



LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
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January 26, 2024

Mr. Casey Adragna
Adragna Architecture + Development
6162 W. Cross Drive
Littleton, CO 80123

Re: 1100 S. Wilcox
Auto Dealership
Supplemental Memorandum
Castle Rock, CO
LSC #210530

Dear Mr. Adragna:

In response to your request, LSC Transportation Consultants, Inc. has prepared this supplemental memorandum for the proposed 1100 S. Wilcox Auto Dealership expansion. As shown on Figure 1, the site is located east of S. Wilcox Street between Brookside Circle and the Castle Rock Ford Access in Castle Rock, Colorado.

REPORT CONTENTS

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the projected short-term background and resulting total traffic volumes; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the growth in background traffic or the impact of the site prior to construction of the Crystal Valley Ranch interchange with I-25.

LAND USE AND ACCESS

In the short-term, the site is proposed to be expanded with a 40,236 square-foot building. Full movement access exist to S. Wilcox Street via Brookside Circle as shown in the conceptual site plan in Figure 2.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **S. Wilcox Street** is a north-south, two-lane minor arterial roadway west of the site. The intersection with E. Plum Creek Parkway is signalized with auxiliary turn lanes and the intersections with Brookside Circle and the Castle Rock Ford Access are stop-sign controlled. The posted speed limit is 45 mph in the vicinity of the site and decreases to 35 mph to the north.
- **E. Plum Creek Parkway** is an east-west, four-lane major arterial north of the site. The intersection with S. Wilcox Street is signalized with auxiliary turn lanes. The posted speed limit is 35 mph in the vicinity of S. Wilcox Street.
- **Brookside Circle** is a two-lane local roadway providing site access to S. Wilcox Street.

Existing Traffic Conditions

Figure 3 shows the existing traffic volumes, lane geometry, and traffic control in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes and average daily traffic volumes are from the attached traffic counts conducted in March and May, 2021 by Counter Measures, Inc.

2024 Background Traffic

Figure 4 shows the estimated 2024 background traffic based on the 2023 background and total traffic from the April 4, 2021 *221 Wilcox Update TIA* by LSC plus one year of growth at a rate of two percent (Figures 4 and 8 are attached for reference). The intersections to the south (Intersections #2 and #3) were adjusted to match these volumes.

Existing and 2024 Background Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for unsignalized intersections.

The intersections in Figures 3 and 4 were analyzed to determine the existing and 2024 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **S. Wilcox Street/Brookside Circle:** All movements at this unsignalized intersection currently operate at LOS "D" or better during both morning and afternoon peak-hours and are expected to do so through 2024.
2. **S. Wilcox Street/Castle Rock Ford Access:** All movements at this unsignalized intersection currently operate at LOS "D" or better during both morning and afternoon peak-hours and are expected to do so through 2024 with the following exception: By 2024, the west-bound left-turn movement is expected to operate at LOS "E" during the morning peak-hour.

TRIP GENERATION

Table 2 shows the estimated average weekday, morning peak-hour, and afternoon peak-hour trip generation for the proposed site based on the rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE).

Phase 1 of the expansion is projected to generate about 1,120 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 55 vehicles would enter and about 20 vehicles would exit the site. During the afternoon peak-hour, which generally occurs for one hour between 4:00 and 6:00 p.m., about 39 vehicles would enter and about 58 vehicles would exit.

TRIP DISTRIBUTION

Figure 5 shows the estimated directional distribution of the site-generated traffic volumes on the area roadways. The estimates were based on the location of the site with respect to the regional population, employment, and activity centers; and the site's proposed land use.

TRIP ASSIGNMENT

Figure 6 shows the estimated assignment of the site-generated traffic volumes based on the directional distribution percentages (from Figure 5) and the trip generation estimate (from Table 2).

2024 TOTAL TRAFFIC

Figure 7 shows the 2024 total traffic which is the sum of the 2024 background traffic volumes (from Figure 4) and the site-generated traffic volumes (from Figure 6). Figure 7 also shows the recommended 2024 lane geometry and traffic control.

PROJECTED LEVELS OF SERVICE

The intersections in Figure 7 were analyzed to determine the 2024 total traffic levels of service. Table 1 shows the level of service analysis results.

1. **S. Wilcox Street/Brookside Circle:** All movements at this unsignalized intersection are expected to operate at LOS "C" or better during both morning and afternoon peak-hours through 2024 with the recommended improvements.
2. **S. Wilcox Street/Castle Rock Ford Access:** All movements at this unsignalized intersection are expected to operate at LOS "D" or better during both morning and afternoon peak-hours through 2024 with the following exception: The westbound left-turn movement is expected to operate at LOS "E" during the 2024 morning peak-hour.

RECOMMENDED IMPROVEMENTS

The recommended improvements are shown in Figure 7 and are described below.

2024 Total Traffic ImprovementsS. Wilcox Street/Brookside Circle (Intersection #2)

- SB LT = 370 feet (273 feet for decel and 97 feet for storage) and a 162-foot transition taper and 45:1 redirect taper.
- WB to SB Accel Lane = 388 feet and 162-foot transition taper.
- WB Approach - stripe separate WB LT and WB RT lanes between S. Wilcox Street and the first site access intersection. These lanes should be well over 100 feet in length. The 95th percentile queue is expected to be one vehicle or less as shown in the LOS printouts.
- NB RT = 273 feet and a 162-foot transition taper.

CONCLUSIONS AND RECOMMENDATIONS**Trip Generation**

1. Phase 1 of the expansion is projected to generate about 1,120 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 55 vehicles would enter and about 20 vehicles would exit the site. During the afternoon peak-hour, about 39 vehicles would enter and about 58 vehicles would exit.

Projected Levels of Service

2. All movements at the unsignalized intersections are expected to operate at LOS "D" or better through 2024 with the following exception: The westbound approach at the S. Wilcox Street/Castle Rock Ford Access is expected to operate at LOS "E" during the morning peak-hours by 2024.

Conclusions

3. The impact of the site can be accommodated by the existing and planned roadway network with implementation of the recommended improvements.

Recommendations

4. The recommended improvements are shown in Figure 7 and are described below.

2024 Total Traffic ImprovementsS. Wilcox Street/Brookside Circle (Intersection #2)

- SB LT = 370 feet (273 feet for decel and 97 feet for storage) and a 162-foot transition taper and 45:1 redirect taper.
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- NB RT = 273 feet and a 162-foot transition taper.

We trust our findings will assist you in gaining approval of the 1100 S. Wilcox Auto Dealership expansion. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By



Christopher S. McGranahan, PE
Principal/President



CSM/wc

1-26-24

Enclosures: Tables 1 and 2
Figures 1 - 7
Traffic Counts
Figures 4 and 8 from the April 4, 2021 *221 Wilcox Update TIA* by LSC
Level of Service Definitions
Level of Service Reports

Table 1
Intersection Levels of Service Analysis
1100 S. Wilcox Auto Dealership - Supplemental Memorandum
Castle Rock, CO
LSC #210530; January, 2024

Intersection Location	Traffic Control	Existing Traffic		2024 Background Traffic		2024 Total Traffic	
		Level of Service	Level of Service	Level of Service	Level of Service	Level of Service	Level of Service
		AM	PM	AM	PM	AM	PM
1) <u>S. Wilcox Street/Brookside Circle</u>	TWSC						
WB Approach		D	C	D	C	--	--
WB Left		--	--	--	--	C	C
WB Right		--	--	--	--	C	B
SB Left/Through or Left		A	A	A	A	B	A
Critical Movement Delay (sec./veh.)		29.2	20.7	27.3	24.8	20.6	17.7
2) <u>S. Wilcox Street/Castle Rock Ford Access</u>	TWSC						
WB Left		D	C	E	D	E	D
WB Right		A	A	A	A	A	A
SB Left/Through		A	A	B	A	B	A
Critical Movement Delay (sec./veh.)		32.1	21.2	44.0	25.6	45.7	26.6

(1) The 2024 total traffic assumes the addition of the recommended turn lanes detailed in Figure 7.

