LSC TRANSPORTATION CONSULTANTS, INC.

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November 29, 2021

Mr. Richard Bratton
Gunnison Valley Properties, LLC
864 W. South Boulder Road, Suite 200
Louisville, CO 80027

Re: Gunnison Rising
Summary of Previous Studies
Gunnison, CO
LSC #210040

Dear Mr. Bratton:

In response to the project team's request, LSC Transportation Consultants, Inc. has prepared this memorandum summarizing our work on previous traffic studies and CDOT access permits for the proposed Gunnison Rising development in Gunnison, Colorado.

GUNNISON RISING MASTER TRAFFIC STUDY - BASIS OF ANNEXATION AND PUD APPROVAL

The *Gunnison Rising - "Authentically Colorado" Master Plan Level Traffic Impact Analysis* was completed by LSC on December 12, 2006. A *Transportation Update Memo* was completed on June 8, 2007 to address minor changes in the land use plan. These documents provide the transportation details that supported the annexation of the property into the City of Gunnison and the approved PUD.

US HIGHWAY 50 ACCESS STUDY - CONCEPTUAL APPROVAL OF ACCESS A THROUGH ACCESS F

The City of Gunnison and CDOT completed the November, 2013 Access Study for US Highway 50 from Milepost 157.344 at SH 135 east to Milepost 161.250 which is further east than Ute Lane (East). The study was completed per the agreements reached with the annexation of the Gunnison Rising property noted above and included Access A through Access F. It also assumed local connectivity west to College Avenue, Georgia Avenue, and San Juan Avenue.

GUNNISON RISING GOVERNMENT CAMPUS SUBDIVISION TRAFFIC IMPACT STUDY - BASIS FOR ACCESS PERMITS FOR ACCESS E AND F

The first two access permits issued for Gunnison Rising are a public access aligning with Ute Lane (West) for public access and an emergency-only access aligning with Ute Lane (East).

These access permits will serve the planned Government Campus and RV Campground area of Gunnison Rising. Access Permit #320085 was issued for Access E on September 24, 2020 and updated with Access Permit #321037 on March 15, 2021. Access Permit #320086 was issued for Access F on September 24, 2020. A one-year extension was granted for Access Permit #320086 and a one-year extension will be needed for Access Permit #321037 by March 15, 2022. Once this occurs, both active access permits will have one one-year extension available. These actions were supported by the August 28, 2020 and subsequent February 12, 2021 *Gunnison Rising Government Campus Subdivision TIA* by LSC. The applicant team is actively preparing construction plans for Access E and F to secure approval from CDOT (NTP) to construct the improvements in 2022.

GUNNISON RISING ACCESS POINTS A AND B TRAFFIC IMPACT STUDY

An access permit from CDOT is currently being pursued for Access B. The February 25, 2021 *Gunnison Rising Access Points A and B TIA* by LSC was completed to support this effort. The TIA assumed US 50 access at Access A and Access B and local access west to College Avenue and Georgia Avenue. It was determined through coordination with CDOT that it would be best to submit the TIA for CDOT review and then submit access permit applications once CDOT's comments had been addressed.

CDOT's review of the TIA resulted in CDOT suggesting roundabout control for the Access B intersection on US 50 rather than traffic signal control as presented in the TIA and that the two access points would be consistent with, if not identical to, the *US 50 Access Control Plan* because the applicant is no longer interested in permitting Access C to the east of Access B. The applicant reserves the right to permit Access A and Access D in the future.

A virtual coordination meeting was held with CDOT at which the applicant expressed interest in the roundabout option so CDOT agreed to have their consultant, Kimley-Horn, prepare a conceptual roundabout layout for the applicant to consider. The conceptual layout was provided by CDOT in late August, 2021 and was reviewed positively by the applicant team because a roundabout would calm speeds and could be built with an initial phase and not need a warrant to be met prior to construction as the case would be with traffic signal control. The project team forwarded detailed Survey and CAD files in late September, 2021 to CDOT to further refine the roundabout design. This process is still ongoing. Once a design and cost estimate are available, a roundabout vs. traffic signal decision will be made and the traffic study updated if appropriate and submitted to CDOT with an "Access B" access permit application.

* * * * *

We trust our findings will assist you in your planning efforts for the proposed Gunnison Rising development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By______________________________________
Christopher S. McGranahan, PE, PTOE
Principal

11-29-21

CSM/wc

Enclosures:

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February 25, 2021

Mr. Richard Bratton
Gunnison Valley Properties, LLC
864 W. South Boulder Road, Suite 200
Louisville, CO 80027

Re: Gunnison Rising
Access Points A and B
Gunnison, CO
LSC #210040

Dear Mr. Bratton:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis (CDOT Level III traffic study) for the proposed Gunnison Rising Access Points A and B. As shown on Figure 1, the site is located north and south of US Highway (US) 50 on the far east end of Gunnison, 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, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; an adjustment of the traffic volumes for the ongoing pandemic; the typical weekday site-generated traffic volume projections for the site; the short-term and long-term assignment of the projected traffic volumes to the area roadways; the projected short-term and long-term background and resulting total traffic volumes on the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the site's traffic impacts. The scope of work is consistent with the attached TIS Methodology Form.

LAND USE AND ACCESS

The Access Points A and B site is proposed to include about 168 single-family dwelling units, about 72 townhome dwelling units, about 176 apartment dwelling units, about 9,500 square feet of retail space, about 4,000 square feet of restaurant space, about a 1,000 square-foot single-tenant office building, a 1,500 square-foot drinking place, a 200 square-foot coffee shop, and a 2,000 square-foot day care center.

Access is proposed to US 50 in two locations as shown in the site plan in Figure 2. The western access (Access A) will be three-quarter to the north by 2030 and right-in/right-out to the south by 2041. The eastern access (Access B) will be full movement by 2030 and signalized once traffic signal warrants are met.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

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

- **US Highway 50 (US 50)** is an east-west, two-lane US highway adjacent to the site. It is designated R-A (Regional Highway) by CDOT per the attached CDOT Straight Line Diagram. The intersection with Adams Street is stop-sign controlled and shown as a full movement intersection in the *US 50 Access Control Plan* (ACP). An excerpt from the ACP is attached for reference. The posted speed limit in the vicinity of the site is 65 mph.

- **Adams Street** is a north-south, two-lane local roadway west of the site. The intersection with US 50 is stop-sign controlled. No speed limit is posted in the vicinity of the site.

- **College Avenue** is an east-west, two-lane local roadway west of the site. The intersection with Adams Street is stop-sign controlled. No speed limit is posted in the vicinity of the site.

Existing Sight Distance

There is good sight distance in each direction of US 50 from the proposed access locations.

Existing Traffic Conditions

Figure 3a shows the existing January 2021 weekday traffic volumes, existing lane geometry and the existing traffic controls in the vicinity of the site. The weekday peak-hour traffic volumes and average daily traffic volumes are from the attached traffic counts conducted by Counter Measures in January, 2021.

Pandemic Adjustment

Figure 3b shows the estimated July traffic volumes adjusted for the ongoing pandemic. These volumes are consistent with the existing July traffic volumes in the attached Figure 3b of the *Gunnison Rising Government Campus Subdivision TIA* by LSC.

2030 and 2041 Background Traffic

Figure 4 shows the estimated 2030 background traffic which assumes an annual growth rate of 0.2 percent based on the CDOT 20-year factor of 1.04 plus other areas of Gunnison Rising expected to be developed by 2030.

Figure 5 shows the estimated 2041 background traffic which assumes an annual growth rate of 0.2 percent based on the CDOT 20-year factor of 1.04 plus development of the balance of

Gunnison Rising planned through 2041. It also assumes half of the school trips are internal to the north side of US 50.

Existing, 2030, and 2041 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 signalized and unsignalized intersections.

The intersections in the study area were analyzed to determine the existing, 2030, and 2041 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **Adams Street/College Avenue:** All movements at this unsignalized intersection currently operate at LOS "A" during both morning and afternoon peak-hours and are expected to do so through 2041.

- **US 50/Adams Street:** All movements at this unsignalized intersection currently operate at LOS "C" or better during both morning and afternoon peak-hours and are expected to do so through 2030. By 2041, all movements are expected to operate at LOS "D" or better with the following exception: The northbound approach is expected to operate at LOS "E" in the afternoon peak-hour.

- **US 50/West Site Access (Access A):** All movements at this stop-sign controlled intersection are expected to operate at LOS "B" or better during both peak-hours through 2041.

- **US 50/East Site Access (Access B):** All movements at this stop-sign controlled intersection are expected to operate at LOS "C" or better during both peak-hours through 2030. By 2041 several movements are expected to operate at LOS "E" or "F" during both peak-hours with stop-sign control.

TRIP GENERATION

Tables 2a and 2b show the estimated average daily, weekday morning peak-hour, and weekday afternoon peak-hour trip generation potential for the proposed site through both 2030 and 2041 based on the rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE).

At buildout the site is projected to generate about 4,389 external 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 91 vehicles would enter and about 207 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 256 vehicles would enter and about 164 vehicles would exit. These volumes will be reduced by internal trips. The Access Points A and B site land uses are shaded in Tables 2a and 2b. The balance of the land uses in Tables 2a and 2b are the background traffic expected from the balance of Gunnison Rising through both 2030 (Table 2a) and 2041 (Table 2b).

These estimates include an internal trip rate of two percent for the AM peak-hour traffic, five percent for the daily traffic, and eight percent for the PM peak-hour traffic.

TRIP DISTRIBUTION

Figure 6 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; the site's proposed land use; and on the attached TIS methodology form.

TRIP ASSIGNMENT

Figure 7 shows the assignment of site-generated traffic volumes for the site based on the directional distribution percentages (from Figure 6) and the shaded line items in the trip generation estimate (from Tables 2a or 2b).

2030 AND 2041 TOTAL TRAFFIC

Figure 8 shows the 2030 total traffic which is the sum of the 2030 background traffic volumes (from Figure 4) and the site-generated traffic volumes (from Figure 7). Figure 8 also shows the recommended 2030 lane geometry and traffic control.

Figure 9 shows the 2041 total traffic which is the sum of the 2041 background traffic volumes (from Figure 5) and the site-generated traffic volumes (from Figure 7). Figure 9 also shows the recommended 2041 lane geometry and traffic control.

PROJECTED LEVELS OF SERVICE

The intersections in the study area were analyzed as appropriate to determine the 2030 and 2041 total levels of service. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **Adams Street/College Avenue:** All movements at this stop-sign controlled intersection are expected to operate at LOS "A" during both peak-hours through 2041.

- **US 50/Adams Street:** All movements at this stop-sign controlled intersection are expected to operate at LOS "D" or better during both peak-hours through 2030. By 2041, the northbound and southbound approaches are expected to operate at LOS "E" or "F" in both peak-hours. As a signalized intersection it is expected to operate at an overall LOS "A" during both peak-hours.

- **US 50/West Site Access (Access A):** All movements at this stop-sign controlled intersection are expected to operate at LOS "C" or better during both peak-hours through 2041.

- **US 50/East Site Access (Access B):** All movements at this stop-sign controlled intersection are expected to operate at LOS "D" or better during both peak-hours through 2030 with the following exception: The northbound left-turn movement is expected to operate at LOS "E" in the afternoon peak-hour with stop-sign control. By 2041, both the northbound left and southbound left-turn movements are expected to operate at LOS “E” or “F” during both peak-hours. As a signalized intersection it is expected to operate at LOS “A” during the morning peak-hour and LOS “B” during the afternoon peak-hour.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. The site is projected to generate about 4,389 external vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 91 vehicles would enter and about 207 vehicles would exit the site. During the afternoon peak-hour, about 256 vehicles would enter and about 164 vehicles would exit.

2. The trip generation estimates will be reduced by an internal trip rate of two percent for the AM peak-hour traffic, five percent for the daily traffic, and eight percent for the PM peak-hour traffic.

Projected Levels of Service

3. All movements at the unsignalized Adams Street/College Avenue and US 50/West Site Access (Access A) intersections are expected to operate at LOS “C” or better through 2041.

4. A few side road movements at the US 50/Adams Street and US 50/East Site Access (Access B) intersections are expected to operate at LOS “E” or “F” by 2041. If signalized these intersections are expected to operate at an overall LOS “B” or better.

Conclusions

5. The impact of the Gunnison Rising Access Points A and B can be accommodated by the existing and proposed roadway network with the recommended improvements.

Recommendations

6. The recommended improvements are shown in Figure 8.

7. The US 50/Eastern Site Access (Access B) intersection should be signalized once traffic signal warrants are met.

* * * * *

We trust our findings will assist you in gaining approval of the proposed Gunnison Rising Access Points A and B development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

COLORADO LICENSED
CHRISTOPHER S. MCGRANAHAN
33018
PROFESSIONAL ENGINEER

By______________________________________
Christopher S. McGranahan, PE, PTOE
Principal

2-25-21

CSM/wc

Enclosures: Tables 1 through 2b
Figures 1 - 9
TIS Methodology Form
CDOT Straight Line Diagram
CDOT *US 50 Access Control Plan* Excerpt
Traffic Count Reports
Level of Service Definitions
Level of Service Reports

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Table 1
Intersection Levels of Service Analysis
Gunnison Rising Access A and B
Gunnison, CO
LSC #210040; February, 2021

		Existing Traffic		2030 Background Traffic		2030 Total Traffic		2041 Background Traffic		2041 Total Traffic		2041 Total Traffic Mitigated	
Intersection Location	Traffic Control	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM
Adams Street/College Avenue	TWSC												
WB Approach		A	A	A	A	A	A	A	A	A	A		
SB Left/Through		A	A	A	A	A	A	A	A	A	A		
Critical Movement Delay		9.0	9.0	9.0	9.0	9.1	9.3	9.1	9.3	9.2	9.4		
E. Tomichi Avenue (US 50)/Adams Street	TWSC												
NB Approach		B	C	C	C	C	D	D	E	E	F		
EB Left		A	A	A	A	A	A	A	A	B	B		
WB Left		A	A	A	A	A	A	A	A	A	B		
SB Approach		B	B	B	C	C	C	D	D	E	F		
Critical Movement Delay		13.1	15.7	16.0	18.1	21.2	29.4	29.8	42.6	47.8	99.2		
	Signalized												
EB Left												A	A
EB Through/Right												A	A
WB Left												A	A
WB Through/Right												A	A
NB Approach												C	C
SB Approach												C	C
Entire Intersection Delay (sec./veh.)												5.0	7.2
Entire Intersection LOS												A	A
E. Tomichi Avenue (US 50)/West Site Access	TWSC												
NB Right		--	--	--	--	--	--	A	B	A	C		
EB Left		--	--	--	--	A	A	--	--	A	B		
SB Right		--	--	--	--	A	A	--	--	A	A		
Critical Movement Delay		--	--	--	--	8.5	9.1	0.0	13.8	9.9	15.5		
E. Tomichi Avenue (US 50)/East Site Access	TWSC												
NB Left		--	--	C	C	C	E	F	F	F	F		
NB Through/Right or Right		--	--	B	B	B	C	C	C	C	E		
EB Left		--	--	--	--	A	A	A	A	A	A		
WB Left		--	--	A	A	A	A	A	A	A	A		
SB Left		--	--	--	--	C	D	D	E	E	F		
SB Through/Right		--	--	--	--	B	B	B	B	C	C		
Critical Movement Delay		--	--	15.2	17.7	23.7	44.1	51.2	>240	114.4	>240		
	Signalized												
EB Left												A	A
EB Through												A	A
EB Right												A	A
WB Left												A	A
WB Through												A	B
WB Right												A	A
NB Left												D	D
NB Through/Right												C	C
SB Left												D	C
SB Through/Right												B	A
Entire Intersection Delay (sec./veh.)												9.7	12.7
Entire Intersection LOS												A	B

Table 2a
ESTIMATED TRAFFIC GENERATION THROUGH 2030
Gunnison Rising - Access A & B TIA
Gunnison, CO
LSC #210040; February, 2021

			Trip Generation Rates (1)					Vehicle-Trips Generated				
				AM Peak-Hour of Adjacent Street Traffic		PM Peak-Hour of Adjacent Street Traffic			AM Peak-Hour of Adjacent Street Traffic		PM Peak-Hour of Adjacent Street Traffic	
Phase	Trip Generating Category	Quantity	Average Weekday	In	Out	In	Out	Average Weekday	In	Out	In	Out
TND NORTH OF US HIGHWAY 50 - The shaded areas are the "Site" and all others are background traffic.												
2021-2025 ACCESS A, B, COLLEGE												
2	Single-Family Detached (2)	84 DU (3)	9.44	0.185	0.555	0.624	0.366	793	16	47	52	31
2	Townhomes (4)	36 DU	7.32	0.106	0.354	0.353	0.207	264	4	13	13	7
2	Apartments (4)	64 DU	7.32	0.106	0.354	0.353	0.207	468	7	23	23	13
2	Drinking Place (5)	1.5 KSF (6)	56.80	0.000	0.000	7.498	3.862	85	0	0	11	6
2	Coffee/Donut Shop (7)	0.2 KSF	505.70	51.581	49.559	18.155	18.155	101	10	10	4	4
2	Retail (8)	3.5 KSF	37.75	0.583	0.357	1.829	1.981	132	2	1	6	7
2	Restaurant (9)	2.5 KSF	83.84	0.489	0.241	5.226	2.574	210	1	1	13	6
							Sub-Total Phase 2 =	2,053	40	95	122	74
2026-2030 ACCESS A, B, COLLEGE, GEORGIA												
3	Single-Family Detached	84 DU	9.44	0.185	0.555	0.624	0.366	793	16	47	52	31
3	Townhomes	36 DU	7.32	0.106	0.354	0.353	0.207	264	4	13	13	7
3	Apartments	112 DU	7.32	0.106	0.354	0.353	0.207	820	12	40	40	23
3	Day Care Center (10)	2 KSF	47.62	5.830	5.170	5.226	5.894	95	12	10	10	12
3	Restaurant	1.5 KSF	83.84	0.489	0.241	5.226	2.574	126	1	0	8	4
3	Retail	1 KSF	37.75	0.583	0.357	1.829	1.981	38	1	0	2	2
							Sub-Total Phase 3 =	2,136	46	110	125	79
PHASES 6-10 2041 AND BEYOND												
							Total Trips TND North of US Highway 50 Through 2030 =	**4,189**	**86**	**205**	**247**	**153**
MAKER DISTRICT SOUTH OF US HIGHWAY 50 - The shaded areas are the "Site" and all others are background traffic.												
2021-2025 ACCESS E												
1	Government Office Building (13)	36 KSF	22.59	2.505	0.835	0.428	1.283	813	90	30	15	46
1	General Light Industrial (14)	16 KSF	4.96	0.616	0.084	0.082	0.548	79	10	1	1	9
3	RV Park (15)	150 Units	1.35	0.076	0.134	0.176	0.095	203	11	20	26	14
							Sub-Total Phase 1 =	1,095	111	51	42	69
2021-2025 B, CR 49												
2	Retail	5 KSF	37.75	0.583	0.357	1.829	1.981	189	3	2	9	10
2	Single-Tenant Office (16)	1 KSF	11.25	1.584	0.196	0.257	1.454	11	2	0	0	1
							Sub-Total Phase 2 =	200	5	2	9	11
2026-2030 ACCESS E												
1	Government Office Building	8 KSF	22.59	2.505	0.835	0.428	1.283	181	20	7	3	10
1	General Light Industrial	20 KSF	4.96	0.616	0.084	0.082	0.548	99	12	2	2	11
3	RV Park	150 Units	1.35	0.076	0.134	0.176	0.095	203	11	20	26	14
							Sub-Total Phase 3 =	483	43	29	31	35
2026-2030 ACCESS A, B, CR 49												
4	Single-Tenant Office	2 KSF	11.25	1.584	0.196	0.257	1.454	23	3	0	1	3
4	Research & Development (17)	3 KSF	11.26	0.315	0.105	0.074	0.417	34	1	0	0	1
4	Building Materials (18)	20 KSF	18.05	0.989	0.581	0.968	1.092	361	20	12	19	22
4	Single-Tenant Office	4 KSF	11.25	1.584	0.196	0.257	1.454	45	6	1	1	6
4	Nursery Garden Center (19)	1.5 KSF	68.1	1.215	1.215	3.470	3.470	102	2	2	5	5
4	Quick Lube Shop (20)	1.5 KSF	69.57	4.350	1.450	3.654	5.046	104	7	2	5	8
4	General Light Industrial	3 KSF	4.96	0.616	0.084	0.082	0.548	15	2	0	0	2
4	Mini-Warehouse (21)	5 KSF	1.51	0.060	0.040	0.080	0.090	8	0	0	0	0
							Sub-Total Phase 4 =	692	41	17	31	47
							Total Trips Maker District South of US Highway 50 Through 2030 =	**2,470**	**200**	**99**	**113**	**162**
							Total Trips Through 2041 =	6,659	286	304	360	315
							Internal Trips (25) =	333	6	6	29	25
							Net External Trips =	**6,326**	**280**	**298**	**331**	**290**

Notes:
(1) Source: Trip Generation, Institute of Transportation Engineers, 10th Edition, 2017.
(2) ITE Land Use No. 210 - Single-Family Detached Housing
(3) DU = Dwelling Unit
(4) ITE Land Use No. 220 - Multifamily Housing (Low-Rise)
(5) ITE Land Use No. 925 - Drinking Place - daily rates assumed to be 5x PM peak hour rate - closed in the morning
(6) KSF = 1,000 square feet
(7) ITE Land Use No. 936 - Coffee/Donut Shop without drive-through - Daily rate assumed to be 5x AM peak hour rate
(8) ITE Land Use No. 820 - Shopping Center
(9) ITE Land Use No. 931 - Quality Restaurant - PM peak distribution used for AM peak as well
(10) ITE Land Use No. 565 - Day Care Center
(11) Intentionally left blank
(12) Intentionally left blank
(13) ITE Land Use No. 730 - Government Office Building
(14) ITE Land Use No. 110 - General Light Industrial
(15) ITE Land Use No. 416 - Campground/Recreational Vehicle Park: no weekday rate so 5x PM Peak Rate was used
(16) ITE Land Use No. 715 - Single Tenant Office Building
(17) ITE Land Use No. 760 - Research & Development Center
(18) ITE Land Use No. 812 - Building Materials & Lumber Store
(19) ITE Land Use No. 817 - Nursery (Garden Center) - no AM or PM peak-hour distribution available so 50% in/out was used
(20) ITE Land Use No. 941 - Quick Lubrication Vehicle Shop
(21) ITE Land Use No. 151 - Mini-Warehouse
(22) Intentionally left blank
(23) Intentionally left blank
(24) Intentionally left blank
(25) Internal trips were assumed to be two percent in the AM peak-hour, five percent for daily, and eight percent in the PM peak-hour

Table 2b
ESTIMATED TRAFFIC GENERATION FOR OVERALL SITE THROUGH 2041
Gunnison Rising - Access A & B TIA
Gunnison, CO
LSC #210040; February, 2021

			Trip Generation Rates (1)					Vehicle-Trips Generated				
				AM Peak-Hour		PM Peak-Hour			AM Peak-Hour		PM Peak-Hour	
			Average	of Adjacent Street Traffic				Average	of Adjacent Street Traffic			
Phase	Trip Generating Category	Quantity	Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
TND NORTH OF US HIGHWAY 50 - The shaded areas are the "Site" and all others are background traffic.												
2021-2025 ACCESS A, B, COLLEGE												
2	Single-Family Detached [2]	84 DU [3]	9.44	0.185	0.555	0.624	0.366	793	16	47	52	31
2	Townhomes [4]	36 DU	7.32	0.106	0.354	0.353	0.207	264	4	13	13	7
2	Apartments [4]	64 DU	7.32	0.106	0.354	0.353	0.207	468	7	23	23	13
2	Drinking Place [5]	1.5 KSF [6]	56.80	0.000	0.000	7.498	3.862	85	0	0	11	6
2	Coffee/Donut Shop [7]	0.2 KSF	505.70	51.581	49.559	18.155	18.155	101	10	10	4	4
2	Retail [8]	3.5 KSF	37.75	0.583	0.357	1.829	1.981	132	2	1	6	7
2	Restaurant [9]	2.5 KSF	83.84	0.489	0.241	5.226	2.574	210	1	1	13	6
							Sub-Total Phase 2 =	2,053	40	95	122	74
2026-2030 ACCESS A, B, COLLEGE, GEORGIA												
3	Single-Family Detached	84 DU	9.44	0.185	0.555	0.624	0.366	793	16	47	52	31
3	Townhomes	36 DU	7.32	0.106	0.354	0.353	0.207	264	4	13	13	7
3	Apartments	112 DU	7.32	0.106	0.354	0.353	0.207	820	12	40	40	23
3	Day Care Center [10]	2 KSF	47.62	5.830	5.170	5.226	5.894	95	12	10	10	12
3	Restaurant	1.5 KSF	83.84	0.489	0.241	5.226	2.574	126	1	0	8	4
3	Retail	1 KSF	37.75	0.583	0.357	1.829	1.981	38	1	0	2	2
							Sub-Total Phase 3 =	2,136	46	110	125	79
2031-2035 ACCESS A, B, D, COLLEGE, GEORGIA												
4	Single-Family Detached	119 DU	9.44	0.185	0.555	0.624	0.366	1,123	22	66	74	44
4	Townhomes	54 DU	7.32	0.106	0.354	0.353	0.207	395	6	19	19	11
4	Apartments	160 DU	7.32	0.106	0.354	0.353	0.207	1,171	17	57	56	33
							Sub-Total Phase 4 =	2,689	45	142	149	88
2036-2041 ACCESS A, B, D, COLLEGE, GEORGIA												
5	Single-Family Detached	105 DU	9.44	0.185	0.555	0.624	0.366	991	19	58	66	38
5	Townhomes	45 DU	7.32	0.106	0.354	0.353	0.207	329	5	16	16	9
5	Apartments	96 DU	7.32	0.106	0.354	0.353	0.207	703	10	34	34	20
5	Restaurant	2 KSF	83.84	0.489	0.241	5.226	2.574	168	1	0	10	5
5	Retail	3 KSF	37.75	0.583	0.357	1.829	1.981	113	2	1	5	6
5	Elementary School [11]	300 Students	1.89	0.362	0.308	0.082	0.088	567	109	92	25	27
5	Middle School [12]	300 Students	2.13	0.313	0.267	0.083	0.087	639	94	80	25	26
							Sub-Total Phase 5 =	3,510	240	281	181	131
PHASES 6-10 2041 AND BEYOND												
							Total Trips TND North of US Highway 50 Through 2041 =	**10,388**	**371**	**628**	**577**	**372**
MAKER DISTRICT SOUTH OF US HIGHWAY 50 - The shaded areas are the "Site" and all others are background traffic.												
2021-2025 ACCESS E												
1	Government Office Building [13]	36 KSF	22.59	2.505	0.835	0.428	1.283	813	90	30	15	46
1	General Light Industrial [14]	16 KSF	4.96	0.616	0.084	0.082	0.548	79	10	1	1	9
3	RV Park [15]	150 Units	1.35	0.076	0.134	0.176	0.095	203	11	20	26	14
							Sub-Total Phase 1 =	1,095	111	51	42	69
2021-2025 B, CR 49												
2	Retail	5 KSF	37.75	0.583	0.357	1.829	1.981	189	3	2	9	10
2	Single-Tenant Office [16]	1 KSF	11.25	1.584	0.196	0.257	1.454	11	2	0	0	1
							Sub-Total Phase 2 =	200	5	2	9	11
2025-2030 ACCESS E												
1	Government Office Building	8 KSF	22.59	2.505	0.835	0.428	1.283	181	20	7	3	10
1	General Light Industrial	20 KSF	4.96	0.616	0.084	0.082	0.548	99	12	2	2	11
3	RV Park	150 Units	1.35	0.076	0.134	0.176	0.095	203	11	20	26	14
							Sub-Total Phase 3 =	483	43	29	31	35
2026-2030 ACCESS A, B, CR 49												
4	Single-Tenant Office	2 KSF	11.25	1.584	0.196	0.257	1.454	23	3	0	1	3
4	Research & Development [17]	3 KSF	11.26	0.315	0.105	0.074	0.417	34	1	0	0	1
4	Building Materials [18]	20 KSF	18.05	0.989	0.581	0.968	1.092	361	20	12	19	22
4	Single-Tenant Office	4 KSF	11.25	1.584	0.196	0.257	1.454	45	6	1	1	6
4	Nursery Garden Center [19]	1.5 KSF	68.1	1.215	1.215	3.470	3.470	102	2	2	5	5
4	Quick Lube Shop [20]	1.5 KSF	69.57	4.350	1.450	3.654	5.046	104	7	2	5	8
4	General Light Industrial	3 KSF	4.96	0.616	0.084	0.082	0.548	15	2	0	0	2
4	Mini-Warehouse [21]	5 KSF	1.51	0.060	0.040	0.080	0.090	8	0	0	0	0
							Sub-Total Phase 4 =	692	41	17	31	47
2031-2035 ACCESS A, B, D, E, CR 49												
4	Research & Development	2.5 KSF	11.26	0.315	0.105	0.074	0.417	28	1	0	0	1
4	Single-Tenant Office	5.5 KSF	11.25	1.584	0.196	0.257	1.454	62	9	1	1	8
							Sub-Total Phase 4 =	90	10	1	1	9
2036-2041 ACCESS A, B, D, E, CR 49												
3	Single-Tenant Office	4 KSF	11.25	1.584	0.196	0.257	1.454	45	6	1	1	6
3	Tire Store [22]	2 KSF	28.52	1.741	0.979	1.711	2.269	57	3	2	3	5
3	Discount Store [23]	15 KSF	53.12	0.807	0.363	2.415	2.415	797	12	5	36	36
3	General Light Industrial	3 KSF	4.96	0.616	0.084	0.082	0.548	15	2	0	0	2
3	Industrial Park [24]	6 KSF	3.37	0.324	0.076	0.084	0.316	20	2	0	1	2
							Sub-Total Phase 3 =	934	25	8	41	51
							Total Trips Maker District South of US Highway 50 Through 2041 =	**3,494**	**235**	**108**	**155**	**222**
							Total Trips Through 2041 =	13,882	606	736	732	594
							Internal Trips [25] =	694	12	15	59	48
							Net External Trips =	**13,188**	**594**	**721**	**673**	**546**

Notes:

(1) Source: Trip Generation, Institute of Transportation Engineers, 10th Edition, 2017.
(2) ITE Land Use No. 210 - Single-Family Detached Housing
(3) DU = Dwelling Unit
(4) ITE Land Use No. 220 - Multifamily Housing (Low-Rise)
(5) ITE Land Use No. 925 - Drinking Place - daily rates assumed to be 5x PM peak hour rate - closed in the morning
(6) KSF = 1,000 square feet
(7) ITE Land Use No. 936 - Coffee/Donut Shop without drive-through - Daily rate assumed to be 5x AM peak hour rate
(8) ITE Land Use No. 820 - Shopping Center
(9) ITE Land Use No. 931 - Quality Restaurant - PM peak distribution used for AM peak as well
(10) ITE Land Use No. 565 - Day Care Center
(11) ITE Land Use No. 520 - Elementary School
(12) ITE Land Use No. 522 - Middle School/Junior High School
(13) ITE Land Use No. 730 - Government Office Building
(14) ITE Land Use No. 110 - General Light Industrial
(15) ITE Land Use No. 416 - Campground/Recreational Vehicle Park: no weekday rate so 5x PM Peak Rate was used
(16) ITE Land Use No. 715 - Single Tenant Office Building
(17) ITE Land Use No. 760 - Research & Development Center
(18) ITE Land Use No. 812 - Building Materials & Lumber Store
(19) ITE Land Use No. 817 - Nursery (Garden Center) - no AM or PM peak-hour distribution available so 50% in/out was used
(20) ITE Land Use No. 941 - Quick Lubrication Vehicle Shop
(21) ITE Land Use No. 151 - Mini-Warehouse
(22) ITE Land Use No. 848 - Tire Store
(23) ITE Land Use No. 815 - Free-Standing Discount Store
(24) ITE Land Use No. 130 - Industrial Park
(25) Internal trips were assumed to be two percent in the AM peak-hour, five percent for daily, and eight percent in the PM peak-hour

Figure 1

Vicinity Map

Gunnison Rising Phase 2 (LSC #210040)

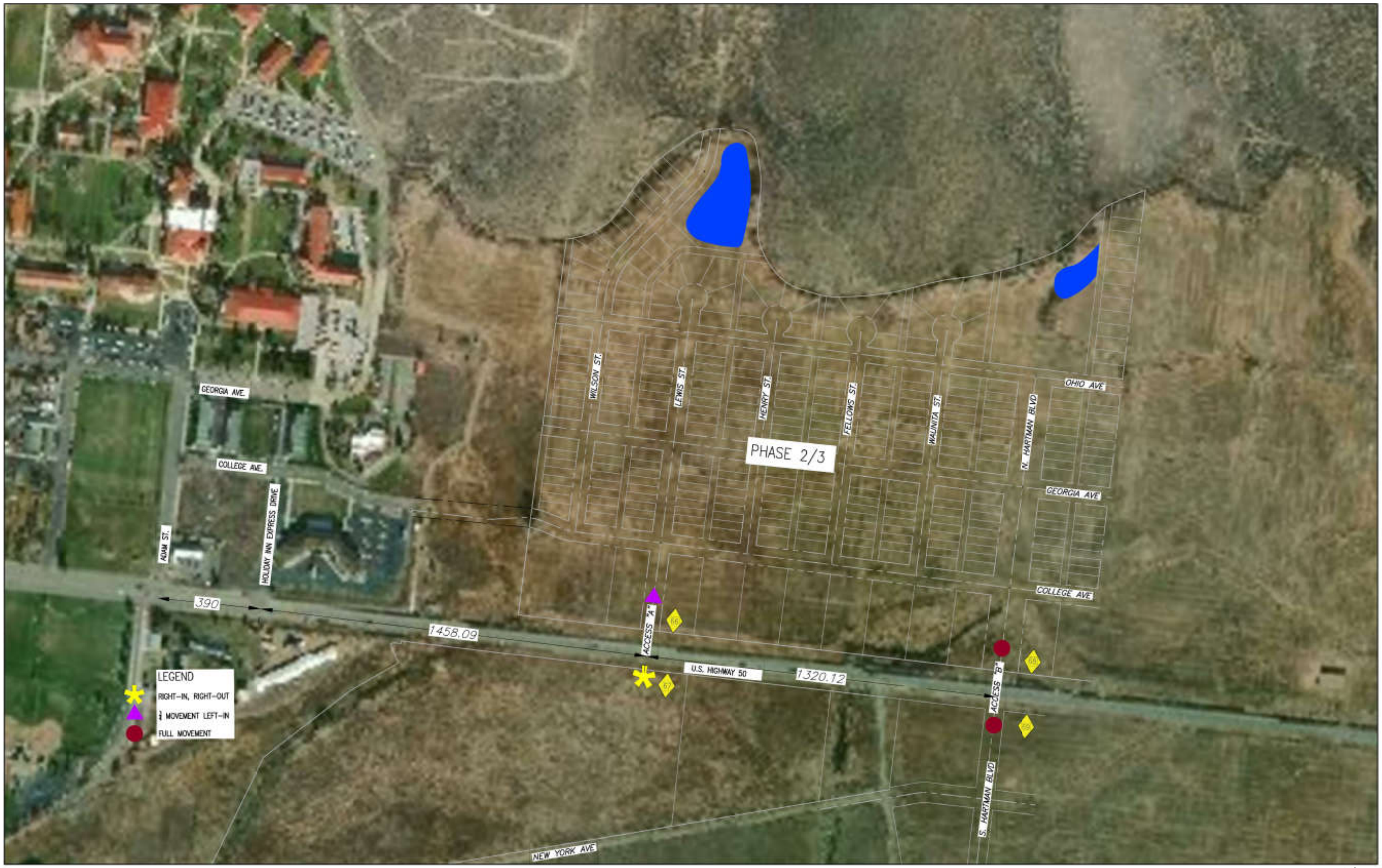
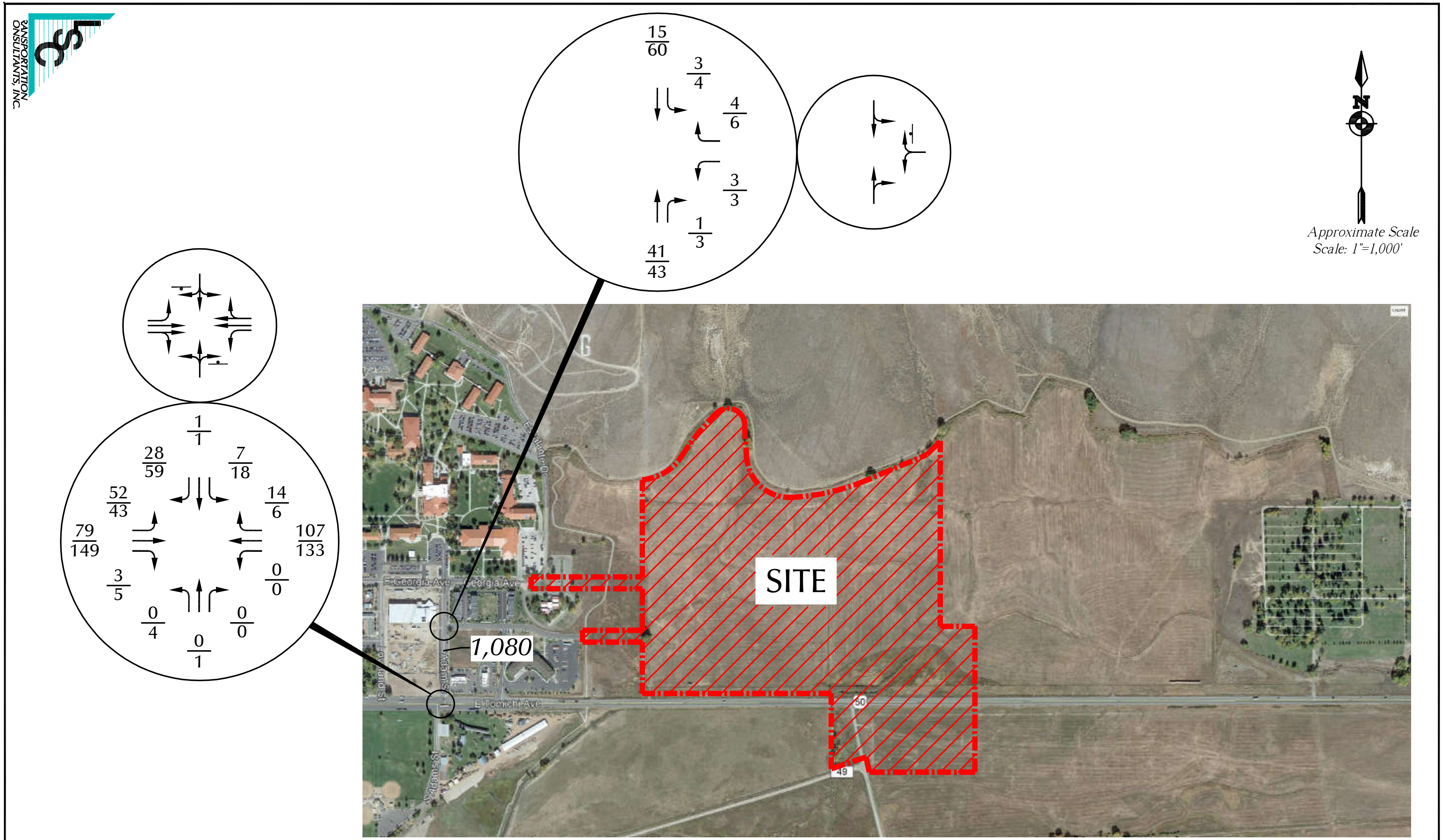


Figure 2

Site Plan

Gunnison Rising Phase 2 (LSC #210040)



LEGEND:

= Stop Sign

= Speed Limit

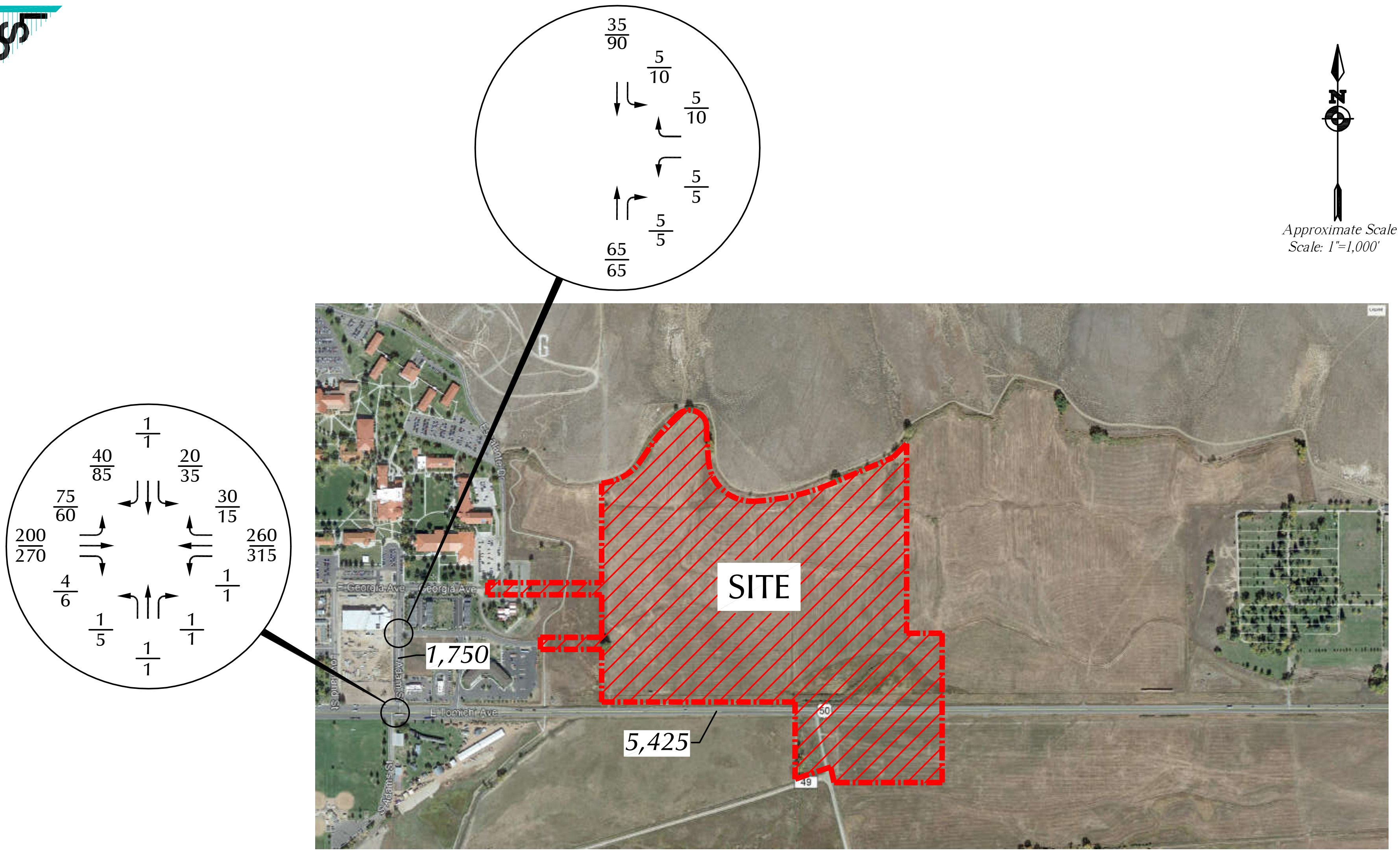
26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

Figure 3a

January, 2021 Existing Traffic, Lane Geometry and Traffic Control

Gunnison Rising Phase 2 (LSC #210040)



Note: These volumes are consistent with the existing July traffic volumes in Figure 3b of the Gunnison Rising Government Campus Subdivision TIA by LSC.

Figure 3b

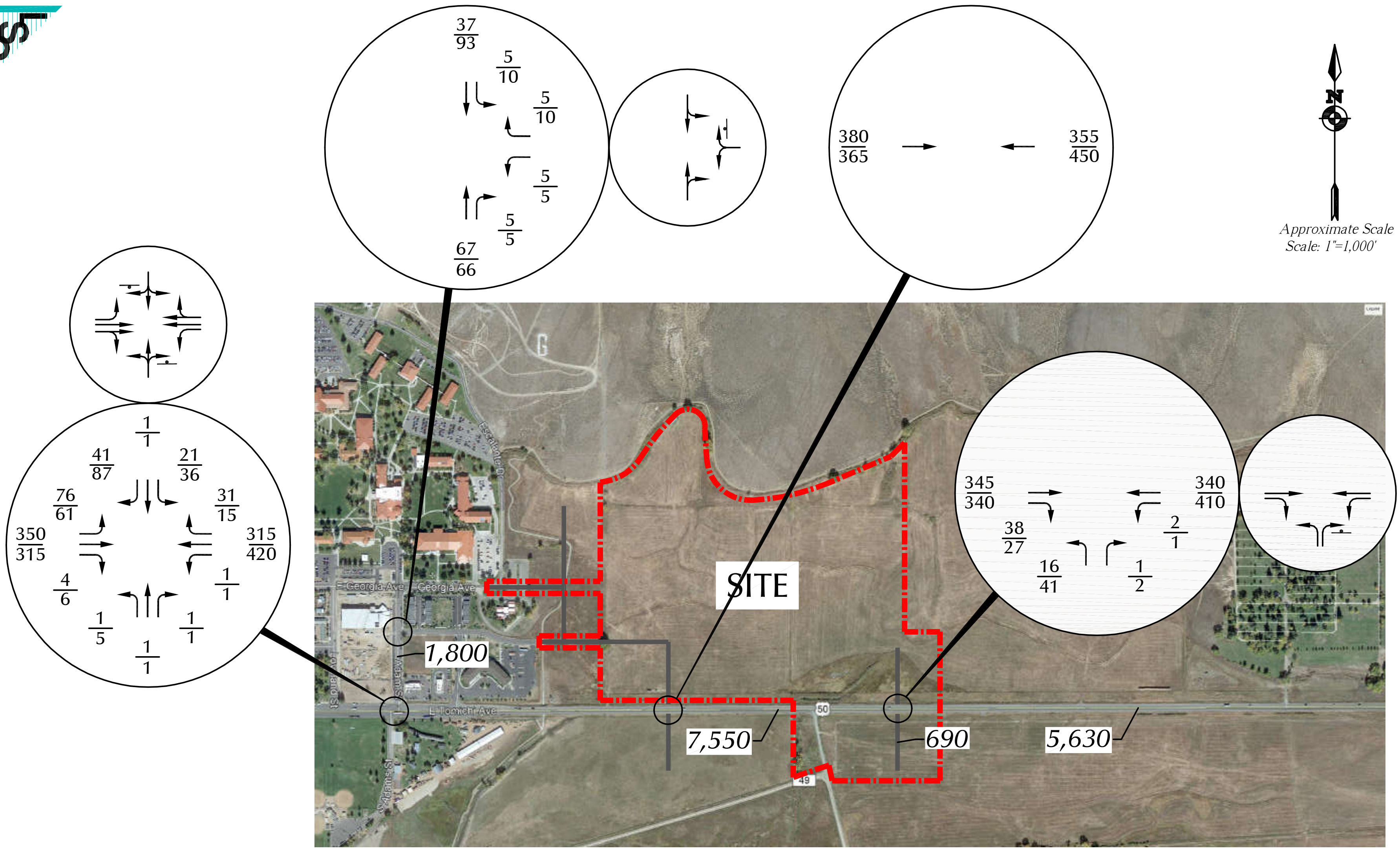
Existing July Traffic Adjusted for Pandemic

Gunnison Rising Phase 2 (LSC #210040)

LEGEND:

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic



Note: Assumes an annual growth rate of 0.2 percent based on the CDOT 20-year factor of 1.04 plus other areas of Gunnison Rising expected to be developed by 2030.

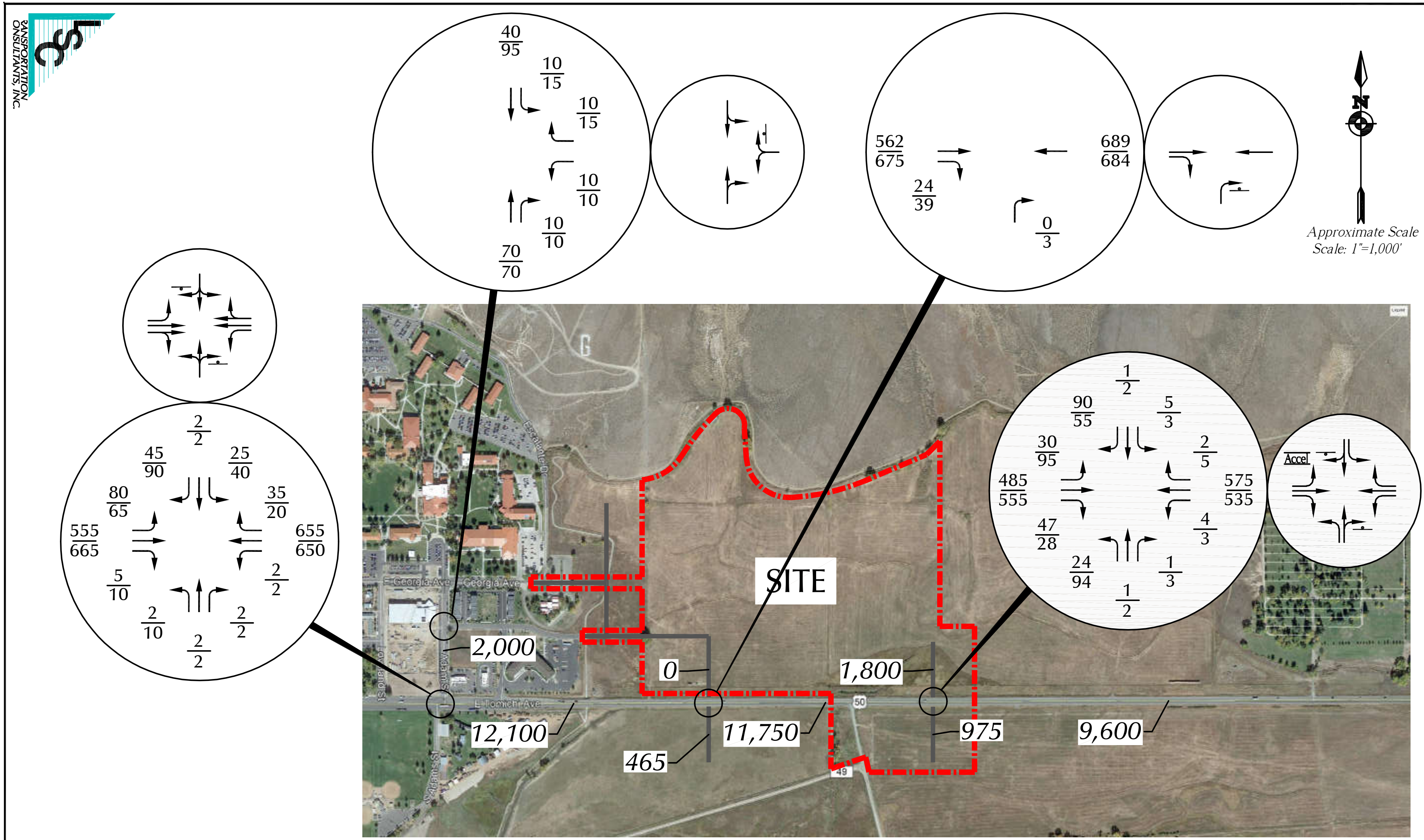
LEGEND:

- ⊦ = Stop Sign
- 26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

Figure 4

Year 2030 Background Traffic, Lane Geometry and Traffic Control

Gunnison Rising Phase 2 (LSC #210040)



Note: Assumes an annual growth rate of 0.2 percent based on the CDOT 20-year factor of 1.04 plus development of the balance of Gunnison Rising development planned through 2041. Assumes half of school trips are internal to the north side of US 50.

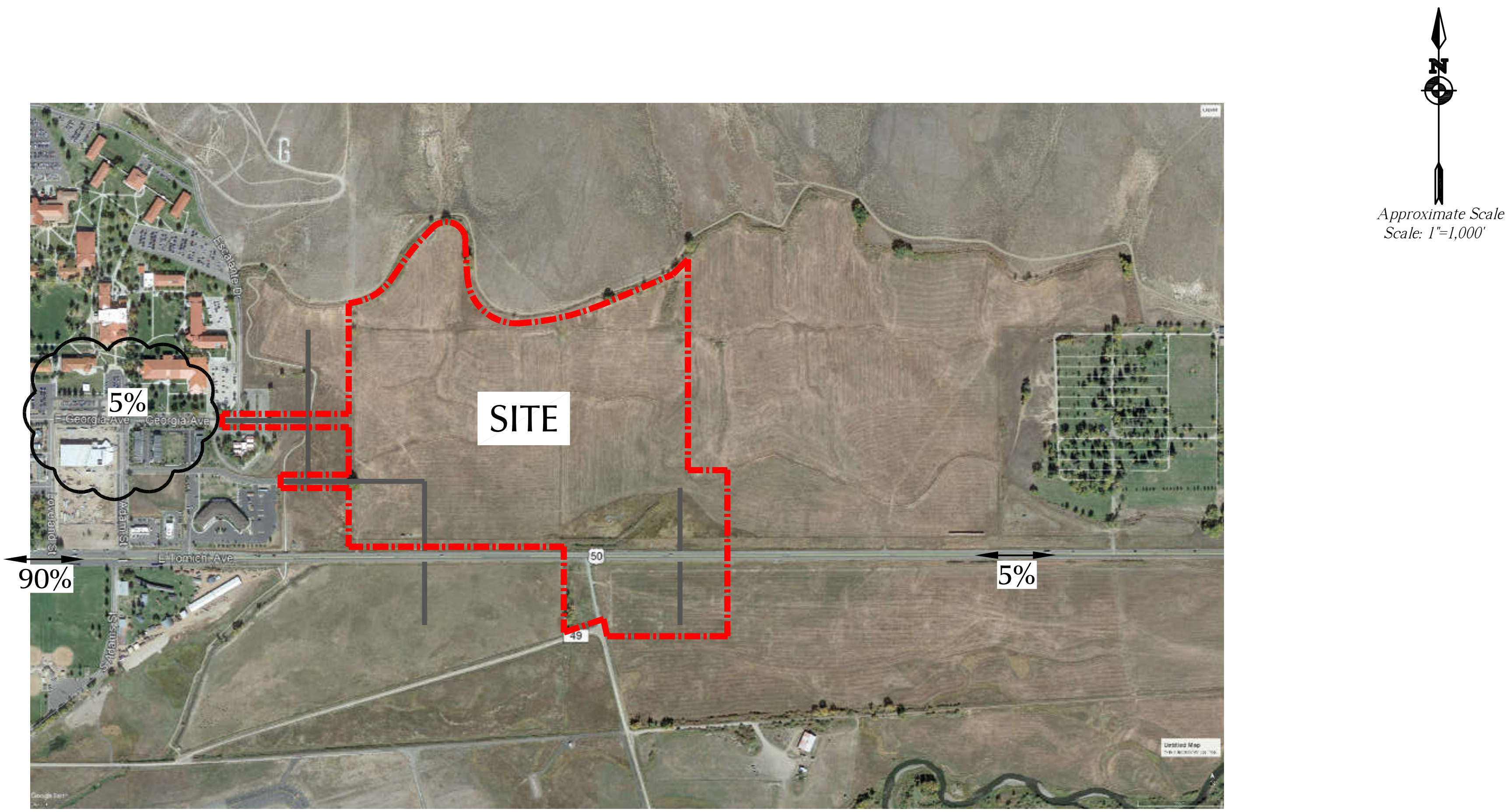
LEGEND:

⊢	=	Stop Sign
26 / 35	=	AM Peak Hour Traffic / PM Peak Hour Traffic
1,000	=	Average Daily Traffic

Figure 5

Year 2041 Background Traffic, Lane Geometry and Traffic Control

Gunnison Rising Phase 2 (LSC #210040)



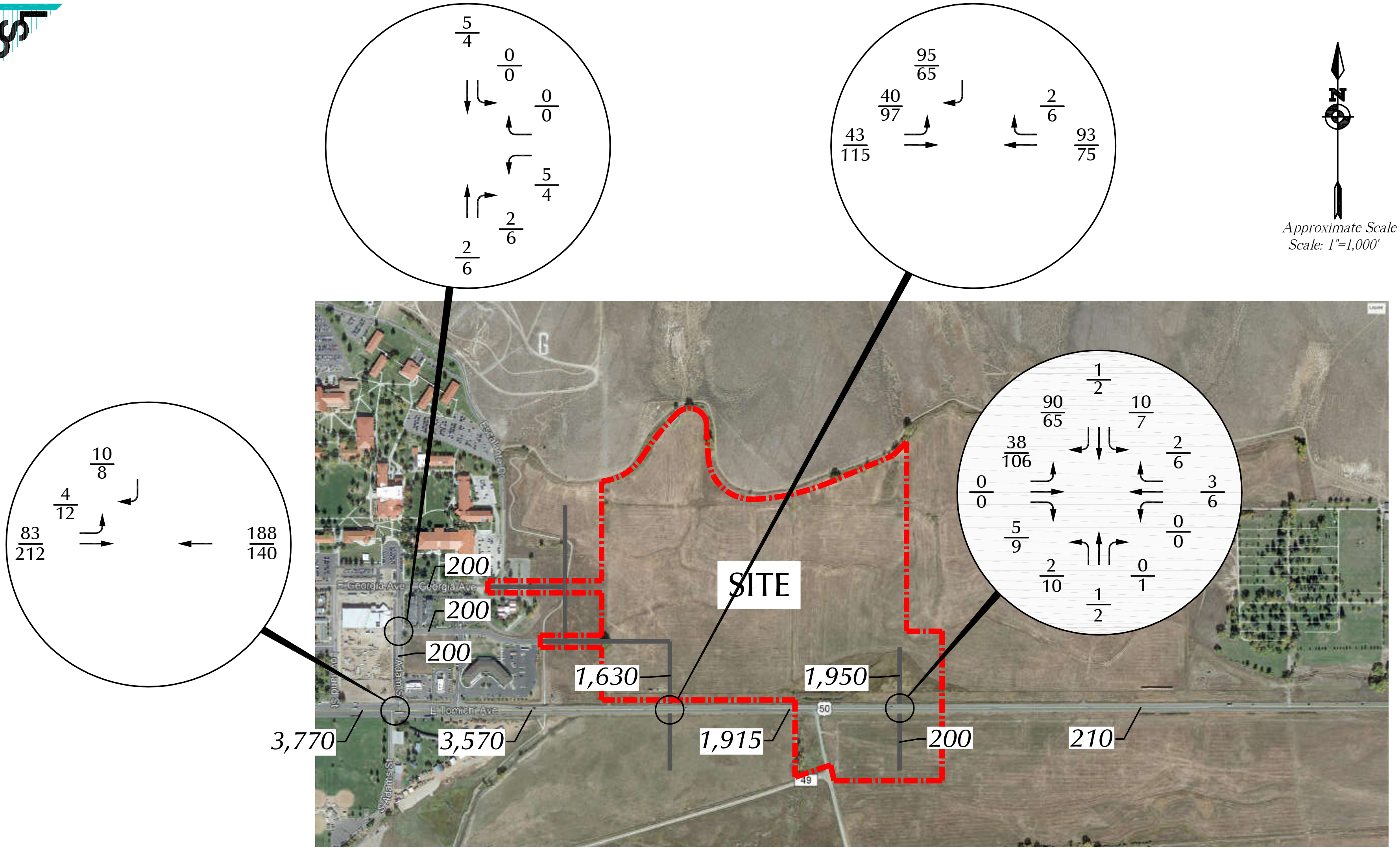
LEGEND:

65% = Percent Directional Distribution

Figure 6

Directional Distribution of Site-Generated Traffic

Gunnison Rising Phase 2 (LSC #210040)



LEGEND:

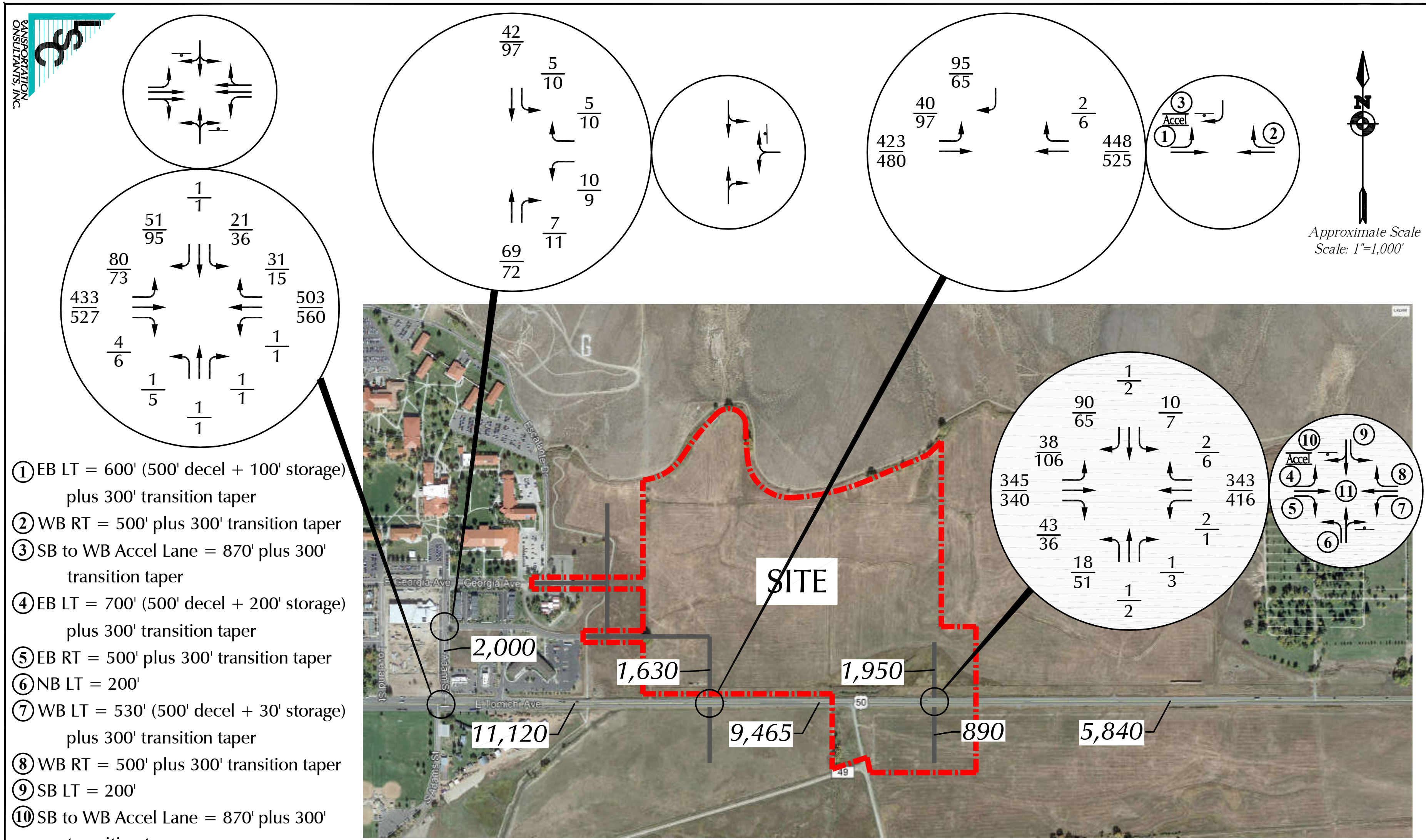
26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

Figure 7

Assignment of Site-Generated Traffic

Gunnison Rising Phase 2 (LSC #210040)



1. EB LT = 600' (500' decel + 100' storage) plus 300' transition taper
2. WB RT = 500' plus 300' transition taper
3. SB to WB Accel Lane = 870' plus 300' transition taper
4. EB LT = 700' (500' decel + 200' storage) plus 300' transition taper
5. EB RT = 500' plus 300' transition taper
6. NB LT = 200'
7. WB LT = 530' (500' decel + 30' storage) plus 300' transition taper
8. WB RT = 500' plus 300' transition taper
9. SB LT = 200'
10. SB to WB Accel Lane = 870' plus 300' transition taper
11. Traffic Signal Control when Warranted

LEGEND:

⊦ = Stop Sign

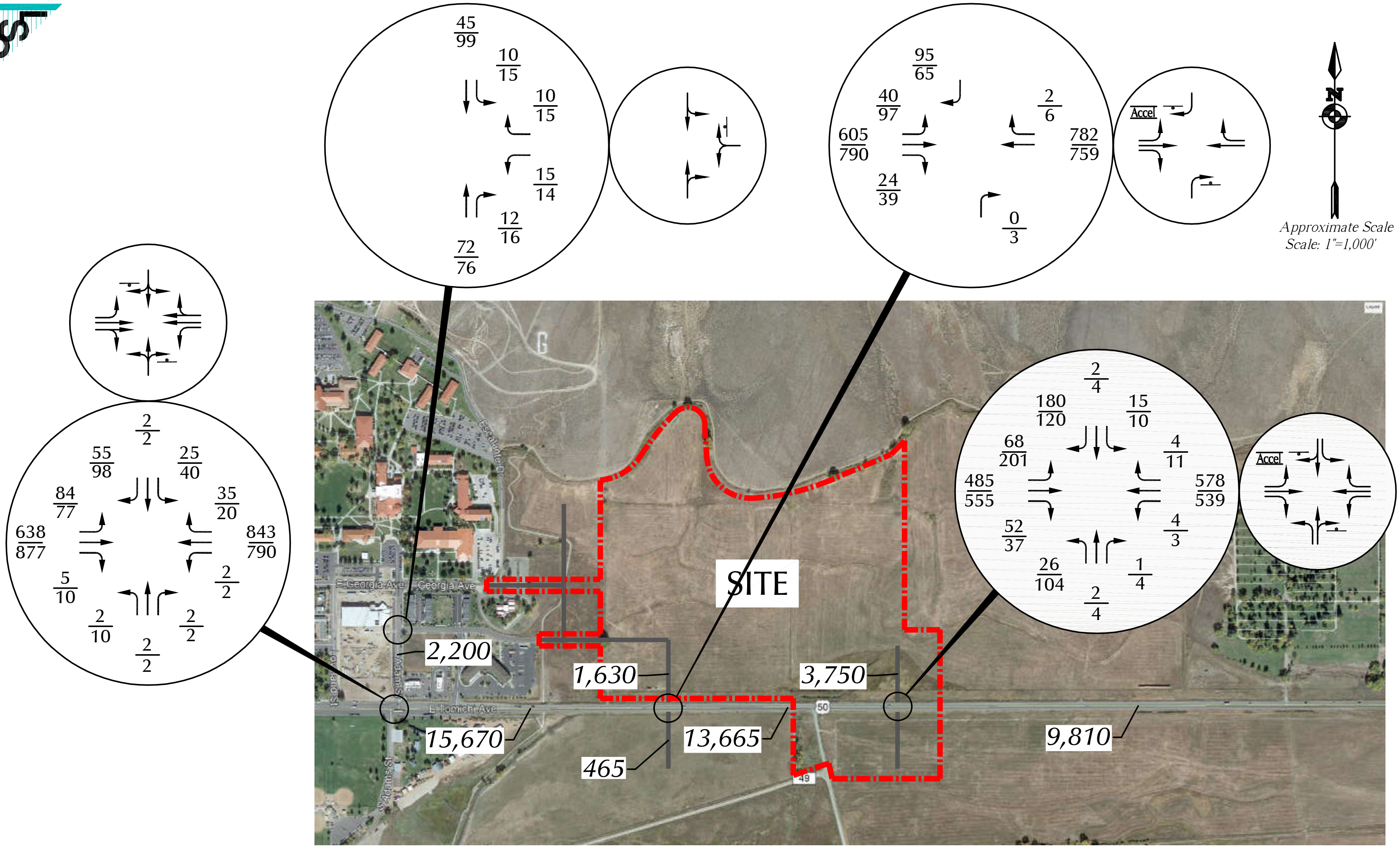
$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

1,000 = Average Daily Traffic

Figure 8

Year 2030 Total Traffic, Lane Geometry and Traffic Control

Gunnison Rising Phase 2 (LSC #210040)



LEGEND:

⊢ = Stop Sign

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

Figure 9

Year 2041 Total Traffic, Lane Geometry and Traffic Control

Gunnison Rising Phase 2 (LSC #210040)

COLORADO
Department of Transportation
Region 3

Transportation Impact Study Methodology Form

Prior to starting a traffic impact study, a Methodology Form must be submitted for review and signed by the Region 3 Access Engineer. It shall be included as part of the study.

CONTACT INFORMATION

Consultant:	Name:	LSC Transportation Consultants, Inc. (Chris McGranahan)
	Telephone:	303-333-1105
	Email:	chris@lsctrans.com and lsc@lscdenver.com
	Developer/Owner Name:	Gunnison Valley Partners

PROJECT INFORMATION

Project Name	Gunnison Rising
Project Location	East of Gunnison, CO on both sides of US 50
Project Description *(Attached proposed site plan)*	See attached site plan
State Highway	US 50
County	Gunnison
Mile Post	Between 158 and 159
Posted Speed Limit	55 mph approaching from east and 65 mph approaching from west

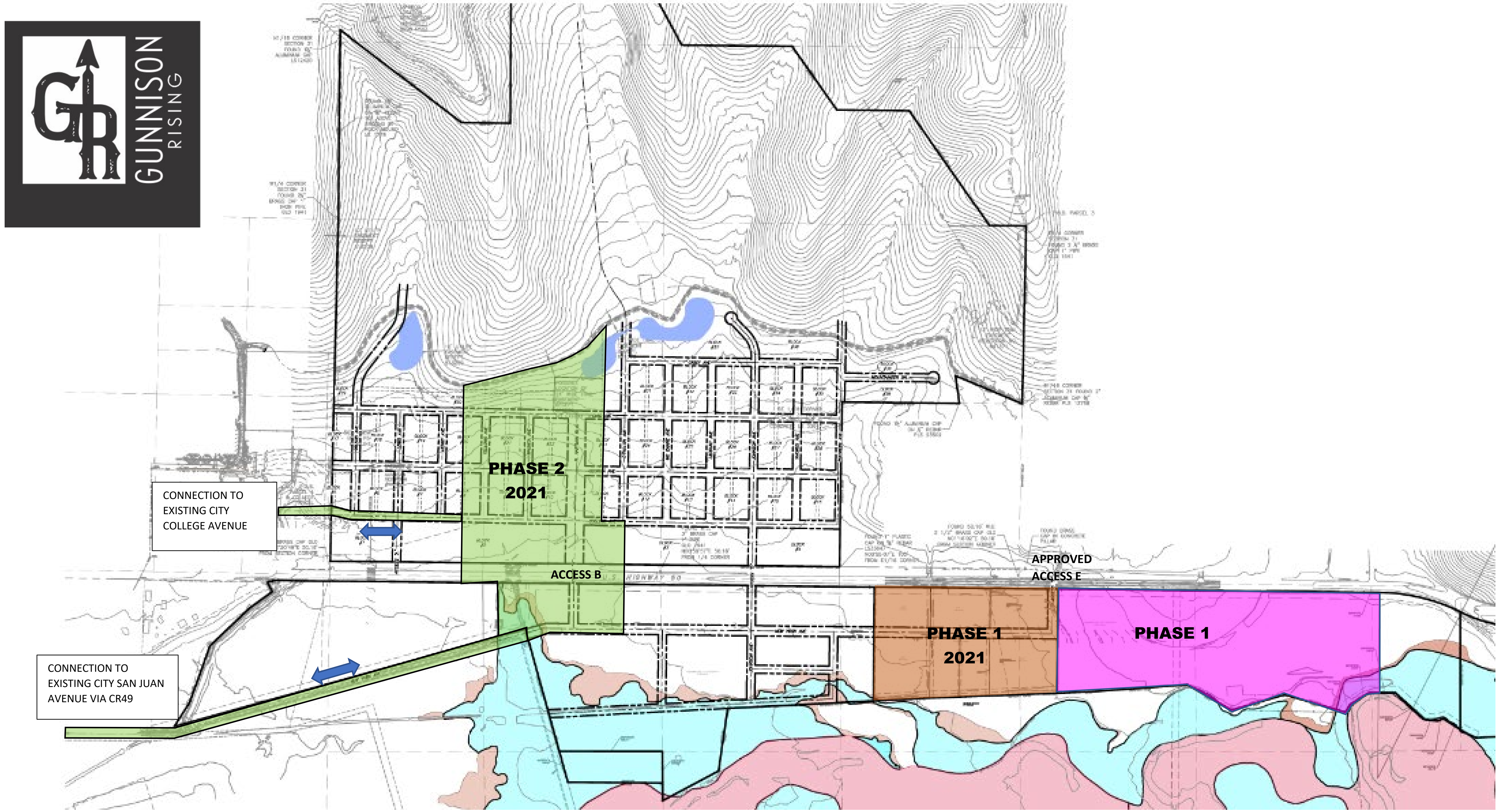
TIS ASSUMPTIONS

Study Years	Current Year: 2020	Buildout Year: 2025	Long Term Year: 2040
Traffic Assessment Level *(Provide justification)*	Level 3 Traffic Study		
Study Intersections	1. US 50/Adams Street	6.	
	2. Adams Street/College Avenue	7.	
	3. Proposed Access Point to US 50	8.	
	4.	9.	
	5.	10.	
Future Growth Rate	☒ OTIS	☐ Regional TDM	☐ Other
Seasonal Adjustment Factor	Traffic counts will be modified using both a seasonal and pandemic adjustment.		

