	
7:15 AM	0	52	41	26	0	16	37	7	0	12	67	15	0	16	65	16	370	0	
7:30 AM	0	62	59	26	0	18	41	14	0	18	74	16	0	17	75	25	445	0	
7:45 AM	0	44	42	23	0	16	44	10	0	24	94	10	0	18	102	35	462	1,620	
8:00 AM	0	52	75	26	0	24	47	15	0	16	65	11	0	18	80	30	459	1,736	
8:15 AM	0	52	61	22	0	25	46	10	0	20	72	26	0	25	98	37	494	1,860	
8:30 AM	0	59	72	32	0	15	78	19	0	16	76	22	0	19	99	29	536	1,951	
8:45 AM	0	36	79	32	0	20	63	12	0	28	73	25	0	14	100	38	520	2,009	
Count Total	0	394	470	211	0	155	379	94	0	149	582	137	1	139	686	232	3,629	0	
Peak Hour	All	0	199	287	112	0	84	234	56	0	80	286	84	0	76	377	134	2,009	0
	HV	0	4	14	5	0	2	5	1	0	5	5	2	0	1	11	5	60	0
	HV%	-	2%	5%	4%	-	2%	2%	2%	-	6%	2%	2%	-	1%	3%	4%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	1	2	4	9	0	0	0	0	0	1	0	0	0	1
7:15 AM	4	2	2	3	11	0	0	0	0	0	0	0	4	0	4
7:30 AM	4	3	2	0	9	0	0	0	0	0	0	2	0	1	3
7:45 AM	3	2	4	5	14	0	0	0	0	0	1	1	2	5	9
8:00 AM	7	1	1	5	14	0	0	0	0	0	0	1	0	5	6
8:15 AM	5	1	4	6	16	0	0	0	0	0	0	1	1	1	3
8:30 AM	4	3	3	3	13	0	0	0	0	0	0	1	2	1	4
8:45 AM	7	3	4	3	17	0	0	0	0	0	0	8	1	6	15
Count Total	36	16	22	29	103	0	0	0	0	0	2	14	10	19	45
Peak Hour	23	8	12	17	60	0	0	0	0	0	0	11	4	13	28

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	COLORADO AVE				COLORADO AVE				S 31ST ST				S 31ST ST				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	2	0	0	1	0	0	0	2	0	0	0	0	1	2	1	9	0
7:15 AM	0	1	1	2	0	1	1	0	0	0	2	0	0	0	0	3	0	11	0
7:30 AM	0	2	2	0	0	2	0	1	0	0	1	1	0	0	0	0	0	9	0
7:45 AM	0	0	2	1	0	0	2	0	0	0	2	2	0	0	0	5	0	14	43
8:00 AM	0	0	4	3	0	0	1	0	0	0	1	0	0	0	1	3	1	14	48
8:15 AM	0	1	4	0	0	0	1	0	0	0	1	2	1	0	0	3	3	16	53
8:30 AM	0	2	2	0	0	1	2	0	0	0	1	1	1	0	0	2	1	13	57
8:45 AM	0	1	4	2	0	1	1	1	0	0	2	2	0	0	0	3	0	17	60
Count Total	0	7	21	8	0	6	8	2	0	10	10	2	0	2	21	6	103	0	
Peak Hour	0	4	14	5	0	2	5	1	0	5	5	2	0	1	11	5	60	0	

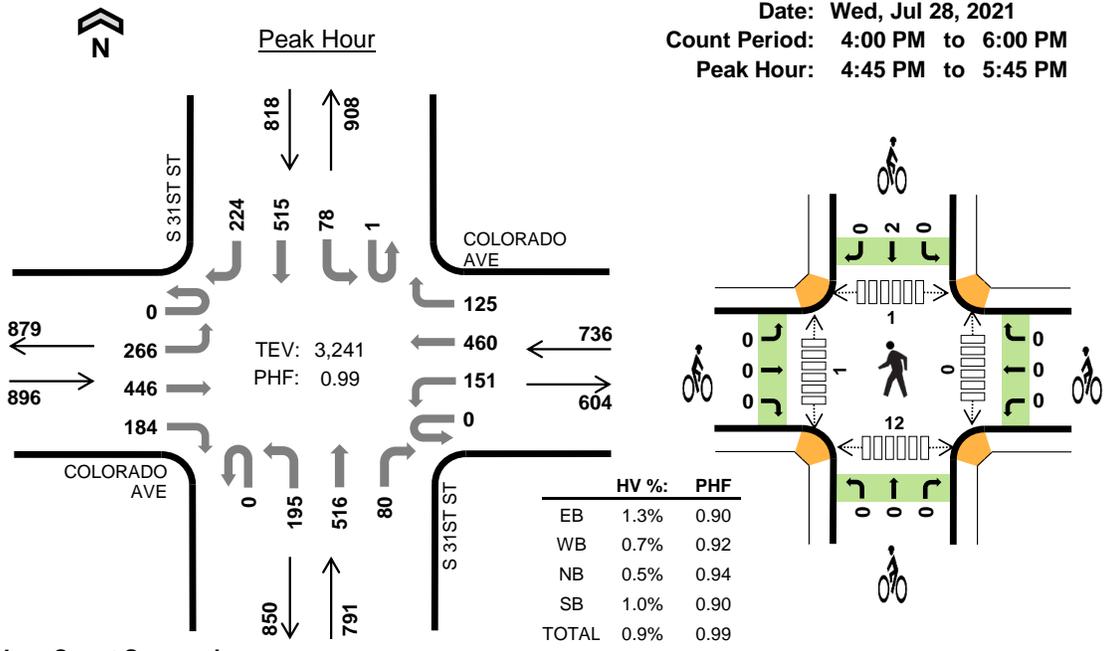
Two-Hour Count Summaries - Bikes																			
Interval Start	COLORADO AVE			COLORADO AVE			S 31ST ST			S 31ST ST			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S 31ST ST COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:45 PM to 5:45 PM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 31ST ST Northbound				S 31ST ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	87	133	33	0	35	113	32	0	40	116	14	0	14	110	61	788	0	
4:15 PM	0	58	118	45	0	28	120	40	0	30	133	28	0	29	129	55	813	0	
4:30 PM	0	65	131	44	0	27	116	27	1	30	123	28	1	19	114	35	761	0	
4:45 PM	0	64	99	47	0	46	120	35	0	48	126	33	0	19	137	41	815	3,177	
5:00 PM	0	77	126	47	0	39	108	23	0	46	129	13	0	17	123	62	810	3,199	
5:15 PM	0	70	122	41	0	31	124	40	0	47	122	17	1	17	121	52	805	3,191	
5:30 PM	0	55	99	49	0	35	108	27	0	54	139	17	0	25	134	69	811	3,241	
5:45 PM	0	65	115	38	0	43	129	36	0	59	120	17	0	21	111	59	813	3,239	
Count Total	0	541	943	344	0	284	938	260	1	354	1,008	167	2	161	979	434	6,416	0	
Peak Hour	All	0	266	446	184	0	151	460	125	0	195	516	80	1	78	515	224	3,241	0
	HV	0	3	6	3	0	0	2	3	0	0	4	0	0	1	6	1	29	0
	HV%	-	1%	1%	2%	-	0%	0%	2%	-	0%	1%	0%	0%	1%	1%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	2	0	1	5	0	0	0	0	0	0	0	0	1	1
4:15 PM	2	2	6	1	11	0	0	0	0	0	1	2	3	0	6
4:30 PM	3	1	1	1	6	0	0	0	0	0	0	1	3	4	8
4:45 PM	5	3	1	2	11	0	0	0	0	0	0	0	0	4	4
5:00 PM	5	1	0	1	7	0	0	0	0	0	0	1	0	2	3
5:15 PM	1	1	1	0	3	0	0	0	0	0	0	0	0	4	4
5:30 PM	1	0	2	5	8	0	0	0	2	2	0	0	1	2	3
5:45 PM	2	1	0	3	6	0	0	0	2	2	2	0	2	1	5
Count Total	21	11	11	14	57	0	0	0	4	4	3	4	9	18	34
Peak Hour	12	5	4	8	29	0	0	0	2	2	0	1	1	12	14

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	COLORADO AVE				COLORADO AVE				S 31ST ST				S 31ST ST				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	1	5	0
4:15 PM	0	0	2	0	0	0	2	0	0	2	4	0	0	0	0	1	11	0
4:30 PM	0	0	3	0	0	0	1	0	0	0	1	0	0	0	1	0	6	0
4:45 PM	0	2	2	1	0	0	1	2	0	0	1	0	0	0	1	1	11	33
5:00 PM	0	1	3	1	0	0	1	0	0	0	0	0	0	0	1	0	7	35
5:15 PM	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	3	27
5:30 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	1	4	0	8	29
5:45 PM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	2	1	6	24
Count Total	0	3	14	4	0	0	7	4	0	2	9	0	0	1	9	4	57	0
Peak Hour	0	3	6	3	0	0	2	3	0	0	4	0	0	1	6	1	29	0

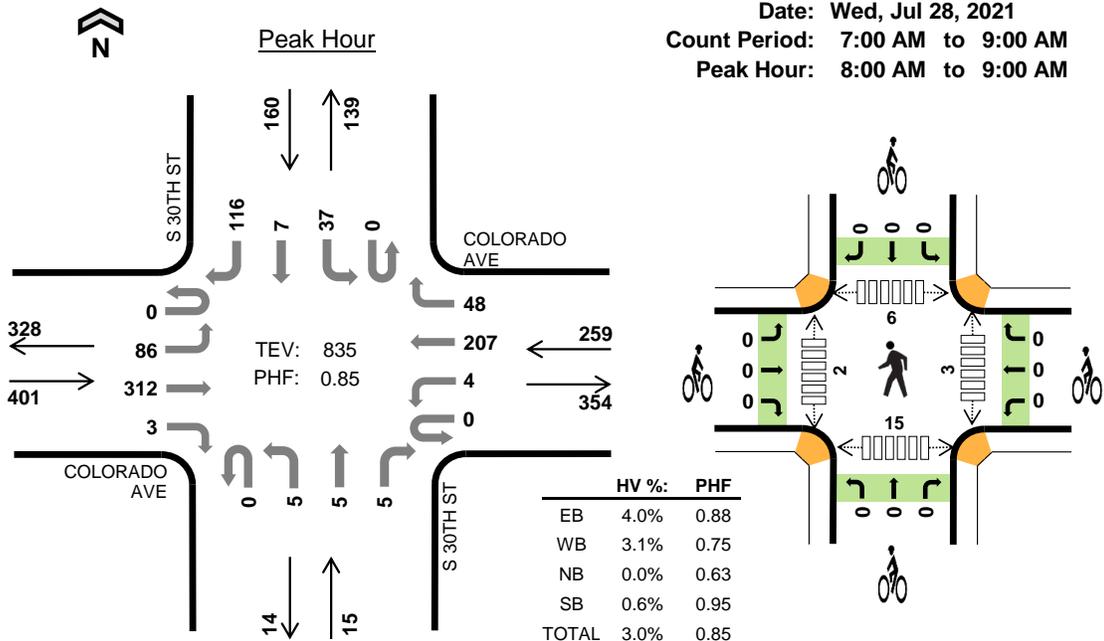
Two-Hour Count Summaries - Bikes																	
Interval Start	COLORADO AVE			COLORADO AVE			S 31ST ST			S 31ST ST			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	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
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S 30TH ST COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 8:00 AM to 9:00 AM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 30TH ST Northbound				S 30TH ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	24	37	0	0	1	31	6	0	0	1	1	0	3	1	16	121	0	
7:15 AM	0	16	43	0	0	1	27	6	0	3	0	0	0	12	0	23	131	0	
7:30 AM	0	22	64	0	0	0	37	7	0	0	0	0	0	7	0	29	166	0	
7:45 AM	0	22	50	1	0	0	43	9	0	0	0	1	0	15	1	24	166	584	
8:00 AM	0	21	65	0	0	2	44	9	0	1	1	1	0	10	0	26	180	643	
8:15 AM	0	19	74	0	0	1	43	13	0	1	0	0	0	7	5	29	192	704	
8:30 AM	0	27	84	3	0	0	70	16	0	2	2	2	0	8	1	32	247	785	
8:45 AM	0	19	89	0	0	1	50	10	0	1	2	2	0	12	1	29	216	835	
Count Total	0	170	506	4	0	6	345	76	0	8	6	7	0	74	9	208	1,419	0	
Peak Hour	All	0	86	312	3	0	4	207	48	0	5	5	5	0	37	7	116	835	0
	HV	0	4	12	0	0	0	6	2	0	0	0	0	0	0	0	1	25	0
	HV%	-	5%	4%	0%	-	0%	3%	4%	-	0%	0%	0%	-	0%	0%	1%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total	
7:00 AM	2	1	0	1	4	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	2	0	3
7:30 AM	3	4	0	1	8	0	0	0	0	0	0	1	3	3	7	
7:45 AM	2	2	0	0	4	0	0	0	0	0	0	0	1	4	5	
8:00 AM	2	1	0	0	3	0	0	0	0	0	1	0	0	1	2	
8:15 AM	6	0	0	1	7	0	0	0	0	0	0	1	0	6	7	
8:30 AM	4	5	0	0	9	0	0	0	0	0	2	1	6	4	13	
8:45 AM	4	2	0	0	6	0	0	0	0	0	0	0	0	4	4	
Count Total	24	15	0	3	42	0	0	0	0	0	3	4	12	23	42	
Peak Hour	16	8	0	1	25	0	0	0	0	0	3	2	6	15	26	

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	COLORADO AVE				COLORADO AVE				S 30TH ST				S 30TH ST				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	4	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	1	8	0
7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	17
8:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	16
8:15 AM	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	1	7	22
8:30 AM	0	1	3	0	0	0	3	2	0	0	0	0	0	0	0	0	9	23
8:45 AM	0	1	3	0	0	0	2	0	0	0	0	0	0	0	0	0	6	25
Count Total	0	4	20	0	0	0	13	2	0	0	0	0	0	1	0	2	42	0
Peak Hour	0	4	12	0	0	0	6	2	0	0	0	0	0	0	0	1	25	0

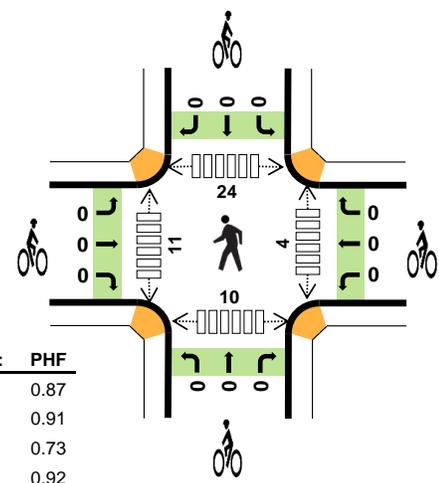
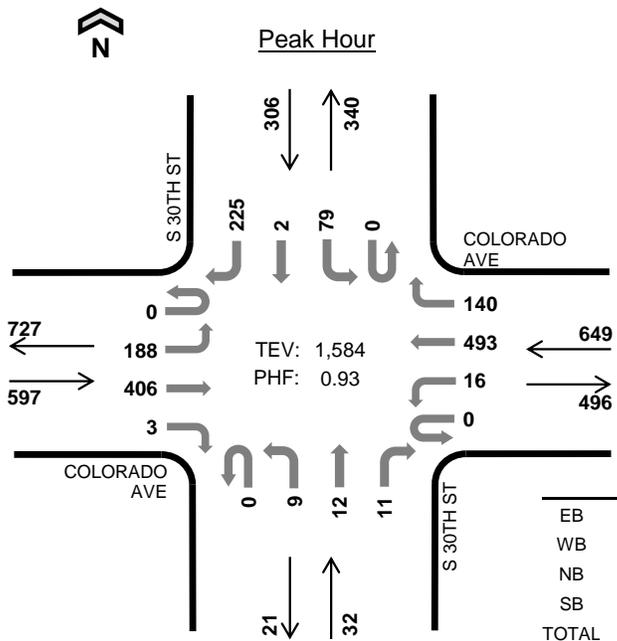
Two-Hour Count Summaries - Bikes																		
Interval Start	COLORADO AVE			COLORADO AVE			S 30TH ST			S 30TH ST			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S 30TH ST COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	1.2%	0.87
WB	0.5%	0.91
NB	0.0%	0.73
SB	0.3%	0.92
TOTAL	0.7%	0.93

Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 30TH ST Northbound				S 30TH ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	46	94	0	0	6	108	27	0	4	2	5	0	16	1	45	354	0	
4:15 PM	0	52	126	1	0	2	132	30	0	4	3	2	0	20	1	43	416	0	
4:30 PM	0	47	105	0	0	3	109	21	0	1	5	1	0	20	0	48	360	0	
4:45 PM	0	49	104	2	0	6	136	36	0	3	3	5	0	22	0	61	427	1,557	
5:00 PM	0	35	94	0	0	3	110	26	0	3	0	1	0	16	0	58	346	1,549	
5:15 PM	0	60	111	0	0	4	126	43	0	1	5	4	0	20	2	52	428	1,561	
5:30 PM	0	44	97	1	0	3	121	35	0	2	4	1	0	21	0	54	383	1,584	
5:45 PM	0	32	112	1	0	1	127	36	0	0	1	0	0	7	0	61	378	1,535	
Count Total	0	365	843	5	0	28	969	254	0	18	23	19	0	142	4	422	3,092	0	
Peak Hour	All	0	188	406	3	0	16	493	140	0	9	12	11	0	79	2	225	1,584	0
	HV	0	0	7	0	0	0	3	0	0	0	0	0	0	1	0	0	11	0
	HV%	-	0%	2%	0%	-	0%	1%	0%	-	0%	0%	0%	-	1%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

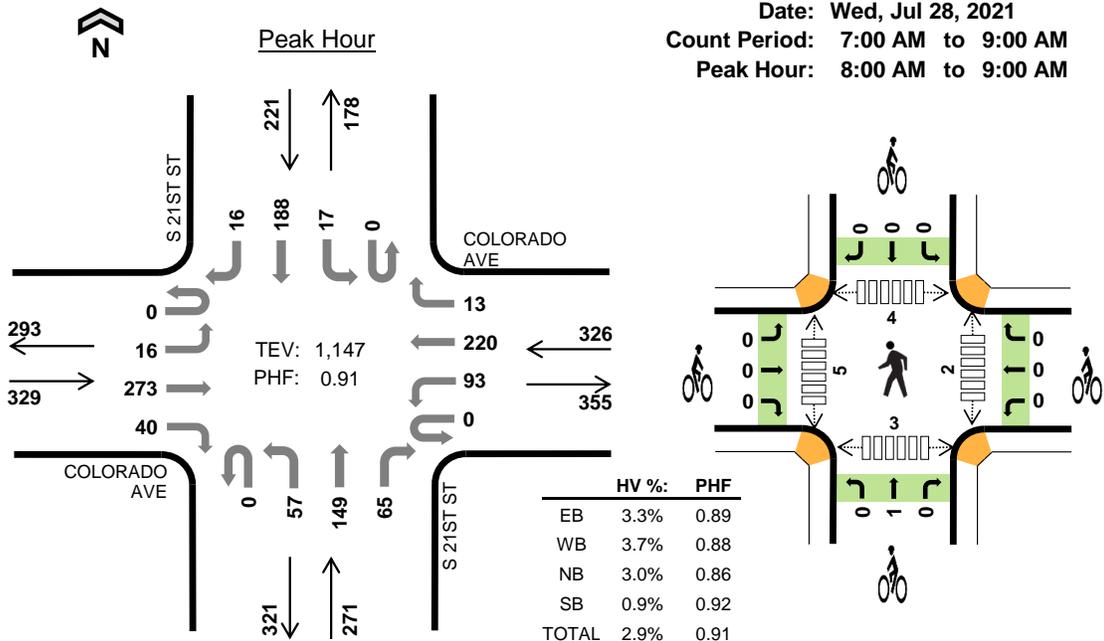
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	2	0	0	5	0	0	0	0	0	1	1	5	0	7
4:15 PM	1	3	0	0	4	0	0	0	0	0	0	0	6	3	9
4:30 PM	2	2	0	2	6	0	0	0	0	0	2	0	2	2	6
4:45 PM	2	1	0	0	3	0	0	0	0	0	1	1	5	4	11
5:00 PM	1	1	0	1	3	0	0	0	0	0	0	0	8	0	8
5:15 PM	2	1	0	0	3	0	0	0	0	0	0	8	4	3	15
5:30 PM	2	0	0	0	2	0	0	0	0	0	3	2	7	3	15
5:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	4	3	8
Count Total	14	10	0	3	27	0	0	0	0	0	8	12	41	18	79
Peak Hour	7	3	0	1	11	0	0	0	0	0	4	11	24	10	49

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	COLORADO AVE				COLORADO AVE				S 30TH ST				S 30TH ST				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0
4:15 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0
4:30 PM	0	0	2	0	0	0	1	1	0	0	0	0	0	0	2	0	6	0
4:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	18
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	3	16
5:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	15
5:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9
Count Total	0	1	13	0	0	0	9	1	0	0	0	0	0	3	0	0	27	0
Peak Hour	0	0	7	0	0	0	3	0	0	0	0	0	0	1	0	0	11	0
Two-Hour Count Summaries - Bikes																		
Interval Start	COLORADO AVE			COLORADO AVE			S 30TH ST			S 30TH ST			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	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
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

S 21ST ST COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 8:00 AM to 9:00 AM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 21ST ST Northbound				S 21ST ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	4	28	7	0	11	27	1	0	5	14	12	0	3	22	3	137	0	
7:15 AM	0	3	52	12	0	16	26	2	0	8	13	19	0	0	38	1	190	0	
7:30 AM	0	1	52	10	0	27	33	1	0	11	32	12	0	6	40	1	226	0	
7:45 AM	0	5	61	17	0	34	59	2	0	8	24	32	0	7	52	4	305	858	
8:00 AM	0	3	50	9	0	16	43	1	0	9	30	13	0	4	46	5	229	950	
8:15 AM	0	2	79	8	0	24	62	3	0	9	40	13	0	2	48	2	292	1,052	
8:30 AM	0	9	66	17	0	29	53	2	0	22	38	18	0	4	53	3	314	1,140	
8:45 AM	0	2	78	6	0	24	62	7	0	17	41	21	0	7	41	6	312	1,147	
Count Total	0	29	466	86	0	181	365	19	0	89	232	140	0	33	340	25	2,005	0	
Peak Hour	All	0	16	273	40	0	93	220	13	0	57	149	65	0	17	188	16	1,147	0
	HV	0	0	11	0	0	4	7	1	0	2	4	2	0	0	2	0	33	0
	HV%	-	0%	4%	0%	-	4%	3%	8%	-	4%	3%	3%	-	0%	1%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

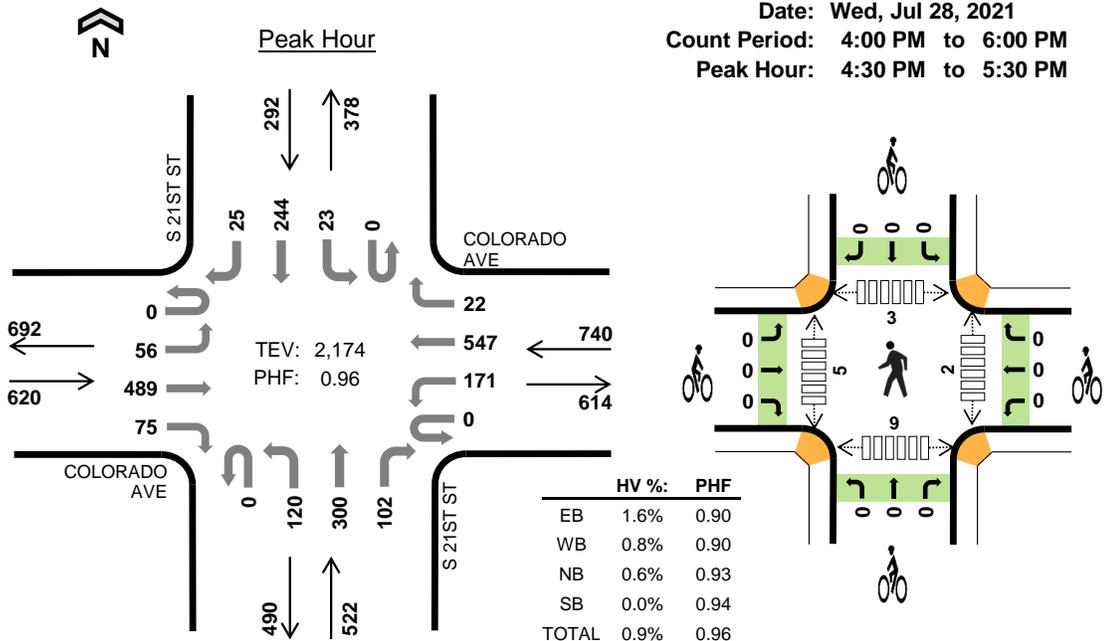
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	1	1	0	3	0	0	0	0	0	1	1	2	0	4
7:15 AM	2	3	1	0	6	0	0	0	1	1	1	0	0	1	2
7:30 AM	3	1	2	1	7	0	0	0	0	0	0	1	1	0	2
7:45 AM	3	3	0	0	6	0	0	0	1	1	1	1	0	0	2
8:00 AM	2	2	0	0	4	0	0	0	0	0	0	0	1	0	1
8:15 AM	3	3	1	0	7	0	0	1	0	1	1	1	0	0	2
8:30 AM	2	4	4	1	11	0	0	0	0	0	0	3	2	0	5
8:45 AM	4	3	3	1	11	0	0	0	0	0	1	1	1	3	6
Count Total	20	20	12	3	55	0	0	1	2	3	5	8	7	4	24
Peak Hour	11	12	8	2	33	0	0	1	0	1	2	5	4	3	14

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	COLORADO AVE				COLORADO AVE				S 21ST ST				S 21ST ST				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0
7:15 AM	0	0	2	0	0	1	2	0	0	0	0	1	0	0	0	0	6	0
7:30 AM	0	0	2	1	0	0	1	0	0	0	1	1	0	0	1	0	7	0
7:45 AM	0	0	2	1	0	1	2	0	0	0	0	0	0	0	0	0	6	22
8:00 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	23
8:15 AM	0	0	3	0	0	2	1	0	0	0	1	0	0	0	0	0	7	24
8:30 AM	0	0	2	0	0	2	2	0	0	2	1	1	0	0	1	0	11	28
8:45 AM	0	0	4	0	0	0	2	1	0	0	2	1	0	0	1	0	11	33
Count Total	0	0	18	2	0	6	13	1	0	3	5	4	0	0	3	0	55	0
Peak Hour	0	0	11	0	0	4	7	1	0	2	4	2	0	0	2	0	33	0
Two-Hour Count Summaries - Bikes																		
Interval Start	COLORADO AVE			COLORADO AVE			S 21ST ST			S 21ST ST			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	1	0	0	2	0	0	2	0	3	0
Peak Hour	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

S 21ST ST COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 21ST ST Northbound				S 21ST ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	6	110	23	0	50	138	6	0	30	67	26	0	6	47	6	515	0	
4:15 PM	0	20	128	23	0	41	125	7	0	25	77	20	0	7	62	4	539	0	
4:30 PM	0	16	124	11	0	43	125	5	0	30	67	32	0	10	51	6	520	0	
4:45 PM	0	15	113	13	0	30	140	4	0	38	80	23	0	6	59	6	527	2,101	
5:00 PM	0	17	125	30	0	49	135	4	0	24	77	23	0	3	69	4	560	2,146	
5:15 PM	0	8	127	21	0	49	147	9	0	28	76	24	0	4	65	9	567	2,174	
5:30 PM	0	8	98	20	0	38	138	3	0	39	61	23	0	9	41	11	489	2,143	
5:45 PM	0	12	107	15	0	34	124	5	0	28	74	26	0	9	57	10	501	2,117	
Count Total	0	102	932	156	0	334	1,072	43	0	242	579	197	0	54	451	56	4,218	0	
Peak Hour	All	0	56	489	75	0	171	547	22	0	120	300	102	0	23	244	25	2,174	0
	HV	0	0	8	2	0	0	6	0	0	3	0	0	0	0	0	0	19	0
	HV%	-	0%	2%	3%	-	0%	1%	0%	-	3%	0%	0%	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	2	1	0	6	0	0	0	0	0	0	1	0	0	3
4:15 PM	3	1	0	1	5	0	0	1	0	1	0	3	2	1	6
4:30 PM	2	3	1	0	6	0	0	0	0	0	1	0	1	1	3
4:45 PM	3	2	1	0	6	0	0	0	0	0	0	0	2	4	6
5:00 PM	3	0	1	0	4	0	0	0	0	0	0	3	0	4	7
5:15 PM	2	1	0	0	3	0	0	0	0	0	1	2	0	0	3
5:30 PM	3	1	0	0	4	0	0	0	0	0	1	0	0	5	6
5:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	2	1	3
Count Total	20	10	4	1	35	0	0	1	0	1	3	9	7	19	38
Peak Hour	10	6	3	0	19	0	0	0	0	0	2	5	3	9	19

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	COLORADO AVE				COLORADO AVE				S 21ST ST				S 21ST ST				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	2	1	0	1	1	0	0	0	1	0	0	0	0	0	6	0	
4:15 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	1	0	5	0
4:30 PM	0	0	2	0	0	0	3	0	0	1	0	0	0	0	0	0	0	6	0
4:45 PM	0	0	3	0	0	0	2	0	0	1	0	0	0	0	0	0	0	6	23
5:00 PM	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	4	21
5:15 PM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	19
5:30 PM	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4	17
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
Count Total	0	0	16	4	0	1	9	0	0	3	1	0	0	0	1	0	35	0	
Peak Hour	0	0	8	2	0	0	6	0	0	3	0	0	0	0	0	0	19	0	

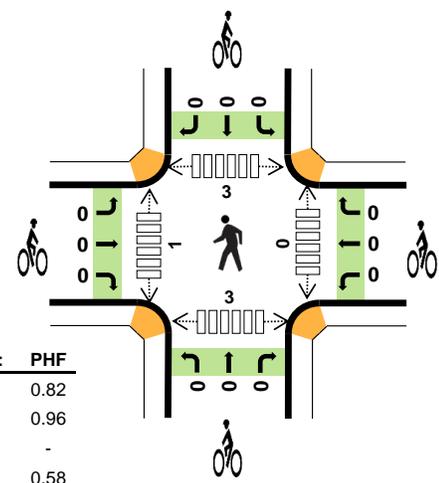
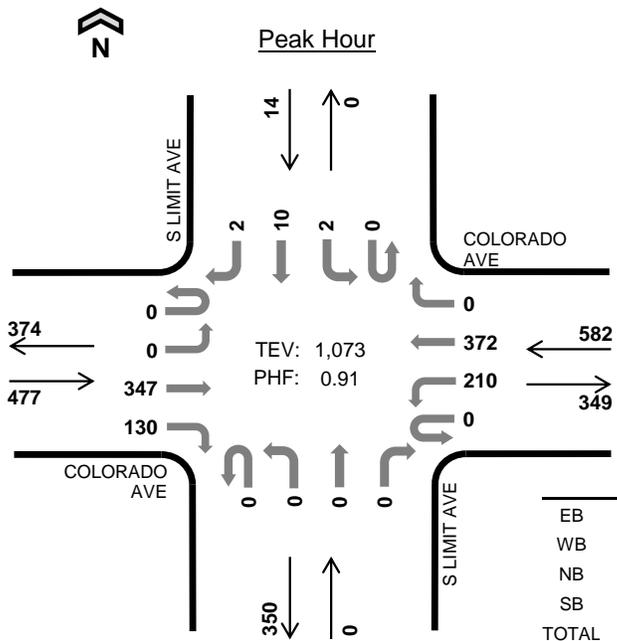
Two-Hour Count Summaries - Bikes																			
Interval Start	COLORADO AVE			COLORADO AVE			S 21ST ST			S 21ST ST			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S LIMIT AVE COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	3.4%	0.82
WB	2.9%	0.96
NB	-	-
SB	0.0%	0.58
TOTAL	3.1%	0.91

Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S LIMIT AVE Northbound				S LIMIT AVE Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	52	19	0	24	48	0	0	0	0	0	0	0	3	0	146	0	
7:15 AM	0	0	60	24	0	41	49	0	0	0	0	0	0	0	1	2	177	0	
7:30 AM	0	0	67	30	0	51	82	0	0	0	0	0	0	1	5	1	237	0	
7:45 AM	0	0	108	37	0	48	98	0	0	0	0	0	0	1	2	0	294	854	
8:00 AM	0	0	71	25	0	57	85	0	0	0	0	0	0	0	2	0	240	948	
8:15 AM	0	0	86	32	0	49	102	0	0	0	0	0	0	0	2	1	272	1,043	
8:30 AM	0	0	82	36	0	56	87	0	0	0	0	0	0	1	4	1	267	1,073	
8:45 AM	0	0	67	39	0	48	99	0	0	0	0	0	0	1	2	2	258	1,037	
Count Total	0	0	593	242	0	374	650	0	0	0	0	0	0	4	21	7	1,891	0	
Peak Hour	All	0	0	347	130	0	210	372	0	0	0	0	0	0	2	10	2	1,073	0
	HV	0	0	14	2	0	5	12	0	0	0	0	0	0	0	0	0	33	0
	HV%	-	-	4%	2%	-	2%	3%	-	-	-	-	-	-	0%	0%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

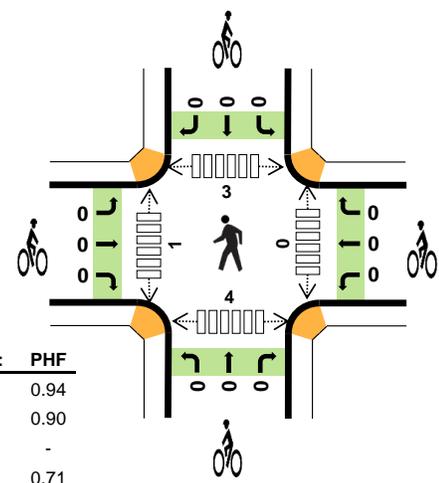
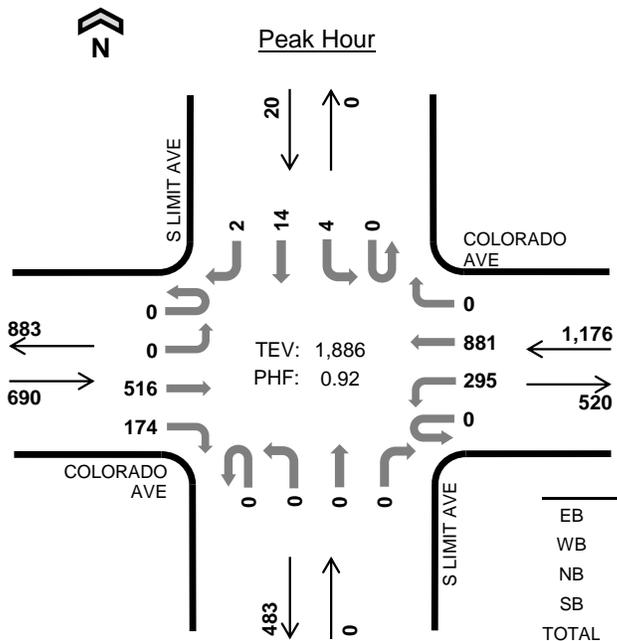
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0
7:15 AM	2	4	0	2	8	0	0	0	0	0	0	1	0	0	3
7:30 AM	3	2	0	0	5	0	0	0	0	0	0	1	6	0	7
7:45 AM	3	3	0	0	6	0	0	0	0	0	0	0	1	1	2
8:00 AM	4	4	0	0	8	0	0	0	0	0	0	0	0	0	0
8:15 AM	4	5	0	0	9	0	0	0	0	0	0	0	1	0	1
8:30 AM	5	5	0	0	10	0	0	0	0	0	0	1	1	2	4
8:45 AM	2	5	0	0	7	0	0	0	0	0	0	0	0	1	1
Count Total	26	31	0	2	59	0	0	0	0	0	0	3	9	7	19
Peak Hour	16	17	0	0	33	0	0	0	0	0	0	1	3	3	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	COLORADO AVE				COLORADO AVE				S LIMIT AVE				S LIMIT AVE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	2	0	1	2	0	0	0	0	0	0	0	0	0	6	0
7:15 AM	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	0	8	0
7:30 AM	0	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0	5	0
7:45 AM	0	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	6	25
8:00 AM	0	0	4	0	0	2	2	0	0	0	0	0	0	0	0	0	8	27
8:15 AM	0	0	3	1	0	1	4	0	0	0	0	0	0	0	0	0	9	28
8:30 AM	0	0	5	0	0	2	3	0	0	0	0	0	0	0	0	0	10	33
8:45 AM	0	0	2	0	0	1	4	0	0	0	0	0	0	0	0	0	7	34
Count Total	0	0	22	4	0	11	20	0	0	0	0	0	0	0	2	59	0	
Peak Hour	0	0	14	2	0	5	12	0	0	0	0	0	0	0	0	33	0	
Two-Hour Count Summaries - Bikes																		
Interval Start	COLORADO AVE			COLORADO AVE			S LIMIT AVE			S LIMIT AVE			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

S LIMIT AVE COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.6%	0.94
WB	0.8%	0.90
NB	-	-
SB	0.0%	0.71
TOTAL	1.1%	0.92

Two-Hour Count Summaries

Interval Start	COLORADO AVE				COLORADO AVE				S LIMIT AVE				S LIMIT AVE				15-min Total	Rolling One Hour	
	Eastbound		Westbound		Northbound		Southbound		Northbound		Southbound		Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	131	48	0	64	221	0	0	0	0	0	0	1	5	1	471	0	
4:15 PM	0	0	123	42	0	77	212	0	0	0	0	0	0	3	5	0	462	0	
4:30 PM	0	0	137	46	0	60	194	0	0	0	0	0	0	1	4	1	443	0	
4:45 PM	0	0	113	49	0	78	221	0	0	0	0	0	0	0	1	1	463	1,839	
5:00 PM	0	0	130	36	0	81	214	0	0	0	0	0	0	1	6	0	468	1,836	
5:15 PM	0	0	136	43	0	76	252	0	0	0	0	0	0	2	3	0	512	1,886	
5:30 PM	0	0	125	35	0	68	201	0	0	0	0	0	0	0	6	1	436	1,879	
5:45 PM	0	0	126	61	0	60	200	0	0	0	0	0	0	1	2	1	451	1,867	
Count Total	0	0	1,021	360	0	564	1,715	0	0	0	0	0	0	9	32	5	3,706	0	
Peak Hour	All	0	0	516	174	0	295	881	0	0	0	0	0	0	4	14	2	1,886	0
	HV	0	0	10	1	0	2	7	0	0	0	0	0	0	0	0	0	20	0
	HV%	-	-	2%	1%	-	1%	1%	-	-	-	-	-	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total	
4:00 PM	2	4	0	0	6	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	4	3	0	1	8	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	2	0	0	4	0	0	0	0	0	0	0	2	1	3	
4:45 PM	4	4	0	0	8	0	0	0	0	0	0	0	0	1	1	
5:00 PM	4	1	0	0	5	0	0	0	0	0	0	0	1	1	2	
5:15 PM	1	2	0	0	3	0	0	0	0	0	0	1	0	1	2	
5:30 PM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	
5:45 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	
Count Total	20	19	0	1	40	0	0	0	0	0	0	1	4	4	9	
Peak Hour	11	9	0	0	20	0	0	0	0	0	0	1	3	4	8	

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	COLORADO AVE				COLORADO AVE				S LIMIT AVE				S LIMIT AVE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	1	3	0	0	0	0	0	0	0	0	0	6	0
4:15 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	1	0	8	0
4:30 PM	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	4	0
4:45 PM	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	8	26
5:00 PM	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	5	25
5:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	20
5:30 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	20
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	14
Count Total	0	0	19	1	0	3	16	0	0	0	0	0	0	1	0	0	40	0
Peak Hour	0	0	10	1	0	2	7	0	0	0	0	0	0	0	0	0	20	0

Two-Hour Count Summaries - Bikes																		
Interval Start	COLORADO AVE			COLORADO AVE			S LIMIT AVE			S LIMIT AVE			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	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
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

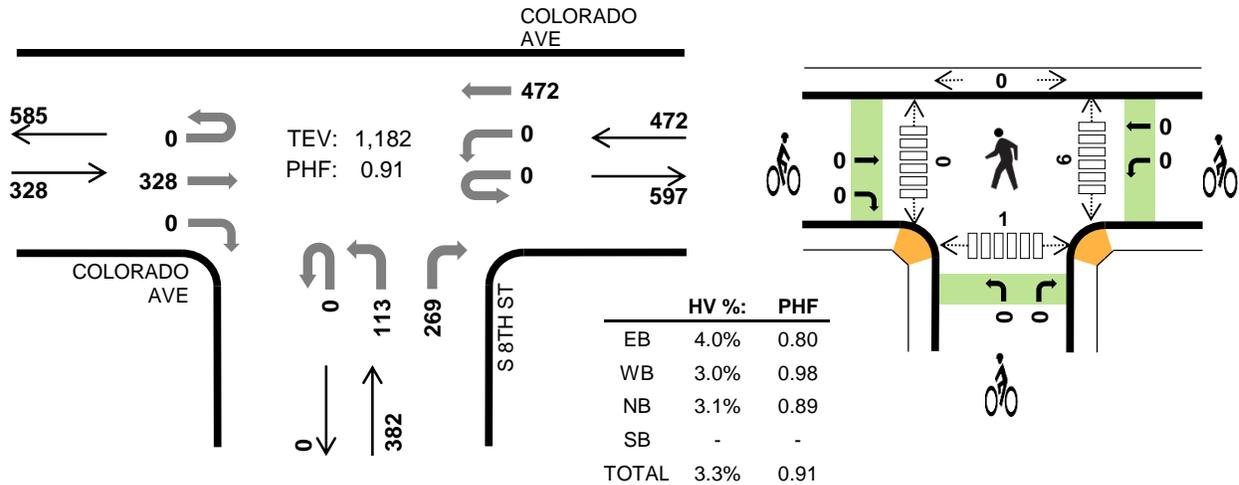
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S 8TH ST COLORADO AVE



Peak Hour

Date: Wed, Jul 28, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 8TH ST Northbound				S 8TH ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	55	0	0	0	64	0	0	11	0	42	0	0	0	0	172	0	
7:15 AM	0	0	58	0	0	0	75	0	0	21	0	35	0	0	0	0	189	0	
7:30 AM	0	0	69	0	0	0	124	0	0	20	0	58	0	0	0	0	271	0	
7:45 AM	0	0	103	0	0	0	120	0	0	23	0	78	0	0	0	0	324	956	
8:00 AM	0	0	66	0	0	0	119	0	0	29	0	78	0	0	0	0	292	1,076	
8:15 AM	0	0	77	0	0	0	120	0	0	30	0	52	0	0	0	0	279	1,166	
8:30 AM	0	0	82	0	0	0	113	0	0	31	0	61	0	0	0	0	287	1,182	
8:45 AM	0	0	72	0	0	0	115	0	0	37	0	56	0	0	0	0	280	1,138	
Count Total	0	0	582	0	0	0	850	0	0	202	0	460	0	0	0	0	2,094	0	
Peak Hour	All	0	0	328	0	0	0	472	0	0	113	0	269	0	0	0	0	1,182	0
	HV	0	0	13	0	0	0	14	0	0	6	0	6	0	0	0	0	39	0
	HV%	-	-	4%	-	-	-	3%	-	-	5%	-	2%	-	-	-	-	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	2	3	0	8	0	0	0	0	0	1	0	0	0	1
7:15 AM	1	2	2	0	5	0	0	0	0	0	1	0	0	2	3
7:30 AM	3	2	1	0	6	0	0	0	0	0	1	0	0	0	1
7:45 AM	1	3	4	0	8	0	0	0	0	0	1	0	0	1	2
8:00 AM	4	5	3	0	12	0	0	0	0	0	1	0	0	0	1
8:15 AM	1	3	2	0	6	0	0	0	0	0	2	0	0	0	2
8:30 AM	7	3	3	0	13	0	0	0	0	0	2	0	0	0	2
8:45 AM	2	3	1	0	6	0	0	0	0	0	2	0	0	1	3
Count Total	22	23	19	0	64	0	0	0	0	0	11	0	0	4	15
Peak Hr	13	14	12	0	39	0	0	0	0	0	6	0	0	1	7

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	COLORADO AVE				COLORADO AVE				S 8TH ST				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	0	2	0	0	0	0	3	0	0	0	0	8	0
7:15 AM	0	0	1	0	0	0	2	0	0	1	0	1	0	0	0	0	5	0
7:30 AM	0	0	3	0	0	0	2	0	0	0	0	1	0	0	0	0	6	0
7:45 AM	0	0	1	0	0	0	3	0	0	2	0	2	0	0	0	0	8	27
8:00 AM	0	0	4	0	0	0	5	0	0	1	0	2	0	0	0	0	12	31
8:15 AM	0	0	1	0	0	0	3	0	0	1	0	1	0	0	0	0	6	32
8:30 AM	0	0	7	0	0	0	3	0	0	2	0	1	0	0	0	0	13	39
8:45 AM	0	0	2	0	0	0	3	0	0	1	0	0	0	0	0	0	6	37
Count Total	0	0	22	0	0	0	23	0	0	8	0	11	0	0	0	0	64	0
Peak Hour	0	0	13	0	0	0	14	0	0	6	0	6	0	0	0	0	39	0

Two-Hour Count Summaries - Bikes

Interval Start	COLORADO AVE			COLORADO AVE			S 8TH ST			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

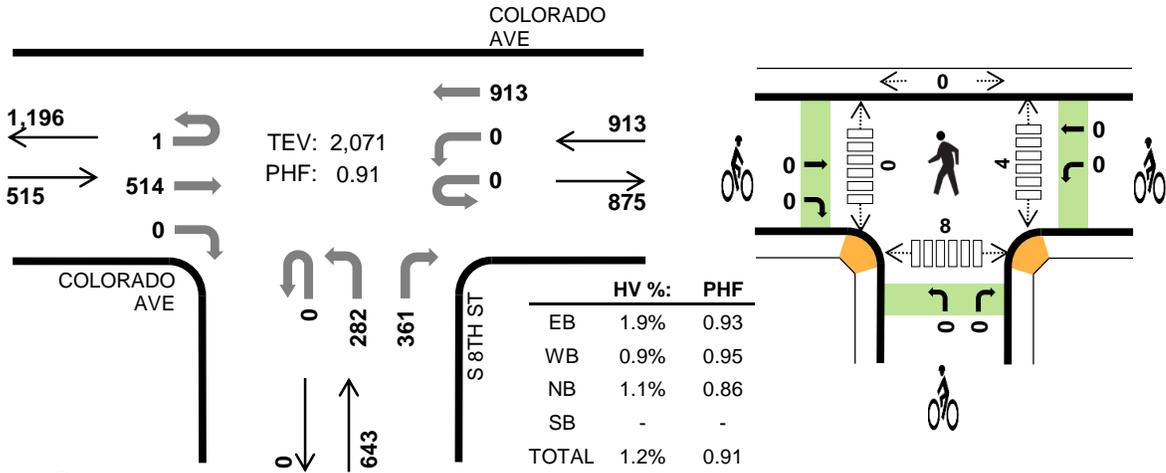
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S 8TH ST COLORADO AVE



Peak Hour

Date: Wed, Jul 28, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				S 8TH ST Northbound				0 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	129	0	0	0	211	0	0	72	0	102	0	0	0	0	514	0	
4:15 PM	0	0	130	0	0	0	222	0	0	66	0	99	0	0	0	0	517	0	
4:30 PM	0	0	134	0	0	0	203	0	0	57	0	99	0	0	0	0	493	0	
4:45 PM	0	0	112	0	0	0	234	0	0	69	0	88	0	0	0	0	503	2,027	
5:00 PM	0	0	130	0	0	0	235	0	0	67	0	76	0	0	0	0	508	2,021	
5:15 PM	1	0	138	0	0	0	241	0	0	89	0	98	0	0	0	0	567	2,071	
5:30 PM	0	0	121	0	0	0	213	0	0	71	0	85	0	0	0	0	490	2,068	
5:45 PM	0	0	121	0	0	0	179	0	0	83	0	100	0	0	0	0	483	2,048	
Count Total	1	0	1,015	0	0	0	1,738	0	0	574	0	747	0	0	0	0	4,075	0	
Peak Hour	All	1	0	514	0	0	0	913	0	0	282	0	361	0	0	0	0	2,071	0
	HV	0	0	10	0	0	0	8	0	0	2	0	5	0	0	0	0	25	0
	HV%	0%	-	2%	-	-	-	1%	-	-	1%	-	1%	-	-	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	3	3	0	9	0	0	0	0	0	1	0	0	0	1
4:15 PM	3	2	0	0	5	0	0	0	0	0	1	0	0	0	1
4:30 PM	2	1	2	0	5	0	0	0	0	0	0	0	0	2	2
4:45 PM	3	4	1	0	8	0	0	0	0	0	1	0	0	2	3
5:00 PM	3	1	2	0	6	0	0	0	0	0	2	0	0	1	3
5:15 PM	2	2	2	0	6	0	0	0	0	0	1	0	0	3	4
5:30 PM	2	2	2	0	6	0	0	0	0	0	3	0	0	0	3
5:45 PM	1	2	1	0	4	0	0	0	0	0	0	0	0	1	1
Count Total	19	17	13	0	49	0	0	0	0	0	9	0	0	9	18
Peak Hr	10	8	7	0	25	0	0	0	0	0	4	0	0	8	12

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	COLORADO AVE				COLORADO AVE				S 8TH ST				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	3	0	0	0	3	0	0	1	0	2	0	0	0	0	9	0
4:15 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0
4:30 PM	0	0	2	0	0	0	1	0	0	1	0	1	0	0	0	0	5	0
4:45 PM	0	0	3	0	0	0	4	0	0	1	0	0	0	0	0	0	8	27
5:00 PM	0	0	3	0	0	0	1	0	0	0	0	2	0	0	0	0	6	24
5:15 PM	0	0	2	0	0	0	2	0	0	0	0	2	0	0	0	0	6	25
5:30 PM	0	0	2	0	0	0	2	0	0	0	0	2	0	0	0	0	6	26
5:45 PM	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0	0	4	22
Count Total	0	0	19	0	0	0	17	0	0	3	0	10	0	0	0	0	49	0
Peak Hour	0	0	10	0	0	0	8	0	0	2	0	5	0	0	0	0	25	0

Two-Hour Count Summaries - Bikes

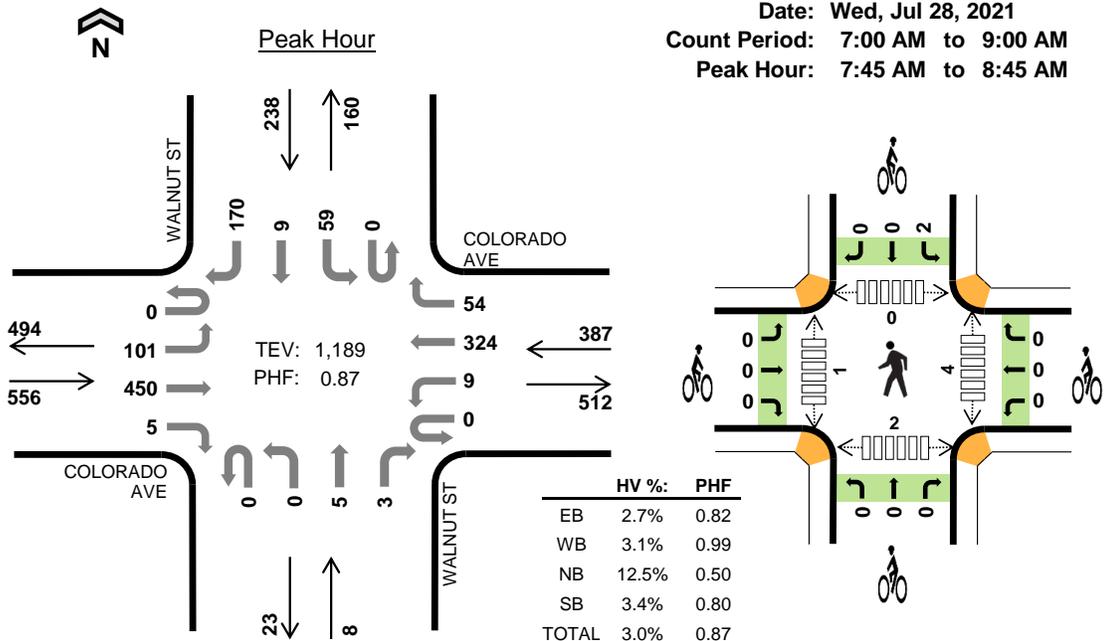
Interval Start	COLORADO AVE			COLORADO AVE			S 8TH ST			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	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
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

WALNUT ST COLORADO AVE



Date: Wed, Jul 28, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

Interval Start	COLORADO AVE Eastbound				COLORADO AVE Westbound				WALNUT ST Northbound				WALNUT ST Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	23	72	1	0	2	53	6	0	0	2	0	0	5	0	14	178	0	
7:15 AM	0	18	76	2	0	3	52	10	0	1	0	0	0	13	1	23	199	0	
7:30 AM	0	17	112	0	0	2	75	15	0	0	0	0	0	13	1	43	278	0	
7:45 AM	0	32	136	1	0	0	85	13	0	0	0	0	0	26	2	46	341	996	
8:00 AM	0	25	114	2	0	3	78	14	0	0	0	2	0	12	3	43	296	1,114	
8:15 AM	0	18	103	1	0	4	81	12	0	0	2	0	0	6	2	40	269	1,184	
8:30 AM	0	26	97	1	0	2	80	15	0	0	3	1	0	15	2	41	283	1,189	
8:45 AM	0	24	109	0	0	2	69	11	0	1	0	0	0	8	1	40	265	1,113	
Count Total	0	183	819	8	0	18	573	96	0	2	7	3	0	98	12	290	2,109	0	
Peak Hour	All	0	101	450	5	0	9	324	54	0	0	5	3	0	59	9	170	1,189	0
	HV	0	4	11	0	0	0	11	1	0	0	1	0	0	2	1	5	36	0
	HV%	-	4%	2%	0%	-	0%	3%	2%	-	-	20%	0%	-	3%	11%	3%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	1	1	0	6	0	0	0	0	0	0	0	0	0	2
7:15 AM	5	3	0	1	9	0	1	0	0	1	2	0	0	0	1
7:30 AM	5	1	0	0	6	0	0	0	0	0	0	0	0	0	2
7:45 AM	1	3	0	3	7	0	0	0	1	1	1	0	0	0	1
8:00 AM	9	2	0	2	13	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	5	0	3	8	0	0	0	0	0	2	0	0	0	2
8:30 AM	5	2	1	0	8	0	0	0	1	1	1	0	0	0	1
8:45 AM	4	3	0	0	7	0	0	1	0	1	2	0	0	0	3
Count Total	33	20	2	9	64	0	1	1	2	4	8	1	0	0	19
Peak Hour	15	12	1	8	36	0	0	0	2	2	4	1	0	0	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	COLORADO AVE				COLORADO AVE				WALNUT ST				WALNUT ST				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	2	0	0	0	1	0	0	0	1	0	0	0	0	0	6	0
7:15 AM	0	0	5	0	0	0	3	0	0	0	0	0	0	1	0	0	9	0
7:30 AM	0	1	4	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0
7:45 AM	0	1	0	0	0	0	3	0	0	0	0	0	0	1	0	2	7	28
8:00 AM	0	2	7	0	0	0	2	0	0	0	0	0	0	0	0	2	13	35
8:15 AM	0	0	0	0	0	0	4	1	0	0	0	0	0	1	1	1	8	34
8:30 AM	0	1	4	0	0	0	2	0	0	0	1	0	0	0	0	0	8	36
8:45 AM	0	2	2	0	0	0	3	0	0	0	0	0	0	0	0	0	7	36
Count Total	0	9	24	0	0	0	18	2	0	0	2	0	0	3	1	5	64	0
Peak Hour	0	4	11	0	0	0	11	1	0	0	1	0	0	2	1	5	36	0
Two-Hour Count Summaries - Bikes																		
Interval Start	COLORADO AVE			COLORADO AVE			WALNUT ST			WALNUT ST			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	2
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
Count Total	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	0	4	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	COLORADO AVE				COLORADO AVE				WALNUT ST				WALNUT ST				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	4	0	0	0	4	2	0	1	0	0	0	0	0	0	0	11	0
4:15 PM	0	2	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	7	0
4:30 PM	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
4:45 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5	27
5:00 PM	0	3	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	9	25
5:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	21
5:30 PM	0	0	4	0	0	0	3	1	0	0	0	0	0	0	0	0	0	8	25
5:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	23
Count Total	0	7	22	0	0	0	16	4	0	1	0	0	0	0	0	0	0	50	0
Peak Hour	0	5	9	0	0	0	7	0	0	0	0	0	0	0	0	0	0	21	0

Two-Hour Count Summaries - Bikes																			
Interval Start	COLORADO AVE			COLORADO AVE			WALNUT ST			WALNUT ST			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
Peak Hour	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**MIDLAND CORRIDOR
TRAFFIC STUDY**

APPENDIX B
Traffic Analysis Worksheets

HCM 6th Signalized Intersection Summary
5: 31st St & Colorado Ave

Existing AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	287	112	84	234	56	80	286	84	76	377	134
Future Volume (veh/h)	199	287	112	84	234	56	80	286	84	76	377	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	216	312	122	91	254	61	87	311	91	83	410	146
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	667	1670	745	554	1222	288	296	355	104	199	900	401
Arrive On Green	0.09	0.47	0.47	0.09	0.86	0.86	0.05	0.26	0.26	0.05	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	2853	673	1781	1390	407	1781	3554	1585
Grp Volume(v), veh/h	216	312	122	91	156	159	87	0	402	83	410	146
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1749	1781	0	1797	1781	1777	1585
Q Serve(g_s), s	6.5	5.1	4.4	2.8	1.5	1.6	3.6	0.0	21.5	3.4	9.7	7.6
Cycle Q Clear(g_c), s	6.5	5.1	4.4	2.8	1.5	1.6	3.6	0.0	21.5	3.4	9.7	7.6
Prop In Lane	1.00		1.00	1.00		0.38	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	667	1670	745	554	761	749	296	0	459	199	900	401
V/C Ratio(X)	0.32	0.19	0.16	0.16	0.21	0.21	0.29	0.00	0.88	0.42	0.46	0.36
Avail Cap(c_a), veh/h	787	1670	745	588	761	749	321	0	656	233	1308	583
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	15.4	15.2	13.9	4.2	4.2	26.0	0.0	35.7	28.0	31.5	30.7
Incr Delay (d2), s/veh	0.3	0.2	0.5	0.1	0.6	0.6	0.5	0.0	9.4	1.4	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.1	1.7	1.1	0.6	0.7	1.5	0.0	10.4	1.5	4.2	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	15.7	15.7	14.0	4.8	4.9	26.5	0.0	45.1	29.4	31.9	31.3
LnGrp LOS	B	B	B	B	A	A	C	A	D	C	C	C
Approach Vol, veh/h		650			406			489			639	
Approach Delay, s/veh		14.7			6.9			41.8			31.4	
Approach LOS		B			A			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	51.5	9.6	29.8	13.3	47.3	9.4	30.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	32.2	6.5	36.8	15.5	23.2	6.8	36.5				
Max Q Clear Time (g_c+I1), s	4.8	7.1	5.6	11.7	8.5	3.6	5.4	23.5				
Green Ext Time (p_c), s	0.0	2.5	0.0	3.3	0.3	1.7	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay				24.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
8: 30th St & Colorado Ave

Existing AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	↖
Traffic Volume (veh/h)	86	312	3	4	207	48	5	5	5	37	7	116
Future Volume (veh/h)	86	312	3	4	207	48	5	5	5	37	7	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	339	3	4	225	52	5	5	5	40	8	126
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1131	2912	26	451	1050	238	83	76	55	188	32	163
Arrive On Green	0.79	1.00	1.00	0.73	0.73	0.73	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3610	32	1039	2878	652	336	736	536	1184	309	1585
Grp Volume(v), veh/h	93	167	175	4	137	140	15	0	0	48	0	126
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1039	1777	1753	1609	0	0	1493	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.1	2.5	2.6	0.0	0.0	0.0	2.1	0.0	7.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.1	2.5	2.6	0.8	0.0	0.0	2.8	0.0	7.7
Prop In Lane	1.00		0.02	1.00		0.37	0.33		0.33	0.83		1.00
Lane Grp Cap(c), veh/h	1131	1434	1505	451	649	640	214	0	0	220	0	163
V/C Ratio(X)	0.08	0.12	0.12	0.01	0.21	0.22	0.07	0.00	0.00	0.22	0.00	0.77
Avail Cap(c_a), veh/h	1131	1434	1505	451	649	640	568	0	0	560	0	531
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	1.4	0.0	0.0	8.6	8.9	8.9	40.6	0.0	0.0	41.4	0.0	43.7
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.7	0.8	0.1	0.0	0.0	0.5	0.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.1	0.0	1.0	1.0	0.3	0.0	0.0	1.1	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.4	0.2	0.2	8.6	9.6	9.7	40.7	0.0	0.0	41.9	0.0	51.2
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	D
Approach Vol, veh/h		435			281			15				174
Approach Delay, s/veh		0.4			9.7			40.7				48.6
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		85.2		14.8	44.2	41.0		14.8				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		57.5		33.5	16.5	36.5		33.5				
Max Q Clear Time (g_c+I1), s		2.0		9.7	2.0	4.6		2.8				
Green Ext Time (p_c), s		2.2		0.6	0.2	1.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				13.2								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
28: 21st St & Colorado Ave

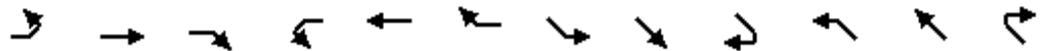
Existing AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	16	273	40	93	220	13	57	149	65	17	188	16
Future Volume (veh/h)	16	273	40	93	220	13	57	149	65	17	188	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	297	43	101	239	14	62	162	71	18	204	17
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	765	1825	261	764	2092	122	181	315	267	210	250	21
Arrive On Green	0.04	1.00	1.00	0.09	1.00	1.00	0.04	0.17	0.17	0.02	0.15	0.15
Sat Flow, veh/h	1781	3120	447	1781	3413	199	1781	1870	1585	1781	1703	142
Grp Volume(v), veh/h	17	168	172	101	124	129	62	162	71	18	0	221
Grp Sat Flow(s),veh/h/ln	1781	1777	1790	1781	1777	1835	1781	1870	1585	1781	0	1845
Q Serve(g_s), s	0.4	0.0	0.0	2.2	0.0	0.0	2.9	7.9	3.9	0.9	0.0	11.6
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.2	0.0	0.0	2.9	7.9	3.9	0.9	0.0	11.6
Prop In Lane	1.00		0.25	1.00		0.11	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	765	1039	1047	764	1089	1125	181	315	267	210	0	271
V/C Ratio(X)	0.02	0.16	0.16	0.13	0.11	0.11	0.34	0.51	0.27	0.09	0.00	0.82
Avail Cap(c_a), veh/h	865	1039	1047	885	1089	1125	277	608	515	308	0	563
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	6.7	0.0	0.0	34.9	37.9	36.2	35.2	0.0	41.3
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.1	0.2	0.2	1.1	1.3	0.5	0.2	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.7	0.1	0.1	1.3	3.7	1.5	0.4	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	0.3	0.3	6.8	0.2	0.2	36.0	39.2	36.7	35.4	0.0	47.2
LnGrp LOS	A	A	A	A	A	A	D	D	D	D	A	D
Approach Vol, veh/h		357			354			295				239
Approach Delay, s/veh		0.7			2.1			37.9				46.3
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	63.0	8.6	19.2	6.4	65.8	6.5	21.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.5	30.5	9.5	30.5	7.5	34.5	7.5	32.5				
Max Q Clear Time (g_c+I1), s	4.2	2.0	4.9	13.6	2.4	2.0	2.9	9.9				
Green Ext Time (p_c), s	0.1	2.1	0.0	1.1	0.0	1.5	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				18.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
33: Limit St & Colorado Ave