Table 2
ESTIMATED TRAFFIC GENERATION
1100 S. Wilcox Auto Dealership - Supplemental Memorandum
Castle Rock, CO
LSC #210530; January, 2024

Trip Generating Category	Quantity	Trip Generation Rates ⁽¹⁾						Total Trips Generated				
		Average Weekday	AM Peak-Hour		PM Peak-Hour		Average Weekday	AM Peak-Hour		PM Peak-Hour		
			In	Out	In	Out		In	Out	In	Out	
Phase 1												
Auto Dealership ⁽²⁾	40.236 KSF ⁽³⁾	27.84	1.358	0.502	0.968	1.452	1,120	55	20	39	58	

Notes:

- (1) Source: *Trip Generation*, Institute of Transportation Engineers, 11th Edition, 2021.
- (2) ITE Land Use No. 840 - Automobile Sales (New)
- (3) KSF = 1,000 square feet

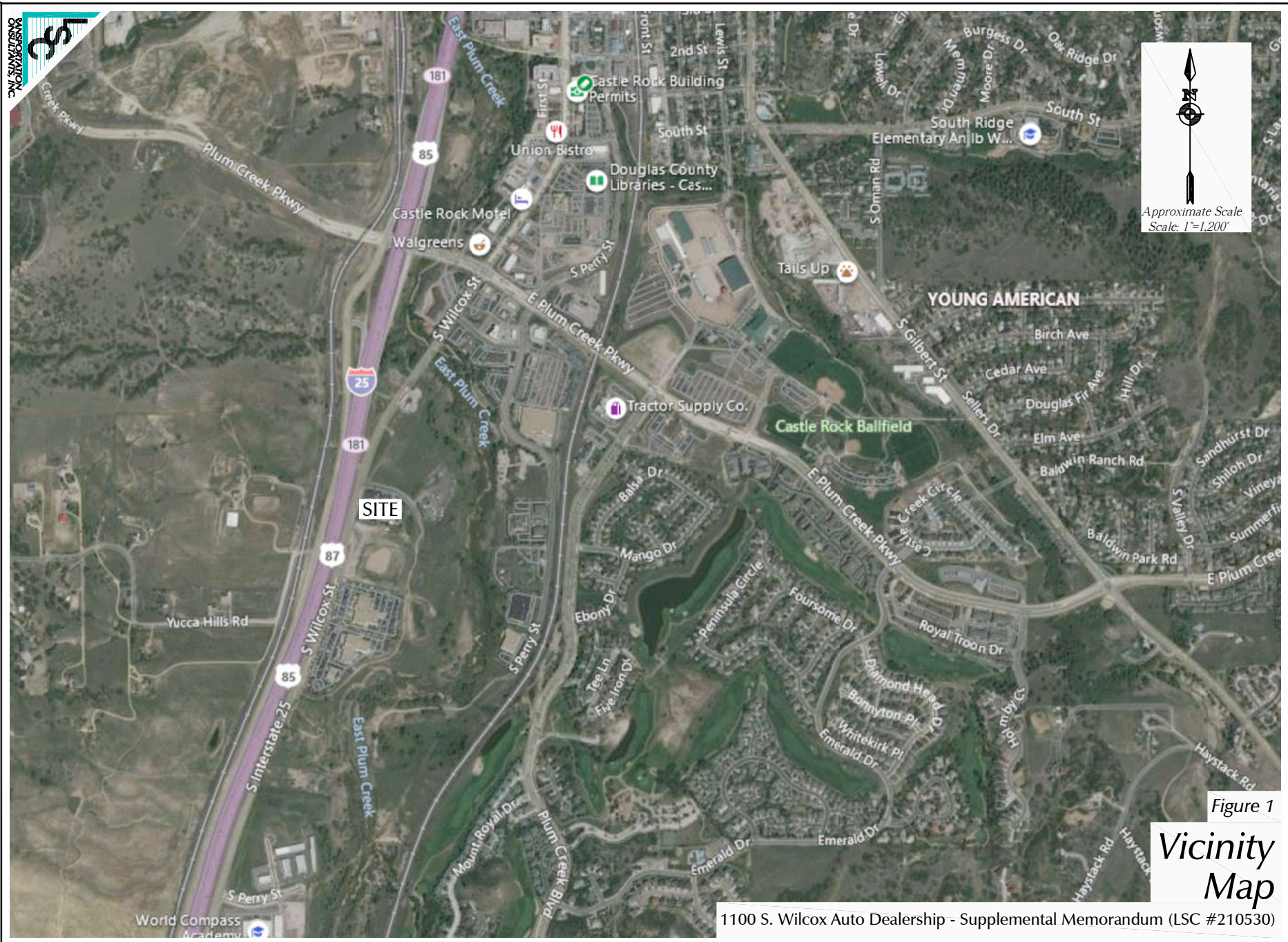


Figure 1

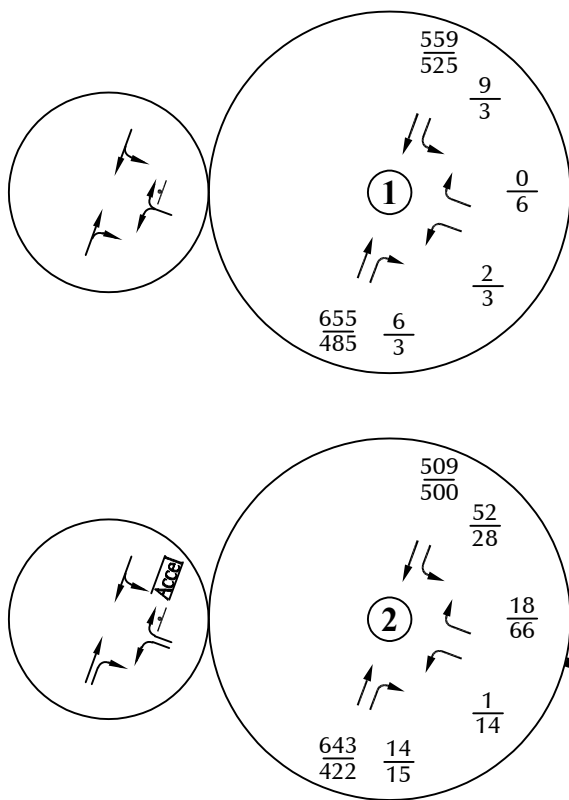
Vicinity Map

1100 S. Wilcox Auto Dealership - Supplemental Memorandum (LSC #210530)

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Site Plan

1100 S. Wilcox Auto Dealership - Supplemental Memorandum (LSC #210530)



LEGEND:

⊥ = Stop Sign

= Speed Limit

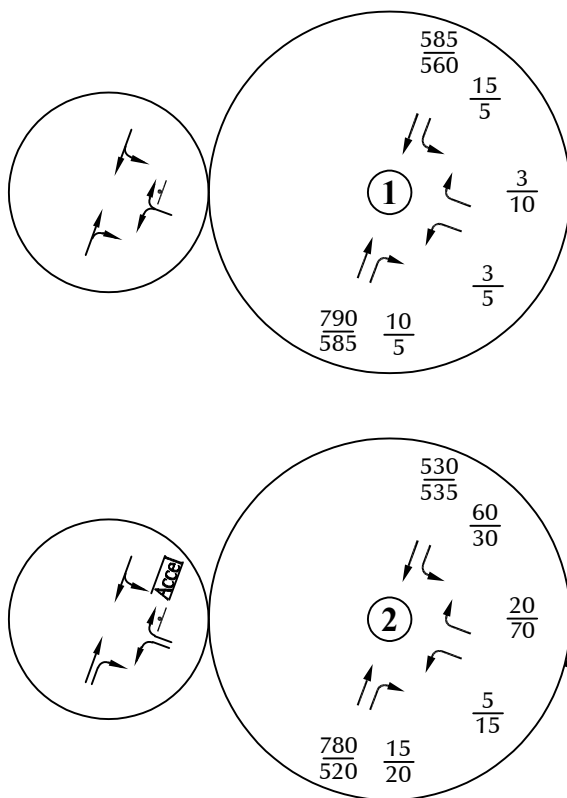
$\frac{26}{35}$ = AM Peak Hour Traffic
PM Peak Hour Traffic

1,000 = Average Daily Traffic

Figure 3

June, 2021 Existing Traffic, Lane Geometry and Traffic Control

1100 S. Wilcox Auto Dealership - Supplemental Memorandum (LSC #210530)



LEGEND:

⊥ = Stop Sign

$\frac{26}{35}$ = AM Peak Hour Traffic
PM Peak Hour Traffic

1,000 = Average Daily Traffic

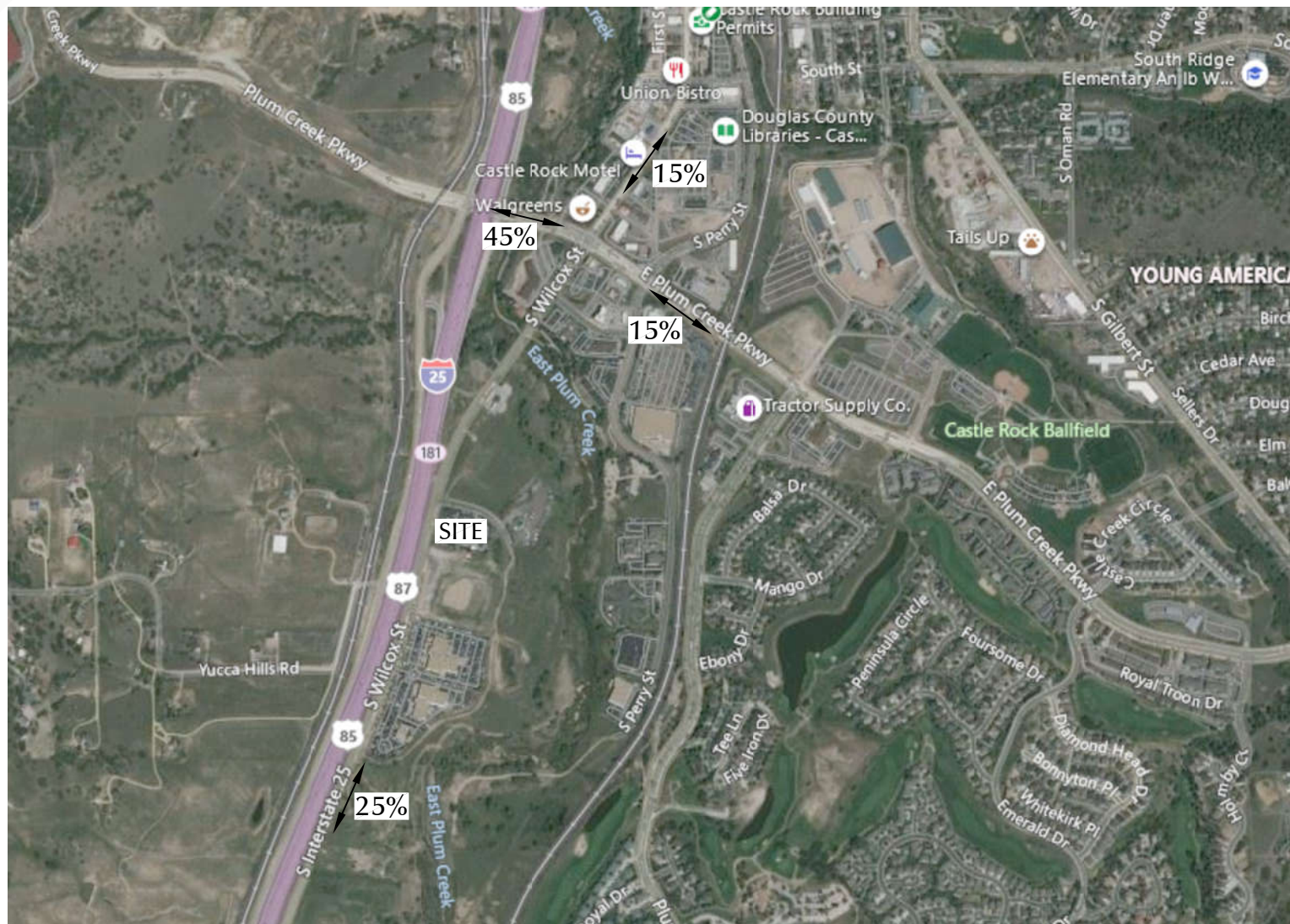
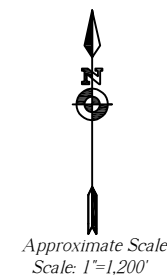


* Based on 2023 background and total traffic from 2021 221 Wilcox Update TIA by LSC (Figures 4 and 8) plus one year of growth at a rate of two percent. The intersections to the south were adjusted to match these volumes.

Figure 4

Year 2024 Background Traffic, Lane Geometry and Traffic Control

1100 S. Wilcox Auto Dealership - Supplemental Memorandum (LSC #210530)



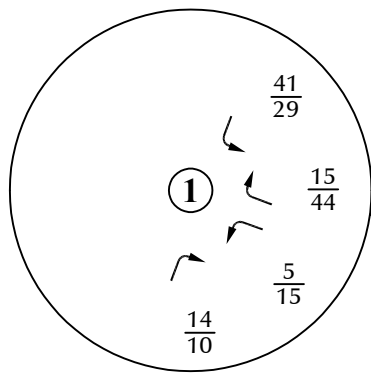
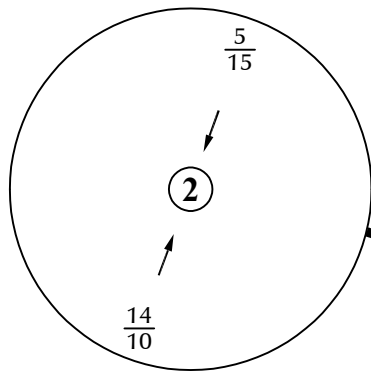
LEGEND:

↔ = Percent Directional Distribution
65%

Directional Distribution of Site-Generated Traffic

1100 S. Wilcox Auto Dealership - Supplemental Memorandum (LSC #210530)

Figure 5



LEGEND:

$\frac{26}{35}$ = AM Peak Hour Traffic

$\frac{35}{26}$ = PM Peak Hour Traffic

1,000 = Average Daily Traffic

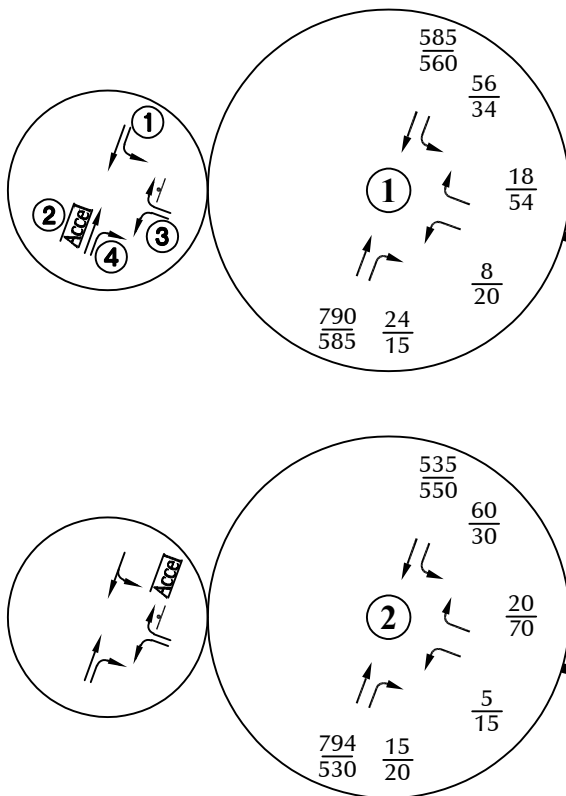
Figure 6

Assignment of Phase 1 Site-Generated Traffic

1100 S. Wilcox Auto Dealership - Supplemental Memorandum (LSC #210530)

Recommended Improvements

- ① SB LT = 370 feet (273 feet for decel and 97 feet for storage) + 162-foot transition taper and 45:1 redirect taper.
- ② WB to SB Accel Lane = 388 feet + 162-foot transition taper.
- ③ WB LT = Stripe separate WB LT and RT back to the first site access intersection.
- ④ NB RT = 273 feet + 162-foot transition taper.