ASSUMPTIONS CONTINUED				
Project Trip Distribution *(State assumptions and attach sketch that shows individual movements.)*	95% West and 5% East			
Trip Reduction Percentage	Internal Capture:	Up to that allowed per SHAC	Pass By:	Will be considered based on Trip Generation Handbook
	Multi-Modal:	N/A	Other:	
Study Time Periods	☑ AM (7-9)	☑ PM (4-6)	☑ Weekday	
(Check all that apply)	☐ SAT (Midday)	☐ Other		
Existing and Proposed ITE Trip Generation Land Use	There will be a number of proposed land use types including Single-Family Detached Homes (210), Multi-Family (Low-Rise) (220), Free-Standing Discount Store (815), Retail Shopping (820), Drinking Place (925), Quality Restaurant (931), Coffee Shop (936), Super Convenience Market/Gas Station (960)			
Analysis Methods *(Check all that apply)*	☑ Synchro or ☐ HCS *(isolated intersections only)*	☐ SimTraffic or ☐ Other *(closely spaced intersections or when known/expected queuing issue)*		
	☑ Signal Warrants	☐ Pedestrian/Transit/Bicycle		
	☐ Safety/Sight Distance	☑ Queuing and Storage		
	☐ Other			
Notes and Other Assumptions	We would prepare and submit an overall trip generation table for review by CDOT prior to preparing the full traffic study.			
Crash Data	CDOT will perform a crash data analysis for the highway in the vicinity of the proposed access and provide to the consultant. As a part of the study consultant shall recommend mitigation measures for any identified safety issues.			
Simulation Input Files	Consultant to provide computer files used for analysis with a signed and sealed copy of the study.			

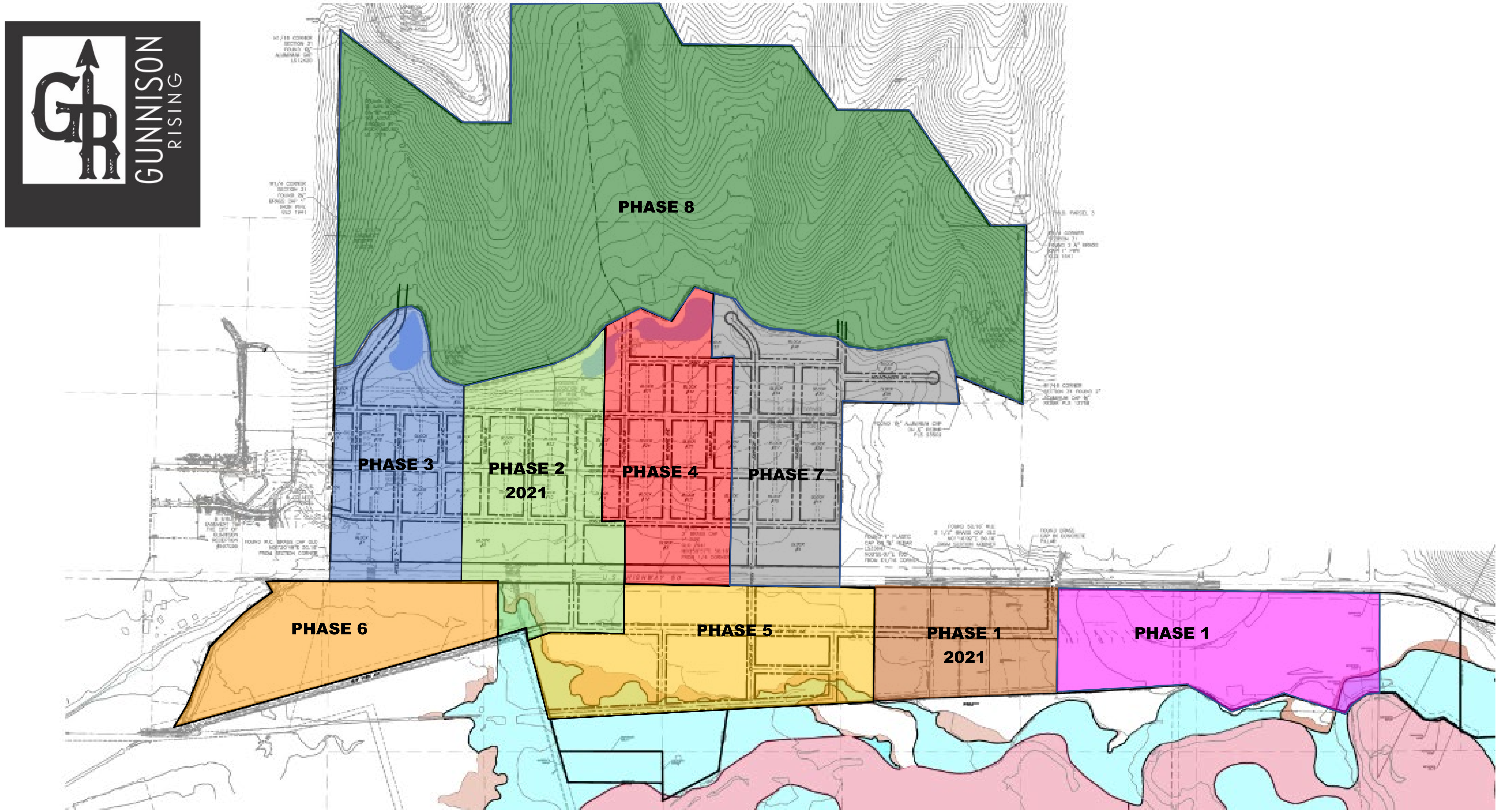
CDOT INTERNAL USE ONLY	
Review Comments ☐ Revise and Resubmit	
Engineer Signature/Date	☐ Approved

GUNNISON RISING ANTICIPATED PHASING PLAN



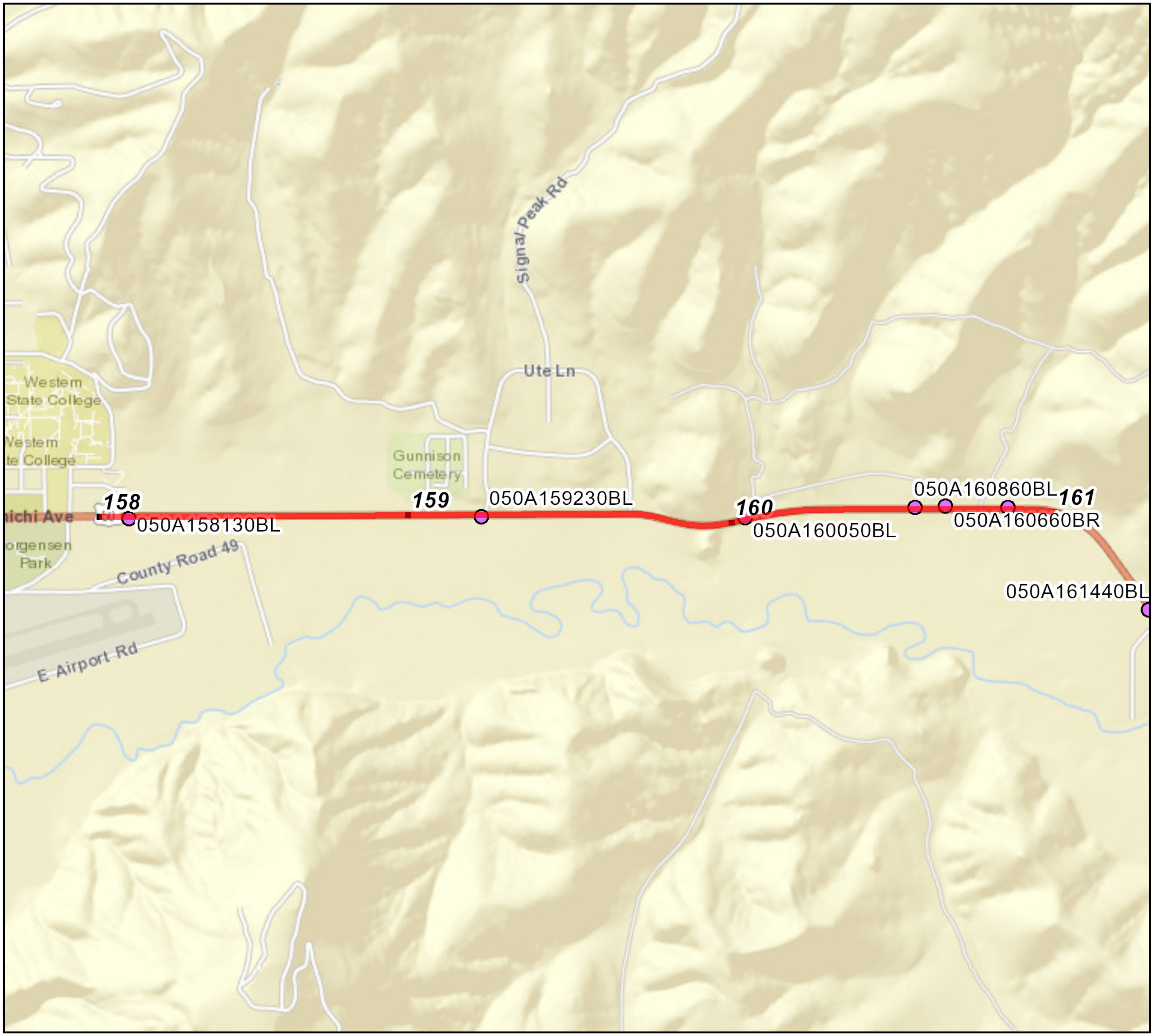
NOVEMBER, 2020 PREPARED BY CRABTREE GROUP, INC.

GUNNISON RISING ANTICIPATED PHASING PLAN



NOVEMBER, 2020 PREPARED BY CRABTREE GROUP, INC.

Route 050A From 158 to 161



Legend

Route

Milepoint

Structures

Major Structure

Minor Structure

Created:

Date: 3/25/2020

Time: 1:15:41 PM

0 0.2 0.4 0.6 0.8

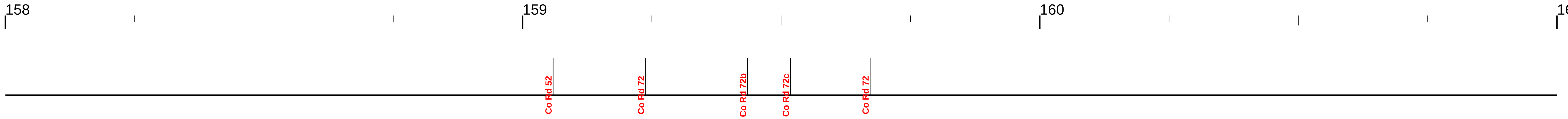
Miles

N W E S

CDOT

The information contained in this map is based on the most currently available data and has been checked for accuracy. CDOT does not guarantee the accuracy of any information presented, is not liable in any respect for any errors or omissions, and is not responsible for determining "fitness for use".

Route 050A
From 158 To 161



Ramps
Overpass
Underpass
Structures

CLASSIFICATION

Access Control	R-A: Regional Highway
Highway Designation	U.S.

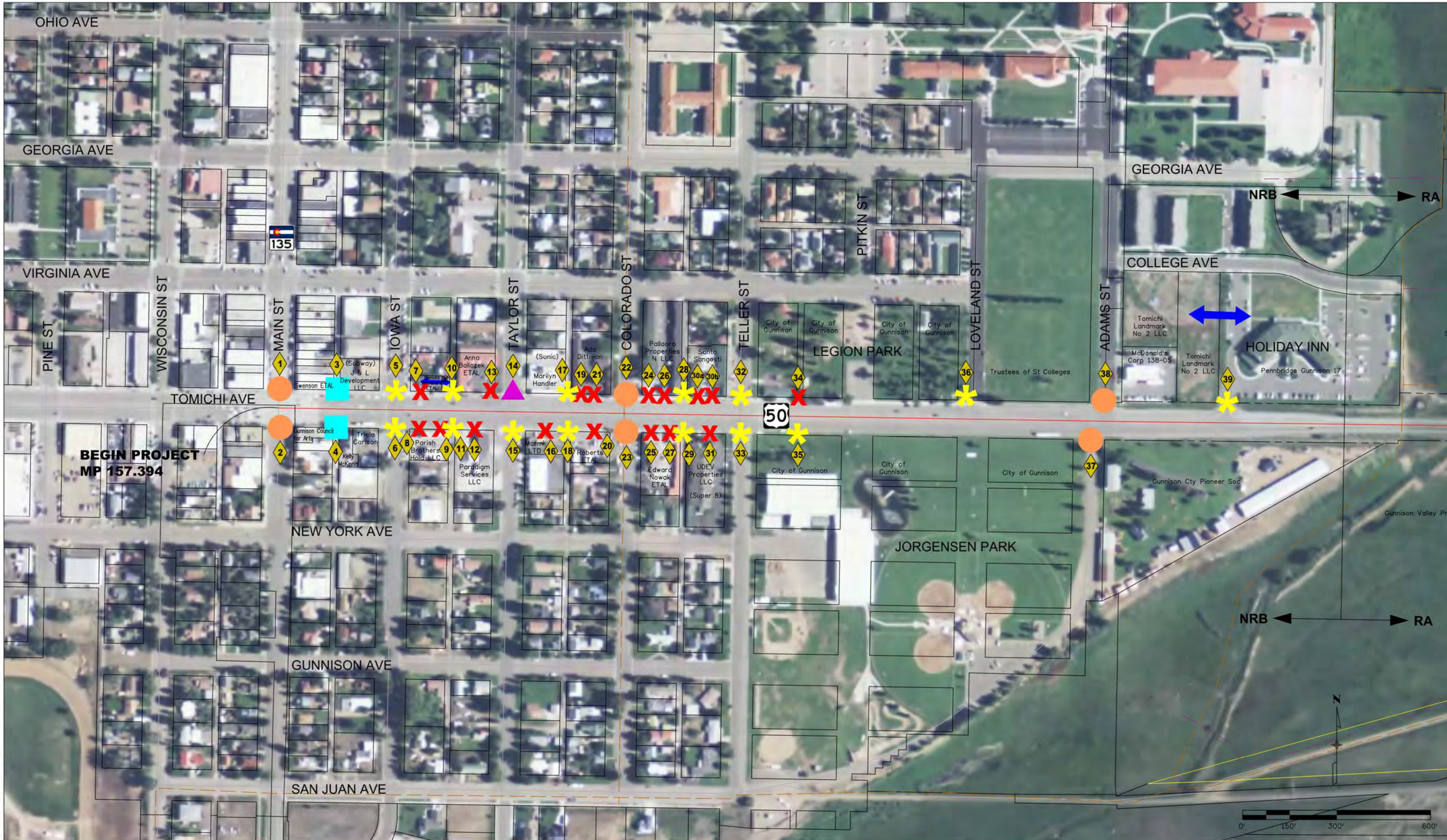
SAFETY

Primary Speed Limit	35	55	65

TRAFFIC

AADT	5400
V/C Ratio 20	0.45
Year 20 Factor	1.04

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page and re-submit the request.



LEGEND:

- Access Point
- Full Movement
- Right-In
- Right-In, Right-Out
- 3/4 Movement Left-In
- Close Existing Access Point
- Cross Access for Shared Access Point
- City Boundary
- Parcel Line
- Proposed Street Network
- Trail Network

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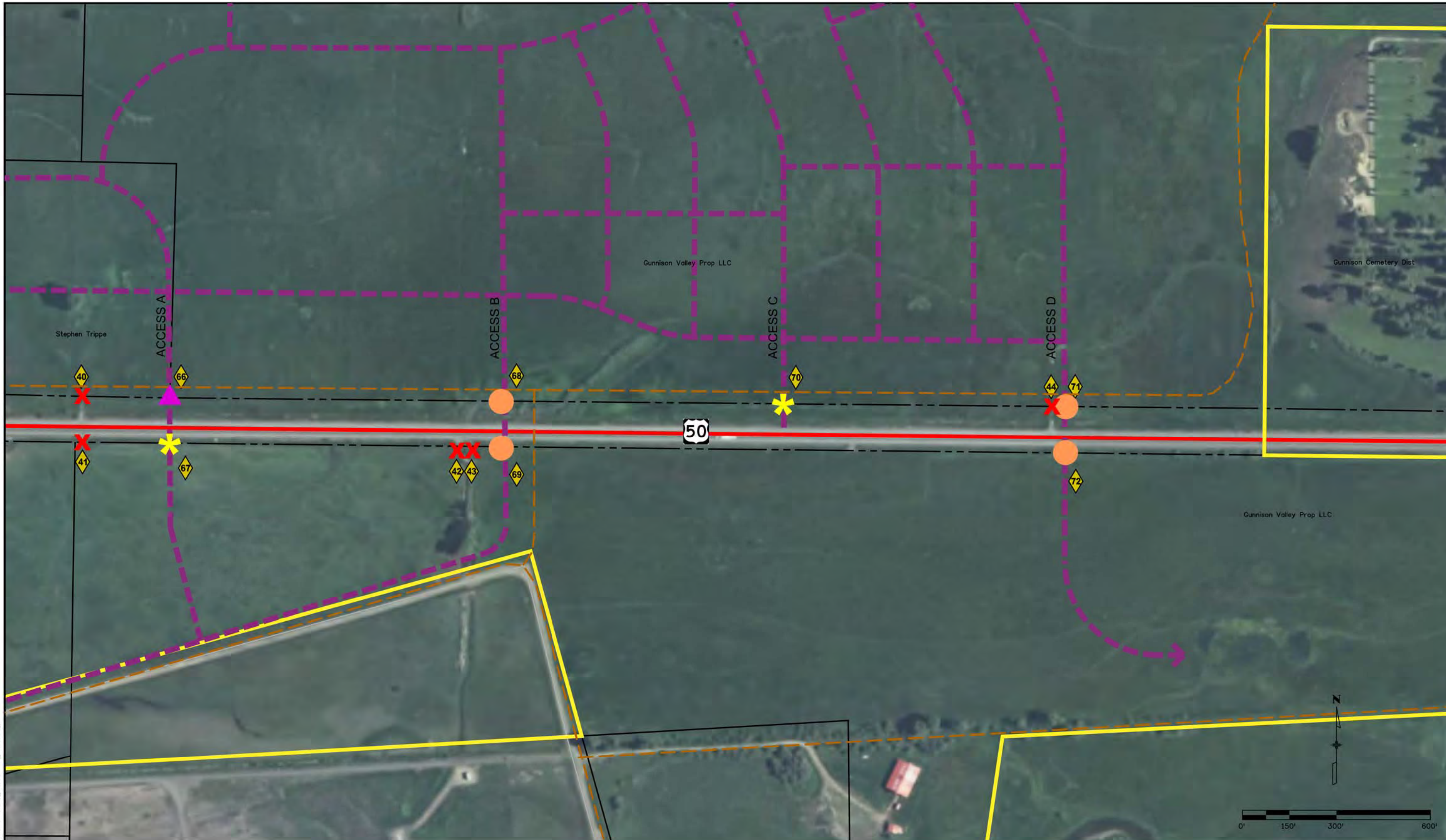
US 50 ACCESS EXHIBIT
1 OF 5

FIGURE 5A



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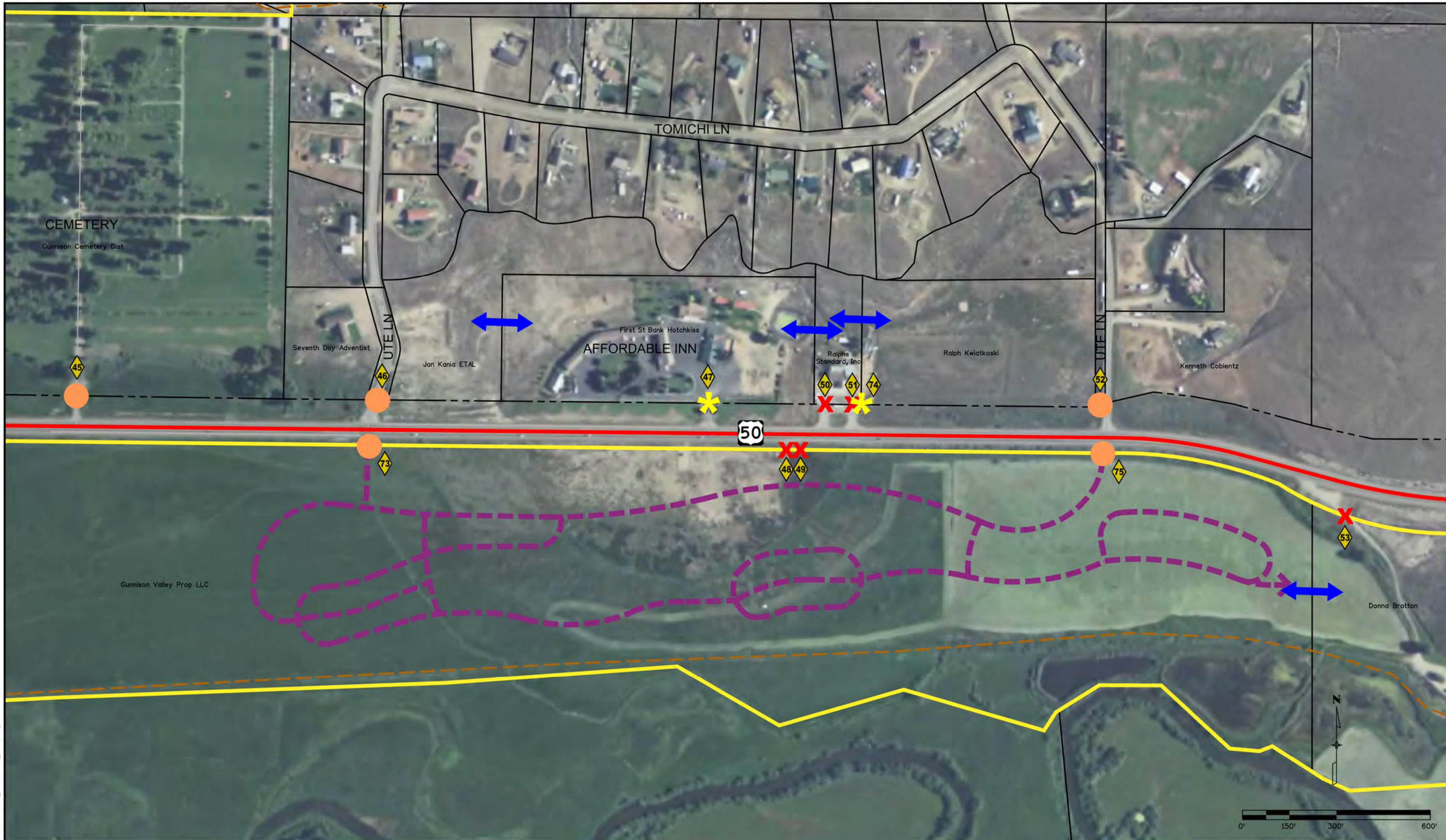
LEGEND:

Access Point	Right-In, Right-Out	City Boundary
Full Movement	3/4 Movement Left-In	Parcel Line
Right-In	Close Existing Access Point	Proposed Street Network
	Cross Access for Shared Access Point	Trail Network

US 50 ACCESS EXHIBIT
2 OF 5

FIGURE 5B



LEGEND:

Access Point	Right-In, Right-Out	City Boundary
Full Movement	3/4 Movement Left-In	Parcel Line
Right-In	Close Existing Access Point	Proposed Street Network
	Cross Access for Shared Access Point	Trail Network

Michelle 9:57:26 AM P:\12026\CAD\Sheets\US50_AccessPlan_Sheet3.dgn

US 50 ACCESS EXHIBIT
3 OF 5

FIGURE 5C

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

N/S STREET: ADAMS STREET
E/W STREET: COLLEGE AVE
CITY: GUNNISON
COUNTY: GUNNISON

File Name : ADAMSCOLL
Site Code : 00000017
Start Date : 1/12/2021

Groups Printed- VEHICLES

	ADAMS STREET Southbound				COLLEGE AVENUE Westbound				ADAMS STREET Northbound				Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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	0	0	0	0	0	2	0	0	5	0	0	0	0	0	0	7
06:45 AM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4
Total	0	1	0	0	0	0	2	0	0	8	0	0	0	0	0	0	11
07:00 AM	1	1	0	1	1	0	2	0	0	1	0	0	0	0	0	0	7
07:15 AM	0	2	0	0	0	0	0	0	0	6	0	0	0	0	0	0	8
07:30 AM	1	4	0	0	0	0	1	0	0	5	0	0	0	0	0	0	11
07:45 AM	1	1	0	0	0	0	0	0	0	14	0	0	0	0	0	0	16
Total	3	8	0	1	1	0	3	0	0	26	0	0	0	0	0	0	42
08:00 AM	1	7	0	0	1	0	1	0	0	8	0	0	0	0	0	0	18
08:15 AM	0	3	0	0	2	0	2	0	0	14	1	0	0	0	0	0	22
Total	1	10	0	0	3	0	3	0	0	22	1	0	0	0	0	0	40
04:00 PM	2	10	0	1	0	0	1	0	0	10	1	0	0	0	0	0	25
04:15 PM	0	13	0	0	0	0	2	0	0	9	0	0	0	0	0	0	24
04:30 PM	1	14	0	2	0	0	1	0	0	12	0	0	0	0	0	0	30
04:45 PM	1	15	0	0	1	0	1	0	0	17	1	0	0	0	0	0	36
Total	4	52	0	3	1	0	5	0	0	48	2	0	0	0	0	0	115
05:00 PM	1	19	0	0	2	0	3	0	0	4	2	0	0	0	0	0	31
05:15 PM	1	12	0	0	0	0	1	0	0	10	0	0	0	0	0	0	24
05:30 PM	3	9	0	0	2	0	1	0	0	8	1	0	0	0	0	0	24
05:45 PM	3	8	0	0	1	0	0	0	0	6	0	0	0	0	0	0	18
Total	8	48	0	0	5	0	5	0	0	28	3	0	0	0	0	0	97
Grand Total	16	119	0	4	10	0	18	0	0	132	6	0	0	0	0	0	305
Apprch %	11.5	85.6	0.0	2.9	35.7	0.0	64.3	0.0	0.0	95.7	4.3	0.0	0.0	0.0	0.0	0.0	
Total %	5.2	39.0	0.0	1.3	3.3	0.0	5.9	0.0	0.0	43.3	2.0	0.0	0.0	0.0	0.0	0.0	

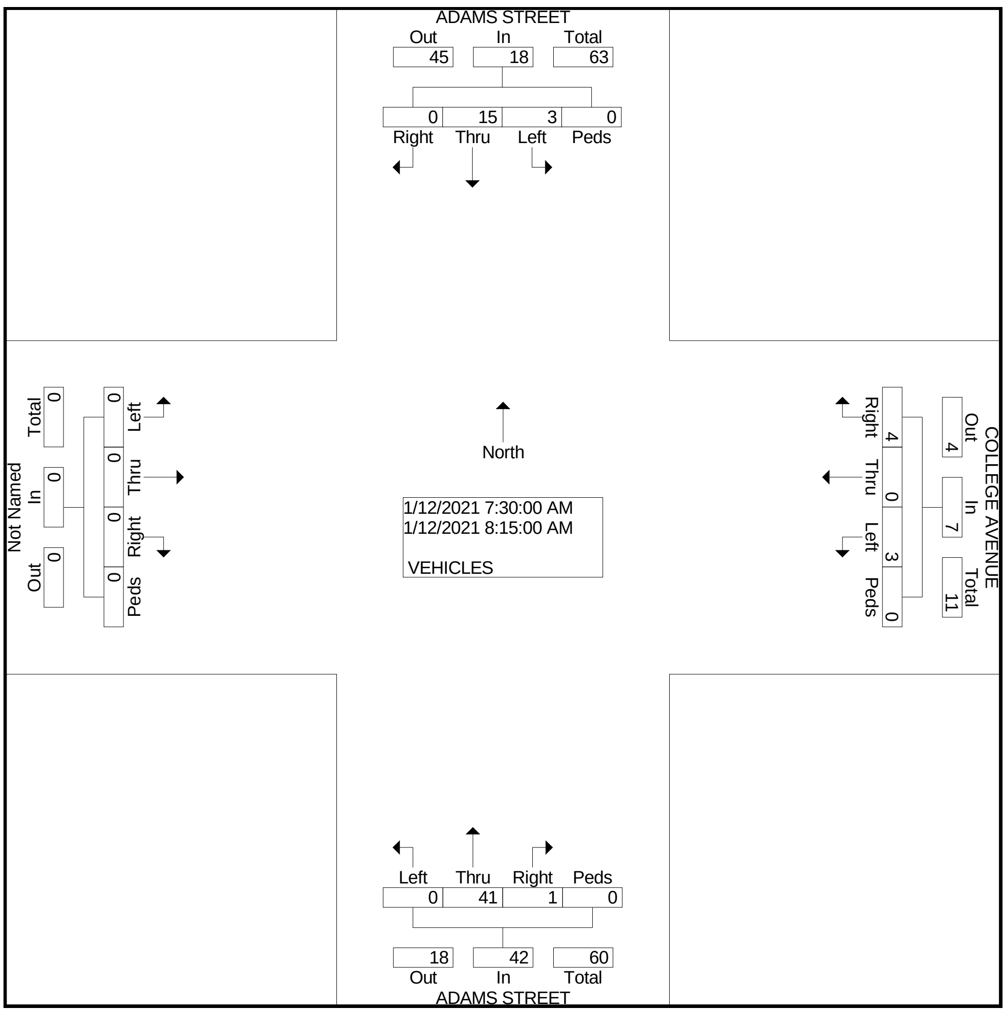
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ADAMS STREET
E/W STREET: COLLEGE AVE
CITY: GUNNISON
COUNTY: GUNNISON

File Name : ADAMSCOLL
Site Code : 00000017
Start Date : 1/12/2021

	ADAMS STREET Southbound					COLLEGE AVENUE Westbound					ADAMS 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 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	3	15	0	0	18	3	0	4	0	7	0	41	1	0	42	0	0	0	0	0	67
Percent	16.7	83.3	0.0	0.0		42.9	0.0	57.1	0.0		0.0	97.6	2.4	0.0		0.0	0.0	0.0	0.0		
08:15 Volume	0	3	0	0	3	2	0	2	0	4	0	14	1	0	15	0	0	0	0	0	22
Peak Factor																					0.761
High Int.	08:00 AM					08:15 AM					08:15 AM										
Volume	1	7	0	0	8	2	0	2	0	4	0	14	1	0	15						
Peak Factor					0.563					0.438					0.700						

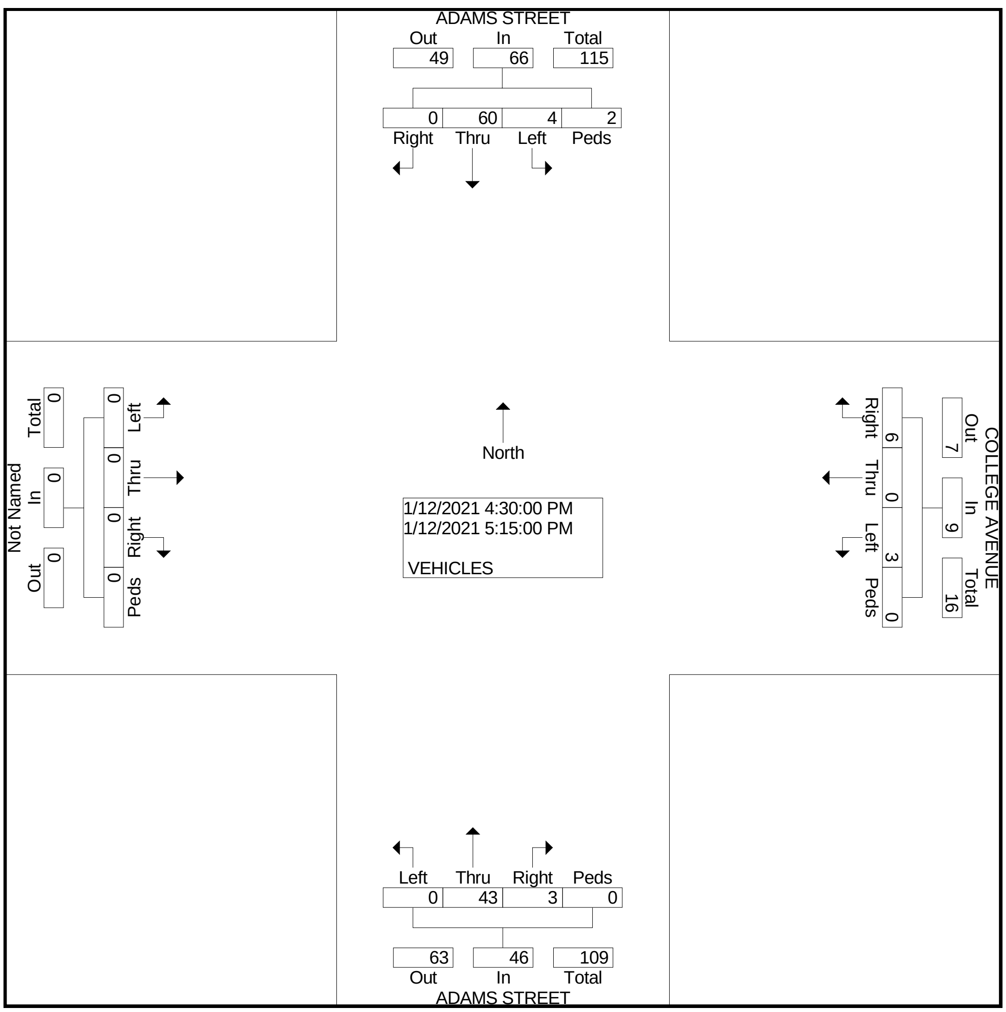


N/S STREET: ADAMS STREET
E/W STREET: COLLEGE AVE
CITY: GUNNISON
COUNTY: GUNNISON

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

File Name : ADAMSCOLL
Site Code : 00000017
Start Date : 1/12/2021

	ADAMS STREET Southbound					COLLEGE AVENUE Westbound					ADAMS 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 04:30 PM to 05:15 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	4	60	0	2	66	3	0	6	0	9	0	43	3	0	46	0	0	0	0	0	121
Percent	6.1	90.9	0.0	3.0		33.3	0.0	66.7	0.0		0.0	93.5	6.5	0.0		0.0	0.0	0.0	0.0		
04:45 Volume	1	15	0	0	16	1	0	1	0	2	0	17	1	0	18	0	0	0	0	0	36
Peak Factor																					0.840
High Int.	05:00 PM					05:00 PM					04:45 PM										
Volume	1	19	0	0	20	2	0	3	0	5	0	17	1	0	18						
Peak Factor					0.825					0.450					0.639						



COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ADAMS STREET
E/W STREET: EAST TOMICHI AVE (US 50)
CITY: GUNNISON
COUNTY: GUNNISON

File Name : ADAMSUS50
Site Code : 00000015
Start Date : 1/11/2021
Page No : 1

Groups Printed- VEHICLES

	ADAMS STREET Southbound				EAST TOMICHI AVE (US 50) Westbound				ADAMS STREET Northbound				EAST TOMICHI AVE (US 50) Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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	1	0	1	0	0	13	0	0	0	0	0	0	4	12	0	0	31
06:45 AM	0	0	2	0	0	15	2	0	0	0	0	0	7	9	0	0	35
Total	1	0	3	0	0	28	2	0	0	0	0	0	11	21	0	0	66
07:00 AM	2	0	3	0	0	19	7	0	0	0	0	0	3	11	0	0	45
07:15 AM	0	1	7	0	0	26	0	0	0	0	0	0	9	16	0	0	59
07:30 AM	0	0	6	0	0	22	3	0	0	0	0	0	9	19	0	0	59
07:45 AM	0	0	9	0	0	42	3	0	0	0	0	0	14	17	3	0	88
Total	2	1	25	0	0	109	13	0	0	0	0	0	35	63	3	0	251
08:00 AM	4	1	5	0	0	26	3	0	0	0	0	0	15	21	0	0	75
08:15 AM	3	0	8	0	0	17	5	0	0	0	0	0	14	22	0	0	69
Total	7	1	13	0	0	43	8	0	0	0	0	0	29	43	0	0	144
04:00 PM	4	1	20	0	0	29	2	0	0	2	0	0	12	31	1	0	102
04:15 PM	3	0	16	0	0	20	0	0	1	0	0	2	8	27	1	0	78
04:30 PM	4	0	17	0	0	38	1	0	4	1	0	0	10	36	1	0	112
04:45 PM	4	0	17	0	0	27	2	0	0	0	0	0	8	32	4	0	94
Total	15	1	70	0	0	114	5	0	5	3	0	2	38	126	7	0	386
05:00 PM	5	0	13	1	0	34	3	0	0	0	0	0	9	40	0	0	105
05:15 PM	5	1	12	0	0	34	0	0	0	0	0	0	16	41	0	0	109
05:30 PM	6	0	10	0	1	29	2	0	0	0	0	0	12	38	0	0	98
05:45 PM	2	0	7	0	0	23	2	0	0	0	0	0	10	25	0	0	69
Total	18	1	42	1	1	120	7	0	0	0	0	0	47	144	0	0	381
Grand Total	43	4	153	1	1	414	35	0	5	3	0	2	160	397	10	0	1228
Apprch %	21.4	2.0	76.1	0.5	0.2	92.0	7.8	0.0	50.0	30.0	0.0	20.0	28.2	70.0	1.8	0.0	
Total %	3.5	0.3	12.5	0.1	0.1	33.7	2.9	0.0	0.4	0.2	0.0	0.2	13.0	32.3	0.8	0.0	

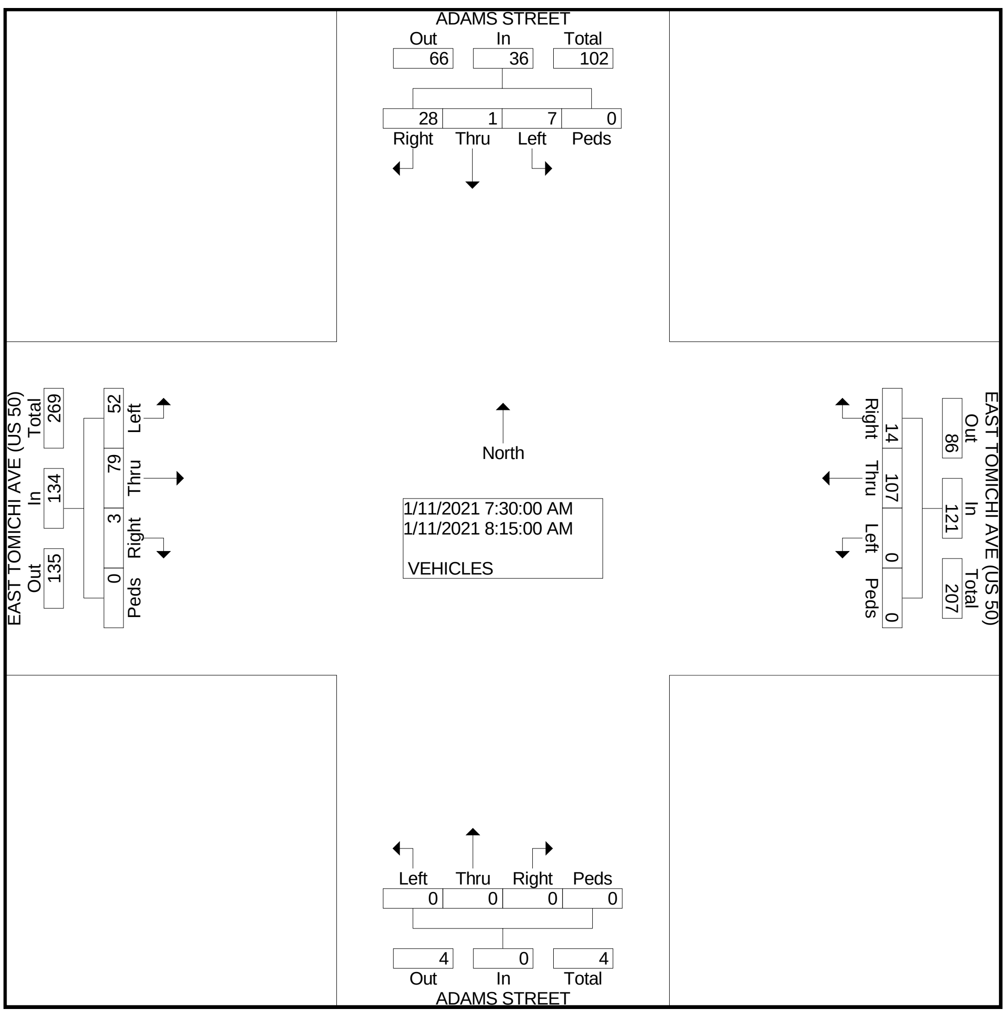
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ADAMS STREET
E/W STREET: EAST TOMICHI AVE (US 50)
CITY: GUNNISON
COUNTY: GUNNISON

File Name : ADAMSUS50
Site Code : 00000015
Start Date : 1/11/2021

	ADAMS STREET Southbound					EAST TOMICHI AVE (US 50) Westbound					ADAMS STREET Northbound					EAST TOMICHI AVE (US 50) 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																					
Intersection	07:30 AM																				
Volume	7	1	28	0	36	0	107	14	0	121	0	0	0	0	0	52	79	3	0	134	291
Percent	19.4	2.8	77.8	0.0		0.0	88.4	11.6	0.0		0.0	0.0	0.0	0.0		38.8	59.0	2.2	0.0		
07:45 Volume	0	0	9	0	9	0	42	3	0	45	0	0	0	0	0	14	17	3	0	34	88
Peak Factor																					0.827
High Int.	08:15 AM					07:45 AM					6:15:00 AM					08:00 AM					
Volume	3	0	8	0	11	0	42	3	0	45	0	0	0	0	0	15	21	0	0	36	
Peak Factor					0.818					0.672										0.931	



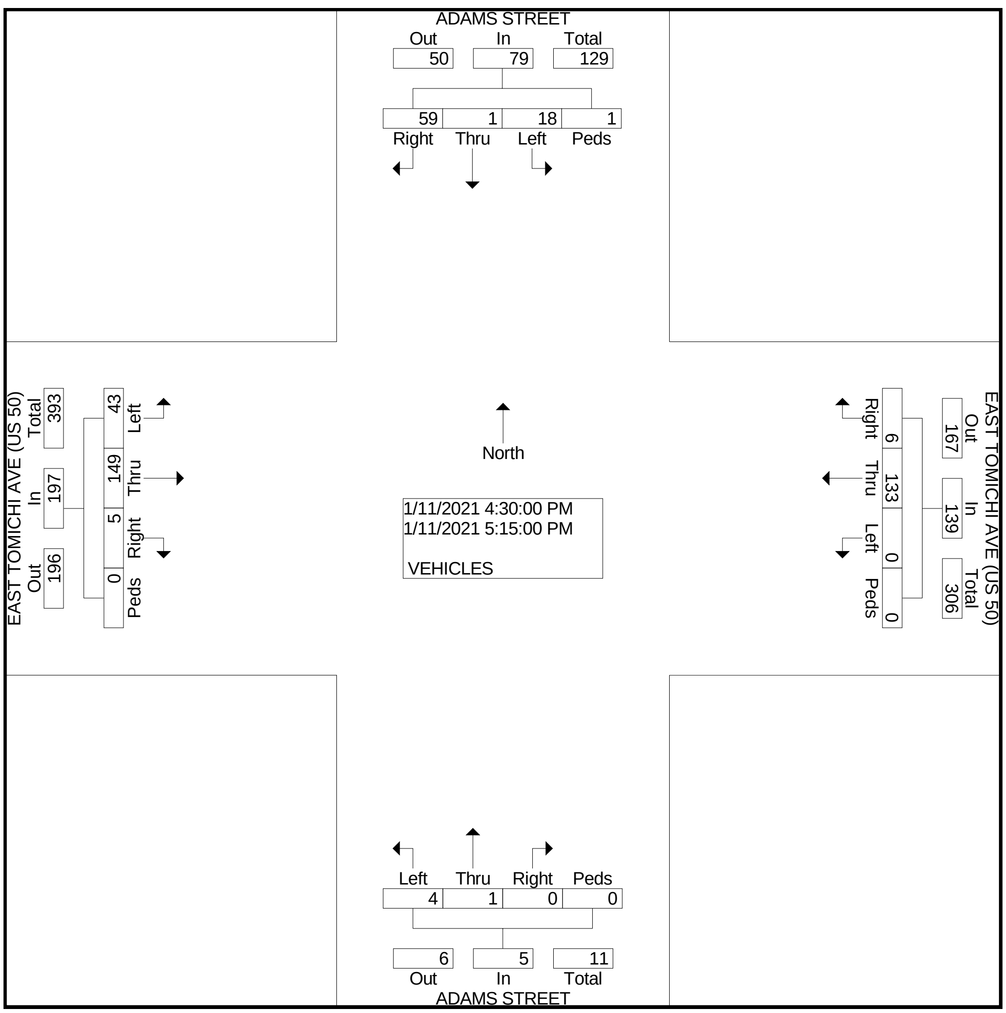
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ADAMS STREET
E/W STREET: EAST TOMICHI AVE (US 50)
CITY: GUNNISON
COUNTY: GUNNISON

File Name : ADAMSUS50
Site Code : 00000015
Start Date : 1/11/2021

	ADAMS STREET Southbound					EAST TOMICHI AVE (US 50) Westbound					ADAMS STREET Northbound					EAST TOMICHI AVE (US 50) 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	18	1	59	1	79	0	133	6	0	139	4	1	0	0	5	43	149	5	0	197	420
Percent	22.8	1.3	74.7	1.3		0.0	95.7	4.3	0.0		80.0	20.0	0.0	0.0		21.8	75.6	2.5	0.0		
04:30 Volume	4	0	17	0	21	0	38	1	0	39	4	1	0	0	5	10	36	1	0	47	112
Peak Factor																					0.938
High Int.	04:30 PM					04:30 PM					04:30 PM					05:15 PM					
Volume	4	0	17	0	21	0	38	1	0	39	4	1	0	0	5	16	41	0	0	57	
Peak Factor					0.940					0.891					0.250					0.864	



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

Location: ADAMS STREET N/O US 50 (TOMICHI AVE)
City: GUNNISON
County: GUNNISON
Direction: NORTH/SOUTH

Site Code: 211103
Station ID: 211103

Start Time	12-Jan-21 Tue	NORTHBOU	SOUTHBOU							Total
12:00 AM		0	0							0
01:00		1	0							1
02:00		1	0							1
03:00		1	0							1
04:00		0	0							0
05:00		1	0							1
06:00		4	1							5
07:00		24	1							25
08:00		37	5							42
09:00		**56**	19							75
10:00		52	34							**86**
11:00		39	**44**							83
12:00 PM		60	**71**							**131**
01:00		**75**	32							107
02:00		42	37							79
03:00		40	67							107
04:00		60	50							110
05:00		38	49							87
06:00		27	17							44
07:00		23	10							33
08:00		29	7							36
09:00		10	4							14
10:00		5	4							9
11:00		3	0							3
Total		628	452							1080
Percent		58.1%	41.9%							
AM Peak	-	09:00	11:00	-	-	-	-	-	-	10:00
Vol.	-	56	44	-	-	-	-	-	-	86
PM Peak	-	13:00	12:00	-	-	-	-	-	-	12:00
Vol.	-	75	71	-	-	-	-	-	-	131
Grand Total		628	452							1080
Percent		58.1%	41.9%							

ADT ADT 1,080 AADT 1,080

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

LOS	Average Vehicle Delay sec/vehicle	Operational Characteristics
A	<10 seconds	Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	10 to 20 seconds	Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20 to 35 seconds	Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35 to 55 seconds	Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55 to 80 seconds	Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
F	>80 seconds	Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

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. The delay could be up to 15 seconds. 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. 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.
D	25 to 35 seconds	This is the point at which a traffic signal may be warranted for this intersection. 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. There is a high probability that this intersection will meet traffic signal warrants. 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. The only remedy for these long delays is installing a traffic signal or restricting the accesses. 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.

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	65	5	5	35
Future Vol, veh/h	5	5	65	5	5	35
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	6	72	6	6	39

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	126	75	0	0	78	0
Stage 1	75	-	-	-	-	-
Stage 2	51	-	-	-	-	-
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	869	986	-	-	1520	-
Stage 1	948	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	866	986	-	-	1520	-
Mov Cap-2 Maneuver	866	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	967	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	922	1520	-
HCM Lane V/C Ratio	-	-	0.012	0.004	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	200	4	1	260	30	1	1	1	20	1	40
Future Vol, veh/h	75	200	4	1	260	30	1	1	1	20	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	222	4	1	289	33	1	1	1	22	1	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	322	0	0	226	0	0	537	714	113	586	700	161
Stage 1	-	-	-	-	-	-	390	390	-	308	308	-
Stage 2	-	-	-	-	-	-	147	324	-	278	392	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1235	-	-	1340	-	-	427	355	918	394	362	855
Stage 1	-	-	-	-	-	-	606	606	-	677	659	-
Stage 2	-	-	-	-	-	-	841	648	-	705	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1235	-	-	1340	-	-	383	331	918	372	337	855
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	331	-	372	337	-
Stage 1	-	-	-	-	-	-	565	565	-	632	658	-
Stage 2	-	-	-	-	-	-	795	647	-	656	564	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0	13.1	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	446	1235	-	-	1340	-	-	589
HCM Lane V/C Ratio	0.007	0.067	-	-	0.001	-	-	0.115
HCM Control Delay (s)	13.1	8.1	-	-	7.7	-	-	11.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	65	5	10	90
Future Vol, veh/h	5	10	65	5	10	90
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	11	72	6	11	100

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	197	75	0	0	78	0
Stage 1	75	-	-	-	-	-
Stage 2	122	-	-	-	-	-
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	792	986	-	-	1520	-
Stage 1	948	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	786	986	-	-	1520	-
Mov Cap-2 Maneuver	786	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	909	1520	-
HCM Lane V/C Ratio	-	-	0.018	0.007	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	270	6	1	315	15	5	1	1	35	1	85
Future Vol, veh/h	60	270	6	1	315	15	5	1	1	35	1	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	300	7	1	350	17	6	1	1	39	1	94

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	367	0	0	307	0	0	616	807	154	646	802	184
Stage 1	-	-	-	-	-	-	438	438	-	361	361	-
Stage 2	-	-	-	-	-	-	178	369	-	285	441	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1188	-	-	1250	-	-	375	314	864	357	316	827
Stage 1	-	-	-	-	-	-	567	577	-	630	624	-
Stage 2	-	-	-	-	-	-	806	619	-	698	575	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1188	-	-	1250	-	-	317	296	864	340	298	827
Mov Cap-2 Maneuver	-	-	-	-	-	-	317	296	-	340	298	-
Stage 1	-	-	-	-	-	-	535	545	-	595	623	-
Stage 2	-	-	-	-	-	-	712	618	-	656	543	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0	15.7	13.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	345	1188	-	-	1250	-	-	579
HCM Lane V/C Ratio	0.023	0.056	-	-	0.001	-	-	0.232
HCM Control Delay (s)	15.7	8.2	-	-	7.9	-	-	13.1
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.9

Intersection						
Int Delay, s/veh	1					
Movement	**WBL**	**WBR**	**NBT**	**NBR**	**SBL**	**SBT**
Lane Configurations						
Traffic Vol, veh/h	5	5	67	5	5	37
Future Vol, veh/h	5	5	67	5	5	37
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	6	74	6	6	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	130	77	0	0	80	0
Stage 1	77	-	-	-	-	-
Stage 2	53	-	-	-	-	-
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	864	984	-	-	1518	-
Stage 1	946	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	861	984	-	-	1518	-
Mov Cap-2 Maneuver	861	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Approach	**WB**		**NB**		**SB**	
HCM Control Delay, s	9		0		0.9	
HCM LOS	A					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	918	1518	-
HCM Lane V/C Ratio	-	-	0.012	0.004	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	350	4	1	315	31	1	1	1	21	1	41
Future Vol, veh/h	76	350	4	1	315	31	1	1	1	21	1	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	389	4	1	350	34	1	1	1	23	1	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	384	0	0	393	0	0	737	945	197	732	930	192
Stage 1	-	-	-	-	-	-	559	559	-	369	369	-
Stage 2	-	-	-	-	-	-	178	386	-	363	561	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1171	-	-	1162	-	-	307	260	811	309	266	817
Stage 1	-	-	-	-	-	-	481	509	-	623	619	-
Stage 2	-	-	-	-	-	-	806	609	-	628	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1171	-	-	1162	-	-	273	241	811	290	247	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	273	241	-	290	247	-
Stage 1	-	-	-	-	-	-	446	472	-	578	618	-
Stage 2	-	-	-	-	-	-	759	608	-	581	471	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0	16	13.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	332	1171	-	-	1162	-	-	497
HCM Lane V/C Ratio	0.01	0.072	-	-	0.001	-	-	0.141
HCM Control Delay (s)	16	8.3	-	-	8.1	-	-	13.4
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	345	38	2	340	16	1
Future Vol, veh/h	345	38	2	340	16	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	300	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	383	42	2	378	18	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	425	0	765	383
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	382	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1134	-	371	664
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	690	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1134	-	370	664
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	370	664	-	-	1134	-
HCM Lane V/C Ratio	0.048	0.002	-	-	0.002	-
HCM Control Delay (s)	15.2	10.4	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	66	5	10	93
Future Vol, veh/h	5	10	66	5	10	93
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	11	73	6	11	103

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	201	76	0	0	79	0
Stage 1	76	-	-	-	-	-
Stage 2	125	-	-	-	-	-
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	788	985	-	-	1519	-
Stage 1	947	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	782	985	-	-	1519	-
Mov Cap-2 Maneuver	782	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	907	1519	-
HCM Lane V/C Ratio	-	-	0.018	0.007	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	315	6	1	420	15	5	1	1	36	1	87
Future Vol, veh/h	61	315	6	1	420	15	5	1	1	36	1	87
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	350	7	1	467	17	6	1	1	40	1	97

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	484	0	0	357	0	0	726	976	179	790	971	242
Stage 1	-	-	-	-	-	-	490	490	-	478	478	-
Stage 2	-	-	-	-	-	-	236	486	-	312	493	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1075	-	-	1198	-	-	312	250	833	281	251	759
Stage 1	-	-	-	-	-	-	529	547	-	537	554	-
Stage 2	-	-	-	-	-	-	746	549	-	673	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1075	-	-	1198	-	-	258	234	833	266	235	759
Mov Cap-2 Maneuver	-	-	-	-	-	-	258	234	-	266	235	-
Stage 1	-	-	-	-	-	-	496	513	-	503	553	-
Stage 2	-	-	-	-	-	-	649	548	-	628	511	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0	18.1	15.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	282	1075	-	-	1198	-	-	488
HCM Lane V/C Ratio	0.028	0.063	-	-	0.001	-	-	0.282
HCM Control Delay (s)	18.1	8.6	-	-	8	-	-	15.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	1.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	340	27	1	410	41	2
Future Vol, veh/h	340	27	1	410	41	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	300	-	100	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	386	31	1	466	47	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	417	0	854	386
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	468	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1142	-	329	662
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	630	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1142	-	329	662
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	629	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	329	662	-	-	1142	-
HCM Lane V/C Ratio	0.142	0.003	-	-	0.001	-
HCM Control Delay (s)	17.7	10.5	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	5	69	7	5	42
Future Vol, veh/h	10	5	69	7	5	42
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	6	77	8	6	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	140	81	0	0	85	0
Stage 1	81	-	-	-	-	-
Stage 2	59	-	-	-	-	-
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	853	979	-	-	1512	-
Stage 1	942	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	850	979	-	-	1512	-
Mov Cap-2 Maneuver	850	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1512	-
HCM Lane V/C Ratio	-	-	0.019	0.004	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	433	4	1	503	31	1	1	1	21	1	51
Future Vol, veh/h	80	433	4	1	503	31	1	1	1	21	1	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	481	4	1	559	34	1	1	1	23	1	57

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	593	0	0	485	0	0	943	1256	243	997	1241	297
Stage 1	-	-	-	-	-	-	661	661	-	578	578	-
Stage 2	-	-	-	-	-	-	282	595	-	419	663	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	979	-	-	1074	-	-	217	170	758	198	174	699
Stage 1	-	-	-	-	-	-	418	458	-	468	499	-
Stage 2	-	-	-	-	-	-	701	491	-	582	457	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	979	-	-	1074	-	-	184	154	758	183	158	699
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	154	-	183	158	-
Stage 1	-	-	-	-	-	-	380	416	-	425	499	-
Stage 2	-	-	-	-	-	-	642	491	-	527	415	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0	21.2	17.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	226	979	-	-	1074	-	-	376
HCM Lane V/C Ratio	0.015	0.091	-	-	0.001	-	-	0.216
HCM Control Delay (s)	21.2	9	-	-	8.4	-	-	17.2
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0.3	-	-	0	-	-	0.8

Intersection						
Int Delay, s/veh	0.4					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	423	448	2	0	95
Future Vol, veh/h	40	423	448	2	0	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	300	-	-	300	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	470	498	2	0	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	500	0	-	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	1064	-	-	-	0	0
Stage 1	-	-	-	-	0	0
Stage 2	-	-	-	-	0	0
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1064	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1064	-	-	-	-
HCM Lane V/C Ratio	0.042	-	-	-	-
HCM Control Delay (s)	8.5	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	345	43	2	343	2	18	1	1	10	1	90
Future Vol, veh/h	38	345	43	2	343	2	18	1	1	10	1	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	300	300	-	300	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	383	48	2	381	2	20	1	1	11	1	100

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	383	0	0	431	0	0	904	854	383	877	900	381
Stage 1	-	-	-	-	-	-	467	467	-	385	385	-
Stage 2	-	-	-	-	-	-	437	387	-	492	515	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1175	-	-	1129	-	-	258	296	664	269	278	666
Stage 1	-	-	-	-	-	-	576	562	-	638	611	-
Stage 2	-	-	-	-	-	-	598	610	-	558	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1175	-	-	1129	-	-	212	285	664	260	267	666
Mov Cap-2 Maneuver	-	-	-	-	-	-	212	285	-	260	267	-
Stage 1	-	-	-	-	-	-	555	542	-	615	610	-
Stage 2	-	-	-	-	-	-	506	609	-	536	516	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	22.7	12.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	212	399	1175	-	-	1129	-	-	260	655
HCM Lane V/C Ratio	0.094	0.006	0.036	-	-	0.002	-	-	0.043	0.154
HCM Control Delay (s)	23.7	14.1	8.2	-	-	8.2	-	-	19.5	11.5
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	0	0.1	-	-	0	-	-	0.1	0.5

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	10	72	11	10	97
Future Vol, veh/h	9	10	72	11	10	97
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	11	80	12	11	108

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	216	86	0	0	92	0
Stage 1	86	-	-	-	-	-
Stage 2	130	-	-	-	-	-
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	772	973	-	-	1503	-
Stage 1	937	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	766	973	-	-	1503	-
Mov Cap-2 Maneuver	766	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	863	1503	-
HCM Lane V/C Ratio	-	-	0.024	0.007	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	527	6	1	560	15	5	1	1	36	1	95
Future Vol, veh/h	73	527	6	1	560	15	5	1	1	36	1	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	586	7	1	622	17	6	1	1	40	1	106

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	639	0	0	593	0	0	1066	1393	297	1089	1388	320
Stage 1	-	-	-	-	-	-	752	752	-	633	633	-
Stage 2	-	-	-	-	-	-	314	641	-	456	755	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	941	-	-	979	-	-	177	141	699	170	142	676
Stage 1	-	-	-	-	-	-	368	416	-	434	472	-
Stage 2	-	-	-	-	-	-	671	468	-	554	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	941	-	-	979	-	-	139	129	699	157	130	676
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	129	-	157	130	-
Stage 1	-	-	-	-	-	-	336	380	-	397	472	-
Stage 2	-	-	-	-	-	-	564	468	-	504	379	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	29.4	22.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	155	941	-	-	979	-	-	350
HCM Lane V/C Ratio	0.05	0.086	-	-	0.001	-	-	0.419
HCM Control Delay (s)	29.4	9.2	-	-	8.7	-	-	22.5
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-	2

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	97	480	525	6	0	65
Future Vol, veh/h	97	480	525	6	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	300	-	-	300	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	108	533	583	7	0	72

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	590	0	-	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	985	-	-	-	0	0
Stage 1	-	-	-	-	0	0
Stage 2	-	-	-	-	0	0
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	985	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	1.5		0		0	
HCM LOS					A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	985	-	-	-	-
HCM Lane V/C Ratio	0.109	-	-	-	-
HCM Control Delay (s)	9.1	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.4	-	-	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	340	36	1	416	6	51	2	3	7	2	65
Future Vol, veh/h	106	340	36	1	416	6	51	2	3	7	2	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	300	300	-	300	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	378	40	1	462	7	57	2	3	8	2	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	469	0	0	418	0	0	1119	1085	378	1101	1118	462
Stage 1	-	-	-	-	-	-	614	614	-	464	464	-
Stage 2	-	-	-	-	-	-	505	471	-	637	654	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1093	-	-	1141	-	-	184	217	669	189	207	600
Stage 1	-	-	-	-	-	-	479	483	-	578	564	-
Stage 2	-	-	-	-	-	-	549	560	-	465	463	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1093	-	-	1141	-	-	147	193	669	171	184	600
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	193	-	171	184	-
Stage 1	-	-	-	-	-	-	427	431	-	516	563	-
Stage 2	-	-	-	-	-	-	481	559	-	411	413	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	41.6	13.8
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	147	337	1093	-	-	1141	-	-	171	562
HCM Lane V/C Ratio	0.385	0.016	0.108	-	-	0.001	-	-	0.045	0.132
HCM Control Delay (s)	44.1	15.9	8.7	-	-	8.2	-	-	27.1	12.4
HCM Lane LOS	E	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	1.6	0.1	0.4	-	-	0	-	-	0.1	0.5

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	70	10	10	40
Future Vol, veh/h	10	10	70	10	10	40
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	78	11	11	44

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	150	84	0	0	89	0
Stage 1	84	-	-	-	-	-
Stage 2	66	-	-	-	-	-
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	842	975	-	-	1506	-
Stage 1	939	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	836	975	-	-	1506	-
Mov Cap-2 Maneuver	836	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	900	1506	-
HCM Lane V/C Ratio	-	-	0.025	0.007	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	555	5	2	655	35	2	2	2	25	2	45
Future Vol, veh/h	80	555	5	2	655	35	2	2	2	25	2	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	617	6	2	728	39	2	2	2	28	2	50

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	767	0	0	623	0	0	1167	1569	312	1240	1553	384
Stage 1	-	-	-	-	-	-	798	798	-	752	752	-
Stage 2	-	-	-	-	-	-	369	771	-	488	801	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	842	-	-	954	-	-	149	110	684	131	112	614
Stage 1	-	-	-	-	-	-	346	396	-	368	416	-
Stage 2	-	-	-	-	-	-	623	408	-	530	395	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	842	-	-	954	-	-	124	98	684	118	100	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	98	-	118	100	-
Stage 1	-	-	-	-	-	-	309	354	-	329	415	-
Stage 2	-	-	-	-	-	-	568	407	-	469	353	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	29.8	27.9
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	152	842	-	-	954	-	-	236
HCM Lane V/C Ratio	0.044	0.106	-	-	0.002	-	-	0.339
HCM Control Delay (s)	29.8	9.8	-	-	8.8	-	-	27.9
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-	1.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	562	24	0	689	0	0
Future Vol, veh/h	562	24	0	689	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	624	27	0	766	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	624
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	485
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	485
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	485	47	4	575	2	24	1	1	5	1	90
Future Vol, veh/h	30	485	47	4	575	2	24	1	1	5	1	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	300	300	-	300	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	539	52	4	639	2	27	1	1	6	1	100

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	641	0	0	591	0	0	1304	1254	539	1279	1304	639
Stage 1	-	-	-	-	-	-	605	605	-	647	647	-
Stage 2	-	-	-	-	-	-	699	649	-	632	657	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	943	-	-	985	-	-	137	172	542	143	160	476
Stage 1	-	-	-	-	-	-	485	487	-	460	467	-
Stage 2	-	-	-	-	-	-	430	466	-	468	462	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	985	-	-	104	165	542	138	154	476
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	165	-	138	154	-
Stage 1	-	-	-	-	-	-	468	470	-	444	465	-
Stage 2	-	-	-	-	-	-	337	464	-	450	446	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	48.8	15.8
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	104	253	943	-	-	985	-	-	138	465
HCM Lane V/C Ratio	0.256	0.009	0.035	-	-	0.005	-	-	0.04	0.217
HCM Control Delay (s)	51.2	19.4	9	-	-	8.7	-	-	32.2	14.9
HCM Lane LOS	F	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.9	0	0.1	-	-	0	-	-	0.1	0.8

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	15	70	10	15	95
Future Vol, veh/h	10	15	70	10	15	95
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	17	78	11	17	106

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	224	84	0	0	89	0
Stage 1	84	-	-	-	-	-
Stage 2	140	-	-	-	-	-
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	764	975	-	-	1506	-
Stage 1	939	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	755	975	-	-	1506	-
Mov Cap-2 Maneuver	755	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	876	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	873	1506	-
HCM Lane V/C Ratio	-	-	0.032	0.011	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection												
Int Delay, s/veh	3.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	665	10	2	650	20	10	2	2	40	2	90
Future Vol, veh/h	65	665	10	2	650	20	10	2	2	40	2	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	739	11	2	722	22	11	2	2	44	2	100

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	744	0	0	750	0	0	1255	1637	375	1252	1631	372
Stage 1	-	-	-	-	-	-	889	889	-	737	737	-
Stage 2	-	-	-	-	-	-	366	748	-	515	894	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	859	-	-	855	-	-	128	100	623	129	101	625
Stage 1	-	-	-	-	-	-	304	360	-	376	423	-
Stage 2	-	-	-	-	-	-	626	418	-	511	358	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	859	-	-	855	-	-	99	91	623	118	92	625
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	91	-	118	92	-
Stage 1	-	-	-	-	-	-	278	330	-	344	422	-
Stage 2	-	-	-	-	-	-	522	417	-	463	328	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0			42.6			34.9		
HCM LOS							E			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	111	859	-	-	855	-	-	262
HCM Lane V/C Ratio	0.14	0.084	-	-	0.003	-	-	0.56
HCM Control Delay (s)	42.6	9.6	-	-	9.2	-	-	34.9
HCM Lane LOS	E	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.5	0.3	-	-	0	-	-	3.1

Intersection						
Int Delay, s/veh	0					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱		↑		↱
Traffic Vol, veh/h	675	39	0	684	0	3
Future Vol, veh/h	675	39	0	684	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	750	43	0	760	0	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	750
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	411
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	411
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	411	-	-	-
HCM Lane V/C Ratio	0.008	-	-	-
HCM Control Delay (s)	13.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	19.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	555	28	3	535	5	94	2	3	3	2	55
Future Vol, veh/h	95	555	28	3	535	5	94	2	3	3	2	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	300	300	-	300	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	106	617	31	3	594	6	104	2	3	3	2	61

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	600	0	0	648	0	0	1464	1435	617	1447	1460	594
Stage 1	-	-	-	-	-	-	829	829	-	600	600	-
Stage 2	-	-	-	-	-	-	635	606	-	847	860	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	977	-	-	938	-	-	106	134	490	109	129	505
Stage 1	-	-	-	-	-	-	365	385	-	488	490	-
Stage 2	-	-	-	-	-	-	467	487	-	357	373	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	977	-	-	938	-	-	~ 84	119	490	98	115	505
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 84	119	-	98	115	-
Stage 1	-	-	-	-	-	-	326	343	-	435	489	-
Stage 2	-	-	-	-	-	-	407	486	-	314	333	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	254.5	15.7
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	84	218	977	-	-	938	-	-	98	451
HCM Lane V/C Ratio	1.243	0.025	0.108	-	-	0.004	-	-	0.034	0.14
HCM Control Delay (s)	266.9	21.9	9.1	-	-	8.9	-	-	43	14.3
HCM Lane LOS	F	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	7.7	0.1	0.4	-	-	0	-	-	0.1	0.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	72	12	10	45
Future Vol, veh/h	15	10	72	12	10	45
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	11	80	13	11	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	159	87	0	0	93	0
Stage 1	87	-	-	-	-	-
Stage 2	72	-	-	-	-	-
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	832	971	-	-	1501	-
Stage 1	936	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	825	971	-	-	1501	-
Mov Cap-2 Maneuver	825	-	-	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	878	1501	-
HCM Lane V/C Ratio	-	-	0.032	0.007	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	84	638	5	2	843	35	2	2	2	25	2	55
Future Vol, veh/h	84	638	5	2	843	35	2	2	2	25	2	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	709	6	2	937	39	2	2	2	28	2	61

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	976	0	0	715	0	0	1372	1878	358	1503	1862	488
Stage 1	-	-	-	-	-	-	898	898	-	961	961	-
Stage 2	-	-	-	-	-	-	474	980	-	542	901	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	703	-	-	881	-	-	105	71	638	84	72	526
Stage 1	-	-	-	-	-	-	301	356	-	275	333	-
Stage 2	-	-	-	-	-	-	540	326	-	492	355	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	703	-	-	881	-	-	81	61	638	73	62	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	81	61	-	73	62	-
Stage 1	-	-	-	-	-	-	261	309	-	239	332	-
Stage 2	-	-	-	-	-	-	473	325	-	422	308	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	44	47.8
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	99	703	-	-	881	-	-	171
HCM Lane V/C Ratio	0.067	0.133	-	-	0.003	-	-	0.533
HCM Control Delay (s)	44	10.9	-	-	9.1	-	-	47.8
HCM Lane LOS	E	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.2	0.5	-	-	0	-	-	2.7

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	605	24	0	782	2	0	0	0	0	0	95
Future Vol, veh/h	40	605	24	0	782	2	0	0	0	0	0	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	300	-	300	-	-	300	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	672	27	0	869	2	0	0	0	0	0	106

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	871	0	0	-	-	0	-	-	672	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	-	-	-	6.22	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-	-	-	3.318	-	-	-
Pot Cap-1 Maneuver	774	-	-	0	-	-	0	0	456	0	0	0
Stage 1	-	-	-	0	-	-	0	0	-	0	0	0
Stage 2	-	-	-	0	-	-	0	0	-	0	0	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	774	-	-	-	-	-	-	-	456	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	-	774	-	-	-	-	-
HCM Lane V/C Ratio	-	0.057	-	-	-	-	-
HCM Control Delay (s)	0	9.9	-	-	-	-	0
HCM Lane LOS	A	A	-	-	-	-	A
HCM 95th %tile Q(veh)	-	0.2	-	-	-	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	485	52	4	578	4	26	2	1	15	2	180
Future Vol, veh/h	68	485	52	4	578	4	26	2	1	15	2	180
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	300	300	-	300	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	539	58	4	642	4	29	2	1	17	2	200