Existing AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑↑		↑	↑↑			↑↓				
Traffic Volume (veh/h)	0	347	130	210	372	0	2	10	2	0	0	0
Future Volume (veh/h)	0	347	130	210	372	0	2	10	2	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	1870	1870			
Adj Flow Rate, veh/h	0	377	141	228	404	0	2	11	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	2	2	0	2	2	2			
Cap, veh/h	0	2028	748	763	3173	0	4	23	4			
Arrive On Green	0.00	0.26	0.26	0.10	1.00	0.00	0.02	0.02	0.02			
Sat Flow, veh/h	0	2635	937	1781	3647	0	242	1331	242			
Grp Volume(v), veh/h	0	262	256	228	404	0	15	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1702	1781	1777	0	1815	0	0			
Q Serve(g_s), s	0.0	11.4	11.7	2.2	0.0	0.0	0.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	11.4	11.7	2.2	0.0	0.0	0.8	0.0	0.0			
Prop In Lane	0.00		0.55	1.00		0.00	0.13		0.13			
Lane Grp Cap(c), veh/h	0	1418	1358	763	3173	0	31	0	0			
V/C Ratio(X)	0.00	0.18	0.19	0.30	0.13	0.00	0.49	0.00	0.00			
Avail Cap(c_a), veh/h	0	1418	1358	1164	3173	0	354	0	0			
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.99	0.99	0.99	0.99	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	11.6	11.7	2.1	0.0	0.0	48.7	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.2	0.1	0.0	11.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.5	5.4	0.3	0.0	0.0	0.5	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.9	12.0	2.3	0.1	0.0	60.0	0.0	0.0			
LnGrp LOS	A	B	B	A	A	A	E	A	A			
Approach Vol, veh/h		518			632			15				
Approach Delay, s/veh		12.0			0.9			60.0				
Approach LOS		B			A			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	84.3		6.2		93.8						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	27.5	39.5		19.5		71.5						
Max Q Clear Time (g_c+I1), s	4.2	13.7		2.8		2.0						
Green Ext Time (p_c), s	0.6	3.3		0.0		3.0						
Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
 36: 8th St & Colorado Ave

Existing AM Peak
 06/27/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗↘	↗
Traffic Volume (veh/h)	328	0	0	472	113	269
Future Volume (veh/h)	328	0	0	472	113	269
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	357	0	0	513	123	292
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2479	0	0	2479	734	337
Arrive On Green	0.70	0.00	0.00	0.70	0.21	0.21
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	357	0	0	513	123	292
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	3.4	0.0	0.0	5.1	2.9	17.8
Cycle Q Clear(g_c), s	3.4	0.0	0.0	5.1	2.9	17.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2479	0	0	2479	734	337
V/C Ratio(X)	0.14	0.00	0.00	0.21	0.17	0.87
Avail Cap(c_a), veh/h	2479	0	0	2479	1641	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.1	0.0	0.0	5.3	32.2	38.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.1	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	1.7	1.2	7.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.2	0.0	0.0	5.5	32.3	44.8
LnGrp LOS	A	A	A	A	C	D
Approach Vol, veh/h	357			513	415	
Approach Delay, s/veh	5.2			5.5	41.1	
Approach LOS	A			A	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		74.3			74.3	25.7
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		43.5			43.5	47.5
Max Q Clear Time (g_c+I1), s		5.4			7.1	19.8
Green Ext Time (p_c), s		2.6			3.9	1.5
Intersection Summary						
HCM 6th Ctrl Delay			16.9			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
38: Colorado Ave & Walnut St

Existing AM Peak
06/27/2022

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	59	8	170	0	5	3	101	450	5	9	324	54
Future Volume (veh/h)	59	8	170	0	5	3	101	450	5	9	324	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	9	185	0	5	3	110	489	5	10	352	59
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	265	224	0	155	93	791	2769	28	733	2344	389
Arrive On Green	0.14	0.14	0.14	0.00	0.14	0.14	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1407	1870	1585	0	1095	657	975	3604	37	903	3050	506
Grp Volume(v), veh/h	64	9	185	0	0	8	110	241	253	10	204	207
Grp Sat Flow(s),veh/h/ln	1407	1870	1585	0	0	1752	975	1777	1864	903	1777	1779
Q Serve(g_s), s	4.1	0.4	11.3	0.0	0.0	0.4	3.3	3.6	3.6	0.3	3.0	3.1
Cycle Q Clear(g_c), s	4.5	0.4	11.3	0.0	0.0	0.4	6.4	3.6	3.6	3.9	3.0	3.1
Prop In Lane	1.00		1.00	0.00		0.37	1.00		0.02	1.00		0.28
Lane Grp Cap(c), veh/h	266	265	224	0	0	248	791	1365	1432	733	1365	1367
V/C Ratio(X)	0.24	0.03	0.82	0.00	0.00	0.03	0.14	0.18	0.18	0.01	0.15	0.15
Avail Cap(c_a), veh/h	608	720	610	0	0	675	791	1365	1432	733	1365	1367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	39.0	37.0	41.7	0.0	0.0	37.0	3.9	3.1	3.1	3.6	3.0	3.0
Incr Delay (d2), s/veh	0.5	0.1	7.4	0.0	0.0	0.1	0.4	0.3	0.3	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.2	4.9	0.0	0.0	0.2	0.6	1.1	1.1	0.1	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	37.1	49.2	0.0	0.0	37.1	4.2	3.4	3.4	3.7	3.3	3.3
LnGrp LOS	D	D	D	A	A	D	A	A	A	A	A	A
Approach Vol, veh/h		258			8			604			421	
Approach Delay, s/veh		46.3			37.1			3.5			3.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		81.3		18.7		81.3		18.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		38.5		52.5		38.5				
Max Q Clear Time (g_c+I1), s		8.4		13.3		5.9		2.4				
Green Ext Time (p_c), s		3.9		0.8		2.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				12.2								
HCM 6th LOS				B								

Intersection: 5: 31st St & Colorado Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	T
Maximum Queue (ft)	161	134	92	61	68	79	103	97	339	114	250	214
Average Queue (ft)	66	58	19	8	24	21	38	39	183	65	130	87
95th Queue (ft)	126	114	60	35	54	57	83	81	290	128	214	175
Link Distance (ft)		807	807			673	673	656	656		807	807
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200			100	250					90		
Storage Blk Time (%)	0		0	0						2	22	5
Queuing Penalty (veh)	0		0	0						3	17	7

Intersection: 5: 31st St & Colorado Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	114
Average Queue (ft)	46
95th Queue (ft)	97
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	90
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 8: 30th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	58	40	44	26	54	58	52	136	84
Average Queue (ft)	20	5	10	2	7	10	13	43	47
95th Queue (ft)	48	23	33	13	31	37	41	99	82
Link Distance (ft)		673	673		458	458	275	299	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	200			50					60
Storage Blk Time (%)					0			5	1
Queuing Penalty (veh)					0			5	0

Intersection: 11: 29th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	54	54	46	58	48	138
Average Queue (ft)	13	10	10	8	15	58
95th Queue (ft)	42	37	35	34	41	110
Link Distance (ft)	458	458	1026	1026	240	328
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: 27th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	48	71	42	37	80	65
Average Queue (ft)	9	18	8	6	33	24
95th Queue (ft)	34	55	31	26	69	56
Link Distance (ft)	1026	1026	466	466	318	300
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 17: 26th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (ft)	31	64	112	68	40	49	195	125	87
Average Queue (ft)	4	14	33	23	6	9	93	46	32
95th Queue (ft)	21	44	80	54	24	34	161	104	69
Link Distance (ft)		466	466		487	487	305		128
Upstream Blk Time (%)									0
Queuing Penalty (veh)									0
Storage Bay Dist (ft)	80			150				100	
Storage Blk Time (%)		0					9	0	
Queuing Penalty (veh)		0					8	0	

Intersection: 20: 25th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	34	61	64	56	66	57	139	112
Average Queue (ft)	7	13	19	17	15	14	63	48
95th Queue (ft)	29	44	53	46	47	44	116	93
Link Distance (ft)		487	487		239	239	304	283
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150			65				
Storage Blk Time (%)				0	0			
Queuing Penalty (veh)				0	0			

Intersection: 24: Colorado Ave & Colbrunn Ct

Movement	EB	WB
Directions Served	L	R
Maximum Queue (ft)	46	2
Average Queue (ft)	6	0
95th Queue (ft)	29	2
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	80	70
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 25: 24th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	41	71	64	64	75	73	118	177
Average Queue (ft)	8	18	16	16	13	17	48	77
95th Queue (ft)	31	55	49	48	48	52	94	143
Link Distance (ft)		177	177		1597	1597	280	288
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			80				
Storage Blk Time (%)		0		0	0			
Queuing Penalty (veh)		0		0	0			

Intersection: 28: 21st St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	38	85	109	105	77	93	148	228	75	102	248
Average Queue (ft)	7	35	43	35	23	28	43	99	39	17	131
95th Queue (ft)	28	72	91	77	60	67	95	185	87	62	218
Link Distance (ft)		1597	1597		2846	2846		254			257
Upstream Blk Time (%)								0			0
Queuing Penalty (veh)								0			1
Storage Bay Dist (ft)	110			120			130		50	120	
Storage Blk Time (%)		0		0	0		0	33	0		14
Queuing Penalty (veh)		0		0	0		0	41	1		2

Intersection: 30: 15th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	L	TR	L	TR
Maximum Queue (ft)	69	74	73	65	44	57	44	63
Average Queue (ft)	20	14	21	16	10	19	10	17
95th Queue (ft)	55	51	55	53	34	48	35	47
Link Distance (ft)	2846	2846	2606	2606		561		367
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					60		50	
Storage Blk Time (%)					0	0	1	2
Queuing Penalty (veh)					0	0	0	0

Intersection: 33: Limit St & Colorado Ave

Movement	EB	EB	WB	WB	WB	SE
Directions Served	T	TR	L	T	T	LTR
Maximum Queue (ft)	44	51	82	25	42	49
Average Queue (ft)	6	6	33	2	5	12
95th Queue (ft)	30	28	68	13	25	38
Link Distance (ft)	2606	2606		577	577	696
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			220			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 36: 8th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	90	84	97	82	92	114	117
Average Queue (ft)	29	24	31	22	33	52	60
95th Queue (ft)	73	64	77	61	73	99	94
Link Distance (ft)	577	577	319	319		637	637
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150						
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 38: Colorado Ave & Walnut St

Movement	SE	SE	SE	NW	NE	NE	NE	SW	SW	SW
Directions Served	L	T	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	105	47	88	34	75	59	67	33	78	76
Average Queue (ft)	48	8	48	7	27	11	21	5	24	25
95th Queue (ft)	88	32	77	28	59	39	54	23	63	65
Link Distance (ft)		670	670	260		892	892		800	800
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200				100			120		
Storage Blk Time (%)	0									
Queuing Penalty (veh)	0									

Intersection: 42: Colorado Ave & Cimino St

Movement	SB	NW	NW	NE	NE	NE	SW	SW	SW
Directions Served	<LR	L	R>	L	T	TR	L	T	TR
Maximum Queue (ft)	146	85	75	58	86	95	60	78	75
Average Queue (ft)	46	35	28	17	19	36	20	25	25
95th Queue (ft)	105	73	59	42	59	81	43	64	61
Link Distance (ft)	250		510		800	800		1228	1228
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		80		100			220		
Storage Blk Time (%)	1								
Queuing Penalty (veh)	1								

Intersection: 44: 21st St & Pikes Peak

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	55	64	72	128	31	87
Average Queue (ft)	31	30	16	61	15	49
95th Queue (ft)	50	52	48	104	40	75
Link Distance (ft)	529	542		257		256
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				1		0
Queuing Penalty (veh)				0		0

Intersection: 47: 21st St & Cucharras St

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	79	62	35	6	31	6
Average Queue (ft)	33	31	5	0	4	0
95th Queue (ft)	60	57	24	4	22	4
Link Distance (ft)	426	582		346		254
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150		100	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 88

HCM 6th Signalized Intersection Summary
5: 31st St & Colorado Ave

NoBuild 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	287	112	84	234	56	80	286	84	76	377	134
Future Volume (veh/h)	199	287	112	84	234	56	80	286	84	76	377	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	238	343	134	100	280	67	96	342	100	91	451	160
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	1564	697	510	1116	263	306	386	113	204	979	437
Arrive On Green	0.10	0.44	0.44	0.10	0.78	0.78	0.05	0.28	0.28	0.05	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	2855	672	1781	1391	407	1781	3554	1585
Grp Volume(v), veh/h	238	343	134	100	172	175	96	0	442	91	451	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1749	1781	0	1797	1781	1777	1585
Q Serve(g_s), s	7.6	6.0	5.2	3.3	2.6	2.7	3.8	0.0	23.6	3.6	10.5	8.1
Cycle Q Clear(g_c), s	7.6	6.0	5.2	3.3	2.6	2.7	3.8	0.0	23.6	3.6	10.5	8.1
Prop In Lane	1.00		1.00	1.00		0.38	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	625	1564	697	510	695	684	306	0	499	204	979	437
V/C Ratio(X)	0.38	0.22	0.19	0.20	0.25	0.26	0.31	0.00	0.89	0.45	0.46	0.37
Avail Cap(c_a), veh/h	742	1564	697	540	695	684	326	0	674	235	1347	601
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	17.4	17.1	15.7	6.9	6.9	24.4	0.0	34.6	26.9	30.1	29.2
Incr Delay (d2), s/veh	0.4	0.3	0.6	0.2	0.8	0.9	0.6	0.0	10.6	1.5	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.5	2.0	1.3	1.1	1.1	1.6	0.0	11.5	1.6	4.5	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	17.7	17.7	15.8	7.8	7.8	25.0	0.0	45.2	28.4	30.4	29.7
LnGrp LOS	B	B	B	B	A	A	C	A	D	C	C	C
Approach Vol, veh/h		715			447			538			702	
Approach Delay, s/veh		16.6			9.6			41.6			30.0	
Approach LOS		B			A			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	48.5	9.9	32.0	14.4	43.6	9.7	32.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.7	30.9	6.5	37.9	16.5	21.1	6.9	37.5				
Max Q Clear Time (g_c+I1), s	5.3	8.0	5.8	12.5	9.6	4.7	5.6	25.6				
Green Ext Time (p_c), s	0.0	2.7	0.0	3.7	0.4	1.8	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay				24.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
8: 30th St & Colorado Ave

NoBuild 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Volume (veh/h)	86	312	3	4	207	48	5	5	5	37	7	116
Future Volume (veh/h)	86	312	3	4	207	48	5	5	5	37	7	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	373	4	5	248	57	6	6	6	44	8	139
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1103	2875	31	439	1051	237	87	81	60	202	31	177
Arrive On Green	0.78	1.00	1.00	0.73	0.73	0.73	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3602	39	1006	2880	650	345	722	533	1208	280	1585
Grp Volume(v), veh/h	103	184	193	5	151	154	18	0	0	52	0	139
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1006	1777	1753	1600	0	0	1488	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.1	2.8	2.9	0.0	0.0	0.0	2.1	0.0	8.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.1	2.8	2.9	0.9	0.0	0.0	3.0	0.0	8.5
Prop In Lane	1.00		0.02	1.00		0.37	0.33		0.33	0.85		1.00
Lane Grp Cap(c), veh/h	1103	1418	1487	439	649	640	227	0	0	233	0	177
V/C Ratio(X)	0.09	0.13	0.13	0.01	0.23	0.24	0.08	0.00	0.00	0.22	0.00	0.78
Avail Cap(c_a), veh/h	1103	1418	1487	439	649	640	566	0	0	558	0	531
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	1.7	0.0	0.0	8.6	8.9	9.0	39.8	0.0	0.0	40.7	0.0	43.2
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.8	0.9	0.1	0.0	0.0	0.5	0.0	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.1	0.0	1.1	1.2	0.4	0.0	0.0	1.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.7	0.2	0.2	8.6	9.8	9.8	40.0	0.0	0.0	41.2	0.0	50.6
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	D
Approach Vol, veh/h		480			310			18				191
Approach Delay, s/veh		0.5			9.8			40.0				48.1
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		84.3		15.7	43.3	41.0		15.7				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		57.5		33.5	16.5	36.5		33.5				
Max Q Clear Time (g_c+I1), s		2.0		10.5	2.0	4.9		2.9				
Green Ext Time (p_c), s		2.4		0.7	0.2	1.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				13.2								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
28: 21st St & Colorado Ave

NoBuild 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	273	40	93	220	13	57	149	65	17	188	16
Future Volume (veh/h)	16	273	40	93	220	13	57	149	65	17	188	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	326	48	111	263	16	68	178	78	20	225	19
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	694	1772	258	731	2031	123	185	340	363	217	270	23
Arrive On Green	0.04	1.00	1.00	0.02	0.20	0.20	0.04	0.18	0.18	0.02	0.16	0.16
Sat Flow, veh/h	1781	3112	454	1781	3404	206	1781	1870	1585	1781	1701	144
Grp Volume(v), veh/h	19	185	189	111	137	142	68	178	78	20	0	244
Grp Sat Flow(s),veh/h/ln	1781	1777	1789	1781	1777	1833	1781	1870	1585	1781	0	1845
Q Serve(g_s), s	0.4	0.0	0.0	2.5	6.3	6.4	3.2	8.6	4.0	0.9	0.0	12.8
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.5	6.3	6.4	3.2	8.6	4.0	0.9	0.0	12.8
Prop In Lane	1.00		0.25	1.00		0.11	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	694	1012	1018	731	1060	1094	185	340	363	217	0	293
V/C Ratio(X)	0.03	0.18	0.19	0.15	0.13	0.13	0.37	0.52	0.21	0.09	0.00	0.83
Avail Cap(c_a), veh/h	756	1012	1018	798	1060	1094	240	533	527	295	0	507
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	8.0	18.7	18.8	33.9	37.0	31.2	34.2	0.0	40.8
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.1	0.2	0.2	1.2	1.3	0.3	0.2	0.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.1	1.0	2.7	2.9	1.4	4.0	1.5	0.4	0.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	0.4	0.4	8.1	19.0	19.0	35.1	38.3	31.5	34.4	0.0	46.9
LnGrp LOS	A	A	A	A	B	B	D	D	C	C	A	D
Approach Vol, veh/h		393			390			324				264
Approach Delay, s/veh		0.8			15.9			36.0				45.9
Approach LOS		A			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	61.4	8.9	20.4	6.6	64.2	6.6	22.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	38.5	7.5	27.5	5.5	41.5	6.5	28.5				
Max Q Clear Time (g_c+I1), s	4.5	2.0	5.2	14.8	2.4	8.4	2.9	10.6				
Green Ext Time (p_c), s	0.1	2.4	0.0	1.1	0.0	1.7	0.0	1.1				

Intersection Summary

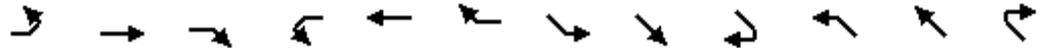
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
33: Limit St & Colorado Ave

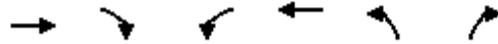
NoBuild 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑↑		↑	↑↑			↑↓				
Traffic Volume (veh/h)	0	347	130	210	372	0	2	10	2	0	0	0
Future Volume (veh/h)	0	347	130	210	372	0	2	10	2	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	1870	1870			
Adj Flow Rate, veh/h	0	415	155	251	445	0	2	12	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	2	2	0	2	2	2			
Cap, veh/h	0	2020	746	725	3170	0	4	24	4			
Arrive On Green	0.00	0.26	0.26	0.10	1.00	0.00	0.02	0.02	0.02			
Sat Flow, veh/h	0	2633	938	1781	3647	0	227	1364	227			
Grp Volume(v), veh/h	0	289	281	251	445	0	16	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1701	1781	1777	0	1818	0	0			
Q Serve(g_s), s	0.0	12.7	12.9	2.5	0.0	0.0	0.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	12.7	12.9	2.5	0.0	0.0	0.9	0.0	0.0			
Prop In Lane	0.00		0.55	1.00		0.00	0.12		0.12			
Lane Grp Cap(c), veh/h	0	1413	1353	725	3170	0	33	0	0			
V/C Ratio(X)	0.00	0.20	0.21	0.35	0.14	0.00	0.49	0.00	0.00			
Avail Cap(c_a), veh/h	0	1413	1353	1141	3170	0	336	0	0			
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.99	0.99	0.98	0.98	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	12.2	12.3	2.4	0.0	0.0	48.7	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.3	0.1	0.0	11.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.1	5.9	0.5	0.0	0.0	0.5	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.5	12.6	2.7	0.1	0.0	59.6	0.0	0.0			
LnGrp LOS	A	B	B	A	A	A	E	A	A			
Approach Vol, veh/h		570			696			16				
Approach Delay, s/veh		12.6			1.0			59.6				
Approach LOS		B			A			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.7	84.0		6.3		93.7						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	28.5	39.5		18.5		72.5						
Max Q Clear Time (g_c+I1), s	4.5	14.9		2.9		2.0						
Green Ext Time (p_c), s	0.7	3.7		0.0		3.4						
Intersection Summary												
HCM 6th Ctrl Delay				6.9								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary
36: 8th St & Colorado Ave

NoBuild 2045 AM Peak
06/27/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗↘	↗
Traffic Volume (veh/h)	328	0	0	472	113	269
Future Volume (veh/h)	328	0	0	472	113	269
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	392	0	0	564	135	322
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2410	0	0	2410	802	368
Arrive On Green	0.68	0.00	0.00	0.68	0.23	0.23
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	392	0	0	564	135	322
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	4.0	0.0	0.0	6.1	3.1	19.6
Cycle Q Clear(g_c), s	4.0	0.0	0.0	6.1	3.1	19.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2410	0	0	2410	802	368
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.17	0.88
Avail Cap(c_a), veh/h	2410	0	0	2410	1607	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.8	0.0	0.0	6.2	30.7	37.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.1	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	2.1	1.3	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.0	0.0	0.0	6.4	30.8	43.7
LnGrp LOS	A	A	A	A	C	D
Approach Vol, veh/h	392			564	457	
Approach Delay, s/veh	6.0			6.4	39.9	
Approach LOS	A			A	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		72.3			72.3	27.7
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		44.5			44.5	46.5
Max Q Clear Time (g_c+I1), s		6.0			8.1	21.6
Green Ext Time (p_c), s		2.9			4.3	1.6
Intersection Summary						
HCM 6th Ctrl Delay			17.1			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
38: Colorado Ave & Walnut St

NoBuild 2045 AM Peak
06/27/2022



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	59	8	170	0	5	3	101	450	5	9	324	54
Future Volume (veh/h)	59	8	170	0	5	3	101	450	5	9	324	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	10	203	0	6	4	121	538	6	11	387	65
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	287	243	0	161	107	782	2724	30	688	2306	384
Arrive On Green	0.15	0.15	0.15	0.00	0.15	0.15	0.76	0.76	0.76	1.00	1.00	1.00
Sat Flow, veh/h	1405	1870	1585	0	1047	698	939	3600	40	862	3048	508
Grp Volume(v), veh/h	71	10	203	0	0	10	121	265	279	11	224	228
Grp Sat Flow(s),veh/h/ln	1405	1870	1585	0	0	1745	939	1777	1863	862	1777	1779
Q Serve(g_s), s	4.5	0.5	12.4	0.0	0.0	0.5	3.6	4.3	4.3	0.1	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.5	12.4	0.0	0.0	0.5	3.6	4.3	4.3	4.4	0.0	0.0
Prop In Lane	1.00		1.00	0.00		0.40	1.00		0.02	1.00		0.29
Lane Grp Cap(c), veh/h	281	287	243	0	0	268	782	1344	1410	688	1344	1346
V/C Ratio(X)	0.25	0.03	0.84	0.00	0.00	0.04	0.15	0.20	0.20	0.02	0.17	0.17
Avail Cap(c_a), veh/h	592	701	594	0	0	654	782	1344	1410	688	1344	1346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	38.2	36.0	41.1	0.0	0.0	36.0	3.4	3.5	3.5	0.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	7.4	0.0	0.0	0.1	0.4	0.3	0.3	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.2	5.3	0.0	0.0	0.2	0.6	1.3	1.4	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	36.1	48.5	0.0	0.0	36.1	3.8	3.8	3.8	0.2	0.3	0.3
LnGrp LOS	D	D	D	A	A	D	A	A	A	A	A	A
Approach Vol, veh/h		284			10			665			463	
Approach Delay, s/veh		45.6			36.1			3.8			0.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		80.2		19.8		80.2		19.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		37.5		53.5		37.5				
Max Q Clear Time (g_c+I1), s		6.3		14.4		6.4		2.5				
Green Ext Time (p_c), s		4.5		0.9		3.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				11.2								
HCM 6th LOS				B								

Intersection: 5: 31st St & Colorado Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	T
Maximum Queue (ft)	150	143	107	75	84	104	130	106	362	114	251	223
Average Queue (ft)	75	63	27	10	29	37	57	40	200	65	146	100
95th Queue (ft)	136	123	73	40	64	84	112	82	322	129	229	193
Link Distance (ft)		807	807			673	673	656	656		807	807
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200			100	250					90		
Storage Blk Time (%)	0		0	0						1	27	6
Queuing Penalty (veh)	0		0	0						2	22	9

Intersection: 5: 31st St & Colorado Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	115
Average Queue (ft)	54
95th Queue (ft)	108
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	90
Storage Blk Time (%)	0
Queuing Penalty (veh)	1

Intersection: 8: 30th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	60	36	48	21	54	61	47	122	84
Average Queue (ft)	23	5	11	2	10	15	15	43	50
95th Queue (ft)	52	22	35	13	35	47	42	94	85
Link Distance (ft)		673	673		458	458	275	299	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	200			50					60
Storage Blk Time (%)					0			4	2
Queuing Penalty (veh)					0			5	1

Intersection: 11: 29th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	46	52	42	48	56	139
Average Queue (ft)	11	10	10	8	17	56
95th Queue (ft)	37	35	35	32	46	111
Link Distance (ft)	458	458	1026	1026	240	328
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: 27th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	57	75	44	38	90	69
Average Queue (ft)	10	17	9	5	33	24
95th Queue (ft)	39	57	33	24	72	56
Link Distance (ft)	1026	1026	466	466	318	300
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 17: 26th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (ft)	30	65	92	58	41	48	222	125	83
Average Queue (ft)	6	14	31	20	7	9	95	53	31
95th Queue (ft)	25	45	72	50	26	32	176	122	68
Link Distance (ft)		466	466		487	487	305		128
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	80			150				100	
Storage Blk Time (%)		0					9	0	
Queuing Penalty (veh)		0					8	0	

Intersection: 20: 25th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	39	62	68	54	66	56	150	123
Average Queue (ft)	7	14	18	15	13	12	62	49
95th Queue (ft)	29	44	51	43	45	42	119	97
Link Distance (ft)		487	487		239	239	304	283
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150			65				
Storage Blk Time (%)				0	0			
Queuing Penalty (veh)				0	0			

Intersection: 24: Colorado Ave & Colbrunn Ct

Movement	EB	WB
Directions Served	L	R
Maximum Queue (ft)	37	14
Average Queue (ft)	7	1
95th Queue (ft)	29	8
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	80	70
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: 24th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	43	69	65	52	60	82	126	186
Average Queue (ft)	10	20	14	16	12	18	48	72
95th Queue (ft)	35	56	47	46	43	57	96	139
Link Distance (ft)		177	177		1597	1597	280	288
Upstream Blk Time (%)								0
Queuing Penalty (veh)								0
Storage Bay Dist (ft)	100			80				
Storage Blk Time (%)		0		0	0			
Queuing Penalty (veh)		0		0	0			

Intersection: 28: 21st St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	36	97	106	84	80	92	142	214	75	103	258
Average Queue (ft)	8	40	47	34	27	30	47	105	42	16	137
95th Queue (ft)	30	84	93	69	65	72	102	191	91	60	230
Link Distance (ft)		1597	1597		2846	2846		254			257
Upstream Blk Time (%)								0			0
Queuing Penalty (veh)								0			1
Storage Bay Dist (ft)	110			120			130		50	120	
Storage Blk Time (%)		0		0	0		0	34	1		17
Queuing Penalty (veh)		0		0	0		0	46	1		3

Intersection: 30: 15th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	L	TR	L	TR
Maximum Queue (ft)	71	74	61	53	45	61	39	53
Average Queue (ft)	19	16	19	9	9	15	9	19
95th Queue (ft)	54	53	51	34	33	46	33	49
Link Distance (ft)	2846	2846	2606	2606		561		367
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					60		50	
Storage Blk Time (%)					0	0	1	2
Queuing Penalty (veh)					0	0	0	0

Intersection: 33: Limit St & Colorado Ave

Movement	EB	EB	WB	WB	WB	SE
Directions Served	T	TR	L	T	T	LTR
Maximum Queue (ft)	74	86	92	23	28	44
Average Queue (ft)	9	10	37	2	2	13
95th Queue (ft)	43	48	72	12	14	38
Link Distance (ft)	2606	2606		577	577	696
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			220			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 36: 8th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	98	87	116	86	89	122	123
Average Queue (ft)	26	21	39	29	32	54	66
95th Queue (ft)	73	62	89	72	72	101	107
Link Distance (ft)	577	577	319	319		637	637
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150						
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 38: Colorado Ave & Walnut St

Movement	SE	SE	SE	NW	NE	NE	NE	SW	SW	SW	
Directions Served	L	T	R	LTR	L	T	TR	L	T	TR	
Maximum Queue (ft)	110	47	96	41	73	56	66	33	92	83	
Average Queue (ft)	49	9	51	8	30	10	23	5	29	29	
95th Queue (ft)	93	33	83	32	62	36	56	25	71	68	
Link Distance (ft)		670	670	260		892	892		800	800	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200				100				120		
Storage Blk Time (%)					0	0				0	
Queuing Penalty (veh)					0	0				0	

Intersection: 42: Colorado Ave & Cimino St

Movement	SB	NW	NW	NE	NE	NE	SW	SW	SW	
Directions Served	<LR	L	R>	L	T	TR	L	T	TR	
Maximum Queue (ft)	130	92	79	47	83	112	73	91	93	
Average Queue (ft)	48	35	30	17	20	39	22	26	28	
95th Queue (ft)	105	75	62	41	62	87	50	68	68	
Link Distance (ft)	250		510		800	800		1228	1228	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		80		100			220			
Storage Blk Time (%)			1	0				0		
Queuing Penalty (veh)			1	0				0		

Intersection: 44: 21st St & Pikes Peak

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	61	64	45	117	33	84
Average Queue (ft)	31	30	14	56	14	49
95th Queue (ft)	52	53	42	94	39	74
Link Distance (ft)	529	542		257		256
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				0		0
Queuing Penalty (veh)				0		0

Intersection: 47: 21st St & Cucharras St

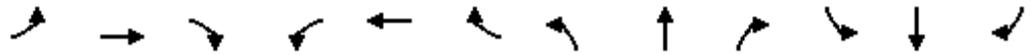
Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	68	68	31	7	35	4
Average Queue (ft)	33	33	5	0	4	0
95th Queue (ft)	59	57	23	4	21	3
Link Distance (ft)	426	582		346		254
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150		100	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 103