LEGEND:

┆ = Stop Sign

$\frac{26}{35}$ = AM Peak Hour Traffic

$\frac{35}{26}$ = PM Peak Hour Traffic

1,000 = Average Daily Traffic

Figure 7

Year 2024 Total Traffic, Lane Geometry and Traffic Control

1100 S. Wilcox Auto Dealership - Supplemental Memorandum (LSC #210530)

COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: WILCOX STREET
E/W STREET: ACCESS ROAD
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : WILCACCESS
Site Code : 00000020
Start Date : 5/25/2021
Page No : 1

Groups Printed- VEHICLES

	WILCOX STREET Southbound				ACCESS ROAD Westbound				WILCOX STREET Northbound				Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	5	65	0	0	0	0	0	0	0	81	1	0	0	0	0	0	152
06:45 AM	13	79	0	0	0	0	3	0	0	73	0	0	0	0	0	0	168
Total	18	144	0	0	0	0	3	0	0	154	1	0	0	0	0	0	320
07:00 AM	11	78	0	0	0	0	3	0	0	92	1	0	0	0	0	0	185
07:15 AM	7	97	0	0	0	0	3	0	0	127	2	0	0	0	0	0	236
07:30 AM	13	142	0	0	1	0	0	0	0	141	2	0	0	0	0	0	299
07:45 AM	17	191	0	0	0	0	4	0	0	248	7	0	0	0	0	0	467
Total	48	508	0	0	1	0	10	0	0	608	12	0	0	0	0	0	1187
08:00 AM	15	79	0	0	0	0	11	0	0	127	3	0	0	0	0	0	235
08:15 AM	12	67	0	0	2	0	7	0	0	92	3	0	0	0	0	0	183
Total	27	146	0	0	2	0	18	0	0	219	6	0	0	0	0	0	418
04:00 PM	11	107	0	0	2	0	11	0	0	118	2	0	0	0	0	0	251
04:15 PM	8	99	0	0	2	0	17	0	0	109	1	0	0	0	0	0	236
04:30 PM	10	120	0	0	2	0	12	0	0	97	0	0	0	0	0	0	241
04:45 PM	13	88	0	0	5	0	17	0	0	91	2	0	0	0	0	0	216
Total	42	414	0	0	11	0	57	0	0	415	5	0	0	0	0	0	944
05:00 PM	6	113	0	0	4	1	18	0	0	94	7	0	0	0	0	0	243
05:15 PM	7	141	0	0	3	0	16	0	0	114	0	0	0	0	0	0	281
05:30 PM	6	115	0	0	3	0	15	0	0	112	3	0	0	0	0	0	254
05:45 PM	9	131	0	0	4	0	17	0	0	97	5	0	0	0	0	0	263
Total	28	500	0	0	14	1	66	0	0	417	15	0	0	0	0	0	1041
Grand Total	163	1712	0	0	28	1	154	0	0	1813	39	0	0	0	0	0	3910
Apprch %	8.7	91.3	0.0	0.0	15.3	0.5	84.2	0.0	0.0	97.9	2.1	0.0	0.0	0.0	0.0	0.0	
Total %	4.2	43.8	0.0	0.0	0.7	0.0	3.9	0.0	0.0	46.4	1.0	0.0	0.0	0.0	0.0	0.0	

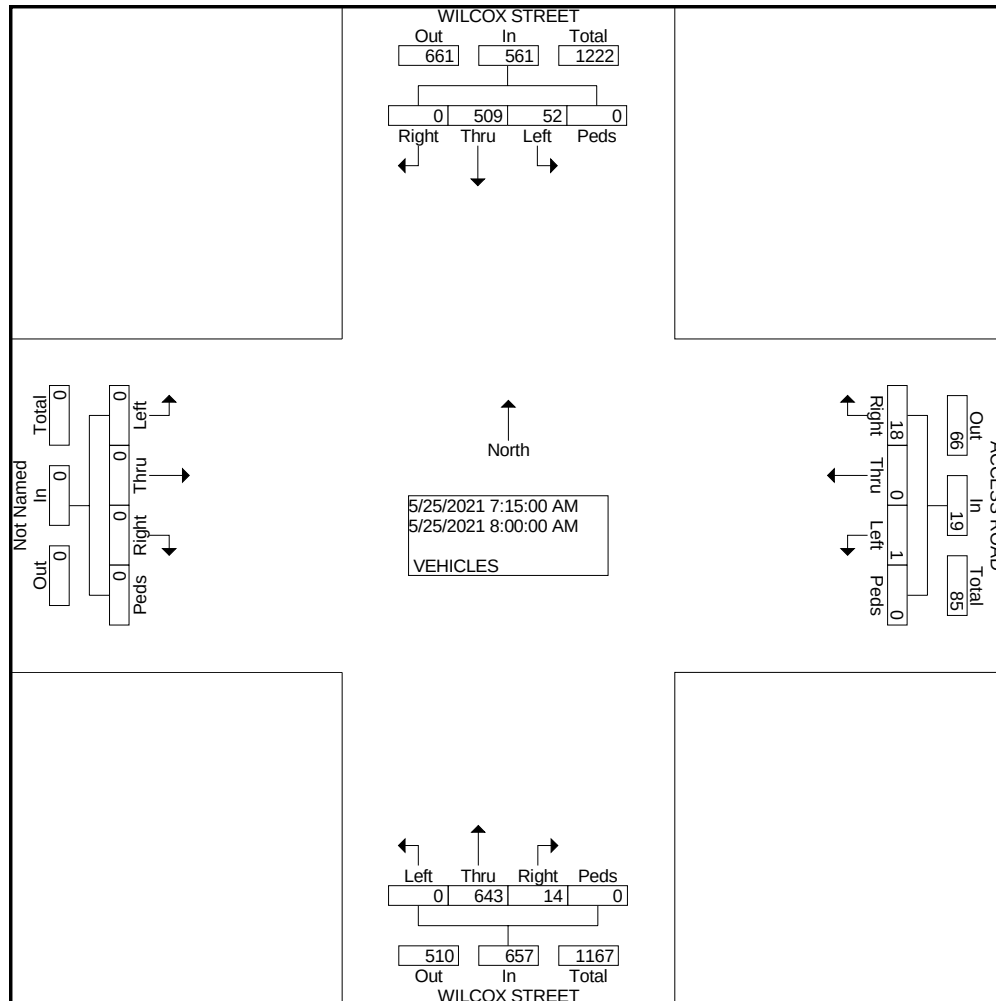
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: WILCOX STREET
E/W STREET: ACCESS ROAD
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : WILCACCESS
Site Code : 00000020
Start Date : 5/25/2021
Page No : 2

	WILCOX STREET Southbound					ACCESS ROAD Westbound					WILCOX STREET Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1	07:15 AM																				
Intersection	07:15 AM																				
Volume	52	509	0	0	561	1	0	18	0	19	0	643	14	0	657	0	0	0	0	0	1237
Percent	9.3	90.7	0.0	0.0		5.3	0.0	94.7	0.0		0.0	97.9	2.1	0.0		0.0	0.0	0.0	0.0		
07:45 Volume	17	191	0	0	208	0	0	4	0	4	0	248	7	0	255	0	0	0	0	0	467
Peak Factor																					0.662
High Int. Volume	07:45 AM					08:00 AM					07:45 AM					6:15:00 AM					
Peak Factor	17	191	0	0	208	0	0	11	0	11	0	248	7	0	255						
	0.67					0.43					0.64										
	4					2					4										