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	646	0	0	597	0	0	1444	1345	539	1372	1399	642
Stage 1	-	-	-	-	-	-	691	691	-	650	650	-
Stage 2	-	-	-	-	-	-	753	654	-	722	749	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	939	-	-	980	-	-	110	151	542	123	141	474
Stage 1	-	-	-	-	-	-	435	446	-	458	465	-
Stage 2	-	-	-	-	-	-	402	463	-	418	419	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	939	-	-	980	-	-	59	138	542	113	129	474
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	138	-	113	129	-
Stage 1	-	-	-	-	-	-	400	410	-	421	463	-
Stage 2	-	-	-	-	-	-	230	461	-	381	385	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	105.1	20.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	59	184	939	-	-	980	-	-	113	460
HCM Lane V/C Ratio	0.49	0.018	0.08	-	-	0.005	-	-	0.147	0.44
HCM Control Delay (s)	114.4	24.9	9.2	-	-	8.7	-	-	42.3	18.8
HCM Lane LOS	F	C	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	1.9	0.1	0.3	-	-	0	-	-	0.5	2.2

Intersection						
Int Delay, s/veh	1.6					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	15	76	16	15	99
Future Vol, veh/h	14	15	76	16	15	99
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	17	84	18	17	110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	237	93	0	0	102	0
Stage 1	93	-	-	-	-	-
Stage 2	144	-	-	-	-	-
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	751	964	-	-	1490	-
Stage 1	931	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	742	964	-	-	1490	-
Mov Cap-2 Maneuver	742	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	872	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	842	1490	-
HCM Lane V/C Ratio	-	-	0.038	0.011	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	77	877	10	2	790	20	10	2	2	40	2	98
Future Vol, veh/h	77	877	10	2	790	20	10	2	2	40	2	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	974	11	2	878	22	11	2	2	44	2	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	900	0	0	985	0	0	1596	2056	493	1553	2050	450
Stage 1	-	-	-	-	-	-	1152	1152	-	893	893	-
Stage 2	-	-	-	-	-	-	444	904	-	660	1157	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	751	-	-	697	-	-	71	55	522	77	55	556
Stage 1	-	-	-	-	-	-	210	270	-	303	358	-
Stage 2	-	-	-	-	-	-	563	354	-	418	269	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	751	-	-	697	-	-	50	49	522	67	49	556
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	49	-	67	49	-
Stage 1	-	-	-	-	-	-	186	239	-	268	357	-
Stage 2	-	-	-	-	-	-	449	353	-	365	238	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	90.4	99.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	57	751	-	-	697	-	-	172
HCM Lane V/C Ratio	0.273	0.114	-	-	0.003	-	-	0.904
HCM Control Delay (s)	90.4	10.4	-	-	10.2	-	-	99.2
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1	0.4	-	-	0	-	-	6.7

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	790	39	0	759	6	0	0	3	0	0	65
Future Vol, veh/h	97	790	39	0	759	6	0	0	3	0	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	300	-	300	-	-	300	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	878	43	0	843	7	0	0	3	0	0	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	850	0	0	-	-	0	-	-	878	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	-	-	-	6.22	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	-	-	-	3.318	-	-	-
Pot Cap-1 Maneuver	788	-	-	0	-	-	0	0	347	0	0	0
Stage 1	-	-	-	0	-	-	0	0	-	0	0	0
Stage 2	-	-	-	0	-	-	0	0	-	0	0	0
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	788	-	-	-	-	-	-	-	347	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	15.5	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	347	788	-	-	-	-	-
HCM Lane V/C Ratio	0.01	0.137	-	-	-	-	-
HCM Control Delay (s)	15.5	10.3	-	-	-	-	0
HCM Lane LOS	C	B	-	-	-	-	A
HCM 95th %tile Q(veh)	0	0.5	-	-	-	-	-

Intersection	
Int Delay, s/veh	75.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	201	555	37	3	539	11	104	4	4	10	4	120
Future Vol, veh/h	201	555	37	3	539	11	104	4	4	10	4	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	300	300	-	300	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	223	617	41	3	599	12	116	4	4	11	4	133

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	611	0	0	658	0	0	1743	1680	617	1693	1709	599
Stage 1	-	-	-	-	-	-	1063	1063	-	605	605	-
Stage 2	-	-	-	-	-	-	680	617	-	1088	1104	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	968	-	-	930	-	-	~ 68	95	490	74	91	502
Stage 1	-	-	-	-	-	-	270	300	-	485	487	-
Stage 2	-	-	-	-	-	-	441	481	-	261	287	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	968	-	-	930	-	-	~ 39	73	490	57	70	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 39	73	-	57	70	-
Stage 1	-	-	-	-	-	-	208	231	-	373	486	-
Stage 2	-	-	-	-	-	-	320	480	-	195	221	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	$ 1026.8	22.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	39	127	968	-	-	930	-	-	57	419
HCM Lane V/C Ratio	2.963	0.07	0.231	-	-	0.004	-	-	0.195	0.329
HCM Control Delay (s)	$ 1103	35.5	9.8	-	-	8.9	-	-	82.9	17.7
HCM Lane LOS	F	E	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	12.9	0.2	0.9	-	-	0	-	-	0.7	1.4

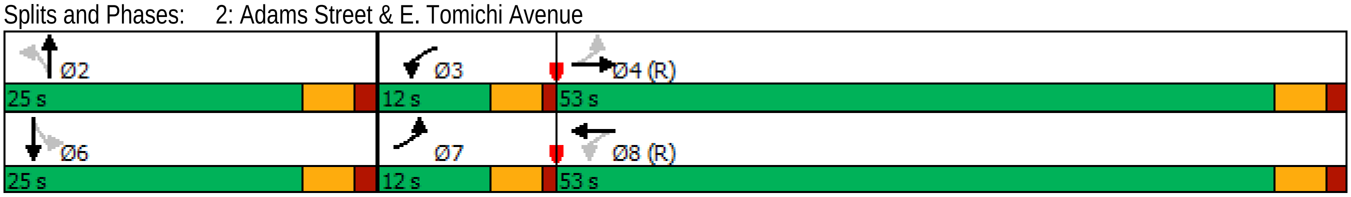
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	84	638	2	843	2	2	25	2
Future Volume (vph)	84	638	2	843	2	2	25	2
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	23.0	23.0	23.0
Total Split (s)	12.0	53.0	12.0	53.0	25.0	25.0	25.0	25.0
Total Split (%)	13.3%	58.9%	13.3%	58.9%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	5.0	4.5	5.0		5.0		5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	74.3	73.3	70.2	66.3		7.8		7.8
Actuated g/C Ratio	0.83	0.81	0.78	0.74		0.09		0.09
v/c Ratio	0.19	0.25	0.00	0.38		0.04		0.49
Control Delay	3.0	3.5	2.0	4.3		31.4		25.2
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	3.0	3.5	2.0	4.3		31.4		25.2
LOS	A	A	A	A		C		C
Approach Delay		3.4		4.3		31.4		25.2
Approach LOS		A		A		C		C

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 42 (47%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 5.0 Intersection LOS: A
Intersection Capacity Utilization 47.4% ICU Level of Service A
Analysis Period (min) 15

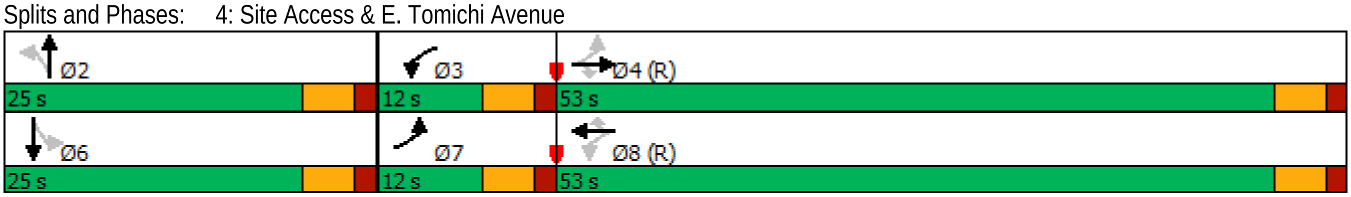
Splits and Phases: 2: Adams Street & E. Tomichi Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	68	485	52	4	578	4	26	2	15	2
Future Volume (vph)	68	485	52	4	578	4	26	2	15	2
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	12.0	53.0	53.0	12.0	53.0	53.0	25.0	25.0	25.0	25.0
Total Split (%)	13.3%	58.9%	58.9%	13.3%	58.9%	58.9%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	70.8	69.3	69.3	66.6	62.2	62.2	8.6	8.6	8.6	8.6
Actuated g/C Ratio	0.79	0.77	0.77	0.74	0.69	0.69	0.10	0.10	0.10	0.10
v/c Ratio	0.14	0.38	0.05	0.01	0.50	0.00	0.35	0.02	0.13	0.61
Control Delay	2.7	7.0	2.6	2.8	9.5	0.0	48.8	31.0	37.6	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	7.0	2.6	2.8	9.5	0.0	48.8	31.0	37.6	14.2
LOS	A	A	A	A	A	A	D	C	D	B
Approach Delay		6.1			9.4			47.2		16.0
Approach LOS		A			A			D		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 9.7	Intersection LOS: A
Intersection Capacity Utilization 66.7%	ICU Level of Service C
Analysis Period (min) 15	

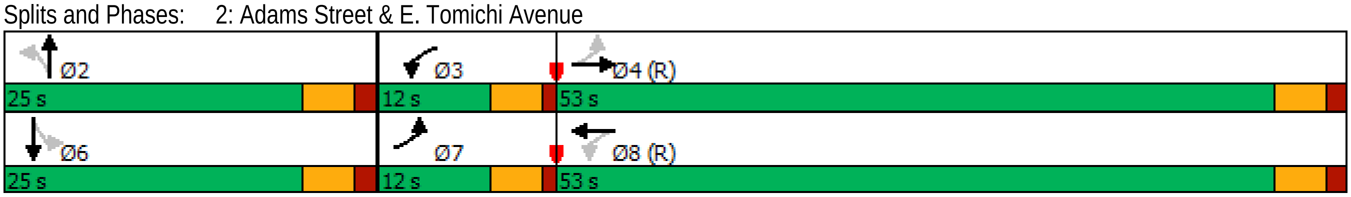
Splits and Phases: 4: Site Access & E. Tomichi Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	77	877	2	790	10	2	40	2
Future Volume (vph)	77	877	2	790	10	2	40	2
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	23.0	9.5	23.0	23.0	23.0	23.0	23.0
Total Split (s)	12.0	53.0	12.0	53.0	25.0	25.0	25.0	25.0
Total Split (%)	13.3%	58.9%	13.3%	58.9%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	5.0	4.5	5.0		5.0		5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	71.1	69.0	66.9	62.0		9.0		9.0
Actuated g/C Ratio	0.79	0.77	0.74	0.69		0.10		0.10
v/c Ratio	0.18	0.36	0.00	0.37		0.13		0.62
Control Delay	3.4	4.8	4.0	6.7		33.9		24.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	3.4	4.8	4.0	6.7		33.9		24.6
LOS	A	A	A	A		C		C
Approach Delay		4.7		6.7		33.9		24.6
Approach LOS		A		A		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 42 (47%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 7.2	Intersection LOS: A
Intersection Capacity Utilization 49.0%	ICU Level of Service A
Analysis Period (min) 15	

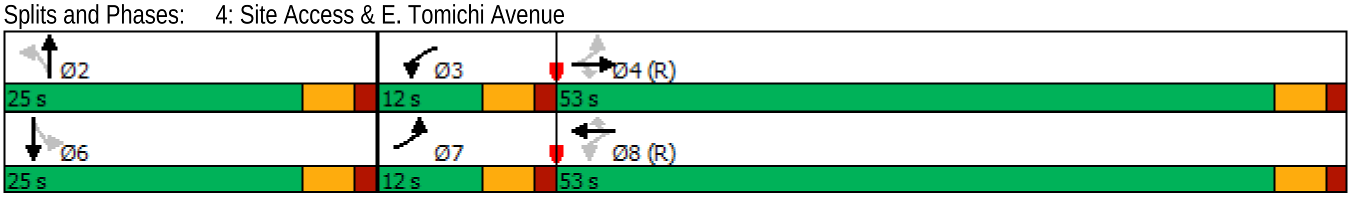
Splits and Phases: 2: Adams Street & E. Tomichi Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	201	555	37	3	539	11	104	4	10	4
Future Volume (vph)	201	555	37	3	539	11	104	4	10	4
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	12.0	53.0	53.0	12.0	53.0	53.0	25.0	25.0	25.0	25.0
Total Split (%)	13.3%	58.9%	58.9%	13.3%	58.9%	58.9%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	65.4	64.0	64.0	58.6	53.0	53.0	13.9	13.9	13.9	13.9
Actuated g/C Ratio	0.73	0.71	0.71	0.65	0.59	0.59	0.15	0.15	0.15	0.15
v/c Ratio	0.43	0.47	0.04	0.01	0.55	0.01	0.67	0.03	0.05	0.38
Control Delay	9.0	5.9	0.1	5.0	14.7	0.0	53.4	22.9	29.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	5.9	0.1	5.0	14.7	0.0	53.4	22.9	29.9	9.4
LOS	A	A	A	A	B	A	D	C	C	A
Approach Delay		6.4			14.3			51.4		11.0
Approach LOS		A			B			D		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 12.7	Intersection LOS: B
Intersection Capacity Utilization 69.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Site Access & E. Tomichi Avenue



LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lsc@lscdenver.com

August 28, 2020

Mr. Byron Chrisman
Gunnison Valley Properties, LLC
864 W. South Boulder Road
Louisville, CO 80027

Re: Gunnison Rising Government Campus Subdivision
Gunnison, CO
LSC #191121

Dear Mr. Chrisman:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis (CDOT Level III traffic study) for the proposed Gunnison Rising Government Campus Subdivision. As shown on Figure 1, the site is located south of US Highway (US) 50 near the intersection with Ute Lane West (CR 72) in Gunnison, 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, 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 short-term and long-term assignment of the projected traffic volumes to the area roadways; the projected short-term and long-term background and resulting total traffic volumes on the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the site's traffic impacts. The scope of work is consistent with the attached TIS Methodology Form approved by CDOT with the exception of a few proposed land use details that were modified throughout the process.

LAND USE AND ACCESS

The site is proposed to include a government office campus with about 68,000 square feet of office/light industrial space, a 5,000 square-foot convenience/gas store, and an RV Campground with about 300 sites. Access is proposed to US 50 aligning with Ute Lane West (CR 72) as shown in the site plan in Figure 2. Emergency only access is proposed to US 50 aligning with Ute Lane East (CR 72). A preliminary plat for the government campus portion of the site is attached for reference.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

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

- **US Highway 50 (US 50)** is an east-west, two-lane US highway north of the site. It is designated R-A (Regional Highway) by CDOT per the attached CDOT Straight Line Diagram. The intersection with Ute Lane West (CR 72) is stop-sign controlled and shown as a full movement intersection in the *US 50 Access Control Plan* (ACP). An excerpt from the ACP is attached for reference. The posted speed limit in the vicinity of the site is 65 mph.

- **Ute Lane West (CR 72)** is a two-lane county roadway north of the site. The intersection with US 50 is stop-sign controlled. The posted speed limit in the vicinity of the site is 25 mph.

Existing Sight Distance

There is very good sight distance in each direction of US 50 from the proposed access location aligning with Ute Lane West (CR 72).

Existing Traffic Conditions

Figure 3a shows the existing weekday traffic volumes, existing lane geometry and the existing traffic controls in the vicinity of the site. The weekday peak-hour traffic volumes and average daily traffic volumes are from the attached traffic counts conducted by Counter Measures in February, 2020.

Figure 3b shows the estimated July traffic volumes based on a seasonal adjustment factor of 2.27 for US 50 traffic and a conservative 1.50 factor for Ute Lane West (CR 72).

2024 and 2040 Background Traffic

Figure 4 shows the estimated 2024 background traffic and Figure 5 shows the estimated 2040 background traffic. The background traffic volumes on SH 50 assume an annual growth rate of about 0.2 percent based on CDOT's 20-year factor of 1.04 per the approved TIS methodology. Little or no growth was assumed for side street traffic as any future development will be required to prepare its own traffic impact analysis.

Existing, 2024, and 2040 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 signalized and unsignalized intersections.

The intersections in the study area were analyzed to determine the existing, 2024, and 2040 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **US 50/Ute Lane West (CR 72):** All movements at this unsignalized intersection currently operate at LOS "B" or better during both morning and afternoon peak-hours and are expected to do so through 2040.

TRIP GENERATION

Table 2 shows the estimated average daily, weekday morning peak-hour, and weekday afternoon peak-hour trip generation potential for the proposed site based on the rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE).

By 2024, the site is projected to generate about 2,365 external 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 155 vehicles would enter and about 118 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 131 vehicles would enter and about 152 vehicles would exit.

At buildout, the site is projected to generate about 3,252 external 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 231 vehicles would enter and about 173 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 192 vehicles would enter and about 212 vehicles would exit.

TRIP DISTRIBUTION

Figure 6 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; the site's proposed land use; and on the approved TIS methodology form. The RV Campground was added after the form was approved - the assumed directional distribution for the campground is half to the west and half to the east.

TRIP ASSIGNMENT

Figure 7 shows the assignment of 2024 site-generated traffic volumes for the site based on the directional distribution percentages (from Figure 6) and the 2024 trip generation estimate (from Table 2).

Figure 8a shows the assignment of 2040 government-campus site-generated traffic volumes for the site based on the directional distribution percentages (from Figure 6) and the 2040 government campus trip generation estimate (from Table 2).

Figure 8b shows the assignment of 2040 RV Campground site-generated traffic volumes for the site based on the directional distribution percentages (from Figure 6) and the 2040 RV Campground trip generation estimate (from Table 2).

2024 AND 2040 TOTAL TRAFFIC

Figure 9 shows the 2024 total traffic which is the sum of the 2024 background traffic volumes (from Figure 4) and the 2024 site-generated traffic volumes (from Figure 7). Figure 9 also shows the recommended 2024 lane geometry and traffic control.

Figure 10 shows the 2040 total traffic which is the sum of the 2040 background traffic volumes (from Figure 5) and the 2040 site-generated traffic volumes (from Figures 8a and 8b). Figure 10 also shows the recommended 2040 lane geometry and traffic control.

PROJECTED LEVELS OF SERVICE

The intersections in the study area were analyzed as appropriate to determine the 2024 and 2040 total levels of service. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **US 50/Ute Lane West (SH 72):** All movements at this stop-sign controlled intersection are expected to operate at LOS "D" or better in both peak-hours through 2024. The north-bound left/through movement is expected to operate at LOS "F" in the 2040 afternoon peak-hour at site buildout with the recommended improvements. The intersection would operate at an overall LOS "B" or better through 2040 with traffic signal control.

TRAFFIC SIGNAL WARRANT ANALYSIS

Figures 11a and 11b show the traffic volumes for 2024 and 2040 total traffic plotted on a four-hour and peak-hour traffic signal warrant chart. Neither warrant is expected to be met with the land uses proposed through 2024 but both will likely be met by 2040 with full site buildout. Per the *State Highway Access Code*, a traffic signal warrant would need to be met to allow traffic signal installation in the future.

95TH PERCENTILE QUEUE LENGTHS

Table 3 shows the estimated 95th percentile queue lengths for the signalized scenarios. The recommended northbound right-turn lane should be about 200 feet to avoid being blocked by queued vehicles waiting to turn left or proceed straight across US 50.

ACCESS PERMIT APPLICATION

An access permit application should be made to CDOT for the proposed uses through 2024 to avoid needing to permit a traffic signal - the traffic volumes for this scenario are shown in Figures 7 and 9.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. By 2024, the site is projected to generate about 2,365 external vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 155 vehicles would enter and about 118 vehicles would exit the

site. During the afternoon peak-hour, about 131 vehicles would enter and about 152 vehicles would exit.

2. At buildout, the site is projected to generate about 3,252 external vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 231 vehicles would enter and about 173 vehicles would exit the site. During the afternoon peak-hour, about 192 vehicles would enter and about 212 vehicles would exit.

Projected Levels of Service

3. All movements at the unsignalized US 50/Ute Lane West (CR 72) intersection are expected to operate at LOS "D" or better through 2024. The northbound left/through movement is expected to operate at LOS "F" in the 2040 afternoon peak-hour at site buildout with the recommended improvements. The intersection will operate at an overall LOS "B" or better through 2040 with traffic signal control.

Conclusions

4. The impact of the Gunnison Rising Government Campus Subdivision can be accommodated by the existing and proposed roadway network with the following recommendations.

Recommendations

5. The applicant should construct an eastbound right-turn deceleration lane on US 50 approaching the site access intersection. An appropriate length for the 65 mph posted speed limit would be a 500-foot lane plus a 300-foot transition taper. This lane will be needed by 2024.

6. The applicant should stripe a westbound left-turn deceleration lane on US 50 approaching the site access intersection. An appropriate length for the 65 mph posted speed limit would be 575 feet (500 feet for deceleration plus 75 feet for vehicle storage) and a 300-foot transition taper. This lane will be needed by 2024.

7. The applicant should construct a northbound to eastbound acceleration lane on US 50 heading east from the site access intersection. An appropriate length for the 65 mph posted speed limit would be 1,080 feet plus a 300-foot transition taper. This lane is recommended by 2024.

8. The applicant should construct a dedicated northbound right-turn lane along with a shared through/left lane. The length of the right-turn lane should be about 200 feet to avoid being blocked by queued vehicles waiting to turn left or proceed straight across US 50.

9. Traffic signal control will not be warranted by the land uses through 2024 but will likely be by 2040 if the site reaches buildout.

10. The applicant should submit an access permit application for the land uses proposed through 2024 to avoid needing to permit a future traffic signal. The impacts through 2024 are shown in Figures 7 and 9.

* * * * *

We trust our findings will assist you in gaining approval of the proposed Gunnison Rising Government Campus Subdivision. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

COLORADO LICENSED
CHRISTOPHER S. MCGRANAHAN
39018
PROFESSIONAL ENGINEER

By______________________________________
Christopher S. McGranahan, PE, PTOE
Principal

CSM/wc 8-28-20

Enclosures: Tables 1 - 3
Figures 1 - 11b
Approved TIS Methodology Form
Preliminary Plat for Government Campus Portion of the site
CDOT Straight Line Diagram
CDOT *US 50 Access Control Plan* Excerpt
Traffic Count Reports
Level of Service Definitions
Level of Service Reports
Queuing Reports

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Table 1
Intersection Levels of Service Analysis
Gunnison Rising Government Campus Subdivision
Gunnison, CO
LSC #191121; August, 2020

		Existing Traffic		2024 Background Traffic		2024 Total Traffic (1)		2040 Background Traffic		2040 Total Traffic (1)	
Intersection Location	Traffic Control	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM
US Highway 50/Ute Lane/Site Access	TWSC										
NB Left/Through		--	--	--	--	C	D	--	--	D	F
NB Right		--	--	--	--	A	B	--	--	B	B
EB Left		A	A	A	A	A	A	A	A	A	A
WB Left		--	--	--	--	A	A	--	--	A	A
SB Approach		B	B	B	B	B	B	B	B	B	B
Critical Movement Delay		10.3	10.9	10.3	10.9	18.6	26.5	10.4	11.0	26.6	54.0
	Signalized										
EB Left											A
EB Through											A
EB Right											A
WB Left											A
WB Through/Right											A
NB Left/Through											D
NB Right											A
SB Approach											B
Entire Intersection Delay (sec./veh.)											12.6
Entire Intersection LOS											B

Note:
(1) The site access intersection aligning with Ute Lane (west) is shown as a full movement intersection in the *US 50 Access Control Plan.* Traffic signal control is not expected to be warranted by the land uses proposed through 2024 but could be warranted with additional development beyond 2024.

Table 2
ESTIMATED TRAFFIC GENERATION
Gunnison Rising Government Campus Subdivision
Gunnison, CO
LSC #191121; August, 2020

			Trip Generation Rates (1)					Vehicle-Trips Generated				
				AM Peak-Hour		PM Peak-Hour			AM Peak-Hour		PM Peak-Hour	
Buildout			Average	of Adjacent Street Traffic				Average	of Adjacent Street Traffic			
Year	Trip Generating Category	Quantity	Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
	CURRENTLY PROPOSED LAND USE											
2021	Government Office (2)	8.0 KSF (3)	22.59	2.505	0.835	0.428	1.283	181	20	7	3	10
2021	Light Industrial (4)	4.0 KSF	4.96	0.616	0.084	0.082	0.548	20	2	0	0	2
							2021 Subtotal =	*201*	*22*	*7*	*3*	*12*
2023	Government Office	12.0 KSF	22.59	2.505	0.835	0.428	1.283	271	30	10	5	15
2023	Light Industrial	4.0 KSF	4.96	0.616	0.084	0.082	0.548	20	2	0	0	2
							2023 Subtotal =	*291*	*32*	*10*	*5*	*17*
2024	Convenience Market (5)	5.0 KSF	624.2	20.295	20.295	24.645	24.645	3,121	101	101	123	123
							2024 Total Trips =	**3,613**	**155**	**118**	**131**	**152**
							2024 Passby Trips (8) =	**1,248**	**40**	**40**	**49**	**49**
							2024 Net External Trips =	**2,365**	**115**	**78**	**82**	**103**
2025	Government Office	8.0 KSF	22.59	2.505	0.835	0.428	1.283	181	20	7	3	10
2025	Light Industrial	4.0 KSF	4.96	0.616	0.084	0.082	0.548	20	2	0	0	2
2025	RV Campground (6)	150 OC (7)	1.35	0.076	0.134	0.176	0.095	203	11	20	26	14
							2025 Subtotal =	*404*	*33*	*27*	*29*	*26*
2030	Government Office	4.0 KSF	22.59	2.505	0.835	0.428	1.283	90	10	3	2	5
2030	Light Industrial	10.0 KSF	4.96	0.616	0.084	0.082	0.548	50	6	1	1	5
2030	RV Campground (6)	150 OC (7)	1.35	0.076	0.134	0.176	0.095	203	11	20	26	14
							2030 Subtotal =	*343*	*27*	*24*	*29*	*24*
2035	Government Office	4.0 KSF	22.59	2.505	0.835	0.428	1.283	90	10	3	2	5
2035	Light Industrial	10.0 KSF	4.96	0.616	0.084	0.082	0.548	50	6	1	1	5
							2035 Subtotal =	*140*	*16*	*4*	*3*	*10*
							Buildout Total Trips =	**4,500**	**231**	**173**	**192**	**212**
							Buildout Passby Trips (8) =	1,248	40	40	49	49
							Buildout Net External Trips =	**3,252**	**191**	**133**	**143**	**163**

Notes:
(1) Source: *Trip Generation*, Institute of Transportation Engineers, 10th Edition, 2017.
(2) ITE Land Use No. 730 - Government Office Building
(3) KSF = 1,000 square feet
(4) ITE Land Use No. 110 - General Light Industrial
(5) ITE Land Use No. 853 - Convenience Market with Gas Pumps
(6) ITE Land Use No. 416 - Campground/Recreational Vehicle Park: no weekday rate so 5x PM Peak Rate was used
(7) OC = occupied campsites
(8) Typically about 60% of Convenience Store trips are expected to be passby trips but the through traffic on US 50 is relatively low. The pass-by trips were assumed to be only 40 percent to maintain a conservative analysis.

Table 3
95th Percentile Queue Lengths
Gunnison Rising Government Campus Subdivision
Gunnison, CO
LSC #191121; August 2020

Intersection Location	2040 Total PM Peak (feet)
Highway 50/Ute Lane/Site Access	
EB Left	12
EB Through	115
EB Right	21
WB Left	37
WB Through/Right	128
NB Left/Though	142
NB Right	31
SB Approach	19

Figure 1

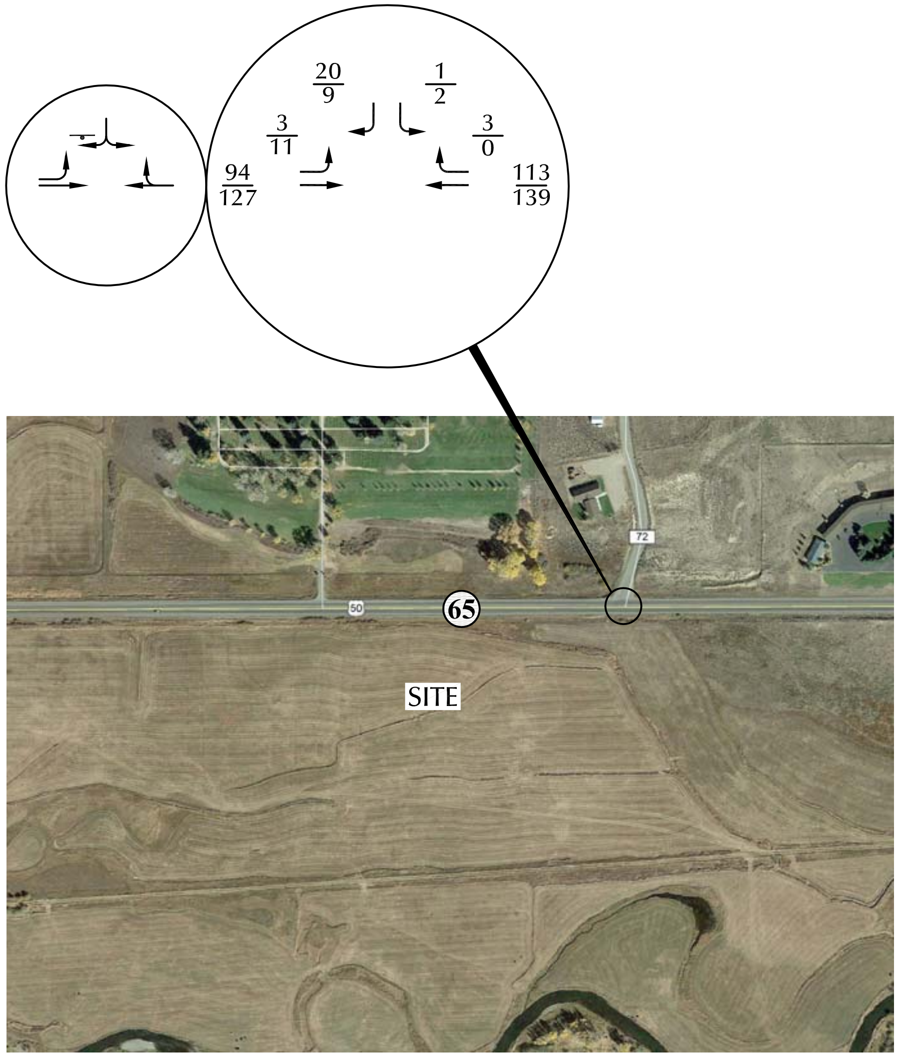
Vicinity Map

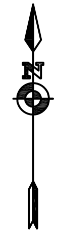
Gunnison Rising Government Campus Subdivision (LSC #191121)

Figure 2

Site Plan

Gunnison Rising Government Campus Subdivision (LSC #191121)





Approximate Scale
Scale: 1"=600'

LEGEND:

= Stop Sign

65 = Speed Limit

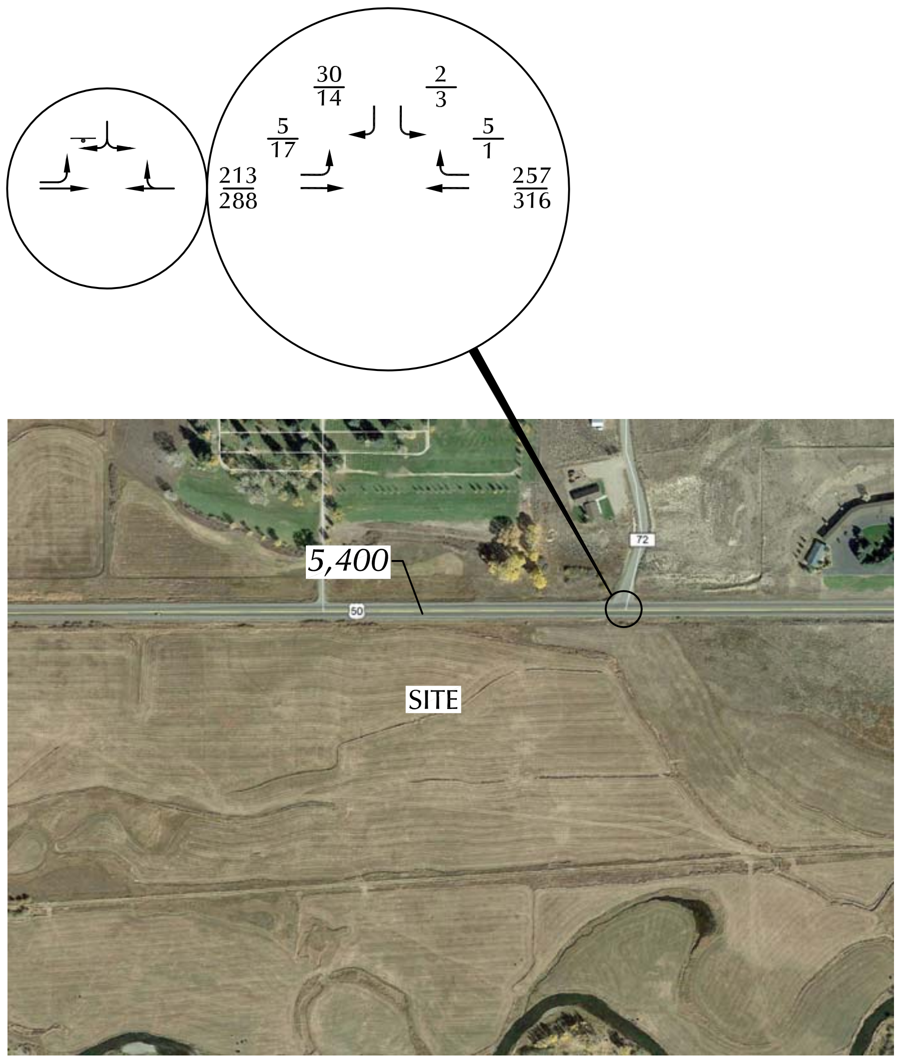
$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

2,500 = Average Daily Traffic

Figure 3a

Existing Traffic, Lane Geometry and Traffic Control

Gunnison Rising Government Campus Subdivision (LSC #191121)



Approximate Scale
Scale: 1"=600'

Note: These volumes were adjusted from February to July by using a seasonal adjustment factor of 2.27 for US 50 through traffic. The side road volumes were factored by 1.50 to be conservative

LEGEND:

= Stop Sign

65 = Speed Limit

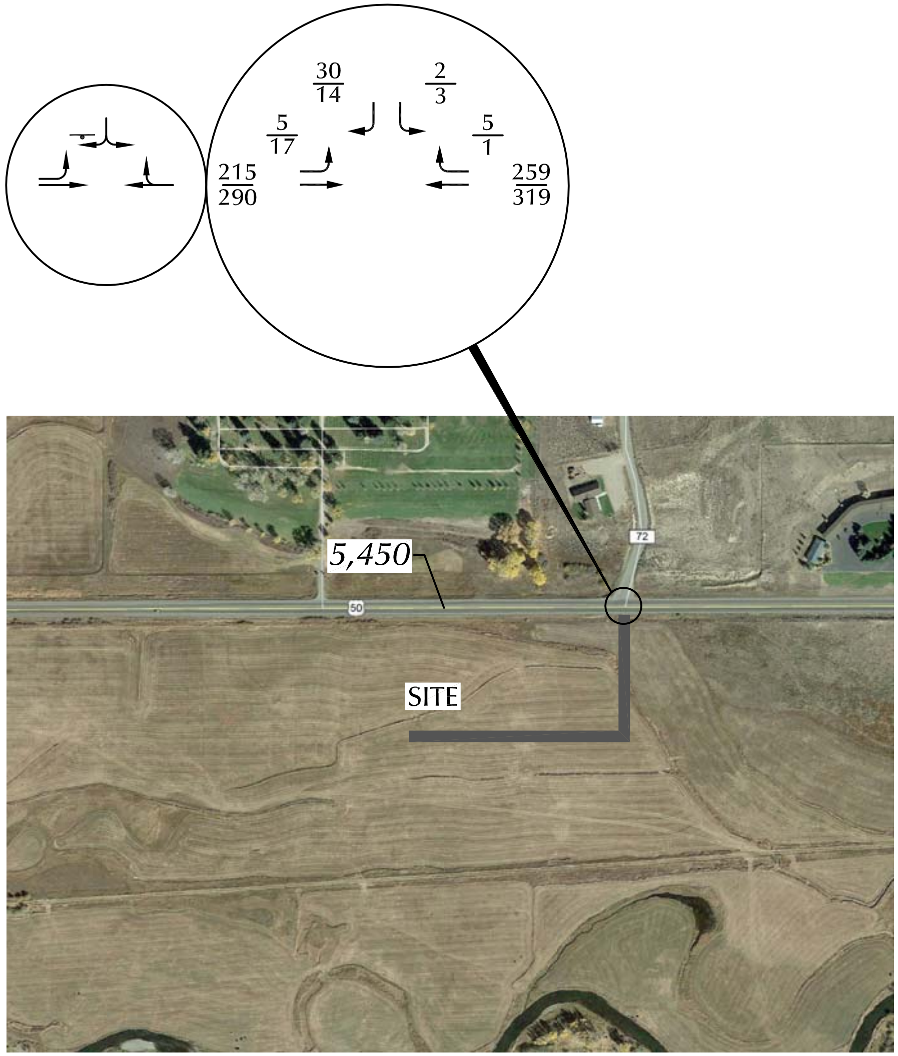
26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

2,500 = Average Daily Traffic

Figure 3b

July Adjusted Existing Traffic, Lane Geometry and Traffic Control

Gunnison Rising Government Campus Subdivision (LSC #191121)



Approximate Scale
Scale: 1"=600'

Note: Assumes an annual growth rate of about 0.2 percent based on CDOT's 20-year factor of 1.04.

LEGEND:

= Stop Sign

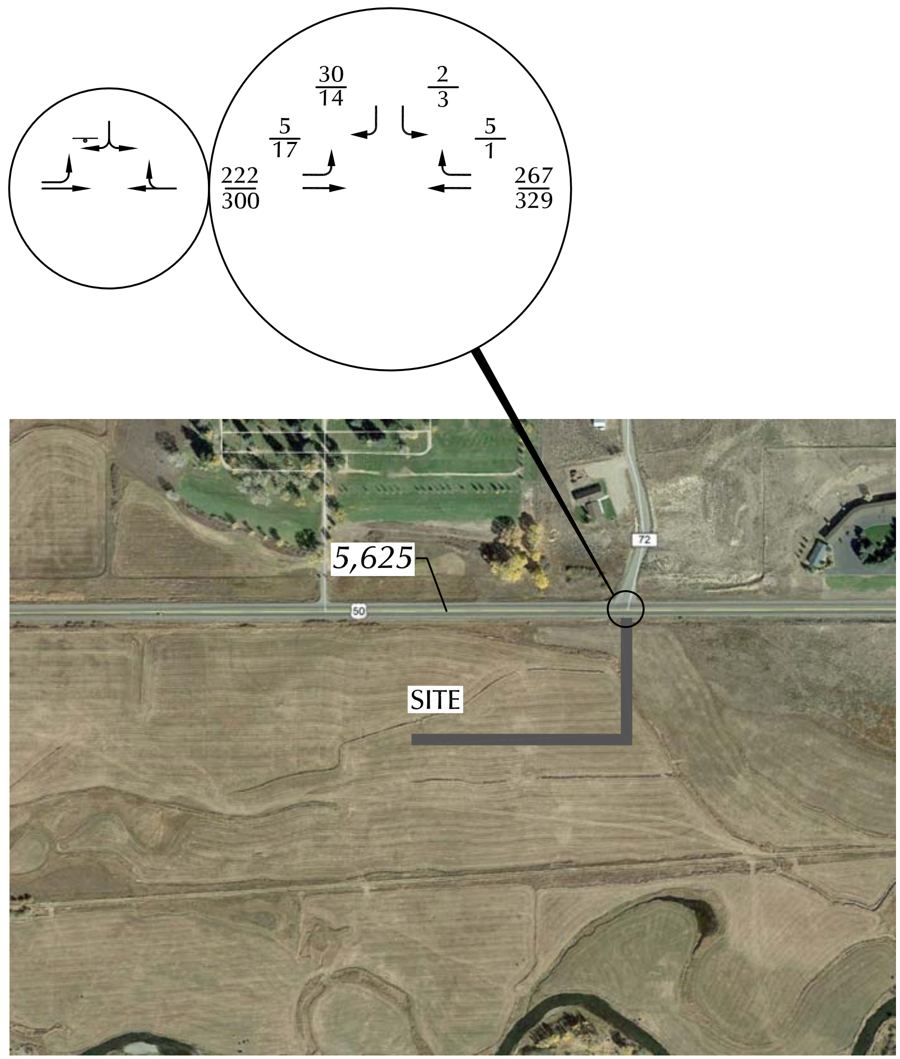
26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

2,500 = Average Daily Traffic

Figure 4

Year 2024 Background Traffic, Lane Geometry and Traffic Control

Gunnison Rising Government Campus Subdivision (LSC #191121)



Approximate Scale
Scale: 1"=600'

Note: Assumes an annual growth rate of about 0.2 percent based on CDOT's 20-year factor of 1.04.

LEGEND:

= Stop Sign

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

2,500 = Average Daily Traffic

Figure 5

Year 2040 Background Traffic, Lane Geometry and Traffic Control

Gunnison Rising Government Campus Subdivision (LSC #191121)

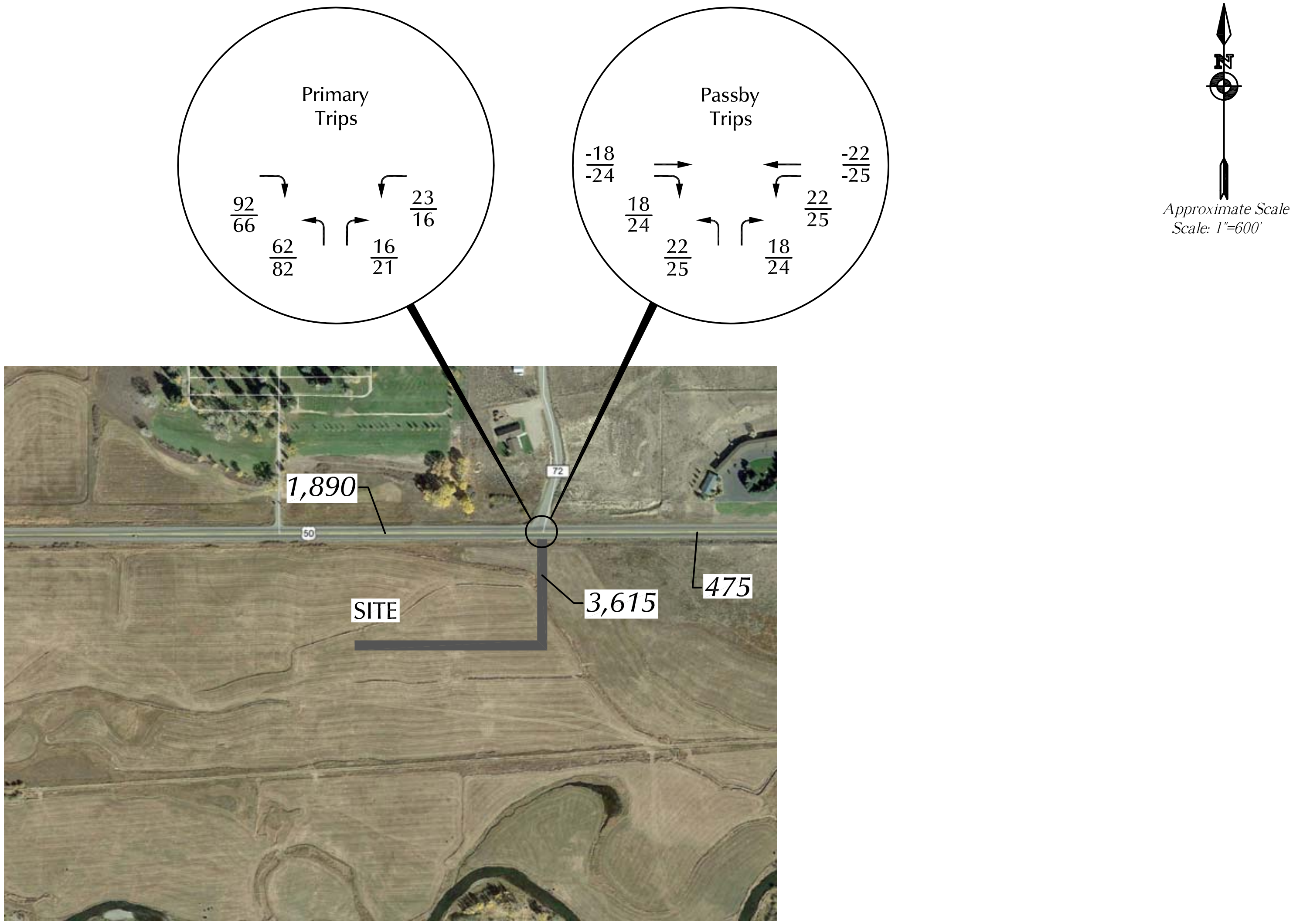
LEGEND:

5% / 5% = Percent Directional Distribution Government Campus Vehicle Traffic / Percent Directional Distribution RV Campground Vehicle Traffic

Figure 6

Directional Distribution of Site-Generated Traffic

Gunnison Rising Government Campus Subdivision (LSC #191121)

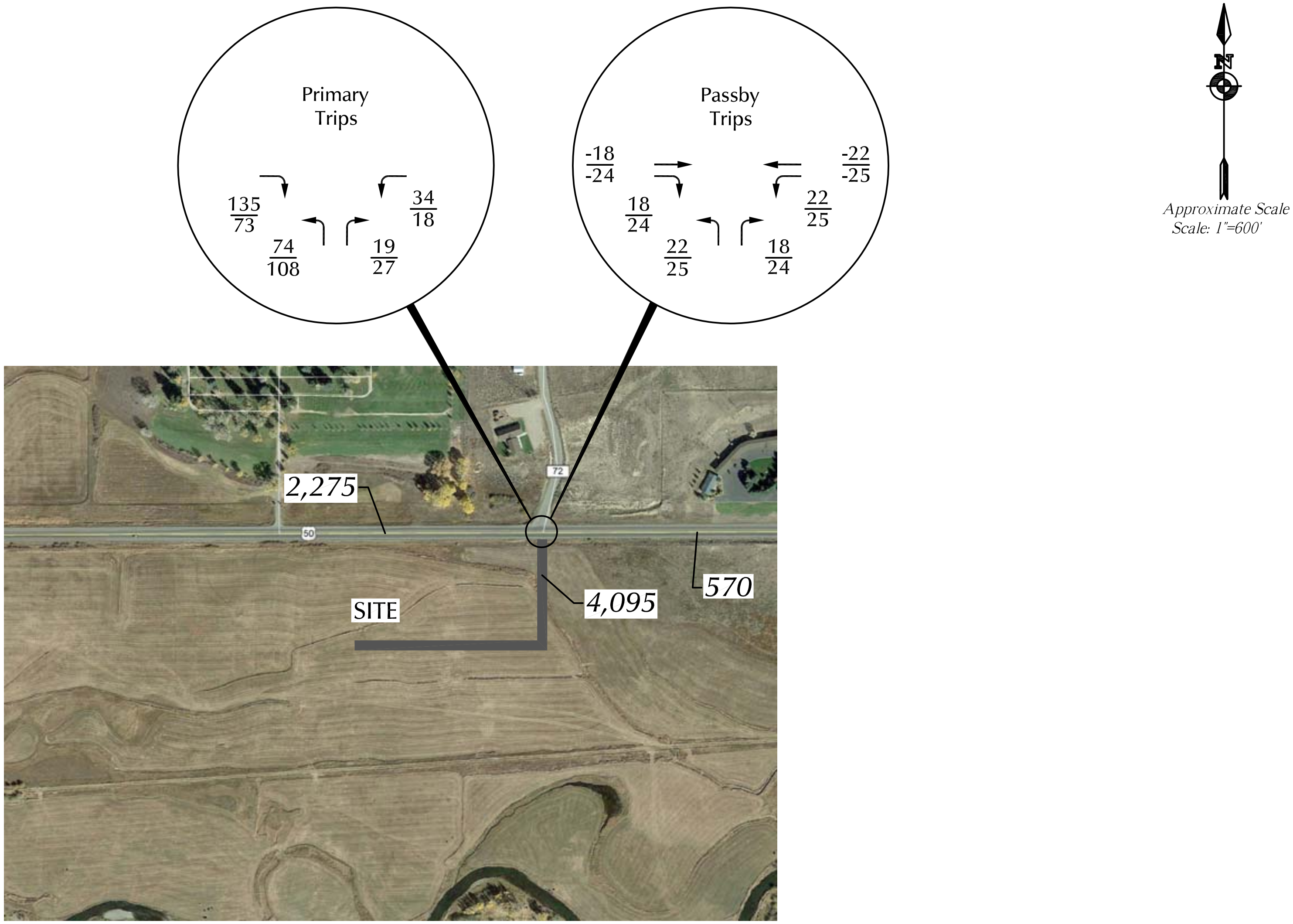


LEGEND:
26 / 35 = AM Peak Hour Traffic / PM Peak Hour Traffic
2,500 = Average Daily Traffic

Figure 7

Year 2024 Assignment of Government Campus Site-Generated Traffic

Gunnison Rising Government Campus Subdivision (LSC #191121)



LEGEND:

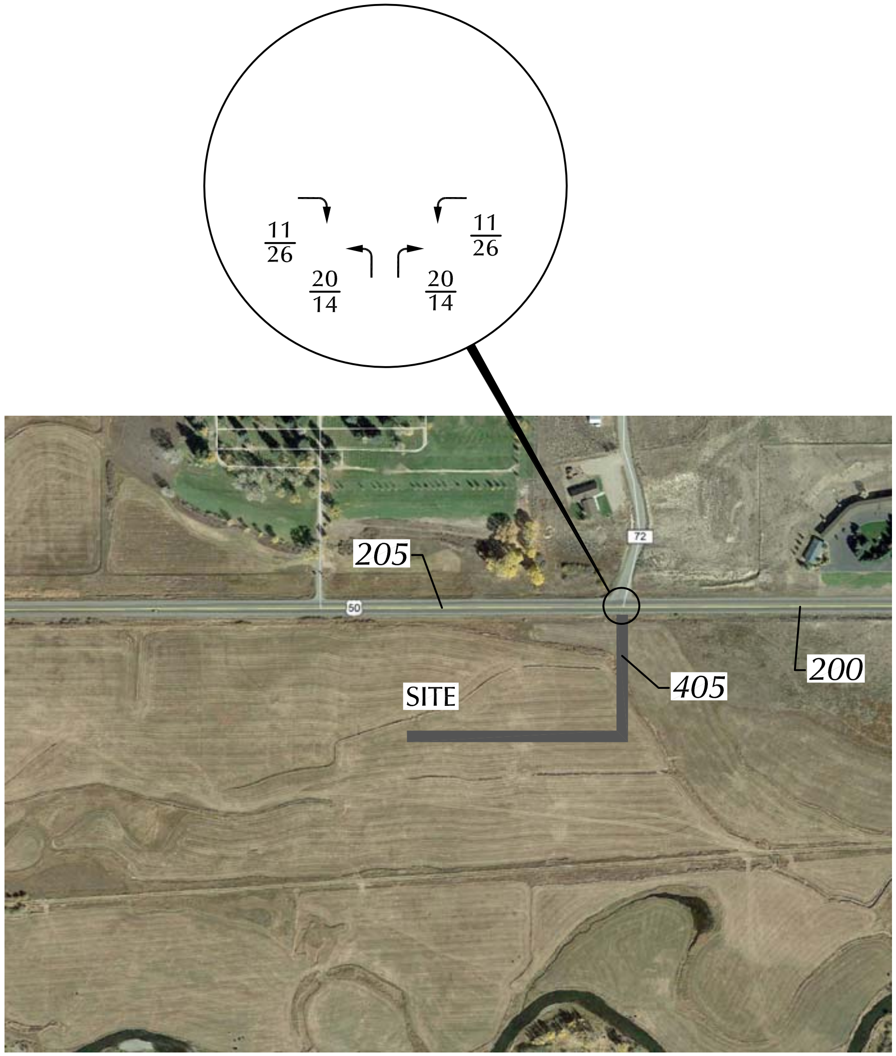
$\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic

2,500 = Average Daily Traffic

Figure 8a

Year 2040 Assignment of Government Campus Site-Generated Traffic

Gunnison Rising Government Campus Subdivision (LSC #191121)



Approximate Scale
Scale: 1"=600'

LEGEND:

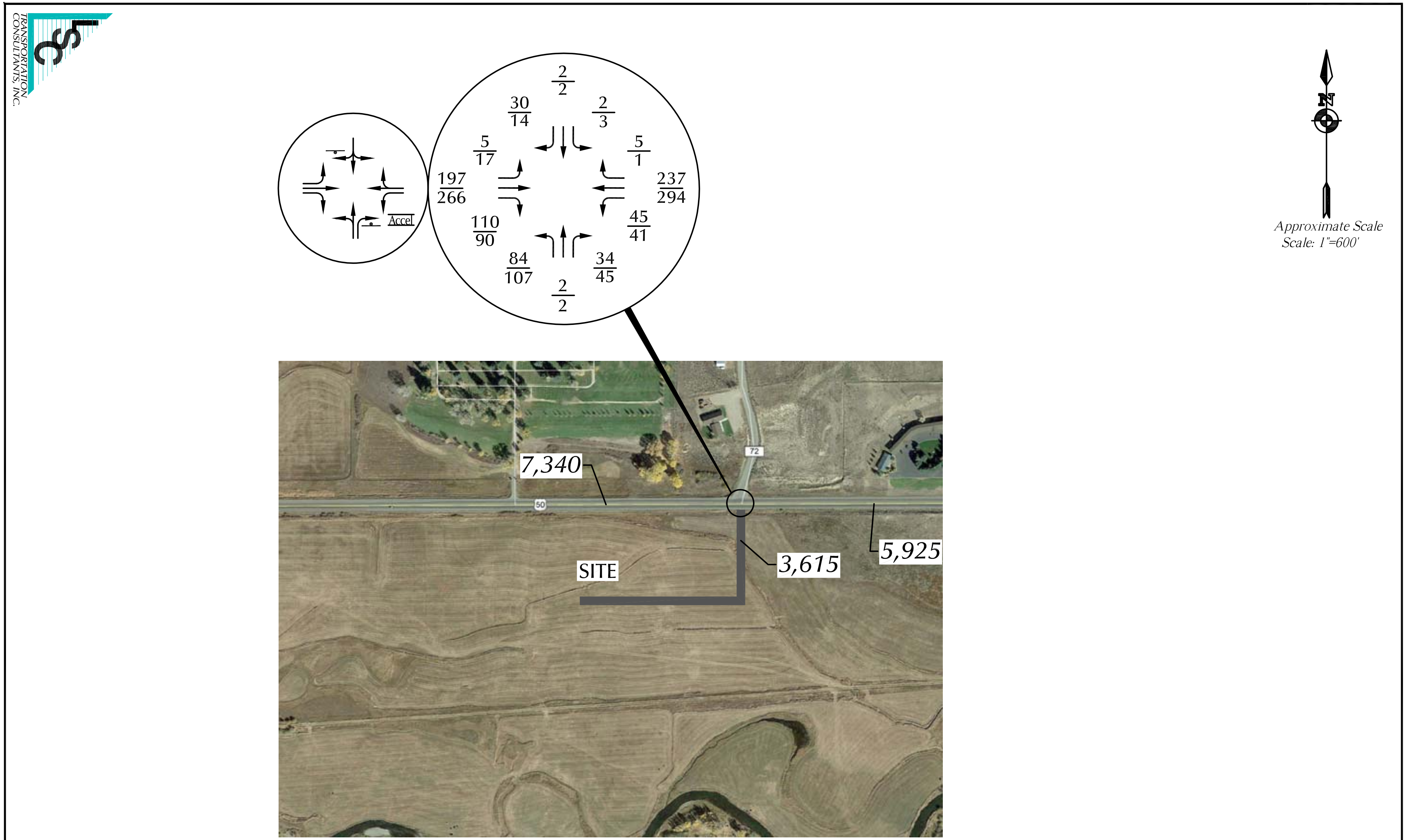
$\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic

2,500 = Average Daily Traffic

Figure 8b

Year 2040 Assignment of RV Campground Site-Generated Traffic

Gunnison Rising Government Campus Subdivision (LSC #191121)



LEGEND:

⊦ = Stop Sign

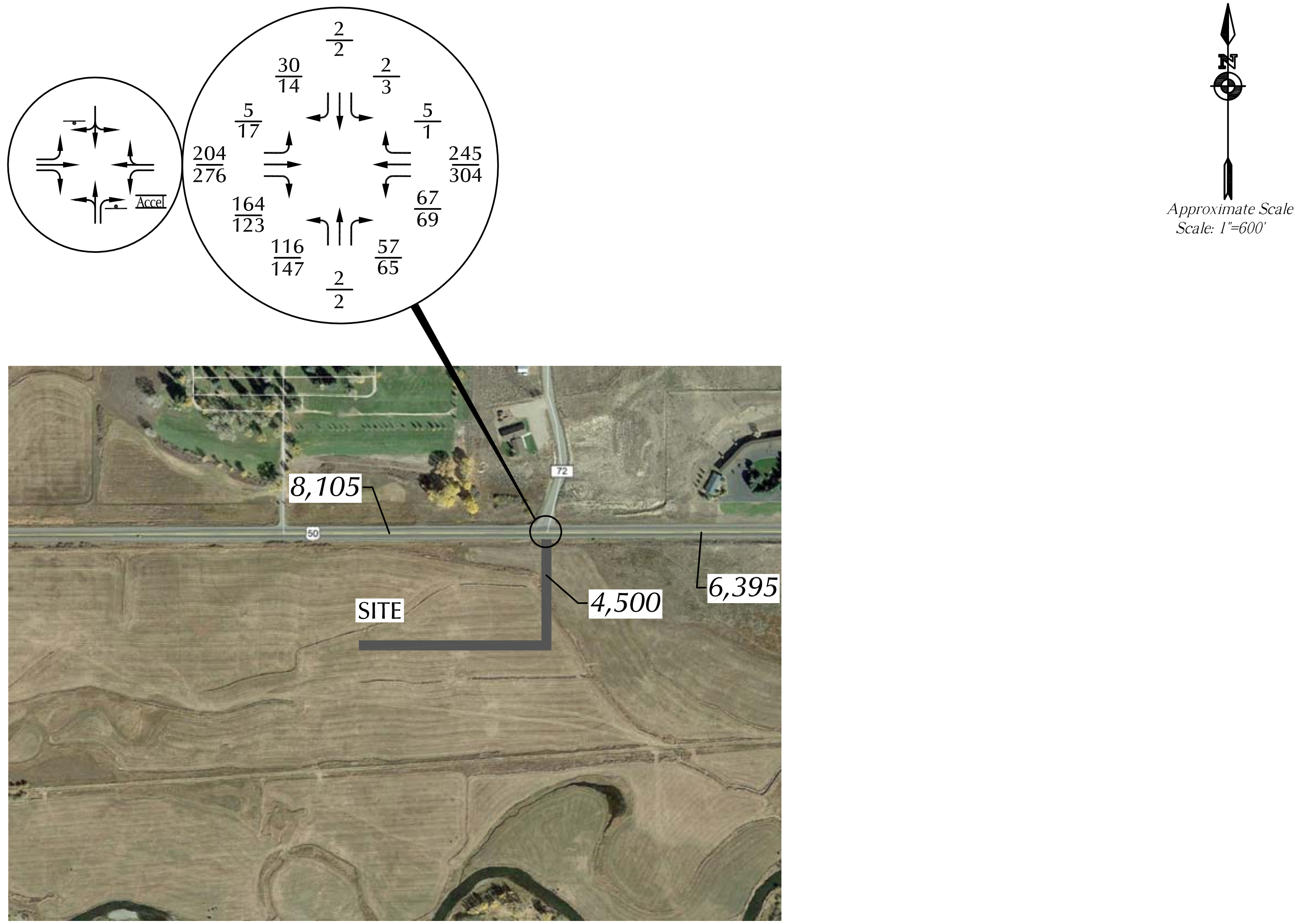
26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

2,500 = Average Daily Traffic

Figure 9

Year 2024 Total Traffic, Lane Geometry and Traffic Control

Gunnison Rising Government Campus Subdivision (LSC #191121)

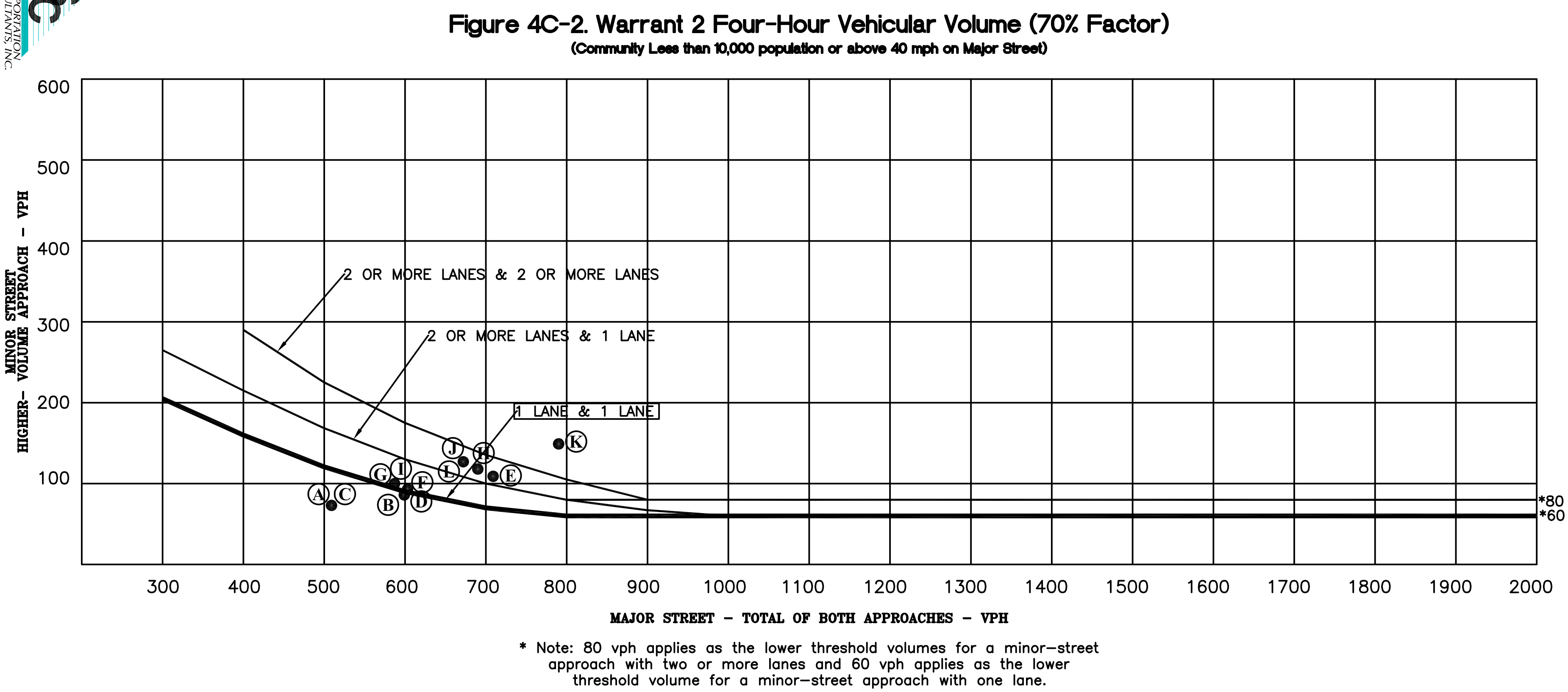


LEGEND:
= Stop Sign
26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic
2,500 = Average Daily Traffic

Figure 10

Year 2040 Total Traffic, Lane Geometry and Traffic Control

Gunnison Rising Government Campus Subdivision (LSC #191121)



2024 Total Traffic

A AM Hour Before = (509,73)
B AM Peak Hour = (599,86)
C AM Hour After = (509,73)
D PM Hour Before = (603,93)
E PM Peak Hour= (709,109)
F PM Hour After = (603,93)

2040 Total Traffic

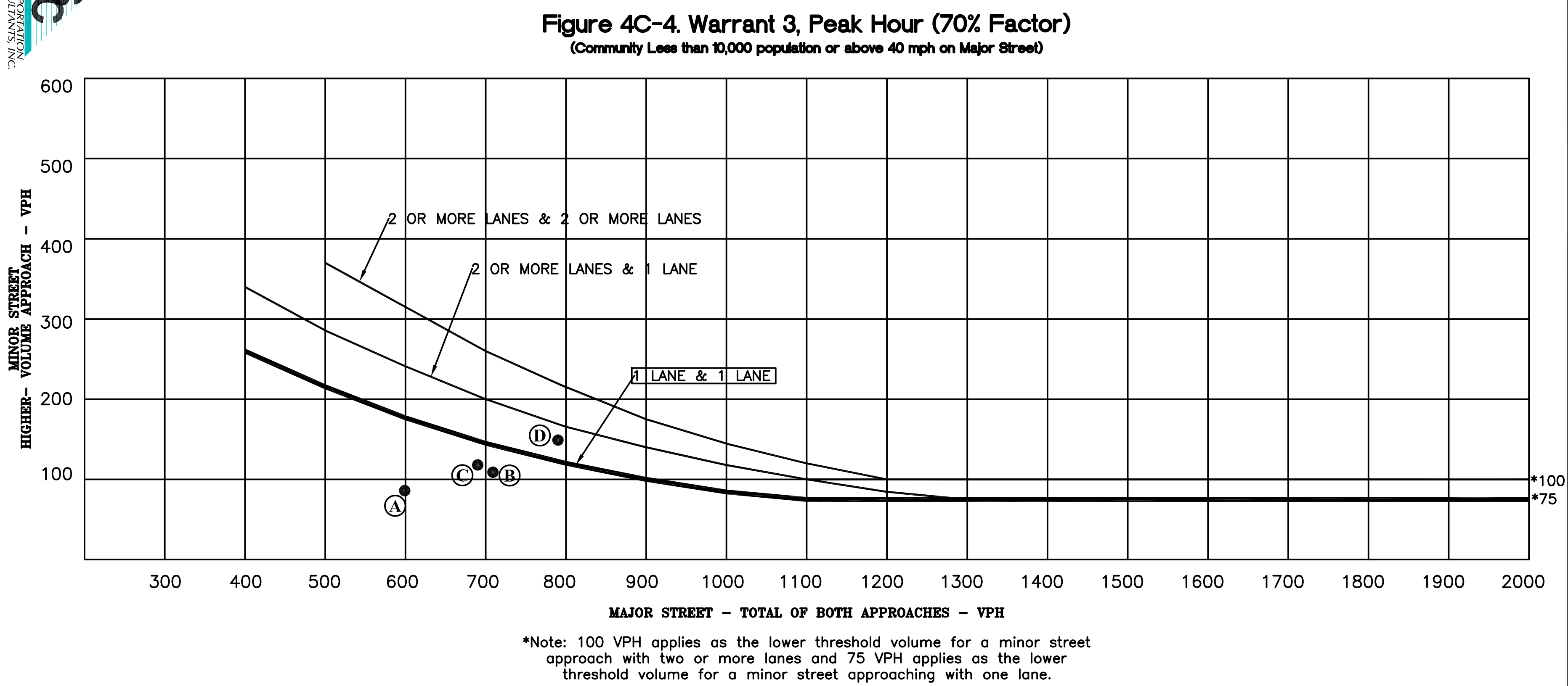
G AM Hour Before = (587,100)
H AM Peak Hour = (690,118)
I AM Hour After = (587,100)
J PM Hour Before = (672,127)
K PM Peak Hour= (790,149)
L PM Hour After = (672,127)

Notes:
1. Major street volume includes EB LT, EB through, EB RT, WB LT, WB through and WB RT. Minor street volume includes only the NB LT and NB through.
2. A four hour warrant will not be met by 2024 but will likely be met by 2040 with full site buildout.

Figure 11a

Warrant 2 - Four-Hour Vehicular Volume
US Highway 50/Site Access

Gunnison Rising Government Campus Subdivision (LSC #191121)



2024 Total Traffic

Ⓐ AM Peak Hour = (599,86)

Ⓑ PM Peak Hour= (709,109)

2040 Total Traffic

Ⓒ AM Peak Hour = (690,118)

Ⓓ PM Peak Hour= (790,149)

Notes:

1. Major street volume includes EB LT, EB through, EB RT, WB LT, WB through and WB RT. Minor street volume includes only the NB LT and NB through.
2. A peak hour warrant will not be met in 2024 but will likely be met by 2040 with full site buildout.

Figure 11b

Warrant 3 - Peak-Hour Vehicular Volume US Highway 50/Site Access

Gunnison Rising Government Campus Subdivision (LSC #191121)

COLORADO
Department of Transportation
Region 3

Transportation Impact Study Methodology Form

Prior to starting a traffic impact study, a Methodology Form must be submitted for review and signed by the Region 3 Access Engineer. It shall be included as part of the study. Form submitted to CDOT 02/05/2020.

CONTACT INFORMATION

Consultant: Name: LSC Transportation Consultants, Inc. (Chris McGranahan)
Telephone: 303-333-1105
Email: chris@lsctrans.com and lsc@lscdenver.com
Developer/Owner Name: Gunnison Valley Partners

PROJECT INFORMATION

Project Name	Gunnison Rising
Project Location	East of Gunnison, CO on both sides of US 50
Project Description *(Attached proposed site plan)*	See attached site plan
State Highway	US 50
County	Gunnison
Mile Post	Between 158 and 159
Posted Speed Limit	55 mph approaching from east and 65 mph approaching from west

TIS ASSUMPTIONS

Study Years	Current Year: 2020	Buildout Year: 2025	Long Term Year: 2040
Traffic Assessment Level *(Provide justification)*	Level 3 Traffic Study		
Study Intersections	1. US 50/Adams Street	6.	
	2. Adams Street/College Avenue	7.	
	3. Proposed Access Point to US 50	8.	
	4.	9.	
	5.	10.	
Future Growth Rate	■ OTIS	☐ Regional TDM	☐ Other
Seasonal Adjustment Factor	Traffic counts will be modified using both a seasonal and pandemic adjustment.		

ASSUMPTIONS CONTINUED				
Project Trip Distribution *(State assumptions and attach sketch that shows individual movements.)*	95% West and 5% East			
Trip Reduction Percentage	Internal Capture:		Pass By:	
	Multi-Modal:	N/A	Other:	
Study Time Periods	☒ AM (7-9)	☒ PM (4-6)	☒ Weekday	
(Check all that apply)	☐ SAT (Midday)	☐ Other		
Existing and Proposed ITE Trip Generation Land Use	There will be a number of proposed land use types including Single-Family Detached Homes (210), Multi-Family (Low-Rise) (220), Free-Standing Discount Store (815), Retail Shopping (820), Drinking Place (925), Quality Restaurant (931), Coffee Shop (936),			
Analysis Methods *(Check all that apply)*	☒ Synchro or ☐ HCS *(isolated intersections only)*	☐ SimTraffic or ☐ Other *(closely spaced intersections or when known/expected queuing issue)*		
	☒ Signal Warrants	☐ Pedestrian/Transit/Bicycle		
	☐ Safety/Sight Distance	☒ Queuing and Storage		
	☐ Other			
Notes and Other Assumptions	We would prepare and submit an overall trip generation table for review by CDOT prior to preparing the full traffic study.			
Crash Data	CDOT will perform a crash data analysis for the highway in the vicinity of the proposed access and provide to the consultant. As a part of the study consultant shall recommend mitigation measures for any identified safety issues.			
Simulation Input Files	Consultant to provide computer files used for analysis with a signed and sealed copy of the study.			