HCM 6th Signalized Intersection Summary
5: 31st St & Colorado Ave

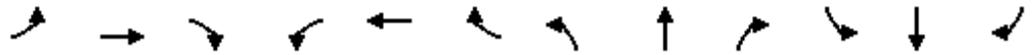
Three Lane 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	287	112	84	234	56	80	286	84	76	377	134
Future Volume (veh/h)	199	287	112	84	234	56	80	286	84	76	377	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	238	343	134	100	280	67	96	342	100	91	451	160
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	1564	697	510	1116	263	306	386	113	204	979	437
Arrive On Green	0.10	0.44	0.44	0.10	0.78	0.78	0.05	0.28	0.28	0.05	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	2855	672	1781	1391	407	1781	3554	1585
Grp Volume(v), veh/h	238	343	134	100	172	175	96	0	442	91	451	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1749	1781	0	1797	1781	1777	1585
Q Serve(g_s), s	7.6	6.0	5.2	3.3	2.6	2.7	3.8	0.0	23.6	3.6	10.5	8.1
Cycle Q Clear(g_c), s	7.6	6.0	5.2	3.3	2.6	2.7	3.8	0.0	23.6	3.6	10.5	8.1
Prop In Lane	1.00		1.00	1.00		0.38	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	625	1564	697	510	695	684	306	0	499	204	979	437
V/C Ratio(X)	0.38	0.22	0.19	0.20	0.25	0.26	0.31	0.00	0.89	0.45	0.46	0.37
Avail Cap(c_a), veh/h	742	1564	697	540	695	684	326	0	674	235	1347	601
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	17.4	17.1	15.7	6.9	6.9	24.4	0.0	34.6	26.9	30.1	29.2
Incr Delay (d2), s/veh	0.4	0.3	0.6	0.2	0.8	0.9	0.6	0.0	10.6	1.5	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.5	2.0	1.3	1.1	1.1	1.6	0.0	11.5	1.6	4.5	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	17.7	17.7	15.8	7.7	7.8	25.0	0.0	45.2	28.4	30.4	29.7
LnGrp LOS	B	B	B	B	A	A	C	A	D	C	C	C
Approach Vol, veh/h		715			447			538			702	
Approach Delay, s/veh		16.6			9.6			41.6			30.0	
Approach LOS		B			A			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	48.5	9.9	32.0	14.4	43.6	9.7	32.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.7	30.9	6.5	37.9	16.5	21.1	6.9	37.5				
Max Q Clear Time (g_c+I1), s	5.3	8.0	5.8	12.5	9.6	4.7	5.6	25.6				
Green Ext Time (p_c), s	0.0	2.7	0.0	3.7	0.4	1.8	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay				24.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
8: 30th St & Colorado Ave

Three Lane 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	312	3	4	207	48	5	5	5	37	7	116
Future Volume (veh/h)	86	312	3	4	207	48	5	5	5	37	7	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	373	4	5	248	57	6	6	6	44	8	139
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1060	1475	16	509	814	689	86	81	59	201	31	177
Arrive On Green	0.64	1.00	1.00	0.58	0.87	0.87	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	1847	20	1006	1870	1585	344	722	533	1208	281	1585
Grp Volume(v), veh/h	103	0	377	5	248	57	18	0	0	52	0	139
Grp Sat Flow(s),veh/h/ln	1781	0	1867	1006	1870	1585	1600	0	0	1488	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.2	2.3	0.5	0.0	0.0	0.0	2.1	0.0	8.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.2	2.3	0.5	0.9	0.0	0.0	3.0	0.0	8.5
Prop In Lane	1.00		0.01	1.00		1.00	0.33		0.33	0.85		1.00
Lane Grp Cap(c), veh/h	1060	0	1491	509	814	689	226	0	0	232	0	177
V/C Ratio(X)	0.10	0.00	0.25	0.01	0.30	0.08	0.08	0.00	0.00	0.22	0.00	0.79
Avail Cap(c_a), veh/h	1060	0	1491	509	814	689	506	0	0	500	0	468
HCM Platoon Ratio	2.00	2.00	2.00	1.33	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	0.99	0.99	0.99	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.4	0.0	0.0	12.0	3.8	3.7	39.9	0.0	0.0	40.8	0.0	43.3
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.0	1.0	0.2	0.1	0.0	0.0	0.5	0.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.2	0.1	1.0	0.2	0.4	0.0	0.0	1.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.4	0.0	0.4	12.0	4.8	3.9	40.0	0.0	0.0	41.2	0.0	50.8
LnGrp LOS	A	A	A	B	A	A	D	A	A	D	A	D
Approach Vol, veh/h		480			310			18				191
Approach Delay, s/veh		0.8			4.7			40.0				48.2
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		84.4		15.6	36.4	48.0		15.6				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		61.5		29.5	13.5	43.5		29.5				
Max Q Clear Time (g_c+I1), s		2.0		10.5	2.0	4.3		2.9				
Green Ext Time (p_c), s		2.6		0.6	0.2	1.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				11.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
28: 21st St & Colorado Ave

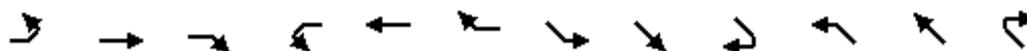
Three Lane 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	273	40	93	220	13	57	149	65	17	188	16
Future Volume (veh/h)	16	273	40	93	220	13	57	149	65	17	188	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	326	48	111	263	16	68	178	78	20	225	19
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	1065	972	731	1041	63	185	340	363	217	270	23
Arrive On Green	0.04	1.00	1.00	0.02	0.20	0.20	0.04	0.18	0.18	0.02	0.16	0.16
Sat Flow, veh/h	1781	1870	1585	1781	1745	106	1781	1870	1585	1781	1701	144
Grp Volume(v), veh/h	19	326	48	111	0	279	68	178	78	20	0	244
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1851	1781	1870	1585	1781	0	1845
Q Serve(g_s), s	0.4	0.0	0.0	2.5	0.0	12.7	3.2	8.6	4.0	0.9	0.0	12.8
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.5	0.0	12.7	3.2	8.6	4.0	0.9	0.0	12.8
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	625	1065	972	731	0	1104	185	340	363	217	0	293
V/C Ratio(X)	0.03	0.31	0.05	0.15	0.00	0.25	0.37	0.52	0.21	0.09	0.00	0.83
Avail Cap(c_a), veh/h	686	1065	972	798	0	1104	240	533	527	295	0	507
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.99	0.00	0.99	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	0.0	0.0	8.0	0.0	21.3	33.9	37.0	31.2	34.2	0.0	40.8
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.1	0.0	0.5	1.2	1.3	0.3	0.2	0.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0	1.0	0.0	6.4	1.4	4.0	1.5	0.4	0.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	0.7	0.1	8.1	0.0	21.9	35.1	38.3	31.5	34.4	0.0	46.9
LnGrp LOS	A	A	A	A	A	C	D	D	C	C	A	D
Approach Vol, veh/h		393			390			324			264	
Approach Delay, s/veh		1.1			17.9			36.0			45.9	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	61.4	8.9	20.4	6.6	64.2	6.6	22.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	38.5	7.5	27.5	5.5	41.5	6.5	28.5				
Max Q Clear Time (g_c+I1), s	4.5	2.0	5.2	14.8	2.4	14.7	2.9	10.6				
Green Ext Time (p_c), s	0.1	2.3	0.0	1.1	0.0	1.7	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				22.7								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
33: Limit St & Colorado Ave

Three Lane 2045 AM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑	↗	↖	↑			↕				
Traffic Volume (veh/h)	0	347	130	210	372	0	2	10	2	0	0	0
Future Volume (veh/h)	0	347	130	210	372	0	2	10	2	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	1870	1870			
Adj Flow Rate, veh/h	0	415	155	251	445	0	2	12	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	2	2	0	2	2	2			
Cap, veh/h	0	926	785	1096	1668	0	4	24	4			
Arrive On Green	0.00	0.99	0.99	0.47	1.00	0.00	0.02	0.02	0.02			
Sat Flow, veh/h	0	1870	1585	1781	1870	0	227	1364	227			
Grp Volume(v), veh/h	0	415	155	251	445	0	16	0	0			
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0	1818	0	0			
Q Serve(g_s), s	0.0	0.4	0.1	0.0	0.0	0.0	0.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.4	0.1	0.0	0.0	0.0	0.9	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.00	0.12		0.12			
Lane Grp Cap(c), veh/h	0	926	785	1096	1668	0	33	0	0			
V/C Ratio(X)	0.00	0.45	0.20	0.23	0.27	0.00	0.49	0.00	0.00			
Avail Cap(c_a), veh/h	0	926	785	1096	1668	0	336	0	0			
HCM Platoon Ratio	1.00	2.00	2.00	1.33	1.33	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.97	0.97	0.98	0.98	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.3	0.3	1.7	0.0	0.0	48.7	0.0	0.0			
Incr Delay (d2), s/veh	0.0	1.5	0.5	0.1	0.4	0.0	11.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.2	0.6	0.2	0.0	0.5	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.8	0.8	1.8	0.4	0.0	59.6	0.0	0.0			
LnGrp LOS	A	A	A	A	A	A	E	A	A			
Approach Vol, veh/h		570			696			16				
Approach Delay, s/veh		1.5			0.9			59.6				
Approach LOS		A			A			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	39.7	54.0		6.3		93.7						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	18.5	49.5		18.5		72.5						
Max Q Clear Time (g_c+I1), s	2.0	2.4		2.9		2.0						
Green Ext Time (p_c), s	0.6	3.4		0.0		3.2						

Intersection Summary

HCM 6th Ctrl Delay	1.9
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
36: 8th St & Colorado Ave

Three Lane 2045 AM Peak
06/27/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Traffic Volume (veh/h)	328	0	0	472	113	269
Future Volume (veh/h)	328	0	0	472	113	269
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	392	0	0	564	135	322
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2410	0	0	2410	802	368
Arrive On Green	1.00	0.00	0.00	0.68	0.23	0.23
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	392	0	0	564	135	322
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	0.0	0.0	0.0	6.1	3.1	19.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	6.1	3.1	19.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2410	0	0	2410	802	368
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.17	0.88
Avail Cap(c_a), veh/h	2410	0	0	2410	1607	737
HCM Platoon Ratio	2.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	6.2	30.7	37.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.1	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.1	1.3	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.1	0.0	0.0	6.4	30.8	43.7
LnGrp LOS	A	A	A	A	C	D
Approach Vol, veh/h	392			564	457	
Approach Delay, s/veh	0.1			6.4	39.9	
Approach LOS	A			A	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		72.3			72.3	27.7
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		44.5			44.5	46.5
Max Q Clear Time (g_c+I1), s		2.0			8.1	21.6
Green Ext Time (p_c), s		2.9			4.3	1.6
Intersection Summary						
HCM 6th Ctrl Delay			15.5			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
38: Colorado Ave & Walnut St

Three Lane 2045 AM Peak
06/27/2022



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	59	8	170	0	5	3	101	450	5	9	324	54
Future Volume (veh/h)	59	8	170	0	5	3	101	450	5	9	324	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	10	203	0	6	4	121	538	6	11	387	65
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	287	243	0	161	107	688	2724	30	688	2306	384
Arrive On Green	0.15	0.15	0.15	0.00	0.15	0.15	0.76	0.76	0.76	0.25	0.25	0.25
Sat Flow, veh/h	1405	1870	1585	0	1047	698	939	3600	40	862	3048	508
Grp Volume(v), veh/h	71	10	203	0	0	10	121	265	279	11	224	228
Grp Sat Flow(s),veh/h/ln	1405	1870	1585	0	0	1745	939	1777	1863	862	1777	1779
Q Serve(g_s), s	4.5	0.5	12.4	0.0	0.0	0.5	5.1	4.3	4.3	1.0	9.9	10.0
Cycle Q Clear(g_c), s	5.0	0.5	12.4	0.0	0.0	0.5	15.1	4.3	4.3	5.3	9.9	10.0
Prop In Lane	1.00		1.00	0.00		0.40	1.00		0.02	1.00		0.29
Lane Grp Cap(c), veh/h	281	287	243	0	0	268	688	1344	1410	688	1344	1346
V/C Ratio(X)	0.25	0.03	0.84	0.00	0.00	0.04	0.18	0.20	0.20	0.02	0.17	0.17
Avail Cap(c_a), veh/h	592	701	594	0	0	654	688	1344	1410	688	1344	1346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	38.2	36.0	41.1	0.0	0.0	36.0	6.8	3.5	3.5	12.7	12.8	12.9
Incr Delay (d2), s/veh	0.5	0.0	7.4	0.0	0.0	0.1	0.6	0.3	0.3	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.2	5.3	0.0	0.0	0.2	1.0	1.3	1.4	0.2	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	36.1	48.5	0.0	0.0	36.1	7.3	3.8	3.8	12.8	13.1	13.2
LnGrp LOS	D	D	D	A	A	D	A	A	A	B	B	B
Approach Vol, veh/h		284			10			665			463	
Approach Delay, s/veh		45.6			36.1			4.4			13.1	
Approach LOS		D			D			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		80.2		19.8		80.2		19.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		37.5		53.5		37.5				
Max Q Clear Time (g_c+I1), s		17.1		14.4		12.0		2.5				
Green Ext Time (p_c), s		4.4		0.9		3.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									

Intersection: 5: 31st St & Colorado Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	T
Maximum Queue (ft)	182	107	157	118	77	102	130	109	373	114	243	217
Average Queue (ft)	80	34	66	19	29	38	54	46	202	63	135	92
95th Queue (ft)	147	83	130	76	64	83	111	88	322	127	217	180
Link Distance (ft)		807	807			675	675	657	657		807	807
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200			100	250					90		
Storage Blk Time (%)	0		3	0						2	24	6
Queuing Penalty (veh)	0		4	0						4	20	8

Intersection: 5: 31st St & Colorado Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	115
Average Queue (ft)	49
95th Queue (ft)	100
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	90
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 8: 30th St & Colorado Ave

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	LT	R
Maximum Queue (ft)	74	91	30	98	32	47	149	85
Average Queue (ft)	21	17	2	17	4	13	42	45
95th Queue (ft)	53	57	13	61	19	38	100	79
Link Distance (ft)	675	675		459		282	294	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			120		120			60
Storage Blk Time (%)				0			4	1
Queuing Penalty (veh)				0			6	0

Intersection: 11: 29th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	43	87	31	73	64	154
Average Queue (ft)	6	18	5	14	19	57
95th Queue (ft)	29	62	23	49	50	112
Link Distance (ft)		459		1026	246	334
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	120		120			
Storage Blk Time (%)		0		0		
Queuing Penalty (veh)		0		0		

Intersection: 14: 27th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	18	130	33	48	88	73
Average Queue (ft)	1	28	7	8	34	26
95th Queue (ft)	10	87	28	34	73	58
Link Distance (ft)		1026		467	324	306
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	120		120			
Storage Blk Time (%)		0				
Queuing Penalty (veh)		0				

Intersection: 17: 26th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	41	144	79	72	198	124	85
Average Queue (ft)	5	44	27	15	95	50	29
95th Queue (ft)	25	107	63	47	168	116	65
Link Distance (ft)		467		487	317		140
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		150			100	
Storage Blk Time (%)		2	0		9	0	
Queuing Penalty (veh)		0	0		8	0	

Intersection: 20: 25th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	35	100	67	110	136	130
Average Queue (ft)	6	28	19	24	61	52
95th Queue (ft)	25	75	51	71	115	103
Link Distance (ft)		487		239	316	295
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150		65			
Storage Blk Time (%)		0	0	1		
Queuing Penalty (veh)		0	0	0		

Intersection: 24: Colorado Ave & Colbrunn Ct

Movement	EB	EB	WB
Directions Served	L	T	R
Maximum Queue (ft)	39	3	16
Average Queue (ft)	7	0	1
95th Queue (ft)	29	3	8
Link Distance (ft)		239	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	80		70
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25: 24th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	46	110	78	111	121	178
Average Queue (ft)	8	30	18	29	46	72
95th Queue (ft)	33	79	51	82	93	139
Link Distance (ft)		177		1597	292	300
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100		80			
Storage Blk Time (%)		0	0	1		
Queuing Penalty (veh)		0	0	0		

Intersection: 28: 21st St & Colorado Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	77	213	62	123	177	138	222	75	135	243
Average Queue (ft)	11	87	13	38	61	43	94	40	17	130
95th Queue (ft)	47	169	44	84	134	101	183	90	64	211
Link Distance (ft)	1597			2845			269			267
Upstream Blk Time (%)							0			0
Queuing Penalty (veh)							0			0
Storage Bay Dist (ft)	110	150		120	130			50	120	15
Storage Blk Time (%)	5			1			0	28	0	15
Queuing Penalty (veh)	3			1			0	38	1	3

Intersection: 30: 15th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	42	131	63	91	42	57	38	54
Average Queue (ft)	9	30	17	18	10	17	9	15
95th Queue (ft)	33	95	48	63	34	46	32	43
Link Distance (ft)	2845		2611		567		373	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	120	120		60			50	
Storage Blk Time (%)	0		0		0	0	1	1
Queuing Penalty (veh)	0		0		0	0	0	0

Intersection: 33: Limit St & Colorado Ave

Movement	EB	EB	WB	WB	SE
Directions Served	T	R	L	T	LTR
Maximum Queue (ft)	83	28	92	60	46
Average Queue (ft)	10	2	33	7	12
95th Queue (ft)	46	16	73	35	34
Link Distance (ft)	2611	576		576	696
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	200				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 36: 8th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	98	86	93	108	86	112	121
Average Queue (ft)	30	21	26	38	35	55	67
95th Queue (ft)	75	64	71	90	73	98	103
Link Distance (ft)	576	576	318	318		642	642
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					150		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 38: Colorado Ave & Walnut St

Movement	SE	SE	SE	NW	NE	NE	NE	SW	SW	SW
Directions Served	L	T	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	111	45	103	42	82	57	64	33	83	104
Average Queue (ft)	51	9	50	10	29	12	22	5	26	35
95th Queue (ft)	94	33	82	34	63	40	53	23	65	82
Link Distance (ft)		670	670	260		892	892		800	800
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200				100			120		
Storage Blk Time (%)					0	0			0	
Queuing Penalty (veh)					0	0			0	

Intersection: 42: Colorado Ave & Cimino St

Movement	SB	NW	NW	NE	NE	NE	SW	SW	SW
Directions Served	<LR	L	R>	L	T	TR	L	T	TR
Maximum Queue (ft)	132	90	82	47	86	102	68	74	94
Average Queue (ft)	52	35	31	17	19	38	23	21	28
95th Queue (ft)	112	75	62	41	59	86	51	57	70
Link Distance (ft)	250		510		800	800		1228	1228
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		80		100			220		
Storage Blk Time (%)		2	0		0				
Queuing Penalty (veh)		1	0		0				

Intersection: 44: 21st St & Pikes Peak

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	63	58	54	124	31	82
Average Queue (ft)	31	30	16	58	15	45
95th Queue (ft)	53	50	47	100	39	69
Link Distance (ft)	515	456		267		270
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				0		0
Queuing Penalty (veh)				0		0

Intersection: 47: 21st St & Cucharras St

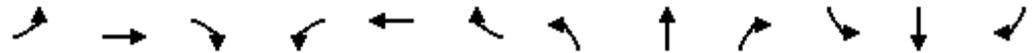
Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	61	68	35	5	32	4
Average Queue (ft)	32	33	6	0	3	0
95th Queue (ft)	56	59	25	5	19	3
Link Distance (ft)	468	568		331		269
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150		100	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 102

HCM 6th Signalized Intersection Summary
5: 31st St & Colorado Ave

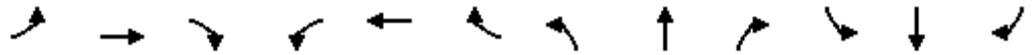
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	266	446	184	151	460	125	195	516	80	78	515	224
Future Volume (veh/h)	266	446	184	151	460	125	195	516	80	78	515	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	269	451	186	153	465	126	197	521	81	79	520	226
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	458	1236	551	412	842	226	373	562	87	183	1088	485
Arrive On Green	0.12	0.35	0.35	0.16	0.60	0.60	0.09	0.35	0.35	0.04	0.30	0.30
Sat Flow, veh/h	1795	3582	1598	1795	2790	751	1795	1593	248	1795	3582	1598
Grp Volume(v), veh/h	269	451	186	153	297	294	197	0	602	79	520	226
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1750	1795	0	1841	1795	1791	1598
Q Serve(g_s), s	9.8	9.4	8.6	5.8	9.9	10.0	7.2	0.0	31.5	3.0	11.8	11.5
Cycle Q Clear(g_c), s	9.8	9.4	8.6	5.8	9.9	10.0	7.2	0.0	31.5	3.0	11.8	11.5
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	458	1236	551	412	540	528	373	0	649	183	1088	485
V/C Ratio(X)	0.59	0.36	0.34	0.37	0.55	0.56	0.53	0.00	0.93	0.43	0.48	0.47
Avail Cap(c_a), veh/h	525	1236	551	450	540	528	434	0	709	198	1114	497
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	24.5	24.3	19.4	15.8	15.8	20.4	0.0	31.1	26.1	28.4	28.2
Incr Delay (d2), s/veh	1.3	0.8	1.7	0.5	3.6	3.8	1.2	0.0	17.6	1.6	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	4.1	3.5	2.2	3.6	3.6	3.1	0.0	16.7	1.3	5.1	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	25.4	25.9	19.9	19.5	19.7	21.6	0.0	48.8	27.7	28.7	28.9
LnGrp LOS	C	C	C	B	B	B	C	A	D	C	C	C
Approach Vol, veh/h		906			744			799			825	
Approach Delay, s/veh		24.1			19.6			42.1			28.7	
Approach LOS		C			B			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	39.0	13.8	34.9	16.6	34.7	8.9	39.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.9	28.3	12.7	31.1	15.9	22.3	5.3	38.5				
Max Q Clear Time (g_c+I1), s	7.8	11.4	9.2	13.8	11.8	12.0	5.0	33.5				
Green Ext Time (p_c), s	0.1	3.4	0.2	4.0	0.3	2.7	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				28.6								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
 8: 30th St & Colorado Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Volume (veh/h)	188	406	3	16	493	140	9	12	11	79	2	225
Future Volume (veh/h)	188	406	3	16	493	140	9	12	11	79	2	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	202	437	3	17	530	151	10	13	12	85	2	242
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	830	2674	18	459	1115	316	102	128	96	322	7	282
Arrive On Green	0.57	1.00	1.00	0.81	0.81	0.81	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1795	3647	25	957	2754	781	316	724	543	1417	38	1598
Grp Volume(v), veh/h	202	215	225	17	344	337	35	0	0	87	0	242
Grp Sat Flow(s),veh/h/ln	1795	1791	1881	957	1791	1745	1583	0	0	1456	0	1598
Q Serve(g_s), s	0.0	0.0	0.0	0.4	5.9	6.0	0.0	0.0	0.0	2.5	0.0	14.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	5.9	6.0	1.7	0.0	0.0	4.8	0.0	14.7
Prop In Lane	1.00		0.01	1.00		0.45	0.29		0.34	0.98		1.00
Lane Grp Cap(c), veh/h	830	1313	1379	459	725	707	326	0	0	328	0	282
V/C Ratio(X)	0.24	0.16	0.16	0.04	0.47	0.48	0.11	0.00	0.00	0.26	0.00	0.86
Avail Cap(c_a), veh/h	830	1313	1379	459	725	707	475	0	0	466	0	439
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.98	0.98	0.98	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.5	0.0	0.0	5.7	6.2	6.2	34.6	0.0	0.0	35.7	0.0	39.9
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.1	2.2	2.3	0.1	0.0	0.0	0.4	0.0	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.1	0.1	0.1	2.0	2.0	0.7	0.0	0.0	1.9	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.2	0.2	5.8	8.4	8.5	34.7	0.0	0.0	36.2	0.0	49.8
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	D
Approach Vol, veh/h		642			698			35				329
Approach Delay, s/veh		1.9			8.4			34.7				46.2
Approach LOS		A			A			C				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		77.8		22.2	32.8	45.0		22.2				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		63.5		27.5	18.5	40.5		27.5				
Max Q Clear Time (g_c+I1), s		2.0		16.7	2.0	8.0		3.7				
Green Ext Time (p_c), s		2.9		1.0	0.5	4.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				13.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
28: 21st St & Colorado Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕	↖	↗	↕	↖
Traffic Volume (veh/h)	56	489	75	171	547	22	120	300	102	23	244	25
Future Volume (veh/h)	56	489	75	171	547	22	120	300	102	23	244	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	58	509	78	178	570	23	125	312	106	24	254	26
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	474	1350	206	503	1644	66	271	444	377	218	313	32
Arrive On Green	0.05	0.43	0.43	0.08	0.47	0.47	0.08	0.24	0.24	0.03	0.19	0.19
Sat Flow, veh/h	1795	3115	475	1795	3509	141	1795	1885	1598	1795	1682	172
Grp Volume(v), veh/h	58	292	295	178	291	302	125	312	106	24	0	280
Grp Sat Flow(s),veh/h/ln	1795	1791	1800	1795	1791	1860	1795	1885	1598	1795	0	1854
Q Serve(g_s), s	1.4	8.8	8.9	4.3	8.2	8.3	4.3	12.1	4.3	0.9	0.0	11.6
Cycle Q Clear(g_c), s	1.4	8.8	8.9	4.3	8.2	8.3	4.3	12.1	4.3	0.9	0.0	11.6
Prop In Lane	1.00		0.26	1.00		0.08	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	474	776	780	503	839	871	271	444	377	218	0	346
V/C Ratio(X)	0.12	0.38	0.38	0.35	0.35	0.35	0.46	0.70	0.28	0.11	0.00	0.81
Avail Cap(c_a), veh/h	539	776	780	684	839	871	372	765	649	295	0	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	15.3	15.4	11.0	13.5	13.5	23.5	28.0	25.0	25.6	0.0	31.2
Incr Delay (d2), s/veh	0.1	1.4	1.4	0.4	1.1	1.1	1.2	2.0	0.4	0.2	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.7	3.7	1.6	3.4	3.5	1.9	5.5	1.6	0.4	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	16.7	16.8	11.4	14.6	14.6	24.7	30.1	25.4	25.8	0.0	35.8
LnGrp LOS	B	B	B	B	B	B	C	C	C	C	A	D
Approach Vol, veh/h		645			771			543			304	
Approach Delay, s/veh		16.3			13.9			27.9			35.0	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	39.2	10.5	19.4	8.1	42.0	6.6	23.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.5	29.5	10.5	27.5	6.5	37.5	5.5	32.5				
Max Q Clear Time (g_c+I1), s	6.3	10.9	6.3	13.6	3.4	10.3	2.9	14.1				
Green Ext Time (p_c), s	0.3	3.5	0.1	1.3	0.0	3.8	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay				20.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
33: Limit St & Colorado Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑↑		↑	↑↑			↑↓				
Traffic Volume (veh/h)	0	516	174	295	881	0	4	14	2	0	0	0
Future Volume (veh/h)	0	516	174	295	881	0	4	14	2	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	1870	1870			
Adj Flow Rate, veh/h	0	561	189	321	958	0	4	15	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	2	2	0	2	2	2			
Cap, veh/h	0	2031	682	699	3155	0	8	29	4			
Arrive On Green	0.00	0.78	0.78	0.13	1.00	0.00	0.02	0.02	0.02			
Sat Flow, veh/h	0	2705	877	1781	3647	0	347	1301	174			
Grp Volume(v), veh/h	0	381	369	321	958	0	21	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1712	1781	1777	0	1822	0	0			
Q Serve(g_s), s	0.0	6.1	6.1	3.6	0.0	0.0	1.1	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	6.1	6.1	3.6	0.0	0.0	1.1	0.0	0.0			
Prop In Lane	0.00		0.51	1.00		0.00	0.19		0.10			
Lane Grp Cap(c), veh/h	0	1381	1331	699	3155	0	40	0	0			
V/C Ratio(X)	0.00	0.28	0.28	0.46	0.30	0.00	0.52	0.00	0.00			
Avail Cap(c_a), veh/h	0	1381	1331	1090	3155	0	337	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.98	0.98	0.92	0.92	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	3.2	3.2	1.6	0.0	0.0	48.4	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.4	0.2	0.0	10.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.8	1.7	0.4	0.1	0.0	0.6	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.6	3.7	2.1	0.2	0.0	58.4	0.0	0.0			
LnGrp LOS	A	A	A	A	A	A	E	A	A			
Approach Vol, veh/h		750			1279			21				
Approach Delay, s/veh		3.6			0.7			58.4				
Approach LOS		A			A			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	11.0	82.2		6.7		93.3						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	28.5	39.5		18.5		72.5						
Max Q Clear Time (g_c+I1), s	5.6	8.1		3.1		2.0						
Green Ext Time (p_c), s	0.9	5.4		0.0		9.0						
Intersection Summary												
HCM 6th Ctrl Delay			2.4									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
 36: 8th St & Colorado Ave

1ColoradoAve-ExistingPM.syn
 05/17/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗↘	↗
Traffic Volume (veh/h)	514	0	0	913	282	361
Future Volume (veh/h)	514	0	0	913	282	361
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	559	0	0	992	307	392
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2241	0	0	2241	966	443
Arrive On Green	0.63	0.00	0.00	0.63	0.28	0.28
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	559	0	0	992	307	392
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	6.9	0.0	0.0	14.3	7.0	23.7
Cycle Q Clear(g_c), s	6.9	0.0	0.0	14.3	7.0	23.7
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2241	0	0	2241	966	443
V/C Ratio(X)	0.25	0.00	0.00	0.44	0.32	0.89
Avail Cap(c_a), veh/h	2241	0	0	2241	1365	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.97	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	9.5	28.5	34.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.2	10.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	5.3	2.9	10.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.4	0.0	0.0	10.1	28.7	45.2
LnGrp LOS	A	A	A	B	C	D
Approach Vol, veh/h	559			992	699	
Approach Delay, s/veh	8.4			10.1	38.0	
Approach LOS	A			B	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		67.6			67.6	32.4
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		51.5			51.5	39.5
Max Q Clear Time (g_c+I1), s		8.9			16.3	25.7
Green Ext Time (p_c), s		4.3			8.8	2.3
Intersection Summary						
HCM 6th Ctrl Delay			18.3			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
 38: Colorado Ave & Walnut St

1ColoradoAve-ExistingPM.syn
 05/17/2022



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	39	11	200	8	7	8	241	652	13	12	693	124
Future Volume (veh/h)	39	11	200	8	7	8	241	652	13	12	693	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	40	11	206	8	7	8	248	672	13	12	714	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	286	281	238	107	93	80	573	2735	53	610	2309	414
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.76	0.76	0.76	1.00	1.00	1.00
Sat Flow, veh/h	1410	1885	1598	391	621	540	659	3594	70	763	3035	544
Grp Volume(v), veh/h	40	11	206	23	0	0	248	335	350	12	421	421
Grp Sat Flow(s),veh/h/ln	1410	1885	1598	1551	0	0	659	1791	1873	763	1791	1787
Q Serve(g_s), s	1.1	0.5	12.6	0.0	0.0	0.0	14.4	5.5	5.5	0.1	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.5	12.6	1.1	0.0	0.0	14.4	5.5	5.5	5.6	0.0	0.0
Prop In Lane	1.00		1.00	0.35		0.35	1.00		0.04	1.00		0.30
Lane Grp Cap(c), veh/h	286	281	238	280	0	0	573	1363	1425	610	1363	1360
V/C Ratio(X)	0.14	0.04	0.87	0.08	0.00	0.00	0.43	0.25	0.25	0.02	0.31	0.31
Avail Cap(c_a), veh/h	337	349	296	333	0	0	573	1363	1425	610	1363	1360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	37.1	36.4	41.6	36.7	0.0	0.0	4.6	3.5	3.5	0.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.1	19.4	0.1	0.0	0.0	2.4	0.4	0.4	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.2	6.2	0.5	0.0	0.0	1.9	1.7	1.8	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	36.5	60.9	36.8	0.0	0.0	7.0	3.9	3.9	0.3	0.6	0.6
LnGrp LOS	D	D	E	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		257			23			933			854	
Approach Delay, s/veh		56.2			36.8			4.7			0.6	
Approach LOS		E			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		80.6		19.4		80.6		19.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		72.5		18.5		72.5		18.5				
Max Q Clear Time (g_c+I1), s		16.4		14.6		7.6		3.1				
Green Ext Time (p_c), s		8.3		0.3		6.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			9.8									
HCM 6th LOS			A									