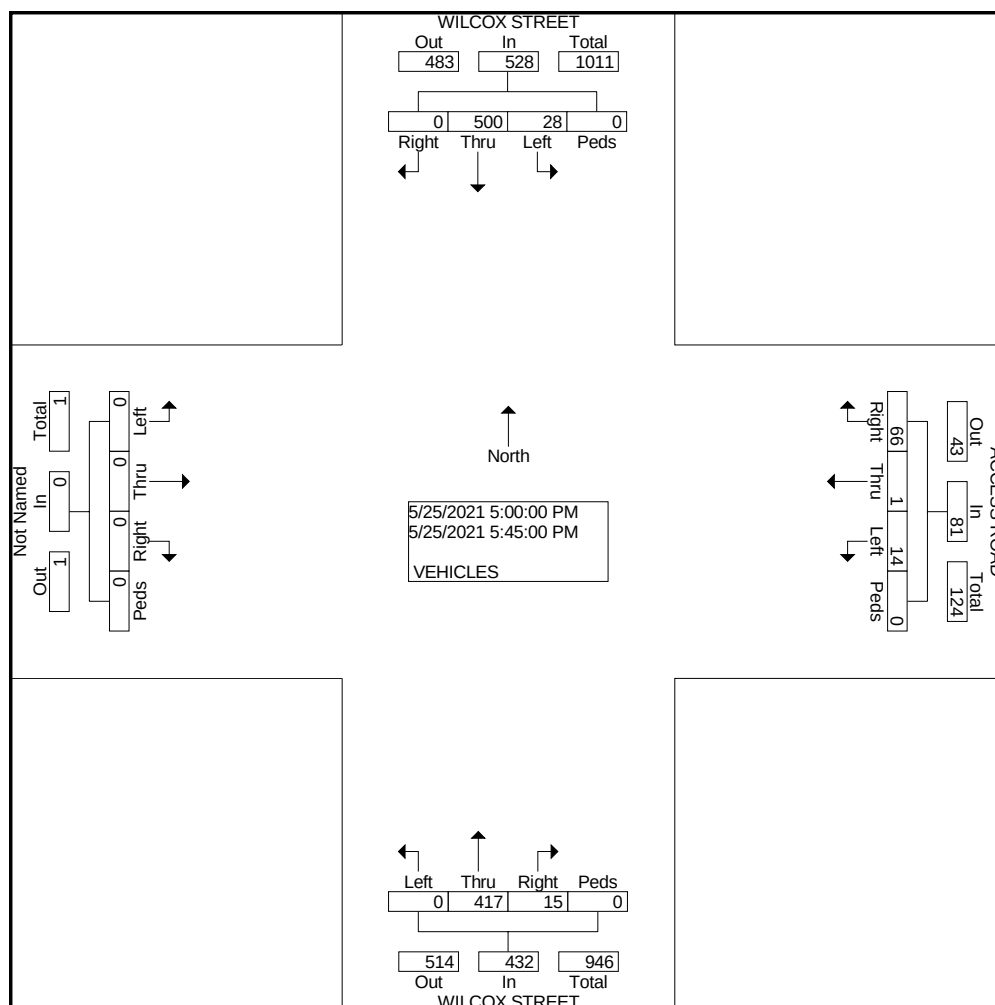
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Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1	05:00 PM																				
Intersection	05:00 PM																				
Volume	28	500	0	0	528	14	1	66	0	81	0	417	15	0	432	0	0	0	0	0	1041
Percent	5.3	94.7	0.0	0.0		17.3	1.2	81.5	0.0		0.0	96.5	3.5	0.0		0.0	0.0	0.0	0.0		
05:15 Volume	7	141	0	0	148	3	0	16	0	19	0	114	0	0	114	0	0	0	0	0	281
Peak Factor																					0.926
High Int. Volume	05:15 PM					05:00 PM					05:30 PM										
Peak Factor	7	141	0	0	148	4	1	18	0	23	0	112	3	0	115						
	0.89					0.88					0.93										
	2										9										



COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: WILCOX STREET
E/W STREET: BROOKSIDE CIRCLE
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : WILCBROOK
Site Code : 00000011
Start Date : 5/25/2021
Page No : 1

Groups Printed- VEHICLES

	WILCOX STREET Southbound				BROOKSIDE CIRCLE Westbound				WILCOX STREET Northbound				Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	70	0	0	0	0	0	0	0	79	0	0	0	0	0	0	149
06:45 AM	1	87	0	0	0	0	0	0	0	80	0	0	0	0	0	0	168
Total	1	157	0	0	0	0	0	0	0	159	0	0	0	0	0	0	317
07:00 AM	1	87	0	0	1	0	0	0	0	94	0	0	0	0	0	0	183
07:15 AM	1	101	0	0	0	0	0	0	0	130	0	0	0	0	0	0	232
07:30 AM	2	158	0	0	0	0	0	0	0	135	0	0	0	0	0	0	295
07:45 AM	4	203	0	0	0	0	0	0	0	251	2	0	0	0	0	0	460
Total	8	549	0	0	1	0	0	0	0	610	2	0	0	0	0	0	1170
08:00 AM	2	90	0	0	2	0	0	0	0	139	4	0	0	0	0	0	237
08:15 AM	0	79	0	0	1	0	1	0	0	97	2	0	0	0	0	0	180
Total	2	169	0	0	3	0	1	0	0	236	6	0	0	0	0	0	417
04:00 PM	3	112	0	0	2	0	2	0	0	127	2	0	0	0	0	0	248
04:15 PM	3	107	0	0	1	0	5	0	0	119	5	0	0	0	0	0	240
04:30 PM	0	126	0	0	3	0	2	0	0	113	4	0	0	0	0	0	248
04:45 PM	0	103	0	1	4	0	0	0	0	103	3	0	0	0	0	0	214
Total	6	448	0	1	10	0	9	0	0	462	14	0	0	0	0	0	950
05:00 PM	1	117	0	0	1	0	2	0	0	115	2	0	0	0	0	0	238
05:15 PM	0	142	0	0	2	0	1	0	0	125	1	0	0	0	0	0	271
05:30 PM	1	127	0	0	0	0	1	0	0	130	0	0	0	0	0	0	259
05:45 PM	1	138	0	0	0	0	2	0	0	115	0	0	0	0	0	0	256
Total	3	524	0	0	3	0	6	0	0	485	3	0	0	0	0	0	1024
Grand Total	20	1847	0	1	17	0	16	0	0	1952	25	0	0	0	0	0	3878
Apprch %	1.1	98.9	0.0	0.1	51.5	0.0	48.5	0.0	0.0	98.7	1.3	0.0	0.0	0.0	0.0	0.0	
Total %	0.5	47.6	0.0	0.0	0.4	0.0	0.4	0.0	0.0	50.3	0.6	0.0	0.0	0.0	0.0	0.0	

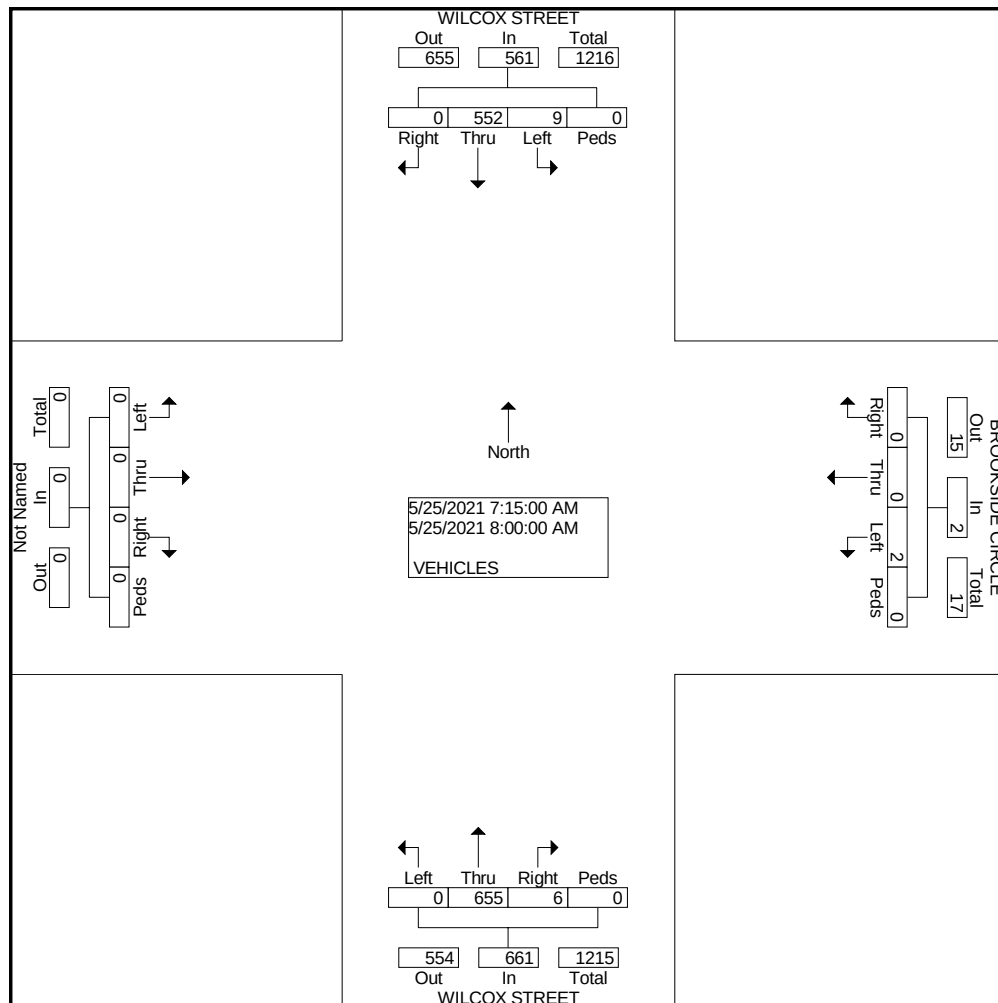
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Page No : 2