CDOT INTERNAL USE ONLY		
Review Comments ☐ Revise and Resubmit		
Engineer Signature/Date	☐ Approved	Rebecca Atkins

Canal Trail
Government Campus Boundary
Gunnison PUD Boundary
Open Space
Large Lot Residential
Low Residential
Medium Residential
Missing Middle
Traditional Neighborhood
Main Street
Event + Conference
Multifamily
Maker Space
RV Park

GOVERNMENT CAMPUS

Site Vicinity Map

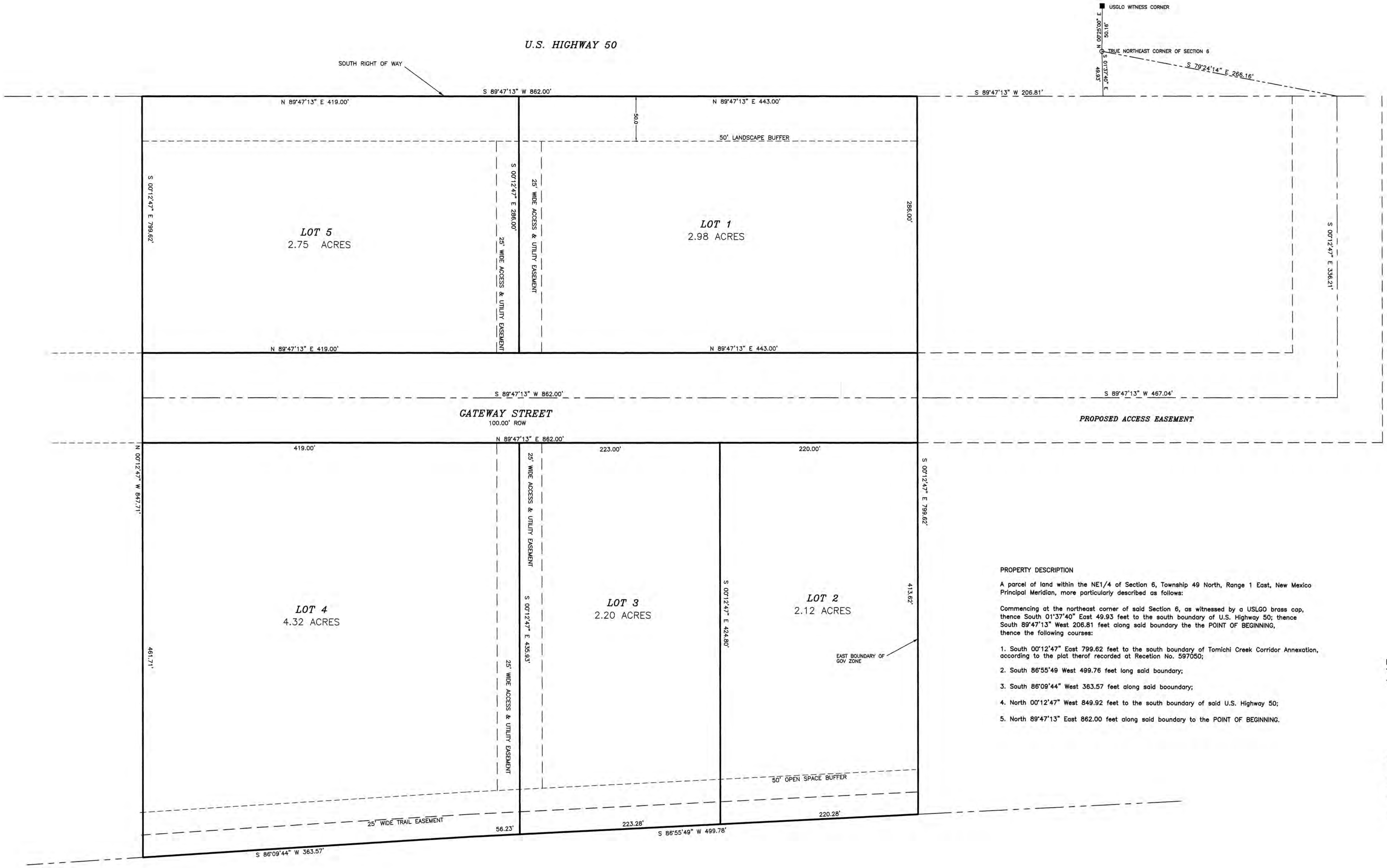
January 2020

Lot	Lot Area (sq ft / ac)	Building Gross Floor Area (sq ft)
1	93,225 / 2.14 ac	14,500 - 29,000
2	95,400 / 2.19 ac	15,500 - 31,000
3	190,800 / 4.38 ac	32,000 - 64,000
4	125,900 / 2.89 ac	21,000 - 42,000
5	119,800 / 2.75 ac	22,000 - 44,000
Total	**625,125 / 14.35 ac**	**105,000 - 210,000**

Government Campus Boundary
Proposed Trail
Future Trail Connection
Proposed Road
Future Street Connection
Landscaping / Open Space
Building
Landscaping / Plaza
Workyard / Storage
Parking
Snow Storage

GOVERNMENT CAMPUS
(Conceptual Site Plan)

January 2020



PROPERTY DESCRIPTION

A parcel of land within the NE1/4 of Section 6, Township 49 North, Range 1 East, New Mexico Principal Meridian, more particularly described as follows:

Commencing at the northeast corner of said Section 6, as witnessed by a USLGO brass cap, thence South 01°37'40" East 49.93 feet to the south boundary of U.S. Highway 50; thence South 89°47'13" West 206.81 feet along said boundary the the POINT OF BEGINNING, thence the following courses:

1. South 00°12'47" East 799.62 feet to the south boundary of Tomichi Creek Corridor Annexation, according to the plat therof recorded at Recetion No. 597050;

2. South 86°55'49 West 499.76 feet long said boundary;

3. South 86°09'44" West 363.57 feet along said booundary;

4. North 00°12'47" West 849.92 feet to the south boundary of said U.S. Highway 50;

5. North 89°47'13" East 862.00 feet along said boundary to the POINT OF BEGINNING.

PLANNING AND ZONING COMMISSION APPROVAL
This plat is approved by the City of Gunnison Planning and Zoning Commission this______day of____________, 2020.

____
Chairman

CITY COUNCIL APPROVAL
This plat is approved for filing and the City hereby accepts the dedication of the streets and roads shown hereon subject to the provisions in "Street Maintenance" set forth above, and further accepts the dedication of the easements shown hereon.

Signed this______day of____________, 2020.

CITY OF GUNNISON

BY:________________________
Mayor

RECORDER'S CERTIFICATE
This plat was filed for record in the office of the County Clerk and Recorder of Gunnison County at_______M on the_______day of____________, 2020, Reception No.___________.

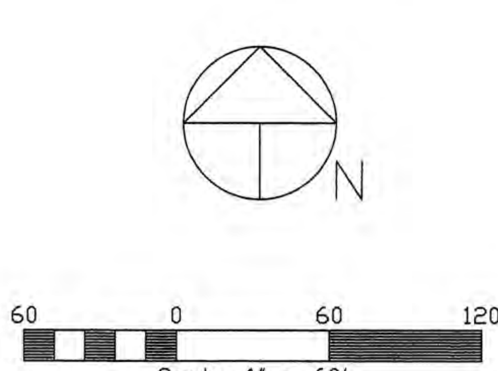
County Clerk and Recorder

BY:________________________
Deputy

CERTIFICATE OF STREET AND UTILITY MAINTENANCE
Public notice is hereby given that neither the dedicated roads nor the public utilities shown on this plat will be maintained by the City of Gunnison until and unless the subdivider constructs the streets and roads and utilities in accordance with the subdivision agreement, if any, and the subdivision regulations in effect at the date of the recording of this plat and approval of the City has been issued to that effect. When the City approves a street or utility for maintenance, the street or utility shall become public in all senses of the word and the subdivider has no further obligations in regards to that particular street or utility.

LEGEND

- ■ Found USGLO brass cap witness corner
- Rebar with plastic cap "LS 34979" – to be set



NOTES:

1. Property located by field measurements to found monuments shown. Basis of bearings is the north line of Section 6 being S 89°46'00" W.

2. Boundaries of the GOV Zone were obtained from information shown on Gunnison Rising PUD Zoning Plan Map, dated 7–30–09, which was provided by the City of Gunnison Community Development office.

3. This survey is based partly on an ALTA / ASCM Land Title survey, dated 11–01–05, prepared by Del–Mont Consultants, which was provided by cliient.

SURVEYOR'S CERTIFICATE

I, Timothy E. Pearson, a registered land surveyor in the State of Colorado, certify that this plat and the survey referred to herein were made under my direction and control and that both are true and correct to the best of my knowledge.

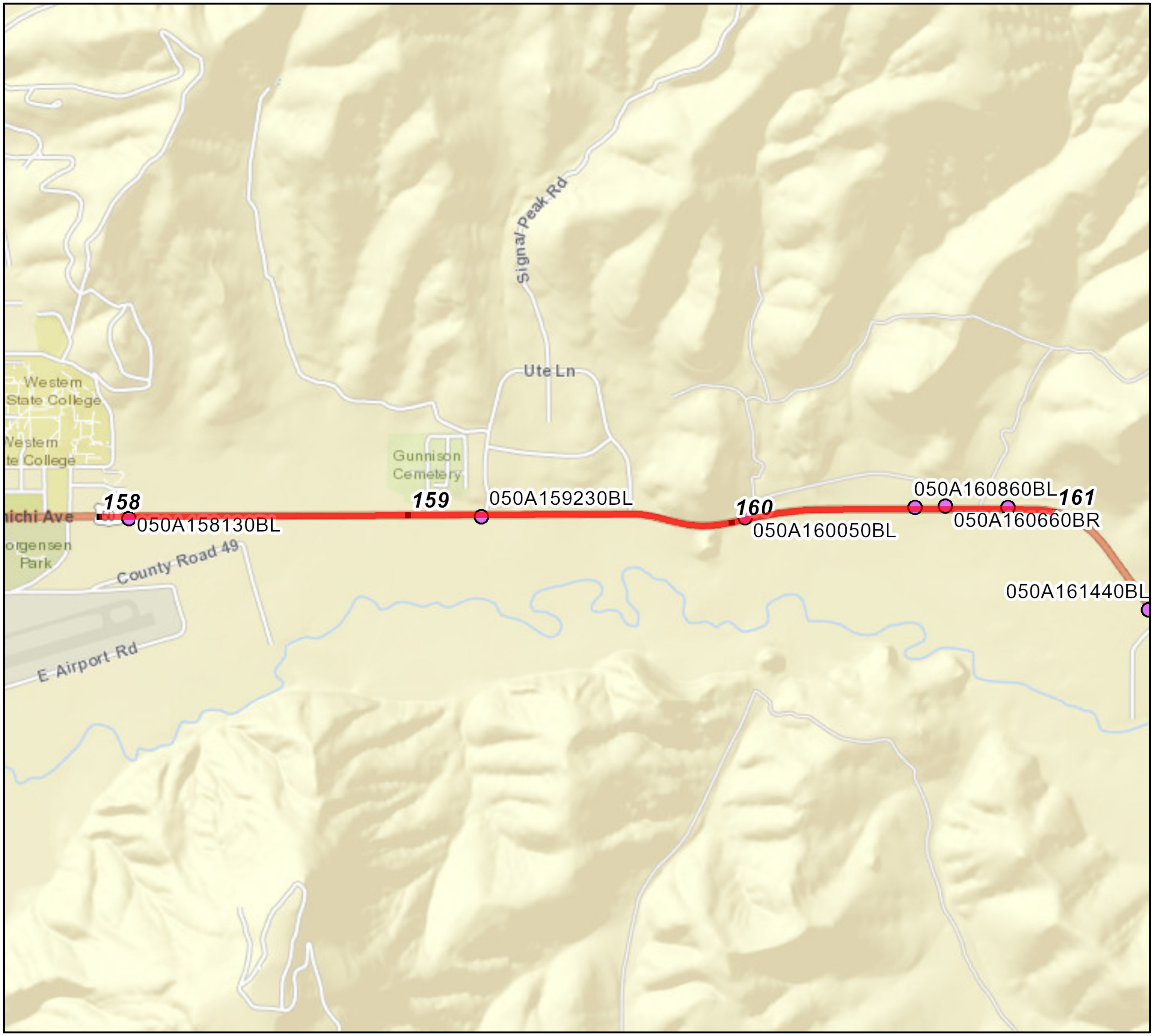
Dated this ______ day of _____________, 2020.

____
Timothy E. Pearson
Colorado L.S. No. 34979

GOVERNMENT CAMPUS SUBDIVISION
within
THE NE1/4 OF SECTION 6, T49N, R1E, N.M.P.M.
also within
TOMICHI CREEK CORRIDOR ANNEXATION, REC. NO. 597050
CITY OF GUNNISON, GUNNISON COUNTY, COLORADO

PEARSON SURVEYING P.O. BOX 652 GUNNISON, CO 81230 970–641–2910 PROJECT # 20–1–1	DATE : 3/11/20 LATEST REVISION DATE : SHEET 1 OF 1

Route 050A From 158 to 161



Legend

Route

Milepoint

Structures

Major Structure

Minor Structure

Created:

Date: 3/25/2020

Time: 1:15:41 PM

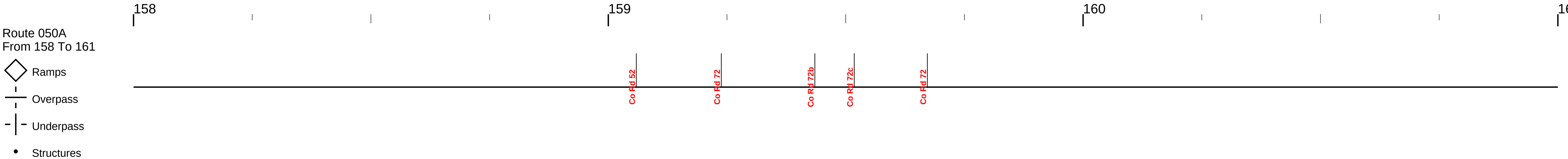
0 0.2 0.4 0.6 0.8

Miles

N W E S

The information contained in this map is based on the most currently available data and has been checked for accuracy. CDOT does not guarantee the accuracy of any information presented, is not liable in any respect for any errors or omissions, and is not responsible for determining "fitness for use".

Route 050A
From 158 To 161



CLASSIFICATION

Access Control	R-A: Regional Highway
Highway Designation	U.S.

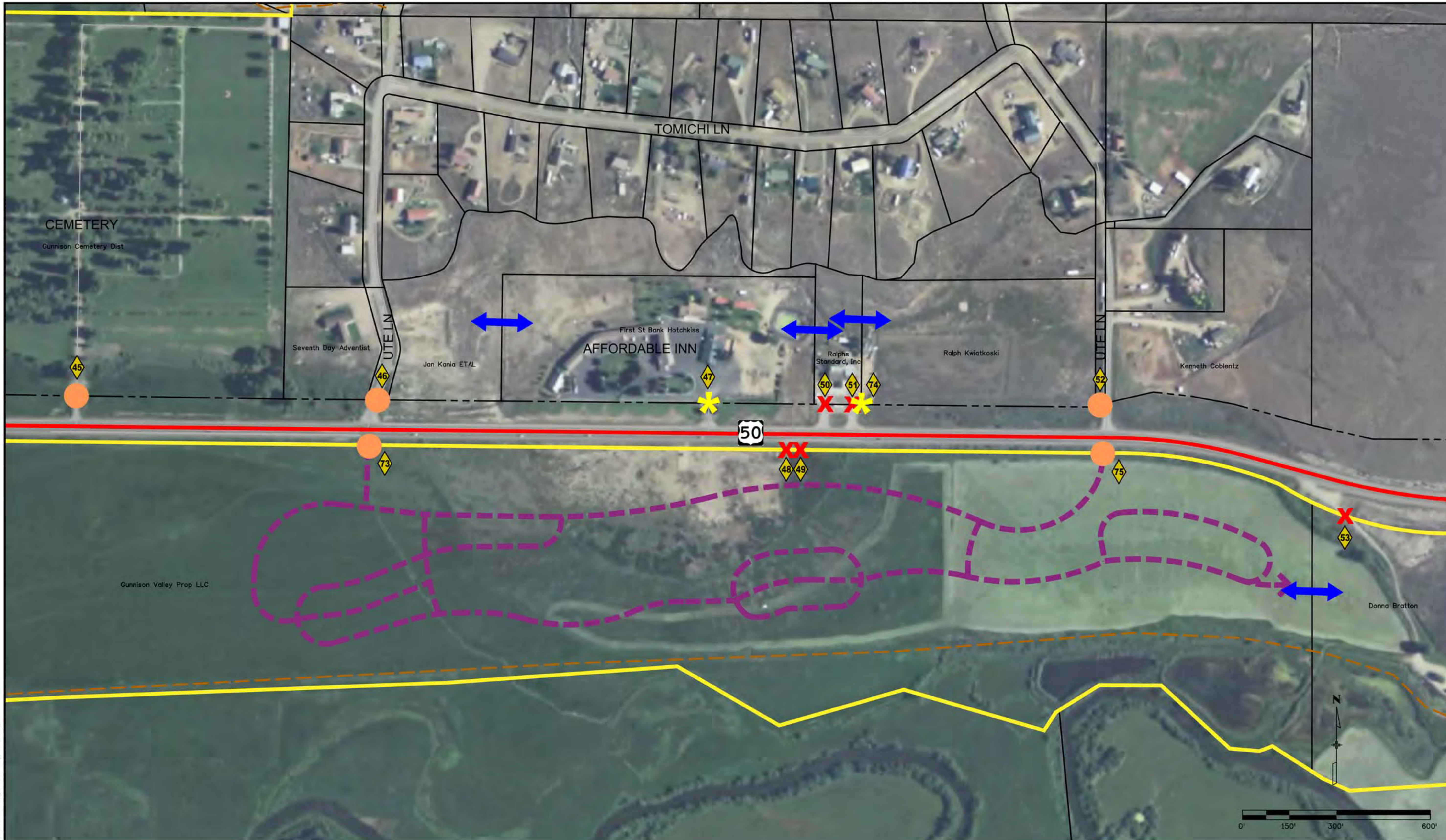
SAFETY

Primary Speed Limit	35	55	65

TRAFFIC

AADT	5400
V/C Ratio 20	0.45
Year 20 Factor	1.04

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page and re-submit the request.



LEGEND:

- Access Point
- Full Movement
- Right-In
- Right-In, Right-Out
- 3/4 Movement Left-In
- Close Existing Access Point
- Cross Access for Shared Access Point
- City Boundary
- Parcel Line
- Proposed Street Network
- Trail Network

Gunnison County COLORADO
DOT Colorado Department of Transportation
Stolfus & associates Inc.

US 50 ACCESS EXHIBIT
3 OF 5

FIGURE 5C

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

N/S STREET: UTE LANE
E/W STREET: HWY-50
CITY: GUNNISON
COUNTY: GUNNISON

File Name : UTEHWY50
Site Code : 00000015
Start Date : 2/18/2020
Page No : 1

Groups Printed- VEHICLES

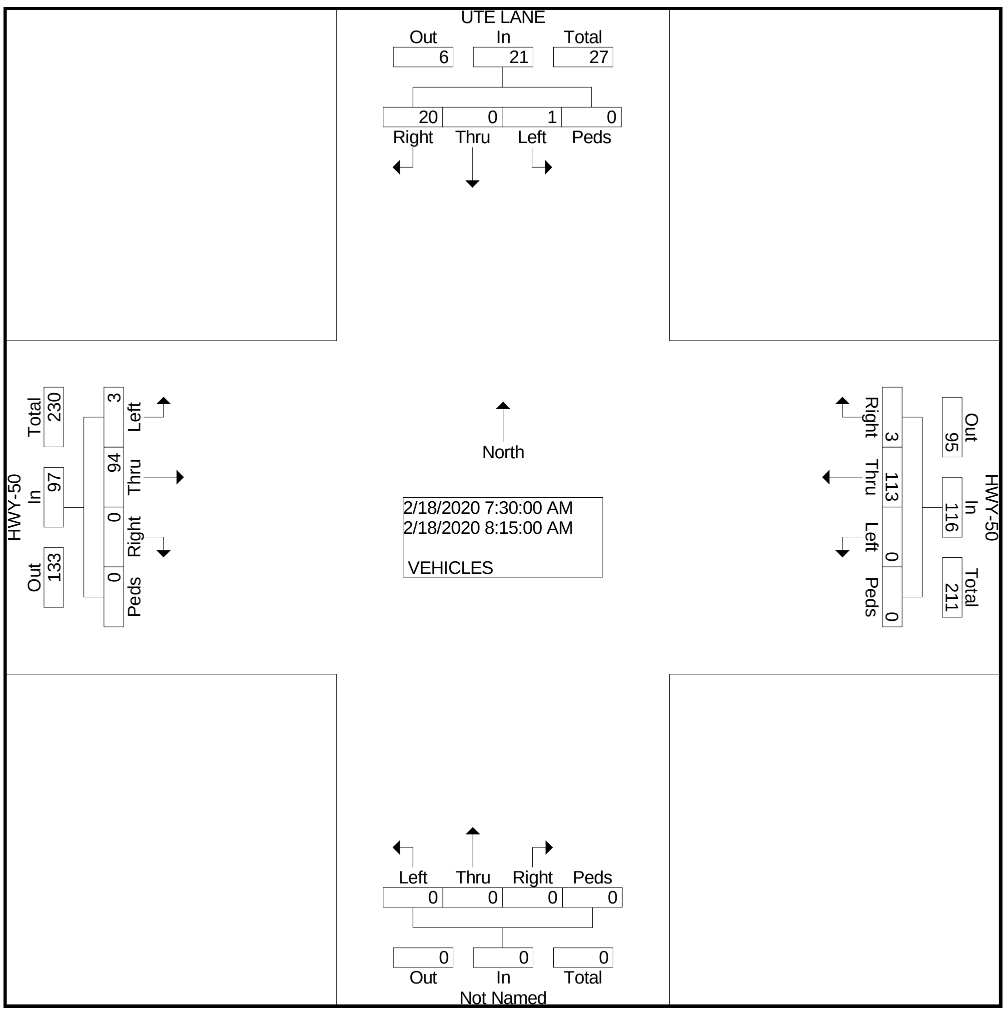
	UTE LANE Southbound				HWY-50 Westbound				Northbound				HWY-50 Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	0	4	0	0	10	0	0	0	0	0	0	0	16	0	0	30
06:45 AM	0	0	5	0	0	19	0	0	0	0	0	0	1	16	0	0	41
Total	0	0	9	0	0	29	0	0	0	0	0	0	1	32	0	0	71
07:00 AM	0	0	2	0	0	20	0	0	0	0	0	0	0	10	0	0	32
07:15 AM	0	0	5	0	0	22	0	0	0	0	0	0	0	11	0	0	38
07:30 AM	0	0	6	0	0	22	0	0	0	0	0	0	0	22	0	0	50
07:45 AM	1	0	10	0	0	34	3	0	0	0	0	0	1	24	0	0	73
Total	1	0	23	0	0	98	3	0	0	0	0	0	1	67	0	0	193
08:00 AM	0	0	1	0	0	28	0	0	0	0	0	0	0	22	0	0	51
08:15 AM	0	0	3	0	0	29	0	0	0	0	0	0	2	26	0	0	60
Total	0	0	4	0	0	57	0	0	0	0	0	0	2	48	0	0	111
04:00 PM	1	0	4	0	0	29	0	0	0	0	0	0	2	34	0	0	70
04:15 PM	0	0	2	0	0	36	0	0	0	0	0	0	2	21	0	0	61
04:30 PM	0	0	2	0	0	28	0	0	0	0	0	0	1	39	0	0	70
04:45 PM	1	0	1	0	0	46	0	0	0	0	0	0	6	33	0	0	87
Total	2	0	9	0	0	139	0	0	0	0	0	0	11	127	0	0	288
05:00 PM	0	0	3	0	0	25	0	0	0	0	0	0	7	34	0	0	69
05:15 PM	1	0	4	0	0	19	0	0	0	0	0	0	4	29	0	0	57
05:30 PM	0	0	3	0	0	25	1	0	0	0	0	0	1	29	0	0	59
05:45 PM	0	0	5	0	0	25	0	0	0	0	0	0	6	33	0	0	69
Total	1	0	15	0	0	94	1	0	0	0	0	0	18	125	0	0	254
Grand Total	4	0	60	0	0	417	4	0	0	0	0	0	33	399	0	0	917
Apprch %	6.3	0.0	93.8	0.0	0.0	99.0	1.0	0.0	0.0	0.0	0.0	0.0	7.6	92.4	0.0	0.0	
Total %	0.4	0.0	6.5	0.0	0.0	45.5	0.4	0.0	0.0	0.0	0.0	0.0	3.6	43.5	0.0	0.0	

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

N/S STREET: UTE LANE
E/W STREET: HWY-50
CITY: GUNNISON
COUNTY: GUNNISON

File Name : UTEHWY50
Site Code : 00000015
Start Date : 2/18/2020

	UTE LANE Southbound					HWY-50 Westbound					Northbound					HWY-50 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 08:30 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	1	0	20	0	21	0	113	3	0	116	0	0	0	0	0	3	94	0	0	97	234
Percent	4.8	0.0	95.2	0.0		0.0	97.4	2.6	0.0		0.0	0.0	0.0	0.0		3.1	96.9	0.0	0.0		
07:45 Volume	1	0	10	0	11	0	34	3	0	37	0	0	0	0	0	1	24	0	0	25	73
Peak Factor																					0.801
High Int.	07:45 AM					07:45 AM					6:15:00 AM					08:15 AM					
Volume	1	0	10	0	11	0	34	3	0	37	0	0	0	0	0	2	26	0	0	28	
Peak Factor					0.477					0.784										0.866	



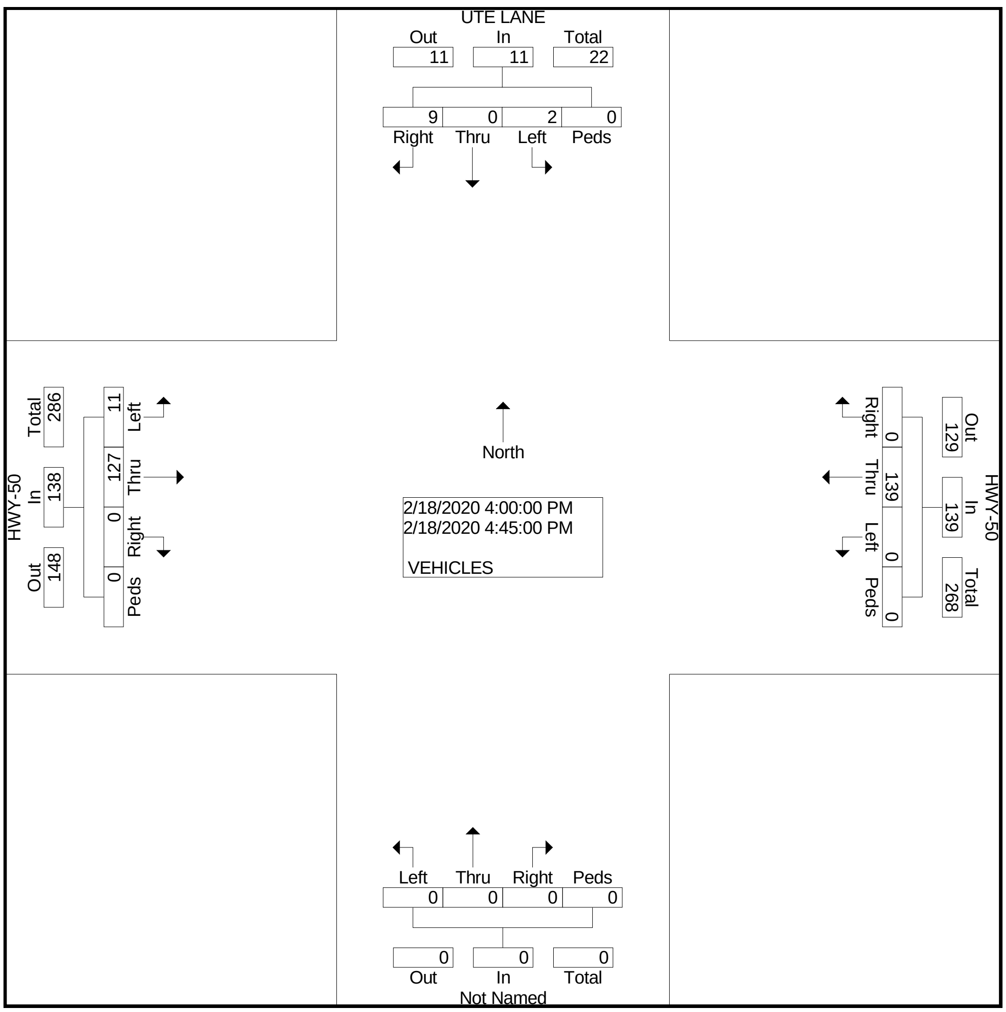
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: UTE LANE
E/W STREET: HWY-50
CITY: GUNNISON
COUNTY: GUNNISON

File Name : UTEHWY50
Site Code : 00000015
Start Date : 2/18/2020
Page No : 2

	UTE LANE Southbound					HWY-50 Westbound					Northbound					HWY-50 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	2	0	9	0	11	0	139	0	0	139	0	0	0	0	0	11	127	0	0	138	288
Percent	18.2	0.0	81.8	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		8.0	92.0	0.0	0.0		
04:45 Volume	1	0	1	0	2	0	46	0	0	46	0	0	0	0	0	6	33	0	0	39	87
Peak Factor																					0.828
High Int.	04:00 PM					04:45 PM										04:30 PM					
Volume	1	0	4	0	5	0	46	0	0	46	0	0	0	0	0	1	39	0	0	40	
Peak Factor					0.550					0.755										0.863	



LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

LOS	Average Vehicle Delay sec/vehicle	Operational Characteristics
A	<10 seconds	Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	10 to 20 seconds	Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20 to 35 seconds	Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35 to 55 seconds	Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55 to 80 seconds	Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
F	>80 seconds	Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

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. The delay could be up to 15 seconds. 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. 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.
D	25 to 35 seconds	This is the point at which a traffic signal may be warranted for this intersection. 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. There is a high probability that this intersection will meet traffic signal warrants. 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. The only remedy for these long delays is installing a traffic signal or restricting the accesses. 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.

Intersection						
Int Delay, s/veh	0.7					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	213	257	5	2	30
Future Vol, veh/h	5	213	257	5	2	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	254	306	6	2	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	312	0	-	0	575	309
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1248	-	-	-	480	731
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1248	-	-	-	478	731
Mov Cap-2 Maneuver	-	-	-	-	564	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	779	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1248	-	-	-	718
HCM Lane V/C Ratio	0.005	-	-	-	0.053
HCM Control Delay (s)	7.9	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	288	316	1	3	14
Future Vol, veh/h	17	288	316	1	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	335	367	1	3	16
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	368	0	-	0	743	368
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1191	-	-	-	383	677
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1191	-	-	-	376	677
Mov Cap-2 Maneuver	-	-	-	-	487	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	695	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.5		0		10.9	
HCM LOS					B	
Minor Lane/Major Mvmt		EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1191	-	-	-	633
HCM Lane V/C Ratio		0.017	-	-	-	0.031
HCM Control Delay (s)		8.1	-	-	-	10.9
HCM Lane LOS		A	-	-	-	B
HCM 95th %tile Q(veh)		0.1	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.7					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	215	259	5	2	30
Future Vol, veh/h	5	215	259	5	2	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	256	308	6	2	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	314	0	-	0	579	311
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	268	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1246	-	-	-	477	729
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	777	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1246	-	-	-	475	729
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1246	-	-	-	716
HCM Lane V/C Ratio	0.005	-	-	-	0.053
HCM Control Delay (s)	7.9	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	290	319	1	3	14
Future Vol, veh/h	17	290	319	1	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	337	371	1	3	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	372	0	-	0	749	372
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	377	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1186	-	-	-	379	674
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1186	-	-	-	373	674
Mov Cap-2 Maneuver	-	-	-	-	485	-
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	694	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1186	-	-	-	631
HCM Lane V/C Ratio	0.017	-	-	-	0.031
HCM Control Delay (s)	8.1	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	197	110	45	237	5	84	2	34	2	2	30
Future Vol, veh/h	5	197	110	45	237	5	84	2	34	2	2	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	140	-	100	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	4	4	2	2	4	4	4	2	4	2
Mvmt Flow	6	224	125	51	269	6	95	2	39	2	2	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	275	0	0	349	0	0	628	613	-	674	735	272
Stage 1	-	-	-	-	-	-	236	236	-	374	374	-
Stage 2	-	-	-	-	-	-	392	377	-	300	361	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.14	6.54	-	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	2.236	-	-	3.536	4.036	-	3.518	4.036	3.318
Pot Cap-1 Maneuver	1288	-	-	1199	-	-	393	405	0	368	344	767
Stage 1	-	-	-	-	-	-	763	706	0	647	614	-
Stage 2	-	-	-	-	-	-	629	612	0	709	622	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1288	-	-	1199	-	-	360	386	-	353	327	767
Mov Cap-2 Maneuver	-	-	-	-	-	-	360	386	-	353	327	-
Stage 1	-	-	-	-	-	-	759	702	-	644	588	-
Stage 2	-	-	-	-	-	-	573	586	-	703	619	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.3	18.6	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	361	-	1288	-	-	1199	-	-	668
HCM Lane V/C Ratio	0.271	-	0.004	-	-	0.043	-	-	0.058
HCM Control Delay (s)	18.6	0	7.8	-	-	8.1	-	-	10.7
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.1	-	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	266	90	41	294	1	107	2	45	3	2	14
Future Vol, veh/h	17	266	90	41	294	1	107	2	45	3	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	140	-	100	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	4	4	2	2	4	4	4	2	4	2
Mvmt Flow	19	302	102	47	334	1	122	2	51	3	2	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	335	0	0	404	0	0	778	769	302	847	871	335
Stage 1	-	-	-	-	-	-	340	340	-	429	429	-
Stage 2	-	-	-	-	-	-	438	429	-	418	442	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.14	6.54	6.24	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	2.236	-	-	3.536	4.036	3.336	3.518	4.036	3.318
Pot Cap-1 Maneuver	1224	-	-	1144	-	-	311	329	733	282	287	707
Stage 1	-	-	-	-	-	-	671	636	-	604	581	-
Stage 2	-	-	-	-	-	-	594	581	-	612	573	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1224	-	-	1144	-	-	289	311	733	250	271	707
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	311	-	250	271	-
Stage 1	-	-	-	-	-	-	660	626	-	594	557	-
Stage 2	-	-	-	-	-	-	555	557	-	558	564	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	21.8	12.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	289	733	1224	-	-	1144	-	-	485
HCM Lane V/C Ratio	0.429	0.07	0.016	-	-	0.041	-	-	0.045
HCM Control Delay (s)	26.5	10.3	8	-	-	8.3	-	-	12.8
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2	0.2	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	222	267	5	2	30
Future Vol, veh/h	5	222	267	5	2	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	264	318	6	2	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	324	0	-	0	597	321
Stage 1	-	-	-	-	321	-
Stage 2	-	-	-	-	276	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1236	-	-	-	466	720
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1236	-	-	-	464	720
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1236	-	-	-	707
HCM Lane V/C Ratio	0.005	-	-	-	0.054
HCM Control Delay (s)	7.9	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	0.5					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	300	329	1	3	14
Future Vol, veh/h	17	300	329	1	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	349	383	1	3	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	384	0	-	0	773	384
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	389	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1174	-	-	-	367	664
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	685	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1174	-	-	-	361	664
Mov Cap-2 Maneuver	-	-	-	-	475	-
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1174	-	-	-	620
HCM Lane V/C Ratio	0.017	-	-	-	0.032
HCM Control Delay (s)	8.1	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	204	164	67	245	5	116	2	57	2	2	30
Future Vol, veh/h	5	204	164	67	245	5	116	2	57	2	2	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	140	-	100	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	20	20	2	2	20	20	20	2	20	2
Mvmt Flow	6	232	186	76	278	6	132	2	65	2	2	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	418	0	0	695	680	232	804	863	281
Stage 1	-	-	-	-	-	-	244	244	-	433	433	-
Stage 2	-	-	-	-	-	-	451	436	-	371	430	-
Critical Hdwy	4.12	-	-	4.3	-	-	7.3	6.7	6.4	7.12	6.7	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.7	-	6.12	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.7	-	6.12	5.7	-
Follow-up Hdwy	2.218	-	-	2.38	-	-	3.68	4.18	3.48	3.518	4.18	3.318
Pot Cap-1 Maneuver	1278	-	-	1051	-	-	334	351	765	301	274	758
Stage 1	-	-	-	-	-	-	721	672	-	601	552	-
Stage 2	-	-	-	-	-	-	555	550	-	649	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1278	-	-	1051	-	-	298	324	765	258	253	758
Mov Cap-2 Maneuver	-	-	-	-	-	-	298	324	-	258	253	-
Stage 1	-	-	-	-	-	-	717	669	-	598	512	-
Stage 2	-	-	-	-	-	-	490	510	-	589	551	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.8	21.2	11.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	298	765	1278	-	-	1051	-	-	616
HCM Lane V/C Ratio	0.45	0.085	0.004	-	-	0.072	-	-	0.063
HCM Control Delay (s)	26.6	10.1	7.8	-	-	8.7	-	-	11.2
HCM Lane LOS	D	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.2	0.3	0	-	-	0.2	-	-	0.2

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	276	123	69	304	1	147	2	65	3	2	14
Future Vol, veh/h	17	276	123	69	304	1	147	2	65	3	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	140	-	100	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	20	20	2	2	20	20	20	2	20	2
Mvmt Flow	19	314	140	78	345	1	167	2	74	3	2	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	0	454	0	0	863	854	314	962	994	346
Stage 1	-	-	-	-	-	-	352	352	-	502	502	-
Stage 2	-	-	-	-	-	-	511	502	-	460	492	-
Critical Hdwy	4.12	-	-	4.3	-	-	7.3	6.7	6.4	7.12	6.7	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.7	-	6.12	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.7	-	6.12	5.7	-
Follow-up Hdwy	2.218	-	-	2.38	-	-	3.68	4.18	3.48	3.518	4.18	3.318
Pot Cap-1 Maneuver	1213	-	-	1018	-	-	256	277	686	235	228	697
Stage 1	-	-	-	-	-	-	629	601	-	552	513	-
Stage 2	-	-	-	-	-	-	514	513	-	581	519	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1213	-	-	1018	-	-	231	252	686	194	207	697
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	252	-	194	207	-
Stage 1	-	-	-	-	-	-	619	591	-	543	473	-
Stage 2	-	-	-	-	-	-	462	473	-	508	511	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.6	40.9	14
HCM LOS			E	B

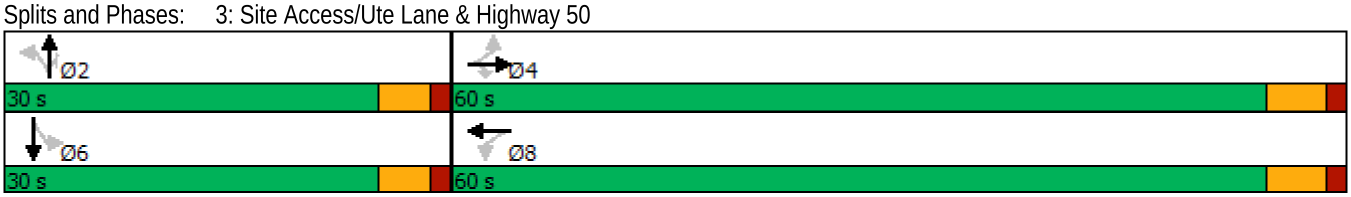
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	231	686	1213	-	-	1018	-	-	420
HCM Lane V/C Ratio	0.733	0.108	0.016	-	-	0.077	-	-	0.051
HCM Control Delay (s)	54	10.9	8	-	-	8.8	-	-	14
HCM Lane LOS	F	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	5	0.4	0	-	-	0.2	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	276	123	69	304	1	147	2	65	3	2	14
Future Volume (vph)	17	276	123	69	304	1	147	2	65	3	2	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		100	100		0	0		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.899	
Flt Protected	0.950			0.950				0.953			0.993	
Satd. Flow (prot)	1770	1863	1346	1504	1863	0	0	1509	1346	0	1634	0
Flt Permitted	0.554			0.577				0.714			0.962	
Satd. Flow (perm)	1032	1863	1346	914	1863	0	0	1131	1346	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134						71		15	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		1490			1465			936			1270	
Travel Time (s)		15.6			15.4			21.3			28.9	
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
Heavy Vehicles (%)	2%	2%	20%	20%	2%	2%	20%	20%	20%	2%	20%	2%
Adj. Flow (vph)	18	300	134	75	330	1	160	2	71	3	2	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	300	134	75	331	0	0	162	71	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	60.0	60.0	60.0	60.0	60.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	66.7%	66.7%	66.7%	66.7%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Maximum Green (s)	54.5	54.5	54.5	54.5	54.5		25.0	25.0	25.0	25.0	25.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	Max	Max	Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0	0	0	0	
Act Effct Green (s)	57.7	57.7	57.7	57.7	57.7			17.1	17.1		17.1	
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.68			0.20	0.20		0.20	
v/c Ratio	0.03	0.24	0.14	0.12	0.26			0.72	0.22		0.06	
Control Delay	6.4	6.8	1.7	6.9	7.0			48.6	8.4		14.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	6.4	6.8	1.7	6.9	7.0			48.6	8.4		14.4	
LOS	A	A	A	A	A			D	A		B	
Approach Delay		5.3			7.0			36.3			14.4	
Approach LOS		A			A			D			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 85.3	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 12.6	Intersection LOS: B
Intersection Capacity Utilization 48.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Site Access/Ute Lane & Highway 50



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	18	300	134	75	331	162	71	20
v/c Ratio	0.03	0.24	0.14	0.12	0.26	0.72	0.22	0.06
Control Delay	6.4	6.8	1.7	6.9	7.0	48.5	8.4	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	6.8	1.7	6.9	7.0	48.5	8.4	14.4
Queue Length 50th (ft)	3	53	0	12	59	77	0	2
Queue Length 95th (ft)	12	115	21	37	128	142	31	19
Internal Link Dist (ft)		1410			1385	856		1190
Turn Bay Length (ft)	140		100	100				
Base Capacity (vph)	697	1259	953	617	1259	332	445	475
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.24	0.14	0.12	0.26	0.49	0.16	0.04

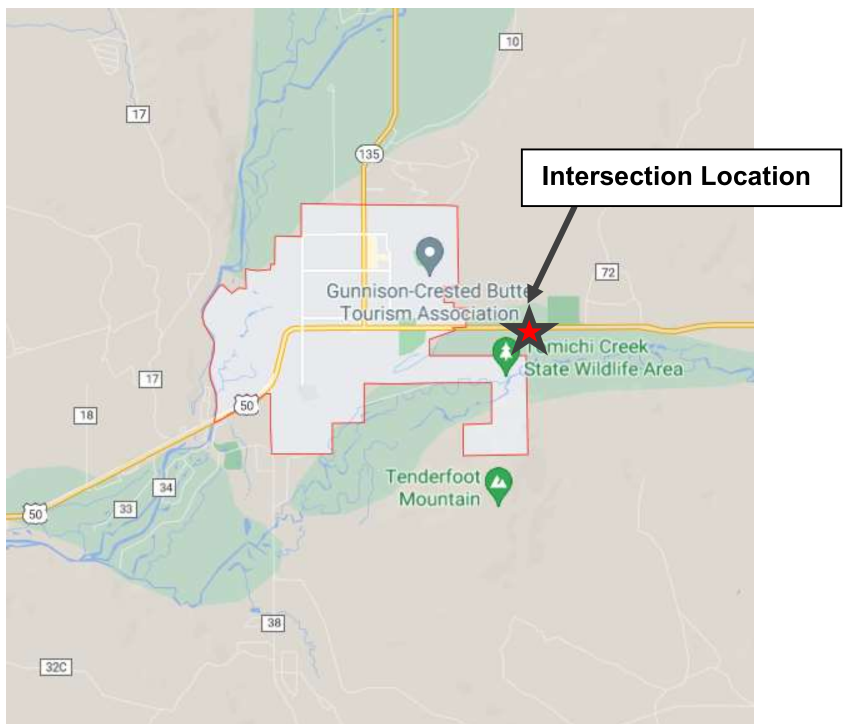
Intersection Summary

ROUNDABOUT OPERATIONAL ANALYSIS MEMO

050A & Access B Gunnison, CO

CDOT REGION 3

September 2021



Prepared by:
Mark Lenters, P.E., and Jay VonAhsen
Kimley-Horn and Associates, Inc.
4582 South Ulster Street, Suite 1500
Denver, CO 80237

Prepared for: CDOT Region 3 Traffic and Safety Unit

September 03, 2021

Kimley»Horn

PROPOSED ROUNDABOUT

Location: 050A & Access B, Gunnison, CO, MP 158.50

Traffic Volume Source: Gunnison Rising Access Points A and B Traffic Impact Analysis (TIA) prepared by LSC Transportation Consultants, Inc. dated February 25, 2021

Analysis Parameters: Truck Percentages = 2% (all movements)
Peak Hour Factor (PHF) = 0.90

Design Parameters:

Table 1

PARAMETER	**Single-lane Roundabout**
Approach road half-width, ft	12.0
Entry width, ft (effective width, not physical width)	13.0
Effective flare length, ft	65.0
Entry radius, ft	Varies, 65 – 85
Inscribed circle diameter, ft	130
PHI – Conflict (entry) angle, deg	25.0
Splitter Island Length from ICD, ft (along Hwy 50)	350
Nominal widths on approaches (FOC to FOC), ft	18.0
Circulating Width, ft	20.0
Design Vehicle	WB-67

Notes:

1. The splitter island length along Hwy 50 has been increased from a typical high-speed approach value of 200ft to 350ft to account for the 65mph posted speed limit. This additional splitter island length assists with the transitional zone where approaching motorist speed is being slowed down via the use of horizontal curvature and the introduction of a physical raised divider (the splitter island). Superelevation within 500ft of the ICD of the roundabout should be prohibited to ensure driver eye height maintains a constant visual of roadway surface along the approach to the roundabout.
2. The intersection's average daily volume is well below the typical threshold of a single-lane roundabout daily capacity of 20,000 to 25,000 vpd. This level of daily traffic converted to peak hour traffic would not be foreseen to create any type of capacity constraint for the proposed single-lane roundabout scenario.

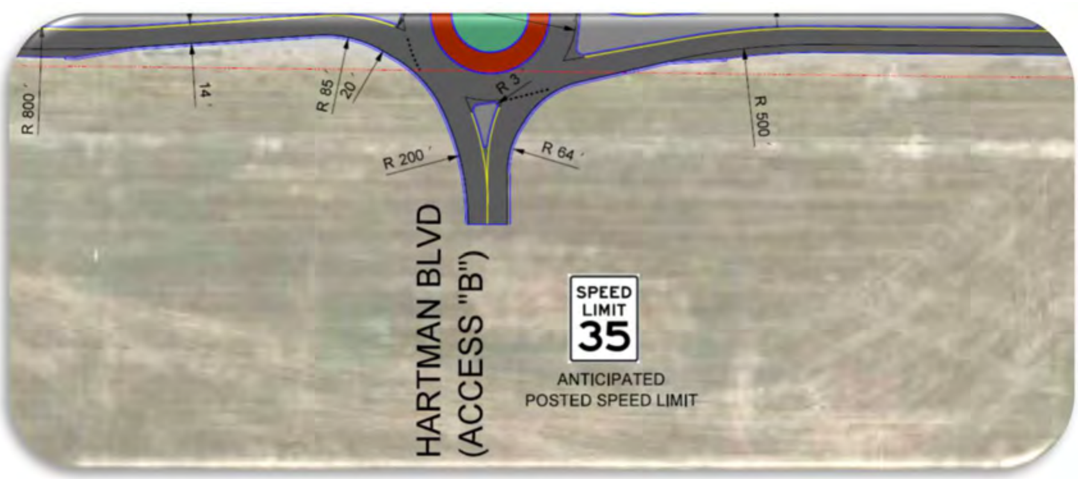
Results:

Table 2 – Year 2041 Roundabout Capacity Analysis

MODEL		EAST LEG – WB Approach	NORTH LEG – SB Approach	WEST LEG – EB Approach	SOUTH LEG – Northbound Approach	OVERALL INTERSECTION
Arcady	AM Peak	5.8 (A)	4.8 (A)	6.0 (A)	5.0 (A)	5.7 (A)
	PM Peak	6.4 (A)	4.9 (A)	6.2 (A)	5.5 (A)	6.1 (A)
HCM 6	AM Peak	9.1 (A)	9.6 (A)	8.1 (A)	5.6 (A)	8.6 (A)
	PM Peak	13.8 (B)	8.5 (A)	11.2 (B)	9.4 (A)	11.8 (B)

Right-of-Way:

Approximate right-of-way boundaries have been sketched on Exhibit 1.0 based on the Gunnison County Map Viewer tool sourced from https://gis.gunnisoncounty.org/default_map.aspx. The southern leg of the proposed roundabout would assume to be provided with sufficient ROW width at the time the adjacent development files its plat documents.



Above: 130ft ICD roundabout southern leg. Red line represents ROW boundary traced from the Gunnison County Map Viewer database.

Sight Distance:

Above: Eastbound view near the proposed roundabout intersection (Source: Google Earth)

The longitudinal grade of Hwy 50 is relatively flat adjacent to the proposed intersection location. The topography to the north is steeply upward and to the south is steeply downward. Associated vertical sight distance checks will be important during the engineering phase to maintain reciprocal sight distance for motorists and stopping sight distance for approaching, circulating, and exiting vehicles.

Conclusion:

it is recommended a single-lane roundabout be further considered at the subject intersection by performing right-of-way boundary survey and preliminary engineering design to determine if other limiting factors may be present at this location.

Methodology:

The anticipated capacity of the proposed roundabout intersection was analyzed using Junctions 10 roundabout design and capacity analysis software. Two models were created and analyzed to compare a range of predicted capacity based on an empirical model (Arcady) and the current U.S. roundabout capacity model (HCM 6th Edition).

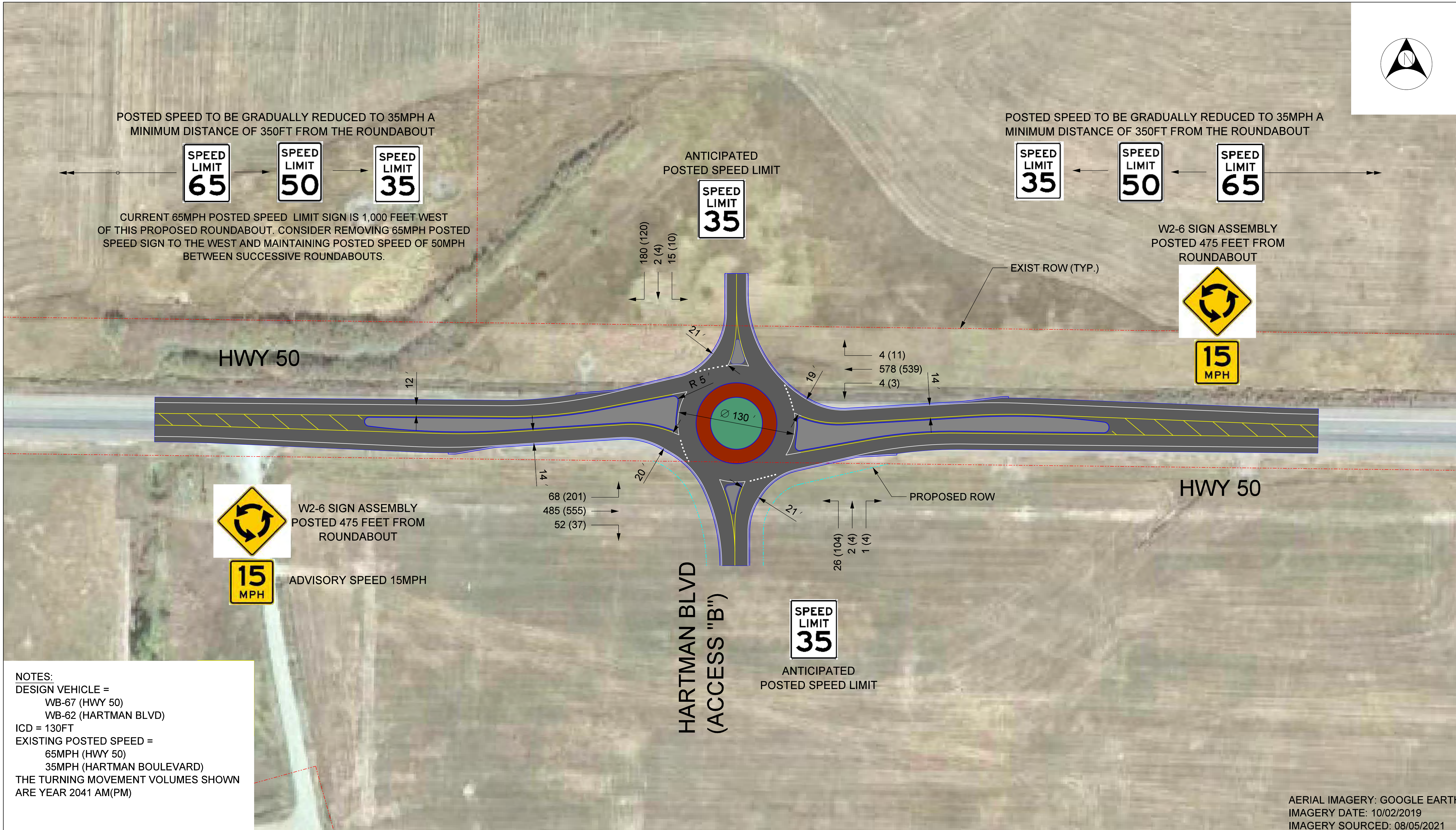
Arcady (Assessment of Roundabout Capacity and Delay) is a roundabout capacity model based on U.K. empirical research into geometry-capacity relationships. The findings on capacity performance for U.S. roundabouts to-date and our experience suggests a reduction in the Arcady capacity assumed for modeling this type of intersection as a roundabout is appropriate. The Arcady analysis includes a capacity equation reduction of 10% for the design year (2041) analysis. Since Arcady is an empirical data-based model, design parameters have been assigned to analyze the roundabout concept design. The parameters in Table 1 were assigned to the Concept Design (Exhibit 1.0 – Appendix A) as well as the Arcady roundabout capacity model.

APPENDIX A:

Exhibit 1.0 – Roundabout Concept Design

Exhibit 1.1 – Fastest Path Speed Performance Checks

Exhibit 1.2 – AutoTURN® Truck Turning Paths



Kimley»Horn

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MARK LENTERS, P.E.
0049585
COLORADO LICENSE NO.
09/03/2021
DATE

HWY 50 AT HARTMAN BLVD (ACCESS "B")

GUNNISON, CO

130' SINGLE LANE ROUNDABOUT

SCALE 0' 50' 100'

EXHIBIT: 1.0

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0049585
COLORADO LICENSE NO.

09/03/2021
DATE

HWY 50 AT HARTMAN BLVD (ACCESS "B")

GUNNISON, CO

ENTRY PATH CURVATURE
FASTEST PATHS

SCALE
0 25' 50'

EXHIBIT: 1.1

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0049585
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09/03/2021
DATE

HWY 50 AT HARTMAN BLVD (ACCESS "B")
GUNNISON, CO

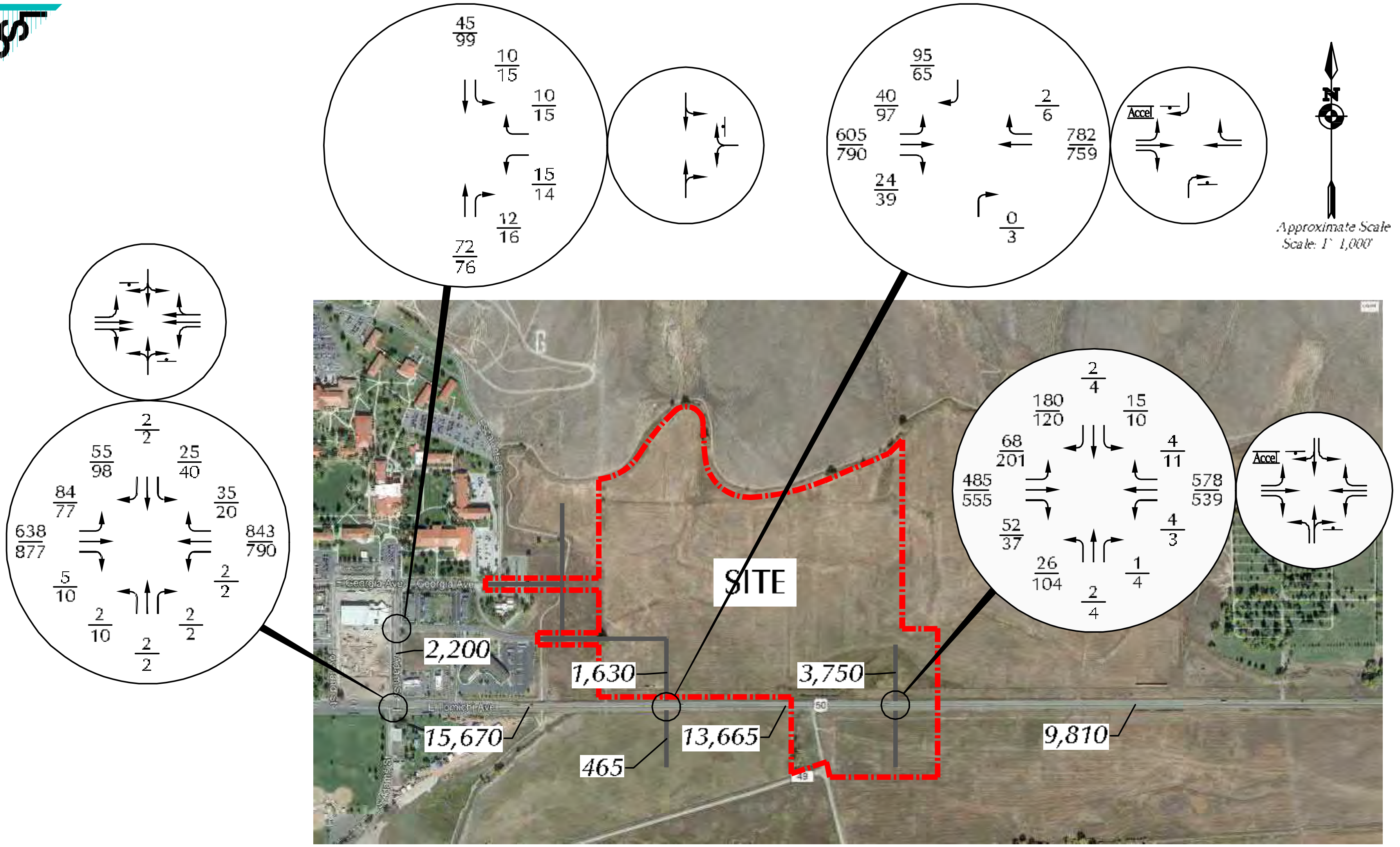
DESIGN VEHICLE - WB 67 & WB 62

SCALE
0 25 50

EXHIBIT: 1.2

APPENDIX B:

Design Year Traffic Volumes (Year 2041)



LEGEND:

⊦ = Stop Sign

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

Figure 9

Year 2041 Total Traffic, Lane Geometry and Traffic Control

Gunnison Rising Phase 2 (LSC #210040)

APPENDIX C:

Roundabout Capacity Analysis Report (Arcady model)

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.1.1519

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: Location #2 Gunnison Arcady Model Year 2041 Traffic.j10
Path: \\Kimley-Horn.com\SE_ATL\ATL_Roadway\000 ROUNDABOUTS\2021\CDOT\CDOT Feasibility Studies\02 50A New Int Gunnison\01_CALCS
Report generation date: 9/3/2021 10:15:44 AM

»2041, AM
»2041, PM

Summary of intersection performance

	AM									PM								
	Set ID	Q (Veh)	Q95 (Veh)	Delay (s)	V/C	LOS	Int Del (s)	Int LOS	Res Cap	Set ID	Q (Veh)	Q95 (Veh)	Delay (s)	V/C	LOS	Int Del (s)	Int LOS	Res Cap
	2041																	
Leg 1	D1	0.6	2.1	5.77	0.38	A	5.68	A	112 % [Leg 3]	D2	0.7	2.7	6.35	0.42	A	6.07	A	92 % [Leg 1]
Leg 2		0.1	0.5	4.79	0.05	A					0.0	0.5	4.89	0.03	A			
Leg 3		0.7	1.9	6.03	0.43	A					0.8	2.4	6.19	0.44	A			
Leg 4		0.3	1.2	4.95	0.22	A					0.4	1.1	5.47	0.26	A			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle. Int LOS and Int Del are demand-weighted Av.s. Res Cap indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	8/12/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	KIMLEY-HORN\Jay.VonAhsen
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
ft	mph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (ft)	Calculate Q Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	V/C Threshold	Av. Delay threshold (s)	Q threshold (PCE)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
18.86	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2041	AM	PHF	08:00	09:00	15	✓
D2	2041	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2041, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Q percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Intersection Network

Intersections

Intersection	Name	Intersection type	Use circulating lanes	Leg order	Int Del (s)	Int LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	5.68	A

Intersection Network

Driving side	Lighting	Res Cap (%)	First leg reaching threshold	Network delay (s)	Network LOS
Right	Normal/unknown	112	Leg 3	5.68	A

Legs

Legs

Leg	Name	Description	No yield line
1	untitled		
2	untitled		
3	untitled		
4	untitled		

Roundabout Geometry

Leg	V (ft)	E (ft)	l' (ft)	R (ft)	D (ft)	PHI (deg)	Entry only	Exit only
1	12.00	13.00	65.0	75.0	130.0	25.0		
2	12.00	13.00	65.0	64.0	130.0	25.0		
3	12.00	13.00	65.0	84.0	130.0	25.0		
4	12.00	13.00	65.0	65.0	130.0	25.0		

Slope / Intercept / Capacity

Leg Intercept Adjustments

Leg	Type	Reason	Intercept Adj (%)
1	Percentage		90.00
2	Percentage		90.00
3	Percentage		90.00
4	Percentage		90.00

Roundabout Slope and Intercept used in model

Leg	Final slope	Final intercept (PCE/hr)
1	0.555	1102
2	0.551	1094
3	0.557	1107
4	0.551	1095

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2041	AM	PHF	08:00	09:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCE Factor for a Truck (PCE)
✓	✓	Truck %s	2.00

Demand overview (Traffic)

Leg	Linked leg	Profile type	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1		PHF	✓	317	100.000
2		PHF	✓	34	100.000
3		PHF	✓	373	100.000
4		PHF	✓	175	100.000

Peak Hour Factor Data (Traffic)

Leg	Hourly volume (Veh/hr)	Peak hour factor	Peak time segment
1	317	0.84	SecondQuarter
2	34	0.84	SecondQuarter
3	373	0.84	SecondQuarter
4	175	0.84	SecondQuarter

Origin-Destination Data

Demand (Veh/hr)

	To				
		1	2	3	4
From	1	0	5	245	67
	2	2	0	30	2
	3	204	5	0	164
	4	57	2	116	0

Vehicle Mix

Truck %s

	To				
		1	2	3	4
From	1	2	2	2	2
	2	2	2	2	2
	3	2	2	2	2
	4	2	2	2	2

Results

Results Summary for whole modelled period

Leg	Max V/C	Max Delay (s)	Max Q (Veh)	Max Q95 (Veh)	Max LOS	Av. Demand (Veh/hr)	Total Intersection Arrivals (Veh)
1	0.38	5.77	0.6	2.1	A	317	317

2	0.05	4.79	0.1	0.5	A	34	34
3	0.43	6.03	0.7	1.9	A	373	373
4	0.22	4.95	0.3	1.2	A	175	175

Main Results for each time segment

08:00 - 08:15

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	277	69	107	1021	0.271	275	228	0.0	0.4	4.817	A
2	30	7	372	868	0.034	30	10	0.0	0.0	4.294	A
3	326	81	62	1051	0.310	324	340	0.0	0.4	4.940	A
4	153	38	183	972	0.157	152	202	0.0	0.2	4.385	A

08:15 - 08:30

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	377	94	146	999	0.378	376	312	0.4	0.6	5.772	A
2	40	10	508	793	0.051	40	14	0.0	0.1	4.786	A
3	444	111	84	1038	0.428	443	464	0.4	0.7	6.035	A
4	208	52	251	935	0.223	208	277	0.2	0.3	4.948	A

08:30 - 08:45

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	337	84	131	1008	0.335	338	280	0.6	0.5	5.374	A
2	36	9	456	822	0.044	36	13	0.1	0.0	4.585	A
3	397	99	76	1043	0.380	397	416	0.7	0.6	5.579	A
4	186	47	225	950	0.196	186	248	0.3	0.2	4.717	A

08:45 - 09:00

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	277	69	108	1021	0.271	277	230	0.5	0.4	4.845	A
2	30	7	374	866	0.034	30	10	0.0	0.0	4.302	A
3	326	81	62	1051	0.310	326	342	0.6	0.5	4.974	A
4	153	38	185	972	0.157	153	204	0.2	0.2	4.398	A

Q Variation Results for each time segment

08:00 - 08:15

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A
4	0.19	0.00	0.00	0.19	0.19			N/A	N/A

08:15 - 08:30

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker

1	0.60	0.03	0.25	0.60	0.60			N/A	N/A
2	0.05	0.03	0.26	0.46	0.49			N/A	N/A
3	0.74	0.03	0.26	0.74	0.74			N/A	N/A
4	0.28	0.03	0.25	0.46	0.48			N/A	N/A

08:30 - 08:45

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.03	0.29	0.98	2.15			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.62	0.03	0.28	0.62	1.95			N/A	N/A
4	0.25	0.03	0.29	0.78	1.15			N/A	N/A

08:45 - 09:00

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A
4	0.19	0.00	0.00	0.19	0.19			N/A	N/A

2041, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Q percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Intersection Network

Intersections

Intersection	Name	Intersection type	Use circulating lanes	Leg order	Int Del (s)	Int LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	6.07	A

Intersection Network

Driving side	Lighting	Res Cap (%)	First leg reaching threshold	Network delay (s)	Network LOS
Right	Normal/unknown	92	Leg 1	6.07	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2041	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCE Factor for a Truck (PCE)
✓	✓	Truck %s	2.00

Demand overview (Traffic)

Leg	Linked leg	Profile type	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	374	100.000
2		ONE HOUR	✓	19	100.000
3		ONE HOUR	✓	416	100.000
4		ONE HOUR	✓	214	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	1	304	69
	2	3	0	14	2
	3	276	17	0	123
	4	65	2	147	0

Vehicle Mix

Truck %s

	To				
From		**1**	**2**	**3**	**4**
	1	2	2	2	2
	2	2	2	2	2
	3	2	2	2	2
	4	2	2	2	2

Results

Results Summary for whole modelled period

Leg	Max V/C	Max Delay (s)	Max Q (Veh)	Max Q95 (Veh)	Max LOS	Av. Demand (Veh/hr)	Total Intersection Arrivals (Veh)
1	0.42	6.35	0.7	2.7	A	343	515
2	0.03	4.89	0.0	0.5	A	17	26
3	0.44	6.19	0.8	2.4	A	382	573
4	0.26	5.47	0.4	1.1	A	196	295

Main Results for each time segment

17:00 - 17:15

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	282	70	124	1011	0.278	280	258	0.0	0.4	4.913	A
2	14	4	389	858	0.017	14	15	0.0	0.0	4.266	A
3	313	78	55	1054	0.297	312	348	0.0	0.4	4.836	A
4	161	40	222	951	0.169	160	145	0.0	0.2	4.547	A

17:15 - 17:30

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	336	84	149	998	0.337	336	309	0.4	0.5	5.436	A
2	17	4	467	815	0.021	17	18	0.0	0.0	4.509	A
3	374	93	66	1048	0.357	373	417	0.4	0.5	5.328	A
4	192	48	266	927	0.208	192	174	0.2	0.3	4.898	A

17:30 - 17:45

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	412	103	182	979	0.421	411	378	0.5	0.7	6.327	A
2	21	5	571	758	0.028	21	22	0.0	0.0	4.884	A
3	458	115	81	1040	0.440	457	511	0.5	0.8	6.167	A
4	236	59	325	894	0.264	235	213	0.3	0.4	5.462	A

17:45 - 18:00

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	412	103	183	979	0.421	412	379	0.7	0.7	6.347	A
2	21	5	573	757	0.028	21	22	0.0	0.0	4.888	A
3	458	115	81	1040	0.441	458	512	0.8	0.8	6.187	A
4	236	59	326	894	0.264	236	214	0.4	0.4	5.469	A

18:00 - 18:15

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	336	84	150	997	0.337	337	310	0.7	0.5	5.458	A
2	17	4	469	814	0.021	17	18	0.0	0.0	4.514	A
3	374	93	67	1048	0.357	375	419	0.8	0.6	5.356	A
4	192	48	267	926	0.208	193	175	0.4	0.3	4.911	A

18:15 - 18:30

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	282	70	125	1011	0.279	282	259	0.5	0.4	4.944	A
2	14	4	392	857	0.017	14	15	0.0	0.0	4.274	A
3	313	78	56	1054	0.297	314	351	0.6	0.4	4.867	A
4	161	40	223	950	0.170	161	146	0.3	0.2	4.563	A

Q Variation Results for each time segment

17:00 - 17:15

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.38	0.00	0.00	0.38	0.38			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.20	0.00	0.00	0.20	0.20			N/A	N/A

17:15 - 17:30

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.50	1.00	1.40	1.45			N/A	N/A
2	0.02	0.02	0.25	0.45	0.48			N/A	N/A
3	0.55	0.55	1.00	1.40	1.45			N/A	N/A
4	0.26	0.00	0.00	0.26	0.26			N/A	N/A

17:30 - 17:45

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.03	0.26	0.72	0.72			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.78	0.03	0.26	0.78	0.78			N/A	N/A
4	0.35	0.03	0.25	0.46	0.48			N/A	N/A

17:45 - 18:00

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.03	0.28	0.74	2.67			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.78	0.03	0.28	0.78	2.43			N/A	N/A
4	0.36	0.03	0.32	1.08	1.08			N/A	N/A

18:00 - 18:15

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.56	0.55	1.00	1.40	1.45			N/A	N/A
4	0.26	0.00	0.00	0.26	0.26			N/A	N/A

18:15 - 18:30

Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.39	0.00	0.00	0.39	0.39			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A

Kimley»Horn

APPENDIX D:

Roundabout Capacity Analysis Report (HCM 6 model)

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.1.1519

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

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Filename: Location #2 Gunnison HCM Model Year 2041 Traffic.j10
Path: \\Kimley-Horn.com\SE_ATL\ATL_Roadway\000 ROUNDABOUTS\2021\CDOT\CDOT Feasibility Studies\02 50A New Int Gunnison\01_CALCS
Report generation date: 9/3/2021 10:16:56 AM

»2041, AM
»2041, PM

Summary of intersection performance

	AM									PM								
	Set ID	Q (Veh)	Q95 (Veh)	Delay (s)	V/C	LOS	Int Del (s)	Int LOS	Res Cap	Set ID	Q (Veh)	Q95 (Veh)	Delay (s)	V/C	LOS	Int Del (s)	Int LOS	Res Cap
	2021																	
Leg 1	D1		3.3	9.06	0.54	A	8.64	A	58 % [Leg 2]	D2		5.0	13.80	0.65	B	11.76	B	28 % [Leg 1]
Leg 2			1.4	9.59	0.33	A						0.9	8.47	0.23	A			
Leg 3			3.0	8.06	0.51	A						5.4	11.22	0.66	B			
Leg 4			0.1	5.61	0.05	A						0.8	9.41	0.22	A			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle. Int LOS and Int Del are demand-weighted Av.s. Res Cap indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	8/12/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	KIMLEY-HORN\Jay.VonAhsen
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
ft	mph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (ft)	Calculate Q Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	V/C Threshold	Av. Delay threshold (s)	Q threshold (PCE)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
18.86	✓				✓	Delay	0.85	36.00	20.00	✓	500

HCM Calibration

HCM Calibration	Lane type	Num circulating lanes	Num exit lanes	A	B
1	Single lane	1		1380.00	-0.00102
2	Single lane	2		1420.00	-0.00085
3	Nearside	1		1420.00	-0.00091
4	Nearside	2		1420.00	-0.00085
5	Offside	1		1420.00	-0.00091
6	Offside	2		1350.00	-0.00092
7	Yielding bypass		1	1380.00	-0.00102
8	Yielding bypass		2	1420.00	-0.00085
9	Non-yielding bypass		1	99999.00	0.00000