Queuing and Blocking Report
Existing

10/19/2021

Intersection: 5: 31st St & Colorado Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	T
Maximum Queue (ft)	220	281	223	122	180	219	253	394	610	115	296	282
Average Queue (ft)	134	129	75	28	67	108	139	151	392	76	177	141
95th Queue (ft)	220	234	167	84	138	185	221	454	657	138	272	248
Link Distance (ft)		807	807			673	673	656	656		807	807
Upstream Blk Time (%)								3	6			
Queuing Penalty (veh)								0	0			
Storage Bay Dist (ft)	200			100	250					90		
Storage Blk Time (%)	3	1	2	0	0	0				11	33	13
Queuing Penalty (veh)	6	2	3	0	0	0				28	26	29

Intersection: 5: 31st St & Colorado Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	115
Average Queue (ft)	78
95th Queue (ft)	133
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	90
Storage Blk Time (%)	1
Queuing Penalty (veh)	3

Intersection: 8: 30th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	141	36	49	52	149	185	81	214	85
Average Queue (ft)	56	6	11	9	51	74	23	76	67
95th Queue (ft)	107	23	35	35	119	150	60	165	97
Link Distance (ft)		673	673		458	458	275	299	
Upstream Blk Time (%)								0	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	200			50					60
Storage Blk Time (%)	0			0	11			10	6
Queuing Penalty (veh)	0			1	2			23	5

Queuing and Blocking Report
Existing

10/19/2021

Intersection: 11: 29th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	59	62	66	76	51	131
Average Queue (ft)	19	12	19	19	17	58
95th Queue (ft)	49	43	52	57	45	110
Link Distance (ft)	458	458	1026	1026	240	328
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: 27th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	64	87	87	83	85	59
Average Queue (ft)	10	14	23	23	33	23
95th Queue (ft)	40	53	65	66	70	54
Link Distance (ft)	1026	1026	466	466	318	300
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 17: 26th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (ft)	59	91	110	79	68	68	218	125	77
Average Queue (ft)	9	26	33	28	13	16	93	44	29
95th Queue (ft)	36	69	82	63	44	47	167	101	65
Link Distance (ft)		466	466		487	487	305		128
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	80			150				100	
Storage Blk Time (%)		0					8	0	
Queuing Penalty (veh)		0					7	0	

Queuing and Blocking Report
Existing

10/19/2021

Intersection: 20: 25th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	33	61	72	70	100	106	160	120
Average Queue (ft)	8	15	21	20	27	30	67	51
95th Queue (ft)	29	46	58	52	78	81	126	99
Link Distance (ft)		487	487		239	239	304	283
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150			65				
Storage Blk Time (%)				0	1			
Queuing Penalty (veh)				1	1			

Intersection: 24: Colorado Ave & Colbrunn Ct

Movement	EB	WB
Directions Served	L	R
Maximum Queue (ft)	39	2
Average Queue (ft)	12	0
95th Queue (ft)	36	2
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	80	70
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: 24th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	63	108	126	75	147	134	105	170
Average Queue (ft)	16	33	42	19	37	45	43	76
95th Queue (ft)	48	81	95	55	99	109	86	140
Link Distance (ft)		177	177		1597	1597	280	288
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)	100			80				
Storage Blk Time (%)		0		0	2			
Queuing Penalty (veh)		0		0	1			

Queuing and Blocking Report
Existing

10/19/2021

Intersection: 28: 21st St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	113	162	167	143	186	174	154	269	75	144	261
Average Queue (ft)	32	84	98	68	78	83	92	186	47	26	149
95th Queue (ft)	79	144	154	126	150	150	170	292	98	86	234
Link Distance (ft)		1597	1597		2846	2846		254			257
Upstream Blk Time (%)								3			1
Queuing Penalty (veh)								17			2
Storage Bay Dist (ft)	110			120			130		50	120	
Storage Blk Time (%)		3		1	1		1	46	1		20
Queuing Penalty (veh)		2		1	2		2	101	5		4

Intersection: 30: 15th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	L	TR	L	TR
Maximum Queue (ft)	103	96	116	117	44	48	50	55
Average Queue (ft)	28	25	41	34	10	15	11	17
95th Queue (ft)	75	71	95	97	33	43	37	46
Link Distance (ft)	2846	2846	2606	2606		561		367
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					60		50	
Storage Blk Time (%)					0	0	1	2
Queuing Penalty (veh)					0	0	0	0

Intersection: 33: Limit St & Colorado Ave

Movement	EB	EB	WB	WB	WB	SE
Directions Served	T	TR	L	T	T	LTR
Maximum Queue (ft)	78	84	132	46	61	55
Average Queue (ft)	13	12	60	4	10	17
95th Queue (ft)	49	49	109	24	38	45
Link Distance (ft)	2606	2606		577	577	696
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			220			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report
Existing

10/19/2021

Intersection: 36: 8th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	124	108	194	180	166	190	154
Average Queue (ft)	39	30	86	77	68	110	82
95th Queue (ft)	92	78	157	149	145	176	133
Link Distance (ft)	577	577	319	319		637	637
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					150		
Storage Blk Time (%)					0	2	
Queuing Penalty (veh)					0	3	

Intersection: 38: Colorado Ave & Walnut St

Movement	SE	SE	SE	NW	NE	NE	NE	SW	SW	SW
Directions Served	L	T	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	78	49	104	61	123	164	102	37	137	134
Average Queue (ft)	30	10	56	20	68	21	26	7	41	44
95th Queue (ft)	66	35	90	50	117	95	70	29	100	103
Link Distance (ft)		670	670	260		892	892		800	800
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200				100			120		
Storage Blk Time (%)					3	0			0	
Queuing Penalty (veh)					11	0			0	

Intersection: 42: Colorado Ave & Cimino St

Movement	SB	NW	NW	NE	NE	NE	SW	SW	SW
Directions Served	<LR	L	R>	L	T	TR	L	T	TR
Maximum Queue (ft)	125	86	101	73	96	121	80	150	153
Average Queue (ft)	45	37	32	23	28	48	27	55	56
95th Queue (ft)	98	78	71	54	75	99	61	120	123
Link Distance (ft)	250		510		800	800		1228	1228
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		80		100			220		
Storage Blk Time (%)		2	0	0	0				
Queuing Penalty (veh)		1	0	0	0				

Intersection: 44: 21st St & Pikes Peak

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	56	59	117	187	33	100
Average Queue (ft)	29	31	21	105	14	53
95th Queue (ft)	51	53	74	168	39	82
Link Distance (ft)	529	542		257		256
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				7		0
Queuing Penalty (veh)				1		0

Intersection: 47: 21st St & Cucharras St

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	83	76	31	147	37	6
Average Queue (ft)	36	36	5	16	7	0
95th Queue (ft)	65	65	23	77	28	4
Link Distance (ft)	426	582		346		254
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150		100	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 292

HCM 6th Signalized Intersection Summary
5: 31st St & Colorado Ave

NoBuild 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↗		↘	↑↑	↗
Traffic Volume (veh/h)	266	446	184	151	460	125	195	516	80	78	515	224
Future Volume (veh/h)	266	446	184	151	460	125	195	516	80	78	515	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	318	533	220	181	550	149	233	617	96	93	616	268
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	363	988	441	353	619	167	384	624	97	166	1211	540
Arrive On Green	0.15	0.28	0.28	0.07	0.15	0.15	0.10	0.40	0.40	0.05	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	2766	747	1781	1580	246	1781	3554	1585
Grp Volume(v), veh/h	318	533	220	181	353	346	233	0	713	93	616	268
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1736	1781	0	1826	1781	1777	1585
Q Serve(g_s), s	13.1	12.7	11.6	7.7	19.5	19.6	8.1	0.0	38.8	3.4	13.8	13.4
Cycle Q Clear(g_c), s	13.1	12.7	11.6	7.7	19.5	19.6	8.1	0.0	38.8	3.4	13.8	13.4
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	363	988	441	353	397	388	384	0	721	166	1211	540
V/C Ratio(X)	0.88	0.54	0.50	0.51	0.89	0.89	0.61	0.00	0.99	0.56	0.51	0.50
Avail Cap(c_a), veh/h	369	988	441	409	397	388	490	0	721	168	1211	540
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	30.7	30.3	26.9	41.3	41.3	18.5	0.0	30.0	25.4	26.3	26.2
Incr Delay (d2), s/veh	20.1	2.1	4.0	1.0	21.9	22.9	1.5	0.0	30.5	4.1	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	5.7	4.9	3.4	11.2	11.1	3.4	0.0	22.4	1.6	5.8	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	32.8	34.3	28.0	63.2	64.3	20.0	0.0	60.5	29.5	26.6	26.9
LnGrp LOS	D	C	C	C	E	E	C	A	E	C	C	C
Approach Vol, veh/h		1071			880			946			977	
Approach Delay, s/veh		36.8			56.3			50.6			27.0	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	32.3	14.9	38.6	19.7	26.9	9.5	44.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.9	24.5	16.3	28.3	15.5	21.9	5.1	39.5				
Max Q Clear Time (g_c+I1), s	9.7	14.7	10.1	15.8	15.1	21.6	5.4	40.8				
Green Ext Time (p_c), s	0.1	3.1	0.3	4.2	0.0	0.2	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				42.1								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
8: 30th St & Colorado Ave

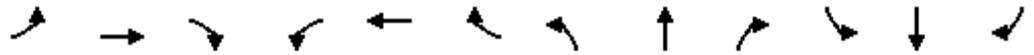
NoBuild 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	406	3	16	493	140	9	12	11	79	2	225
Future Volume (veh/h)	188	406	3	16	493	140	9	12	11	79	2	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	485	4	19	589	167	11	14	13	94	2	269
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	698	2586	21	430	1080	306	95	117	86	306	6	308
Arrive On Green	0.55	1.00	1.00	0.26	0.26	0.26	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	3612	30	907	2735	773	250	601	443	1212	30	1585
Grp Volume(v), veh/h	225	238	251	19	382	374	38	0	0	96	0	269
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	907	1777	1731	1294	0	0	1241	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	1.6	18.5	18.6	0.1	0.0	0.0	0.2	0.0	16.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.6	18.5	18.6	8.2	0.0	0.0	8.2	0.0	16.5
Prop In Lane	1.00		0.02	1.00		0.45	0.29		0.34	0.98		1.00
Lane Grp Cap(c), veh/h	698	1272	1335	430	702	684	298	0	0	312	0	308
V/C Ratio(X)	0.32	0.19	0.19	0.04	0.54	0.55	0.13	0.00	0.00	0.31	0.00	0.87
Avail Cap(c_a), veh/h	698	1272	1335	430	702	684	403	0	0	411	0	420
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.82	0.82	0.82	0.97	0.97	0.97	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	0.0	22.8	29.0	29.1	33.3	0.0	0.0	35.8	0.0	39.1
Incr Delay (d2), s/veh	0.2	0.3	0.3	0.2	2.9	3.0	0.2	0.0	0.0	0.6	0.0	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.1	0.1	0.4	8.8	8.7	0.8	0.0	0.0	2.1	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.3	0.3	23.0	32.0	32.1	33.4	0.0	0.0	36.3	0.0	53.3
LnGrp LOS	B	A	A	C	C	C	C	A	A	D	A	D
Approach Vol, veh/h		714			775			38				365
Approach Delay, s/veh		3.7			31.8			33.4				48.9
Approach LOS		A			C			C				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		76.1		23.9	32.1	44.0		23.9				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		64.5		26.5	20.5	39.5		26.5				
Max Q Clear Time (g_c+I1), s		2.0		18.5	2.0	20.6		10.2				
Green Ext Time (p_c), s		3.3		0.9	0.6	4.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				24.5								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
28: 21st St & Colorado Ave

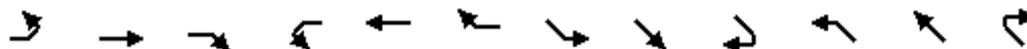
NoBuild 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	489	75	171	547	22	120	300	102	23	244	25
Future Volume (veh/h)	56	489	75	171	547	22	120	300	102	23	244	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	585	90	204	654	26	143	359	122	28	292	30
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	493	1405	216	491	1728	69	249	476	404	191	337	35
Arrive On Green	0.06	0.61	0.61	0.17	0.99	0.99	0.08	0.25	0.25	0.03	0.20	0.20
Sat Flow, veh/h	1781	3088	474	1781	3484	138	1781	1870	1585	1781	1668	171
Grp Volume(v), veh/h	67	336	339	204	333	347	143	359	122	28	0	322
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1845	1781	1870	1585	1781	0	1840
Q Serve(g_s), s	2.0	10.0	10.0	6.0	0.2	0.2	6.1	17.7	6.2	1.2	0.0	16.9
Cycle Q Clear(g_c), s	2.0	10.0	10.0	6.0	0.2	0.2	6.1	17.7	6.2	1.2	0.0	16.9
Prop In Lane	1.00		0.27	1.00		0.08	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	493	808	812	491	881	915	249	476	404	191	0	371
V/C Ratio(X)	0.14	0.42	0.42	0.42	0.38	0.38	0.58	0.75	0.30	0.15	0.00	0.87
Avail Cap(c_a), veh/h	519	808	812	626	881	915	279	608	515	234	0	513
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.9	12.7	12.7	11.1	0.2	0.2	28.6	34.4	30.1	31.0	0.0	38.6
Incr Delay (d2), s/veh	0.1	1.5	1.5	0.5	1.2	1.1	2.3	4.0	0.4	0.3	0.0	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.8	3.8	2.0	0.3	0.3	2.7	8.4	2.4	0.5	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	14.3	14.3	11.6	1.4	1.3	30.9	38.4	30.5	31.4	0.0	49.8
LnGrp LOS	B	B	B	B	A	A	C	D	C	C	A	D
Approach Vol, veh/h		742			884			624				350
Approach Delay, s/veh		14.2			3.7			35.1				48.3
Approach LOS		B			A			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	50.0	12.5	24.7	8.7	54.1	7.2	30.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.9	28.5	9.7	27.9	5.7	38.7	5.1	32.5				
Max Q Clear Time (g_c+I1), s	8.0	12.0	8.1	18.9	4.0	2.2	3.2	19.7				
Green Ext Time (p_c), s	0.3	3.9	0.1	1.2	0.0	4.8	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay				20.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
33: Limit St & Colorado Ave

NoBuild 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑↑		↑	↑↑			↑↓				
Traffic Volume (veh/h)	0	516	174	295	881	0	4	14	2	0	0	0
Future Volume (veh/h)	0	516	174	295	881	0	4	14	2	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	1870	1870			
Adj Flow Rate, veh/h	0	617	208	353	1053	0	5	17	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	2	2	0	2	2	2			
Cap, veh/h	0	2019	680	705	3147	0	9	31	4			
Arrive On Green	0.00	1.00	1.00	0.09	1.00	0.00	0.02	0.02	0.02			
Sat Flow, veh/h	0	2704	879	1781	3647	0	380	1292	152			
Grp Volume(v), veh/h	0	420	405	353	1053	0	24	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1712	1781	1777	0	1824	0	0			
Q Serve(g_s), s	0.0	0.0	0.0	3.7	0.0	0.0	1.3	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.7	0.0	0.0	1.3	0.0	0.0			
Prop In Lane	0.00		0.51	1.00		0.00	0.21		0.08			
Lane Grp Cap(c), veh/h	0	1374	1324	705	3147	0	44	0	0			
V/C Ratio(X)	0.00	0.31	0.31	0.50	0.33	0.00	0.54	0.00	0.00			
Avail Cap(c_a), veh/h	0	1374	1324	1093	3147	0	337	0	0			
HCM Platoon Ratio	1.00	2.00	2.00	1.33	1.33	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.97	0.97	0.89	0.89	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	48.2	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.5	0.3	0.0	9.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.5	0.1	0.0	0.7	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.6	0.6	1.7	0.3	0.0	58.1	0.0	0.0			
LnGrp LOS	A	A	A	A	A	A	E	A	A			
Approach Vol, veh/h		825			1406			24				
Approach Delay, s/veh		0.6			0.6			58.1				
Approach LOS		A			A			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	11.2	81.8		6.9		93.1						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	28.5	39.5		18.5		72.5						
Max Q Clear Time (g_c+I1), s	5.7	2.0		3.3		2.0						
Green Ext Time (p_c), s	1.1	6.3		0.0		10.4						
Intersection Summary												
HCM 6th Ctrl Delay				1.2								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary
36: 8th St & Colorado Ave

NoBuild 2045 PM Peak
06/27/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗↘	↗
Traffic Volume (veh/h)	514	0	0	913	282	361
Future Volume (veh/h)	514	0	0	913	282	361
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	615	0	0	1092	337	432
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2151	0	0	2151	1053	483
Arrive On Green	0.61	0.00	0.00	0.61	0.30	0.30
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	615	0	0	1092	337	432
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	8.3	0.0	0.0	17.5	7.5	26.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	17.5	7.5	26.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2151	0	0	2151	1053	483
V/C Ratio(X)	0.29	0.00	0.00	0.51	0.32	0.89
Avail Cap(c_a), veh/h	2151	0	0	2151	1400	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	11.2	26.8	33.2
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.2	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0	6.6	3.1	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	0.0	0.0	12.1	27.0	45.4
LnGrp LOS	A	A	A	B	C	D
Approach Vol, veh/h	615			1092	769	
Approach Delay, s/veh	9.7			12.1	37.3	
Approach LOS	A			B	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		65.0			65.0	35.0
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		50.5			50.5	40.5
Max Q Clear Time (g_c+I1), s		10.3			19.5	28.0
Green Ext Time (p_c), s		4.8			9.7	2.4
Intersection Summary						
HCM 6th Ctrl Delay			19.4			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
38: Colorado Ave & Walnut St

NoBuild 2045 PM Peak
06/27/2022



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	39	11	200	8	7	8	241	652	13	12	693	124
Future Volume (veh/h)	39	11	200	8	7	8	241	652	13	12	693	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	13	239	10	8	10	288	780	16	14	829	148
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	316	268	118	95	91	499	2639	54	528	2233	399
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.74	0.74	0.74	1.00	1.00	1.00
Sat Flow, veh/h	1395	1870	1585	407	561	538	576	3561	73	682	3013	538
Grp Volume(v), veh/h	47	13	239	28	0	0	288	389	407	14	489	488
Grp Sat Flow(s),veh/h/ln	1395	1870	1585	1505	0	0	576	1777	1857	682	1777	1774
Q Serve(g_s), s	1.2	0.6	14.8	0.0	0.0	0.0	25.9	7.3	7.3	0.2	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.6	14.8	1.3	0.0	0.0	25.9	7.3	7.3	7.5	0.0	0.0
Prop In Lane	1.00		1.00	0.36		0.36	1.00		0.04	1.00		0.30
Lane Grp Cap(c), veh/h	313	316	268	303	0	0	499	1317	1376	528	1317	1314
V/C Ratio(X)	0.15	0.04	0.89	0.09	0.00	0.00	0.58	0.30	0.30	0.03	0.37	0.37
Avail Cap(c_a), veh/h	328	337	285	319	0	0	499	1317	1376	528	1317	1314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	35.5	34.8	40.7	35.1	0.0	0.0	6.7	4.3	4.3	0.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.1	26.8	0.1	0.0	0.0	4.8	0.6	0.5	0.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.3	7.7	0.6	0.0	0.0	3.1	2.3	2.4	0.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	34.8	67.5	35.2	0.0	0.0	11.5	4.9	4.8	0.5	0.7	0.7
LnGrp LOS	D	C	E	D	A	A	B	A	A	A	A	A
Approach Vol, veh/h		299			28			1084				991
Approach Delay, s/veh		61.0			35.2			6.6				0.7
Approach LOS		E			D			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		78.6		21.4		78.6		21.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		73.0		18.0		73.0		18.0				
Max Q Clear Time (g_c+I1), s		27.9		16.8		9.5		3.3				
Green Ext Time (p_c), s		11.0		0.1		8.4		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			11.3									
HCM 6th LOS			B									

Intersection: 5: 31st St & Colorado Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	T
Maximum Queue (ft)	224	498	423	125	227	334	366	624	682	115	335	312
Average Queue (ft)	169	237	159	45	86	181	211	254	493	83	194	165
95th Queue (ft)	257	519	432	116	192	337	369	674	754	139	294	279
Link Distance (ft)		807	807			673	673	656	656		807	807
Upstream Blk Time (%)		2	0			0	0	10	18			
Queuing Penalty (veh)		0	0			0	1	0	0			
Storage Bay Dist (ft)	200			100	250					90		
Storage Blk Time (%)	16	2	5	0	0	4				14	36	17
Queuing Penalty (veh)	40	6	11	1	0	7				40	31	42

Intersection: 5: 31st St & Colorado Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	115
Average Queue (ft)	89
95th Queue (ft)	142
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	90
Storage Blk Time (%)	3
Queuing Penalty (veh)	9

Intersection: 8: 30th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	146	59	75	59	197	225	72	247	85
Average Queue (ft)	67	15	20	10	64	87	24	80	70
95th Queue (ft)	126	41	54	37	147	176	58	179	97
Link Distance (ft)		673	673		458	458	275	299	
Upstream Blk Time (%)								0	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	200			50					60
Storage Blk Time (%)	0			0	11			12	8
Queuing Penalty (veh)	0			1	2			30	7

Intersection: 11: 29th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	86	116	129	145	63	154
Average Queue (ft)	22	21	34	45	20	66
95th Queue (ft)	61	69	92	111	52	123
Link Distance (ft)	458	458	1026	1026	240	328
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: 27th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	54	65	78	83	80	67
Average Queue (ft)	9	12	23	21	33	29
95th Queue (ft)	36	46	61	63	67	60
Link Distance (ft)	1026	1026	466	466	318	300
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 17: 26th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (ft)	35	71	85	91	104	107	220	125	92
Average Queue (ft)	8	22	32	32	22	25	100	55	35
95th Queue (ft)	30	57	71	70	67	71	175	121	76
Link Distance (ft)		466	466		487	487	305		128
Upstream Blk Time (%)							0		0
Queuing Penalty (veh)							0		0
Storage Bay Dist (ft)	80			150				100	
Storage Blk Time (%)		0			0		11	0	
Queuing Penalty (veh)		0			0		10	0	

Intersection: 20: 25th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	45	71	86	58	118	105	152	132
Average Queue (ft)	10	22	31	21	26	27	68	53
95th Queue (ft)	35	57	71	52	78	77	126	108
Link Distance (ft)		487	487		239	239	304	283
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150			65				
Storage Blk Time (%)				0	1			
Queuing Penalty (veh)				0	1			

Intersection: 24: Colorado Ave & Colbrunn Ct

Movement	EB	WB	WB
Directions Served	L	T	R
Maximum Queue (ft)	49	2	18
Average Queue (ft)	13	0	1
95th Queue (ft)	40	2	10
Link Distance (ft)		177	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	80		70
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 25: 24th St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	52	111	117	76	101	129	135	174
Average Queue (ft)	15	33	41	23	36	45	52	80
95th Queue (ft)	45	83	94	58	87	103	105	149
Link Distance (ft)		177	177		1597	1597	280	288
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			80				
Storage Blk Time (%)	0	0		0	1			
Queuing Penalty (veh)	0	0		0	1			

Intersection: 28: 21st St & Colorado Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	134	234	250	144	243	222	154	271	75	144	268
Average Queue (ft)	46	124	140	85	113	121	101	199	44	27	166
95th Queue (ft)	108	201	219	151	205	192	179	301	95	88	266
Link Distance (ft)		1597	1597		2846	2846		254			257
Upstream Blk Time (%)								4			2
Queuing Penalty (veh)								23			7
Storage Bay Dist (ft)	110			120			130		50	120	
Storage Blk Time (%)	0	12		2	5		1	45	1		23
Queuing Penalty (veh)	0	7		6	9		5	109	6		6

Intersection: 30: 15th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	L	TR	L	TR
Maximum Queue (ft)	106	86	121	136	43	53	41	57
Average Queue (ft)	29	16	43	35	10	18	10	19
95th Queue (ft)	77	53	96	99	35	47	34	50
Link Distance (ft)	2846	2846	2606	2606		561		367
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					60		50	
Storage Blk Time (%)					0	0	0	2
Queuing Penalty (veh)					0	0	0	0

Intersection: 33: Limit St & Colorado Ave

Movement	EB	EB	WB	WB	WB	SE
Directions Served	T	TR	L	T	T	LTR
Maximum Queue (ft)	103	130	150	94	100	63
Average Queue (ft)	24	30	67	11	16	19
95th Queue (ft)	72	88	122	51	62	48
Link Distance (ft)	2606	2606		577	577	696
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			220			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 36: 8th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	142	126	226	224	166	201	189
Average Queue (ft)	58	47	104	96	72	114	97
95th Queue (ft)	118	105	191	186	148	181	158
Link Distance (ft)	577	577	319	319		637	637
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					150		
Storage Blk Time (%)					0	2	
Queuing Penalty (veh)					0	3	

Intersection: 38: Colorado Ave & Walnut St

Movement	SE	SE	SE	NW	NE	NE	NE	SW	SW	SW
Directions Served	L	T	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	94	57	124	72	124	243	139	39	124	139
Average Queue (ft)	35	13	63	23	81	45	33	9	50	54
95th Queue (ft)	73	42	102	57	131	176	94	33	106	115
Link Distance (ft)		670	670	260		892	892		800	800
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200				100			120		
Storage Blk Time (%)					11	0			0	
Queuing Penalty (veh)					41	0			0	

Intersection: 42: Colorado Ave & Cimino St

Movement	SB	NW	NW	NE	NE	NE	SW	SW	SW
Directions Served	<LR	L	R>	L	T	TR	L	T	TR
Maximum Queue (ft)	157	93	106	81	154	160	100	178	192
Average Queue (ft)	50	38	34	26	39	57	33	68	70
95th Queue (ft)	115	77	74	56	104	124	73	139	146
Link Distance (ft)	250		510		800	800		1228	1228
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)		80		100			220		
Storage Blk Time (%)		2	1	0	1				
Queuing Penalty (veh)		1	0	0	0				

Intersection: 44: 21st St & Pikes Peak

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	64	60	114	212	52	159
Average Queue (ft)	32	34	21	117	17	66
95th Queue (ft)	53	54	73	187	45	121
Link Distance (ft)	529	542		257		256
Upstream Blk Time (%)				0		0
Queuing Penalty (veh)				0		0
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				11		2
Queuing Penalty (veh)				2		0

Intersection: 47: 21st St & Cucharras St

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	98	93	39	187	40	11
Average Queue (ft)	40	42	9	25	9	1
95th Queue (ft)	77	76	33	109	34	7
Link Distance (ft)	426	582		346		254
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)			150		100	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 465

HCM 6th Signalized Intersection Summary
5: 31st St & Colorado Ave

Three Lane 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	266	446	184	151	460	125	195	516	80	78	515	224
Future Volume (veh/h)	266	446	184	151	460	125	195	516	80	78	515	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	318	533	220	181	550	149	233	617	96	93	616	268
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	988	441	352	619	167	384	624	97	166	1211	540
Arrive On Green	0.15	0.28	0.28	0.03	0.07	0.07	0.10	0.40	0.40	0.05	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	2766	747	1781	1580	246	1781	3554	1585
Grp Volume(v), veh/h	318	533	220	181	353	346	233	0	713	93	616	268
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1736	1781	0	1826	1781	1777	1585
Q Serve(g_s), s	13.1	12.7	11.6	7.7	19.7	19.8	8.1	0.0	38.8	3.4	13.8	13.4
Cycle Q Clear(g_c), s	13.1	12.7	11.6	7.7	19.7	19.8	8.1	0.0	38.8	3.4	13.8	13.4
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	362	988	441	352	397	388	384	0	721	166	1211	540
V/C Ratio(X)	0.88	0.54	0.50	0.51	0.89	0.89	0.61	0.00	0.99	0.56	0.51	0.50
Avail Cap(c_a), veh/h	367	988	441	409	397	388	490	0	721	168	1211	540
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	30.7	30.3	27.9	45.1	45.1	18.5	0.0	30.0	25.4	26.3	26.2
Incr Delay (d2), s/veh	20.7	2.1	4.0	0.9	20.5	21.5	1.5	0.0	30.5	4.1	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	5.7	4.9	3.6	11.6	11.5	3.4	0.0	22.4	1.6	5.8	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	32.8	34.3	28.8	65.6	66.6	20.0	0.0	60.5	29.5	26.6	26.9
LnGrp LOS	D	C	C	C	E	E	C	A	E	C	C	C
Approach Vol, veh/h		1071			880			946			977	
Approach Delay, s/veh		37.0			58.4			50.6			27.0	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	32.3	14.9	38.6	19.7	26.9	9.5	44.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.9	24.5	16.3	28.3	15.5	21.9	5.1	39.5				
Max Q Clear Time (g_c+I1), s	9.7	14.7	10.1	15.8	15.1	21.8	5.4	40.8				
Green Ext Time (p_c), s	0.1	3.1	0.3	4.2	0.0	0.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				42.6								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary
8: 30th St & Colorado Ave

Three Lane 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	406	3	16	493	140	9	12	11	79	2	225
Future Volume (veh/h)	188	406	3	16	493	140	9	12	11	79	2	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	485	4	19	589	167	11	14	13	94	2	269
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	544	1336	11	548	982	832	91	112	81	295	6	299
Arrive On Green	0.30	1.00	1.00	0.70	0.52	0.52	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	1852	15	907	1870	1585	237	591	431	1186	29	1585
Grp Volume(v), veh/h	225	0	489	19	589	167	38	0	0	96	0	269
Grp Sat Flow(s),veh/h/ln	1781	0	1868	907	1870	1585	1259	0	0	1216	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.7	21.8	5.6	0.1	0.0	0.0	0.1	0.0	16.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.7	21.8	5.6	8.6	0.0	0.0	8.6	0.0	16.6
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.34	0.98		1.00
Lane Grp Cap(c), veh/h	544	0	1347	548	982	832	284	0	0	301	0	299
V/C Ratio(X)	0.41	0.00	0.36	0.03	0.60	0.20	0.13	0.00	0.00	0.32	0.00	0.90
Avail Cap(c_a), veh/h	544	0	1347	548	982	832	308	0	0	323	0	325
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.82	0.00	0.82	0.87	0.87	0.87	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	0.0	7.3	16.5	12.6	33.7	0.0	0.0	36.4	0.0	39.6
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.1	2.4	0.5	0.2	0.0	0.0	0.6	0.0	25.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.2	0.1	9.5	2.0	0.8	0.0	0.0	2.1	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	0.0	0.6	7.4	18.8	13.1	33.9	0.0	0.0	37.0	0.0	64.7
LnGrp LOS	B	A	A	A	B	B	C	A	A	D	A	E
Approach Vol, veh/h		714			775			38				365
Approach Delay, s/veh		6.1			17.3			33.9				57.4
Approach LOS		A			B			C				E
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		76.6		23.4	19.6	57.0		23.4				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		70.5		20.5	13.5	52.5		20.5				
Max Q Clear Time (g_c+I1), s		2.0		18.6	2.0	23.8		10.6				
Green Ext Time (p_c), s		3.6		0.3	0.5	5.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				21.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
28: 21st St & Colorado Ave