	WILCOX STREET Southbound					BROOKSIDE CIRCLE Westbound					WILCOX STREET Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:15 AM to 08:00 AM - Peak 1 of 1	07:15 AM																				
Intersection	07:15 AM																				
Volume	9	552	0	0	561	2	0	0	0	2	0	655	6	0	661	0	0	0	0	0	1224
Percent	1.6	98.4	0.0	0.0		100.0	0.0	0.0	0.0		0.0	99.1	0.9	0.0		0.0	0.0	0.0	0.0		
07:45																					
Volume	4	203	0	0	207	0	0	0	0	0	0	251	2	0	253	0	0	0	0	0	460
Peak Factor																					0.665
High Int.	07:45 AM					08:00 AM					07:45 AM										
Volume	4	203	0	0	207	2	0	0	0	2	0	251	2	0	253						
Peak Factor	0.678					0.250					0.653										



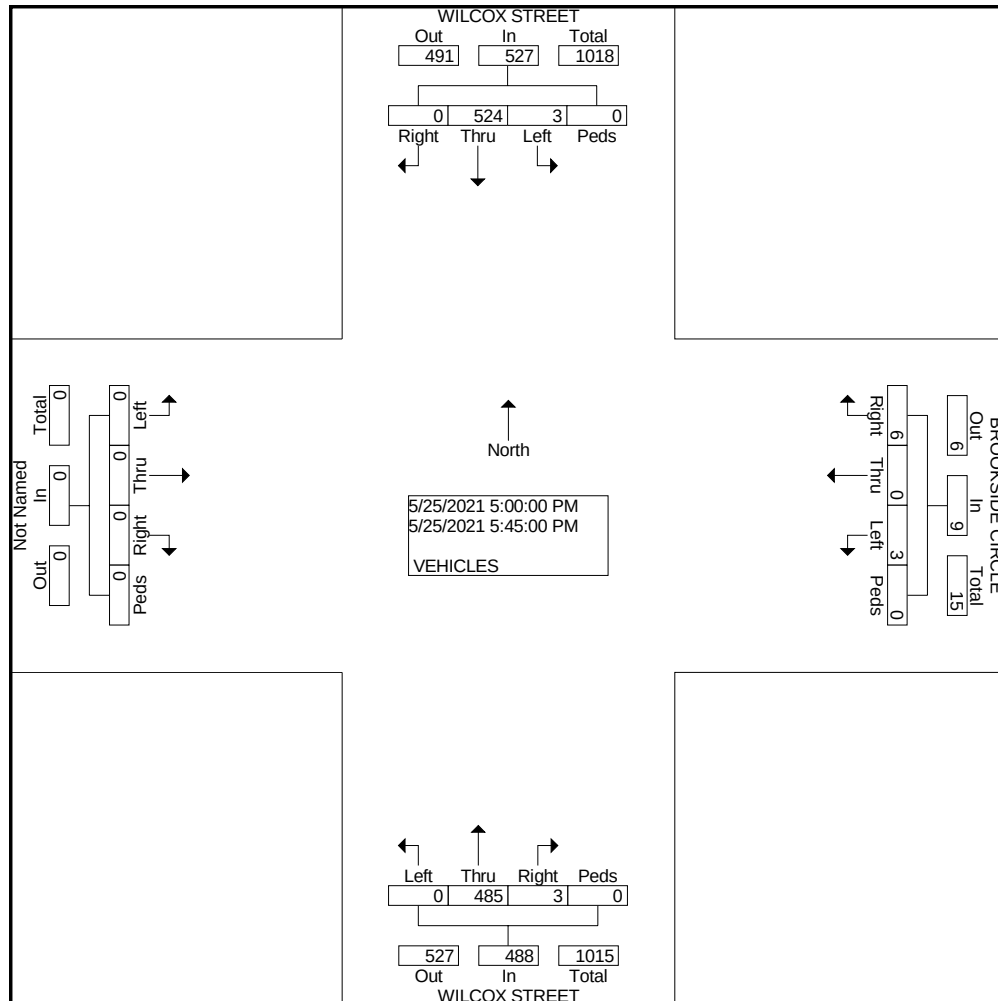
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: WILCOX STREET
E/W STREET: BROOKSIDE CIRCLE
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : WILCBROOK
Site Code : 00000011
Start Date : 5/25/2021
Page No : 2

	WILCOX STREET Southbound					BROOKSIDE CIRCLE Westbound					WILCOX STREET Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	3	524	0	0	527	3	0	6	0	9	0	485	3	0	488	0	0	0	0	0	1024
Percent	0.6	99.4	0.0	0.0		33.3	0.0	66.7	0.0		0.0	99.4	0.6	0.0		0.0	0.0	0.0	0.0		
05:15																					
Volume	0	142	0	0	142	2	0	1	0	3	0	125	1	0	126	0	0	0	0	0	271
Peak Factor																					0.945
High Int.	05:15 PM					05:00 PM					05:30 PM										
Volume	0	142	0	0	142	1	0	2	0	3	0	130	0	0	130						
Peak Factor	0.92					0.75					0.93										
	8					0					8										



Location: WILCOX ST N-O BROOKSIDE CIRCLE
City: CASTLE ROCK
County: DOUGLAS
Direction: NORTH/SOUTH

COUNTER MEASURES INC.
1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

Site Code: 212520
Station ID: 212520

Start Time	26-May-21 Wed	NORTHBOU	SOUTHBOU							Total
12:00 AM		7	15							22
01:00		6	9							15
02:00		3	6							9
03:00		15	1							16
04:00		24	6							30
05:00		98	35							133
06:00		227	256							483
07:00		405	422							827
08:00		393	374							767
09:00		373	371							744
10:00		365	344							709
11:00		443	387							830
12:00 PM		445	510							955
01:00		408	440							848
02:00		370	412							782
03:00		437	392							829
04:00		428	424							852
05:00		487	520							1007
06:00		382	380							762
07:00		223	264							487
08:00		130	178							308
09:00		60	112							172
10:00		32	63							95
11:00		10	33							43
Total		5771	5954							11725
Percent		49.2%	50.8%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	11:00
Vol.	-	443	422	-	-	-	-	-	-	830
PM Peak	-	17:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	487	520	-	-	-	-	-	-	1007
Grand Total		5771	5954							11725
Percent		49.2%	50.8%							
ADT		ADT 11,725	AADT 11,725							

Location: WILCOX ST S-O BROOKSIDE CIRCLE
City: CASTLE ROCK
County: DOUGLAS
Direction: NORTH/SOUTH

COUNTER MEASURES INC.
1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

Site Code: 212518
Station ID: 212518

Start Time	26-May-21 Wed	NORTHBOU	SOUTHBOU							Total
12:00 AM		7	15							22
01:00		6	9							15
02:00		3	6							9
03:00		15	1							16
04:00		24	7							31
05:00		100	37							137
06:00		233	252							485
07:00		418	403							821
08:00		408	381							789
09:00		439	418							857
10:00		451	409							860
11:00		559	313							872
12:00 PM		743	163							906
01:00		529	388							917
02:00		403	449							852
03:00		502	453							955
04:00		547	470							1017
05:00		701	588							1289
06:00		546	424							970
07:00		241	286							527
08:00		130	182							312
09:00		60	110							170
10:00		31	65							96
11:00		11	31							42
Total		7107	5860							12967
Percent		54.8%	45.2%							
AM Peak	-	11:00	09:00	-	-	-	-	-	-	11:00
Vol.	-	559	418	-	-	-	-	-	-	872
PM Peak	-	12:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	743	588	-	-	-	-	-	-	1289
Grand Total		7107	5860							12967
Percent		54.8%	45.2%							
ADT		ADT 12,967	AADT 12,967							

Notes:

1. The traffic volumes at the intersection of Wilcox Street/Fifth Street are based on the 2023 total traffic from Figure 8 of The View at Castle Rock TIA by LSC. The exception is a few movements that were increased further based on the recent traffic counts.

2. The volumes at the intersection of Wilcox Street/Third Street and Wilcox Street/Fourth Street were balanced with the volumes to the north.

3. The volumes at the intersection of Wilcox Street/Plum Creek Parkway are based on the 2021 total traffic in Figure 8a of the Post Office-Castle Rock TIA by LSC grown for two years at 1.5 percent. the exception is a few movements that were increased further based on the recent traffic counts.