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021	AM	PHF	08:00	09:00	15	✓
D2	2021	PM	PHF	17:00	18:00	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2041, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	HCM Model	D1 - 2021, AM	Demand Set 1: HCM models are most typically used with PHF traffic flow profiles and single time segments. Use of HCM models with other flow profiles is at the user's own risk
Warning	HCM Model		One or more intersections use HCM methodologies. These methods are not associated with TRL. The user should apply judgement when interpreting the results.
Warning	Queue variations	Analysis Options	Q percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Intersection Network

Intersections

Intersection	Name	Intersection type	Use circulating lanes	Leg order	Int Del (s)	Int LOS
1	untitled	HCM Roundabout		1, 2, 3, 4	8.64	A

Intersection Network

Driving side	Lighting	Res Cap (%)	First leg reaching threshold	Network delay (s)	Network LOS
Right	Normal/unknown	58	Leg 2	8.64	A

Legs

Legs

Leg	Name	Description
1	untitled	
2	untitled	
3	untitled	
4	untitled	

HCM Lanes

Leg	HCM Lane	Lane type	Number of conflicting lanes	Destination legs
1	1	Single lane	1	1, 2, 3, 4
2	1	Single lane	1	1, 2, 3, 4
3	1	Single lane	1	1, 2, 3, 4
4	1	Single lane	1	1, 2, 3, 4

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2041	AM	PHF	08:00	09:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCE Factor for a Truck (PCE)
✓	✓	Truck %s	2.00

Demand overview (Traffic)

Leg	Linked leg	Profile type	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)

1		PHF	✓	586	100.000
2		PHF	✓	197	100.000
3		PHF	✓	605	100.000
4		PHF	✓	29	100.000

Peak Hour Factor Data (Traffic)

Leg	Hourly volume (Veh/hr)	Peak hour factor	Peak time segment
1	586	0.90	SecondQuarter
2	197	0.90	SecondQuarter
3	605	0.90	SecondQuarter
4	29	0.90	SecondQuarter

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	4	578	4
	2	15	0	180	2
	3	485	68	0	52
	4	1	2	26	0

Vehicle Mix

Truck %s

		To			
		1	2	3	4
From	1	2	2	2	2
	2	2	2	2	2
	3	2	2	2	2
	4	2	2	2	2

Results

Results Summary for whole modelled period

Leg	Max V/C	Max Delay (s)	Max Q95 (Veh)	Max LOS	Av. Demand (Veh/hr)	Total Intersection Arrivals (Veh)
1	0.54	9.06	3.3	A	586	586
2	0.33	9.59	1.4	A	197	197
3	0.51	8.06	3.0	A	605	605
4	0.05	5.61	0.1	A	29	29

Main Results for each time segment

08:00 - 08:15

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	543	136	89	0.00	1233	0.440	543	464	2.3	7.390	A
2	182	46	563	0.00	753	0.242	182	69	0.9	7.511	A

3	560	140	19	0.00	1326	0.423	560	726	2.1	6.799	A
4	27	7	526	0.00	783	0.034	27	54	0.1	4.934	A

08:15 - 08:30

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	651	163	107	0.00	1211	0.538	651	557	3.3	9.065	A
2	219	55	676	0.00	670	0.327	219	82	1.4	9.593	A
3	672	168	23	0.00	1320	0.509	672	871	3.0	8.063	A
4	32	8	631	0.00	702	0.046	32	64	0.1	5.607	A

08:30 - 08:45

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	608	152	100	0.00	1220	0.498	608	520	2.9	8.335	A
2	204	51	631	0.00	702	0.291	204	77	1.2	8.673	A
3	627	157	22	0.00	1323	0.474	627	813	2.6	7.525	A
4	30	8	589	0.00	733	0.041	30	60	0.1	5.326	A

08:45 - 09:00

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	543	136	89	0.00	1233	0.440	543	464	2.3	7.390	A
2	182	46	563	0.00	753	0.242	182	69	0.9	7.511	A
3	560	140	19	0.00	1326	0.423	560	726	2.1	6.799	A
4	27	7	526	0.00	783	0.034	27	54	0.1	4.934	A

Q Variation Results for each time segment

HCM: Lane Results

Lane Results: 08:00-08:15

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	1	1, 2, 3, 4	543	543	0.00	89	1233	2.30	7.39	0.44	A
2	1	1, 2, 3, 4	182	182	0.00	563	753	0.95	7.51	0.24	A
3	1	1, 2, 3, 4	560	560	0.00	19	1326	2.15	6.80	0.42	A
4	1	1, 2, 3, 4	27	27	0.00	526	783	0.11	4.93	0.03	A

Lane Results: 08:15-08:30

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	1	1, 2, 3, 4	651	651	0.00	107	1211	3.33	9.06	0.54	A
2	1	1, 2, 3, 4	219	219	0.00	676	670	1.42	9.59	0.33	A
3	1	1, 2, 3, 4	672	672	0.00	23	1320	3.00	8.06	0.51	A
4	1	1, 2, 3, 4	32	32	0.00	631	702	0.14	5.61	0.05	A

Lane Results: 08:30-08:45

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	1	1, 2, 3, 4	608	608	0.00	100	1220	2.87	8.34	0.50	A
2	1	1, 2, 3, 4	204	204	0.00	631	702	1.21	8.67	0.29	A
3	1	1, 2, 3, 4	627	627	0.00	22	1323	2.63	7.53	0.47	A
4	1	1, 2, 3, 4	30	30	0.00	589	733	0.13	5.33	0.04	A

Lane Results: 08:45-09:00

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	**1**	1, 2, 3, 4	543	543	0.00	89	1233	2.30	7.39	0.44	A
2	**1**	1, 2, 3, 4	182	182	0.00	563	753	0.95	7.51	0.24	A
3	**1**	1, 2, 3, 4	560	560	0.00	19	1326	2.15	6.80	0.42	A
4	**1**	1, 2, 3, 4	27	27	0.00	526	783	0.11	4.93	0.03	A

2041, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	HCM Model	D2 - 2021, PM	Demand Set 2: HCM models are most typically used with PHF traffic flow profiles and single time segments. Use of HCM models with other flow profiles is at the user's own risk
Warning	HCM Model		One or more intersections use HCM methodologies. These methods are not associated with TRL. The user should apply judgement when interpreting the results.
Warning	Queue variations	Analysis Options	Q percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Intersection Network

Intersections

Intersection	Name	Intersection type	Use circulating lanes	Leg order	Int Del (s)	Int LOS
1	untitled	HCM Roundabout		1, 2, 3, 4	11.76	B

Intersection Network

Driving side	Lighting	Res Cap (%)	First leg reaching threshold	Network delay (s)	Network LOS
Right	Normal/unknown	28	Leg 1	11.76	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2041	PM	PHF	17:00	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCE Factor for a Truck (PCE)
✓	✓	Truck %s	2.00

Demand overview (Traffic)

Leg	Linked leg	Profile type	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1		PHF	✓	553	100.000
2		PHF	✓	134	100.000
3		PHF	✓	793	100.000
4		PHF	✓	112	100.000

Peak Hour Factor Data (Traffic)

Leg	Hourly volume (Veh/hr)	Peak hour factor	Peak time segment
1	553	0.90	SecondQuarter
2	134	0.90	SecondQuarter
3	793	0.90	SecondQuarter
4	112	0.90	SecondQuarter

Origin-Destination Data

Demand (Veh/hr)

	To

		1	2	3	4
From	1	0	11	539	3
	2	10	0	120	4
	3	555	201	0	37
	4	4	4	104	0

Vehicle Mix

Truck %s

		To			
		1	2	3	4
From	1	2	2	2	2
	2	2	2	2	2
	3	2	2	2	2
	4	2	2	2	2

Results

Results Summary for whole modelled period

Leg	Max V/C	Max Delay (s)	Max Q95 (Veh)	Max LOS	Av. Demand (Veh/hr)	Total Intersection Arrivals (Veh)
1	0.65	13.80	5.0	B	553	553
2	0.23	8.47	0.9	A	134	134
3	0.66	11.22	5.4	B	793	793
4	0.22	9.41	0.8	A	112	112

Main Results for each time segment

17:00 - 17:15

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	512	128	286	0.00	1005	0.510	512	527	3.0	9.796	A
2	124	31	598	0.00	726	0.171	124	200	0.6	6.831	A
3	734	184	16	0.00	1331	0.552	734	706	3.5	8.738	A
4	104	26	709	0.00	647	0.160	104	41	0.6	7.427	A

17:15 - 17:30

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	614	154	343	0.00	947	0.649	614	632	5.0	13.797	B
2	149	37	718	0.00	641	0.232	149	240	0.9	8.466	A
3	881	220	19	0.00	1327	0.664	881	848	5.4	11.224	B
4	124	31	851	0.00	558	0.223	124	49	0.8	9.407	A

17:30 - 17:45

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	573	143	320	0.00	969	0.592	573	590	4.0	11.903	B
2	139	35	670	0.00	674	0.206	139	224	0.8	7.756	A

3	822	206	18	0.00	1328	0.619	822	791	4.5	10.103	B
4	116	29	794	0.00	592	0.196	116	46	0.7	8.540	A

17:45 - 18:00

Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	V/C	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Q95 (Veh)	Delay (s)	Unsignalised level of service
1	512	128	286	0.00	1005	0.510	512	527	3.0	9.796	A
2	124	31	598	0.00	726	0.171	124	200	0.6	6.831	A
3	734	184	16	0.00	1331	0.552	734	706	3.5	8.738	A
4	104	26	709	0.00	647	0.160	104	41	0.6	7.427	A

Q Variation Results for each time segment

HCM: Lane Results

Lane Results: 17:00-17:15

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	1	1, 2, 3, 4	512	512	0.00	286	1005	2.97	9.80	0.51	A
2	1	1, 2, 3, 4	124	124	0.00	598	726	0.61	6.83	0.17	A
3	1	1, 2, 3, 4	734	734	0.00	16	1331	3.52	8.74	0.55	A
4	1	1, 2, 3, 4	104	104	0.00	709	647	0.57	7.43	0.16	A

Lane Results: 17:15-17:30

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	1	1, 2, 3, 4	614	614	0.00	343	947	4.96	13.80	0.65	B
2	1	1, 2, 3, 4	149	149	0.00	718	641	0.89	8.47	0.23	A
3	1	1, 2, 3, 4	881	881	0.00	19	1327	5.41	11.22	0.66	B
4	1	1, 2, 3, 4	124	124	0.00	851	558	0.85	9.41	0.22	A

Lane Results: 17:30-17:45

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	1	1, 2, 3, 4	573	573	0.00	320	969	4.02	11.90	0.59	B
2	1	1, 2, 3, 4	139	139	0.00	670	674	0.77	7.76	0.21	A
3	1	1, 2, 3, 4	822	822	0.00	18	1328	4.55	10.10	0.62	B
4	1	1, 2, 3, 4	116	116	0.00	794	592	0.72	8.54	0.20	A

Lane Results: 17:45-18:00

Leg	HCM Lane	Destination legs	Demand (Veh/hr)	Throughput (Veh/hr)	Ped flow (Ped/hr)	Conflicting flow (Veh/hr)	Capacity (Veh/hr)	Q95 (Veh)	Delay (s)	V/C	LOS
1	1	1, 2, 3, 4	512	512	0.00	286	1005	2.97	9.80	0.51	A
2	1	1, 2, 3, 4	124	124	0.00	598	726	0.61	6.83	0.17	A
3	1	1, 2, 3, 4	734	734	0.00	16	1331	3.52	8.74	0.55	A
4	1	1, 2, 3, 4	104	104	0.00	709	647	0.57	7.43	0.16	A

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TRANSPORTATION
CONSULTANTS, INC.

Transportation Update Memo

Date: June 8, 2007

To: Tim Seibert, NES

From: Christopher McGranahan, P.E., PTOE

Project: Gunnison Gateway Annexation
LSC #066650

UPDATED WEEKDAY TRIP GENERATION

The weekday trip generation table that was included in the December 12, 2006 Traffic Impact Analysis (TIA) is attached along with the updated table for the recently revised land use plan.

Weekday Traffic

The original trip generation table included in the TIA estimated the site would generate about 34,900 trips on the average weekday. The updated trip generation table estimates the updated land use for the site would generate about 32,150 trips on the average weekday. This results in a decrease of about eight percent.

Weekday Morning Peak-Hour Traffic

The original trip generation table included in the TIA estimated the site would generate about 2,370 trips during the typical weekday morning peak hour. The updated trip generation table estimates the updated land use for the site would generate about 2,200 trips during the typical weekday morning peak hour. This results in a decrease of more than seven percent.

Weekday Afternoon Peak-Hour Traffic

The original trip generation table included in the TIA estimated the site would generate about 3,485 trips during the typical weekday afternoon peak hour. The updated trip generation table estimates the updated land use for the site would generate about 3,190 trips during the typical weekday afternoon peak hour. This results in a decrease of between eight and nine percent.

Summary of Trip Generation Updates

The proposed single-family home and condo/townhome densities were decreased significantly. This is expected to result in a reduction in weekday traffic of about 3,625 trips per day.

The number of spaces available in the Recreational Vehicle Park was increased from 400 to 500. This is expected to result in an increase in weekday traffic of about 400 trips per day.

The addition of an elementary school is expected to result in an increase in weekday traffic of about 150 trips per day. These would be the trips external to the site.

The Business Park component of the site located in TAZs G and H has increased from about 688,700 square feet to about 716,400 square feet. This is expected to result in an increase in weekday traffic of about 330 trips per day.

Change in Access To/From the West

The original TIA assumed about 1,250 trips per day would use Escalante Drive to access the core of Gunnison. It assumed about 2,100 trips per day would use Georgia Avenue to access the core of Gunnison. If Western State College has issues with improvements to Escalante Drive or additional traffic on Escalante Drive then the traffic distribution assumed in the TIA will need to be revised appropriately.

Georgia Avenue intersects Escalante Drive west of the proposed site. If Georgia Avenue were to remain the primary non-highway access to/from the west it would be difficult to prevent site traffic from using Escalante Drive as the two streets intersect just west of the site. An option is being explored that would make Virginia Street the primary non-highway access to/from the west. This has several benefits over Georgia Avenue including: the intersection of Virginia Street with State Highway 135 is currently signalized while the intersection of Georgia Avenue with State Highway 135 is two-way stop-sign controlled; Virginia Street does not intersection with Escalante Drive, making Escalante Drive much less attractive to non-college traffic; a single-lane roundabout could be implemented at the intersection of Virginia Street and Adams Street to maintain good traffic operations for both streets near the front door of Western State College; a roundabout could be a nice entry feature for Western State College. One negative for this option is that it will require Virginia Street to be constructed through the currently open land west of Adams Street owned by Western State College.

Proposed Traffic Volumes on Virginia Street

With Virginia Street as the only non-highway east/west connection to the core of Gunnison, it is expected that the 1,250 weekday trips previously assigned to Escalante Drive and the 2,100 weekday trips previously assigned to Georgia Avenue would redirect to Virginia Street. The total weekday trips that would ultimately impact Virigina is expected to be in the range of 3,500 and 5,000 trips per day. It is expected a significant portion of this site traffic on Virginia Street would distribute north and south on Colorado, which currently serves as a bypass around the downtown core. As various developments are proposed in the site it is recommended the traffic operations be monitored at the intersection of Virginia Street and Colorado to determine if any modifications are needed to the existing traffic control.

Proposed Access Plan on US Highway 50

The site access intersections on US Highway 50 identified in the original TIA were located partly based on CDOT's requirement of half-mile spacing for full-movement intersections. Review comments from the City of Gunnison and their traffic consultant, Bill Fox, have indicated a desire for two additional site access intersections on the west end of the site to extend the existing street grid found in the core of Gunnison to the west. It is likely CDOT will have issues with these additional access intersections.

CDOT has commented in writing that their agreement to half-mile access spacing was under the assumption that all accesses would be City Streets. They prefer not to grant access rights that only serve a campground, trailhead, business park, commercial, etc. I believe what they would like to see is an east/west road south of US Highway 50 that could connect all or most of the access points locally. If we take the position that this is not possible due to floodplain, ground water, topography, etc., we may have to provide evidence of this to CDOT.

Street Connection Proposed by Steve Westbay

Steve Westbay with the City of Gunnison has proposed a local roadway connection through the site that would connect US Highway 50 and State Highway 135. This route as drawn would be very difficult to achieve based on the existing topography. The alignment proposed is a relatively direct route and has the feeling of a bypass. This may encourage vehicles accessing Crested Butte from east of Gunnison to bypass a majority of the commercial enterprises in Gunnison. It may be more appropriate to have a less direct route that would serve as more of a local access from the middle to the north end of the site to/from the west.

Table 1a - December 2006
Weekday Trip Generation Estimates - Buildout
Gunnison Rising - "Authentically Colorado"

TAZ [1]	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [2]: Average Weekday Traffic	Trip Generation Rates: Morning Peak Hour In	Trip Generation Rates: Morning Peak Hour Out	Trip Generation Rates: Afternoon Peak Hour In	Trip Generation Rates: Afternoon Peak Hour Out	Total Trips Generated: Average Weekday Traffic	Total Trips Generated: Morning Peak Hour In	Total Trips Generated: Morning Peak Hour Out	Total Trips Generated: Afternoon Peak Hour In	Total Trips Generated: Afternoon Peak Hour Out
A	210	Single-Family Detached Housing	624 DU [3]	9.57	0.19	0.56	0.65	0.36	5,972	117	351	403	227
B	230	Residential Condominium/Townhouse	426 DU	5.86	0.07	0.37	0.36	0.18	2,496	32	156	154	76
C	416	Campground/Recreational Vehicle Park [4]	400 Occupied Spaces	4.00	0.11	0.16	0.27	0.12	1,600	45	63	108	48
D	210	Single-Family Detached Housing	388 DU	9.57	0.19	0.56	0.65	0.36	3,713	73	218	251	141
E	230	Residential Condominium/Townhouse	202 DU	5.86	0.07	0.37	0.36	0.18	1,184	15	74	73	36
	820	Shopping Center	174.2 KSF [5]	50.36	0.69	0.44	2.26	2.45	8,775	121	77	394	426
F	820	Shopping Center	59.2 KSF	50.36	0.69	0.44	2.26	2.45	2,984	41	26	134	145
G	770	Business Park	392.3 KSF	11.83	1.17	0.22	0.29	0.97	4,641	459	88	113	379
H	770	Business Park	296.4 KSF	11.83	1.17	0.22	0.29	0.97	3,507	347	66	86	286
I	- - -	Equestrian Center [6]	20 Acres	1.14	0.10	0.10	0.10	0.10	23	2	2	2	2
		Buildout Total							**34,894**	**1,252**	**1,120**	**1,717**	**1,767**

Notes:

(1) TAZ = traffic analysis zone

(2) Source: "Trip Generation, 6th Edition, 1997" by the Institute of Transportation Engineers

(3) DU = dwelling unit

(4) The "Trip Generation, 6th Edition" rate was used and applied at the "Trip Generation, 7th Edition" directional distribution, since no distribution was available in the 6th edition. The average weekday traffic rate was estimated by LSC.

(5) KSF = thousand square feet

(6) Rates estimated by LSC

Source: LSC Transportation Consultants, Inc.

Table 1a - June 2007
Weekday Trip Generation Estimates - Buildout
Gunnison Rising - "Authentically Colorado"

TAZ (1)	Land Use Code	Land Use Description	Trip Generation Units		Trip Generation Rates (2): Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Total Trips Generated: Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out
A	210	Single-Family Detached Housing	540	DU (3)	9.57	0.19	0.56	0.65	0.36	5,168	101	304	349	196
	520	Elementary School (4)	300	Students	0.51	0.09	0.06	0.00	0.01	153	26	18	0	2
B	230	Residential Condominium/Townhouse	305	DU	5.86	0.07	0.37	0.36	0.18	1,787	23	111	110	54
C	416	Campground/Recreational Vehicle Park (5)	500	Occupied Spaces	4.00	0.11	0.16	0.27	0.12	2,000	57	78	135	60
D	210	Single-Family Detached Housing	190	DU	9.57	0.19	0.56	0.65	0.36	1,818	36	107	123	69
E	230	Residential Condominium/Townhouse	165	DU	5.86	0.07	0.37	0.36	0.18	967	12	60	60	29
	820	Shopping Center	174.2	KSF (6)	50.36	0.69	0.44	2.26	2.45	8,773	121	77	394	426
F	820	Shopping Center	59.2	KSF	50.36	0.69	0.44	2.26	2.45	2,981	41	26	134	145
G	770	Business Park	466.5	KSF	11.83	1.17	0.22	0.29	0.97	5,519	546	104	135	451
H	770	Business Park	249.9	KSF	11.83	1.17	0.22	0.29	0.97	2,957	293	56	72	241
I	- - -	Equestrian Center (7)	68	Acres	0.37	0.03	0.03	0.03	0.03	25	2	2	2	2
		Buildout Total								**32,149**	**1,257**	**943**	**1,513**	**1,676**

Notes:

(1) TAZ = traffic analysis zone

(2) Source: "Trip Generation, 6th Edition, 1997" by the Institute of Transportation Engineers

(3) DU = dwelling unit

(4) These rates are 50% of the actual Elementary School rates because this table estimates external trips - it is estimated that 50% of school traffic will be internal to the site

(5) The "Trip Generation, 6th Edition" rate was used and applied at the "Trip Generation, 7th Edition" directional distribution, since no distribution was available in the 6th edition. The average weekday traffic rate was estimated by LSC.

(6) KSF = thousand square feet

(7) Rates estimated by LSC

Source: LSC Transportation Consultants, Inc.

Gunnison Rising - "Authentically Colorado"
Master Plan Level
Traffic Impact Analysis

December 12, 2006

TRANSPORTATION CONSULTANTS, INC.

LSC TRANSPORTATION CONSULTANTS, INC.

516 North Tejon Street
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TRANSPORTATION
CONSULTANTS, INC.

December 12, 2006

Mr. Timothy Seibert
N.E.S., Inc.
508 South Tejon Street
Colorado Springs, Colorado 80903

RE: Gunnison Rising - "Authentically Colorado"
Master Plan Level
Traffic Impact Analysis Report
Gunnison, Colorado
LSC #066650

Dear Mr. Seibert:

In response to your request, LSC Transportation Consultants, Inc. has prepared this Master Plan level traffic impact analysis report for the proposed Gunnison Rising - "Authentically Colorado" mixed-use development. We trust that the report will assist you in annexing this property into the City of Gunnison. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By ______________________
Christopher S. McGranahan, P.E., PTOE
Senior Transportation Engineer

COLORADO LICENSED
CHRISTOPHER S. McGRANAHAN
39018
PROFESSIONAL ENGINEER

12-12-06

CSM:DCJ:bjwb

Gunnison Rising - “Authentically Colorado”
Master Plan Level
Traffic Impact Analysis

December 12, 2006

Prepared for:

Mr. Timothy Seibert
N.E.S., Inc.
508 South Tejon Street
Colorado Springs, CO 80903
(719) 471-0073

Prepared by:

LSC Transportation Consultants, Inc.
516 North Tejon Street
Colorado Springs, CO 80903
(719) 633-2868

LSC #066650

December 12, 2006

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Executive Summary

LSC
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Executive Summary

LSC Transportation Consultants, Inc. has prepared this Master Plan level traffic impact analysis report for the proposed Gunnison Rising - "Authentically Colorado" mixed-use development located along US Highway 50 (US 50) east of the City of Gunnison, Colorado. The property is proposed for annexation into the City of Gunnison.

PROPOSED LAND USE AND ACCESS PLAN

Buildout of the property is proposed as approximately 1,012 single-family houses, 628 townhouse/condominium units, 233,400 square feet of shopping center space, 688,700 square feet of business park space, a 400-space recreational vehicle park/campground, and a 20-acre equestrian center.

There are numerous site access intersections proposed to US 50, as well as local site access intersections via Georgia Avenue and Escalante Drive. The locations of these site access intersections are shown on the various report figures.

TRIP GENERATION

Buildout of the site is projected to generate about 34,895 vehicle-trips during a typical weekday, with about half of the vehicles entering and half of the vehicles exiting the site. During the weekday morning peak hour, about 1,250 vehicles would enter and 1,120 vehicles would exit the site. During the weekday afternoon peak hour, about 1,715 vehicles would enter and 1,765 vehicles would exit the site.

Buildout of the site is projected to generate about 33,390 vehicle-trips during a typical Saturday, with about half of the vehicles entering and half of the vehicles exiting the site. During the Saturday mid-day peak hour, about 1,730 vehicles would enter and 1,485 vehicles would exit the site.

WEEKDAY AND SATURDAY TRAFFIC COMPARISON

The existing and projected site-generated traffic volumes are expected to be higher during the typical weekday than during the typical Saturday. For this reason, the weekday scenario was analyzed in detail.

PROJECTED LEVELS OF SERVICE

All of the movements at the analyzed signalized intersections are projected to operate at acceptable levels of service (LOS) during the peak hours through the year 2027 with the recommended roadway improvements. A few of the movements at the analyzed stop-sign controlled intersections are projected to operate at LOS E or F during the peak hours with the recommended roadway improvements. Potential mitigation for these LOS E and F intersections is discussed in the report.

TRAFFIC SIGNAL PROGRESSION EFFICIENCY

Generally speaking, the proposed traffic signals are fairly well spaced, but some are not within 200 feet of the one-half mile spacing preferred by the Colorado Department of Transportation (CDOT), which requires a progression efficiency analysis. The progression efficiencies on US 50 between New York Street and the proposed Gunnison Rising traffic signals are projected to meet or exceed the CDOT requirement of 35 percent.

The progression efficiencies assumed that the section of US 50 between Adams Street and the Residential Village development will be an extension of the existing five-lane urban cross section to the west, with curb and gutter and a posted speed limit of 45 miles per hour (mph). US 50 is proposed as one through lane in each direction with a rural cross section to the east of the Residential Village development, and with shoulders and roadside ditches. Posting this rural section at either 45 or 65 mph would result in a progression efficiency of approximately 41.5 percent. Posting this rural section at 55 mph would result in a progression efficiency of 35 percent.

RECOMMENDED ROADWAY IMPROVEMENTS

The roadway improvements required to achieve the projected levels of service shown on Tables 2a, 2b, and 2c are detailed on Table 3, along with a suggested party responsible for funding each roadway improvement. Figures 8a and 8b show the majority of the recommended roadway improvements.

LOCAL NEIGHBORHOOD TRAFFIC IMPACTS

A majority of the site-generated traffic volume is expected to access the site via US 50. Secondary local site access would be to and from the west via Georgia Avenue and Escalante Drive. Escalante Drive is currently a private college street that has no way to restrict non-college traffic. There is little non-college traffic currently using Escalante Drive due to the layout of the existing street system. With an eastern extension of Georgia, it will be more attractive for non-college traffic to use Escalante Drive as an additional east/west route. If Escalante Drive remains private and unimproved, there will likely be less traffic using Escalante than predicted in this analysis. It is expected that traffic capacity will be adequate on Georgia Avenue to accommodate the projected future traffic with or without improvements to Escalante Drive.

From Georgia Avenue and Escalante Drive, it is expected that the site-generated traffic would use Colorado Street to distribute north and south. The site-generated traffic that has an origin or destination east of State Highway 135 (SH 135) is expected to use the local street grid between Colorado Street and SH 135. The site-generated traffic that has an origin or destination on or west of SH 135 is expected to use Colorado Street to access the existing SH 135 traffic signals at Virginia Street, Denver Street, and Spencer Avenue.

CDOT STATE HIGHWAY ACCESS PERMIT

It is expected that site specific traffic studies will be completed for the various phases of the project in order to obtain any necessary CDOT State Highway Access Permits.

Traffic Impact Analysis Report

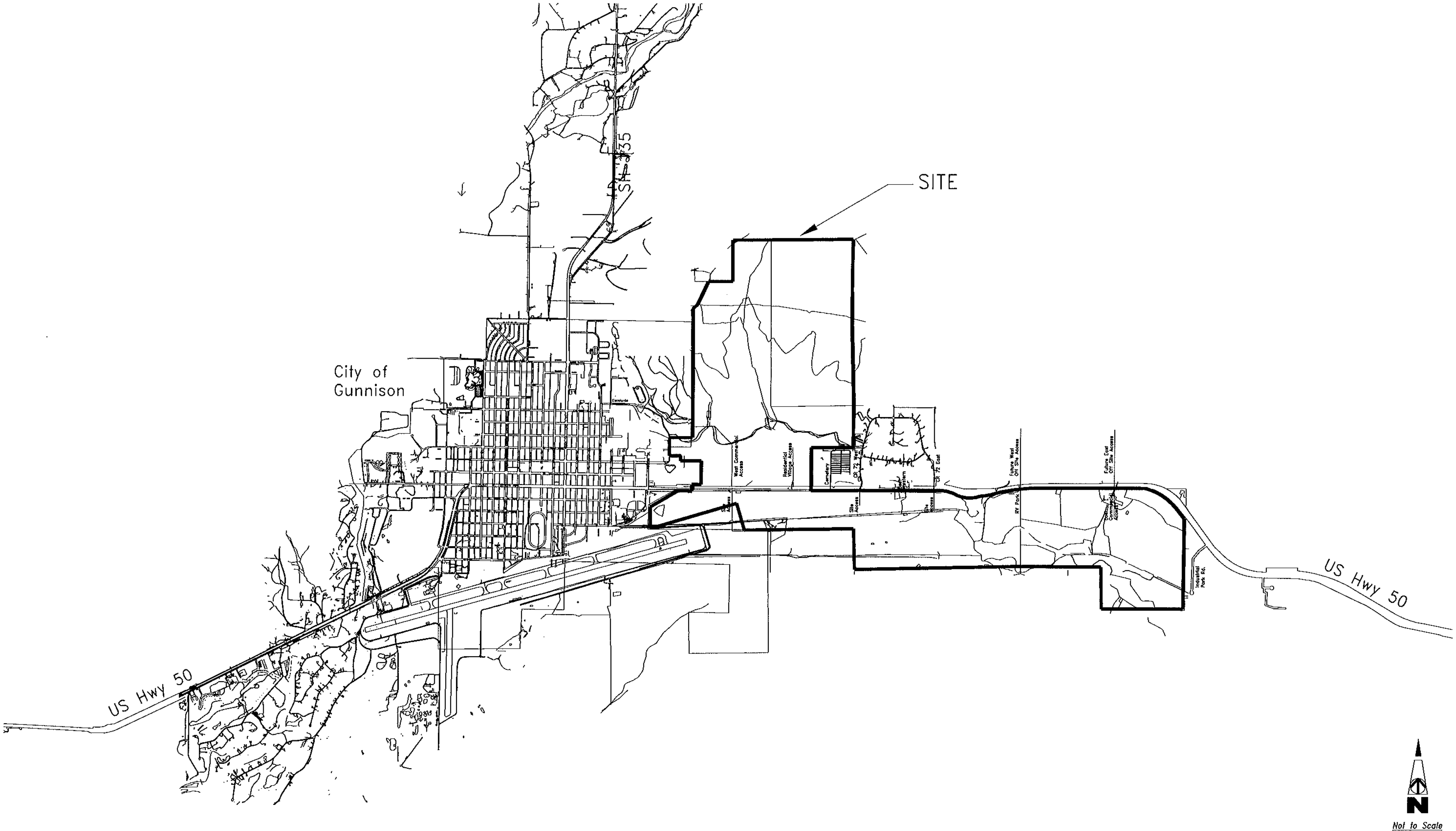
TRANSPORTATION CONSULTANTS, INC.

SECTION A
Introduction

LSC Transportation Consultants, Inc. has prepared this Master Plan level traffic impact analysis report for the proposed Gunnison Rising - "Authentically Colorado" mixed-use development. As shown on Figure 1, the site is located along US Highway 50 (US 50) east of the City of Gunnison, Colorado. The property is proposed for annexation into the City of Gunnison.

This report is being prepared for submittal to the City of Gunnison and the Colorado Department of Transportation (CDOT). The report identifies the development's traffic impacts on the surrounding roadway system, as well as the roadway system improvements needed to mitigate the traffic impacts. The intersections included in the analysis were agreed to by the City of Gunnison and CDOT staff during preliminary discussions. It is expected that site specific traffic studies will be completed for the various phases of the project in order to obtain any necessary CDOT State Highway Access Permits.

The report contains the following: a determination of the existing traffic and roadway conditions in the vicinity of the site including the lane geometries, traffic controls, and levels of service; the projected average weekday, weekday peak-hour, average Saturday, and Saturday peak-hour vehicle-trips to be generated by the site; the assignment of the projected traffic volumes to the surrounding roadway system; a projection of the future background and total traffic volumes on the roadway system for the year 2027; the resulting traffic impacts; and the recommended improvements to the surrounding roadway system.



Vicinity Map
Gunnison Rising "Authentically Colorado"

Figure 1
LSC # 066650

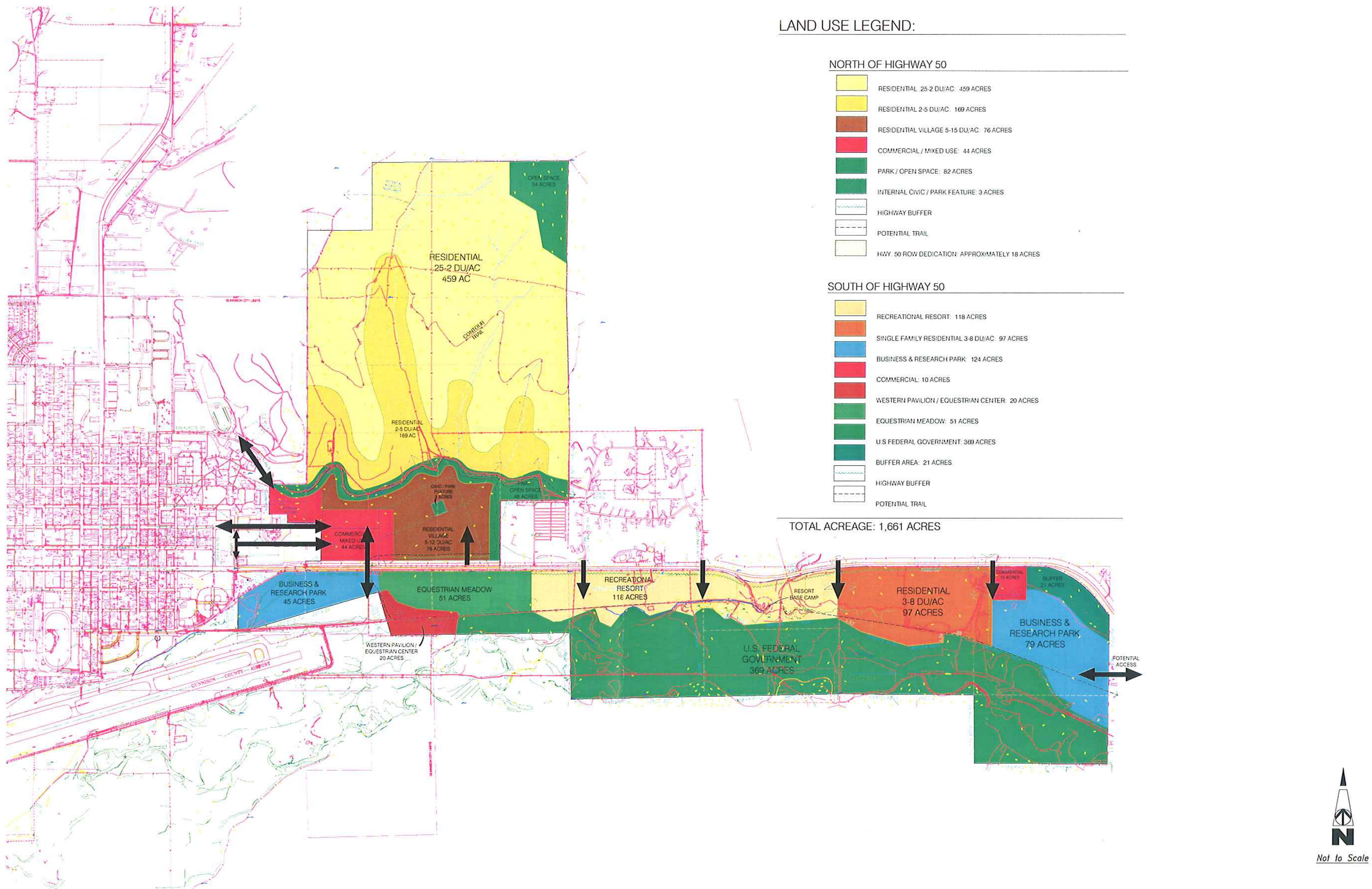
LSC TRANSPORTATION CONSULTANTS, INC.

SECTION B

Land Use and Access Plan

The existing land use in the vicinity of the site is primarily agricultural.

Figure 2a shows the preliminary site plan and the proposed site access intersections. The various traffic analysis zones (TAZ) are shown in Figure 2b. Buildout of the property is proposed as approximately 1,012 single-family houses, 628 townhouse/condominium units, 233,400 square feet of shopping center space, 688,700 square feet of business park space, a 400-space recreational vehicle park/campground, and a 20-acre equestrian center.



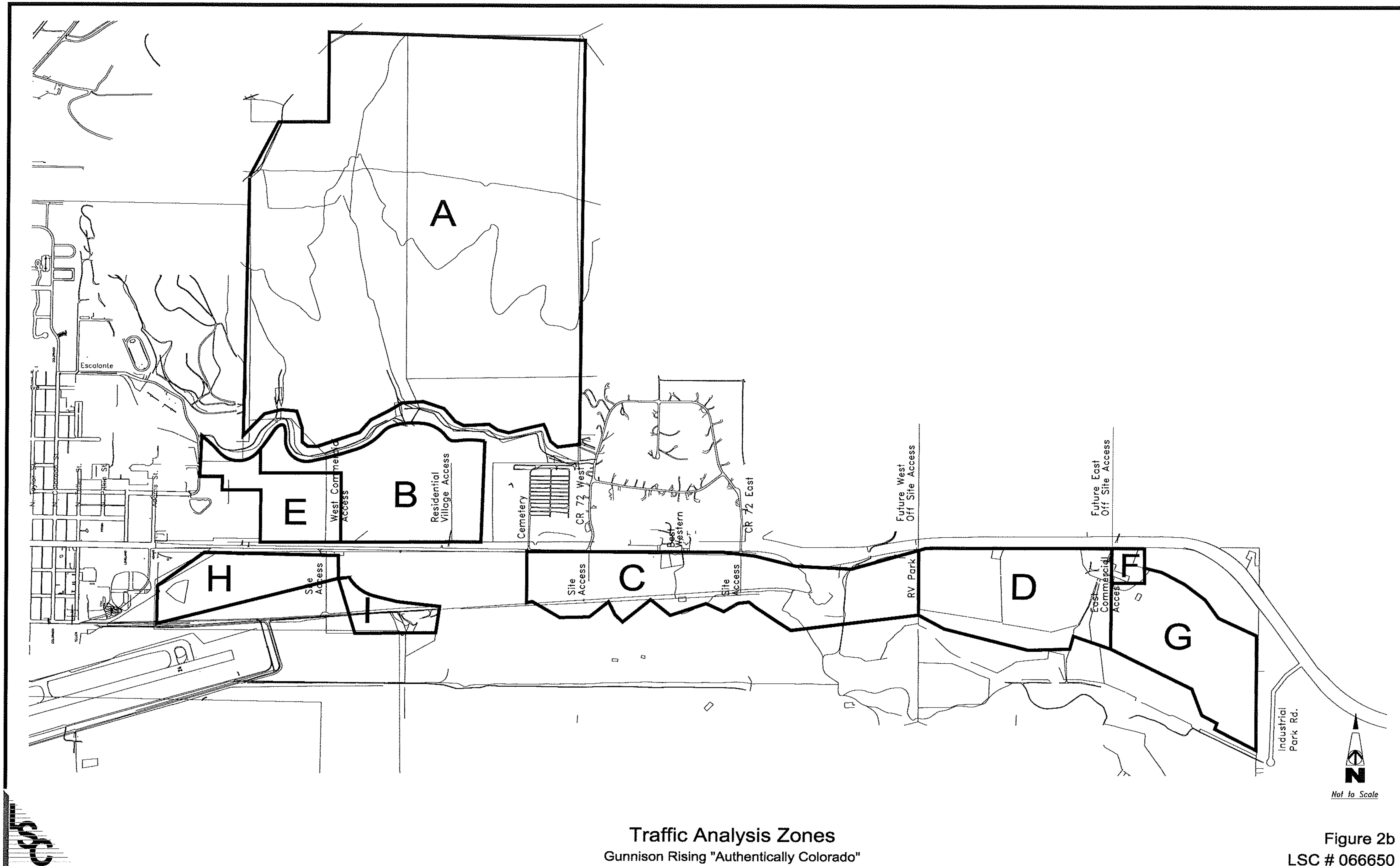
Site Plan

Gunnison Rising "Authentically Colorado"

Figure 2a

LSC # 066650

TRANSPORTATION CONSULTANTS, INC.



Traffic Analysis Zones

Gunnison Rising "Authentically Colorado"

Figure 2b

LSC # 066650

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SECTION C
Area Roadways

The roadways in the vicinity of the site are shown on Figure 1, and are listed below followed by a brief description.

- **US Highway 50 (US 50)** is locally known as Tomichi Avenue. US 50 is a major east/west route extending across Colorado. Locally, US 50 extends west to the City of Montrose and east to Monarch Pass. In the vicinity of the site, US 50 is classified as a Regional Highway (RA) by CDOT and has a two-lane rural cross section with a posted speed limit of 65 miles per hour (mph). To the west of the site, US 50 is a five-lane urban section through the City of Gunnison with a posted speed limit of 35 mph.

- **State Highway 135 (SH 135)** is locally known as Main Street. SH 135 is a north/south route extending north from US 50 in the City of Gunnison to the City of Crested Butte. In the City of Gunnison, SH 135 is classified as a Urban Arterial (NRB) by CDOT and has a five-lane urban cross section with a posted speed limit varying from 25 to 40 mph. To the north of the City of Gunnison, SH 135 becomes a two-lane rural cross section classified as a Regional Highway (RA) with a posted speed limit of 55 mph.

- **County Road 72 (CR 72)** is an existing gravel County Road that loops around to form two three-leg intersections with US 50 east of the City of Gunnison. CR 72 serves a low density rural subdivision, and has relatively low traffic volumes.

- **Industrial Park Road** is an existing gravel County Road that forms a three-leg intersection with US 50 east of the City of Gunnison. Industrial Park Road has a posted speed limit of 20 mph, and serves a number of existing industrial uses that generate relatively low traffic volumes.

- **Adams Street** is a local north/south City street on the east side of the City of Gunnison, that provides direct access to the south side of Western State College and an existing McDonalds restaurant. There is no posted speed limit on Adams Street. At US 50, Adams Street is stop-sign controlled with no pavement markings. Adams Street is wide enough that right-turning vehicles are not blocked by the queued vehicles wishing to turn left or go straight. The Pioneer Museum is located on the southeast corner of the US 50/Adams Street intersection.

- **Colorado Street** is a north/south City street that provides access to the west side of Western State College, and serves as traffic relief for the signalized US 50/SH 135 intersection by providing an alternative connection between

US 50 and SH 135. Colorado Street has a bicycle lane and parallel parking on each side of the street.

- **Georgia Avenue** is an east/west City street extending through much of the City of Gunnison, with parking on both sides of the street for much of its length. Georgia Avenue's eastern terminus is at Western State College. An existing parking lot will need to be relocated in order to allow Georgia Avenue to extend into the Gunnison Rising site.

- **Virginia Street** is an east/west City street extending through much of the City of Gunnison, with parking on both sides of the street for much of its length. Virginia Street's eastern terminus is at Loveland Street. An existing park prevents extending Virginia Street into the Gunnison Rising site. Virginia Street has one of the few existing traffic signals on SH 135 north of US 50.

- **Escalante Drive** is a private college street running along the east and north borders of Western State College. Escalante Drive terminates at Georgia Avenue on the east and Colorado Street on the west. Preliminary discussions have occurred with Western State College representatives regarding roadway improvements to Escalante Drive and converting Escalante Drive to a public street. These roadway improvements and conversion would provide relief for Georgia Avenue and US 50 for the site-generated traffic wishing to travel to and from the west.

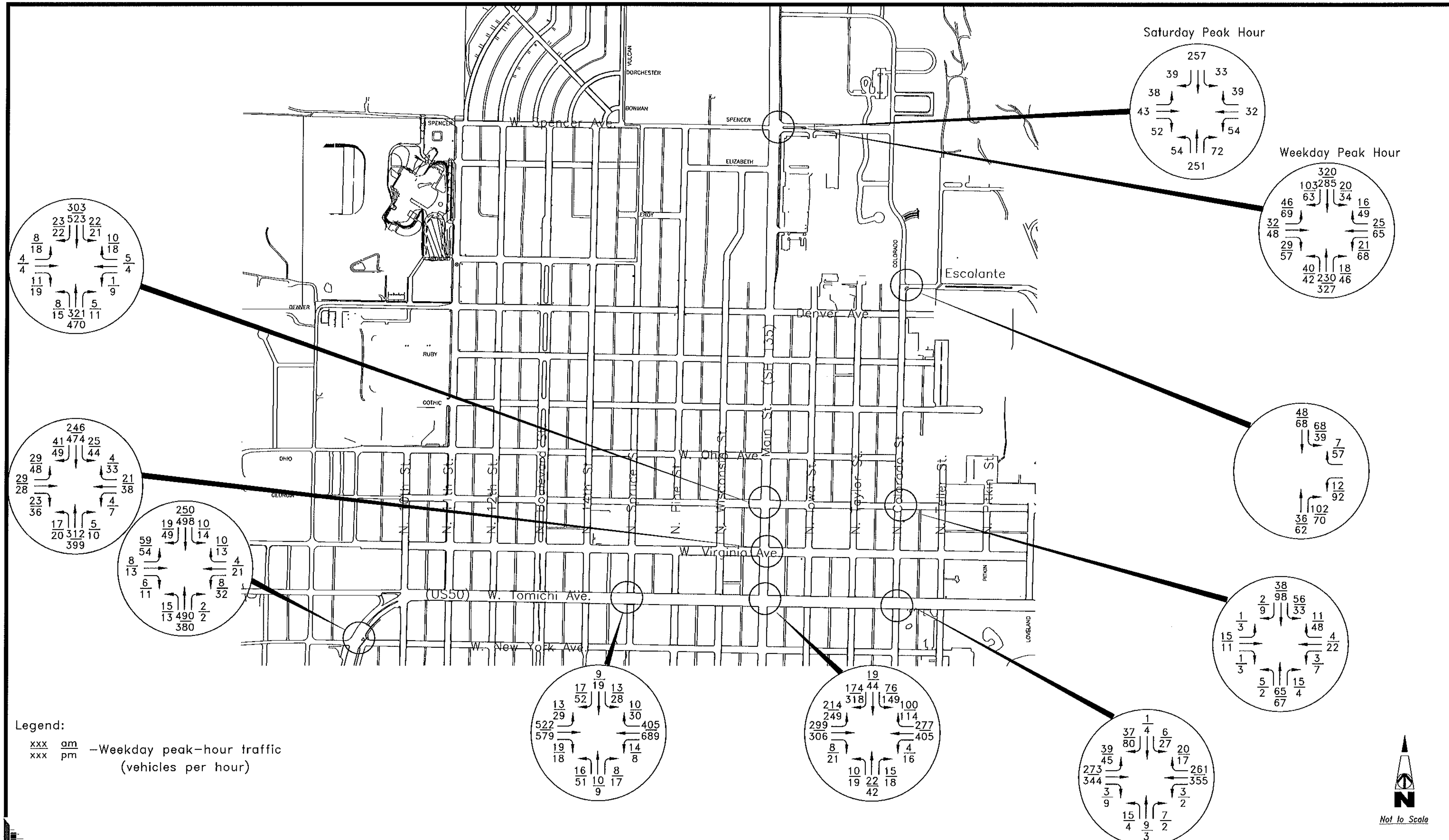
SECTION D
2007 Existing Traffic Volumes

Figures 3a and 3b show the existing peak-hour traffic volumes for the analyzed intersections. The traffic volumes were from traffic counts conducted by LSC in September and October 2006. The traffic count reports are attached in Appendix A.

It was agreed with the City of Gunnison and CDOT staff that a summer peak-season adjustment factor would be needed in order to account for the higher summer traffic volumes seen in the City of Gunnison. The peak-hour traffic counts conducted at the SH 135/Spencer Avenue intersection were compared with the traffic counts conducted at this intersection during the year 2006 summer season. The following summer peak-season adjustment factors were developed based on a comparison of these two traffic counts.

- US 50 and SH 135 through traffic: The weekday morning peak-hour traffic volumes were increased by 15 percent. The weekday afternoon peak-hour traffic volumes were increased by 30 percent.
- City street local traffic: The weekday morning peak-hour traffic volumes were increased by about five percent. The weekday afternoon peak-hour traffic volumes were increased by about eight percent. The exception was the local streets adjacent to Western State College, which were not adjusted because the Western State College traffic volumes are much lower during the summer months.

Figures 3c and 3d show the estimated summer peak-season traffic volumes for the analyzed intersections based on the traffic counts and the summer peak-season adjustment factors. Figures 3c and 3d also show the existing lane geometries, traffic controls, and levels of service for the analyzed intersections.



Existing Traffic

Gunnison Rising "Authentically Colorado"

Figure 3a

LSC # 066650

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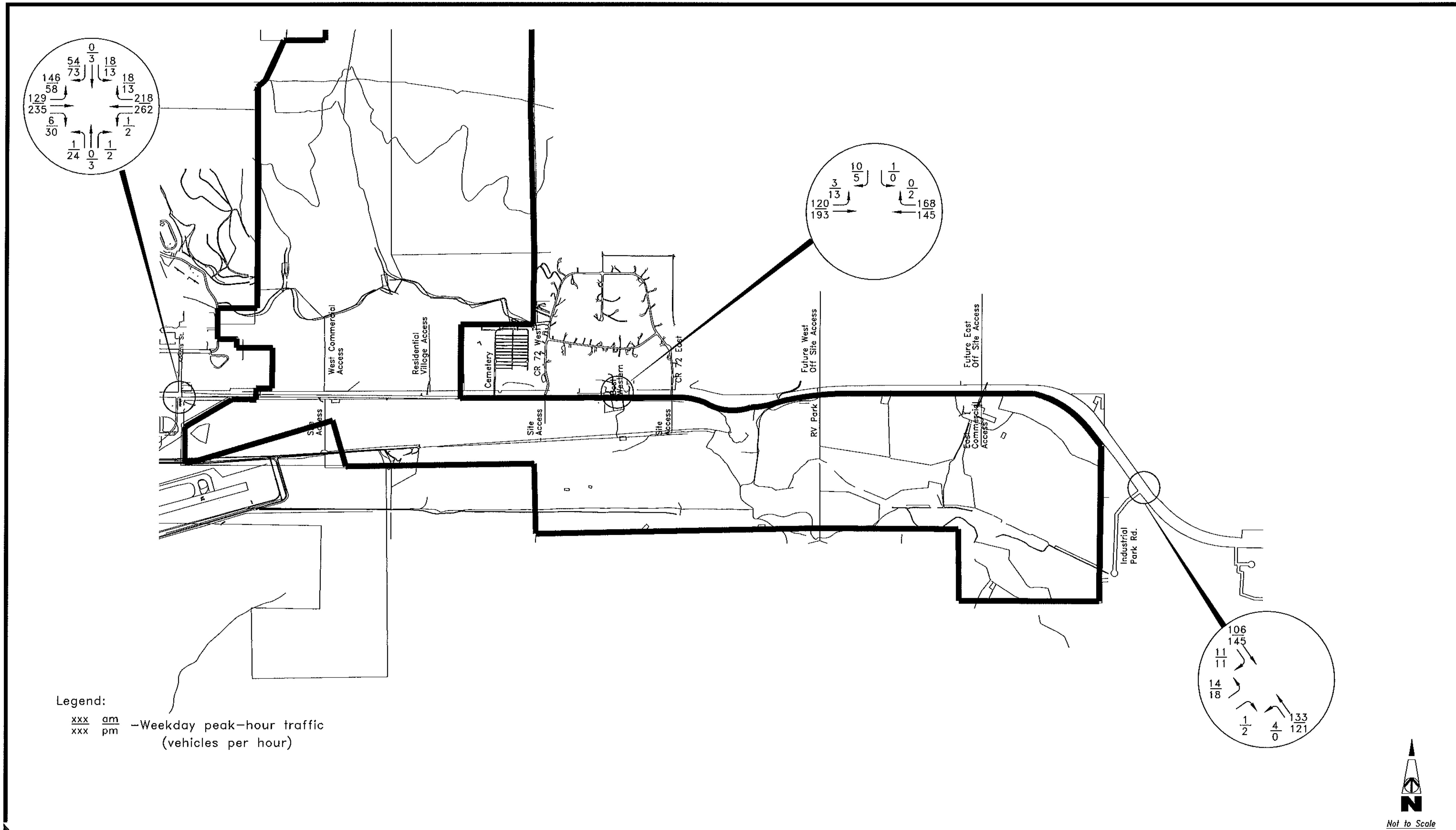


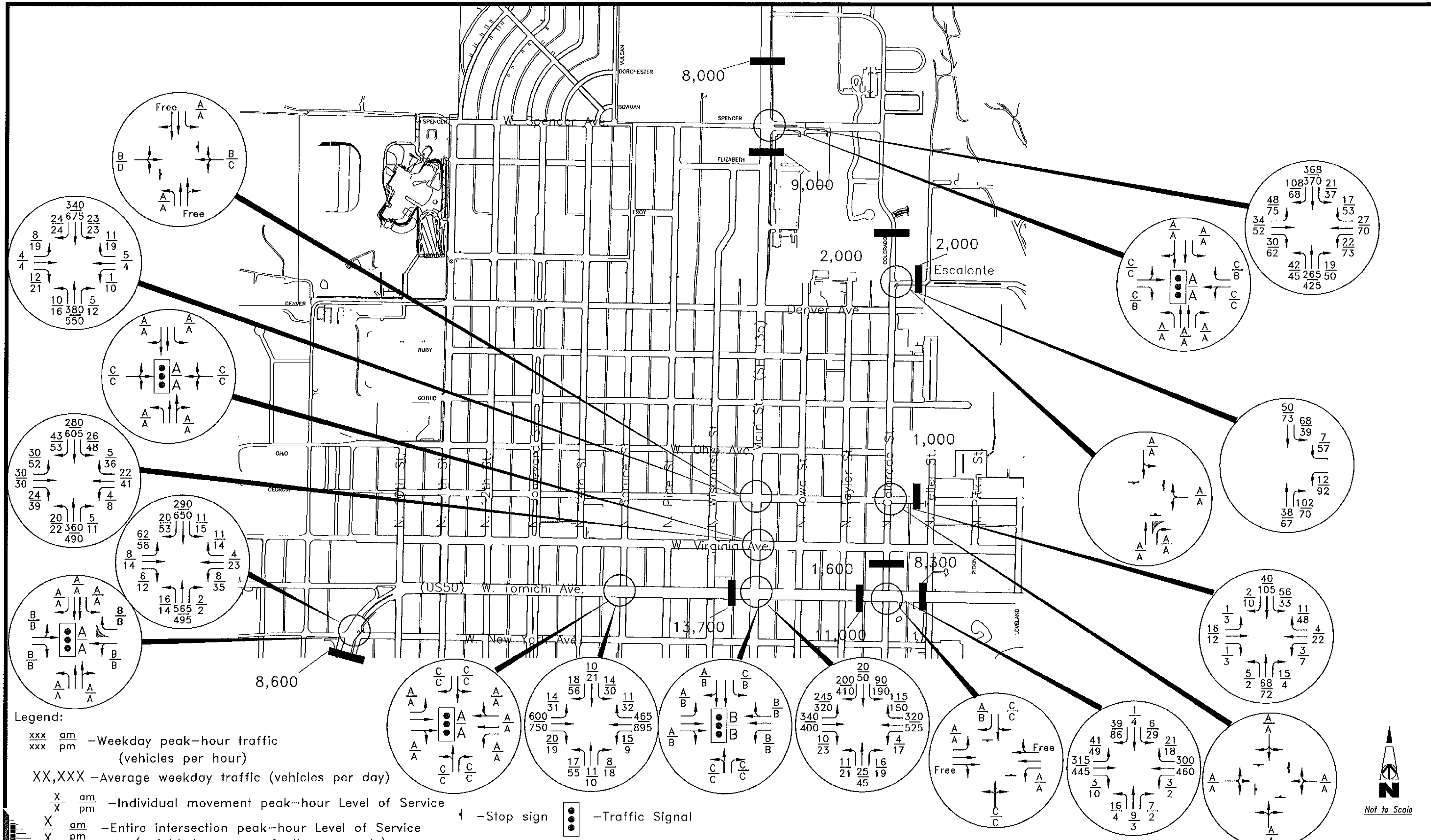
Existing Traffic

Gunnison Rising "Authentically Colorado"

Figure 3b

LSC # 066650

TRANSPORTATION CONSULTANTS, INC.



Legend:
xxx/xxx am/pm –Weekday peak-hour traffic (vehicles per hour)
XX,XXX –Average weekday traffic (vehicles per day)
X/X am/pm –Individual movement peak-hour Level of Service
X/X am/pm –Entire intersection peak-hour Level of Service (weighted average of all movements)
–Stop sign
–Traffic Signal

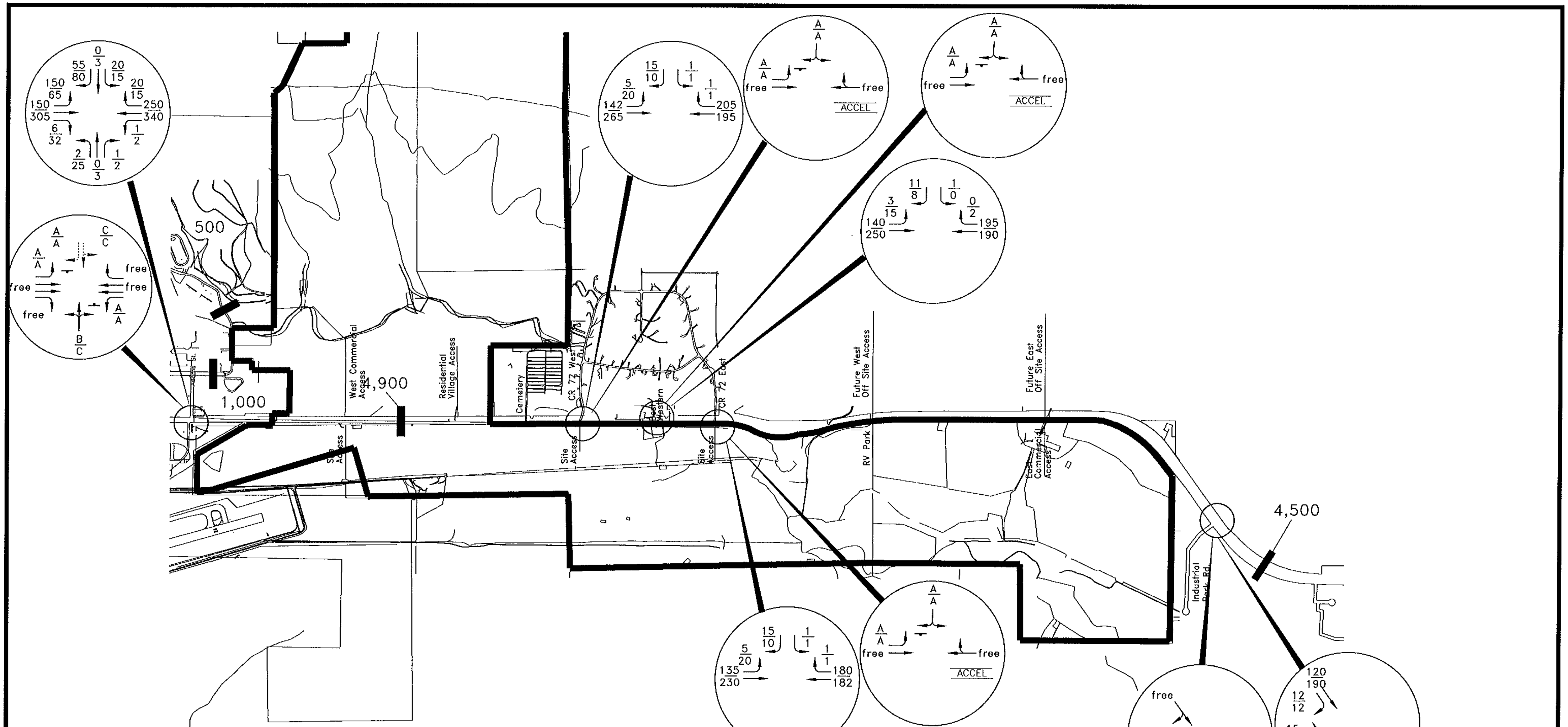
Projected Summer Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Gunnison Rising "Authentically Colorado"

Figure 3c

LSC # 066650

TRANSPORTATION CONSULTANTS, INC.



Legend:

xxx/xxx am/pm –Weekday peak-hour traffic (vehicles per hour)

XX,XXX –Average weekday traffic (vehicles per day)

X/X am/pm –Individual movement peak-hour Level of Service

X/X pm am/pm –Entire intersection peak-hour Level of Service (weighted average of all movements)

–Stop sign

–Traffic Signal

TRANSPORTATION CONSULTANTS, INC.

Projected Summer Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Gunnison Rising "Authentically Colorado"

Figure 3d

LSC # 066650

SECTION E
Trip Generation

Estimates of the traffic volumes expected to be generated by the development have been made using the nationally published trip generation rates found in *Trip Generation, 6th Edition, 1997* by the Institute of Transportation Engineers (ITE). Table 1a shows the projected average weekday, weekday morning peak-hour, and weekday afternoon peak-hour vehicle-trips to be generated by the development. Table 1b shows the projected average Saturday and Saturday mid-day peak-hour vehicle-trips to be generated by the development.

Buildout of the site is projected to generate about 34,895 vehicle-trips during a typical weekday, with about half of the vehicles entering and half of the vehicles exiting the site. During the weekday morning peak hour, which typically occurs for one hour between 6:30 and 8:30 a.m., about 1,250 vehicles would enter and 1,120 vehicles would exit the site. During the weekday afternoon peak hour, which typically occurs for one hour between 4:00 and 6:00 p.m., about 1,715 vehicles would enter and 1,765 vehicles would exit the site.

Buildout of the site is projected to generate about 33,390 vehicle-trips during a typical Saturday, with about half of the vehicles entering and half of the vehicles exiting the site. During the Saturday mid-day peak hour, which typically occurs for one hour between 12:00 and 2:00 p.m., about 1,730 vehicles would enter and 1,485 vehicles would exit the site.

Table 1a
Weekday Trip Generation Estimates - Buildout
Gunnison Rising - "Authentically Colorado"

					Trip Generation Rates [2]					Total Trips Generated				
	Land Use	Land Use	Trip Generation		Average Weekday	Morning Peak Hour		Afternoon Peak Hour		Average Weekday	Morning Peak Hour		Afternoon Peak Hour	
TAZ [1]	Code	Description	Units		Traffic	In	Out	In	Out	Traffic	In	Out	In	Out
A	210	Single-Family Detached Housing	624	DU [3]	9.57	0.19	0.56	0.65	0.36	5,972	117	351	403	227
B	230	Residential Condominium/Townhouse	426	DU	5.86	0.07	0.37	0.36	0.18	2,496	32	156	154	76
C	416	Campground/Recreational Vehicle Park [4]	400	Occupied Spaces	4.00	0.11	0.16	0.27	0.12	1,600	45	63	108	48
D	210	Single-Family Detached Housing	388	DU	9.57	0.19	0.56	0.65	0.36	3,713	73	218	251	141
E	230	Residential Condominium/Townhouse	202	DU	5.86	0.07	0.37	0.36	0.18	1,184	15	74	73	36
	820	Shopping Center	174.2	KSF [5]	50.36	0.69	0.44	2.26	2.45	8,775	121	77	394	426
F	820	Shopping Center	59.2	KSF	50.36	0.69	0.44	2.26	2.45	2,984	41	26	134	145
G	770	Business Park	392.3	KSF	11.83	1.17	0.22	0.29	0.97	4,641	459	88	113	379
H	770	Business Park	296.4	KSF	11.83	1.17	0.22	0.29	0.97	3,507	347	66	86	286
I	- - -	Equestrian Center [6]	20	Acres	1.14	0.10	0.10	0.10	0.10	23	2	2	2	2
		Buildout Total								**34,894**	**1,252**	**1,120**	**1,717**	**1,767**

Notes:

(1) TAZ = traffic analysis zone (as shown in Figure 2b)

(2) Source: "Trip Generation, 6th Edition, 1997" by the Institute of Transportation Engineers

(3) DU = dwelling unit

(4) The "Trip Generation, 6th Edition" rate was used and applied at the "Trip Generation, 7th Edition" directional distribution, since no distribution was available in the 6th edition.
The average weekday traffic rate was estimated by LSC.

(5) KSF = thousand square feet

(6) Rates estimated by LSC

Source: LSC Transportation Consultants, Inc.

Table 1b
Saturday Trip Generation Estimates - Buildout
Gunnison Rising - "Authentically Colorado"

					Trip Generation Rates [2]			Total Trips Generated		
	Land Use	Land Use	Trip Generation		Average Saturday	Saturday Peak Hour		Average Saturday	Saturday Peak Hour	
TAZ [1]	Code	Description	Units		Traffic	In	Out	Traffic	In	Out
A	210	Single-Family Detached Housing	624	DU [3]	10.09	0.51	0.43	6,296	317	270
B	230	Residential Condominium/Townhouse	426	DU	5.67	0.25	0.22	2,415	108	92
C	416	Campground/Recreational Vehicle Park [4]	400	Occupied Spaces	6.00	0.27	0.12	2,400	108	48
D	210	Single-Family Detached Housing	388	DU	10.09	0.51	0.43	3,915	197	168
E	230	Residential Condominium/Townhouse	202	DU	5.67	0.25	0.22	1,145	51	44
	820	Shopping Center	174.2	KSF [5]	66.72	3.37	3.11	11,625	588	543
F	820	Shopping Center	59.2	KSF	66.72	3.37	3.11	3,952	200	184
G	770	Business Park [6]	392.3	KSF	2.28	0.23	0.19	896	89	73
H	770	Business Park	296.4	KSF	2.28	0.23	0.19	677	67	55
I	—	Equestrian Center [7]	20	Acres	3.42	0.30	0.30	68	6	6
		Buildout Total						**33,390**	**1,730**	**1,483**

Notes:
(1) TAZ = traffic analysis zone (as shown in Figure 2b)
(2) Source: "Trip Generation, 6th Edition, 1997" by the Institute of Transportation Engineers
(3) DU = dwelling unit
(4) The average Saturday traffic rate was estimated by LSC. The Saturday peak-hour traffic rate was assumed to be the same as the weekday afternoon peak-hour rates.
(5) KSF = thousand square feet
(6) The peak-hour rates were taken as the ratio of the average Saturday traffic rate to the average weekday and peak-hour rates.
(7) Rates estimated by LSC

Source: LSC Transportation Consultants, Inc.

SECTION F

Weekday and Saturday Traffic Comparison

EXISTING TRAFFIC COMPARISON

The weekday and Saturday peak-hour traffic counts at the SH 135/Spencer Avenue intersection were compared in order to determine which time period had the highest traffic volume. The Saturday SH 135 traffic volumes were found to be approximately 85 percent of the weekday SH 135 traffic volumes. The Saturday Spencer Avenue traffic volumes were found to be approximately 82 percent of the weekday Spencer Avenue traffic volumes.

TRIP GENERATION COMPARISON

Based on the information provided in Section E, the weekday average daily traffic volumes are approximately 4.5 percent higher than the Saturday average daily traffic volumes. The weekday afternoon peak-hour traffic volumes are approximately 8.5 percent higher than the Saturday mid-day peak-hour traffic volumes.

COMPARISON SUMMARY

The existing traffic volumes and the projected site-generated traffic volumes are expected to be higher during the typical weekday than during the typical Saturday. For this reason, the weekday scenario was analyzed in detail.

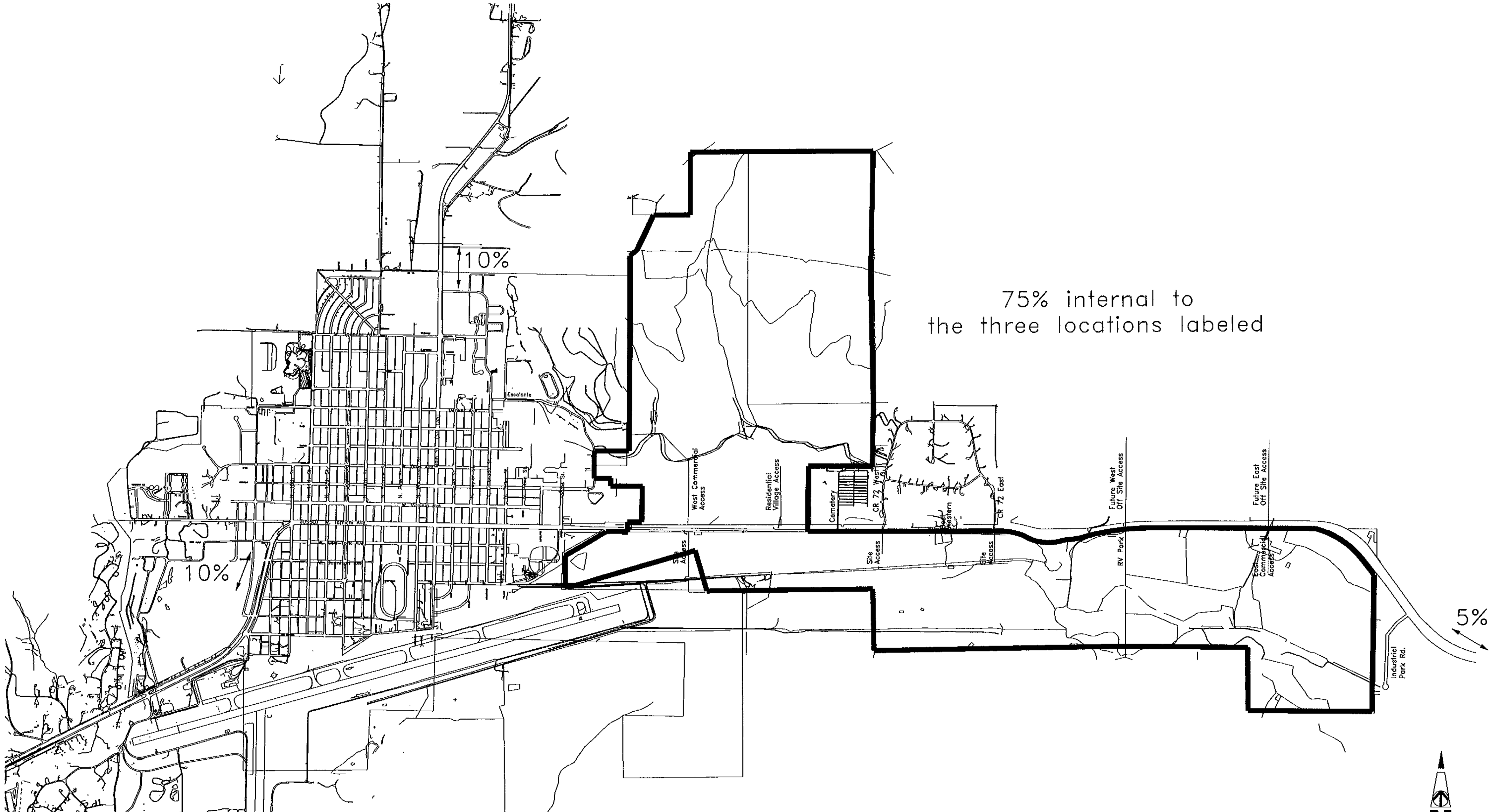
SECTION G

Directional Distribution and Trip Assignment

The directional distribution of the traffic volumes to be generated by the site is an important factor in determining the development's traffic impacts. There are many factors that determine the distribution including: the site's location with respect to the residential, employment, and activity centers; the site's location with respect to the balance of the City of Gunnison area; the site's proposed land uses; and the roadway system serving the site.