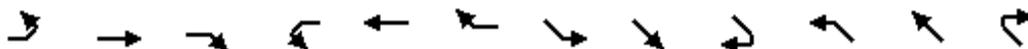
Three Lane 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	489	75	171	547	22	120	300	102	23	244	25
Future Volume (veh/h)	56	489	75	171	547	22	120	300	102	23	244	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	585	90	204	654	26	143	359	122	28	292	30
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	879	864	385	903	36	234	458	512	180	329	34
Arrive On Green	0.04	0.47	0.47	0.08	0.51	0.51	0.08	0.25	0.25	0.03	0.20	0.20
Sat Flow, veh/h	1781	1870	1585	1781	1787	71	1781	1870	1585	1781	1668	171
Grp Volume(v), veh/h	67	585	90	204	0	680	143	359	122	28	0	322
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1858	1781	1870	1585	1781	0	1840
Q Serve(g_s), s	1.9	24.1	2.7	5.7	0.0	28.5	6.2	17.9	5.6	1.2	0.0	17.0
Cycle Q Clear(g_c), s	1.9	24.1	2.7	5.7	0.0	28.5	6.2	17.9	5.6	1.2	0.0	17.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	315	879	864	385	0	939	234	458	512	180	0	363
V/C Ratio(X)	0.21	0.67	0.10	0.53	0.00	0.72	0.61	0.78	0.24	0.16	0.00	0.89
Avail Cap(c_a), veh/h	330	879	864	416	0	939	234	477	528	221	0	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.80	0.00	0.80	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	20.4	11.0	15.3	0.0	19.3	29.3	35.3	24.8	31.5	0.0	39.1
Incr Delay (d2), s/veh	0.3	3.6	0.2	0.9	0.0	3.9	4.6	8.0	0.2	0.4	0.0	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.9	1.0	2.3	0.0	12.7	2.9	9.0	2.1	0.5	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	24.1	11.2	16.2	0.0	23.2	33.9	43.3	25.1	31.9	0.0	57.2
LnGrp LOS	B	C	B	B	A	C	C	D	C	C	A	E
Approach Vol, veh/h		742			884			624				350
Approach Delay, s/veh		21.8			21.6			37.6				55.2
Approach LOS		C			C			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	51.5	12.0	24.2	8.7	55.1	7.2	29.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	42.0	7.5	23.0	5.1	46.4	5.0	25.5				
Max Q Clear Time (g_c+I1), s	7.7	26.1	8.2	19.0	3.9	30.5	3.2	19.9				
Green Ext Time (p_c), s	0.1	3.8	0.0	0.7	0.0	4.3	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			30.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
33: Limit St & Colorado Ave

Three Lane 2045 PM Peak
06/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑	↗	↖	↑			↕				
Traffic Volume (veh/h)	0	516	174	295	881	0	4	14	2	0	0	0
Future Volume (veh/h)	0	516	174	295	881	0	4	14	2	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	1870	1870			
Adj Flow Rate, veh/h	0	617	208	353	1053	0	5	17	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	2	2	0	2	2	2			
Cap, veh/h	0	909	770	995	1657	0	9	31	4			
Arrive On Green	0.00	0.97	0.97	0.71	1.00	0.00	0.02	0.02	0.02			
Sat Flow, veh/h	0	1870	1585	1781	1870	0	380	1292	152			
Grp Volume(v), veh/h	0	617	208	353	1053	0	24	0	0			
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0	1824	0	0			
Q Serve(g_s), s	0.0	2.7	0.5	0.0	0.0	0.0	1.3	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	2.7	0.5	0.0	0.0	0.0	1.3	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.00	0.21		0.08			
Lane Grp Cap(c), veh/h	0	909	770	995	1657	0	44	0	0			
V/C Ratio(X)	0.00	0.68	0.27	0.35	0.64	0.00	0.54	0.00	0.00			
Avail Cap(c_a), veh/h	0	909	770	995	1657	0	328	0	0			
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.89	0.89	0.89	0.89	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.8	0.7	1.3	0.0	0.0	48.2	0.0	0.0			
Incr Delay (d2), s/veh	0.0	3.6	0.8	0.2	1.7	0.0	9.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.3	0.6	0.8	0.0	0.7	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.4	1.5	1.5	1.7	0.0	58.1	0.0	0.0			
LnGrp LOS	A	A	A	A	A	A	E	A	A			
Approach Vol, veh/h		825			1406			24				
Approach Delay, s/veh		3.7			1.6			58.1				
Approach LOS		A			A			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	40.0	53.1		6.9		93.1						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	19.9	48.6		18.0		73.0						
Max Q Clear Time (g_c+I1), s	2.0	4.7		3.3		2.0						
Green Ext Time (p_c), s	1.0	5.7		0.0		13.4						
Intersection Summary												
HCM 6th Ctrl Delay			3.0									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
36: 8th St & Colorado Ave

Three Lane 2045 PM Peak
06/27/2022



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗↘	↗
Traffic Volume (veh/h)	514	0	0	913	282	361
Future Volume (veh/h)	514	0	0	913	282	361
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	615	0	0	1092	337	432
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	2151	0	0	2151	1053	483
Arrive On Green	0.80	0.00	0.00	0.61	0.30	0.30
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	615	0	0	1092	337	432
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	4.4	0.0	0.0	17.5	7.5	26.0
Cycle Q Clear(g_c), s	4.4	0.0	0.0	17.5	7.5	26.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2151	0	0	2151	1053	483
V/C Ratio(X)	0.29	0.00	0.00	0.51	0.32	0.89
Avail Cap(c_a), veh/h	2151	0	0	2151	1400	642
HCM Platoon Ratio	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.3	0.0	0.0	11.2	26.8	33.2
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.2	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	6.6	3.1	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.6	0.0	0.0	12.1	27.0	45.4
LnGrp LOS	A	A	A	B	C	D
Approach Vol, veh/h	615			1092	769	
Approach Delay, s/veh	4.6			12.1	37.3	
Approach LOS	A			B	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		65.0			65.0	35.0
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		50.5			50.5	40.5
Max Q Clear Time (g_c+I1), s		6.4			19.5	28.0
Green Ext Time (p_c), s		4.9			9.7	2.4
Intersection Summary						
HCM 6th Ctrl Delay			18.1			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
38: Colorado Ave & Walnut St

Three Lane 2045 PM Peak
06/27/2022

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	39	11	200	8	7	8	241	652	13	12	693	124
Future Volume (veh/h)	39	11	200	8	7	8	241	652	13	12	693	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	13	239	10	8	10	288	780	16	14	829	148
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	316	268	118	95	91	499	2639	54	528	2233	399
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.74	0.74	0.74	1.00	1.00	1.00
Sat Flow, veh/h	1395	1870	1585	407	561	538	576	3561	73	682	3013	538
Grp Volume(v), veh/h	47	13	239	28	0	0	288	389	407	14	489	488
Grp Sat Flow(s),veh/h/ln	1395	1870	1585	1505	0	0	576	1777	1857	682	1777	1774
Q Serve(g_s), s	1.2	0.6	14.8	0.0	0.0	0.0	25.9	7.3	7.3	0.2	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.6	14.8	1.3	0.0	0.0	25.9	7.3	7.3	7.5	0.0	0.0
Prop In Lane	1.00		1.00	0.36		0.36	1.00		0.04	1.00		0.30
Lane Grp Cap(c), veh/h	313	316	268	303	0	0	499	1317	1376	528	1317	1314
V/C Ratio(X)	0.15	0.04	0.89	0.09	0.00	0.00	0.58	0.30	0.30	0.03	0.37	0.37
Avail Cap(c_a), veh/h	328	337	285	319	0	0	499	1317	1376	528	1317	1314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	35.5	34.8	40.7	35.1	0.0	0.0	6.7	4.3	4.3	0.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.1	26.8	0.1	0.0	0.0	4.8	0.6	0.5	0.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.3	7.7	0.6	0.0	0.0	3.1	2.3	2.4	0.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	34.8	67.5	35.2	0.0	0.0	11.5	4.9	4.8	0.5	0.7	0.7
LnGrp LOS	D	C	E	D	A	A	B	A	A	A	A	A
Approach Vol, veh/h		299			28			1084			991	
Approach Delay, s/veh		61.0			35.2			6.6			0.7	
Approach LOS		E			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		78.6		21.4		78.6		21.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		73.0		18.0		73.0		18.0				
Max Q Clear Time (g_c+I1), s		27.9		16.8		9.5		3.3				
Green Ext Time (p_c), s		11.0		0.1		8.4		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			11.3									
HCM 6th LOS			B									

Intersection: 5: 31st St & Colorado Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	T
Maximum Queue (ft)	224	486	455	125	257	397	429	614	658	115	356	331
Average Queue (ft)	177	191	185	82	111	216	255	318	513	86	202	172
95th Queue (ft)	259	427	368	164	257	426	455	782	787	142	308	285
Link Distance (ft)		807	807			675	675	657	657		807	807
Upstream Blk Time (%)						0	0	16	27			
Queuing Penalty (veh)						0	0	0	0			
Storage Bay Dist (ft)	200			100	250					90		
Storage Blk Time (%)	22	0	21	0	0	11				19	35	19
Queuing Penalty (veh)	54	1	41	1	1	18				54	30	47

Intersection: 5: 31st St & Colorado Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	115
Average Queue (ft)	89
95th Queue (ft)	141
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	90
Storage Blk Time (%)	2
Queuing Penalty (veh)	7

Intersection: 8: 30th St & Colorado Ave

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	LT	R
Maximum Queue (ft)	136	126	85	401	145	77	253	85
Average Queue (ft)	52	39	14	145	50	23	91	69
95th Queue (ft)	104	95	57	313	134	57	195	100
Link Distance (ft)	675	675		459		282	294	
Upstream Blk Time (%)				0			0	
Queuing Penalty (veh)				0			0	
Storage Bay Dist (ft)			120		120			60
Storage Blk Time (%)				8	0		13	9
Queuing Penalty (veh)				13	0		33	8

Intersection: 11: 29th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	40	114	46	219	60	138
Average Queue (ft)	10	29	9	74	20	61
95th Queue (ft)	35	81	35	169	51	113
Link Distance (ft)		459		1026	246	334
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	120		120			
Storage Blk Time (%)		0		2		
Queuing Penalty (veh)		0		0		

Intersection: 14: 27th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	28	123	41	156	95	63
Average Queue (ft)	4	33	10	37	38	25
95th Queue (ft)	21	91	35	106	79	55
Link Distance (ft)		1026		467	324	306
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	120		120			
Storage Blk Time (%)		0		0		
Queuing Penalty (veh)		0		0		

Intersection: 17: 26th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	61	216	102	115	253	125	97
Average Queue (ft)	11	90	34	35	109	55	32
95th Queue (ft)	43	171	73	88	198	125	73
Link Distance (ft)		467		487	317		140
Upstream Blk Time (%)					0		0
Queuing Penalty (veh)					0		0
Storage Bay Dist (ft)	80		150			100	
Storage Blk Time (%)		7	0	0	13	0	
Queuing Penalty (veh)		1	0	0	11	0	

Intersection: 20: 25th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	50	175	78	170	173	132
Average Queue (ft)	12	66	25	45	71	54
95th Queue (ft)	41	137	57	115	135	107
Link Distance (ft)		487		239	316	295
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)	150		65			
Storage Blk Time (%)		0	0	2		
Queuing Penalty (veh)		0	1	1		

Intersection: 24: Colorado Ave & Colbrunn Ct

Movement	EB	EB	WB	WB
Directions Served	L	T	T	R
Maximum Queue (ft)	61	59	8	19
Average Queue (ft)	17	2	0	1
95th Queue (ft)	48	25	8	7
Link Distance (ft)		239	177	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	80			70
Storage Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	0	

Intersection: 25: 24th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	87	179	94	189	129	180
Average Queue (ft)	20	75	27	51	53	82
95th Queue (ft)	57	156	66	132	106	147
Link Distance (ft)		177		1597	292	300
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		2				
Storage Bay Dist (ft)	100		80			
Storage Blk Time (%)	0	4	0	2		
Queuing Penalty (veh)	0	1	1	1		

Intersection: 28: 21st St & Colorado Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	134	472	175	144	546	155	285	75	144	274
Average Queue (ft)	55	243	59	102	237	93	203	49	31	186
95th Queue (ft)	134	415	170	172	460	175	319	100	100	287
Link Distance (ft)		1597			2845		269			267
Upstream Blk Time (%)							6			4
Queuing Penalty (veh)							33			14
Storage Bay Dist (ft)	110		150	120		130		50	120	
Storage Blk Time (%)	0	24	0	3	20	3	48	1	0	33
Queuing Penalty (veh)	0	34	0	21	38	11	116	6	0	8

Intersection: 30: 15th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	107	270	97	200	49	57	56	61
Average Queue (ft)	20	99	23	65	11	20	12	19
95th Queue (ft)	64	236	62	159	39	49	39	49
Link Distance (ft)		2845		2611		567		373
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	120		120		60		50	
Storage Blk Time (%)		4		1	1	0	1	2
Queuing Penalty (veh)		1		1	0	0	0	0

Intersection: 33: Limit St & Colorado Ave

Movement	EB	EB	WB	WB	SE
Directions Served	T	R	L	T	LTR
Maximum Queue (ft)	212	98	169	165	52
Average Queue (ft)	39	6	65	20	15
95th Queue (ft)	135	47	126	94	41
Link Distance (ft)	2611		576	576	696
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		200			
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 36: 8th St & Colorado Ave

Movement	EB	EB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	L	L	R
Maximum Queue (ft)	125	120	198	228	174	266	196
Average Queue (ft)	43	35	81	127	76	123	93
95th Queue (ft)	101	93	169	207	154	207	157
Link Distance (ft)	576	576	318	318		642	642
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					150		
Storage Blk Time (%)					0	5	
Queuing Penalty (veh)					0	7	

Intersection: 38: Colorado Ave & Walnut St

Movement	SE	SE	SE	NW	NE	NE	NE	SW	SW	SW
Directions Served	L	T	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	92	52	120	68	124	253	189	38	118	143
Average Queue (ft)	36	12	61	22	91	72	52	8	39	59
95th Queue (ft)	79	39	100	54	141	205	125	30	93	121
Link Distance (ft)		670	670	260		892	892		800	800
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200				100			120		
Storage Blk Time (%)					18	0			0	
Queuing Penalty (veh)					64	0			0	

Intersection: 42: Colorado Ave & Cimino St

Movement	SB	NW	NW	NE	NE	NE	SW	SW	SW
Directions Served	<LR	L	R>	L	T	TR	L	T	TR
Maximum Queue (ft)	152	88	69	85	121	147	87	157	176
Average Queue (ft)	55	39	30	25	41	61	29	58	68
95th Queue (ft)	117	77	58	58	98	125	63	125	145
Link Distance (ft)	250		510		800	800		1228	1228
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		80		100			220		
Storage Blk Time (%)		1	0	0	1				
Queuing Penalty (veh)		1	0	0	0				

Intersection: 44: 21st St & Pikes Peak

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	62	65	124	220	63	161
Average Queue (ft)	33	32	28	122	18	69
95th Queue (ft)	55	54	91	196	52	128
Link Distance (ft)	515	456		267		270
Upstream Blk Time (%)						0
Queuing Penalty (veh)						0
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				11		3
Queuing Penalty (veh)				2		1

Intersection: 47: 21st St & Cucharras St

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	110	148	38	202	41	10
Average Queue (ft)	43	53	9	33	9	0
95th Queue (ft)	89	152	32	158	32	6
Link Distance (ft)	468	568		331		269
Upstream Blk Time (%)				1		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)			150		100	
Storage Blk Time (%)				2		
Queuing Penalty (veh)				1		

Network Summary

Network wide Queuing Penalty: 690

**MIDLAND CORRIDOR
TRAFFIC STUDY**

APPENDIX C

Stakeholder Committee Roster

Midland Corridor Study		
Stakeholder Committee Roster		
March 10, 2022		
Group	Representing	Individual
Stakeholder Committee	Bike Colorado Springs	Jerry White
Stakeholder Committee	CDOT Region 2	Pepper Whittlef
Stakeholder Committee	City Board - CTAB	Scott Barnhart
Stakeholder Committee	City of Colorado Springs (City Engineer)	Gayle Sturdivant
Stakeholder Committee	City of Colorado Springs (Project Manager)	Tim Roberts
Stakeholder Committee	City of Colorado Springs (Senior Bicycle Planner)	Kate Brady
Stakeholder Committee	City of Colorado Springs ADA/Streets	Mike Killebrew
Stakeholder Committee	City of Colorado Springs Communications Specialist	Max D'Onofrio
Stakeholder Committee	City of Colorado Springs Communications Specialist	Julie Smith
Stakeholder Committee	City of Colorado Springs Comprehensive Planning	Carl Schueler
Stakeholder Committee	City of Colorado Springs Economic Development	Sherry Hoffman
Stakeholder Committee	City of Colorado Springs Economic Development	Shawna Lippert
Stakeholder Committee	City of Colorado Springs Economic Development	Yemi Mobolade
Stakeholder Committee	City of Colorado Springs Parks and Recreation (SIMD)	Eric Becker
Stakeholder Committee	City of Colorado Springs Planning	Tasha Brackin
Stakeholder Committee	City of Colorado Springs Planning	Hannah Van Nimwegen
Stakeholder Committee	City of Colorado Springs Stormwater	Erin Powers
Stakeholder Committee	City of Colorado Springs Streets	Corey Farkas
Stakeholder Committee	City of Colorado Springs Traffic Engineer	Todd Frisbie
Stakeholder Committee	Colorado Springs Fire Department	Steve Smith
Stakeholder Committee	Colorado Springs Police Department	Pat Rigdon
Stakeholder Committee	Colorado Springs Police Department	John Koch
Stakeholder Committee	Colorado Springs Utilities	Elena Nunez
Stakeholder Committee	CONO (Council of Neighbors and Organizations)	Sara Vaas
Stakeholder Committee	Historic Preservation Alliance of Colorado Springs	Tim Boddington
Stakeholder Committee	Mountain Metro Transit	Brian Vitulli
Stakeholder Committee	Near West Side	Welling Clark
Stakeholder Committee	Near West Side	Sallie Clark
Stakeholder Committee	Near West Side	Melody Masters
Stakeholder Committee	Near West Side	MASTERS LARRY R
Stakeholder Committee	Old Colorado City Association (OCCA, business owners)	Franco Pisani
Stakeholder Committee	Old Colorado City Foundation (OCCF, fundraisers)	Dave Brackett
Stakeholder Committee	Old Colorado City Partnership	Jonathan Neely
Stakeholder Committee	Olsson (consultant)	Karen Aspelin
Stakeholder Committee	Organization of Westside Neighbors (OWN)	Page Salsbury
Stakeholder Committee	Parking Enterprise Director	Scott Lee
Stakeholder Committee	Pike Ride	Jolie NeSmith
Stakeholder Committee	Pikes Peak Historical Street Railway Foundation	John Haney
Stakeholder Committee	PPACG	John Liosatos
Stakeholder Committee	School District 11	Richard Oss
Stakeholder Committee	TOSC (Trails and Open Space Coalition)	Allen Beauchamp
Stakeholder Committee	Various neighborhood groups	Pat Doyle

**MIDLAND CORRIDOR
TRAFFIC STUDY**

APPENDIX D

**Stakeholder and Public Involvement
Meeting Information**



**Outreach Meeting Summary – City of Colorado Springs
Midland Corridor Transportation Study**

Project webpage: <https://coloradosprings.gov/project/midland-corridor-traffic-study>

1. December 2, 2020 - Stakeholder Meeting #1

This was a kickoff meeting for the stakeholders and introduced the purpose of the study, a proposal of the study area and method, a timeline, the plan for public input, and the role of stakeholders.

Attendees:

Individual	Representing	In Attendance
Tim Roberts	City of Colorado Springs (Project Manager)	X
Kate Brady	City of Colorado Springs (Senior Bicycle Planner)	X
Tasha Brackin	City of Colorado Springs Planning	X
Hannah Van Nimwegen	City of Colorado Springs Planning	X
Eric Becker	City of Colorado Springs Parks and Recreation (SIMD)	X
Steve Smith	Colorado Springs Fire Department	
Carl Schueler	City of Colorado Springs Comprehensive Planning	X
Gayle Sturdivant	City of Colorado Springs (City Engineer)	X
Elena Nunez	Colorado Springs Utilities	X
Mike Killebrew	City of Colorado Springs ADA/Streets	X
Scott Lee	Parking Enterprise Director	X
Erin Powers	City of Colorado Springs Stormwater	
Dave Scalfri	City of Colorado Springs Streets	
Brian Vitulli	Mountain Metro Transit	X
Scott Barnhart	City Board - CTAB	X
Mark Hopewell	City Board - ATAC	X
Pat Rigdon	Colorado Springs Police Department	
Stephanie Surch	CONO (Council of Neighbors and Organizations)	X
Tim Boddington	Historic Preservation Alliance of Colorado Springs	X
Jerry White	Bike Colorado Springs	X
Jolie NeSmith	PikeRide	X
Jonathan Neely	Old Colorado City Partnership	X
Page Saulsbury	Organization of Westside Neighbors (OWN)	X
Sara Vaas	Organization of Westside Neighbors (OWN)	X
Franco Pisani	Old Colorado City Association (OCCA, business owners)	(to be added)
Dave Brackett	Old Colorado City Foundation (OCCF, fundraisers)	
Richard Oss	School District 11	X
Pat Doyle	Various neighborhood groups	X
Waleed Iftikhar	Student intern	X
John Haney		X
TBD	CDOT	(to be added)
Allen Beauchamp	TOSC (Trails and Open Space Coalition)	(to be added)
Karen Aspelin	MaxGreen Transportation Engineers (consultant)	X

City Project Manager Tim Roberts and consultant Project Manager Karen Aspelin presented a slide show for the stakeholder kickoff meeting. The slides will be provided to the attendees as a PDF. Questions and comments during the presentation were the following:

- Suggestions were made to add Franco Pisani (OCC business owner) and a CDOT representative to the stakeholder team.
These individuals will be added.
- Are the planning documents listed in the presentation available online?
Yes, they are on the project webpage, which is <https://coloradosprings.gov/project/midland-corridor-traffic-study>

- Should the US 24 West Environmental Assessment (EA) be added to the reference list of planning documents?
Yes, that will be added. The link to the EA documents is <https://www.codot.gov/library/studies/study-archives/us24west/us24ea>
- Are there other public or private projects going on in the study corridor that the study team should be aware of?
Kate Brady mentioned that a collaboration between Madwoman Marketing and an evolving list of entities with interest in OCC are seeking funding for a marketing campaign to activate the Midland Trail and its connection to the local business community.
Tasha Brackin mentioned that the City is currently undergoing a revision of its Zoning Code. The most likely impact in the study area would be the promotion of infill growth and allowance of smaller single-family homes.
- Will this study consider parking-exempt districts in the study corridor?
Yes
- Jolie NeSmith of PikeRide confirmed the proposed locations for new PikeRide stations in the study corridor, and offered to send specs for typical stations to the project team.
- Should the Midland Trail be added to the list of infrastructure/rights-of-way to be included as part of the study corridor?
Yes, it will be added.

Through the ConnectCOS public input effort we received many comments that were specific to the Midland Corridor study area. They are listed here:

Need a pedestrian bridge connecting the Westside to Red Rocks Canyon Park so that locals can safely walk there. Crossing the highway, even at a light, is very unsafe for pedestrians and driving somewhere so close is just wasteful.
Bikes on Colorado Ave make me nervous. Not a lot of space to navigate around them. Also, the change to the intersection at Colo. Ave and 32nd seems dangerous and makes turning right less easy than it was before.
Excited to see the Conejos Neighborhood Mural under I25 to celebrate diversity and add some character to this underpass
Growing west Colorado Ave Business Corridor, crossing Colorado Ave should be easier for pedestrians and Bicyclists
As the main corridor to the mountains, there is too much congestion along hwy 24, which makes it busy & dangerous for all commuters. There should be an overpass here, 8th & 31st.
We need safe places to cross these roads. Time for overhead bridges for pedestrians and bikes.
Cyclists have no safe connection across 24 into Red Rocks (a major mountain biking and hiking destination).
The center turn lane on WB W Colorado Ave ends about here. However many vehicles still need to turn L onto 7th St or businesses on the S side of W Colorado. I have observed several rear end crashes where a vehicle turning L stops in the #1 lane of WB W Colorado and is struck from behind. Suggestions: Increase speed enforcement especially on EB traffic coming down the hill. Ban left turns (plastic delineator posts in the centerline) in this area. Consider expanding center turn lane.
The bike lane suddenly ends on Colorado Ave under the I-25 overpass heading West. There is also no lighting under the bridge. I have had so many close calls with motorists passing me too fast and too close when riding through here. Bicyclist safety is at risk here. There is going to be an accident or death if this isn't corrected.
No East/West streets have bike lanes in Old Colorado City area. A bike lane on Colorado Ave (and a decrease to 1 lane in each direction) would encourage through-traffic onto I24 and decrease speeds in a residential / tourist destination.
Colorado Ave needs a streetscape update. It's been over 40 years. The SIMD, rather than maintain the streetscapes, has been left to spend property owners money doing the improvements. We are not an improvement district but a maintenance district. We are replacing large sections of sidewalk due to hazards, rebuilding walls rather than maintaining (parking lot between 25th and 26th), paying for water that leaks from an old irrigation system, and losing lights because of degraded wiring.
Colorado Avenue through the OCC retail district should be 3 lanes rather than 5. Average speeds are well over the speed limit according to a Kimley Horn Study. It's easy to observe vehicles going over 40 miles/hr down the Ave. Protect pedestrians and cyclists and do a road diet already. OCC needs wider sidewalks, the same parallel parking spaces and bike lanes to balance automobile, bicycle, and pedestrians on the avenue. The businesses will thrive once we figure this out.
Passage way that previously existed between down town Co Springs and West Cucharres area should be restored. It allowed off road travel along major corridor. It was blocked as part of I-25 expansion, probably as way to decrease homeless people travel in

No marked crosswalks crossing walnut except for Colorado Ave and Bijou St, a marked crosswalk at pikes Peak or Kiowa would add to this neighborhood connection. Please explore the possibility of art crosswalks to add character to neighborhoods.
Colorado Ave bike lanes are stressfull and do not inspire confidence. Cars are generally speed traveling 10+ mph of the speed limit. As one of the only two bridges with on-street bicycle infrastructure into downtown it should be safe and accessible for bike riders of all ages and abilities.
Cars don't stop for people crossing at Midland trail/cucharras crossing at 21st. this is a dangerous crossing that needs to be improved.
Trail connections from 21st west, and from Ridge to Manitou Spgs
Trail winds behind a commercial building with one of the trashiest, scariest homeless camps that I have seen yet in Colorado Springs (and I ride a lot). This needs to be cleaned up, or provide better signage just to the west for the alternate southern section of trail that will take you in front of this section of buildings.
Cyclists must cross heavy tourist traffic at 31st when traveling on Pikes Peak (which does not have bike lanes East of 31st).
Need access from Colorado Ave across Hwy 24 into Red Rocks
Line 3 would be extremely useful to go to and from old Colorado city or manitou without having to worry about parking, but we never use it because the Route frequency is 30 Minutes during the day and every Hour in the evening, This make it pretty much worthless as a transportation option unless you are desperate. If the frequency were better, 5-10 min, and ran into the evening we would definitely use this route.
Colorado Ave is an important bike connection from Old Colorado City to Downtown, but because the bike lane ends suddenly going over the bridge it creates very dangerous conditions for riders.
Midland trail is a not safe to ride at night and maybe sometimes during the day. I love this connection from the West to downtown via bike, but I usually defer to Pikes Peak to ride into downtown. It's a toss up, dice it up with cars on the street, or run into a pile of trash or half assembled bike blocking the trail.
The angle on this intersection is terrible and people are constantly going straight out of the turn only lane when heading Northbound on 31st St. I wish they could just plow over KFC/A&W and make 31st go straight to HWY 24. Or just block it off completely so the HWY traffic would stop using 31St and Fontmore as a cut through.
Crossing of Midland Trail and 21st St. is very dangerous to cyclists. There needs to be an overpass here!
No safe access across 24 at this point. this is a major crossing point for north/south travel by bike or on foot on the west side of town. we need a bridge here.
Colorado Avenue through the historic district (at a minimum) should be reduced from four lanes to two lanes with a center lane for deliveries. The traffic through this area routinely moves at a high rate of speed which is dangerous for locals and tourists alike. Reducing traffic lanes should effectively slow traffic and improve safety.
28th St. Need a stop light
I drive Colorado Ave every day to get to my business located at 2528 W Colorado Ave. Speeding and aggressive driving has been getting worse every year along my very short commute. As a business owner I see and hear so many near pedestrian vs vehicle hits at 26th and Colorado Ave. Drivers just don't look for pedestrian signals. For such a busy pedestrian district the lights take too long to change via push button. It should not be based on push button. May discourage those bypassing HW24.
Pedestrian crossing at Limit / W Colorado Ave. We walk daily to Buena Vista Elementary. We cross Colorado Ave at Limit St. Please make it illegal for Colorado Ave eastbound traffic to turn right on red light. Cars rarely stop or even slow down to make this exaggerated right hand turn onto Limit. Pedestrians crossing northbound are hidden behind trees. Several times a month we've nearly been hit in the crosswalk. Typically 5 people crossing together.
Safety concern. Walking to Buena Vista Elementary, this cross walk is a continuous hazard. Drivers rarely stop where they are supposed to and we have almost been hit on more than one occasion. I feel a red light here would be beneficial for th
Cucharras St at 11th St needs a speed bump or stop sign as well as better lighting. Vehicles aggressively speed though this intersection passing Cucharras Park. Several families with young children live in the blocks flanking this intersection. Please add a stop sign and street lighting to this area.
The master plan was to reduce Colorado Ave to one lane in each direction with a bike lane and back in parking lane to help relieve traffic speeds and lack of parking. I would like for the city to revisit this. OCC East to Downtown is a residential area (more now than ever). It would help with the flow of people safely moving from one area to the other. Fast traffic would be sent to Highway 24
Main parts of OCC, including Bancroft Park, need more bike parking. There's hardly any convenient bike racks. If there were that would mean fewer spots taken up by locals and fewer bikes locked to signs and benches.
Could use some bike lane infrastructure and/or turn signaling for cyclists getting across Highway 24 on 26th Street.
There have been some improvements for crossing Midland trail at 21st Street, however it would be helpful to be more clear about which direction to cross.
I use this area to cross twice daily. I sometimes am standing for 10 minutes due to traffic speeding up and down 31st. A clear sign stating this is a crosswalk and do not block the intersection with a flashing light would help improve my safety greatly!
Can we PLEASE introduce bike lanes on Colorado Avenue? We are robbing our small business owners of valuable business by diverting bike traffic to Pikes Peak. I, as well as many others, want to ride our bikes on Colorado Ave! Please extend the reduced right of way from Manitou into Old Colorado City and connect to downtown.
I would love to see bike lanes down Colorado Ave!
The bike lanes on 31st are great! Nice and wide!
OCC is not safe to access on a bike. If you're destination is OCC you want to ride on Colorado Ave, not Pikes Peak!
I fear for my life walking through this area the west side after sunset on my way home from work. A beat patrolman and better lighting along the sidewalks of Colorado Ave, especially between 31st and 8th / Limit would help me feel a little less in imminent danger.

We want to hear from the stakeholders:

- What are your existing concerns?
- What are your desired outcomes for the study and for the corridor?

The study team will be reaching out to stakeholders in December and January to gather input on these questions. We are requesting that stakeholders answer these questions from the perspective of the group they are representing.

2. February 17, 2021 - Stakeholder Meeting #2

Attendees:

Individual	Representing	In Attendance
Karen Aspelin	MaxGreen Transportation Engineers (consultant)	X
Scott Barnhart	City Board - CTAB	X
Allen Beauchamp	TOSC (Trails and Open Space Coalition)	
Eric Becker	City of Colorado Springs Parks and Recreation (SIMD)	X
Tim Boddington	Historic Preservation Alliance of Colorado Springs	
Dave Brackett	Old Colorado City Foundation (OCCF, fundraisers)	
Tasha Brackin	City of Colorado Springs Planning	X
Kate Brady	City of Colorado Springs (Senior Bicycle Planner)	X
Pat Doyle	Various neighborhood groups	
Todd Frisbie	City of Colorado Springs Traffic Engineer	X
Chelsea Gaylord	City of Colorado Springs Economic Development	X
John Haney	Historic Preservation Alliance	X
Mark Hopewell	City Board - ATAC	
Waleed Iftikhar	(student)	X
Mike Killebrew	City of Colorado Springs ADA/Streets	X
John Koch	Colorado Springs Police Department	X
Scott Lee	Parking Enterprise Director	X
Jonathan Neely	Old Colorado City Partnership	X
Jolie NeSmith	PikeRide	X
Elena Nunez	Colorado Springs Utilities	X
Richard Oss	School District 11	X
Franco Pisani	Old Colorado City Association (OCCA, business owners)	
Erin Powers	City of Colorado Springs Stormwater	X
Pat Rigdon	Colorado Springs Police Department	X
Tim Roberts	City of Colorado Springs (Project Manager)	X
Page Saulsbury	Organization of Westside Neighbors (OWN)	X
Dave Scalfri	City of Colorado Springs Streets	X
Carl Schueler	City of Colorado Springs Comprehensive Planning	X
Steve Smith	Colorado Springs Fire Department	X
Richard Stull	School District 11	X
Gayle Sturdivant	City of Colorado Springs (City Engineer)	X
Stephanie Surch	CONO (Council of Neighbors and Organizations)	X
Sara Vaas	Organization of Westside Neighbors (OWN)	
Hannah Van Nimwegen	City of Colorado Springs Planning	X
Brian Vitulli	Mountain Metro Transit	X
Dave Watt	CDOT	X
Jerry White	Bike Colorado Springs	X

City Project Manager Tim Roberts and consultant Project Manager Karen Aspelin presented a slide show for the stakeholder update meeting. The slides were later provided to the attendees as a PDF. Questions and comments during the presentation were the following.