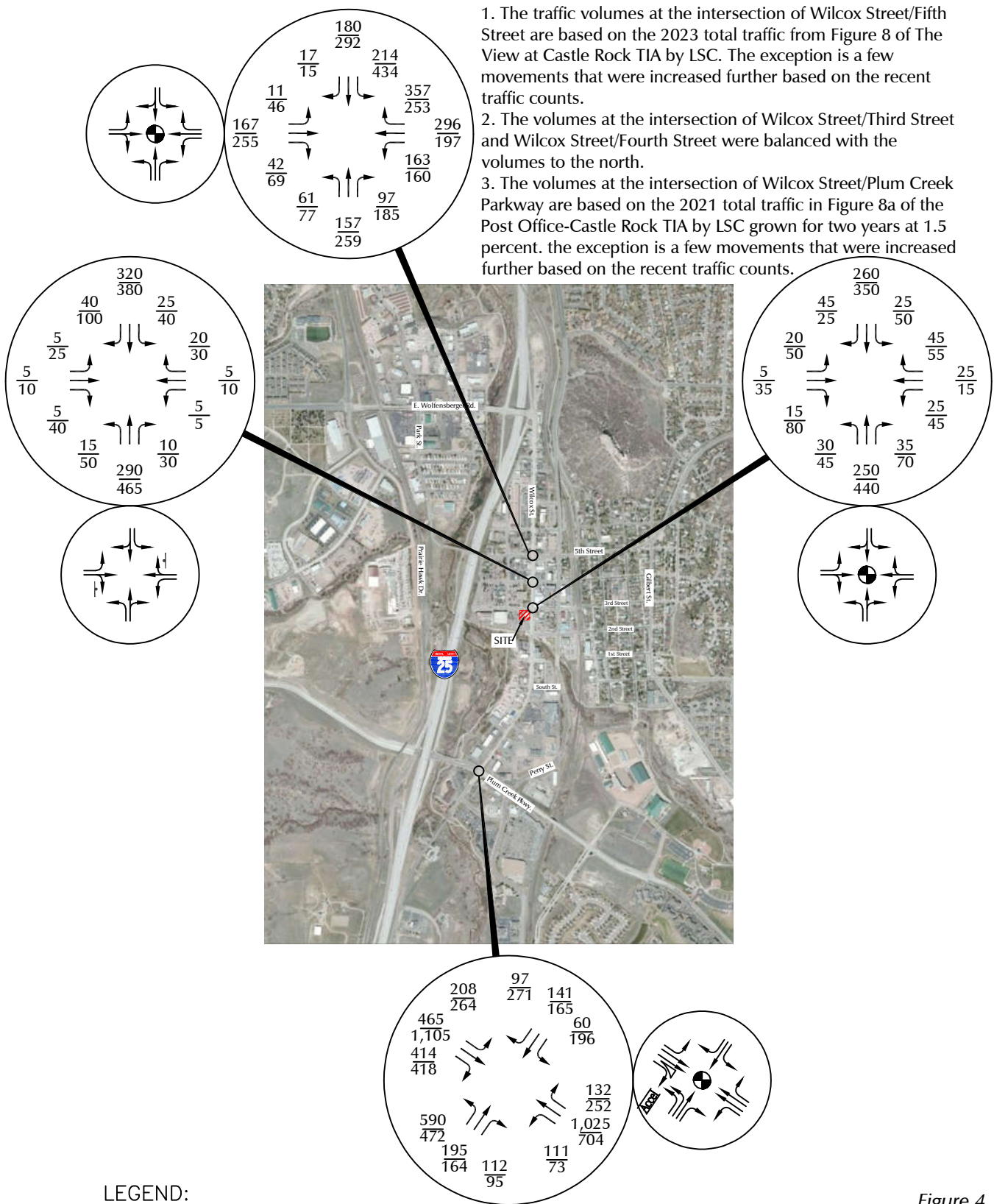
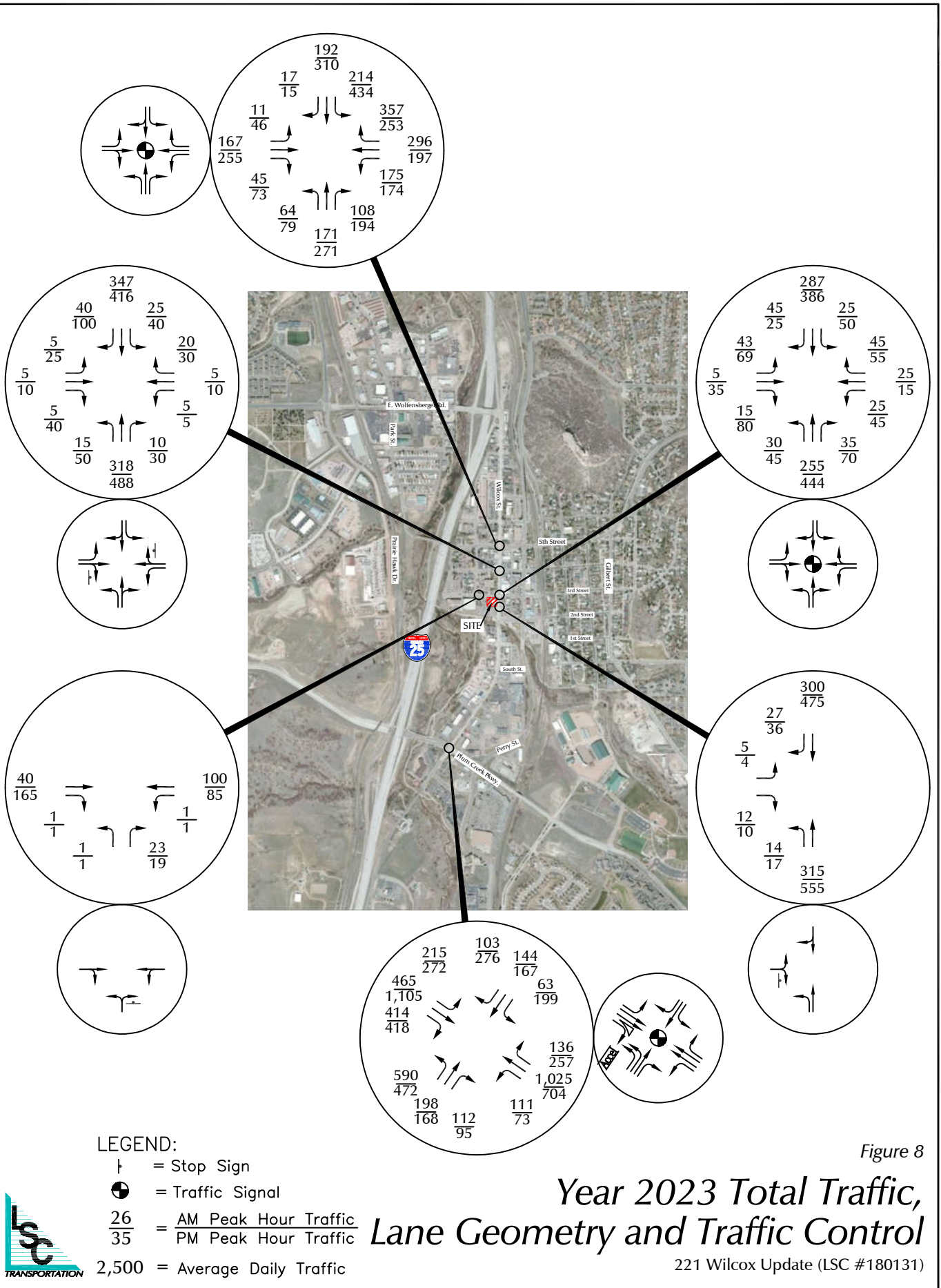


Figure 4

Year 2023 Background Traffic, Lane Geometry and Traffic Control

221 Wilcox Update (LSC #180131)



LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

LOS	Average Vehicle Control Delay	Operational Characteristics
A	<10 seconds	Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.
B	10 to 15 seconds	Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. <u>The delay could be up to 15 seconds.</u> Left-turning vehicles on the uncontrolled street may have to wait to make their turn.
C	15 to 25 seconds	Vehicles on the stop-controlled approach can expect delays in the range of 15 to 25 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. <u>Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.</u>
D	25 to 35 seconds	<u>This is the point at which a traffic signal may be warranted for this intersection.</u> The delays for the stop-controlled intersection are not considered to be excessive. The length of the queue may begin to block other public and private access points.
E	35 to 50 seconds	The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. <u>There is a high probability that this intersection will meet traffic signal warrants.</u> The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach.
F	>50 seconds	The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. <u>The only remedy for these long delays is installing a traffic signal or restricting the accesses.</u> The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.