Figure 4 shows the projected directional distribution for the buildout site-generated traffic volumes for the year 2027.

The 2027 buildout site-generated traffic volumes on the adjacent roadway system were determined by applying the 2027 distribution percentages (from Figure 4) to the trip generation estimates (from Table 1a). Figures 5a and 5b show the projected 2027 buildout site-generated traffic volumes.



Legend:

XX% –Directional distribution of site–generated traffic

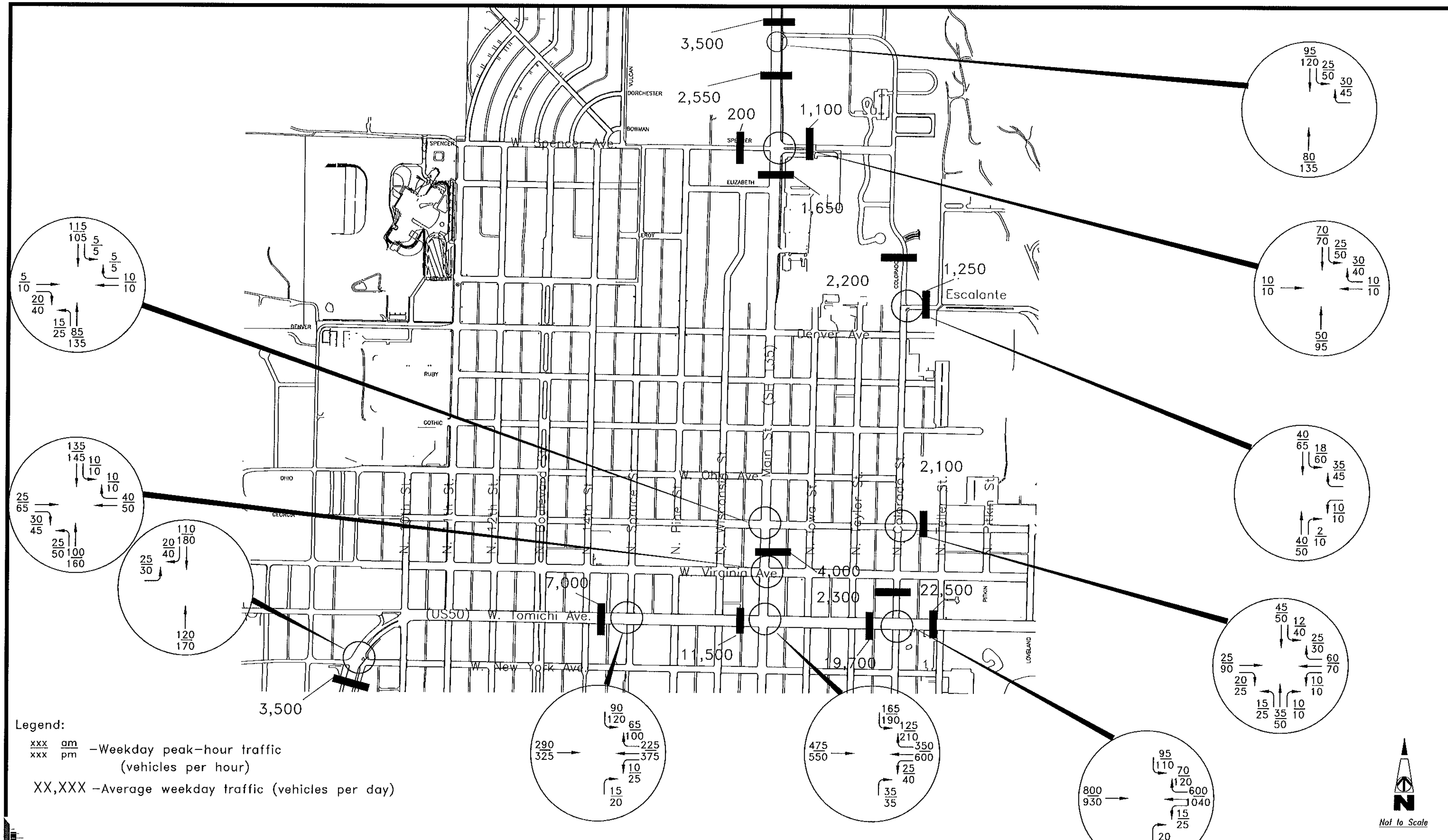
LSC TRANSPORTATION CONSULTANTS, INC.

Directional Distribution

Gunnison Rising "Authentically Colorado"

Figure 4

LSC # 066650



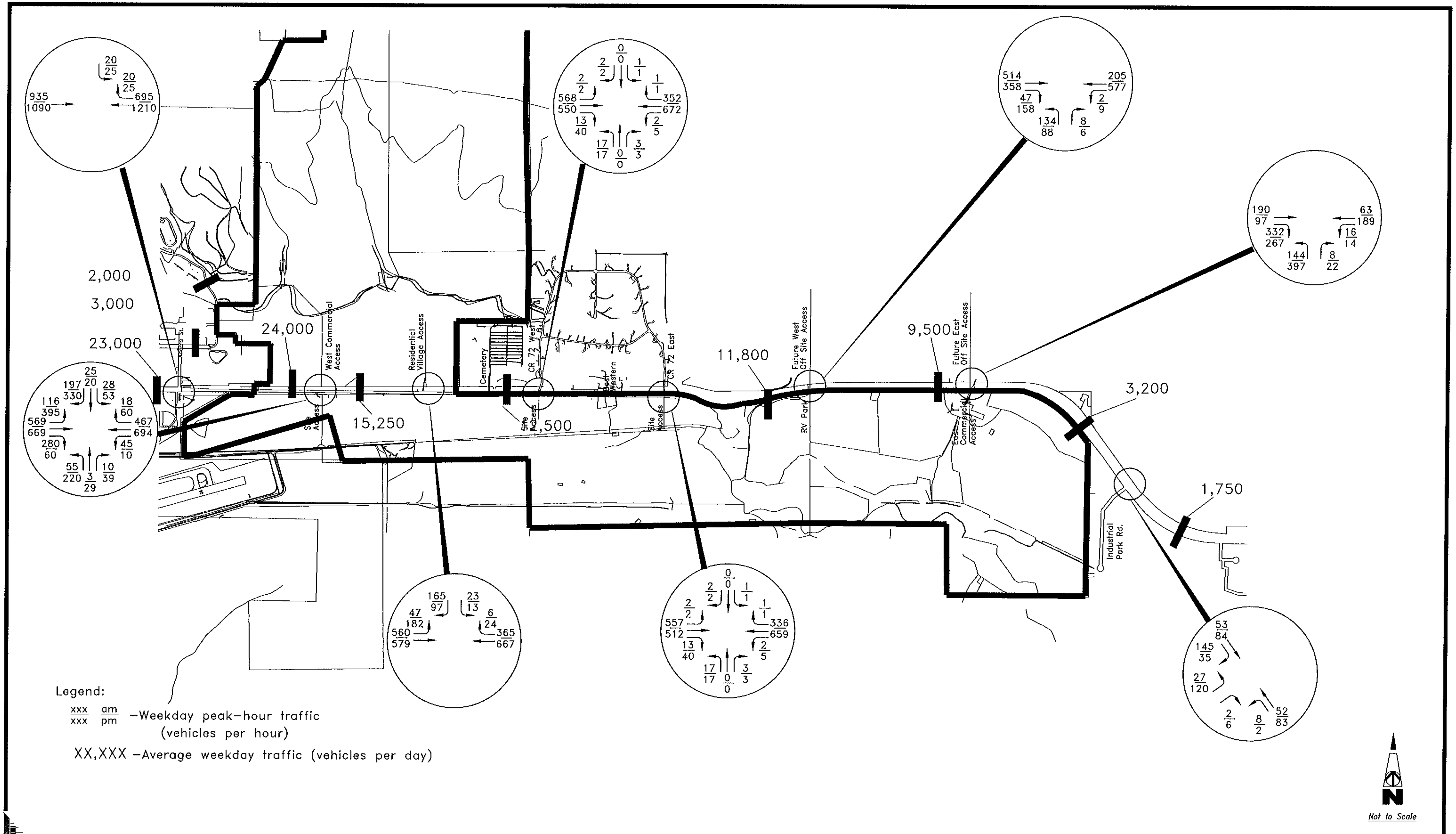
Buildout Site-Generated Traffic

Gunnison Rising "Authentically Colorado"

Figure 5a

LSC # 066650

LSC TRANSPORTATION CONSULTANTS, INC.



Buildout Site-Generated Traffic

Gunnison Rising "Authentically Colorado"

Figure 5b

LSC # 066650

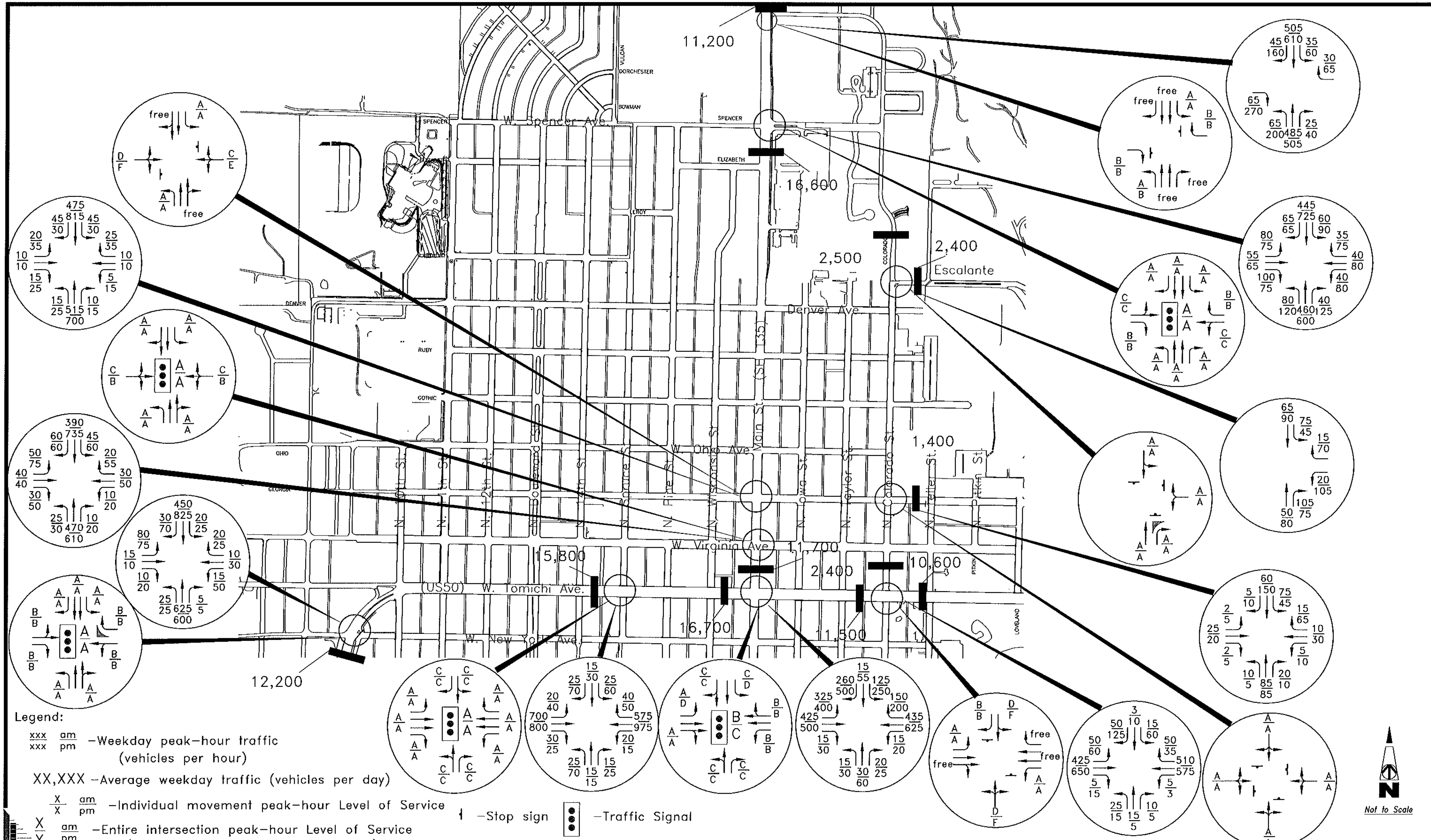
LSC TRANSPORTATION CONSULTANTS, INC.

SECTION H
2027 Background Traffic

Figures 6a and 6b show the background traffic volume estimates for the year 2027. Background traffic is the traffic estimated to be on the adjacent roadway system without consideration of the site-generated traffic volumes. The background traffic volumes include the traffic generated by the surrounding developments and the through traffic on the adjacent roadways.

CDOT required that the access intersections be assumed to serve the area north of US 50 east of the CR 72 east intersection. Two access points were shown north of US 50 aligning with the proposed site access intersections. In order to be conservative, it was assumed that a total of 400 single-family houses would be served by these two off-site access points. If this area develops with a more rural density, the traffic generated would be much less than that shown on Figure 6b.

Figures 6a and 6b also show the recommended lane geometries, traffic controls, and levels of service at the analyzed intersections.



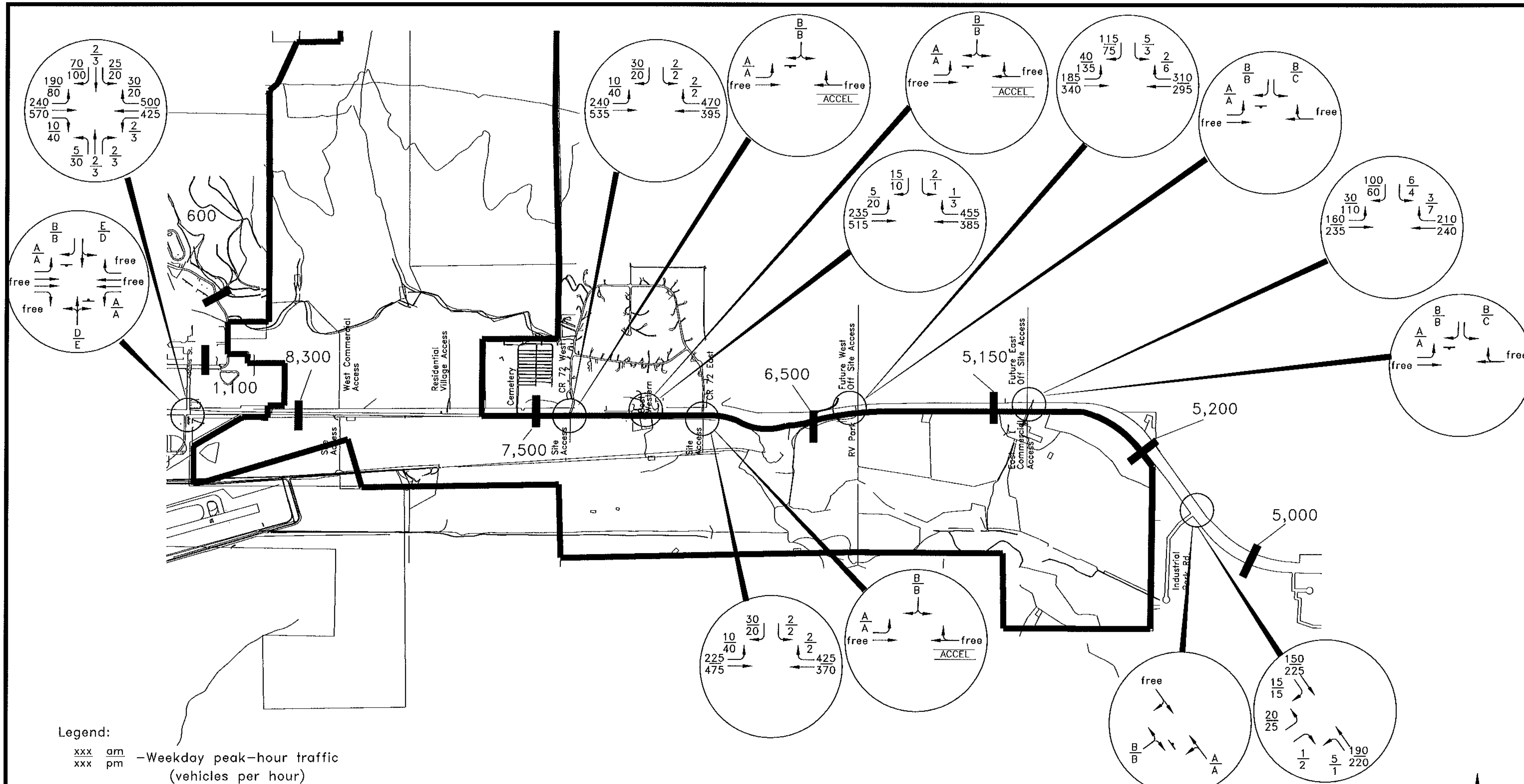
2027 Background Traffic, Lane Geometry and Traffic Control and Level of Service

Gunnison Rising "Authentically Colorado"

Figure 6a

LSC # 066650

LSC TRANSPORTATION CONSULTANTS, INC.



Legend:

xxx/xxx am/pm – Weekday peak-hour traffic (vehicles per hour)

XX,XXX – Average weekday traffic (vehicles per day)

X/X am/pm – Individual movement peak-hour Level of Service

X/X am/pm – Entire intersection peak-hour Level of Service (weighted average of all movements)

– Stop sign – Traffic Signal

LSC TRANSPORTATION CONSULTANTS, INC.

2027 Background Traffic, Lane Geometry, Traffic Control and Level of Service

Gunnison Rising "Authentically Colorado"

Figure 6b

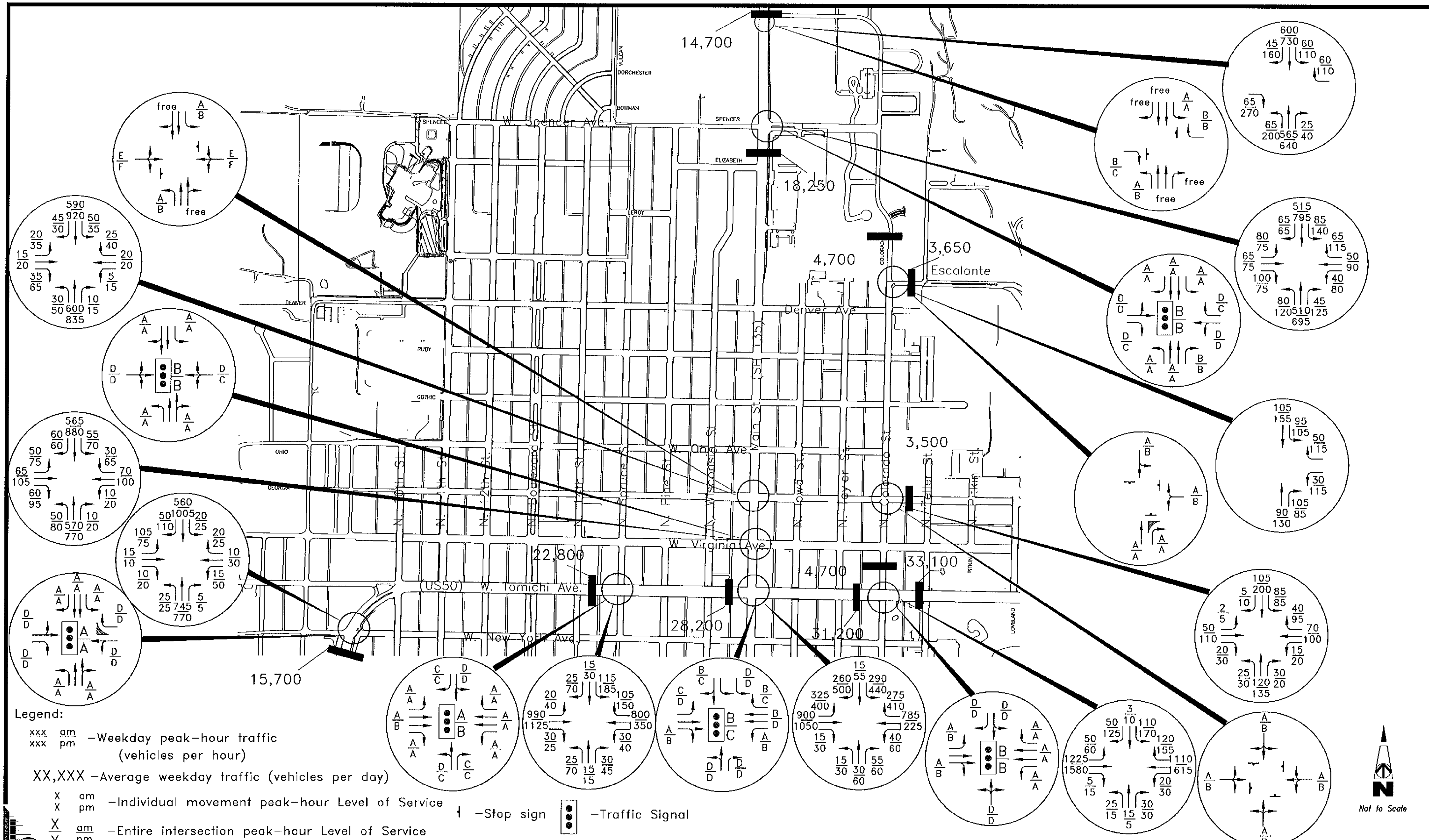
LSC # 066650

SECTION I

2027 Total Traffic

Figures 7a and 7b show the projected total traffic volumes for the year 2027. The 2027 total traffic volumes are the sum of the 2027 buildout site-generated traffic volumes (from Figures 5a and 5b) plus the 2027 background traffic volumes (from Figures 6a and 6b).

Figures 7a and 7b also show the recommended lane geometries, traffic controls, and levels of service at the analyzed intersections.



Legend:

xxx/xxx am/pm – Weekday peak-hour traffic (vehicles per hour)

XX,XXX – Average weekday traffic (vehicles per day)

X/X am/pm – Individual movement peak-hour Level of Service

X/X am/pm – Entire intersection peak-hour Level of Service (weighted average of all movements)

– Stop sign

– Traffic Signal

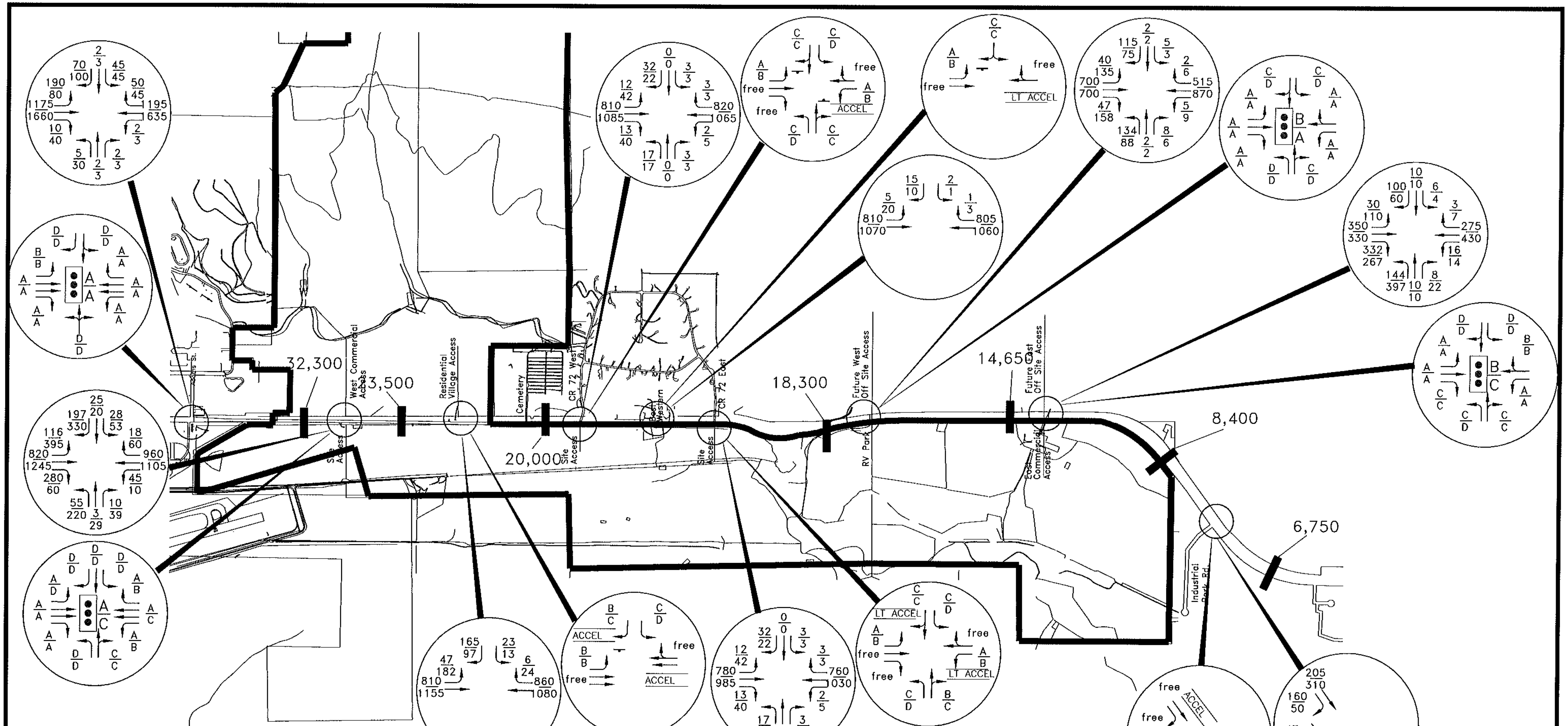
2027 Total Traffic, Lane Geometry, Traffic Control and Level of Service

Gunnison Rising "Authentically Colorado"

Figure 7a

LSC # 066650

LSC TRANSPORTATION CONSULTANTS, INC.



Legend:

xxx/xxx am/pm –Weekday peak-hour traffic (vehicles per hour)

XX,XXX –Average weekday traffic (vehicles per day)

X/X am/pm –Individual movement peak-hour Level of Service

X/X am/pm –Entire intersection peak-hour Level of Service (weighted average of all movements)

–Stop sign –Traffic Signal

LSC TRANSPORTATION CONSULTANTS, INC.

2027 Total Traffic, Lane Geometry, Traffic Control and Level of Service

Gunnison Rising "Authentically Colorado"

Figure 7b

LSC # 066650

Projected Levels of Service, Traffic Signal Progression Efficiency, and CDOT Permits

PROJECTED 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 very little congestion or delay. LOS F is indicative of a high level of congestion or delay.

The Synchro Version 6 software package was used to project the levels of service for the analyzed intersections. Tables 2a, 2b, and 2c show the projected levels of service for each of the analyzed time periods. The level of service reports are attached in Appendix B.

The roadway improvements required to achieve the levels of service shown on Tables 2a, 2b, and 2c are detailed on Table 3, along with a suggested party responsible for funding each roadway improvement. Figures 8a and 8b show the majority of the recommended roadway improvements.

All of the movements at the analyzed signalized intersections are projected to operate at acceptable levels of service during the peak hours through the year 2027 with the recommended roadway improvements. The following movements at the analyzed stop-sign controlled intersections are projected to operate at LOS E or F during the peak hours with the recommended roadway improvements.

2027 Background Traffic

US 50/Adams Street: The northbound approach at the intersection is projected to operate at LOS E (with an average delay of 42 seconds per vehicle) during the afternoon peak hour. The southbound shared left-turn/through movement at this intersection is projected to operate at LOS E (with an average delay of 36 seconds per vehicle) during the morning peak hour. It is unlikely that the City of Gunnison or CDOT would mitigate the LOS E movement, as it is not excessive.

US 50/Colorado Street: The northbound approach at the intersection is projected to operate at LOS F (with an average delay of 50 seconds per vehicle) during the afternoon peak hour. The southbound shared left-turn/through movement at this intersection is projected to operate at LOS F (with an average delay of 60 seconds per vehicle) during the afternoon peak hour. It is unlikely that the City of Gunnison or CDOT would mitigate the LOS F movement, as it is not excessive.

SH 135/Georgia Avenue: The eastbound approach at the intersection is projected to operate at LOS F (with an average delay of 116 seconds per vehicle) during the afternoon peak hour. The westbound approach at the intersection is projected to operate at LOS E (with an average delay of 50 seconds per vehicle) during the afternoon peak hour. This intersection is not a likely candidate for signalization, due to its proximity to the existing traffic signal at the SH 135/Virginia Street intersection. If the SH 135/Georgia Avenue intersection were restricted to a right-in/right-out or three-quarter movement, the intersection is projected to operate at acceptable levels of service. The eastbound and westbound left-turn and through movements at this intersection could be served by the additional capacity available at the SH 135/Virginia Street intersection's traffic signal. Other possible mitigation could include converting the SH 135/Virginia Street intersection to right-in/right-out and signalizing the SH 135/Georgia Avenue intersection.

2027 Total Traffic

SH 135/Georgia Avenue: The eastbound approach at the intersection is projected to operate at LOS E (with an average delay of 43 seconds per vehicle) during the morning peak hour and LOS F (with an average delay of over 700 seconds per vehicle) during the afternoon peak hour. The westbound approach at the intersection is projected to operate at LOS E (with an average delay of 35 seconds per vehicle) during the morning peak hour and LOS F (with an average delay of over 400 seconds per vehicle) during the afternoon peak hour. This intersection is not a likely candidate for signalization, due to its proximity to the existing traffic signal at the SH 135/Virginia Street intersection. If the SH 135/Georgia Avenue intersection were restricted to a right-in/right-out or three-quarter movement, the intersection is projected to operate at acceptable levels of service. The eastbound and westbound left-turn and through movements at this intersection could be served by the additional capacity available at the SH 135/Virginia Street intersection's traffic signal. Other possible mitigation could include converting the SH 135/Virginia Street intersection to right-in/right-out and signalizing the SH 135/Georgia Avenue intersection.

TRAFFIC SIGNAL PROGRESSION EFFICIENCY

Generally speaking, the proposed traffic signals are fairly well spaced, but some are not within 200 feet of the one-half mile spacing preferred by CDOT. In this situation, the *Colorado State Highway Access Code* requires a minimum 35 percent progression efficiency. A traffic signal progression efficiency analysis was conducted for US 50 from New York Street through the proposed Gunnison Rising traffic signals. The time/space diagrams for the traffic signal progression efficiency analysis are attached in Appendix C.

As shown on Table 4, the progression efficiencies on US 50 from New York Street through the proposed Gunnison Rising traffic signals are expected to meet or exceed CDOT's 35 percent requirement.

The progression efficiencies shown on Table 4 assume that the section of US 50 between Adams Street and the Residential Village development will be an extension of the five-lane urban cross section to the west, with curb and gutter and a posted speed limit of 45 mph. US 50 is proposed as one through lane in each direction with a rural cross section to the east of the Residential Village development, and with shoulders and roadside ditches. Posting this rural section at either 45 or 65 mph would result in a progression efficiency of approximately 41.5 percent. Posting this rural section at 55 mph would result in a progression efficiency of 35 percent.

Table 2a
Levels of Service
October 2006 Existing Traffic Adjusted Upward to Reflect Peak Summer Traffic
Gunnison Rising - "Authentically Colorado"

Intersection	Traffic Control	Peak Hour	Seasonally Adjusted Existing Traffic												
			Intersection	EB [1]			WB			NB			SB		
			LOS	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
US Highway 50/ New York Street [2]	Traffic Signal	AM	A	B	B	B	B	B	B	A	A	A	A	A	A
		PM	A	B	B	B	B	B	B	A	A	A	A	A	A
US Highway 50/ Spruce Street	Traffic Signal	AM	A	A	A	A	A	A	A	C	C	C	C	C	C
		PM	A	A	A	A	A	A	A	C	C	C	C	C	C
US Highway 50/ State Highway 135	Traffic Signal	AM	B	A	A	A	B	B	B	C	C	C	C	B	B
		PM	B	B	B	B	B	B	B	C	C	C	B	B	B
US Highway 50/ Colorado Street	TWSC [3]	AM	—	A	free	free	A	free	free	C	C	C	C	C	A
		PM	—	A	free	free	A	free	free	C	C	C	C	C	B
US Highway 50/ Adams Street	TWSC	AM	—	A	free	free	A	free	free	B	B	B	C	C	A
		PM	—	A	free	free	A	free	free	C	C	C	C	C	A
US Highway 50/ County Road 72 West	AWSC [4]	AM	—	A	free	free	—	free	free	—	—	—	A	—	A
		PM	—	A	free	free	—	free	free	—	—	—	A	—	A
US Highway 50/ Best Western Access	AWSC	AM	—	A	free	—	—	free	free	—	—	—	A	—	A
		PM	—	A	free	—	—	free	free	—	—	—	A	—	A
US Highway 50/ County Road 72 East	AWSC	AM	—	A	free	free	—	free	free	—	—	—	A	—	A
		PM	—	A	free	free	—	free	free	—	—	—	A	—	A
US Highway 50/ Industrial Park Road	AWSC	AM	—	—	free	free	A	A	—	B	—	B	—	—	—
		PM	—	—	free	free	A	A	—	B	—	B	—	—	—
State Highway 135/ Virginia Street	Traffic Signal	AM	A	C	C	C	C	C	C	A	A	A	A	A	A
		PM	A	C	C	C	C	C	C	A	A	A	A	A	A
State Highway 135/ Georgia Avenue	TWSC	AM	—	B	B	B	B	B	B	A	free	free	A	free	free
		PM	—	D	D	D	C	C	C	A	free	free	A	free	free
State Highway 135/ Spencer Avenue	Traffic Signal	AM	A	C	C	C	C	C	C	A	A	A	A	A	A
		PM	A	C	C	B	C	C	B	A	A	A	A	A	A
Colorado Street/ Georgia Avenue	AWSC	AM	—	A	A	A	A	A	A	A	A	A	A	A	A
		PM	—	A	A	A	A	A	A	A	A	A	A	A	A
Colorado Street/ Escalante Drive	AWSC	AM	—	—	—	—	A	—	A	—	A	A	A	A	—
		PM	—	—	—	—	A	—	A	—	A	A	A	A	—

Notes:
(1) EB = eastbound, WB = westbound, NB = northbound, SB = southbound, LT = left turn, TH = through, RT = right turn
(2) US Highway 50 is oriented north/south and New York Street is oriented east/west at this intersection.
(3) TWSC = two-way stop-sign control
(4) AWSC = all-way stop-sign control

Source: LSC Transportation Consultants, Inc.

Table 2b
Levels of Service
2027 Background Traffic
Gunnison Rising - "Authentically Colorado"

Intersection	Traffic Control	Peak Hour	2027 Background Traffic												
			Intersection	EB [1]			WB			NB			SB		
			LOS	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
US HIghway 50/	Traffic Signal	AM	A	B	B	B	B	B	B	A	A	A	A	A	A
New York Street [2]		PM	A	B	B	B	B	B	B	A	A	A	A	A	A
US Highway 50/	Traffic Signal	AM	A	A	A	A	A	A	A	C	C	C	C	C	C
Spruce Street		PM	A	A	A	A	A	A	A	C	C	C	C	C	C
US Highway 50/	Traffic Signal	AM	B	A	A	A	B	B	B	C	C	C	C	C	C
State Highway 135		PM	C	D	A	A	B	B	B	C	C	C	D	C	C
US Highway 50/	TWSC [3]	AM	—	A	free	free	A	free	free	D	D	D	D	D	B
Colorado Street		PM	—	A	free	free	A	free	free	F (50.1s)	F (50.1s)	F (50.1s)	F (59.9s)	F (59.9s)	B
US Highway 50/	TWSC	AM	—	A	free	free	A	free	free	D	D	D	E (36.4s)	E (36.4s)	B
Adams Street		PM	—	A	free	free	A	free	free	E (41.5s)	E (41.5s)	E (41.5s)	D	D	B
US Highway 50/	AWSC [4]	AM	—	A	free	—	—	free	free	—	—	—	B	—	B
County Road 72 West		PM	—	A	free	—	—	free	free	—	—	—	B	—	B
US Highway 50/	AWSC	AM	—	A	free	—	—	free	free	—	—	—	B	—	B
Best Western Access		PM	—	A	free	—	—	free	free	—	—	—	B	—	B
US Highway 50/	AWSC	AM	—	A	free	free	—	free	free	—	—	—	B	—	B
County Road 72 East		PM	—	A	free	free	—	free	free	—	—	—	B	—	B
US Highway 50/	AWSC	AM	—	A	free	—	—	free	free	—	—	—	B	—	B
Future West Off-Site Access		PM	—	A	free	—	—	free	free	—	—	—	C	—	B
US Highway 50/	AWSC	AM	—	A	free	—	—	free	free	—	—	—	B	—	B
Future East Off-Site Access		PM	—	A	free	—	—	free	free	—	—	—	C	—	B
State Highway 135/	AWSC	AM	—	—	free	free	A	A	—	B	—	B	—	—	—
Industrial Park Road		PM	—	—	free	free	A	A	—	B	—	B	—	—	—
State Highway 135/	Traffic Signal	AM	A	C	C	C	C	C	C	A	A	A	A	A	A
Virginia Street		PM	A	B	B	B	B	B	B	A	A	A	A	A	A
State Highway 135/	TWSC	AM	—	D	D	D	C	C	C	A	free	free	A	free	free
Georgia Avenue [5]		PM	—	F (116.4s)	F (116.4s)	F (116.4s)	E (49.6s)	E (49.6s)	E (49.6s)	A	free	free	A	free	free
State Highway 135/	Traffic Signal	AM	A	C	C	B	C	C	B	A	A	A	A	A	A
Spencer Avenue		PM	A	C	C	B	C	C	B	A	A	A	A	A	A
State Highway 135/	TWSC	AM	—	—	—	B	—	—	B	A	free	free	A	free	free
Colorado Street		PM	—	—	—	B	—	—	B	B	free	free	A	free	free
Colorado Street/	AWSC	AM	—	A	A	A	A	A	A	A	A	A	A	A	A
Georgia Avenue		PM	—	A	A	A	A	A	A	A	A	A	A	A	A
Colorado Street/	AWSC	AM	—	—	—	—	A	—	A	—	A	A	A	A	—
Escalante Drive		PM	—	—	—	—	A	—	A	—	A	A	A	A	—

Notes:
(1) EB = eastbound, WB = westbound, NB = northbound, SB = southbound, LT = left turn, TH = through, RT = right turn
(2) US Highway 50 is oriented north/south and New York Street is oriented east/west at this intersection.
(3) TWSC = two-way stop-sign control
(4) AWSC = all-way stop-sign control
(5) Potential mitigation could be conversion to a three-quarter or right-in/right-out intersection. Another option would be to signalize this intersection and then convert the SH 135/Virginia intersection to three-quarter or right-in/right-out.

Source: LSC Transportation Consultants, Inc.

Table 2c
Levels of Service
2027 Total Traffic
Gunnison Rising - "Authentically Colorado"

Intersection	Traffic Control	Peak Hour	2027 Total Traffic												
			Intersection	EB [1]			WB			NB			SB		
			LOS	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
US Highway 50/ New York Street [2]	Traffic Signal	AM	A	D	D	D	D	D	D	A	A	A	A	A	A
		PM	A	D	D	D	D	D	D	A	A	A	A	A	A
US Highway 50/ Spruce Street	Traffic Signal	AM	A	A	A	A	A	A	A	D	D	C	D	D	C
		PM	B	A	B	A	A	A	A	C	C	C	D	D	C
US Highway 50/ State Highway 135	Traffic Signal	AM	B	C	A	A	A	B	B	D	D	D	D	B	B
		PM	C	D	B	B	B	D	C	D	D	D	D	C	C
US Highway 50/ Colorado Street	Traffic Signal	AM	B	A	A	A	A	A	A	D	D	D	D	D	D
		PM	B	B	B	B	A	A	A	D	D	D	D	D	D
US Highway 50/ Adams Street	Traffic Signal	AM	A	B	A	A	A	A	A	D	D	D	D	D	D
		PM	A	B	A	A	A	A	A	D	D	D	D	D	D
US Highway 50/ West Commercial Access	Traffic Signal	AM	A	A	A	A	A	A	A	D	C	C	D	D	D
		PM	C	D	A	A	B	C	B	D	C	C	D	D	D
US Highway 50/ Residential Village Access	AWSC [3]	AM	—	B	free	—	—	free	free	—	—	—	C	—	B
		PM	—	B	free	—	—	free	free	—	—	—	D	—	C
US Highway 50/ County Road 72 West	TWSC [4]	AM	—	A	free	free	A	free	free	C	C	C	C	C	C
		PM	—	B	free	free	B	free	free	D	C	C	D	C	C
US Highway 50/ Best Western Access	AWSC	AM	—	A	free	—	—	free	free	—	—	—	C	—	C
		PM	—	B	free	—	—	free	free	—	—	—	C	—	C
US Highway 50/ County Road 72 East	TWSC	AM	—	A	free	free	A	free	free	C	B	B	C	C	C
		PM	—	B	free	free	B	free	free	D	C	C	D	C	C
US Highway 50/ Future West Off-Site Access	Traffic Signal	AM	B	A	A	A	A	A	A	D	C	C	C	C	C
		PM	A	A	A	A	A	A	A	D	D	D	D	D	D
US Highway 50 Future East Off-Site Access	Traffic Signal	AM	B	A	A	C	A	B	B	C	C	C	D	D	D
		PM	C	A	A	C	A	B	B	D	C	C	D	D	D
State Highway 135/ Industrial Park Road	AWSC	AM	—	—	free	free	A	free	—	B	—	B	—	—	—
		PM	—	—	free	free	A	free	—	B	—	B	—	—	—
State Highway 135/ Virginia Street	Traffic Signal	AM	B	D	D	D	D	D	D	A	A	A	A	A	A
		PM	B	D	D	D	C	C	C	A	A	A	A	A	A
State Highway 135/ Georgia Avenue [5]	TWSC	AM	—	E (42.5s)	E (42.5s)	E (42.5s)	E (35.1s)	E (35.1s)	E (35.1s)	A	free	free	A	free	free
		PM	—	F (771.6s)	F (771.6s)	F (771.6s)	F (401.8s)	F (401.8s)	F (401.8s)	B	free	free	B	free	free
State Highway 135/ Spencer Avenue	Traffic Signal	AM	B	D	D	D	D	D	D	A	A	B	A	A	A
		PM	B	D	D	C	D	D	C	A	A	B	A	A	A
State Highway 135/ Colorado Street	TWSC	AM	—	—	—	B	—	—	B	A	free	free	A	free	free
		PM	—	—	—	C	—	—	B	B	free	free	A	free	free
Colorado Street/ Georgia Avenue	AWSC	AM	—	A	A	A	A	A	A	A	A	A	A	A	A
		PM	—	B	B	B	B	B	B	B	B	B	B	B	B
Colorado Street/ Escalante Drive	AWSC	AM	—	—	—	—	A	—	A	—	A	A	A	A	—
		PM	—	—	—	—	B	—	B	—	A	A	B	B	—

Notes:
(1) EB = eastbound, WB = westbound, NB = northbound, SB = southbound, LT = left turn, TH = through, RT = right turn
(2) US Highway 50 is oriented north/south and New York Street is oriented east/west at this intersection.
(3) AWSC = all-way stop-sign control
(4) TWSC = two-way stop-sign control
(5) Potential mitigation could be conversion to a three-quarter or right-in/right-out intersection. Another option would be to signalize this intersection and then convert the SH 135/Virginia intersection to three-quarter or right-in/right-out.

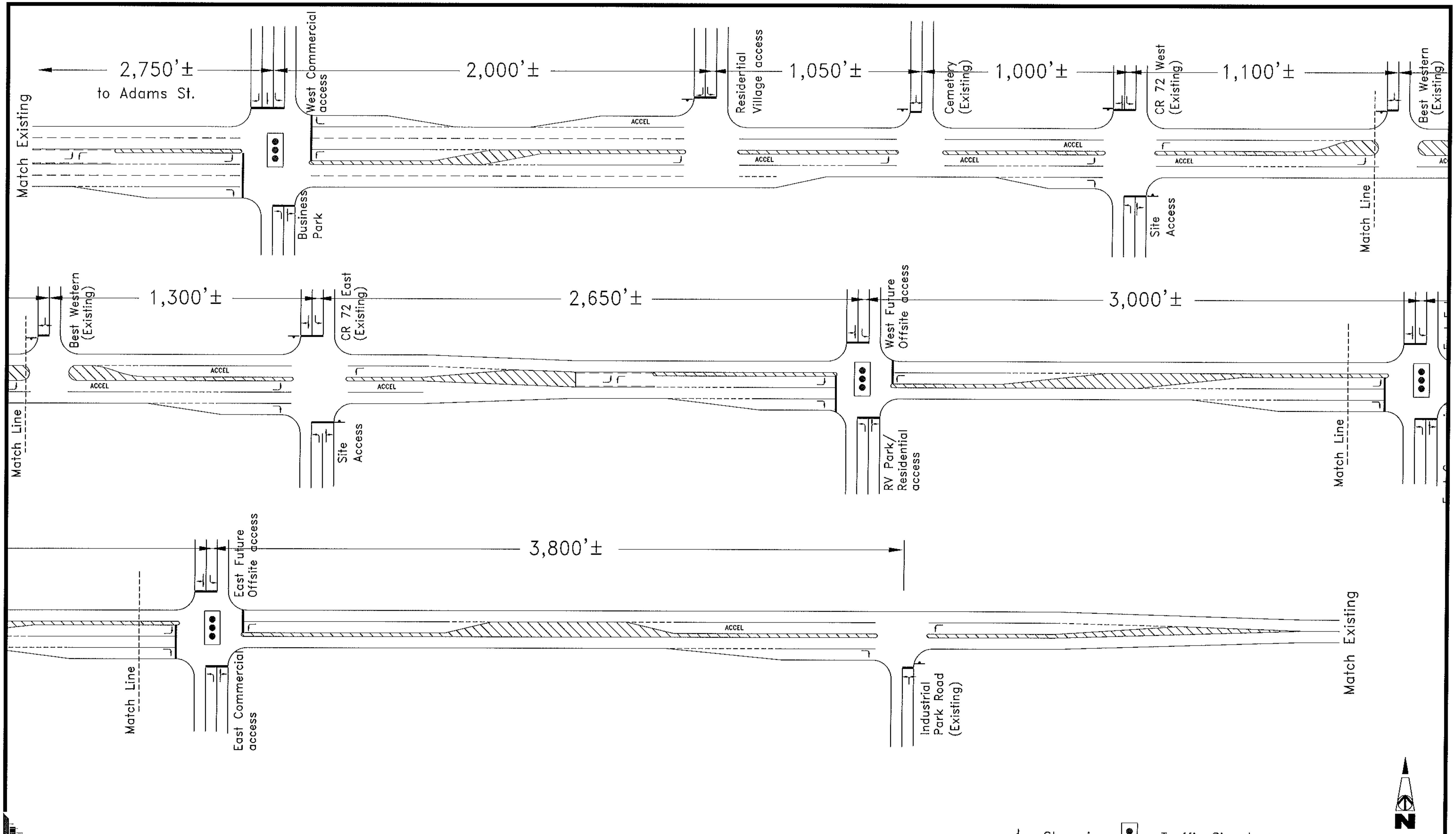
Source: LSC Transportation Consultants, Inc.

Table 3
Time Horizon For Improvements
Gunnison Rising - "Authentically Colorado"

Time Horizon	Required Geometry and Traffic Control [1]	Responsibility
2027 Background Traffic [2]	**US Highway 50 Improvements**	
	Add WB RT [3] and EB RT deceleration lane at Spruce Street and Adams Street. Add WB RT deceleration lane at Colorado Street.	Others [4]
	Add EB LT deceleration lane and separate SB RT and LT lanes at the east and west off-site access aligning with the Gunnison Rising recreational vehicle park access and east commercial access.	Others
	State Highway 135 Improvements	
	Add SB RT deceleration lane at Spencer Avenue. Add west leg and convert intersection to three-quarter movement at Colorado Street.	Others
2027 Total Traffic	**US Highway 50 Improvements**	
	Convert traffic control from TWSC [5] to traffic signal control at Adams Street. [6]	Others with contribution from Gunnison Rising
	Convert traffic control from TWSC to traffic signal control at Colorado Street. [7]	Others with contribution from Gunnison Rising
	Construct all of the improvements shown of Figure 8a that are not included above as 2027 background improvements.	Gunnison Rising
	State Highway 135 Improvements	
	Construct all of the improvements shown on Figure 8b.	Gunnison Rising with contribution from Others
	Convert Georgia Avenue intersection to three-quarter or right-in/right-out or signalize Georgia Avenue intersection and convert Virginia Avenue intersection to three-quarter or right-in/right-out.	Gunnison Rising with contribution from Others

Notes:
(1) To achieve the levels of service shown on Tables 2b and 2c
(2) All of the 2027 background traffic improvements were based on the "CDOT State Highway Access Code" requirements, and are not required to achieve acceptable levels of service.
(3) NB = northbound, SB = southbound, EB = eastbound, WB = westbound, RT = right turn, LT = left turn, TH = through
(4) Others could be future developments and/or state and local funding.
(5) TWSC = two-way stop-sign control
(6) Adams Street is about one-half mile east of the existing State Highway 135 traffic signal and one-half mile west of the proposed Colorado Rising west commercial access traffic signal.
(7) Colorado Street falls between the one-half mile spaced intersections of State Highway 135 and Adams Street. This intersection is critical for the relief of State Highway 135 and the US Highway 50/State Highway 135 intersection. Figure 4 shows the progression efficiency achievable along US Highway 50 can meet or exceed the CDOT requirement of 35 percent with this non-standard traffic signal spacing.

Source: LSC Transportation Consultants, Inc.



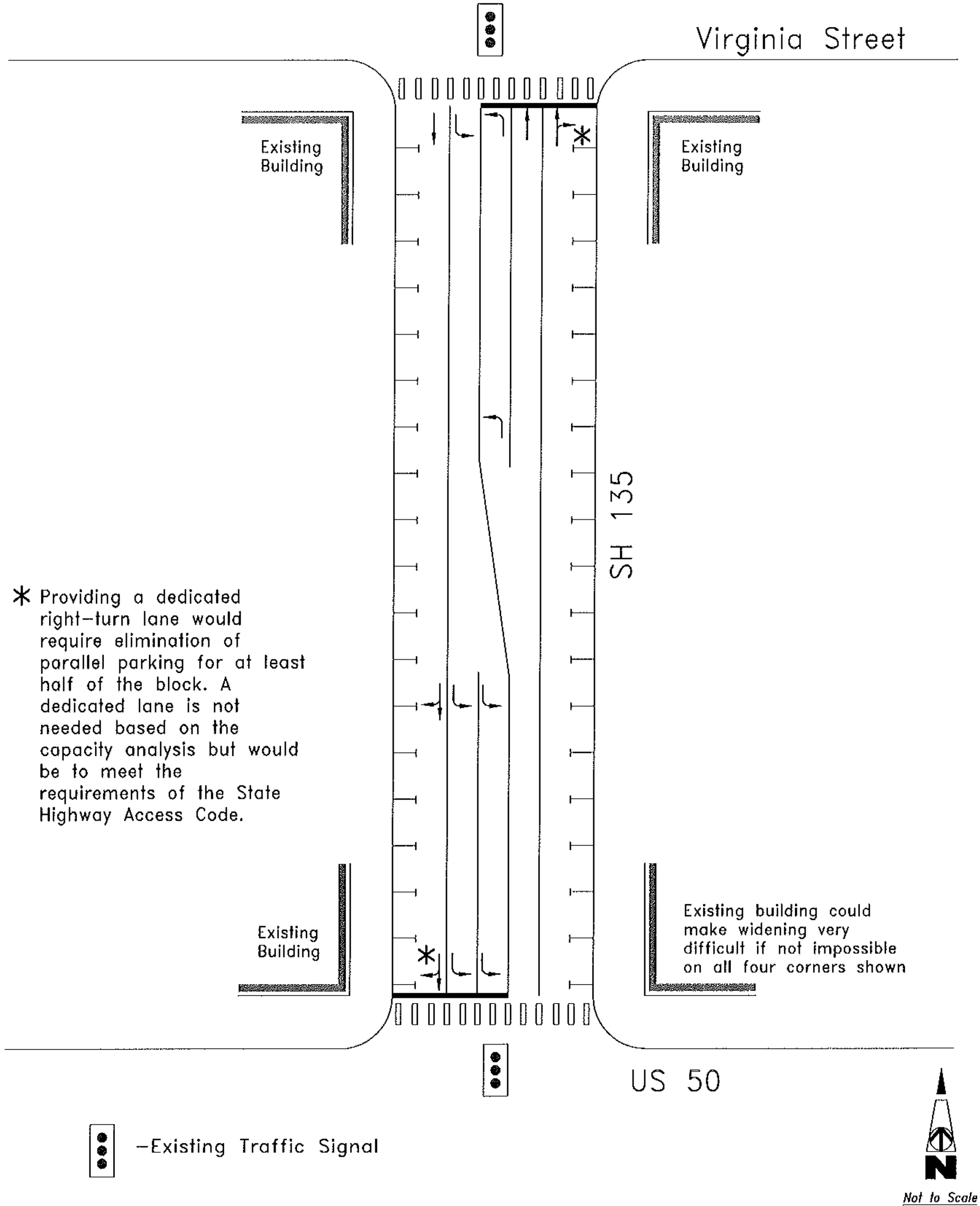
2027 Total Lane Geometry Along Site Frontage

Gunnison Rising "Authentically Colorado"

Figure 8a

LSC # 066650

LSC TRANSPORTATION CONSULTANTS, INC.



2027 Total Lane Geometry for SH 135 Between Virginia Street and US 50

Gunnison Rising "Authentically Colorado"

Figure 8b

LSC # 066650

LSC TRANSPORTATION CONSULTANTS, INC.

Table 4

US Highway 50 Progression Efficiency

Gunnison Rising - "Authentically Colorado"

Timeline	Progression Efficiency From New York Street to the East		
	45 mph posted speed on US Highway 50 east of the proposed Residential Village access	55 mph posted speed on US Highway 50 east of the proposed Residential Village access	65 mph posted speed on US Highway 50 east of the proposed Residential Village access
2027 Background Traffic	41.5 Percent	35.0 Percent	41.5 Percent
2027 Total Traffic	41.5 Percent	35.0 Percent	41.5 Percent

Source: LSC Transportation Consultants, Inc.

LOCAL NEIGHBORHOOD TRAFFIC IMPACTS

A majority of the site-generated traffic volume is expected to access the site via US 50. Secondary local site access would be to and from the west via Georgia Avenue and Escalante Drive. Escalante Drive is currently a private college street that has no way to restrict non-college traffic. There is little non-college traffic currently using Escalante Drive due to the layout of the existing street system. With an eastern extension of Georgia Avenue it will be more attractive for non-college traffic to use Escalante Drive as an additional east/west route. If Escalante Drive remains private and unimproved, there will likely be less traffic using Escalante than predicted in this analysis. It is expected that traffic capacity will be adequate on Georgia Avenue to accommodate the projected future traffic with or without improvements to Escalante Drive.

From Georgia Avenue and Escalante Drive, it is expected that the site-generated traffic would use Colorado Street to distribute north and south. The site-generated traffic that has an origin or destination east of SH 135 is expected to use the local street grid between Colorado Street and SH 135. The site-generated traffic that has an origin or destination on or west of SH 135 is expected to use Colorado Street to access the existing SH 135 traffic signals at Virginia Street, Denver Street, and Spencer Avenue.

CDOT STATE HIGHWAY ACCESS PERMIT

It is expected that site specific traffic studies will be completed for the various phases of the project in order to obtain any necessary CDOT State Highway Access Permits.

SECTION K

Conclusions and Recommendations

The following conclusions and recommendations were drawn regarding the traffic impacts of the proposed Gunnison Rising - "Authentically Colorado" mixed-use development.

TRIP GENERATION

Buildout of the site is projected to generate about 34,895 vehicle-trips during a typical weekday, with about half of the vehicles entering and half of the vehicles exiting the site. During the weekday morning peak hour, about 1,250 vehicles would enter and 1,120 vehicles would exit the site. During the weekday afternoon peak hour, about 1,715 vehicles would enter and 1,765 vehicles would exit the site.

Buildout of the site is projected to generate about 33,390 vehicle-trips during a typical Saturday, with about half of the vehicles entering and half of the vehicles exiting the site. During the Saturday mid-day peak hour, about 1,730 vehicles would enter and 1,485 vehicles would exit the site.

WEEKDAY AND SATURDAY TRAFFIC COMPARISON

The existing and projected site-generated traffic volumes are expected to be higher during the typical weekday than during the typical Saturday. For this reason, the weekday scenario was analyzed in detail.

PROJECTED LEVELS OF SERVICE

All of the movements at the analyzed signalized intersections are projected to operate at acceptable levels of service (LOS) during the peak hours through the year 2027 with the recommended roadway improvements. A few of the movements at the analyzed stop-sign controlled intersections are projected to operate at LOS E or F during the peak hours with the recommended roadway improvements.

TRAFFIC SIGNAL PROGRESSION EFFICIENCY

Generally speaking, the proposed traffic signals are fairly well spaced, but some are not within 200 feet of the one-half mile spacing preferred by CDOT, which requires a progression efficiency analysis. The progression efficiencies on US 50 from New York Street through the proposed Gunnison Rising traffic signals are expected to meet or exceed CDOT's requirement of 35 percent.

The progression efficiencies assume that the section of US 50 between Adams Street and the Residential Village development will be an extension of the existing five-lane urban cross section to the west, with curb and gutter and a posted speed limit of 45 mph. US 50 is proposed as one through lane in each direction with a rural cross section to the east of the Residential Village development, and with shoulders and roadside ditches. Posting this rural section at either 45 or 65 mph would result in a progression efficiency of approximately 41.5 percent. Posting this rural section at 55 mph would result in a progression efficiency of 35 percent.

RECOMMENDED ROADWAY IMPROVEMENTS

The roadway improvements required to achieve the levels of service shown on Tables 2a, 2b, and 2c are detailed on Table 3, along with a suggested party responsible for funding each roadway improvement. Figures 8a and 8b show the majority of the recommended roadway improvements.

LOCAL NEIGHBORHOOD TRAFFIC IMPACTS

A majority of the site-generated traffic volume is expected to access the site via US 50. Secondary local site access would be to and from the west via Georgia Avenue and Escalante Drive. Escalante Drive is currently a private college street that has no way to restrict non-college traffic. There is little non-college traffic currently using Escalante Drive due to the layout of the existing street system. With an eastern extension of Georgia Avenue it will be more attractive for non-college traffic to use Escalante Drive as an additional east/west route. If Escalante Drive remains private and unimproved, there will likely be less traffic using Escalante than predicted in this analysis. It is expected that traffic capacity will be adequate on Georgia Avenue to accommodate the projected future traffic with or without improvements to Escalante Drive.

From Georgia Avenue and Escalante Drive, it is expected that the site-generated traffic would use Colorado Street to distribute north and south. The site-generated traffic that has an origin or destination east of SH 135 is expected to use the local street grid between Colorado Street and SH 135. The site-generated traffic that has an origin or destination on or west of SH 135 is expected to use Colorado Street to access the existing SH 135 traffic signals at Virginia Street, Denver Street, and Spencer Avenue.

CDOT STATE HIGHWAY ACCESS PERMIT

It is expected that site specific traffic studies will be completed for the various phases of the project in order to obtain any necessary CDOT State Highway Access Permits.

Appendix A: Traffic Count Reports

TRANSPORTATION
CONSULTANTS, INC.

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : New York 22
Site Code : 01003061
Start Date : 10/03/2006
Page No : 1

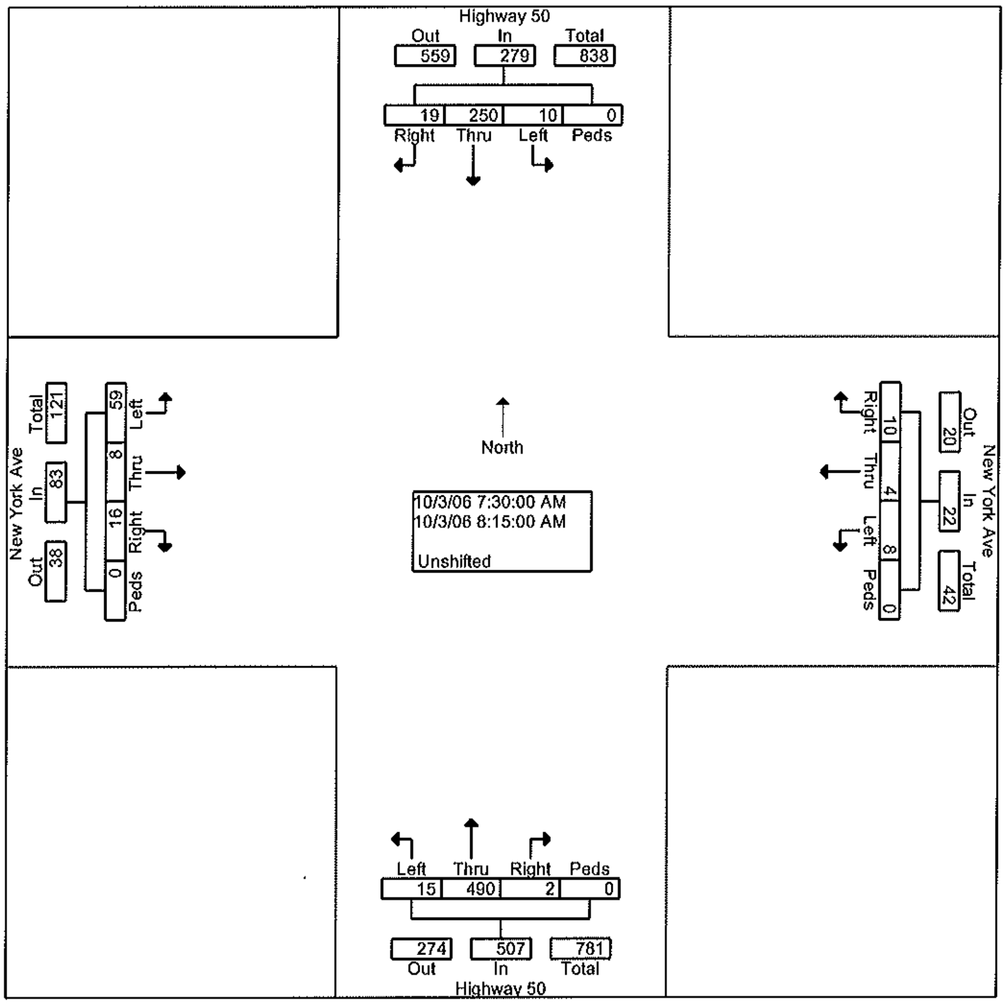
Groups Printed- Unshifted

	Highway 50 North				New York Ave East				Highway 50 South				New York Ave West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	4	22	0	0	0	0	0	0	0	26	0	0	1	1	6	0	60
06:45 AM	2	27	1	0	0	1	0	0	1	63	3	0	3	1	5	0	107
Total	6	49	1	0	0	1	0	0	1	89	3	0	4	2	11	0	167
07:00 AM	1	36	0	0	2	0	3	0	0	58	0	0	2	1	16	0	119
07:15 AM	5	52	1	0	1	0	0	0	0	82	2	0	0	1	13	0	157
07:30 AM	4	35	1	0	0	1	0	0	1	79	1	0	2	2	16	0	142
07:45 AM	4	67	4	0	4	1	2	0	0	155	4	0	6	1	19	0	267
Total	14	190	6	0	7	2	5	0	1	374	7	0	10	5	64	0	685
08:00 AM	3	75	1	0	2	1	2	0	0	146	8	0	1	4	14	0	257
08:15 AM	8	73	4	0	4	1	4	0	1	110	2	0	7	1	10	0	225
Grand Total	31	387	12	0	13	5	11	0	3	719	20	0	22	12	99	0	1334
Apprch %	7.2	90.0	2.8	0.0	44.8	17.2	37.9	0.0	0.4	96.9	2.7	0.0	16.5	9.0	74.4	0.0	
Total %	2.3	29.0	0.9	0.0	1.0	0.4	0.8	0.0	0.2	53.9	1.5	0.0	1.6	0.9	7.4	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : New York 22
Site Code : 01003061
Start Date : 10/03/2006
Page No : 2

	Highway 50 North					New York Ave East					Highway 50 South					New York Ave West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	19	250	10	0	279	10	4	8	0	22	2	490	15	0	507	16	8	59	0	83	891
Percent	6.8	89.6	3.6	0.0		45.5	18.2	36.4	0.0		0.4	96.6	3.0	0.0		19.3	9.6	71.1	0.0		
07:45 Volume	4	67	4	0	75	4	1	2	0	7	0	155	4	0	159	6	1	19	0	26	267
Peak Factor																					0.834
High Int.	08:15 AM					08:15 AM					07:45 AM					07:45 AM					
Volume	8	73	4	0	85	4	1	4	0	9	0	155	4	0	159	6	1	19	0	26	
Peak Factor					0.821					0.611					0.797					0.798	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
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File Name : New York 21
Site Code : 01002062
Start Date : 10/02/2006
Page No : 1

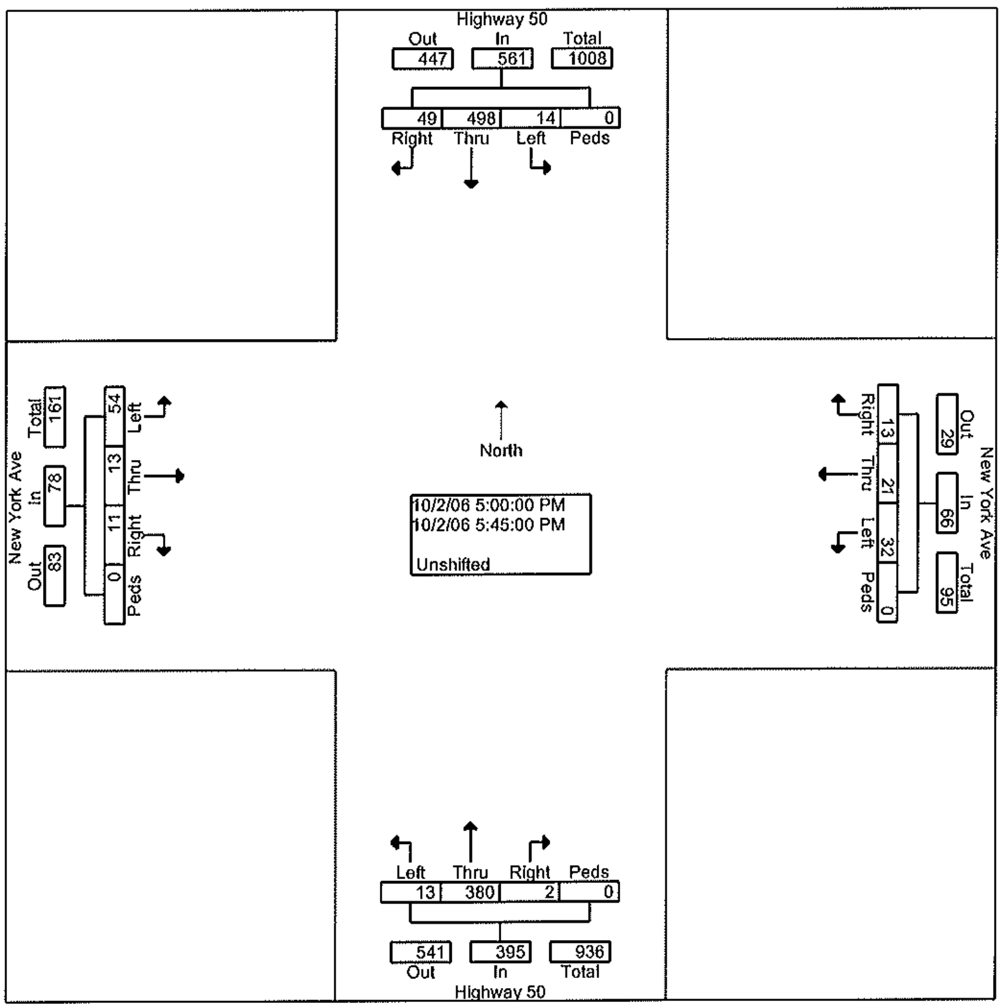
Groups Printed- Unshifted

	Highway 50 North				New York Ave East				Highway 50 South				New York Ave West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	11	101	3	0	2	5	1	0	1	76	4	0	3	0	9	0	216
04:30 PM	14	99	4	0	4	1	7	0	1	86	5	0	3	2	12	0	238
04:45 PM	3	105	3	0	1	1	3	0	1	103	5	0	3	2	15	0	245
Total	28	305	10	0	7	7	11	0	3	265	14	0	9	4	36	0	699
05:00 PM	8	144	8	0	6	5	8	0	1	123	2	0	4	3	12	0	324
05:15 PM	17	126	0	0	2	7	10	0	1	75	4	0	1	2	14	0	259
05:30 PM	12	106	1	0	4	3	11	0	0	91	5	0	4	4	18	0	259
05:45 PM	12	122	5	0	1	6	3	0	0	91	2	0	2	4	10	0	258
Total	49	498	14	0	13	21	32	0	2	380	13	0	11	13	54	0	1100
06:00 PM	11	135	3	0	4	7	3	0	0	72	2	0	3	1	18	0	259
Grand Total	88	938	27	0	24	35	46	0	5	717	29	0	23	18	108	0	2058
Apprch %	8.4	89.1	2.6	0.0	22.9	33.3	43.8	0.0	0.7	95.5	3.9	0.0	15.4	12.1	72.5	0.0	
Total %	4.3	45.6	1.3	0.0	1.2	1.7	2.2	0.0	0.2	34.8	1.4	0.0	1.1	0.9	5.2	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : New York 21
Site Code : 01002062
Start Date : 10/02/2006
Page No : 2

	Highway 50 North					New York Ave East					Highway 50 South					New York Ave West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	49	498	14	0	561	13	21	32	0	66	2	380	13	0	395	11	13	54	0	78	1100
Percent	8.7	88.8	2.5	0.0		19.7	31.8	48.5	0.0		0.5	96.2	3.3	0.0		14.1	16.7	69.2	0.0		
05:00 Volume	8	144	8	0	160	6	5	8	0	19	1	123	2	0	126	4	3	12	0	19	324
Peak Factor																					0.849
High Int.	05:00 PM					05:00 PM					05:00 PM					05:30 PM					
Volume	8	144	8	0	160	6	5	8	0	19	1	123	2	0	126	4	4	18	0	26	
Peak Factor					0.877					0.868					0.784					0.750	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Spruce 1
Site Code : 00915061
Start Date : 09/15/2006

Groups Printed- Unshifted

	Spruce St North				Highway 50 East				Spruce St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	0	1	0	0	33	2	0	0	0	0	0	0	45	0	0	81
06:45 AM	2	1	1	0	0	46	1	0	1	0	0	0	0	74	1	0	127
Total	2	1	2	0	0	79	3	0	1	0	0	0	0	119	1	0	208
07:00 AM	2	2	3	0	0	52	0	0	0	0	1	0	3	78	1	0	142
07:15 AM	1	2	0	0	2	77	1	0	1	0	1	0	0	91	1	0	177
07:30 AM	4	2	1	0	4	89	3	0	3	1	3	0	1	96	1	0	208
07:45 AM	5	2	5	0	2	103	5	0	1	3	4	0	5	184	5	0	324
Total	12	8	9	0	8	321	9	0	5	4	9	0	9	449	8	0	851
08:00 AM	4	2	3	0	3	91	2	0	2	3	3	0	6	140	6	0	265
08:15 AM	4	3	4	0	1	122	4	0	2	3	6	0	7	102	1	0	259
Grand Total	22	14	18	0	12	613	18	0	10	10	18	0	22	810	16	0	1583
Apprch %	40.7	25.9	33.3	0.0	1.9	95.3	2.8	0.0	26.3	26.3	47.4	0.0	2.6	95.5	1.9	0.0	
Total %	1.4	0.9	1.1	0.0	0.8	38.7	1.1	0.0	0.6	0.6	1.1	0.0	1.4	51.2	1.0	0.0	