- Suggestion to change the study area boundary shown in the figure so that it includes the Midland Trail undercrossing of I-25.
The figure will be edited accordingly.
- Comment: Findings from the survey should be worded to convey that it may be the actions attributed to people experiencing homelessness that are the concern.
- Comment: How will the study team sort out contradictory visions for the corridor? For example, while some respondents suggested a three-lane cross section on Colorado Avenue should be considered, another stated that streets should have adequate roadway space for their traffic volumes.
It's possible that both can be achieved, if a three-lane cross section is adequate for the traffic volumes on segments of Colorado Avenue (and it appears it may be).
- Did a good cross section of residents and stakeholders respond to the survey?
We received surveys back from the stakeholders listed here. The survey responded to by OWN was intended to cover the feedback of residents in the study area.
 - PikeRide, Inc.
 - OCCP
 - OWN (Organization of Westside Neighbors)
 - TOSC
 - SIMD
 - City Comprehensive Planning
 - Bike COS
 - City Bike Planning
 - ATAC
 - Colorado Springs Police Department
 - Colorado Springs School District 11
 - City Economic Development
 - City Planning
 - Historic Preservation Alliance and Pikes Peak Historical Street Railway Foundation
 - Mountain Metro Transit
- Comment: From both surveys, there's an emphasis on enhancing non-vehicular modes of transportation and the pedestrian experience.
- Comment: It may be helpful to include City staff Andy Phelps – the Homeless Outreach Specialist and Jillian Jager – City Staff for Innovation, currently PM for the City's Electric Vehicle Readiness Plan and City Innovation Division in general, if not already involved.
- Comment: Regarding the suggestion from the ConnectCOS outreach effort to add a left-turn lane on Colorado Avenue at 7th Street, Tim Roberts pointed out that this has already been implemented since that survey took place.

3. March 3, 2021 - Stakeholder Bike Tour of the Corridor

Attendees:

Tim Roberts	Jolie Nesmith	Carl Schueler
Kate Brady	Riley Bratzler	Jerry Cordova
Gayle Sturdivant	Ryan Belge	John Haney
Hannah Van Nimwegen	Keyshon Cooks	Jonathan Neely
Page Saulsbury	Allen Beauchamp	Karen Aspelin

Observations during the tour:

- Are the undercrossings of the Midland Trail at 21st and 31st Streets included in the CDOT US 24 EA? Yes, they are identified as mitigation measures for the proposed action.
- Tim mentioned he saw a trail connection to Cucharras Street? The connection would be a paved extension of 29th Street past Cucharras Street to the south for bicycle and pedestrian use, connecting to the Midland Trail. There is a pioneer trail there now.

- We should consider doing the raised pedestrian crossings over to the pork chop islands at the free right turns at the 21st and 31st Street intersections with the Midland Trail (like Boulder's design).
- Could the on-street parking in front of City Glass be removed and used to extend the bike lane? there is already an off-street parking lot. During the I-25/Cimarron interchange reconstruction project, CDOT was met with opposition by the adjacent business owner when trying to change the parking layout on Colorado Avenue.
- This plan needs connectivity maps by ped, bike, cars (opportunities and challenges) and then they can all be overlaid. Then prioritize.

Comments from Participants - Dislikes

- Crossing 21st Street at Cucharras Street
- Crossing 21st Street and 31st Street on Midland Trail
- Riding in the area of 31st Street
- Not comfortable riding Midland Trail alone, (fear is people, not the design/condition of the trail)
- Need better wayfinding from Colorado to Pikes Peak Ave (really all the way around)
- On Midland Trail, where it crosses the side streets, stop signs now stop the trail traffic rather than the vehicle traffic
- Crossing 31st Street at Pikes Peak (this intersection is being improved to provide a protected crossing)
- Noisy on Midland Trail
- Riding in the street – particularly on Colorado Avenue and somewhat on Pikes Peak because of the car traffic
- Free right turns for drivers at busy intersections
- Disconnects on the bike routes/trail
- Signage (or lack of)
- Infrastructure that ends
- Pedestrian signals need to be countdown-type and need to be programmed with peds and cyclists in mind, not just drivers.
- Crossing Colorado Avenue at a location without a traffic signal
- Riding on Colorado Avenue and shifting across traffic lanes from the curb-side to the left-turn lane to make a turn
- Wish there were more general community members on the bike ride

Comments from Participants - Likes

- Walking and riding a bike on Pikes Peak Avenue
- Connection to America the Beautiful Park from Midland Trail
- Like riding on Midland Trail because it's separate from traffic
- There is art and cool destinations to stop at along the way for cyclists
- Cucharras Street is a great opportunity for a bike corridor
- Pike Ride – it's offering the opportunity to bike to more people
- Lots of people riding bikes out in the corridor
- Grid infrastructure

- Midland Trail has tons of potential – have cyclists use that to get to the area but then use good signage and wayfinding to get them to the activity centers on Colorado Ave.
- Several bikeable microbreweries along the route we took
- Biking on Cucharras and Pikes Peak, and looking at the architecture
- Having a chance to really celebrate one of the more bikeable neighborhoods in the Springs on a beautiful spring day

4. May 6, 2021 - Stakeholder Meeting #3

Attendees:

Organization	Representative	In attendance?
TOSC (Trails and Open Space Coalition)	Allen Beauchamp	X
Mountain Metro Transit	Brian Vitulli	X
City of Colorado Springs Comprehensive Planning	Carl Schueler	X
City of Colorado Springs Economic Development	Chelsea Gaylord	
City of Colorado Springs Streets	Dave Scalfri	
Colorado Springs Utilities	Elena Nunez	X
City of Colorado Springs (City Engineer)	Gayle Sturdivant	
City of Colorado Springs Planning	Hannah Van Nimwegen	X
Bike Colorado Springs	Jerry White	X
Pike Ride	Jolie NeSmith	X
Old Colorado City Partnership	Jonathan Neely	X
MaxGreen Transportation Engineers (consultant)	Karen Aspelin	X
City of Colorado Springs (Senior Bicycle Planner)	Kate Brady	X
City Board - ATAC	Mark Hopewell	X
City of Colorado Springs ADA/Streets	Mike Killebrew	
Parking Enterprise Director	Scott Lee	X
Colorado Springs Fire Department	Steve Smith	
City of Colorado Springs Planning	Tasha Brackin	X
City of Colorado Springs (Project Manager)	Tim Roberts	X
City of Colorado Springs Traffic Engineer	Todd Frisbie	X
City of Colorado Springs Communications Specialist	Jennifer Schreuder	X
Old Colorado City Foundation (OCCF, fundraisers)	Dave Brackett	
City of Colorado Springs Parks and Recreation (SIMD)	Eric Becker	
City of Colorado Springs Stormwater	Erin Powers	
Old Colorado City Association (OCCA, business owners)	Franco Pisani	
Pikes Peak Historical Street Railway Foundation	John Haney	
Colorado Springs Police Department	John Koch	
Organization of Westside Neighbors (OWN)	Page Saulsbury	X
Various neighborhood groups	Pat Doyle	
Colorado Springs Police Department	Pat Rigdon	
School District 11	Richard Oss	X
City Board - CTAB	Scott Barnhart	X
Historic Preservation Alliance of Colorado Springs	Tim Boddington	
CONO (Council of Neighbors and Organizations)	Keyshon Cooks	
CDOT	Pepper Whittlef	

City Project Manager Tim Roberts and consultant Project Manager Karen Aspelin presented a slide show for the stakeholder meeting. The slides were later provided to the attendees as a PDF. Questions and comments during the presentation were the following.

- Comment: On the map, the study area still shows that it excludes the Midland Trail connection through the interchange and into ATB Park.

The figure was revised to show the undercrossing of I-25, but not all the way to the railroad bridge. It will be further revised to include that area.

- Question: Is there any way to improve traffic along 31st between US 24 and Colorado Avenue? *The City conducted a study which developed some recommendations from US 24 north past Pikes Peak. Karen will send a link to the report.*
- Question: On the slides about previous studies, did the highlighting indicate accomplished? If so, "electric trolley" probably should not be highlighted. *No, the highlighting indicates comments made in older studies that are still being made today.*
- Comment: For a public meeting, some folks might think that "vagrant" is not a good word to use. *The word was removed from the presentation and instead we will focus on personal safety.*
- Question: Do we have any other active HAWK signals in the City? Will require some interesting coordination with Colorado and US 24 signals. *Yes, there are two or three. Agreed that signal coordination will be critical.*
- Comment: Be prepared to deal with the discussion that City is sacrificing vehicle lanes for bicycle lanes. Discuss additional safety of a center turn lane where one does not exist now. *It has not been decided yet that any vehicle lanes will be repurposed as bicycle lanes. Yes, the safety of adding a center turn lane where there is not one now will be highlighted.*
- Comment: It may be good to mention more things that have happened even if not exactly in this corridor- as in gateway project just to west, 30th Street, even Cimarron Interchange and trail to 8th Street, Bancroft Park, etc. and all the stuff just to east. *Agreed; we will add to the discussion of recently-completed projects.*

5. May 12, 2021 - Old Colorado City Business Owners Meeting

This meeting was set up by and for Old Colorado City business owners. About 49 people were invited to the call but who attended was not recorded. The presentation that had been given at the May 6 stakeholder meeting was given; changes to the presentation had been made based on the comments and questions from the stakeholder meeting.

Invited:

Roberts, Tim	jay@ascentrestaurantgroup.com	mimi@mendent.com
Karen Aspelin	staff@squashblossom.com	info@chavezartgallery.com
Sara Vaas	info@thepearlmerchants.com	Ellybluecos@yahoo.com
Jonathan Neely	consciouslivingshop@gmail.com	mint.beautylab@yahoo.com
sas.propertiesllc@yahoo.com	carneliancoffeeco@gmail.com	heartshakestudios@gmail.com
thompson.jamesii@gmail.com	shopgirls@mackenzieandwest.com	JP@cbdlifeinc.com
tim@gogtradingpost.com	sweetwaterflowers@gmail.com	jspatafora@royalcrestdairy.com
dave_brackett@canamconsulting.com	carriewing2208@msn.com	thunderandbuttons@hotmail.com
brian.wortinger@gmail.com	Lorriemyers@gmail.com	monsespupuseria@yahoo.com
andrea@coloradopeakre.com	Sanctuarystudios77@gmail.com	alchemist@alchemypubcolorado.com
jewels@simplebodyproducts.com	hollyleaf@comcast.net	office@frbbq.com
jorgeoffice@yahoo.com	Thesweetelephant@gmail.com	initforlife@ymail.com
whiterabbitbeads@yahoo.com	Maziermcf@yahoo.com	Gaylord, Chelsea
adam@dice-guys.com	karen@coloradofunguide.com	occpartnership@gmail.com
toni@labaguette-co.com	judithkas@aol.com	robynrmcf719@gmail.com
molly@republicofpaws.com	support@bydesigngems.com	
Hello@45degreegallery.com	theMasonJarColorado@gmail.com	

Questions and comments during the presentation were the following.

- Question: Will the PowerPoint be shared after the presentation?
Yes.

- Question: Was the homeless, safety and camping along the trail mentioned in the study?
The study will address trail users' concerns for their safety on the trail.
- Question: How did you calculate the peak hours of traffic?
Hourly traffic volumes assumed to be a "peak" condition are based on a traffic study for Old Colorado City conducted in 2018, which showed a late afternoon Friday peak.
- Question: Will the public meeting be in person or virtual, or hybrid?
The May public meeting will be entirely virtual.
- Question: What is the project website?
<https://coloradosprings.gov/project/midland-corridor-traffic-study>
- Question: Once the recommendations come out in September, how long will it take to start implementing recommended changes?
It will depend on the size (cost) of the change. "Low-hanging fruit," small/easy-to-implement recommendations could be implemented almost immediately. Larger projects could, for instance, be part of PPRTA-3, and as such would be designed and constructed in the next decade or so.
- Question: Will the next meeting address possible solutions for the double curb in the business district as well as use of extra space if business district goes to 3 lanes?
Yes, at the next meeting we will present options for how to use the extra space and how the double curb can be eliminated.
- Question: Has it ever been considered to change the timing of stop lights to slow traffic and discourage travel on Colorado Ave?
Speeding is an issue on Colorado Avenue on the stretches where there are not regularly-spaced traffic signals; i.e., east of Old Colorado City. Regularly-spaced signals are needed to time signals so that they incentivize driving a certain speed. Where there are regularly-spaced traffic signals along Colorado Avenue, in the Old Colorado City business district, speeding is not as much of a problem because of the pedestrian and parking activity.
- Question: Has the historic nature and theme been part of the plan in terms of design and continuity with the Westside Avenue Action Plan?
These types of design details will be considered later on when plans are implemented.
- Question: How long would it take to implement the three-lane aspect when/if it is approved?
It will depend on how the three-lane section is developed. Striping modifications could take just a few days, but if curbs are moved the construction duration will be much longer. The City understands that construction impacts to business is a prime concern of business owners. This will be a consideration in the writing of the specifications and the design contract if and when a project is built.
- Question: Has the study considered the impact of reducing lanes on Colorado Ave. on the parallel residential streets (Pikes Peak/Cucharras)?
Yes. When capacity is reduced on a street that is already over-capacity, it would be expected that traffic would find an alternate route if capacity were reduced. However, because Colorado Avenue is under-capacity, reducing capacity by removing lanes should not divert traffic if the new number of lanes is sufficient for the volume being carried.
- Question: How can this study also tie into law enforcement? We have intermittent police presence and many of these concerns (i.e., speeding and safety) relate to having increased police presence.
The Colorado Springs Police Department is represented on the study's stakeholder team.
- Question: You mentioned parking structures and wondering if you've looked at potential areas for those in OCC that blend well with the historic nature of the district, similar to what Ft. Collins

has established. Parking is at a premium and with so many new businesses receiving parking variances, there has been a lot of impact on the residential side streets.

Parking structures will be considered as part of this study but their design would not be a level of detail determined at this point.

- Question: On one of the slides it said that Cucharras might be a bicycle street. What does that mean and why do we need it with the Midland Trail two streets over?
Cucharras Street is already designated as a bicycle route on the City's bike master plan. It simply means that it has been identified as a good street for bicyclists to ride on. Unlike the Midland Trail, which serves regional travel, the Cucharras Street route fronts businesses and homes and would more likely be used by people accessing local destinations.
- Question: Is indoor bike parking a consideration?
Indoor bike parking is typically offered by private businesses and is not being considered with this plan.
- Comment: Entryway signage may help slow down traffic
Comment noted.
- Comment: Thanks to whoever removed the trees at the dangerous crossing at Limit and Colorado Ave.
Comment noted.
- Comment: Crosswalks to the east on Colorado would be helpful, especially near the restaurants at 11th Street.
The study will be looking at ways to make crossing Colorado Avenue easier as a pedestrian.

6. May 19, 2021 - Public Meeting #1

This meeting was advertised by the City and intended for the general public. Thirty-four attendees watched some or all of the public meeting, which was recorded for future viewing. The same presentation was made that had been given at the May 12 meeting with the Old Colorado City business owners.

During the meeting, the following questions and comments were made:

- Question: What kind of public education will be done prior to the new HAWK signal being installed at 31st/Pikes Peak?
That has not been decided yet, as it is still uncertain whether the new signal at this intersection will be a HAWK or a more traditional signal.
- Question: Will the Midland Trail bypass route along Cucharras be removed in favor of the alignment along Naegele Road?
Until the trail is constructed in its ultimate location – assumed to be adjacent to the creek – it is assumed that both the Cucharras Street and Naegele Road routes will be available for trail users.
- Question: What kind of new design will limit the impacts of homeless on the trail?
Response: Experience has shown that as a trail is improved, especially through the clearing of brush, and used more, loitering non-trail users tend to move elsewhere.
- Question: Are there any considerations for signage in the school zone at 20th Street?
Response: The City had not heard that this was an area of concern. The project team appreciates hearing this and will look at this location as part of the study.
- Question: What could be some of the immediate steps coming from this study addressing the perceived safety issues along the Midland Trail. This has shown to be serious issue today and would not necessarily need infrastructure improvements to start addressing the challenge.

Response: Again, any improvement to the trail that would clear brush and increase use should help towards making the trail feel safer.

- Question: I am curious whether you can increase the number of parking spaces with diagonal parking vs parallel? Diagonal parking is much easier and would certainly be faster without holding up traffic.

Response: Yes, diagonal parking can result in more spaces than a parallel layout. We will be considering both configurations in our development of cross section options for Colorado Avenue.

- Question: What about the homeless in this area?

Response: CSPD is a stakeholder on this project and is aware of the community's concern. See earlier responses about perceived safety issues on the Midland Trail.

- Question: There is a significant amount of trash on the trail. Will that be mitigated?

Response: Citizens should report trash to GoCOS! at <https://coloradosprings.gov/gocos>.

- Question from City staff: Where do meeting attendees see locations or experiences that are most unsafe for bicycling?

Responses from the public: At the at-grade crossings of major roadways, the intersection of Pikes Peak/31st Street, and where the Midland Trail intersects 21st Street.

- Comment: Lack of any sort of wayfinding along the Midland Trail currently making it difficult to tie into the points of interest along the corridor and the safest access ways to get to them.

Response: Additional wayfinding signs, especially to and from the trail, will be considered in the study.

- Comment: Colorado Ave is unsafe, especially with the city bike rentals. Tourists use Colorado Ave.

Response: Comment noted.

- Question: There are lots of crashes at 31st and Highway 24 - has a reason been figured out what the specific problem is?

Response: This intersection is outside of the study area and therefore we did not look at crash data for it. However, a 2018 study noted that the area has high traffic volumes and a short distance between signals at US 24/31st and Colorado Avenue/31st, which may lead to crashes.

- Comment: Dire need for parking garage or designated parking lot on Cucharras side of OCC. Tourism and giant influx of people moving here is making residential parking impossible.

Response: Comment noted. The study will be making recommendations for parking.

After the meeting, the following comments were sent to the City via email:

- My wife and I shop and dine in OCC along Colorado Ave twice a week. The proposed bike lane in this area will force us to take our business to Manitou Springs. We will use Hwy 24 to by pass the whole mess. We can't use bikes to bring our purchases and left overs home on bikes. We think this idea is stupid.
- I'm a Colorado Springs resident and just read the Gazette article on this project and was thinking about the potential for Old Colorado City. What if you turned the section of Colorado Ave from about 24th St to 28th St into a pedestrian mall similar to Pearl St in Boulder, 16th St Mall in Denver, or even La Rambla in Barcelona, Spain? You could also create a parking complex near by for people to come and spend the day in a lovely setting with bistro seating, art, food, and other attractions in the new pedestrian space. Traffic flow could divert out to highway 24 for that stretch. Pearl St and other pedestrian streets have become destinations that people seek out and I think it would rejuvenate the area.
- A few years ago I sent a proposal to have West Cucharras between 29th and 23rd be a east pointing one way street and Colorado Ave to be a one way pointing west. This would slow down

traffic and give more space for all the things on your list! To stop speeding just add a few more stop lights and have them timed so you have to drive the speed limit or less to cruise through them. Also Golden Lane road could connect to 31st street to help end the traffic jams there. I have NEVER understood the stupidity of making 31st street in to a road that dead ends at Garden of the Gods. PLEASE study the one way Idea! NO ONE of the dozen or so people I emailed this to a few years ago couldn't be bothered to even acknowledge my proposal. People may not want this but it's worth ASKING!

- I live at 1127 W Colorado Ave, where you moved the bus stop (after we purchased our house in 2013) from one end of the block (where people used the bus) to in front of our house. I'll spare you the disgusting issues that have arisen from it (including fencing our side yard because of human feces and lovely people picking up rocks in our yard and throwing them at each other, and riders looking into our mail bin), but will tell you that if you have a bus stop, you need to pick up the trash, cut the weeds, get rid of graffiti, keep it looks really fancy...it looks like bad too often. SPEED- it's kind of amazing to us how many people speed and I mean with crotch rockets and all-just blasting through there. We see several people a day approach speeds around (our guess) 60-80 mph, NOISE (people with modified cars and bikes going over a certain decibel is really crazy loud- it makes OUR HOUSE WINDOWS RATTLE) and SPEED have to be ticketed aggressively, living there has become miserable and we keep our place looking GOOD, so it's fairly UNFAIR for that to continue. It's truly rotten that people drive like that on the street. I watched a two year old almost cross the road once, who got out of the house and stopped him as he crossed the road- you have to stop speeders. Fix the alleys- we have a major pot hole expanding the entire width of the alley behind our house at 1127- I saw an older lady slip and fall after it iced over this past year. We're not old people either- we're a young couple/family. Give tax credits to those who have KEPT and MAINTAINED historical homes- like ours at 1127. The charm is the "old" part, they are harder to maintain, but honestly, it's the best part of the area. AT 1125 (next door) it's going to fall down and that building was an Italian style from 1880- that's very, very sad. They didn't have means, but could have used tax credits to make improvements. They are now deceased and that property has no ownership, which is not great for the neighborhood.
- Hello, this is a terrible idea to eliminate a lane in both directions of Colorado. As a business owner in the city, I hear feedback from clients and clients and employees of our clients or our company and this is a terrible idea. When you guys destroyed Cascade by eliminating a lane, the feedback I hear from people is complaint and all it does is delay them. One of our clients said that he doesn't care if it's a bike lane, he's goin to use it to pass slow people and use the bike lane to drive around the slow person. A neighbor of mine says that now they avoid cascade and take Nevada and drive faster and run red lights and stop signs to make up for the time the lose by not being about to take cascade. My entire family would never use a bike lane because people drive so reckless around there that it's not safe to ride your bike in it. From my opinion, it was stupid to take out a lane on Weber and Cascade, and as a result, once my lease for my building is up, I will be considering moving my business out of the city limits or to unincorporated El Paso county. I don't feel that this is safe or a good idea. Colorado ave is congested enough, don't break it more. There are too many people for the size of our city, don't take away lanes. You guys should concentrate on improving roads that are absolutely terrible, like Barnes, Peterson, Stetson hills, and many others where you have to swerve to avoid potholes, huge cracks, and missing pavement. Don't fix something that's not broken with Colorado. I'll be happy to get you a petition of at least 1,000 people against this if you'd like to demonstrate the displeasure of this idea. Our clients are taking about it so much and how pissed they are with the idea. I haven't heard a single positive comment. In fact, one of our employees who is an avid cyclist says he is

terrified of riding his bike in cascade because the bike lane is confusing and people drive in it and almost run bikers off the road. Last, remember what you guys did to research parkway a few years ago by adding that bike lane. You angered the whole city and everyone complained, then you guys reverted it back. Let's not repeat history please. Please consider this and don't ruin it like you didn't Weber and Cascade.

- I figure this is a done deal since the catering to bikers is top priority around these parts. I live in Manitou and the 2 lane system there is atrocious at times. WEEKENDS?!?!?! SO, instead of arguing some good points against the 2 lane system. Why not increase Hwy. 24 to 6 lanes? Seems a win-win there for everybody.
- I am contacting you to express my concerns about multiple car accidents between the the 16th and 17th block of W. Colorado Ave in Old Colorado City. Over the past year or so, there have been at least 5 accidents here. While I have not been directly involved, 5 of my neighbors have had their parked vehicles hit by careless motorists. Specifically, the residents of 1637, 1633, 1631, 1625, and 1622. In one case, my neighbors truck was hit so hard that the person that hit it flipped his car. In another case, my neighbors vehicle was pushed up onto the sidewalk. Another neighbor had their cars hit on two separate occasions. I am writing because I have 2 children that I worry about. I am hesitant to allow them to go out to play in the front yard because I feel like it is only a matter of time before someone plows through our yard. I am on edge every time my teenager walks down to the gas station because the traffic is out of control. I personally have been the first person to on the scene and have reported two of the accidents. These are not mere "fender benders," but are serious incidents where people have been transported by ambulance. I'm sure that you could pull up accident reports and would be alarmed by the number of incidents that have occurred just on this block. Plain and simple, the speed limit is an issue. You would be amazed by how fast people go from the lights between 15th and 21st. While 30 mph is the speed limit, I can tell you that it is not enforced by the city or considered by motorists. With the amount of children and pedestrian traffic, it is extremely important that this is addressed by the city. The wreck that occurred yesterday afternoon involved two motorists and 3 parked cars. After speaking with my neighbors, I have decided to reach out because we are all scared and fed up with these incidents. I feel like it is only a matter of time before one of us are seriously injured. The residents on this block have been working tirelessly to clean it up and make it a safer place to live and we would like the city to step in and do something. We would like to see a stoplight, stop sign, crosswalk, or decrease in speed. The bottom line is something must be done and our hands are tied. We are looking to you to help us figure out what we can do to make our neighborhood safer. I have attached a photo of the roll over vehicle so that you can see why we're all on edge. It is extremely upsetting that this keeps happening.
- The good idea fairy is at work again at Colorado Springs City Council, and they are armed again with the buzz-term: "traffic calming." Congratulations, marketing department. This time, Old Colorado City is the target of their desire to eliminate automobile traffic. Hint: all those Texas, Nebraska, Missouri, etc. license plates you see in Old Colorado City are there because nobody bicycles from those states to bring tourist money to the region. Also, this area sees a tremendous amount of vehicle traffic to and from the surrounding neighborhoods, where thousands of families live. Reducing the automobile capacity of this major throughfare won't reduce traffic. It will push it into the neighborhoods, which have very narrow streets, and children playing. But, hey, we are just would-be traffic engineers, not galaxy-brained professionals, so what do we know?
- In the *80's they used to do news reports on which roads you could drive on and what speeds you needed to go with out hitting red lights. It just makes perfect scene that you have to stop at

red lights. With today's technology traffic light could go red if they detect people speeding toward them. That would help EVERYWHERE! The BEST part of making Chucarras a one way is it opens up development possibilities on a street that used to be much more viable. HWY 24 killed that street when it was out in. The economic benefits to the property owners who could be immense! Imagine having a vacant lot that suddenly has traffic next to it! This is how real in fill is supposed to work! I previously designed and submitted a plan for the Downtown of Bettendorf, Iowa at the request. I don't have the ability to do that free right now but if you would like to work with me and have me do the graphics for this I can be hired rather inexpensively. I can submit my previous drawings if you are interested.

After the public meeting, a video recording of the meeting, a pdf of the PowerPoint slides, and a questionnaire were posted on the project webpage. Comments were accepted until June 7, 2021. A general list of the comments received are listed below:

- 17th/Cucharras - poor visibility. All-way stop suggested.
- Add (separated) bike lanes to Colorado Avenue
- Add a buffer between parking and traffic lanes on Colorado Ave.
- Add a train/streetcar/trolley
- Add left turn signal at Colorado/Walnut
- Add parklets in Old Colorado City by reducing traffic lanes
- Additional parking not necessary in the corridor
- Close Colorado Ave. to motor vehicle traffic (like Denver's 16th St. mall)
- Complete Midland Trail between 21 and 25th
- Difficult to cross Colorado Ave. as a pedestrian
- Don't feel safe riding bike on Colorado Avenue
- Don't gate off Cucharras St.
- Don't make any changes to the Colorado Ave. cross section
- Enforce noise ordinance on Colorado Ave.
- Ensure adequate traffic capacity at US 24/21st and US 24/31st
- Fix homeless problem on the trail
- Fix the pedestrian phase at Colorado/25th Street
- Fix the potholes in the alleys
- Improve bike and ped safety at US 24/31st Street
- Improve Midland Trail
- Improve safety at Midland Trail/21st St
- Improve safety on Colorado Ave.
- Low- or no-cost transit route
- Make free right-turns safer/lower speed
- Make it easier to drive through the corridor
- Make the corridor safer for cycling and walking
- Many residences are adding ADUs and should be required to have off-street parking
- More bike lanes in general on the West Side
- More off-street parking needed in Old Colorado City
- More traffic signals needed on Colorado Ave.
- No bike lanes on Colorado Ave.

- No roundabouts
- People use Cucharras St. as a bypass and speed on it
- Potholes on Colorado Avenue under I-25
- Preserve historic feel
- Preserve the tree canopies
- Prohibit heavy trucks on Colorado Ave.
- Reduce Colorado Ave. to two lanes
- Reduce speed limit on 21st Street
- Roundabouts, not signals, at intersections
- Speeding on Colorado.
- Synchronize traffic signals on US 24 to improve traffic flow
- Too many parked cars on Pikes Peak to be a good bike facility
- Too many stop signs on Pikes Peak Ave. to make it a good bike route
- Too much traffic, speeding, and stop-sign-running on numbered streets through Old Colorado City
- Use better pavement markings on Pikes Peak to increase use by cyclists
- Use speed bumps to slow traffic
- Widen Colorado Ave. for more motor vehicle traffic
- Wider sidewalks on Colorado Avenue
- You can't fix 21st Street without addressing 22nd Street

7. June 2, 2021 - Welling and Sallie Clark

In attendance were Sallie Clark, Welling Clark, Tim Roberts, and Karen Aspelin.

Tim and Karen presented to the Clarks the public meeting presentation that had been presented on May 19th. The Clarks provided their comments afterward in an email, which is presented later in this outreach summary.

8. June 16, 2021 - Briefing to City Councilor Richard Skorman

At this virtual meeting we presented an abridged version of the May 19, 2021, public meeting presentation to Councilor Richard Skorman.

9. June 29, 2021 - Stakeholder Meeting #4

Attendees:

Organization	Representative
MaxGreen Transportation Engineers (consultant)	Karen Aspelin
Resident	Welling Clark
PPACG	John Liosatos
Resident	Sallie Clark
CTAB	Scott Barnhart
Colorado Springs Police Department	Mark Chacon
School District 11	Richard Oss
City of Colorado Springs Parks and Recreation (SIMD)	Eric Becker
CDOT	Pepper Whittlef
TOSC (Trails and Open Space Coalition)	Allen Beauchamp
Bike COS	Jerry White
City of Colorado Springs Planning	Hannah Van Nimwegen

Mountain Metro Transit	Brian Vitulli
City of Colorado Springs (Project Manager)	Tim Roberts
City of Colorado Springs Economic Development	Blessing (Yemi) Mobolade
City of Colorado Springs Planning	Tasha Brackin
City of Colorado Springs Economic Development	Chelsea Gaylord
City of Colorado Springs Economic Development	Sherry Hoffman
City of Colorado Springs Comprehensive Planning	Carl Schueler
City of Colorado Springs Traffic Engineer	Todd Frisbie
City of Colorado Springs (Senior Bicycle Planner)	Kate Brady

At this virtual meeting, we presented the public meeting slides that we propose to present at the July 27 public meeting, and allowed stakeholders to comment and ask questions.

Jerry White (Bike COS)

- We should design roads so that they accommodate the traffic that we want to have on the road, not necessarily what it carries now.
- Colorado Avenue should be designed for calmness and safety.
- The cross sections presented will need to be continuous down the road (you can't select a cross section with bike lanes for one stretch and then have no bike lanes in the next stretch).
- All segments of Colorado Avenue need to have bicycle amenities on both sides of the road.
- If on-street parking is proposed to be removed from Colorado Avenue, we will need to show the public where the new spaces are
- If Colorado Avenue is where you want families and pedestrians to be, maybe we shouldn't be storing cars in the street right-of-way.
- Can we use nine-foot wide travel lanes? (Per City – no, we need 11 feet because of the bus route)
- An 8-foot amenity zone on Colorado Avenue is too small.
- Can you remove the center left-turn lane? (Per City – no, it's needed for left-turn capacity and for delivery trucks)

Sally Clark (Near Westside business owner and resident)

- People don't have parking off-street and many rely on the on-street parking now provided on Colorado Avenue
- Have we looked at where bus pullouts will be provided on Colorado Avenue?
- When there is an incident restricting traffic flow on US 24, all traffic goes to Colorado Avenue.
- Sally has been rear-ended on Colorado Avenue.
- Canon City has recently constructed new diagonal parking in its downtown
- Are there bike counts available for this area? Per City – there may be Streetlight Data available.