HCM 6th TWSC
1: S. Wilcox Street & Brookside Circle

Existing
AM Peak

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	655	6	9	559
Future Vol, veh/h	2	0	655	6	9	559
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	744	7	10	635
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1403	748	0	0	751	0
Stage 1	748	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	154	412	-	-	858	-
Stage 1	468	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	151	412	-	-	858	-
Mov Cap-2 Maneuver	151	-	-	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	29.2	0		0.1		
HCM LOS	D					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	151	858	-
HCM Lane V/C Ratio		-	-	0.015	0.012	-
HCM Control Delay (s)		-	-	29.2	9.2	0
HCM Lane LOS		-	-	D	A	A
HCM 95th %tile O(veh)		-	-	0	0	-

HCM 6th TWSC 2: S. Wilcox Street & Castle Rock Ford Access

Existing
AM Peak

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	18	643	14	52	509
Future Vol, veh/h	1	18	643	14	52	509
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	100	0	-	240	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	20	731	16	59	578
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1427	-	0	0	747	0
Stage 1	731	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	149	0	-	-	861	-
Stage 1	476	0	-	-	-	-
Stage 2	495	0	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	134	-	-	-	861	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	32.1	0		0.9		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	134	-	861	-
HCM Lane V/C Ratio	-	-	0.008	-	0.069	-
HCM Control Delay (s)	-	-	32.1	0	9.5	0
HCM Lane LOS	-	-	D	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0.2	-

HCM 6th TWSC
1: S. Wilcox Street & Brookside Circle

Existing
PM Peak

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	6	485	3	3	525
Future Vol, veh/h	3	6	485	3	3	525
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	527	3	3	571
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1106	-	0	0	530	0
Stage 1	529	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	233	0	-	-	1037	-
Stage 1	591	0	-	-	-	-
Stage 2	562	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	232	-	-	-	1037	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	20.7	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	232	1037	-
HCM Lane V/C Ratio		-	-	0.014	0.003	-
HCM Control Delay (s)		-	-	20.7	8.5	0
HCM Lane LOS		-	-	C	A	A
HCM 95th %tile O(veh)		-	-	0	0	-

HCM 6th TWSC 2: S. Wilcox Street & Castle Rock Ford Access

Existing
PM Peak

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	66	422	15	28	500
Future Vol, veh/h	14	66	422	15	28	500
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	100	0	-	240	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	72	459	16	30	543
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1062	-	0	0	475	0
Stage 1	459	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	247	0	-	-	1087	-
Stage 1	636	0	-	-	-	-
Stage 2	546	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	237	-	-	-	1087	-
Mov Cap-2 Maneuver	237	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	21.2	0		0.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	237	-	1087	-
HCM Lane V/C Ratio	-	-	0.064	-	0.028	-
HCM Control Delay (s)	-	-	21.2	0	8.4	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile O(veh)	-	-	0.2	-	0.1	-

HCM 6th TWSC
1: S. Wilcox Street & Brookside Circle

2024 Background
AM Peak

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	3	790	10	15	585
Future Vol, veh/h	3	3	790	10	15	585
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	898	11	17	665

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1603	904	0
Stage 1	904	-	-
Stage 2	699	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	116	335	-
Stage 1	395	-	-
Stage 2	493	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	112	335	-
Mov Cap-2 Maneuver	112	-	-
Stage 1	395	-	-
Stage 2	475	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.3	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	168	749
HCM Lane V/C Ratio	-	-	0.041	0.023
HCM Control Delay (s)	-	-	27.3	9.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

HCM 6th TWSC

2: S. Wilcox Street & Castle Rock Ford Access

2024 Background
AM Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	20	780	15	60	530
Future Vol, veh/h	5	20	780	15	60	530
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	100	0	-	240	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	23	886	17	68	602
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1624	-	0	0	903	0
Stage 1	886	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	113	0	-	-	753	-
Stage 1	403	0	-	-	-	-
Stage 2	473	0	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	98	-	-	-	753	-
Mov Cap-2 Maneuver	98	-	-	-	-	-
Stage 1	403	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	44	0		1		
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	98	-	753	-
HCM Lane V/C Ratio	-	-	0.058	-	0.091	-
HCM Control Delay (s)	-	-	44	0	10.3	0
HCM Lane LOS	-	-	E	A	B	A
HCM 95th %tile Q(veh)	-	-	0.2	-	0.3	-

HCM 6th TWSC
1: S. Wilcox Street & Brookside Circle

2024 Background
PM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	585	5	5	560
Future Vol, veh/h	5	10	585	5	5	560
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	636	5	5	609
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1258	-	0	0	641	0
Stage 1	639	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	189	0	-	-	943	-
Stage 1	526	0	-	-	-	-
Stage 2	537	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	-	-	-	943	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	526	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	24.8	0		0.1		
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	187	943	-
HCM Lane V/C Ratio		-	-	0.029	0.006	-
HCM Control Delay (s)		-	-	24.8	8.8	0
HCM Lane LOS		-	-	C	A	A
HCM 95th %tile O(veh)		-	-	0.1	0	-

HCM 6th TWSC

2: S. Wilcox Street & Castle Rock Ford Access

2024 Background
PM Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	70	520	20	30	535
Future Vol, veh/h	15	70	520	20	30	535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	100	0	-	240	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	76	565	22	33	582
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1213	-	0	0	587	0
Stage 1	565	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	201	0	-	-	988	-
Stage 1	569	0	-	-	-	-
Stage 2	521	0	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	191	-	-	-	988	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	25.6	0		0.5		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	191	-	988	-
HCM Lane V/C Ratio	-	-	0.085	-	0.033	-
HCM Control Delay (s)	-	-	25.6	0	8.8	0
HCM Lane LOS	-	-	D	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	-	0.1	-

HCM 6th TWSC
1: S. Wilcox Street & Brookside Circle

2024 Total
AM Peak

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	18	790	24	56	585
Future Vol, veh/h	8	18	790	24	56	585
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	140	0	-	273	370	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	20	859	26	61	636
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1617	859	0	0	885	0
Stage 1	859	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	114	356	-	-	765	-
Stage 1	415	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	105	356	-	-	765	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	17.2	0	0.9			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 240 356	765	-		
HCM Lane V/C Ratio	-	- 0.036 0.055	0.08	-		
HCM Control Delay (s)	-	- 20.6 15.7	10.1	-		
HCM Lane LOS	-	- C C	B	-		
HCM 95th %tile Q(veh)	-	- 0.1 0.2	0.3	-		

HCM 6th TWSC
2: S. Wilcox Street & Castle Rock Ford Access

2024 Total
AM Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	20	794	15	60	535
Future Vol, veh/h	5	20	794	15	60	535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	100	0	-	240	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	23	902	17	68	608
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1646	-	0	0	919	0
Stage 1	902	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	109	0	-	-	743	-
Stage 1	396	0	-	-	-	-
Stage 2	470	0	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	94	-	-	-	743	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	45.7	0		1		
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	94	-	743	-
HCM Lane V/C Ratio	-	-	0.06	-	0.092	-
HCM Control Delay (s)	-	-	45.7	0	10.3	0
HCM Lane LOS	-	-	E	A	B	A
HCM 95th %tile Q(veh)	-	-	0.2	-	0.3	-

HCM 6th TWSC
1: S. Wilcox Street & Brookside Circle

2024 Total
PM Peak

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	54	585	15	34	560
Future Vol, veh/h	20	54	585	15	34	560
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	140	0	-	273	370	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	59	636	16	37	609
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1319	636	0	0	652	0
Stage 1	636	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	173	478	-	-	935	-
Stage 1	527	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	166	478	-	-	935	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	14.7	0	0.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 305 478	935	-		
HCM Lane V/C Ratio	-	- 0.071 0.123	0.04	-		
HCM Control Delay (s)	-	- 17.7 13.6	9	-		
HCM Lane LOS	-	- C B	A	-		
HCM 95th %tile Q(veh)	-	- 0.2 0.4	0.1	-		

HCM 6th TWSC

2: S. Wilcox Street & Castle Rock Ford Access

2024 Total
PM Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	70	530	20	30	550
Future Vol, veh/h	15	70	530	20	30	550
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	100	0	-	240	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	76	576	22	33	598
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1240	-	0	0	598	0
Stage 1	576	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	193	0	-	-	979	-
Stage 1	562	0	-	-	-	-
Stage 2	512	0	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	183	-	-	-	979	-
Mov Cap-2 Maneuver	183	-	-	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	26.6	0		0.5		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	183	-	979	-
HCM Lane V/C Ratio	-	-	0.089	-	0.033	-
HCM Control Delay (s)	-	-	26.6	0	8.8	0
HCM Lane LOS	-	-	D	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	-	0.1	-