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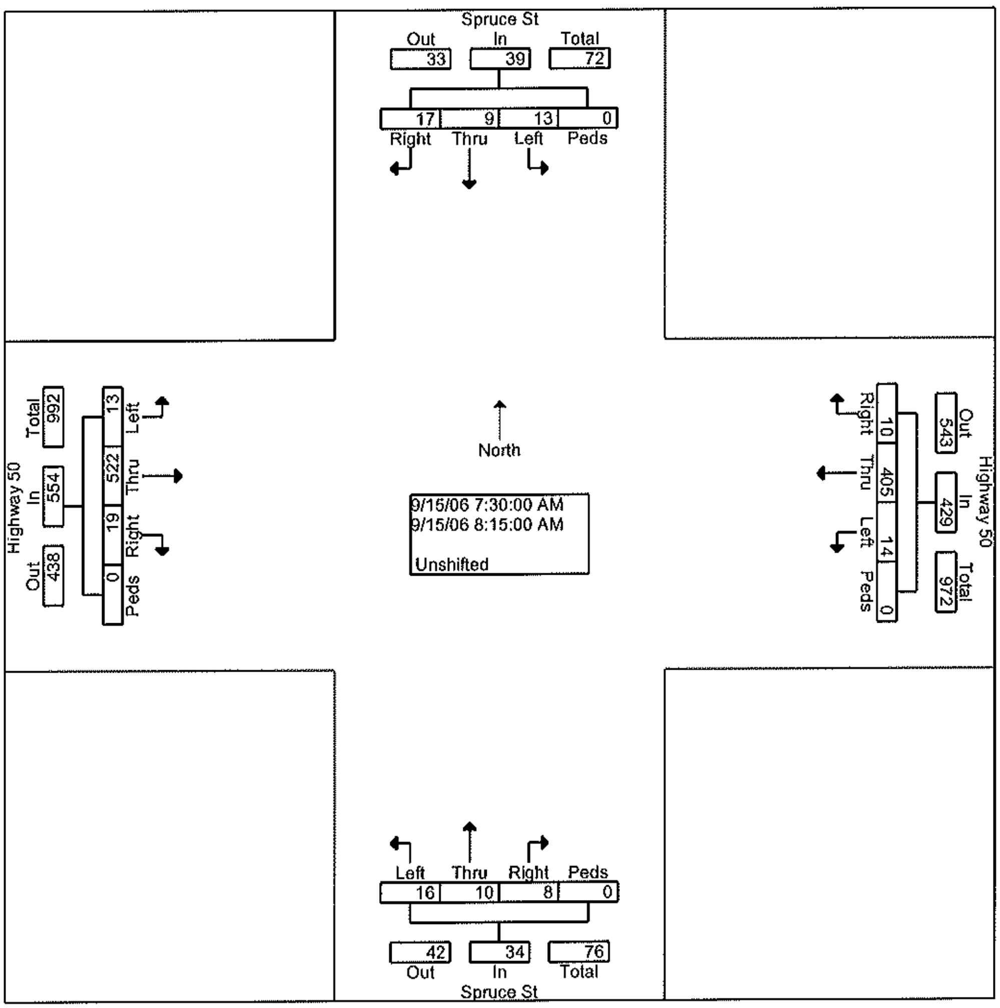
File Name : Spruce 1
Site Code : 00915061
Start Date : 09/15/2006

	Spruce St North					Highway 50 East					Spruce St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	17	9	13	0	39	10	405	14	0	429	8	10	16	0	34	19	522	13	0	554	1056
Percent	43.6	23.1	33.3	0.0		2.3	94.4	3.3	0.0		23.5	29.4	47.1	0.0		3.4	94.2	2.3	0.0		
07:45 Volume	5	2	5	0	12	2	103	5	0	110	1	3	4	0	8	5	184	5	0	194	324
Peak Factor																					0.815
High Int.	07:45 AM					08:15 AM					08:15 AM					07:45 AM					
Volume	5	2	5	0	12	1	122	4	0	127	2	3	6	0	11	5	184	5	0	194	
Peak Factor					0.813					0.844					0.773					0.714	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
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File Name : Spruce 2
Site Code : 00918062
Start Date : 09/18/2006
Page No : 1

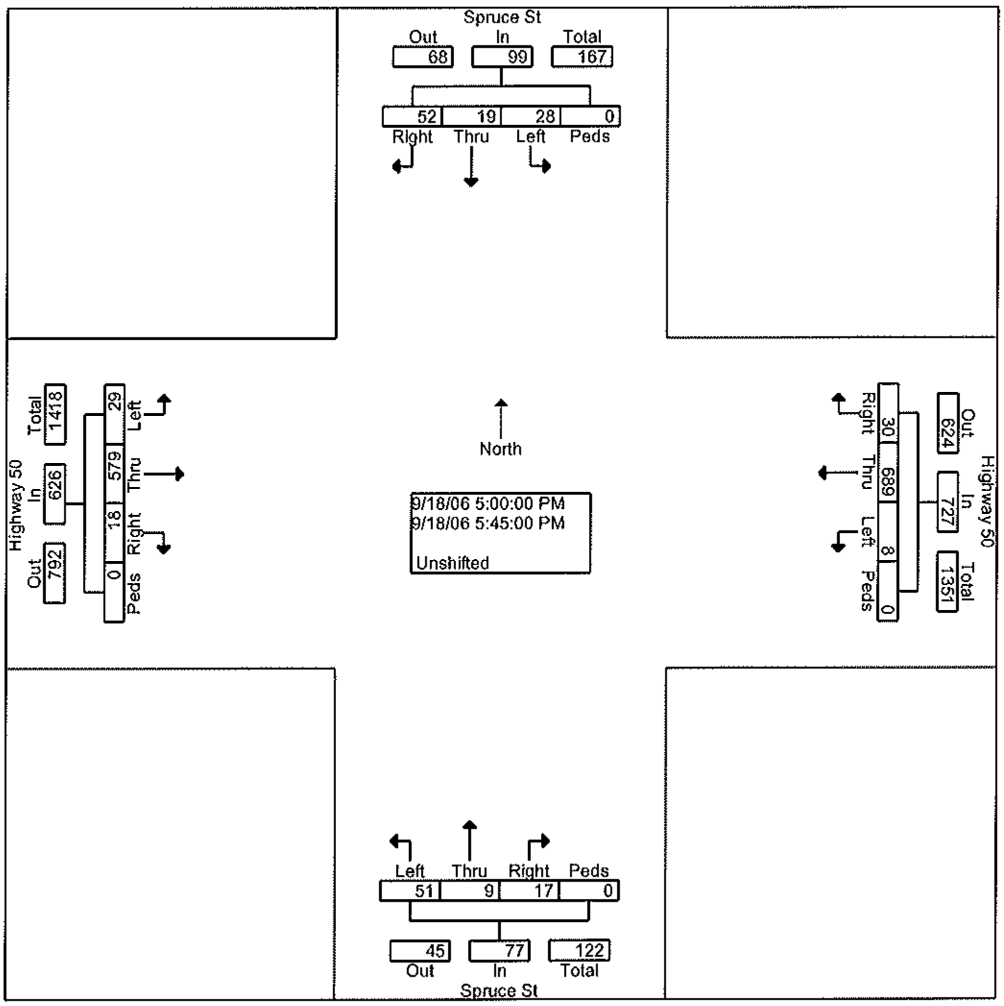
Groups Printed- Unshifted

	Spruce St North				Highway 50 East				Spruce St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	5	3	2	0	7	139	7	0	3	6	4	0	5	149	5	0	335
04:30 PM	8	2	6	0	1	161	10	0	2	6	5	0	2	133	8	0	344
04:45 PM	5	4	10	0	10	147	0	0	6	2	8	0	1	160	4	0	357
Total	18	9	18	0	18	447	17	0	11	14	17	0	8	442	17	0	1036
05:00 PM	19	8	8	0	4	192	6	0	9	7	17	0	4	176	5	0	455
05:15 PM	15	2	7	0	8	147	1	0	3	0	16	0	6	137	6	0	348
05:30 PM	11	6	5	0	3	180	0	0	3	0	6	0	4	116	5	0	339
05:45 PM	7	3	8	0	15	170	1	0	2	2	12	0	4	150	13	0	387
Total	52	19	28	0	30	689	8	0	17	9	51	0	18	579	29	0	1529
06:00 PM	11	9	9	0	6	158	4	0	1	5	9	0	3	123	5	0	343
Grand Total	81	37	55	0	54	1294	29	0	29	28	77	0	29	1144	51	0	2908
Apprch %	46.8	21.4	31.8	0.0	3.9	94.0	2.1	0.0	21.6	20.9	57.5	0.0	2.4	93.5	4.2	0.0	
Total %	2.8	1.3	1.9	0.0	1.9	44.5	1.0	0.0	1.0	1.0	2.6	0.0	1.0	39.3	1.8	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Spruce 2
Site Code : 00918062
Start Date : 09/18/2006
Page No : 2

	Spruce St North					Highway 50 East					Spruce St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	52	19	28	0	99	30	689	8	0	727	17	9	51	0	77	18	579	29	0	626	1529
Percent	52.5	19.2	28.3	0.0		4.1	94.8	1.1	0.0		22.1	11.7	66.2	0.0		2.9	92.5	4.6	0.0		
05:00 Volume	19	8	8	0	35	4	192	6	0	202	9	7	17	0	33	4	176	5	0	185	455
Peak Factor																					0.840
High Int.	05:00 PM					05:00 PM					05:00 PM					05:00 PM					
Volume	19	8	8	0	35	4	192	6	0	202	9	7	17	0	33	4	176	5	0	185	
Peak Factor					0.707					0.900					0.583					0.846	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
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File Name : Main 1
Site Code : 00913061
Start Date : 09/13/2006
Page No : 1

Groups Printed- Unshifted

	Main St North				Highway 50 East				Main St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	12	0	10	0	15	26	0	0	0	1	1	0	1	23	26	0	115
06:45 AM	20	4	9	0	15	38	0	0	1	2	1	0	1	48	36	0	175
Total	32	4	19	0	30	64	0	0	1	3	2	0	2	71	62	0	290
07:00 AM	34	3	14	0	15	35	0	0	0	5	0	0	0	34	36	0	176
07:15 AM	27	1	17	0	17	51	2	0	2	2	2	0	0	55	54	0	230
07:30 AM	40	3	19	0	20	49	1	0	2	3	1	0	0	47	58	0	243
07:45 AM	43	7	22	0	38	75	0	0	3	6	5	0	2	107	59	0	367
Total	144	14	72	0	90	210	3	0	7	16	8	0	2	243	207	0	1016
08:00 AM	53	4	10	0	28	91	2	0	6	4	2	0	3	78	45	0	326
08:15 AM	38	5	25	0	14	62	1	0	4	9	2	0	3	67	52	0	282
Grand Total	267	27	126	0	162	427	6	0	18	32	14	0	10	459	366	0	1914
Apprch %	63.6	6.4	30.0	0.0	27.2	71.8	1.0	0.0	28.1	50.0	21.9	0.0	1.2	55.0	43.8	0.0	
Total %	13.9	1.4	6.6	0.0	8.5	22.3	0.3	0.0	0.9	1.7	0.7	0.0	0.5	24.0	19.1	0.0	

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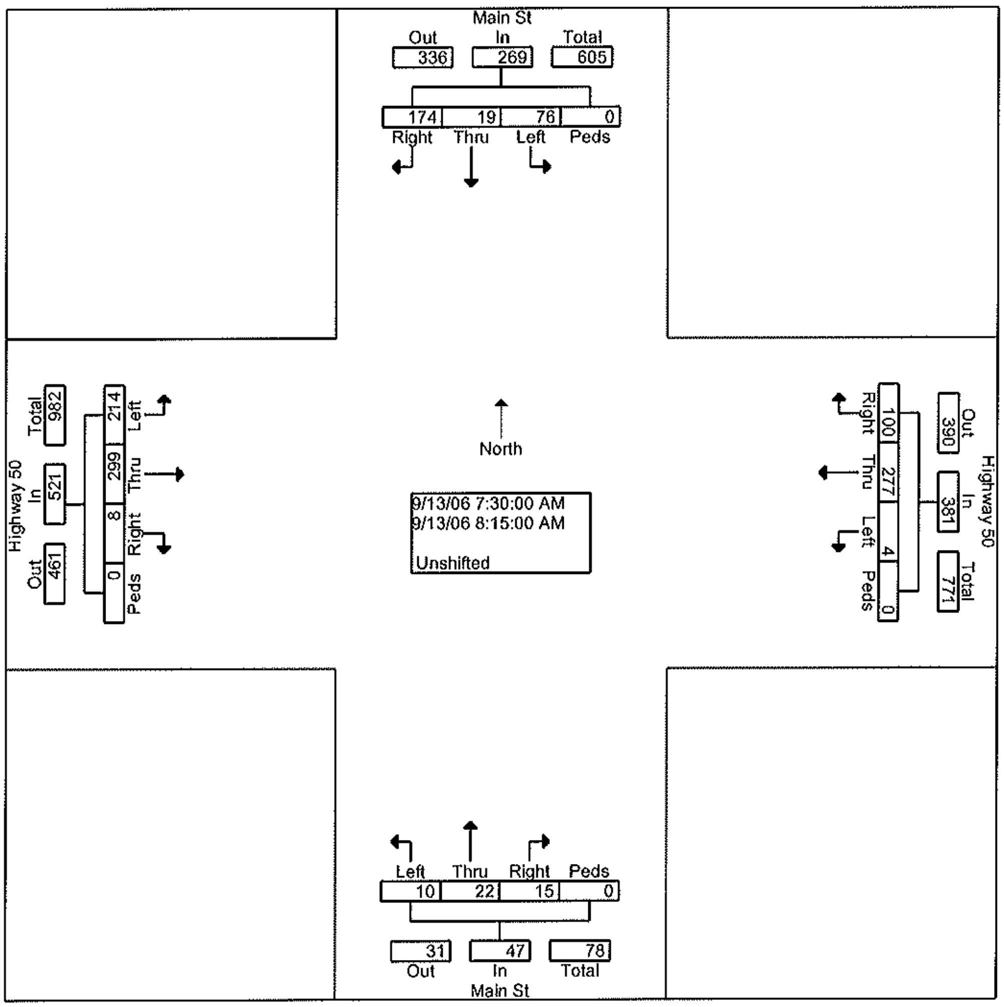
File Name : Main 1
Site Code : 00913061
Start Date : 09/13/2006

	Main St North					Highway 50 East					Main St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	174	19	76	0	269	100	277	4	0	381	15	22	10	0	47	8	299	214	0	521	1218
Percent	64.7	7.1	28.3	0.0		26.2	72.7	1.0	0.0		31.9	46.8	21.3	0.0		1.5	57.4	41.1	0.0		
07:45 Volume	43	7	22	0	72	38	75	0	0	113	3	6	5	0	14	2	107	59	0	168	367
Peak Factor																					0.830
High Int.	07:45 AM					08:00 AM					08:15 AM					07:45 AM					
Volume	43	7	22	0	72	28	91	2	0	121	4	9	2	0	15	2	107	59	0	168	
Peak Factor					0.934					0.787					0.783					0.775	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Main 2
Site Code : 00913062
Start Date : 09/13/2006
Page No : 1

Groups Printed- Unshifted

	Main St North				Highway 50 East				Main St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	65	4	23	0	26	81	4	0	4	2	3	0	4	78	57	0	351
04:30 PM	73	9	34	0	33	95	4	0	1	10	4	0	3	79	53	0	398
04:45 PM	79	6	28	0	30	96	3	0	3	10	5	0	4	67	64	0	395
Total	217	19	85	0	89	272	11	0	8	22	12	0	11	224	174	0	1144
05:00 PM	85	12	52	0	29	108	4	0	3	11	3	0	9	77	73	0	466
05:15 PM	71	14	29	0	25	98	5	0	5	9	3	0	5	76	59	0	399
05:30 PM	97	8	38	0	29	97	2	0	6	14	7	0	3	75	60	0	436
05:45 PM	65	10	30	0	31	102	5	0	4	8	6	0	4	78	57	0	400
Total	318	44	149	0	114	405	16	0	18	42	19	0	21	306	249	0	1701
06:00 PM	72	11	22	0	16	98	3	0	6	10	3	0	11	59	53	0	364
Grand Total	607	74	256	0	219	775	30	0	32	74	34	0	43	589	476	0	3209
Apprch %	64.8	7.9	27.3	0.0	21.4	75.7	2.9	0.0	22.9	52.9	24.3	0.0	3.9	53.2	43.0	0.0	
Total %	18.9	2.3	8.0	0.0	6.8	24.2	0.9	0.0	1.0	2.3	1.1	0.0	1.3	18.4	14.8	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
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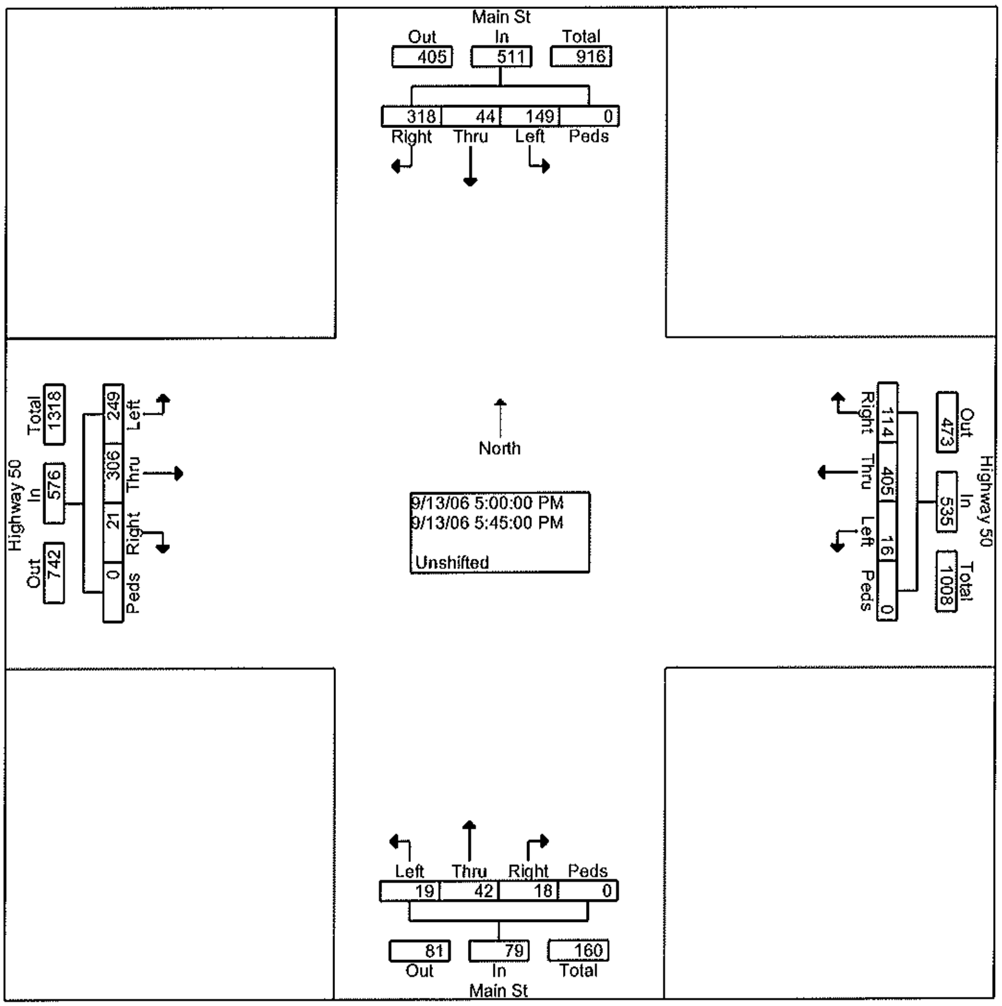
File Name : Main 2
Site Code : 00913062
Start Date : 09/13/2006

	Main St North					Highway 50 East					Main St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	318	44	149	0	511	114	405	16	0	535	18	42	19	0	79	21	306	249	0	576	1701
Percent	62.2	8.6	29.2	0.0		21.3	75.7	3.0	0.0		22.8	53.2	24.1	0.0		3.6	53.1	43.2	0.0		
05:00 Volume	85	12	52	0	149	29	108	4	0	141	3	11	3	0	17	9	77	73	0	159	466
Peak Factor																					0.913
High Int.	05:00 PM					05:00 PM					05:30 PM					05:00 PM					
Volume	85	12	52	0	149	29	108	4	0	141	6	14	7	0	27	9	77	73	0	159	
Peak Factor					0.857					0.949					0.731					0.906	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
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File Name : Colorado St 2
Site Code : 00000000
Start Date : 09/14/2006
Page No : 1

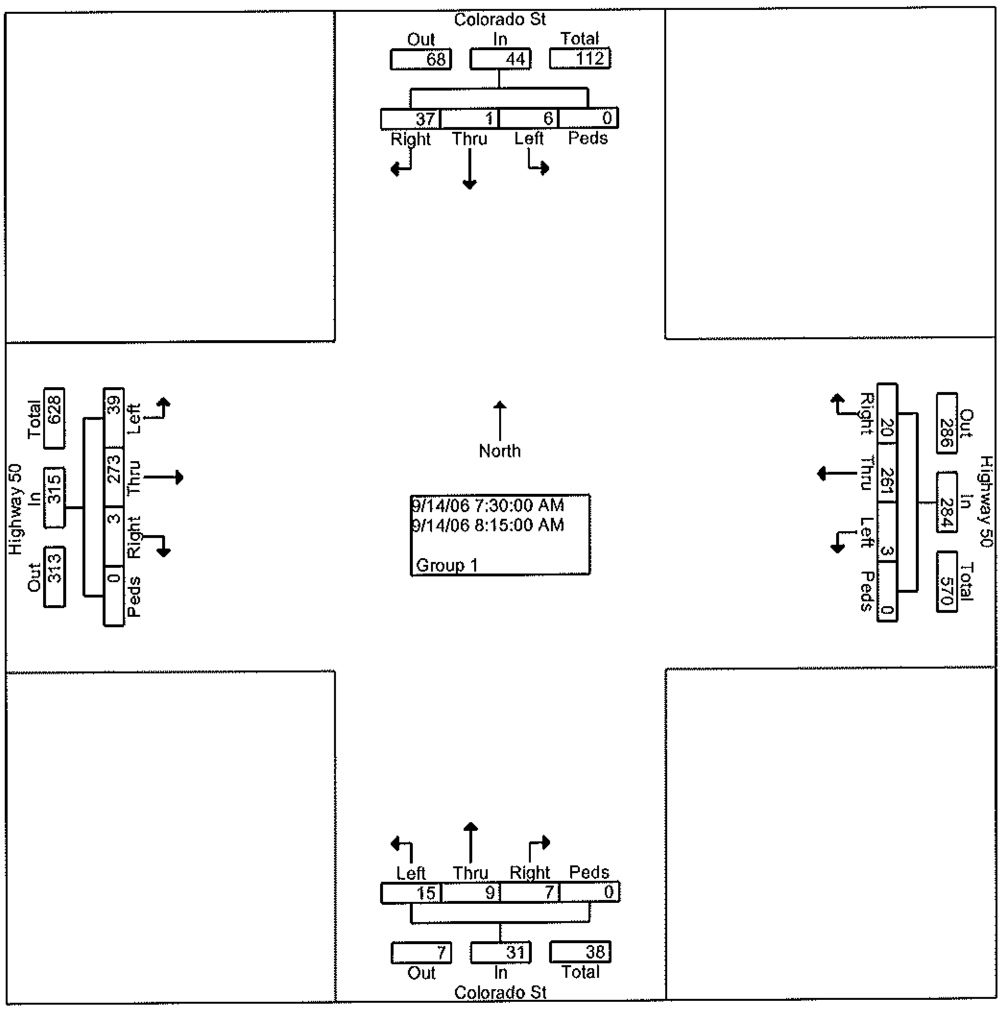
Groups Printed- Group 1

	Colorado St North				Highway 50 East				Colorado St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	4	1	3	0	0	26	0	0	0	1	6	0	3	30	1	0	75
06:45 AM	9	0	0	0	3	38	0	0	0	0	4	0	2	37	3	0	96
Total	13	1	3	0	3	64	0	0	0	1	10	0	5	67	4	0	171
07:00 AM	8	2	0	0	3	56	0	0	0	1	0	0	4	27	8	0	109
07:15 AM	5	0	2	0	2	45	1	0	0	0	4	0	6	25	13	0	103
07:30 AM	9	0	0	0	1	50	0	0	0	1	5	0	2	47	11	0	126
07:45 AM	10	1	2	0	7	70	0	0	4	1	2	0	0	93	9	0	199
Total	32	3	4	0	13	221	1	0	4	3	11	0	12	192	41	0	537
08:00 AM	8	0	3	0	9	64	3	0	2	7	5	0	0	60	10	0	171
08:15 AM	10	0	1	0	3	77	0	0	1	0	3	0	1	73	9	0	178
Grand Total	63	4	11	0	28	426	4	0	7	11	29	0	18	392	64	0	1057
Apprch %	80.8	5.1	14.1	0.0	6.1	93.0	0.9	0.0	14.9	23.4	61.7	0.0	3.8	82.7	13.5	0.0	
Total %	6.0	0.4	1.0	0.0	2.6	40.3	0.4	0.0	0.7	1.0	2.7	0.0	1.7	37.1	6.1	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Colorado St 2
Site Code : 00000000
Start Date : 09/14/2006
Page No : 2

	Colorado St North					Highway 50 East					Colorado St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	37	1	6	0	44	20	261	3	0	284	7	9	15	0	31	3	273	39	0	315	674
Percent	84.1	2.3	13.6	0.0		7.0	91.9	1.1	0.0		22.6	29.0	48.4	0.0		1.0	86.7	12.4	0.0		
07:45 Volume	10	1	2	0	13	7	70	0	0	77	4	1	2	0	7	0	93	9	0	102	199
Peak Factor																					0.847
High Int.	07:45 AM					08:15 AM					08:00 AM					07:45 AM					
Volume	10	1	2	0	13	3	77	0	0	80	2	7	5	0	14	0	93	9	0	102	
Peak Factor					0.846					0.888					0.554					0.772	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
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File Name : Colorado St 1
Site Code : 00000000
Start Date : 09/13/2006
Page No : 1

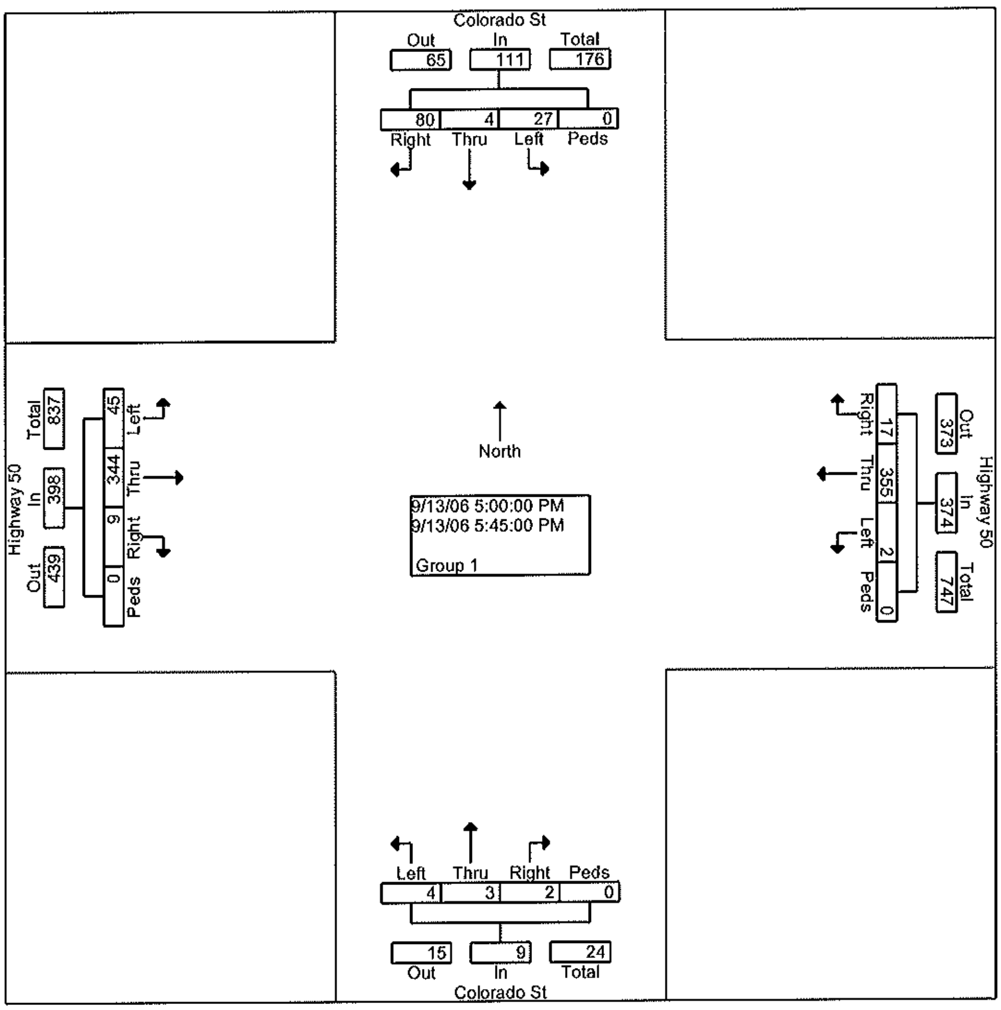
Groups Printed- Group 1

	Colorado St North				Highway 50 East				Colorado St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	14	0	11	0	4	62	0	0	1	2	1	0	0	75	15	0	185
04:30 PM	19	1	5	0	2	82	2	0	0	1	0	0	3	101	10	0	226
04:45 PM	19	3	5	0	3	103	0	0	1	0	3	0	1	51	12	0	201
Total	52	4	21	0	9	247	2	0	2	3	4	0	4	227	37	0	612
05:00 PM	17	2	9	0	2	87	0	0	1	0	0	0	4	101	10	0	233
05:15 PM	20	1	4	0	2	81	0	0	1	0	1	0	3	77	10	0	200
05:30 PM	20	1	6	0	2	67	1	0	0	0	2	0	0	75	6	0	180
05:45 PM	23	0	8	0	11	120	1	0	0	3	1	0	2	91	19	0	279
Total	80	4	27	0	17	355	2	0	2	3	4	0	9	344	45	0	892
06:00 PM	24	4	11	0	3	86	3	0	0	2	2	0	2	67	10	0	214
Grand Total	156	12	59	0	29	688	7	0	4	8	10	0	15	638	92	0	1718
Apprch %	68.7	5.3	26.0	0.0	4.0	95.0	1.0	0.0	18.2	36.4	45.5	0.0	2.0	85.6	12.3	0.0	
Total %	9.1	0.7	3.4	0.0	1.7	40.0	0.4	0.0	0.2	0.5	0.6	0.0	0.9	37.1	5.4	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Colorado St 1
Site Code : 00000000
Start Date : 09/13/2006
Page No : 2

	Colorado St North					Highway 50 East					Colorado St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	80	4	27	0	111	17	355	2	0	374	2	3	4	0	9	9	344	45	0	398	892
Percent	72.1	3.6	24.3	0.0		4.5	94.9	0.5	0.0		22.2	33.3	44.4	0.0		2.3	86.4	11.3	0.0		
05:45 Volume	23	0	8	0	31	11	120	1	0	132	0	3	1	0	4	2	91	19	0	112	279
Peak Factor																					0.799
High Int.	05:45 PM					05:45 PM					05:45 PM					05:00 PM					
Volume	23	0	8	0	31	11	120	1	0	132	0	3	1	0	4	4	101	10	0	115	
Peak Factor					0.895					0.708					0.563					0.865	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
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File Name : Adams 1
Site Code : 00009141
Start Date : 09/14/2006
Page No : 1

Groups Printed- Unshifted

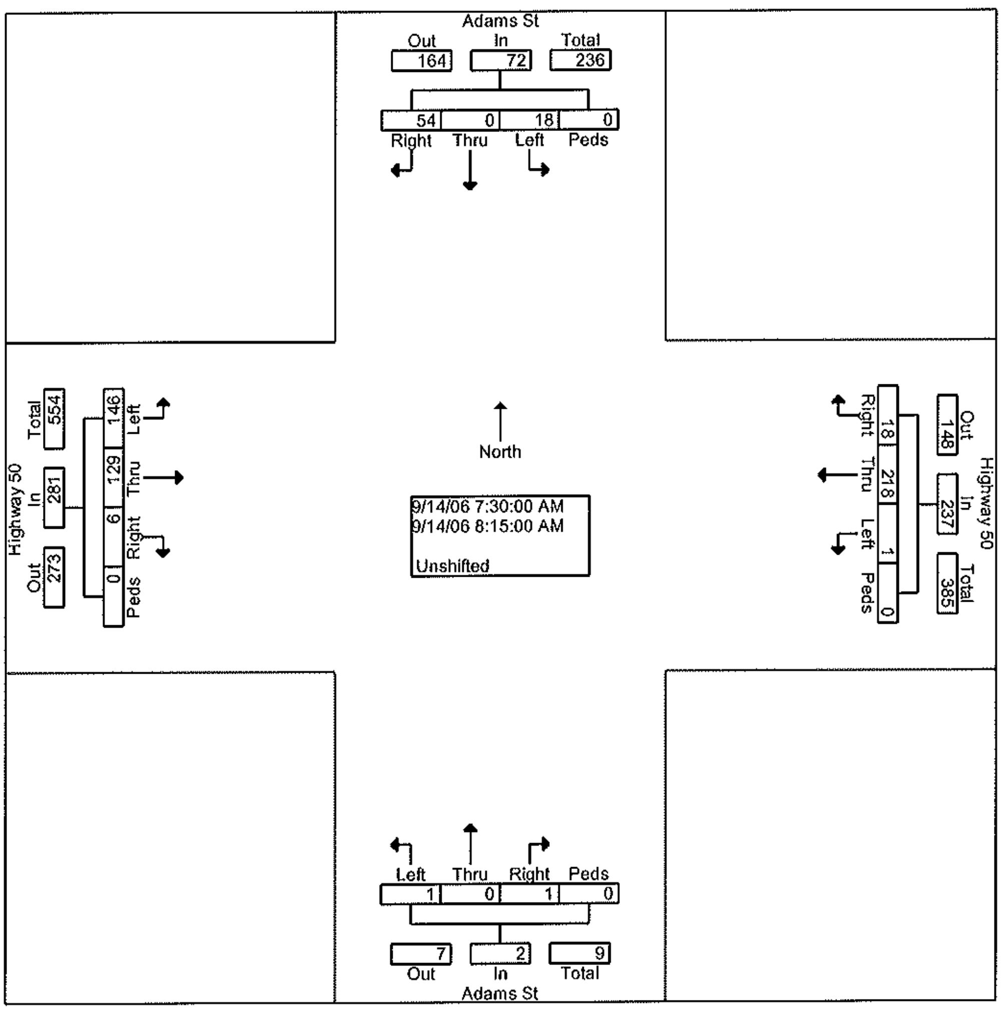
	Adams St North				Highway 50 East				Adams St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	15	0	4	0	6	20	0	0	0	0	0	0	0	23	9	0	77
06:45 AM	4	0	2	0	2	33	0	0	0	0	0	0	0	21	9	0	71
Total	19	0	6	0	8	53	0	0	0	0	0	0	0	44	18	0	148
07:00 AM	5	0	2	0	2	40	0	0	0	0	0	0	0	21	11	0	81
07:15 AM	10	0	1	0	3	41	0	0	0	0	0	0	0	11	13	0	79
07:30 AM	9	0	3	0	3	36	1	0	0	0	1	0	0	29	33	0	115
07:45 AM	16	0	6	0	6	71	0	0	0	0	0	0	3	33	46	0	181
Total	40	0	12	0	14	188	1	0	0	0	1	0	3	94	103	0	456
08:00 AM	16	0	3	0	6	59	0	0	0	0	0	0	1	28	35	0	148
08:15 AM	13	0	6	0	3	52	0	0	1	0	0	0	2	39	32	0	148
Grand Total	88	0	27	0	31	352	1	0	1	0	1	0	6	205	188	0	900
Apprch %	76.5	0.0	23.5	0.0	8.1	91.7	0.3	0.0	50.0	0.0	50.0	0.0	1.5	51.4	47.1	0.0	
Total %	9.8	0.0	3.0	0.0	3.4	39.1	0.1	0.0	0.1	0.0	0.1	0.0	0.7	22.8	20.9	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Adams 1
Site Code : 00009141
Start Date : 09/14/2006

	Adams St North					Highway 50 East					Adams St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	54	0	18	0	72	18	218	1	0	237	1	0	1	0	2	6	129	146	0	281	592
Percent	75.0	0.0	25.0	0.0		7.6	92.0	0.4	0.0		50.0	0.0	50.0	0.0		2.1	45.9	52.0	0.0		
07:45 Volume	16	0	6	0	22	6	71	0	0	77	0	0	0	0	0	3	33	46	0	82	181
Peak Factor																					0.818
High Int.	07:45 AM					07:45 AM					07:30 AM					07:45 AM					
Volume	16	0	6	0	22	6	71	0	0	77	0	0	1	0	1	3	33	46	0	82	
Peak Factor					0.818					0.769					0.500					0.857	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Adams 2
Site Code : 00009142
Start Date : 09/14/2006

Groups Printed- Unshifted

	Adams St North				Highway 50 East				Adams St South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	22	0	4	0	12	51	0	0	0	0	7	0	7	60	10	0	173
04:30 PM	22	0	3	0	7	54	0	0	0	2	4	0	4	48	9	0	153
04:45 PM	21	3	8	0	4	52	0	0	2	0	3	0	8	47	14	0	162
Total	65	3	15	0	23	157	0	0	2	2	14	0	19	155	33	0	488
05:00 PM	26	0	3	0	2	58	1	0	1	0	4	0	8	60	16	0	179
05:15 PM	17	2	3	0	4	55	1	0	1	0	1	0	3	58	12	0	157
05:30 PM	15	1	5	0	6	80	0	0	0	0	5	0	9	54	14	0	189
05:45 PM	15	0	2	0	1	69	0	0	0	3	14	0	10	63	16	0	193
Total	73	3	13	0	13	262	2	0	2	3	24	0	30	235	58	0	718
06:00 PM	11	1	8	0	0	41	0	0	0	0	0	0	0	42	19	0	122
Grand Total	149	7	36	0	36	460	2	0	4	5	38	0	49	432	110	0	1328
Apprch %	77.6	3.6	18.8	0.0	7.2	92.4	0.4	0.0	8.5	10.6	80.9	0.0	8.3	73.1	18.6	0.0	
Total %	11.2	0.5	2.7	0.0	2.7	34.6	0.2	0.0	0.3	0.4	2.9	0.0	3.7	32.5	8.3	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

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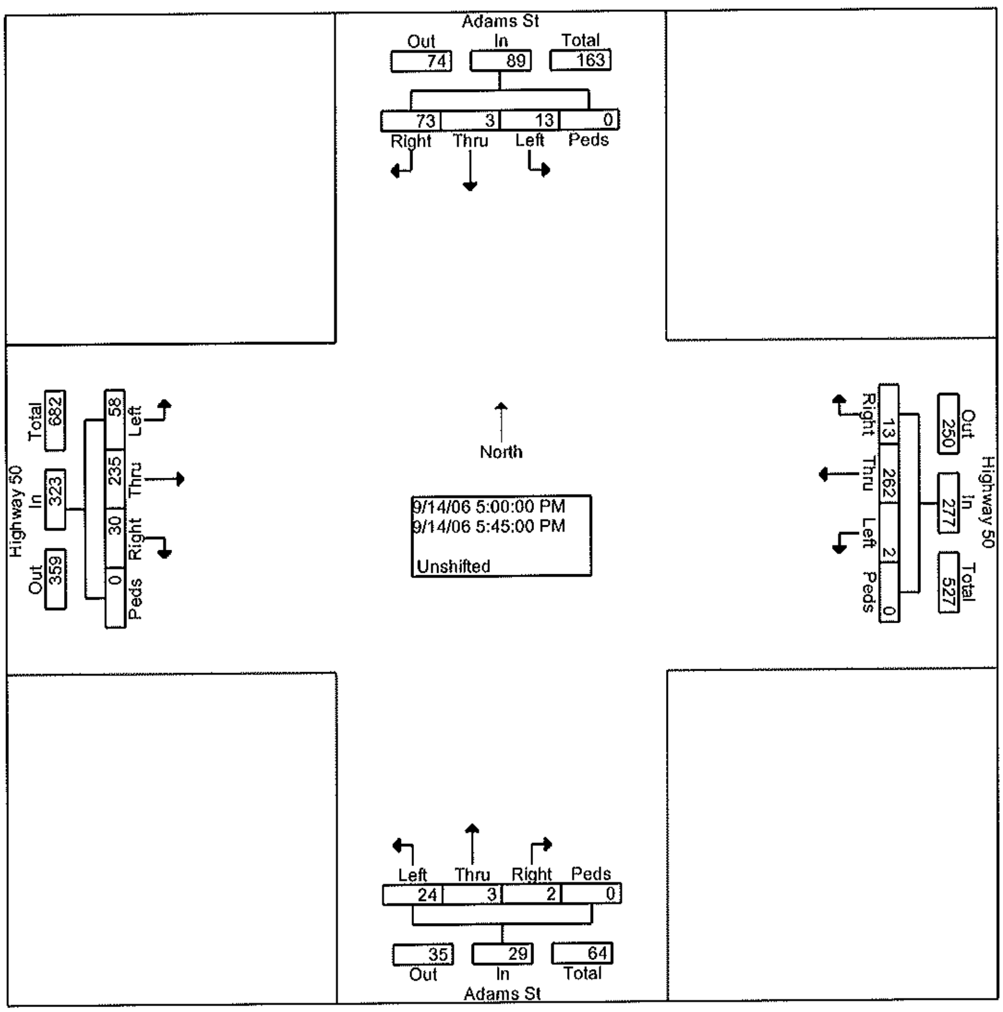
File Name : Adams 2
Site Code : 00009142
Start Date : 09/14/2006
Page No : 2

	Adams St North					Highway 50 East					Adams St South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	73	3	13	0	89	13	262	2	0	277	2	3	24	0	29	30	235	58	0	323	718
Percent	82.0	3.4	14.6	0.0		4.7	94.6	0.7	0.0		6.9	10.3	82.8	0.0		9.3	72.8	18.0	0.0		
05:45 Volume	15	0	2	0	17	1	69	0	0	70	0	3	14	0	17	10	63	16	0	89	193
Peak Factor																					0.930
High Int.	05:00 PM					05:30 PM					05:45 PM					05:45 PM					
Volume	26	0	3	0	29	6	80	0	0	86	0	3	14	0	17	10	63	16	0	89	
Peak Factor					0.767					0.805					0.426					0.907	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
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File Name : Best Western 1
Site Code : 00000000
Start Date : 09/19/2006
Page No : 1

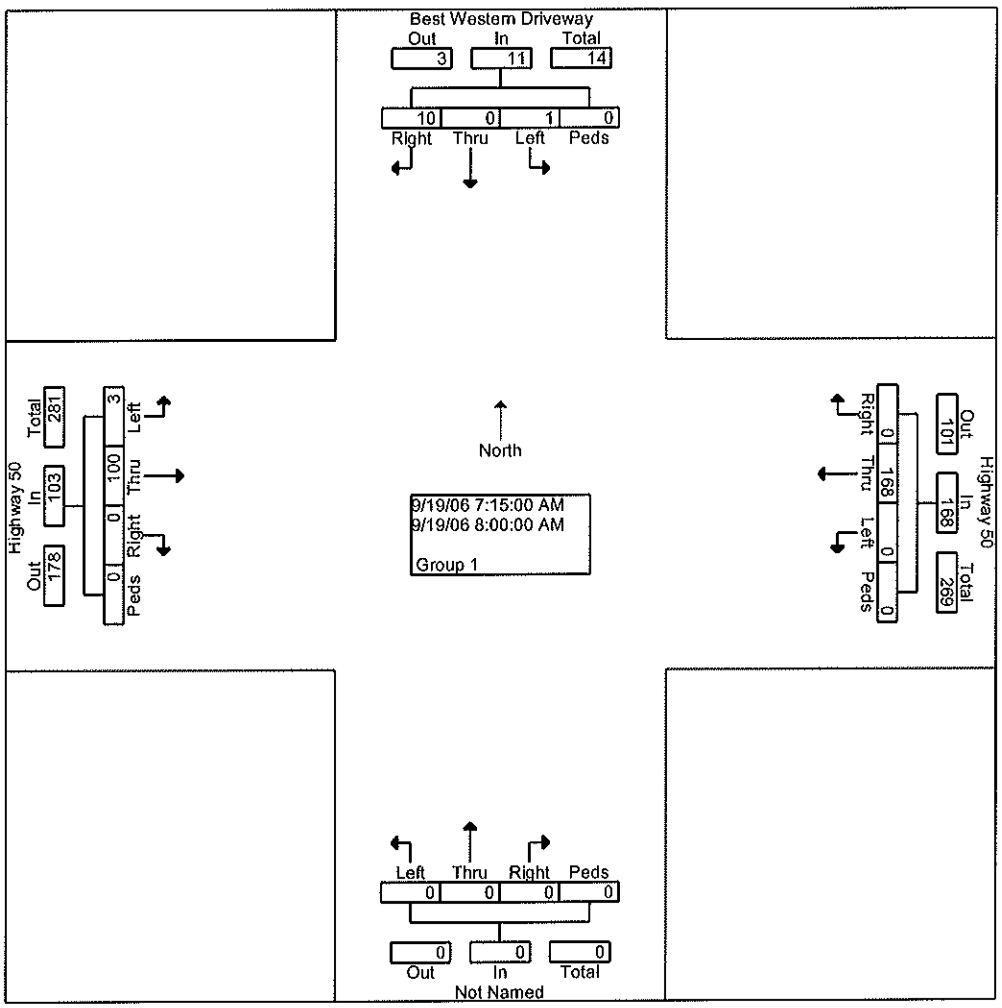
Groups Printed- Group 1

	Best Western Driveway North				Highway 50 East				South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	1	0	1	0	0	12	0	0	0	0	0	0	0	15	2	0	31
06:45 AM	2	0	0	0	0	18	0	0	0	0	0	0	0	24	0	0	44
Total	3	0	1	0	0	30	0	0	0	0	0	0	0	39	2	0	75
07:00 AM	0	0	0	0	0	14	0	0	0	0	0	0	0	12	0	0	26
07:15 AM	1	0	0	0	0	37	0	0	0	0	0	0	0	31	0	0	69
07:30 AM	3	0	0	0	0	44	0	0	0	0	0	0	0	23	0	0	70
07:45 AM	4	0	1	0	0	50	0	0	0	0	0	0	0	22	2	0	79
Total	8	0	1	0	0	145	0	0	0	0	0	0	0	88	2	0	244
08:00 AM	2	0	0	0	0	37	0	0	0	0	0	0	0	24	1	0	64
08:15 AM	2	0	0	0	0	32	0	0	0	0	0	0	0	29	0	0	63
Grand Total	15	0	2	0	0	244	0	0	0	0	0	0	0	180	5	0	446
Apprch %	88.2	0.0	11.8	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.3	2.7	0.0	
Total %	3.4	0.0	0.4	0.0	0.0	54.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.4	1.1	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Best Western 1
Site Code : 00000000
Start Date : 09/19/2006
Page No : 2

	Best Western Driveway North					Highway 50 East					South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	10	0	1	0	11	0	168	0	0	168	0	0	0	0	0	0	100	3	0	103	282
Percent	90.9	0.0	9.1	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.1	2.9	0.0		
07:45 Volume	4	0	1	0	5	0	50	0	0	50	0	0	0	0	0	0	22	2	0	24	79
Peak Factor																					0.892
High Int.	07:45 AM					07:45 AM					6:15:00 AM					07:15 AM					
Volume	4	0	1	0	5	0	50	0	0	50	0	0	0	0	0	0	31	0	0	31	
Peak Factor					0.550					0.840										0.831	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Best Western 2
Site Code : 00000000
Start Date : 09/19/2006
Page No : 1

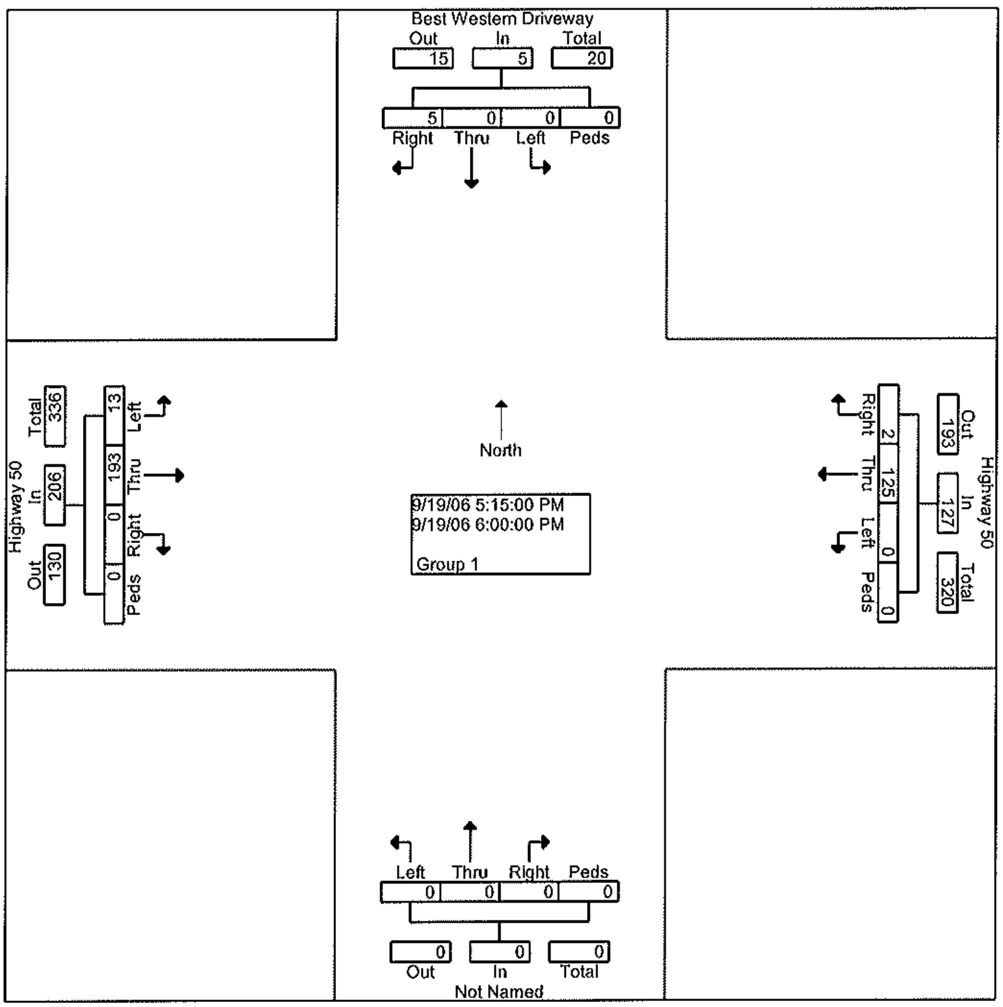
Groups Printed- Group 1

	Best Western Driveway North				Highway 50 East				South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	0	0	0	0	0	40	0	0	0	0	0	0	0	31	2	0	73
04:30 PM	3	0	0	0	1	44	0	0	0	0	0	0	0	36	4	0	88
04:45 PM	0	0	0	0	0	39	0	0	0	0	0	0	0	40	2	0	81
Total	3	0	0	0	1	123	0	0	0	0	0	0	0	107	8	0	242
05:00 PM	0	0	0	0	0	36	0	0	0	0	0	0	0	41	1	0	78
05:15 PM	0	0	0	0	1	30	0	0	0	0	0	0	0	56	3	0	90
05:30 PM	1	0	0	0	0	33	0	0	0	0	0	0	0	44	1	0	79
05:45 PM	1	0	0	0	1	36	0	0	0	0	0	0	0	40	2	0	80
Total	2	0	0	0	2	135	0	0	0	0	0	0	0	181	7	0	327
06:00 PM	3	0	0	0	0	26	0	0	0	0	0	0	0	53	7	0	89
Grand Total	8	0	0	0	3	284	0	0	0	0	0	0	0	341	22	0	658
Apprch %	100.0	0.0	0.0	0.0	1.0	99.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.9	6.1	0.0	
Total %	1.2	0.0	0.0	0.0	0.5	43.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.8	3.3	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Best Western 2
Site Code : 00000000
Start Date : 09/19/2006
Page No : 2

	Best Western Driveway North					Highway 50 East					South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:15 PM																				
Volume	5	0	0	0	5	2	125	0	0	127	0	0	0	0	0	0	193	13	0	206	338
Percent	100.0	0.0	0.0	0.0		1.6	98.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	93.7	6.3	0.0		
05:15 Volume	0	0	0	0	0	1	30	0	0	31	0	0	0	0	0	0	56	3	0	59	90
Peak Factor																					0.939
High Int.	06:00 PM					05:45 PM					4:00:00 PM					06:00 PM					
Volume	3	0	0	0	3	1	36	0	0	37	0	0	0	0	0	0	53	7	0	60	
Peak Factor					0.417					0.858										0.858	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Industrial Site
Site Code : 00920061
Start Date : 09/20/2006

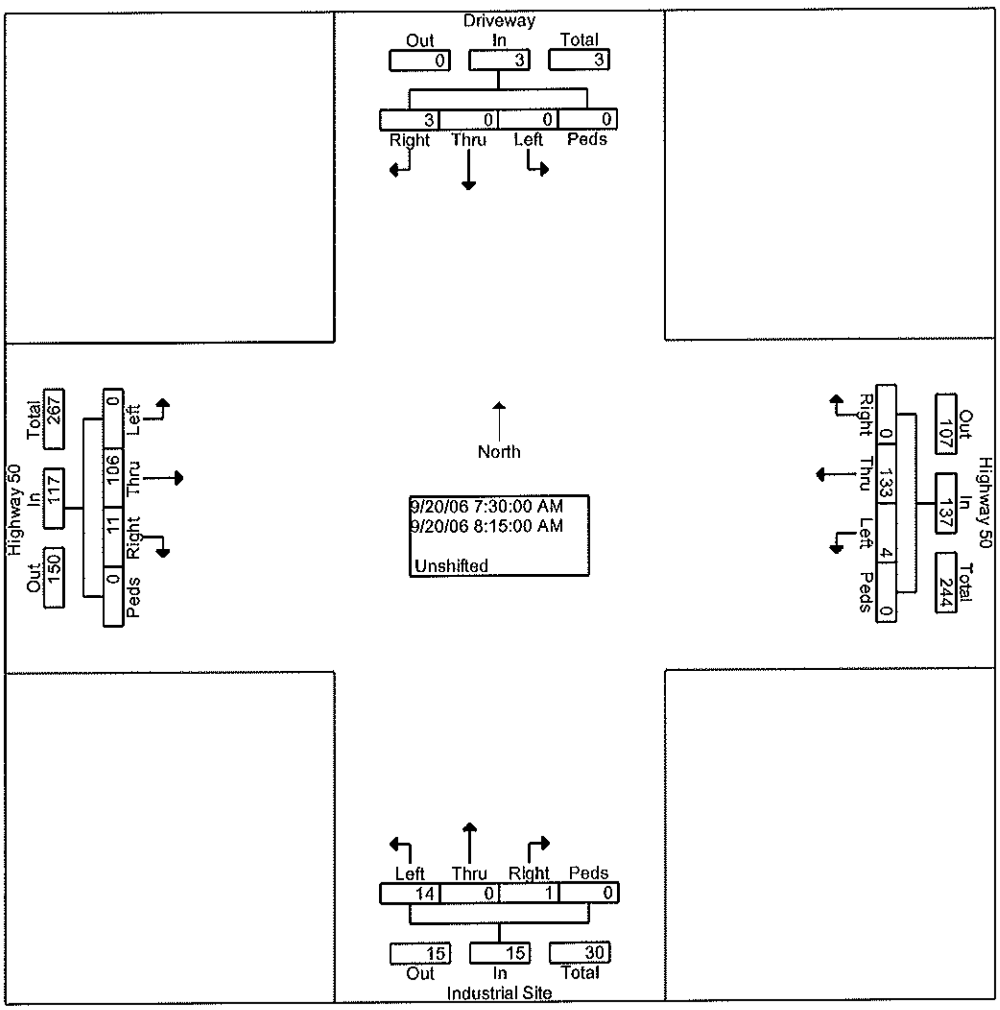
Groups Printed- Unshifted

	Driveway North				Highway 50 East				Industrial Site South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	0	0	0	0	10	0	0	0	0	0	0	7	17	0	0	34
06:45 AM	0	0	0	0	0	20	4	0	0	0	4	0	10	19	0	0	57
Total	0	0	0	0	0	30	4	0	0	0	4	0	17	36	0	0	91
07:00 AM	1	0	0	0	0	25	0	0	0	0	7	0	1	20	0	0	54
07:15 AM	0	0	0	0	0	36	1	0	0	0	5	0	4	18	0	0	64
07:30 AM	2	0	0	0	0	24	0	0	0	0	3	0	4	23	0	0	56
07:45 AM	0	0	0	0	0	39	2	0	0	0	4	0	4	25	0	0	74
Total	3	0	0	0	0	124	3	0	0	0	19	0	13	86	0	0	248
08:00 AM	0	0	0	0	0	36	2	0	0	0	4	0	0	31	0	0	73
08:15 AM	1	0	0	0	0	34	0	0	1	0	3	0	3	27	0	0	69
Grand Total	4	0	0	0	0	224	9	0	1	0	30	0	33	180	0	0	481
Apprch %	100.0	0.0	0.0	0.0	0.0	96.1	3.9	0.0	3.2	0.0	96.8	0.0	15.5	84.5	0.0	0.0	
Total %	0.8	0.0	0.0	0.0	0.0	46.6	1.9	0.0	0.2	0.0	6.2	0.0	6.9	37.4	0.0	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Industrial Site
Site Code : 00920061
Start Date : 09/20/2006
Page No : 2

	Driveway North					Highway 50 East					Industrial Site South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	3	0	0	0	3	0	133	4	0	137	1	0	14	0	15	11	106	0	0	117	272
Percent	100.0	0.0	0.0	0.0		0.0	97.1	2.9	0.0		6.7	0.0	93.3	0.0		9.4	90.6	0.0	0.0		
07:45 Volume	0	0	0	0	0	0	39	2	0	41	0	0	4	0	4	4	25	0	0	29	74
Peak Factor																					0.919
High Int.	07:30 AM					07:45 AM					07:45 AM					08:00 AM					
Volume	2	0	0	0	2	0	39	2	0	41	0	0	4	0	4	0	31	0	0	31	
Peak Factor					0.375					0.835					0.938					0.944	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
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E-mail: lsc@lsccs.com

File Name : Industrial Site 2
Site Code : 00009192
Start Date : 09/19/2006
Page No : 1

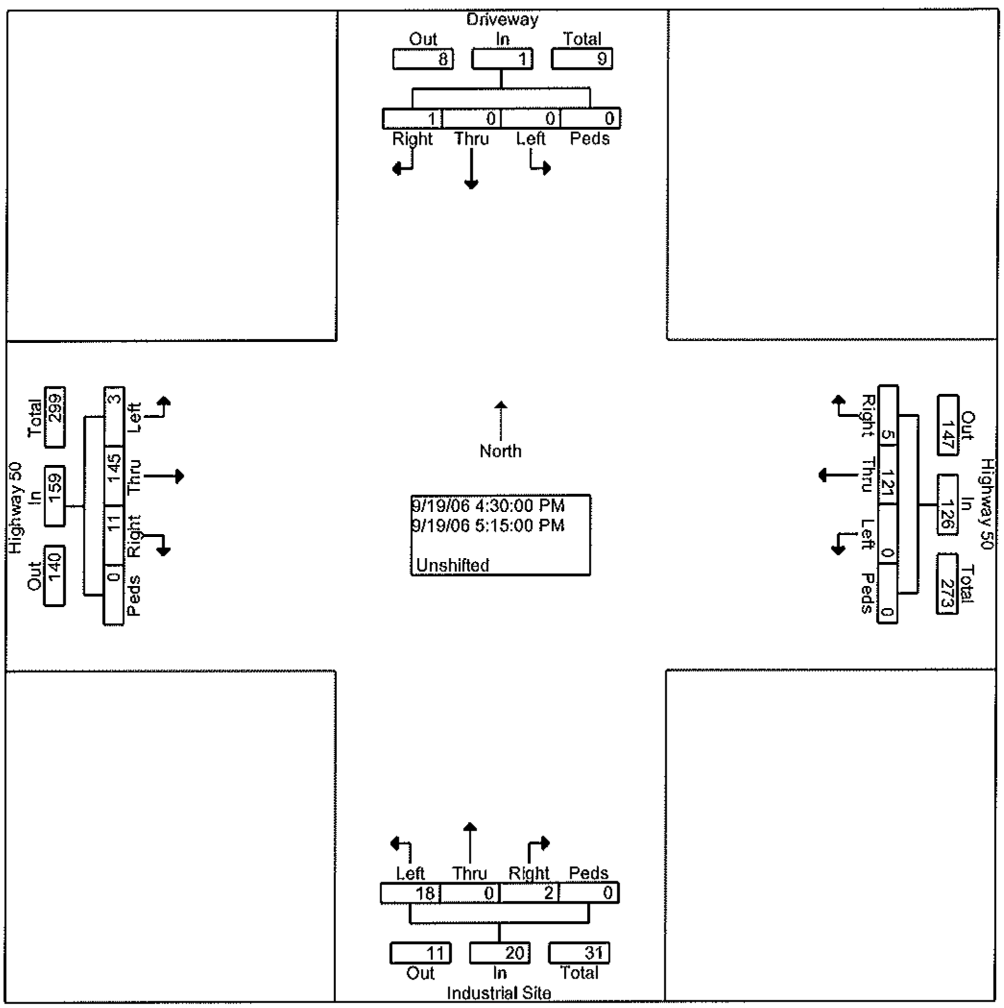
Groups Printed- Unshifted

	Driveway North				Highway 50 East				Industrial Site South				Highway 50 West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	0	0	0	0	0	37	0	0	0	0	2	0	3	24	1	0	67
04:30 PM	1	0	0	0	0	39	0	0	0	0	5	0	4	35	1	0	85
04:45 PM	0	0	0	0	2	26	0	0	1	0	3	0	0	36	0	0	68
Total	1	0	0	0	2	102	0	0	1	0	10	0	7	95	2	0	220
05:00 PM	0	0	0	0	0	32	0	0	0	0	2	0	5	30	1	0	70
05:15 PM	0	0	0	0	3	24	0	0	1	0	8	0	2	44	1	0	83
05:30 PM	0	0	0	0	0	24	0	0	0	0	2	0	1	41	0	0	68
05:45 PM	0	0	2	0	0	29	0	0	1	0	2	0	0	37	0	0	71
Total	0	0	2	0	3	109	0	0	2	0	14	0	8	152	2	0	292
06:00 PM	0	0	0	0	0	24	0	0	0	0	1	0	1	39	0	0	65
Grand Total	1	0	2	0	5	235	0	0	3	0	25	0	16	286	4	0	577
Apprch %	33.3	0.0	66.7	0.0	2.1	97.9	0.0	0.0	10.7	0.0	89.3	0.0	5.2	93.5	1.3	0.0	
Total %	0.2	0.0	0.3	0.0	0.9	40.7	0.0	0.0	0.5	0.0	4.3	0.0	2.8	49.6	0.7	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Industrial Site 2
Site Code : 00009192
Start Date : 09/19/2006

	Driveway North					Highway 50 East					Industrial Site South					Highway 50 West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	1	0	0	0	1	5	121	0	0	126	2	0	18	0	20	11	145	3	0	159	306
Percent	100.0	0.0	0.0	0.0		4.0	96.0	0.0	0.0		10.0	0.0	90.0	0.0		6.9	91.2	1.9	0.0		
04:30 Volume	1	0	0	0	1	0	39	0	0	39	0	0	5	0	5	4	35	1	0	40	85
Peak Factor																					0.900
High Int.	04:30 PM					04:30 PM					05:15 PM					05:15 PM					
Volume	1	0	0	0	1	0	39	0	0	39	1	0	8	0	9	2	44	1	0	47	
Peak Factor					0.250					0.808					0.556					0.846	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Virginia 1
Site Code : 00009131
Start Date : 09/13/2006
Page No : 1

Groups Printed- Unshifted

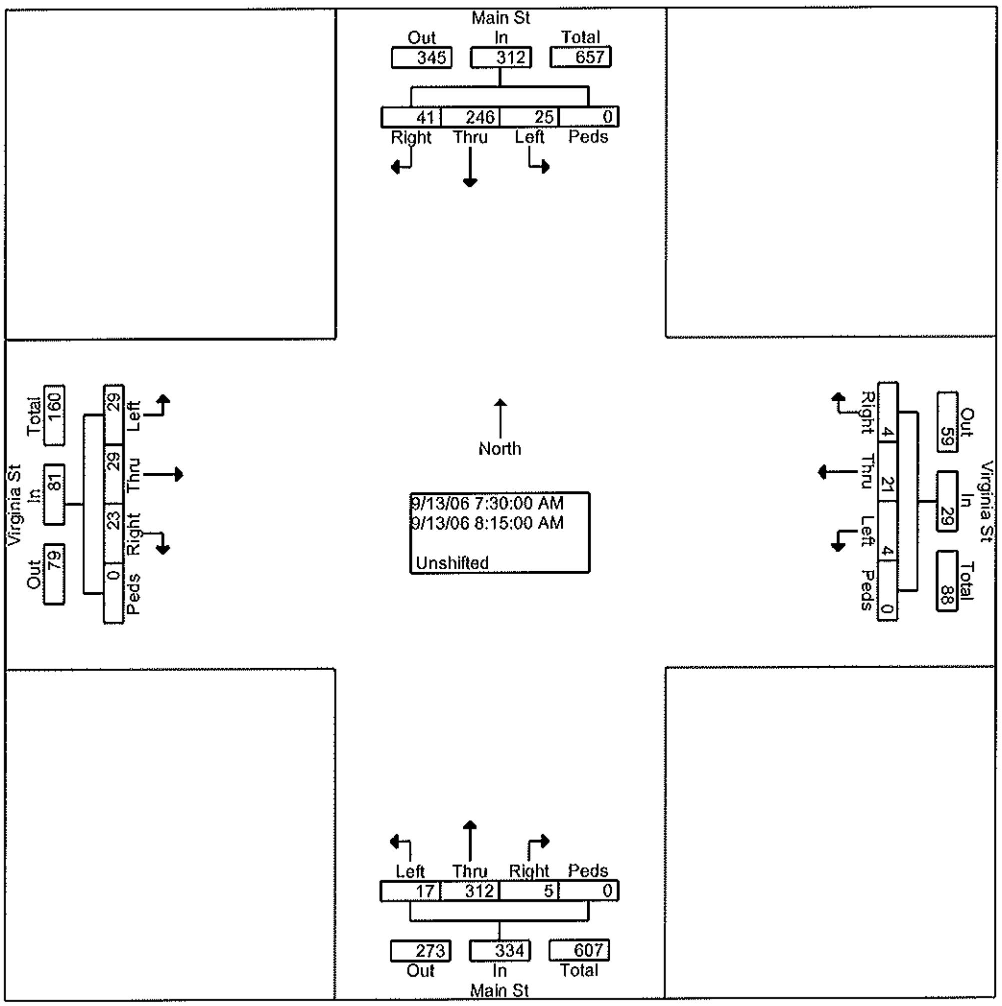
	Main St North				Virginia St East				Main St South				Virginia St West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	2	21	1	0	0	0	0	0	1	44	0	0	1	1	1	0	72
06:45 AM	3	31	3	0	1	0	0	0	2	50	0	0	2	1	5	0	98
Total	5	52	4	0	1	0	0	0	3	94	0	0	3	2	6	0	170
07:00 AM	5	52	1	0	0	1	0	0	0	54	1	0	1	3	4	0	122
07:15 AM	5	46	0	0	0	0	0	0	0	70	2	0	2	2	3	0	130
07:30 AM	7	58	3	0	0	3	0	0	2	80	1	0	7	1	5	0	167
07:45 AM	6	65	8	0	1	9	1	0	1	93	3	0	5	11	5	0	208
Total	23	221	12	0	1	13	1	0	3	297	7	0	15	17	17	0	627
08:00 AM	15	63	4	0	2	6	0	0	2	70	9	0	4	12	5	0	192
08:15 AM	13	60	10	0	1	3	3	0	0	69	4	0	7	5	14	0	189
Grand Total	56	396	30	0	5	22	4	0	8	530	20	0	29	36	42	0	1178
Apprch %	11.6	82.2	6.2	0.0	16.1	71.0	12.9	0.0	1.4	95.0	3.6	0.0	27.1	33.6	39.3	0.0	
Total %	4.8	33.6	2.5	0.0	0.4	1.9	0.3	0.0	0.7	45.0	1.7	0.0	2.5	3.1	3.6	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Virginia 1
Site Code : 00009131
Start Date : 09/13/2006

	Main St North					Virginia St East					Main St South					Virginia St West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	41	246	25	0	312	4	21	4	0	29	5	312	17	0	334	23	29	29	0	81	756
Percent	13.1	78.8	8.0	0.0		13.8	72.4	13.8	0.0		1.5	93.4	5.1	0.0		28.4	35.8	35.8	0.0		
07:45 Volume	6	65	8	0	79	1	9	1	0	11	1	93	3	0	97	5	11	5	0	21	208
Peak Factor																					0.909
High Int.	08:15 AM					07:45 AM					07:45 AM					08:15 AM					
Volume	13	60	10	0	83	1	9	1	0	11	1	93	3	0	97	7	5	14	0	26	
Peak Factor					0.940					0.659					0.861					0.779	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Virginia 2
Site Code : 00009132
Start Date : 09/13/2006
Page No : 1

Groups Printed- Unshifted

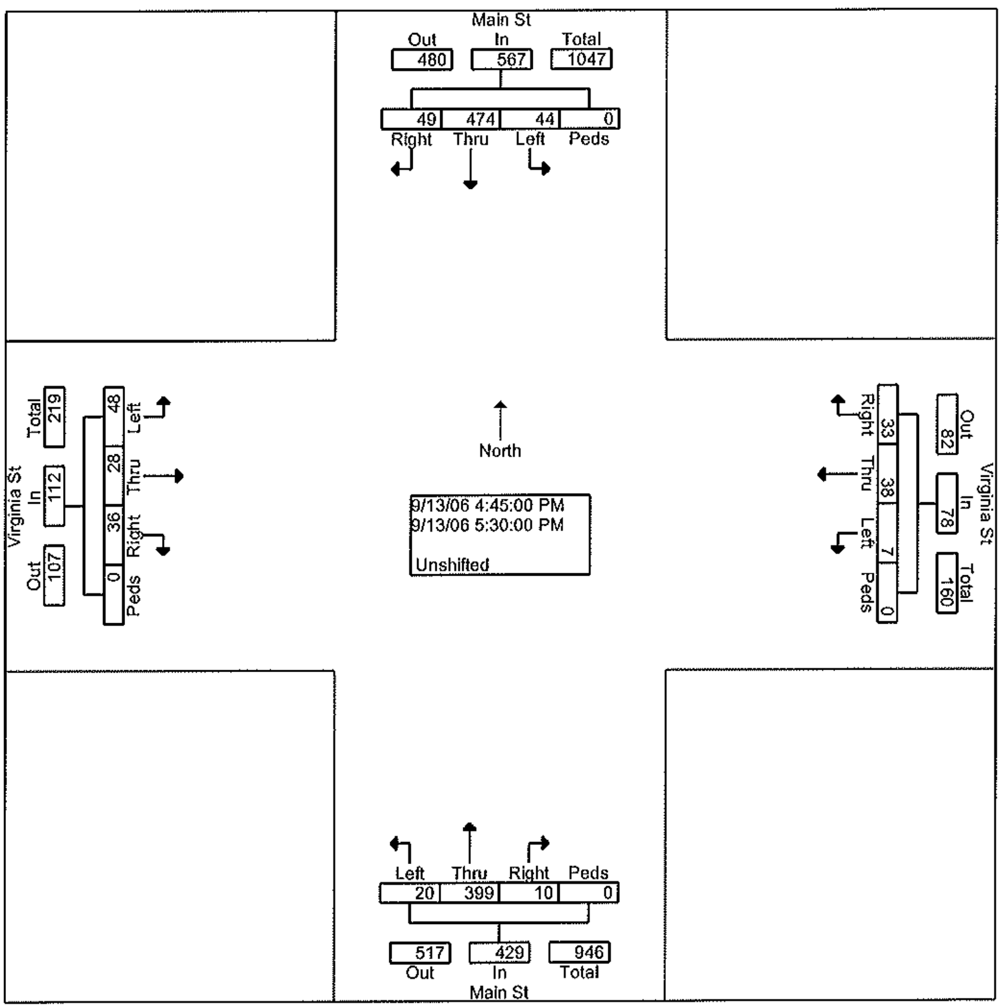
	Main St North				Virginia St East				Main St South				Virginia St West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:15 PM	13	86	6	0	8	9	2	0	2	78	4	0	7	10	19	0	244
04:30 PM	15	107	9	0	1	3	3	0	10	79	5	0	5	10	18	0	265
04:45 PM	13	99	12	0	10	14	3	0	2	103	9	0	9	11	13	0	298
Total	41	292	27	0	19	26	8	0	14	260	18	0	21	31	50	0	807
05:00 PM	12	141	13	0	11	6	1	0	1	103	5	0	7	5	16	0	321
05:15 PM	13	109	13	0	8	14	1	0	2	97	4	0	10	5	11	0	287
05:30 PM	11	125	6	0	4	4	2	0	5	96	2	0	10	7	8	0	280
05:45 PM	9	105	9	0	4	7	0	0	2	90	4	0	8	12	10	0	260
Total	45	480	41	0	27	31	4	0	10	386	15	0	35	29	45	0	1148
06:00 PM	14	101	6	0	9	11	2	0	1	73	1	0	8	8	9	0	243
Grand Total	100	873	74	0	55	68	14	0	25	719	34	0	64	68	104	0	2198
Apprch %	9.6	83.4	7.1	0.0	40.1	49.6	10.2	0.0	3.2	92.4	4.4	0.0	27.1	28.8	44.1	0.0	
Total %	4.5	39.7	3.4	0.0	2.5	3.1	0.6	0.0	1.1	32.7	1.5	0.0	2.9	3.1	4.7	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Virginia 2
Site Code : 00009132
Start Date : 09/13/2006