Allan Beauchamp (Trails and Open Space Coalition)

- Echoes what Jerry White said
- The segment between 31st and 29th Streets should have bike facilities on both sides of the road
- There needs to be consistency of bike lanes if they are on Colorado
- If there are mixed modes off-street they need to be better marked.
- Colorado Avenue should be "slow and social" and made better for all users
- Would the City consider building back-in angle parking (per City – if bike lanes are put on Colorado Avenue, maybe)

Brian Vitulli (Mountain Metro Transit)

- Bus pullouts can be challenging for bus drivers because motorists sometimes won't let them back into the flow of traffic
- The best situation for a bus pullout is before or after a traffic signal so the bus can get back into the traffic lane. A good option is before the signal with a queue-jump.
- The design will need to consider where/how the bus stops work with a three-lane section on Colorado Avenue
- He likes the cycle track option on 21st Street between Cucharras Street and the Midland Trail

Hannah Van Nimwegen (City of Colorado Springs)

- She likes the raised bike lanes. She is personally fearful of riding in a traffic lane.
- She does not like the median parking option
- She likes the idea of making 25th Street a Festival Space like Colbrunn Court.

Welling Clark (Near Westside business owner and resident)

- Old Colorado City has relaxed parking requirements
- Pikes Peak and Cucharras Street should be designed for bikes and Colorado Avenue should be designed for cars
- He wants to talk to the travel demand forecasters
- We should be trying to prevent blight and improve businesses.

Tasha Brackin (City of Colorado Springs)

- Old Colorado City is an exempt parking area – there are six blocks with no off-street parking required.
- The existing parking should be preserved. Don't remove any spaces.
- Not sure that requiring parking permits is the right application for Old Colorado City – it doesn't benefit the business owners.
- If we require more off-street parking, it might force business owners to take down the adjacent building to build a parking lot. That's not what we want here.

Scott Barnhart (CTAB)

- How can more parking be provided without spending a lot of money on parking structures?

In general the center median parking concept was not supported.

Carl Schueler asked if different parking angles have different levels of safety.

Allen requested the slides from this presentation – we will send them to the Stakeholders after the public meeting on July 27.

10. July 7, 2021 - "Near Westside" Property Owners and Tenants Meeting

This virtual meeting was advertised through door-hangers. Six people responded that they would attend but just one attended (Melody Masters, 809 Colorado Avenue, homeowner). Melody's comments were:

- There is a disconnect between Old Colorado City and the new stadium and museum downtown.

- Her biggest issue on Colorado Avenue is the speeding traffic. It makes it feel dangerous to be in her front yard.
- She feels more police officers on motorcycles or on bikes would be helpful.
- The traffic on Colorado is noisy, especially heavy trucks. It makes it unpleasant to be outside. What could be done immediately to decrease the noise and speeding problems?
- Another big issues for her is the feeling that the Midland Trail is unsafe and disconnected.
- The Near Westside does not have a business owners association. If it did, it would probably include these involved business owners in the area: City Glass, Frankly Coffee, N3 Taphouse (Johnny Nolan), Eve’s Boutique, Sherpa Garden, Cerberus, new condos at Chestnut/Colorado. (Echo Design?)
- There is an odd crosswalk at the intersection of 8th Street and Colorado Avenue.
- She feels that the best way to get more attendance at our July 27 public meeting is to personally invite them.
- She and her husband Larry Masters should be added to the stakeholder list.

11. Aug. 2, 2021 - Welling and Sallie Clark

The Clarks did not attend the meeting.

12. Aug. 10, 2021 – City Economic Development

In attendance were Sherry Hoffman, Yemi Mobolade, Tim Roberts, and Karen Aspelin.

Tim and Karen wanted to find out what the Economic Dept. could do to help the Near West Side businesses of Colorado Avenue “organized.”

Sherry said to refer them to her and she could help facilitate their meetings with other business partnerships. Yemi said he could connect them with Russ, who is a former chair of the Downtown Business Improvement District.

Sherry and Yemi said they would need a minimum of probably three businesses to get something started.

13. Aug. 10, 2021 – Parking Enterprise

In attendance were Scott Lee, Tim Roberts, and Karen Aspelin.

Tim asked Scott if any parking studies had been done recently in the Midland study area, and Scott said no. He feels it would be pointless because the City has no plans to build a parking garage if that’s what the study ends up recommending.

Scott said that at one point the City had proposed to take over OCC’s free surface parking lots but they declined the offer.

In Scott’s opinion, the employees of OCC businesses are taking many of the customer parking spots in the area. Tim suggested that a better system of remote parking paired with transit could help that situation.

If a streetcar were provided along Colorado Avenue for tourists, they would need to parking in the existing parking lots and garages in downtown Colorado Springs or in Manitou.

Scott suggested that the area of metered parking around Old Colorado City could be extended to blocks of Pikes Peak Avenue and Cucharras Street if that would help anything.

14. Aug. 25, 2021 – Welling and Sallie Clark

The Clarks were unable to attend this meeting so Karen responded to Welling’s emailed comments (correspondence follows).

Good afternoon, Clarks. Sorry you missed the meeting with Tim and me this afternoon. As promised, here are answers to the questions from Welling’s email in June.

Questions from Welling Clark – June 28, 2021

Traffic network is the key issue – push onto Hwy 24 or can W colo carry the current load?

Please refer to the current and year 2045 traffic volumes figure in the attached PDF.

How will it affect the residents? Push on to residential streets?

Because the City would only reduce the number of lanes where there is extra capacity, traffic would not be expected to move onto residential streets. Queues on Colorado Avenue would be longer with fewer lanes on Colorado. However, that is a tradeoff during peak times to experience greater safety and slower speeds at all times.

When are you looking to reducing lanes?

Could be part of a project in the next 5-10 years. Depends on funding opportunities.

Has the city provided input/feedback? Any city analyses?

This is a City-led project.

What is current capacity and proposed capacity?

Refer to current and year 2045 traffic volumes figure in the attached PDF.

What is the current motorized count – is there extra capacity?

Refer to current and year 2045 traffic volumes figure in the attached PDF.

What is the non-motorized count?

We only have peak hourly counts for pedestrians and cyclists at some of the signalized intersections.

What is the 2040 projected count for motorized and non-motorized?

Refer to current and year 2045 traffic volumes figure in the attached PDF.

What is the number of new/additional parking spots?

Most of the new parking spots would be in the Old Colorado City blocks. There could be new parking spots in the “Near West Side” area if that is what the adjacent property owners want. There is not a count yet of exactly how many spots. Potentially 20 or 30 around OCC (based on parallel project both sides, but there could be even more if there were diagonal parking on one side)

Do we need to modify curb? Any new infrastructure needed?

The modifications in the Old Colorado City blocks would rebuild curb, sidewalk, ADA ramps, storm drain. Modifications in other blocks would be accomplished without moving curb in most places. In the Near West Side area it hasn’t been decided yet whether curb would be moved or not. That is still up for discussion and being vetted between the City and adjacent property owners. In this area, curb would only be moved to create a different parking/sidewalk configuration, not to reduce the number of driving lanes.

What is the expected parking interaction vs bicycle? Through traffic vs parking cars? More interaction due to more parking spots? 2 lane vs parallel 1 lane vs diagonal

If this question is in reference to bicycles facilities on Colorado Avenue, the City is leaning toward not striping bike lanes on Colorado Avenue.

What signal timing will take place? Signal timing vs traffic backup Sub-optimal 4 lane vs optimized 2 lane? Signal timing vs Traffic backup? Will traffic be backed up more than one block? How will that be handled?

If Colorado Avenue is reconfigured, the signals would need to be retimed accordingly. The City times its signals to balance delay on all of the approaches while minimizing long queues.

What is the expected cross flow traffic vs backing in/more spots/one lane?

Please clarify this question.

How are accidents handled 2 lane vs 1 lane? Total blockage?

Because of the grid network in the area, emergency access would not be considered a reason for not reconfiguring the roadway.

Bus stops? Block the lane or pull in?

This has not been determined yet.

What marketing analysis has been conducted? More sign viewers, more business.

None as part of this study.

15. Aug. 26, 2021 – Old Colorado City Partnership

In attendance were Sara Vaas, Jonathan Neeley, Tim Roberts, and Karen Aspelin.

Karen presented an abbreviated version of the June 29th stakeholder meeting and focused on the cross section options in the Old Colorado City area.

Sara and Jonathan thought that having parallel parking on one side of Colorado Avenue and front-in angle parking on the other side would be a good compromise between more parking spaces and more sidewalk area width.

Jonathan said he would still like the option of a curbless street with bollards (like the new Vermijo downtown) to be considered for Colorado Avenue through Old Colorado City.

Sara said it would be important to ensure that there are good connections and wayfinding signs between the parallel bike facilities and Colorado Avenue.

There are several places along the corridor that OCCP would like to see entryway signage for Old Colorado City.

If a bike corral were planned somewhere in OCC, OCCP already has bike racks that could be used.

The existing westbound right-turn pocket on Colorado Avenue onto Colbrunn Court would be a good location for a City and tourist bus stop.

One of the biggest parking issues for OCC businesses is where do employees park?

Tim and Karen described a potential concept for 25th Street north of Colorado Avenue. It would be one-way southbound and would have a different parking layout to increase the number of spaces. The concept would only add about 3 or 4 parking spaces. Sara and Jonathan didn't think that was enough of a benefit to justify the one-way operation and construction impacts. Also, 25th Street does not have the same type of storefronts as Colbrunn Court, so it wouldn't be that similar.

OCCP would like to see the Old Colorado City area expanded to include Cucharras, maybe Pikes Peak, and the blocks east and west from 24th to 29th streets.

16. Aug. 26, 2021 – Bike COS

In attendance were Cully Radvillas, Allen Beauchamp, Jerry White, Tim Roberts and Karen Aspelin

Tim explained to Bike COS that through public and stakeholder input that parking was considered more important than bike facilities on Colorado Avenue, especially since bicyclists have three other east-west facilities to use in the corridor (Pikes Peak, Cucharras, and the Midland Trail).

Tim mentioned that a HAWK signal has been proposed at the Cucharras Street crossing of 21st Street, to make it easier to cross as a cyclists or pedestrian.

Allen said that if there are no bike facilities on Colorado Avenue then the parallel facilities should be upgraded with clear wayfinding to points of interest on Colorado Avenue.

Karen pointed out that 24th Street is shown in the City's Bicycle Vision Network as a future north-south route and wondered if that was an error or not. The Bike COS folks think it is NOT an error.

BikeCOS requested 10 foot driving lanes on Colorado Avenue to make it more "slow and social." Tim said we would need to check with fire and transit to see if those widths would be acceptable.

If there is parking on Colorado Avenue, BikeCOS prefers parallel parking to front-in diagonal parking.

Karen pointed out that two very bicycle-friendly cities in Colorado have situations similar to this and do not have dedicated bicycle infrastructure but rather provide it on the parallel streets. These are Fort Collins (Old Town) and Boulder (Pearl Street).

BikeCOS does not like the connection on the east end between the parallel bike facilities and the on-street bike lanes on Colorado Avenue under I-25. They requested sidewalk-level bike lanes on Colorado Avenue east of 8th Street.

17. Sep. 13, 2021 – OWN Board

In attendance were Page Saulsbury, Justin Trudeau, Nicole Mattison, Cully Radvillas, Yana, Tim Roberts, Karen Aspelin.

Karen presented an excerpt of the June 29, 2021, stakeholder meeting presentation, focusing on the Colorado Avenue cross sections east of 24th Street. Presented for the first time was the concept of a roundabout at 21st Street and Colorado Avenue. Karen and Tim noted that this intersection has been a traffic congestion issue for decades, and obviously a three-lane section on Colorado Avenue would worsen congestion. A roundabout would keep traffic moving better, but would result in long queues during some times of the day.

Justin asked how bad the queueing would be on northbound 21st Street at Colorado Avenue. Karen will present the queueing analysis to OWN.

The OWN Board likes roundabouts. They could provide a place for a gateway and could help fix some safety and operations issues in the area.

When Karen pointed out that a northbound-to eastbound right turn slip lane could be added at the roundabout, Cully noted that free right lanes like that are typically not great for bikes and peds. He also mentioned that the corridor needs better east-west bike access east of 8th Street to the existing bike lanes on Colorado Avenue under I-25.

Yana said it's already hard to cross 21st Street on Cucharas and is concerned that the roundabout queues could make it even more difficult. Karen mentioned that a HAWK traffic signal is being considered for the Cucharas/21st Street intersection.

Yana said that there is a cut-through traffic problem when WB drivers on Cimarron take a right turn onto 14th Street, then a left turn onto Cucharas Street. Drivers then either continue speeding westbound down Cucharas Street or take a right turn onto 15th Street to use the signal at Colorado Avenue. We discussed removing the traffic signal at Colorado/15th and/or constructing a roundabout (like the one being proposed at Colorado/21st) at Colorado Avenue/14th Street.

Because the at-grade Midland Trail crossing of 14th Street is so close to the right turn off of Cimarron Street, drivers crossing the trail are moving fast and there is sometimes a visibility issue. Also, 14th Street is very wide at that location and the right-turn lane off of Cimarron is designed for a high speed.

The idea of cutting off the 14th Street access at Cimarron Street was discussed but at least one of the attendees uses it often and would not be in favor of that.

Speeding along Cucharas Street may be reduced with the improvements that would be part of a bicycle boulevard. Karen showed some examples of elements of a typical bike boulevard that could be used on Cucharas Street, and the Board was in favor of them all. Speed humps would not likely be constructed on Cucharas Street.

The Board members were in favor of designs for Colorado Avenue that made it easier to cross as a pedestrian – things like raised median refuges and flashing warning signals.

The Board suggested that the City do a survey to get people's opinions on the roundabouts on Colorado Avenue, the expected queuing caused by the 3-lane section, and the desire for bike lanes or parking. If the City develops the survey, OWN will distribute it through Facebook and Instagram. Page felt there needed to be a better concept design plan of the roundabout before putting it out to the public.

Tim suggested that in the area of Colorado Avenue between 24th and 20th streets, where the right-of-way width is 100 feet, that we could alter the section to give residents more "front yard." *NOTE: after the OWN meeting Tim and Karen discussed this. Since the sidewalk in that area is right against the property line, this concept would not work without tearing up all the existing sidewalk.*

Tim said that the study team received a proposal from Bike COS for bike facilities on Colorado Avenue and will be discussing it on Sep. 15.

18. September 15, 2021 - Stakeholder Meeting #5

Attendees:

Organization	Representative
MaxGreen Transportation Engineers (consultant)	Karen Aspelin
Resident	Welling Clark
PPACG	John Liosatos
CTAB	Scott Barnhart
Colorado Springs Police Department	John Koch
School District 11	Richard Oss
CDOT	Pepper Whittlef
TOSC (Trails and Open Space Coalition)	Allen Beauchamp
City of Colorado Springs Planning	Hannah Van Nimwegen
City of Colorado Springs (Project Manager)	Tim Roberts
City of Colorado Springs Economic Development	Sherry Hoffman
City of Colorado Springs Comprehensive Planning	Carl Schueler
City of Colorado Springs Traffic Engineer	Todd Frisbie

City of Colorado Springs (Senior Bicycle Planner)	Kate Brady
CONO	Sara Vaas
City of Colorado Springs Stormwater	Erin Powers
Parking Enterprise	Scott Lee
Old Colorado City Partnership	Jonathan Neely

Allen Beauchamp: Question on the prioritization of parking over bike facilities on Colorado Ave

Scott Barnhart: Concepts look good. How and when will they be paid for? *The City has requested \$1.5 million for design and construction of a Colorado Avenue project under a federal grant. There may also be projects in this study area listed on PPRTA-3. There is an existing federally-funded grant to install the HAWK signal at Pikes Peak/31st Street. John Liosatos pointed out that SB 260 may create more funding opportunities for multimodal projects. Revitalizing Main Street Grants are also possible.*

Allen Beauchamp – TOSC: What would the anticipated speed limit be on Colorado Ave through the corridor? Any lower than current, especially in the OCC area. *Currently the speed limit is 30 mph through Old Colorado City. It may be reduced to 25 mph but that is not confirmed. The design of the street, not the posted speed limit, guides the speeds that are driven.*

Welling Clark: Concept looks very interesting. Parking, will the variance for off street parking stop being? I.E> require standard off street parking requirements?

Van Nimwegen, Hannah: A lot to digest, but I really like what's presented! Really looking forward to wider sidewalks. Like the idea of creating designated and delineated bike boulevards. Clear north/south connections between Midland, Cucharras, and Pikes Peak would be valuable in my opinion.

Scott Barnhart: Road dieting through PPRTA will require a special presentation. Shouldn't be a problem, just something you need to be aware of.

Welling Clark: What are the peak traffic volumes for each section? Will that be released to the public? *We do have some peak hour counts that we can share.*

Van Nimwegen, Hannah: I would recommend pushing for expanding the parking exempt zone outlined in the zoning code. This could save some historic structures.

Sherry Hoffman: I'm sure we all agree this area is special and deserves the attention and improved quality of life enhancements and improved economic vitality. Fabulous information provided. Happy to do our part to bring the right people to the table in the small business sector to form a consensus on these ideas and other future needs.

Welling Clark: Can we buy some of the old Goodwill property and build a parking garage? *Scott Lee commented that parking structures are extremely expensive and would not likely be paid for by the City.*

Welling Clark: How do people cross roundabouts?

Allen Beauchamp – TOSC: Thank you for using Albuquerque in your examples, they have very similar conditions along their bike corridors that have had the bike-permeable medians installed.

Allen Beauchamp – TOSC: That (not having bicycle infrastructure on Colorado Avenue) is not going to go over well with our pedaling folks

Welling Clark: How will slower speed and roundabouts affect emergency responders and mass evacuation times? *John Koch said that slower speed limits and roundabouts do not affect emergency response time.*

John Liosatos: Businesses in Old Colorado City may not like the fact that they could be losing pass-by traffic (traffic that is not destined for that location). It is a delicate balance.

Welling Clark: What are the pedestrian numbers using the sidewalks and for the crossing area?

Welling Clark: If we diet Colorado Avenue, the traffic will be rerouted into the already stressed neighborhood streets. Less parking requirements in OCC without new parking options will expand the stress on neighborhood parking frustrations.

Welling Clark: The city parking enterprise should consider expanding parking structures that also accommodate new business opportunities.

Welling Clark: That's exactly what happened when Highway 24 diverted traffic and around the commercial district.

Welling Clark: Will fewer lanes and slower speed result in gridlock at rush hour volumes resulting in neighborhood cut-through traffic? Putting more vehicles on residential streets?

Sara Vaas: Agree, there needs to be a balance of not passing through but being able to stop and shop and park and walk and ride there.

Welling Clark: Pikes Peak Avenue is an official bicycle route.

Allen Beauchamp – TOSC: When we started this, I do believe that "Slow & Social" was a theme that was presented. If we are prioritizing this as that kind of corridor, dissuading the pass-through traffic that is only using this as a 24 bypass is a must.

Welling Clark: As the OWN president of 12 years, the residents want cars on Colo Ave and bikes in the neighborhood. The plan needs to engineer this.

Allen Beauchamp – TOSC: From a Midland Trail perspective, we appreciate the approach being taken to increasing safety at the slip lane crossings and to enhance safety at 21st and 31st

Welling Clark: The idea of more parking should be included as proposal on behalf of the parking enterprise and not be ignored just because it's not funded currently. Downtown gets the lion's share of the parking enterprise.

Allen Beauchamp – TOSC: Bike-permeable medians :)

Sara Vaas: Are there small wins we can do while we wait for funding?

19. October 14, 2021 – Presentation to City Council Members Richard Skorman and Nancy Henjum

This was a virtual project status update to City Council Members Richard Skorman (District 3) and Nancy Henjum (District 5). The Midland Corridor study lies within the boundaries of District 3.

20. November 18, 2021 – Briefing to Mayor Suthers

This was an in-person briefing to Mayor Suthers on both the City's ConnectCOS and Midland Corridor Study projects.

21. January 20, 2022 – Presentation to City Council Member Tom Strand

This was a virtual project status update to City Council President Tom Strand (At-Large).

22. February 1, 2022 – Presentation to First Responders

This was a virtual meeting with several high-level staff from CSPD and CSFD regarding the operations of Colorado Avenue during a potential wildfire evacuation situation.

23. March 3, 2022 – Presentation to City Council Member Stephanie Fortune

This was a virtual status update to new City Council Member Stephanie Fortune, who was selected to replace Richard Skorman in the District 3 seat.

24. March 29, 2022 - Stakeholder Meeting #6

This stakeholder meeting was a virtual preview of the public information meeting presentation to be held on April 6, 2022.

25. April 6, 2022 – Public Information Meeting

The Midland Corridor Study concluded with a final public meeting on April 6, 2022. This meeting was held as a "hybrid" event, meaning that it was held in-person but could be watched live online. About 23 people watched the event online, while 25 attended in person. The purpose of the meeting was to present to the public the findings and recommendations that have been presented in this report. Following is a summary of the Q&A from the meeting.

- *Diagonal parking proposed on Colorado Ave does not appear to be a safe option. What other parking options are there? Can we put in a parking garage or parallel parking?*
 - *Diagonal parking is not meant to be a safety feature; it is a way to provide more parking spaces than a parallel parking configuration. It should, however, have the benefit of slowing traffic down as through-traffic will have to pay more attention to the movement of parking and exiting cars. A representative from the City's Parking Enterprise has stated that a parking garage would be cost prohibitive.*
- *In certain sections of this study area, businesses are not required to provide as much off-street parking, so parking needs could flow over to the residential areas. How will these impacts be addressed?*

- *Adding parking was a primary request identified through the corridor study. The cross section being considered for Old Colorado City would increase the number of on-street parking spaces on Colorado Avenue.*
- *Pikes Peak Ave. does not feel safe as a cyclist. Are there any safety improvements being incorporated to prioritize bicycles on Pikes Peak Ave.?*
 - *Methods of slowing traffic on bicycle routes like Pikes Peak Avenue or Cucharras Street could include bike/pedestrian-permeable medians, mini-roundabouts, and special signing and pavement markings.*
- *Cucharras St. is not a great route for cyclists because of the narrow road and all the parked cars. Will there be any changes to parking on Cucharras St. or other safety improvements to prioritize bicycles?*
 - *No changes to parking are proposed for Cucharras Street. The narrow road actually is ideal for cycling as the narrow roadway reduces travel speeds for cars. The same treatments mentioned for Pikes Peak Avenue could also be implemented on Cucharras Street if warranted.*
- *I like the bike boulevards on Pikes Peak Ave. and Cucharras St., as well as the Midland Trail. However, the Midland Trail has issues with homelessness and camping and is not perceived to be safe for bikes and pedestrians. How will this study address this challenge on the Midland Trail to make it safer for cyclists?*
 - *Engineering studies like this one are limited in what they can do to address a problem like homelessness. It is hoped that if/when the Midland Trail is made continuous and experiences higher usage that undesirable usage of the trail will decrease. The City has other initiatives in progress that are focused on reducing homelessness throughout the city, including on the Midland Trail.*
- *Does this study recommend adding bike lanes to Colorado Ave.?*
 - *This study does not propose to add bike lanes to Colorado Avenue west of Walnut Street; however, it is proposed that the bike lanes on Colorado Avenue that begin under I-25 and continue east would be striped west to connect to Walnut Street, which is a bike route. Public input received during the study reflected a stronger desire for increased parking which was applied to Colorado Avenue, with three other facilities (Midland Trail, Cucharras Street and Pikes Peak) being the focus for bicycle improvements.*
- *Is completing the Midland Trail between 21st to 25th a recommendation from this study?*
 - *Yes, although the trail along Fountain Creek may be long-term with an alternative provided along the Naegele Road alignment as a protected facility being an interim solution. The difference in costs in those two options is substantial.*
- *Are there plans for more painted pedestrian crossings?*
 - *This study did not identify specific locations for striped pedestrian crossings but as projects are developed options will be explored further. Cross sections presented in the public meeting that have fewer lanes to cross, and the potential for adding a raised*

pedestrian refuge, should make pedestrian crossings more pleasant and potentially safer.

- *I thought this study was going to lead to a recommendation for the proposed changes in this study. What are the next steps? What kind of community buy in do we need to show?*
 - *The Westside Master Plan, underway by the City, will be taking the findings of this study and further evaluating them within the larger context of the West Side. More public involvement will also be part of the Westside Plan.*
- *If we remove lanes on Colorado Ave., what will prevent additional traffic from moving over to Cucharras St and Pikes Peak Ave?*
 - *The existing and future traffic volumes on Colorado Ave (between 29th and 8th streets) indicate that there is excess lane capacity on Colorado Ave and will be into the future; consequently, transitioning to the three-lane cross section to repurpose the extra space is not expected to significantly affect traffic operations. Three lanes should be adequate to carry the existing and future traffic volumes on Colorado Ave. without a need for alternate routes. Further, a variety of traffic calming devices are proposed to be implemented on both Pikes Peak Ave. and Cucharras St. to discourage cut-through traffic, while also making these streets more comfortable for cyclists.*
- *Does this study address speeding issues on Colorado Ave?*
 - *Yes, consideration of narrowing the roadway section would help deter speeding traffic.*
- *How long is the Westside Master Plan going to take and how much will it cost?*
 - *According to the City Project Manager for the study, the Westside Neighborhood Plan is already underway, and from this point forward the process will be roughly one year until completion. There is approximately \$230,000 in funding for the Plan.*
- *Will there be more bike parking with this study?*
 - *More parking for bikes near Colorado Avenue is a recommendation of this study, in conjunction with the additional sidewalk space proposed in the Old Colorado City segment.*
- *Why isn't the three-lane cross-section on Colorado Ave. being extended from Limit St. to Walnut St.?*
 - *There is a major travel pattern from US 24 to 8th Street/Limit Street to Colorado Avenue, that causes traffic volumes in this segment to be much higher than what it is on Colorado Avenue to the west, and higher than what the City would feel comfortable narrowing to three lanes.*
- *Will there be improvements to the bike and pedestrian crossing on Cucharras St. at 21st St.?*
 - *Improving the trail route between 21st and 25th streets is a recommendation from this study and will include the recommendation for a pedestrian/bike activated traffic signal at the Cucharras Street/21st Street intersection.*

- *Would parking continue to be allowed on 29th St. if it were a bike trail entrance from the Midland Trail onto Colorado Ave.?*
 - *Yes. No changes to parking are proposed for this portion of 29th St.*
- *Could you please clarify the comparison of Colorado Ave to the 2 pedestrian zones in Boulder & Ft Collins?*
 - *Boulder does not allow bicyclists to ride on the Pearl Street Mall; Fort Collins' Old Town is a dismount zone for bicyclists and does not provide bike lanes on College Avenue through that area. Similarly, the cross sections presented for Colorado Avenue through Old Colorado City as part of this public meeting would only allow dismounted bicyclists on the sidewalk and would not accommodate on-street bike lanes on Colorado Avenue. Cyclists could still ride in the Colorado Avenue driving lane as they may now and with a slower speed limit through Old Colorado City.*
- *Do bike boulevards still allow on-street parking?*
 - *Yes. A bike boulevard works well on streets with low traffic volume and speed; they are designed to give priority to bicycle travel. Overall, the street-space is shared between bicycles and vehicles, and parking is not impacted.*
- *Wouldn't it be safer for cyclists to have the three-lane cross section extended from Limit St. to Walnut St.?*
 - *Pikes Peak Ave., Cucharras St., and the Midland Trail are designated bikeways parallel to Colorado Ave. This study proposes these alternate routes to be used as bike routes instead of Colorado Avenue. The traffic volume on Colorado Avenue in this stretch will require the capacity of the wider five-lane section.*
- *Did you evaluate strategies to reduce Single-Occupancy Vehicle (SOV) traffic volumes by improving multi-modal access?*
 - *This study used future year traffic forecasts from the Pike Peak Area Council of Governments for the analysis. While many of the ideas in tonight's presentation will improve multimodal access it is unlikely that they would significantly change (meaning in the thousands of cars a day) the number of Single Occupant Vehicles expected to use Colorado Avenue in the future.*
- *How likely is the option of a continuous greenway along Fountain Creek? Is this City able to use eminent domain to secure the private property necessary for this option?*
 - *As mentioned above, the City would consider an alignment of the Midland Trail right along the creek; however, it would be very costly and as you mention, require the acquisition of private property.*
- *Regarding the choice to prioritize vehicle parking over dedicated bicycle travel lanes from Walnut to 31st, have you considered the potential reduction in car parking needs that may come with the bicycle improvements on Midland Trail/Pikes Peak Ave and improved transit? Alternatively, would you consider repurposing parking to a bike lane later if bike travel in the corridor increases along with the proposed improvements?*

- *Forecast traffic volumes for this study's design year (2045) do not indicate that the mode share of bicyclists on Colorado Ave. would increase significantly enough to replace the need for more SOV parking. That being said, the City intends to further study the stretch between 8th Street and I-25 as there was not adequate participation from these residents and business owners to develop final recommendations.*
- *Why are the lanes all so wide? Current recommendations for traffic calming and reducing speeds in urban areas would call for 10ft lanes, rather than 12ft lanes, adequate for cars and also buses with the center lane.*
 - *Traffic lane widths have not been established and will be determined in final design.*
- *Are the newly installed scooters parked on the sidewalks throughout Old Colorado City on Colorado Ave. supposed to share the sidewalks with walking pedestrians?*
 - *The E-scooters in Colorado Springs and Old Colorado City have designated "No-ride zones." These include sidewalks in the high pedestrian areas of Downtown and Old Colorado City, streets over 35 mph, parks, and trails. E-scooters will stop working in designated no-ride zones. Scooter users are also required to park responsibly, leaving scooters upright and not obstructing walkways or traffic.*
- *There are a number of schools and the community center nearby the study area, and students may travel along or across Colorado Avenue. Were concerns about the safety of students walking and biking to school considered as a high priority, or was the study mainly focused on the parking for private businesses? Bicycle facilities that are okay for experienced adults are often not adequate for kids or newer riders.*
 - *The concepts in the study to improve safety for all users would apply to pedestrians and bicyclists of all ages.*
- *Will further improvements to Hwy 24 be part of future studies or considerations?*
 - *CDOT completed a thorough study of future improvements to US Highway 24 in 2012. That document was considered in the development of the Midland Corridor study.*
- *Speeding on Colorado Ave. is a concern. Will there be more police enforcement on Colorado Ave.?*
 - *Like the homelessness issue, engineering studies like this one are limited in what they can do to address speed enforcement. The concept of reducing the number of lanes to reduce speeds is the way this study has addressed the speeding problem through design. A member of the Police Department was on the stakeholder committee for this study and is aware of the speeding issue.*
- *It can be difficult bike to travel on a bike between the bike routes on Cucharras Street and Pikes Peak Avenue and the bike lanes on Colorado Avenue east of Walnut Street. Does this study make any recommendations to improve those movements, such as a traffic signal at Walnut Street and Pikes Peak Avenue?*
 - *Making additional improvements to both the Cucharras Street and Pikes Peak Avenue bicycle routes (and potential bicycle boulevards) is a recommendation of the study;*

however, specific treatments have not been determined. It is possible that they could include modifications to the bike route connections to Colorado Avenue east of Walnut. A traffic signal is not being proposed and is not warranted at the intersection of Walnut Street and Pikes Peak Avenue.

- It seems like the worst area on Colorado is between 23rd and 28th. There is heavy traffic and many pedestrians trying to cross and park. Plus the bulk of the business are on that stretch as well. Has there been any discussion of breaking up the corridor project into smaller sections so the worst areas could be tackled sooner? They could identify the most problematic areas and concentrate the effort on those sections first.
 - *The project team agrees that this is a good suggestion and something that the City will be looking at as the study is completed.*