	Main St North					Virginia St East					Main St South					Virginia St West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	49	474	44	0	567	33	38	7	0	78	10	399	20	0	429	36	28	48	0	112	1186
Percent	8.6	83.6	7.8	0.0		42.3	48.7	9.0	0.0		2.3	93.0	4.7	0.0		32.1	25.0	42.9	0.0		
05:00 Volume	12	141	13	0	166	11	6	1	0	18	1	103	5	0	109	7	5	16	0	28	321
Peak Factor																					0.924
High Int.	05:00 PM					04:45 PM					04:45 PM					04:45 PM					
Volume	12	141	13	0	166	10	14	3	0	27	2	103	9	0	114	9	11	13	0	33	
Peak Factor					0.854					0.722					0.941					0.848	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
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File Name : Georgia 1
Site Code : 00914061
Start Date : 09/14/2006
Page No : 1

Groups Printed- Unshifted

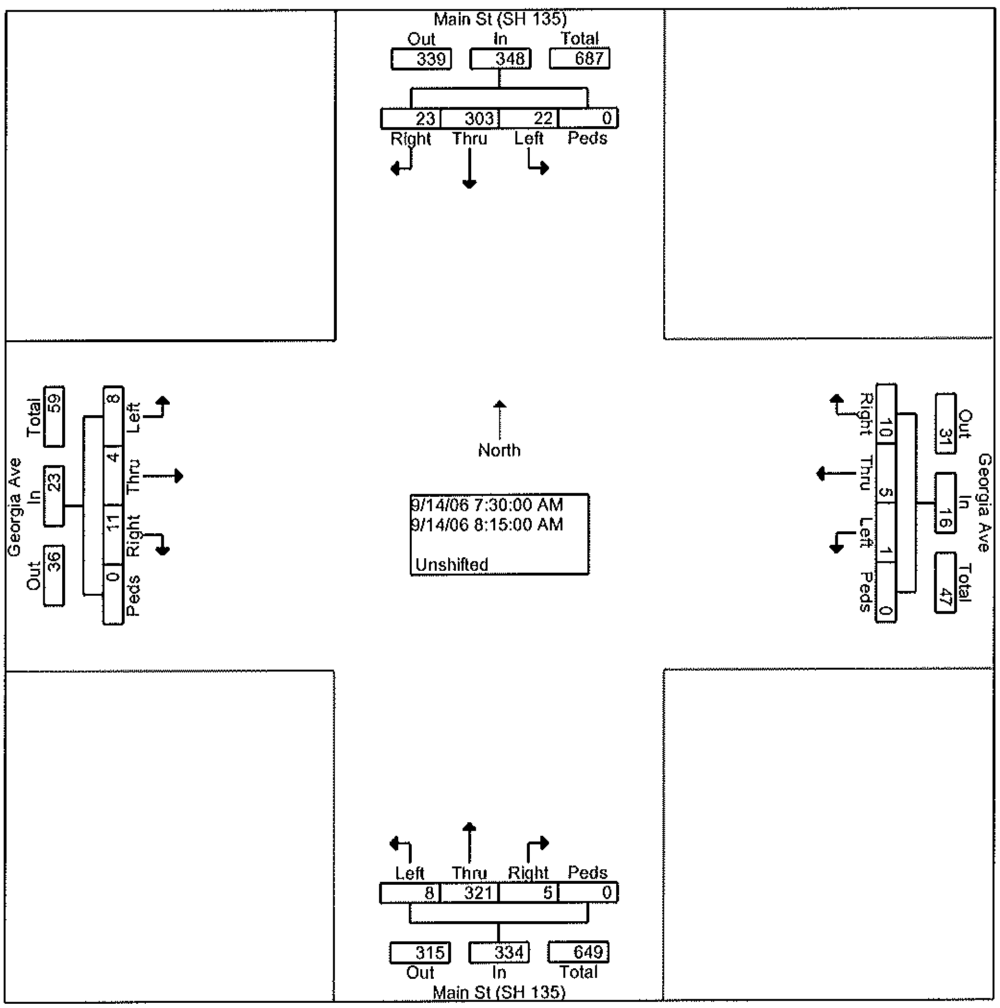
	Main St (SH 135) North				Georgia Ave East				Main St (SH 135) South				Georgia Ave West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	1	40	1	0	0	1	0	0	0	45	1	0	1	0	1	0	91
06:45 AM	5	46	1	0	0	0	0	0	1	61	1	0	0	0	0	0	115
Total	6	86	2	0	0	1	0	0	1	106	2	0	1	0	1	0	206
07:00 AM	4	34	1	0	2	0	0	0	1	69	2	0	0	1	1	0	115
07:15 AM	3	51	1	0	1	0	0	0	0	73	1	0	0	0	2	0	132
07:30 AM	6	58	3	0	2	2	0	0	1	72	1	0	2	1	2	0	150
07:45 AM	9	92	7	0	4	0	0	0	1	92	4	0	3	1	1	0	214
Total	22	235	12	0	9	2	0	0	3	306	8	0	5	3	6	0	611
08:00 AM	4	79	8	0	4	2	0	0	2	75	2	0	2	1	1	0	180
08:15 AM	4	74	4	0	0	1	1	0	1	82	1	0	4	1	4	0	177
Grand Total	36	474	26	0	13	6	1	0	7	569	13	0	12	5	12	0	1174
Apprch %	6.7	88.4	4.9	0.0	65.0	30.0	5.0	0.0	1.2	96.6	2.2	0.0	41.4	17.2	41.4	0.0	
Total %	3.1	40.4	2.2	0.0	1.1	0.5	0.1	0.0	0.6	48.5	1.1	0.0	1.0	0.4	1.0	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Georgia 1
Site Code : 00914061
Start Date : 09/14/2006

	Main St (SH 135) North					Georgia Ave East					Main St (SH 135) South					Georgia Ave West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	23	303	22	0	348	10	5	1	0	16	5	321	8	0	334	11	4	8	0	23	721
Percent	6.6	87.1	6.3	0.0		62.5	31.3	6.3	0.0		1.5	96.1	2.4	0.0		47.8	17.4	34.8	0.0		
07:45 Volume	9	92	7	0	108	4	0	0	0	4	1	92	4	0	97	3	1	1	0	5	214
Peak Factor																					0.842
High Int.	07:45 AM					08:00 AM					07:45 AM					08:15 AM					
Volume	9	92	7	0	108	4	2	0	0	6	1	92	4	0	97	4	1	4	0	9	
Peak Factor					0.806					0.667					0.861					0.639	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Georgia 2
Site Code : 00914062
Start Date : 09/14/2006
Page No : 1

Groups Printed- Unshifted

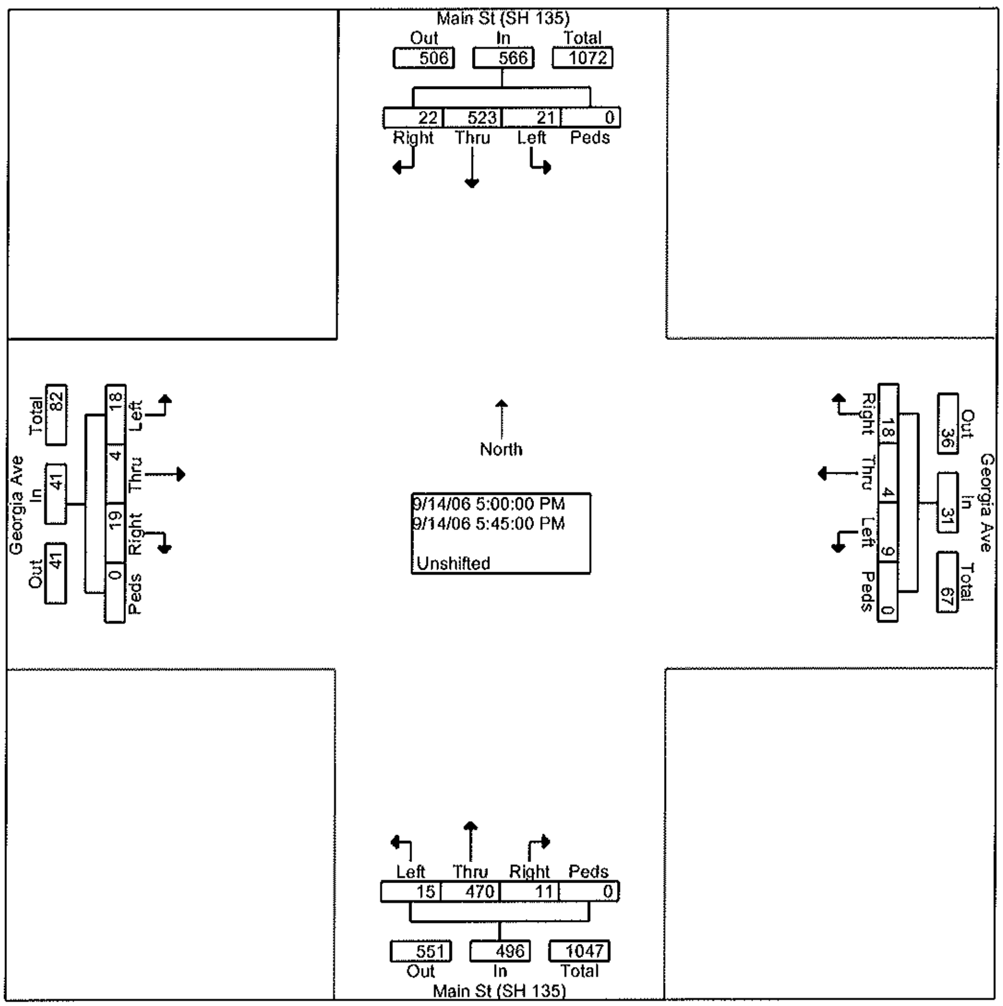
	Main St (SH 135) North				Georgia Ave East				Main St (SH 135) South				Georgia Ave West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:15 PM	5	99	4	0	6	2	1	0	3	87	1	0	13	2	4	0	227
04:30 PM	9	110	7	0	7	5	4	0	3	104	4	0	7	1	2	0	263
04:45 PM	5	124	3	0	5	1	2	0	4	94	5	0	9	1	5	0	258
Total	19	333	14	0	18	8	7	0	10	285	10	0	29	4	11	0	748
05:00 PM	6	131	8	0	9	1	3	0	5	122	8	0	10	0	5	0	308
05:15 PM	7	137	1	0	5	1	1	0	2	112	0	0	4	2	4	0	276
05:30 PM	6	117	5	0	4	1	1	0	3	118	3	0	3	1	6	0	268
05:45 PM	3	138	7	0	0	1	4	0	1	118	4	0	2	1	3	0	282
Total	22	523	21	0	18	4	9	0	11	470	15	0	19	4	18	0	1134
06:00 PM	3	126	2	0	0	1	4	0	2	89	3	0	4	0	3	0	237
Grand Total	44	982	37	0	36	13	20	0	23	844	28	0	52	8	32	0	2119
Apprch %	4.1	92.4	3.5	0.0	52.2	18.8	29.0	0.0	2.6	94.3	3.1	0.0	56.5	8.7	34.8	0.0	
Total %	2.1	46.3	1.7	0.0	1.7	0.6	0.9	0.0	1.1	39.8	1.3	0.0	2.5	0.4	1.5	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Georgia 2
Site Code : 00914062
Start Date : 09/14/2006

	Main St (SH 135) North					Georgia Ave East					Main St (SH 135) South					Georgia Ave West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	22	523	21	0	566	18	4	9	0	31	11	470	15	0	496	19	4	18	0	41	1134
Percent	3.9	92.4	3.7	0.0		58.1	12.9	29.0	0.0		2.2	94.8	3.0	0.0		46.3	9.8	43.9	0.0		
05:00 Volume	6	131	8	0	145	9	1	3	0	13	5	122	8	0	135	10	0	5	0	15	308
Peak Factor																					0.920
High Int.	05:45 PM					05:00 PM					05:00 PM					05:00 PM					
Volume	3	138	7	0	148	9	1	3	0	13	5	122	8	0	135	10	0	5	0	15	
Peak Factor					0.956					0.596					0.919					0.683	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Spencer 32
Site Code : 00010031
Start Date : 10/03/2006
Page No : 1

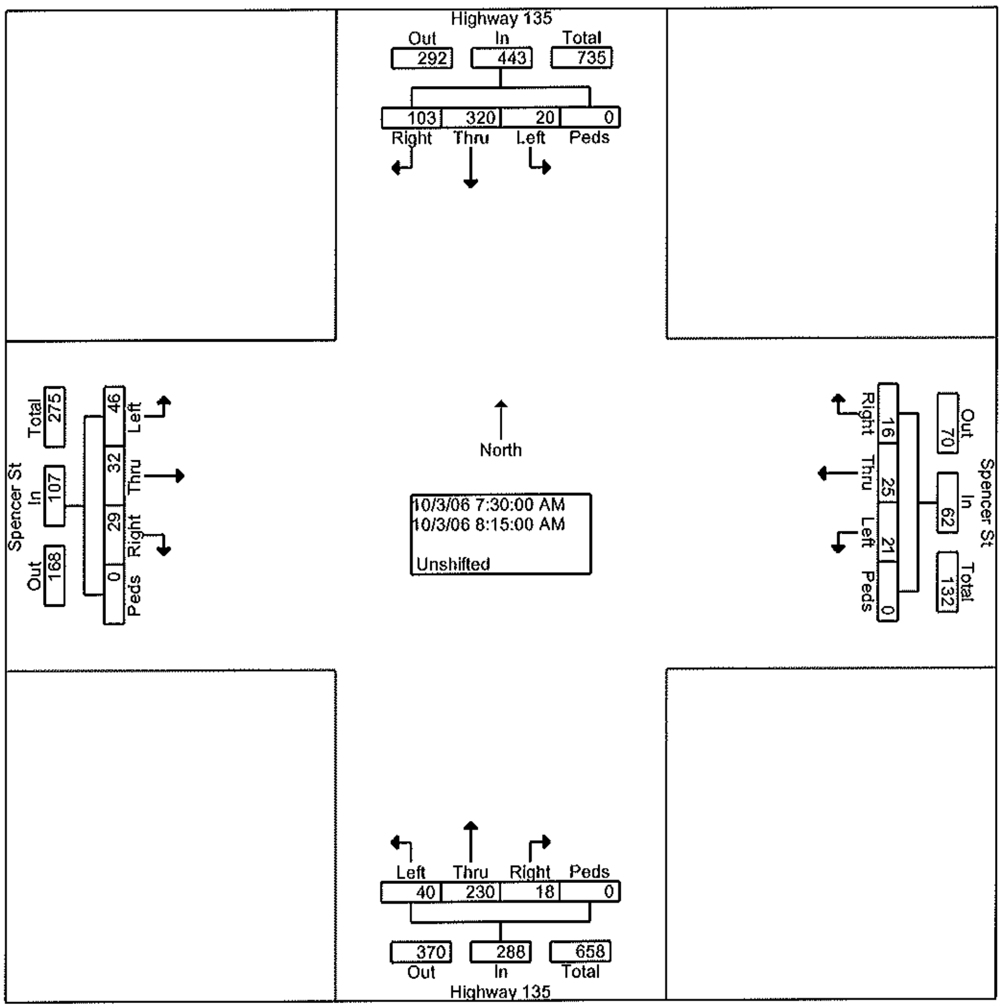
Groups Printed- Unshifted

	Highway 135 North				Spencer St East				Highway 135 South				Spencer St West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	2	21	1	0	0	1	0	0	2	31	1	0	3	1	7	0	70
06:45 AM	4	47	1	0	1	2	1	0	4	38	3	0	8	1	5	0	115
Total	6	68	2	0	1	3	1	0	6	69	4	0	11	2	12	0	185
07:00 AM	7	50	1	0	0	0	2	0	3	47	1	0	9	2	12	0	134
07:15 AM	8	38	2	0	2	1	3	0	2	98	1	0	7	4	12	0	178
07:30 AM	18	66	2	0	5	2	1	0	2	52	8	0	3	3	11	0	173
07:45 AM	17	96	5	0	3	2	3	0	5	61	5	0	11	11	18	0	237
Total	50	250	10	0	10	5	9	0	12	258	15	0	30	20	53	0	722
08:00 AM	27	86	6	0	2	7	10	0	6	66	14	0	10	9	9	0	252
08:15 AM	41	72	7	0	6	14	7	0	5	51	13	0	5	9	8	0	238
Grand Total	124	476	25	0	19	29	27	0	29	444	46	0	56	40	82	0	1397
Apprch %	19.8	76.2	4.0	0.0	25.3	38.7	36.0	0.0	5.6	85.5	8.9	0.0	31.5	22.5	46.1	0.0	
Total %	8.9	34.1	1.8	0.0	1.4	2.1	1.9	0.0	2.1	31.8	3.3	0.0	4.0	2.9	5.9	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Spencer 32
Site Code : 00010031
Start Date : 10/03/2006
Page No : 2

	Highway 135 North					Spencer St East					Highway 135 South					Spencer St West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	103	320	20	0	443	16	25	21	0	62	18	230	40	0	288	29	32	46	0	107	900
Percent	23.3	72.2	4.5	0.0		25.8	40.3	33.9	0.0		6.3	79.9	13.9	0.0		27.1	29.9	43.0	0.0		
08:00 Volume	27	86	6	0	119	2	7	10	0	19	6	66	14	0	86	10	9	9	0	28	252
Peak Factor																					0.893
High Int.	08:15 AM					08:15 AM					08:00 AM					07:45 AM					
Volume	41	72	7	0	120	6	14	7	0	27	6	66	14	0	86	11	11	18	0	40	
Peak Factor					0.923					0.574					0.837					0.669	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : SH135-spencer noon
Site Code : 00000000
Start Date : 09/30/2006
Page No : 1

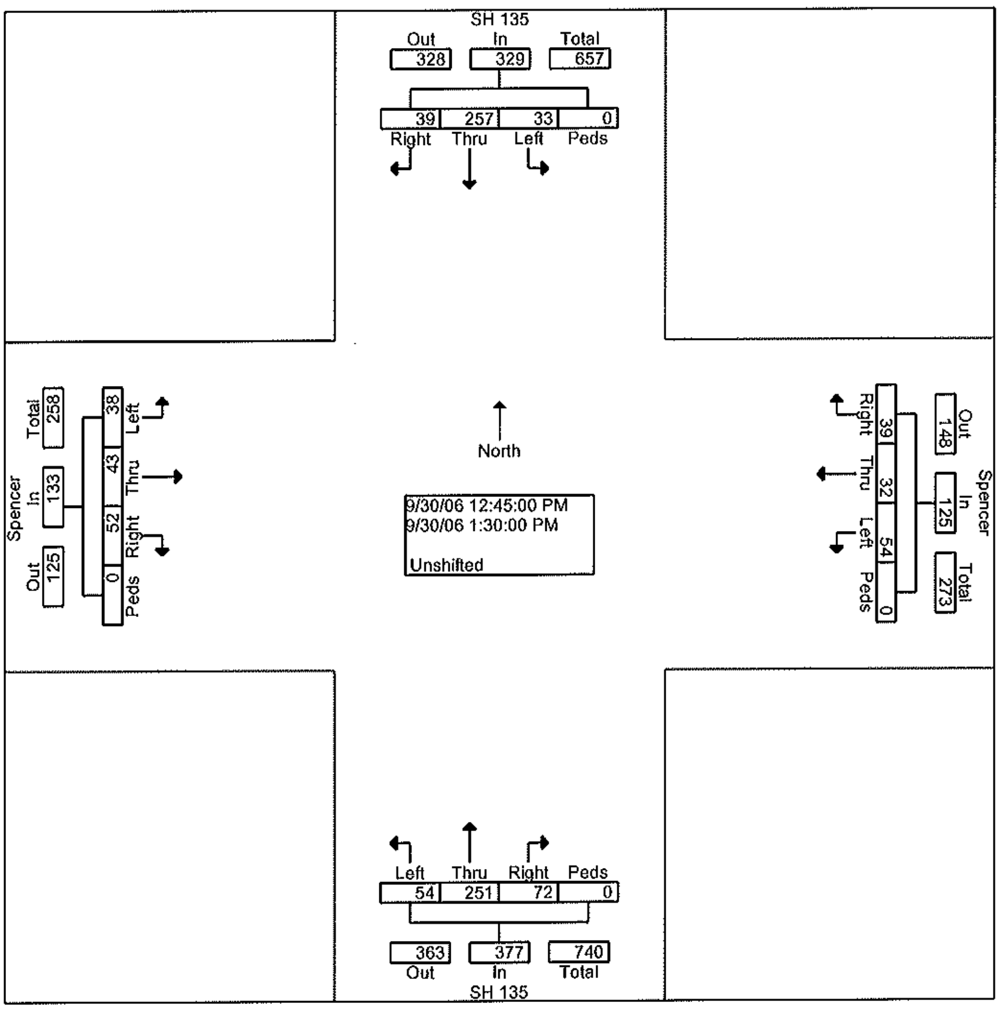
Groups Printed- Unshifted

	SH 135 North				Spencer East				SH 135 South				Spencer West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
12:00 PM	9	42	7	0	11	12	23	0	12	44	9	0	16	13	15	0	213
12:15 PM	10	58	11	0	3	13	13	0	20	66	11	0	17	8	7	0	237
12:30 PM	12	49	15	0	11	7	18	0	21	58	5	0	20	6	10	0	232
12:45 PM	8	70	6	0	8	8	14	0	12	73	13	0	12	15	11	0	250
Total	39	219	39	0	33	40	68	0	65	241	38	0	65	42	43	0	932
01:00 PM	8	62	6	0	6	6	15	0	16	48	10	0	10	14	12	0	213
01:15 PM	12	61	8	0	12	11	10	0	24	55	18	0	14	10	8	0	243
01:30 PM	11	64	13	0	13	7	15	0	20	75	13	0	16	4	7	0	258
01:45 PM	17	56	14	0	12	5	13	0	23	66	5	0	7	7	16	0	241
Total	48	243	41	0	43	29	53	0	83	244	46	0	47	35	43	0	955
Grand Total	87	462	80	0	76	69	121	0	148	485	84	0	112	77	86	0	1887
Apprch %	13.8	73.4	12.7	0.0	28.6	25.9	45.5	0.0	20.6	67.6	11.7	0.0	40.7	28.0	31.3	0.0	
Total %	4.6	24.5	4.2	0.0	4.0	3.7	6.4	0.0	7.8	25.7	4.5	0.0	5.9	4.1	4.6	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : SH135-spencer noon
Site Code : 00000000
Start Date : 09/30/2006
Page No : 2

	SH 135 North					Spencer East					SH 135 South					Spencer West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 01:45 PM - Peak 1 of 1																					
Intersection	12:45 PM																				
Volume	39	257	33	0	329	39	32	54	0	125	72	251	54	0	377	52	43	38	0	133	964
Percent	11.9	78.1	10.0	0.0		31.2	25.6	43.2	0.0		19.1	66.6	14.3	0.0		39.1	32.3	28.6	0.0		
01:30 Volume	11	64	13	0	88	13	7	15	0	35	20	75	13	0	108	16	4	7	0	27	258
Peak Factor																					0.934
High Int.	01:30 PM					01:30 PM					01:30 PM					12:45 PM					
Volume	11	64	13	0	88	13	7	15	0	35	20	75	13	0	108	12	15	11	0	38	
Peak Factor					0.935					0.893					0.873					0.875	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
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File Name : Spencer 31
Site Code : 00010022
Start Date : 10/02/2006
Page No : 1

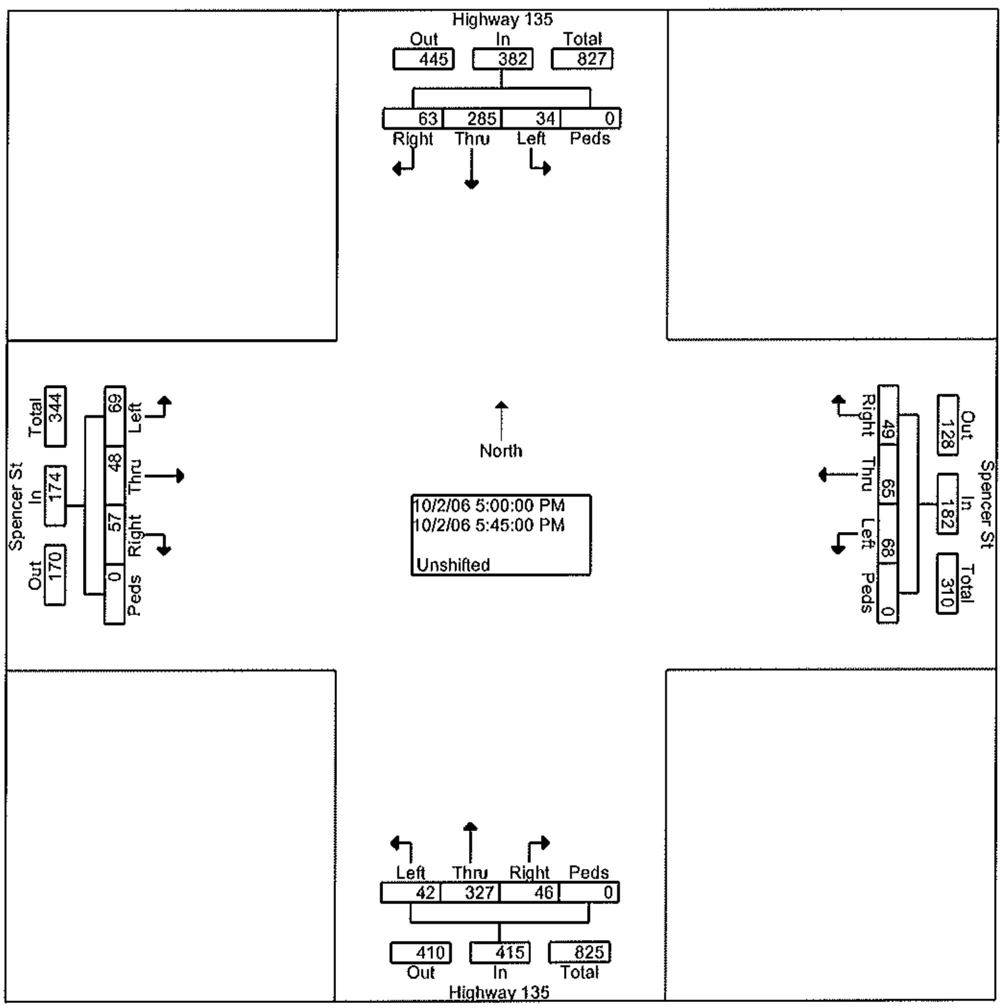
Groups Printed- Unshifted

	Highway 135 North				Spencer St East				Highway 135 South				Spencer St West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	6	62	3	0	13	7	15	0	16	67	8	0	5	18	8	0	228
04:30 PM	12	74	5	0	10	21	14	0	14	76	8	0	14	10	7	0	265
04:45 PM	17	82	12	0	13	11	14	0	16	53	3	0	5	11	13	0	250
Total	35	218	20	0	36	39	43	0	46	196	19	0	24	39	28	0	743
05:00 PM	19	65	8	0	17	17	16	0	18	93	14	0	14	12	17	0	310
05:15 PM	18	69	7	0	8	17	16	0	11	94	11	0	14	6	16	0	287
05:30 PM	17	82	9	0	16	17	17	0	7	73	7	0	11	12	16	0	284
05:45 PM	9	69	10	0	8	14	19	0	10	67	10	0	18	18	20	0	272
Total	63	285	34	0	49	65	68	0	46	327	42	0	57	48	69	0	1153
06:00 PM	11	96	15	0	8	17	13	0	7	78	10	0	5	12	6	0	278
Grand Total	109	599	69	0	93	121	124	0	99	601	71	0	86	99	103	0	2174
Apprch %	14.0	77.1	8.9	0.0	27.5	35.8	36.7	0.0	12.8	78.0	9.2	0.0	29.9	34.4	35.8	0.0	
Total %	5.0	27.6	3.2	0.0	4.3	5.6	5.7	0.0	4.6	27.6	3.3	0.0	4.0	4.6	4.7	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Spencer 31
Site Code : 00010022
Start Date : 10/02/2006
Page No : 2

	Highway 135 North					Spencer St East					Highway 135 South					Spencer St West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	63	285	34	0	382	49	65	68	0	182	46	327	42	0	415	57	48	69	0	174	1153
Percent	16.5	74.6	8.9	0.0		26.9	35.7	37.4	0.0		11.1	78.8	10.1	0.0		32.8	27.6	39.7	0.0		
05:00 Volume	19	65	8	0	92	17	17	16	0	50	18	93	14	0	125	14	12	17	0	43	310
Peak Factor																					0.930
High Int.	05:30 PM					05:00 PM					05:00 PM					05:45 PM					
Volume	17	82	9	0	108	17	17	16	0	50	18	93	14	0	125	18	18	20	0	56	
Peak Factor					0.884					0.910					0.830					0.777	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Colorado 2
Site Code : 01004061
Start Date : 10/04/2006
Page No : 1

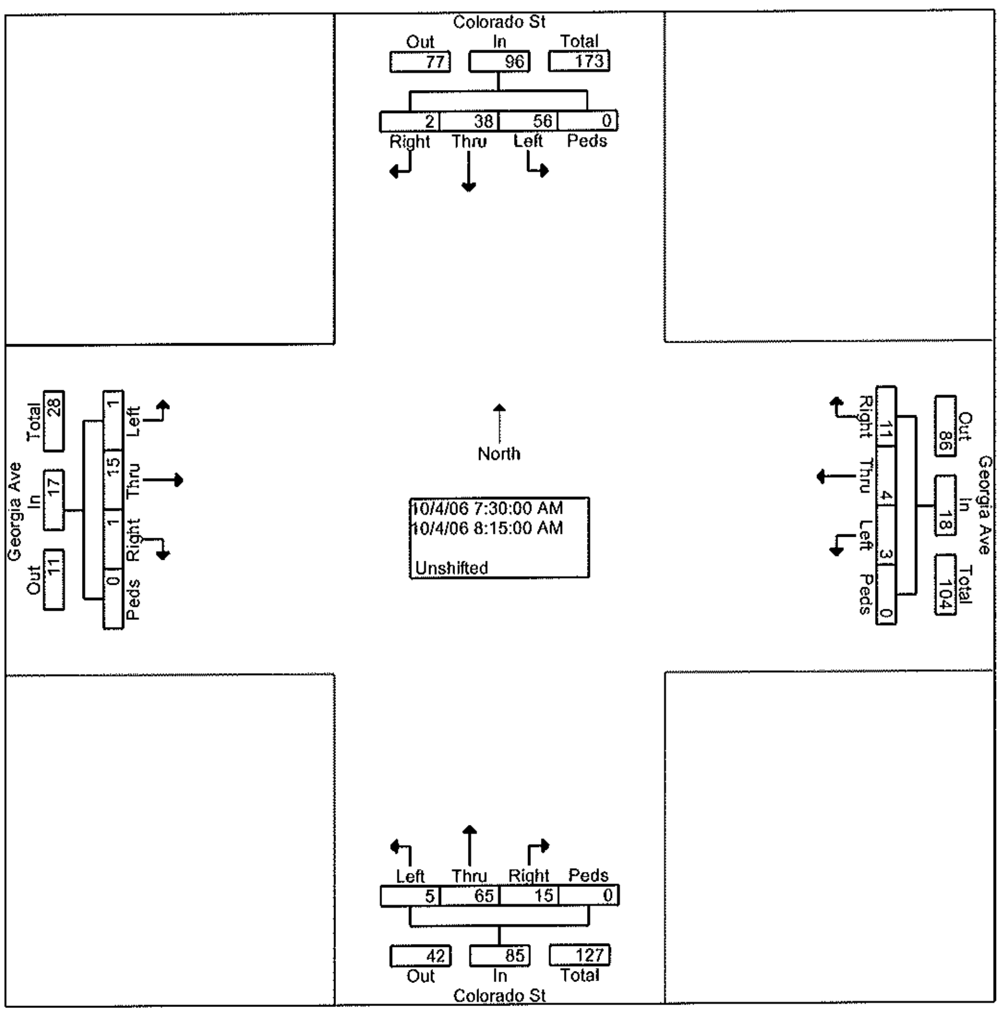
Groups Printed- Unshifted

	Colorado St North				Georgia Ave East				Colorado St South				Georgia Ave West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	4	4	0	1	0	0	0	0	4	0	0	0	0	0	0	13
06:45 AM	0	5	1	0	2	0	0	0	0	6	0	0	0	3	0	0	17
Total	0	9	5	0	3	0	0	0	0	10	0	0	0	3	0	0	30
07:00 AM	0	4	3	0	3	0	1	0	1	8	0	0	0	0	0	0	20
07:15 AM	0	9	4	0	1	1	1	0	1	10	0	0	0	0	1	0	28
07:30 AM	0	8	4	0	2	2	0	0	3	16	0	0	1	1	1	0	38
07:45 AM	2	12	24	0	1	2	1	0	5	18	1	0	0	5	0	0	71
Total	2	33	35	0	7	5	3	0	10	52	1	0	1	6	2	0	157
08:00 AM	0	9	21	0	3	0	2	0	2	21	3	0	0	4	0	0	65
08:15 AM	0	9	7	0	5	0	0	0	5	10	1	0	0	5	0	0	42
Grand Total	2	60	68	0	18	5	5	0	17	93	5	0	1	18	2	0	294
Apprch %	1.5	46.2	52.3	0.0	64.3	17.9	17.9	0.0	14.8	80.9	4.3	0.0	4.8	85.7	9.5	0.0	
Total %	0.7	20.4	23.1	0.0	6.1	1.7	1.7	0.0	5.8	31.6	1.7	0.0	0.3	6.1	0.7	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Colorado 2
Site Code : 01004061
Start Date : 10/04/2006
Page No : 2

	Colorado St North					Georgia Ave East					Colorado St South					Georgia Ave West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	2	38	56	0	96	11	4	3	0	18	15	65	5	0	85	1	15	1	0	17	216
Percent	2.1	39.6	58.3	0.0		61.1	22.2	16.7	0.0		17.6	76.5	5.9	0.0		5.9	88.2	5.9	0.0		
07:45 Volume	2	12	24	0	38	1	2	1	0	4	5	18	1	0	24	0	5	0	0	5	71
Peak Factor																					0.761
High Int.	07:45 AM					08:00 AM					08:00 AM					07:45 AM					
Volume	2	12	24	0	38	3	0	2	0	5	2	21	3	0	26	0	5	0	0	5	
Peak Factor					0.632					0.900					0.817					0.850	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Colorado 1
Site Code : 01003062
Start Date : 10/03/2006
Page No : 1

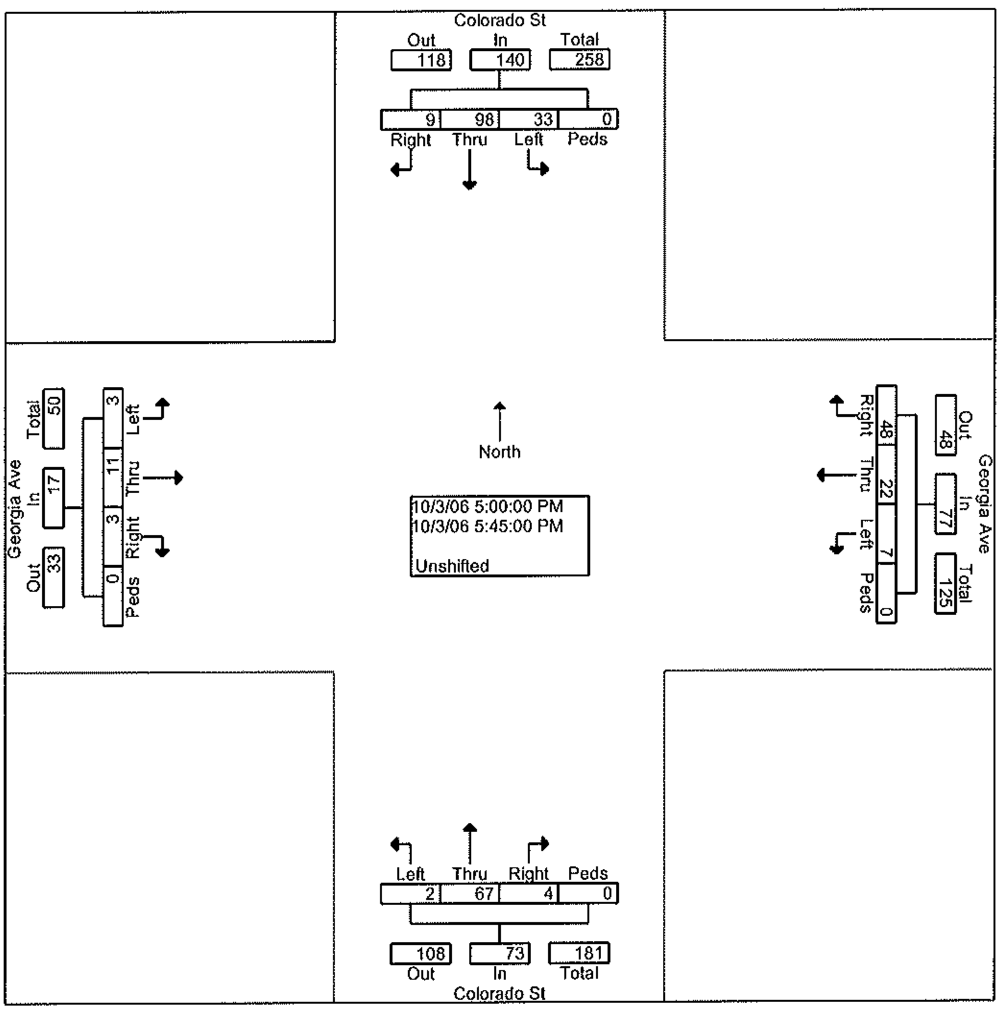
Groups Printed- Unshifted

	Colorado St North				Georgia Ave East				Colorado St South				Georgia Ave West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	3	19	4	0	5	6	2	0	0	10	0	0	0	4	3	0	56
04:30 PM	1	25	4	0	8	2	0	0	0	10	1	0	2	0	1	0	54
04:45 PM	1	20	5	0	10	7	1	0	1	19	1	0	0	2	1	0	68
Total	5	64	13	0	23	15	3	0	1	39	2	0	2	6	5	0	178
05:00 PM	2	23	9	0	9	10	3	0	1	21	2	0	0	5	0	0	85
05:15 PM	3	21	8	0	9	3	2	0	1	14	0	0	1	3	1	0	66
05:30 PM	1	22	6	0	15	5	1	0	1	21	0	0	2	3	1	0	78
05:45 PM	3	32	10	0	15	4	1	0	1	11	0	0	0	0	1	0	78
Total	9	98	33	0	48	22	7	0	4	67	2	0	3	11	3	0	307
06:00 PM	0	30	8	0	7	5	1	0	2	14	2	0	1	3	1	0	74
Grand Total	14	192	54	0	78	42	11	0	7	120	6	0	6	20	9	0	559
Apprch %	5.4	73.8	20.8	0.0	59.5	32.1	8.4	0.0	5.3	90.2	4.5	0.0	17.1	57.1	25.7	0.0	
Total %	2.5	34.3	9.7	0.0	14.0	7.5	2.0	0.0	1.3	21.5	1.1	0.0	1.1	3.6	1.6	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Colorado 1
Site Code : 01003062
Start Date : 10/03/2006

	Colorado St North					Georgia Ave East					Colorado St South					Georgia Ave West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	9	98	33	0	140	48	22	7	0	77	4	67	2	0	73	3	11	3	0	17	307
Percent	6.4	70.0	23.6	0.0		62.3	28.6	9.1	0.0		5.5	91.8	2.7	0.0		17.6	64.7	17.6	0.0		
05:00 Volume	2	23	9	0	34	9	10	3	0	22	1	21	2	0	24	0	5	0	0	5	85
Peak Factor																					0.903
High Int.	05:45 PM					05:00 PM					05:00 PM					05:30 PM					
Volume	3	32	10	0	45	9	10	3	0	22	1	21	2	0	24	2	3	1	0	6	
Peak Factor					0.778					0.875					0.760					0.708	



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lsccs.com

File Name : Escalante 2
Site Code : 00000000
Start Date : 10/04/2006
Page No : 1

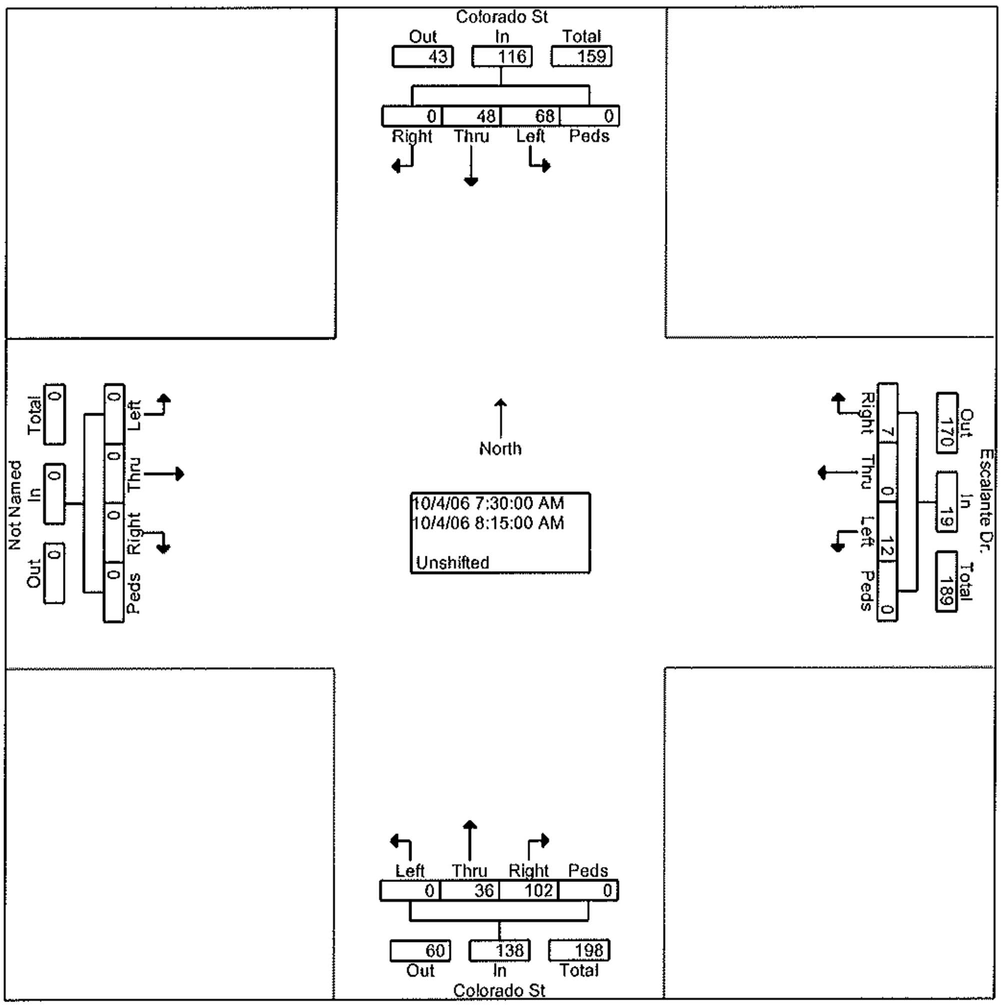
Groups Printed- Unshifted

	Colorado St North				Escalante Dr. East				Colorado St South				West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	7	1	0	1	0	0	0	1	3	0	0	0	0	0	0	13
06:45 AM	0	8	0	0	1	0	1	0	1	3	0	0	0	0	0	0	14
Total	0	15	1	0	2	0	1	0	2	6	0	0	0	0	0	0	27
07:00 AM	0	7	3	0	4	0	1	0	2	3	0	0	0	0	0	0	20
07:15 AM	0	6	9	0	1	0	2	0	13	4	0	0	0	0	0	0	35
07:30 AM	0	6	13	0	2	0	2	0	17	9	0	0	0	0	0	0	49
07:45 AM	0	18	23	0	1	0	2	0	39	13	0	0	0	0	0	0	96
Total	0	37	48	0	8	0	7	0	71	29	0	0	0	0	0	0	200
08:00 AM	0	17	16	0	2	0	4	0	20	8	0	0	0	0	0	0	67
08:15 AM	0	7	16	0	2	0	4	0	26	6	0	0	0	0	0	0	61
Grand Total	0	76	81	0	14	0	16	0	119	49	0	0	0	0	0	0	355
Apprch %	0.0	48.4	51.6	0.0	46.7	0.0	53.3	0.0	70.8	29.2	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	21.4	22.8	0.0	3.9	0.0	4.5	0.0	33.5	13.8	0.0	0.0	0.0	0.0	0.0	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Escalante 2
Site Code : 00000000
Start Date : 10/04/2006
Page No : 2

	Colorado St North					Escalante Dr. East					Colorado St South					West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	48	68	0	116	7	0	12	0	19	102	36	0	0	138	0	0	0	0	0	273
Percent	0.0	41.4	58.6	0.0		36.8	0.0	63.2	0.0		73.9	26.1	0.0	0.0		0.0	0.0	0.0	0.0		
07:45 Volume	0	18	23	0	41	1	0	2	0	3	39	13	0	0	52	0	0	0	0	0	96
Peak Factor																					0.711
High Int.	07:45 AM					08:00 AM					07:45 AM					6:15:00 AM					
Volume	0	18	23	0	41	2	0	4	0	6	39	13	0	0	52						
Peak Factor					0.707					0.792					0.663						



LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
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E-mail: lsc@lsccs.com

File Name : Escalante 1
Site Code : 00010032
Start Date : 10/03/2006
Page No : 1

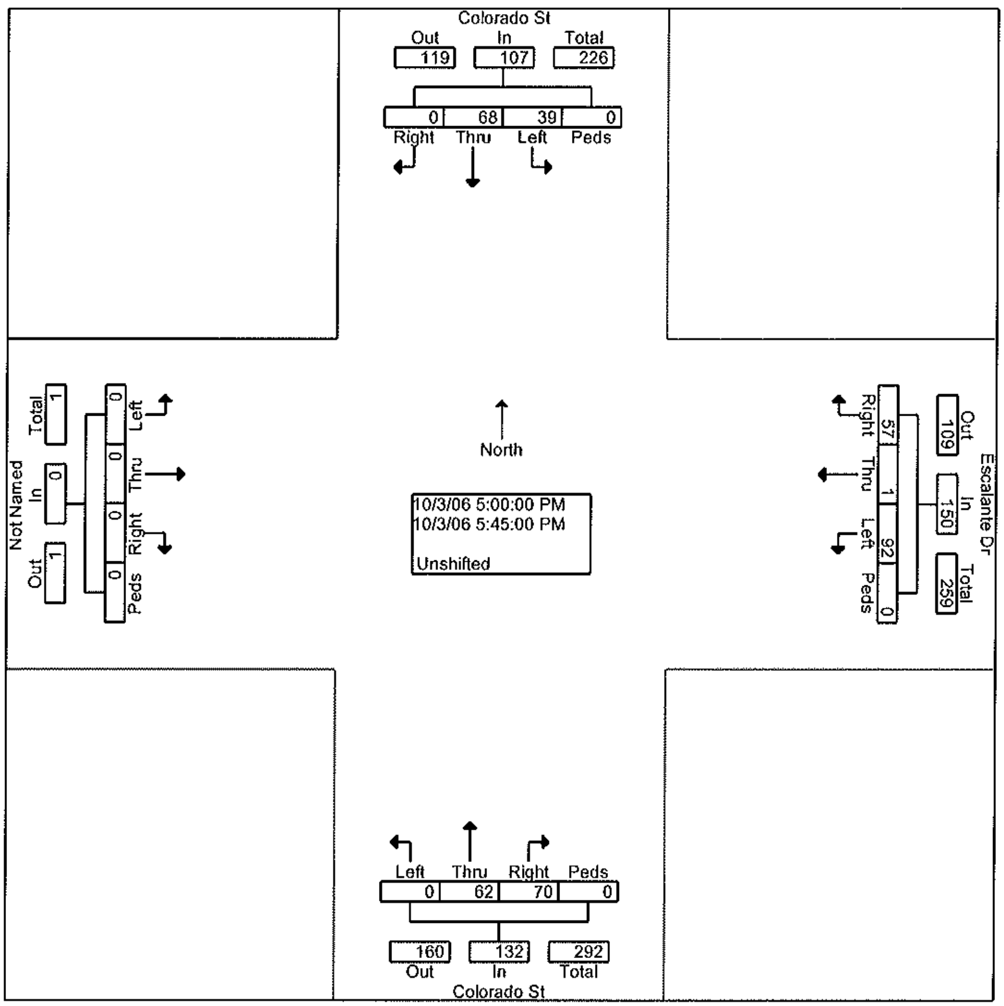
Groups Printed- Unshifted

	Colorado St North				Escalante Dr East				Colorado St South				West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
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	
04:15 PM	0	12	4	0	11	0	26	0	14	9	0	0	0	0	0	0	76
04:30 PM	0	15	3	0	12	0	16	0	11	10	0	0	0	0	0	0	67
04:45 PM	0	12	11	0	13	0	23	0	11	20	0	0	0	0	0	0	90
Total	0	39	18	0	36	0	65	0	36	39	0	0	0	0	0	0	233
05:00 PM	0	21	8	0	20	0	26	0	25	14	0	0	0	0	0	0	114
05:15 PM	0	17	5	0	13	0	20	0	13	14	0	0	0	0	0	0	82
05:30 PM	0	11	12	0	10	0	28	0	10	22	0	0	0	0	0	0	93
05:45 PM	0	19	14	0	14	1	18	0	22	12	0	0	0	0	0	0	100
Total	0	68	39	0	57	1	92	0	70	62	0	0	0	0	0	0	389
06:00 PM	0	16	5	0	13	0	18	0	12	16	0	0	0	0	0	0	80
Grand Total	0	123	62	0	106	1	175	0	118	117	0	0	0	0	0	0	702
Apprch %	0.0	66.5	33.5	0.0	37.6	0.4	62.1	0.0	50.2	49.8	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	17.5	8.8	0.0	15.1	0.1	24.9	0.0	16.8	16.7	0.0	0.0	0.0	0.0	0.0	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Escalante 1
Site Code : 00010032
Start Date : 10/03/2006
Page No : 2

	Colorado St North					Escalante Dr East					Colorado St South					West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 06:00 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	0	68	39	0	107	57	1	92	0	150	70	62	0	0	132	0	0	0	0	0	389
Percent	0.0	63.6	36.4	0.0		38.0	0.7	61.3	0.0		53.0	47.0	0.0	0.0		0.0	0.0	0.0	0.0		
05:00 Volume	0	21	8	0	29	20	0	26	0	46	25	14	0	0	39	0	0	0	0	0	114
Peak Factor																					0.853
High Int.	05:45 PM					05:00 PM					05:00 PM					4:00:00 PM					
Volume	0	19	14	0	33	20	0	26	0	46	25	14	0	0	39						
Peak Factor					0.811					0.815					0.846						



Appendix B: Level of Service Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1786	1583		1806	1583	1770	3436		1770	3438	1583
Flt Permitted		0.74	1.00		0.82	1.00	0.57	1.00		0.43	1.00	1.00
Satd. Flow (perm)		1383	1583		1519	1583	1054	3436		793	3438	1583
Volume (vph)	62	8	6	8	4	11	16	565	2	11	290	20
Peak-hour factor, PHF	0.85	0.65	0.65	0.65	0.60	0.70	0.75	0.95	0.60	0.70	0.95	0.75
Adj. Flow (vph)	73	12	9	12	7	16	21	595	3	16	305	27
RTOR Reduction (vph)	0	0	7	0	0	13	0	0	0	0	0	10
Lane Group Flow (vph)	0	85	2	0	19	3	21	598	0	16	305	17
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		8.1	8.1		8.1	8.1	29.1	29.1		29.1	29.1	29.1
Effective Green, g (s)		9.1	9.1		9.1	9.1	31.1	31.1		31.1	31.1	31.1
Actuated g/C Ratio		0.19	0.19		0.19	0.19	0.65	0.65		0.65	0.65	0.65
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		261	299		287	299	680	2217		512	2218	1021
v/s Ratio Prot								c0.17			0.09	
v/s Ratio Perm		c0.06	0.00		0.01	0.00	0.02			0.02		0.01
v/c Ratio		0.33	0.01		0.07	0.01	0.03	0.27		0.03	0.14	0.02
Uniform Delay, d1		16.9	15.9		16.1	15.9	3.1	3.7		3.1	3.3	3.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.7	0.0		0.1	0.0	0.1	0.3		0.1	0.1	0.0
Delay (s)		17.6	15.9		16.2	15.9	3.2	4.0		3.2	3.5	3.1
Level of Service		B	B		B	B	A	A		A	A	A
Approach Delay (s)		17.5			16.0			3.9			3.4	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1793	1583		1810	1583	1770	3436		1770	3438	1583
Flt Permitted		0.73	1.00		0.78	1.00	0.39	1.00		0.46	1.00	1.00
Satd. Flow (perm)		1357	1583		1461	1583	722	3436		853	3438	1583
Volume (vph)	58	14	12	35	23	14	14	495	2	15	650	53
Peak-hour factor, PHF	0.85	0.70	0.70	0.85	0.80	0.70	0.70	0.95	0.60	0.75	0.95	0.85
Adj. Flow (vph)	68	20	17	41	29	20	20	521	3	20	684	62
RTOR Reduction (vph)	0	0	14	0	0	16	0	0	0	0	0	22
Lane Group Flow (vph)	0	88	3	0	70	4	20	524	0	20	684	40
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		8.3	8.3		8.3	8.3	29.1	29.1		29.1	29.1	29.1
Effective Green, g (s)		9.3	9.3		9.3	9.3	31.1	31.1		31.1	31.1	31.1
Actuated g/C Ratio		0.19	0.19		0.19	0.19	0.64	0.64		0.64	0.64	0.64
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		261	304		281	304	464	2208		548	2209	1017
v/s Ratio Prot								0.15			c0.20	
v/s Ratio Perm		c0.06	0.00		0.05	0.00	0.03			0.02		0.03
v/c Ratio		0.34	0.01		0.25	0.01	0.04	0.24		0.04	0.31	0.04
Uniform Delay, d1		16.9	15.8		16.6	15.8	3.2	3.6		3.2	3.9	3.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.8	0.0		0.5	0.0	0.2	0.3		0.1	0.4	0.1
Delay (s)		17.7	15.8		17.1	15.8	3.4	3.9		3.3	4.2	3.2
Level of Service		B	B		B	B	A	A		A	A	A
Approach Delay (s)		17.4			16.8			3.9			4.1	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1790	1583		1810	1583	1770	3433		1770	3438	1583
Flt Permitted		0.74	1.00		0.81	1.00	0.48	1.00		0.39	1.00	1.00
Satd. Flow (perm)		1382	1583		1506	1583	895	3433		735	3438	1583
Volume (vph)	80	15	10	15	10	20	25	625	5	20	450	30
Peak-hour factor, PHF	0.90	0.75	0.70	0.75	0.70	0.80	0.80	0.95	0.65	0.80	0.95	0.85
Adj. Flow (vph)	89	20	14	20	14	25	31	658	8	25	474	35
RTOR Reduction (vph)	0	0	11	0	0	20	0	1	0	0	0	13
Lane Group Flow (vph)	0	109	3	0	34	5	31	665	0	25	474	22
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		8.9	8.9		8.9	8.9	29.1	29.1		29.1	29.1	29.1
Effective Green, g (s)		9.9	9.9		9.9	9.9	31.1	31.1		31.1	31.1	31.1
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.63	0.63		0.63	0.63	0.63
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		279	320		304	320	568	2179		467	2182	1005
v/s Ratio Prot								c0.19			0.14	
v/s Ratio Perm		c0.08	0.00		0.02	0.00	0.03			0.03		0.01
v/c Ratio		0.39	0.01		0.11	0.02	0.05	0.31		0.05	0.22	0.02
Uniform Delay, d1		16.9	15.6		16.0	15.7	3.4	4.1		3.4	3.8	3.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.9	0.0		0.2	0.0	0.2	0.4		0.2	0.2	0.0
Delay (s)		17.8	15.6		16.1	15.7	3.6	4.4		3.6	4.0	3.4
Level of Service		B	B		B	B	A	A		A	A	A
Approach Delay (s)		17.6			15.9			4.4			4.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	49.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1786	1583		1806	1583	1770	3433		1770	3438	1583
Flt Permitted		0.69	1.00		0.76	1.00	0.31	1.00		0.41	1.00	1.00
Satd. Flow (perm)		1289	1583		1407	1583	569	3433		760	3438	1583
Volume (vph)	75	10	20	50	30	25	25	600	5	25	825	70
Peak-hour factor, PHF	0.90	0.70	0.80	0.85	0.85	0.80	0.80	0.95	0.65	0.80	0.95	0.85
Adj. Flow (vph)	83	14	25	59	35	31	31	632	8	31	868	82
RTOR Reduction (vph)	0	0	20	0	0	25	0	1	0	0	0	30
Lane Group Flow (vph)	0	97	5	0	94	6	31	639	0	31	868	52
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		8.7	8.7		8.7	8.7	29.1	29.1		29.1	29.1	29.1
Effective Green, g (s)		9.7	9.7		9.7	9.7	31.1	31.1		31.1	31.1	31.1
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.64	0.64		0.64	0.64	0.64
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		256	315		280	315	363	2188		484	2191	1009
v/s Ratio Prot								0.19			c0.25	
v/s Ratio Perm		c0.08	0.00		0.07	0.00	0.05			0.04		0.03
v/c Ratio		0.38	0.02		0.34	0.02	0.09	0.29		0.06	0.40	0.05
Uniform Delay, d1		16.9	15.7		16.8	15.7	3.4	3.9		3.3	4.3	3.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.9	0.0		0.7	0.0	0.5	0.3		0.3	0.5	0.1
Delay (s)		17.9	15.7		17.5	15.8	3.9	4.3		3.6	4.8	3.4
Level of Service		B	B		B	B	A	A		A	A	A
Approach Delay (s)		17.4			17.1			4.3			4.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑	↱		↰↑	↱	↰	↑↱		↰	↑↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1787	1583		1810	1583	1770	3434		1770	3438	1583
Flt Permitted		0.73	1.00		0.82	1.00	0.42	1.00		0.34	1.00	1.00
Satd. Flow (perm)		1369	1583		1531	1583	784	3434		625	3438	1583
Volume (vph)	105	15	10	15	10	20	25	745	5	20	560	50
Peak-hour factor, PHF	0.95	0.75	0.70	0.75	0.70	0.80	0.85	0.95	0.65	0.80	0.95	0.85
Adj. Flow (vph)	111	20	14	20	14	25	29	784	8	25	589	59
RTOR Reduction (vph)	0	0	12	0	0	21	0	1	0	0	0	13
Lane Group Flow (vph)	0	131	2	0	34	4	29	791	0	25	589	46
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		14.3	14.3		14.3	14.3	74.7	74.7		74.7	74.7	74.7
Effective Green, g (s)		16.3	16.3		16.3	16.3	77.7	77.7		77.7	77.7	77.7
Actuated g/C Ratio		0.16	0.16		0.16	0.16	0.78	0.78		0.78	0.78	0.78
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		223	258		250	258	609	2668		486	2671	1230
v/s Ratio Prot								c0.23			0.17	
v/s Ratio Perm		c0.10	0.00		0.02	0.00	0.04			0.04		0.03
v/c Ratio		0.59	0.01		0.14	0.02	0.05	0.30		0.05	0.22	0.04
Uniform Delay, d1		38.7	35.1		35.8	35.1	2.6	3.2		2.6	3.0	2.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		0.09	0.17	0.06
Incremental Delay, d2		3.9	0.0		0.2	0.0	0.1	0.3		0.2	0.2	0.1
Delay (s)		42.7	35.1		36.1	35.1	2.7	3.5		0.4	0.7	0.2
Level of Service		D	D		D	D	A	A		A	A	A
Approach Delay (s)		41.9			35.7			3.5			0.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1786	1583		1808	1583	1770	3434		1770	3438	1583
Flt Permitted		0.60	1.00		0.71	1.00	0.25	1.00		0.33	1.00	1.00
Satd. Flow (perm)		1116	1583		1331	1583	465	3434		612	3438	1583
Volume (vph)	75	10	20	50	30	25	25	770	5	25	1005	110
Peak-hour factor, PHF	0.90	0.70	0.75	0.85	0.80	0.80	0.80	0.95	0.65	0.80	0.95	0.95
Adj. Flow (vph)	83	14	27	59	38	31	31	811	8	31	1058	116
RTOR Reduction (vph)	0	0	23	0	0	27	0	0	0	0	0	24
Lane Group Flow (vph)	0	97	4	0	97	4	31	819	0	31	1058	92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		12.3	12.3		12.3	12.3	76.7	76.7		76.7	76.7	76.7
Effective Green, g (s)		14.3	14.3		14.3	14.3	79.7	79.7		79.7	79.7	79.7
Actuated g/C Ratio		0.14	0.14		0.14	0.14	0.80	0.80		0.80	0.80	0.80
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		160	226		190	226	371	2737		488	2740	1262
v/s Ratio Prot								0.24			c0.31	
v/s Ratio Perm		c0.09	0.00		0.07	0.00	0.07			0.05		0.06
v/c Ratio		0.61	0.02		0.51	0.02	0.08	0.30		0.06	0.39	0.07
Uniform Delay, d1		40.2	36.8		39.6	36.8	2.2	2.7		2.2	3.0	2.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		0.20	0.14	0.00
Incremental Delay, d2		6.4	0.0		2.3	0.0	0.4	0.3		0.2	0.3	0.1
Delay (s)		46.6	36.8		41.9	36.9	2.6	3.0		0.6	0.7	0.1
Level of Service		D	D		D	D	A	A		A	A	A
Approach Delay (s)		44.4			40.7			3.0			0.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	6.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1770	3300		1770	3303			1809	1583		1810	1583
Flt Permitted	0.47	1.00		0.39	1.00			0.81	1.00		0.81	1.00
Satd. Flow (perm)	869	3300		727	3303			1506	1583		1510	1583
Volume (vph)	14	600	20	15	465	11	17	11	8	14	10	18
Peak-hour factor, PHF	0.70	0.95	0.75	0.75	0.95	0.70	0.75	0.70	0.65	0.70	0.70	0.75
Adj. Flow (vph)	20	632	27	20	489	16	23	16	12	20	14	24
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	10	0	0	21
Lane Group Flow (vph)	20	657	0	20	503	0	0	39	2	0	34	3
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	35.3	34.3		35.3	34.3			6.9	6.9		6.9	6.9
Effective Green, g (s)	37.3	36.3		37.3	36.3			7.9	7.9		7.9	7.9
Actuated g/C Ratio	0.65	0.63		0.65	0.63			0.14	0.14		0.14	0.14
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	582	2094		492	2096			208	219		209	219
v/s Ratio Prot	0.00	c0.20		c0.00	0.15							
v/s Ratio Perm	0.02			0.03				c0.03	0.00		0.02	0.00
v/c Ratio	0.03	0.31		0.04	0.24			0.19	0.01		0.16	0.02
Uniform Delay, d1	3.5	4.8		3.5	4.5			21.8	21.3		21.7	21.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4		0.0	0.3			0.4	0.0		0.4	0.0
Delay (s)	3.5	5.2		3.5	4.8			22.2	21.3		22.1	21.3
Level of Service	A	A		A	A			C	C		C	C
Approach Delay (s)		5.1			4.7			22.0			21.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	57.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			↰↑	↱		↰↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1770	3303		1770	3301			1789	1583		1811	1583
Flt Permitted	0.24	1.00		0.33	1.00			0.72	1.00		0.79	1.00
Satd. Flow (perm)	447	3303		611	3301			1345	1583		1477	1583
Volume (vph)	31	750	19	9	895	32	55	10	18	30	21	56
Peak-hour factor, PHF	0.85	0.95	0.75	0.65	0.95	0.85	0.85	0.70	0.75	0.85	0.80	0.85
Adj. Flow (vph)	36	789	25	14	942	38	65	14	24	35	26	66
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	20	0	0	56
Lane Group Flow (vph)	36	812	0	14	978	0	0	79	4	0	61	10
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	38.8	36.5		36.2	35.2			8.6	8.6		8.6	8.6
Effective Green, g (s)	40.8	38.5		38.2	37.2			9.6	9.6		9.6	9.6
Actuated g/C Ratio	0.67	0.63		0.63	0.61			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	6.0		4.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	348	2081		401	2010			211	249		232	249
v/s Ratio Prot	c0.00	0.25		0.00	c0.30							
v/s Ratio Perm	0.07			0.02				c0.06	0.00		0.04	0.01
v/c Ratio	0.10	0.39		0.03	0.49			0.37	0.02		0.26	0.04
Uniform Delay, d1	3.9	5.5		4.4	6.6			23.1	21.8		22.6	21.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.6		0.0	0.8			1.1	0.0		0.6	0.1
Delay (s)	4.0	6.1		4.4	7.5			24.2	21.8		23.2	21.9
Level of Service	A	A		A	A			C	C		C	C
Approach Delay (s)		6.0			7.4			23.6			22.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.97	1.00
Satd. Flow (prot)	1770	3312	1583	1770	3312	1583		1808	1583		1808	1583
Flt Permitted	0.41	1.00	1.00	0.35	1.00	1.00		0.79	1.00		0.79	1.00
Satd. Flow (perm)	770	3312	1583	651	3312	1583		1472	1583		1472	1583
Volume (vph)	20	700	30	20	575	40	25	15	15	25	15	25
Peak-hour factor, PHF	0.80	0.95	0.85	0.80	0.95	0.85	0.80	0.75	0.75	0.80	0.75	0.80
Adj. Flow (vph)	25	737	35	25	605	47	31	20	20	31	20	31
RTOR Reduction (vph)	0	0	13	0	0	18	0	0	17	0	0	27
Lane Group Flow (vph)	25	737	22	25	605	29	0	51	3	0	51	4
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	36.5	34.4	34.4	36.5	34.4	34.4		7.4	7.4		7.4	7.4
Effective Green, g (s)	38.5	36.4	36.4	38.5	36.4	36.4		8.4	8.4		8.4	8.4
Actuated g/C Ratio	0.65	0.62	0.62	0.65	0.62	0.62		0.14	0.14		0.14	0.14
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	539	2047	978	465	2047	978		210	226		210	226
v/s Ratio Prot	0.00	c0.22		c0.00	0.18							
v/s Ratio Perm	0.03		0.01	0.03		0.02		c0.03	0.00		0.03	0.00
v/c Ratio	0.05	0.36	0.02	0.05	0.30	0.03		0.24	0.01		0.24	0.02
Uniform Delay, d1	3.6	5.5	4.4	3.6	5.3	4.4		22.4	21.7		22.4	21.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.5	0.0	0.0	0.4	0.1		0.6	0.0		0.6	0.0
Delay (s)	3.6	6.0	4.4	3.7	5.6	4.4		23.0	21.7		23.0	21.7
Level of Service	A	A	A	A	A	A		C	C		C	C
Approach Delay (s)		5.9			5.5			22.7			22.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	58.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		↰↑	↱		↰↓	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00		0.97	1.00
Satd. Flow (prot)	1770	3312	1583	1770	3312	1583		1791	1583		1802	1583
Flt Permitted	0.21	1.00	1.00	0.32	1.00	1.00		0.70	1.00		0.74	1.00
Satd. Flow (perm)	394	3312	1583	602	3312	1583		1299	1583		1373	1583
Volume (vph)	40	800	25	15	975	50	70	15	25	60	30	70
Peak-hour factor, PHF	0.85	0.95	0.80	0.75	0.95	0.85	0.85	0.75	0.80	0.85	0.85	0.85
Adj. Flow (vph)	47	842	31	20	1026	59	82	20	31	71	35	82
RTOR Reduction (vph)	0	0	11	0	0	24	0	0	26	0	0	68
Lane Group Flow (vph)	47	842	20	20	1026	35	0	102	5	0	106	14
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	42.3	38.7	38.7	37.3	36.2	36.2		9.9	9.9		9.9	9.9
Effective Green, g (s)	44.3	40.7	40.7	39.3	38.2	38.2		10.9	10.9		10.9	10.9
Actuated g/C Ratio	0.68	0.63	0.63	0.61	0.59	0.59		0.17	0.17		0.17	0.17
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	346	2083	996	386	1955	935		219	267		231	267
v/s Ratio Prot	c0.01	0.25		0.00	c0.31							
v/s Ratio Perm	0.09		0.01	0.03		0.02		c0.08	0.00		0.08	0.01
v/c Ratio	0.14	0.40	0.02	0.05	0.52	0.04		0.47	0.02		0.46	0.05
Uniform Delay, d1	4.1	6.0	4.5	5.1	7.9	5.5		24.3	22.4		24.2	22.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.6	0.0	0.1	1.0	0.1		1.6	0.0		1.4	0.1
Delay (s)	4.3	6.6	4.5	5.1	8.9	5.6		25.8	22.5		25.7	22.6
Level of Service	A	A	A	A	A	A		C	C		C	C
Approach Delay (s)		6.4			8.6			25.1			24.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	64.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1770	3343	1583	1770	3343	1583		1809	1583		1786	1583
Flt Permitted	0.30	1.00	1.00	0.23	1.00	1.00		0.80	1.00		0.72	1.00
Satd. Flow (perm)	561	3343	1583	435	3343	1583		1493	1583		1344	1583
Volume (vph)	20	990	30	30	800	105	25	15	30	115	15	25
Peak-hour factor, PHF	0.80	0.95	0.85	0.85	0.95	0.95	0.85	0.75	0.85	0.95	0.75	0.80
Adj. Flow (vph)	25	1042	35	35	842	111	29	20	35	121	20	31
RTOR Reduction (vph)	0	0	11	0	0	34	0	0	29	0	0	26
Lane Group Flow (vph)	25	1042	24	35	842	77	0	49	6	0	141	5
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	70.0	66.4	66.4	70.0	66.4	66.4		15.0	15.0		15.0	15.0
Effective Green, g (s)	74.0	69.4	69.4	74.0	69.4	69.4		17.0	17.0		17.0	17.0
Actuated g/C Ratio	0.74	0.69	0.69	0.74	0.69	0.69		0.17	0.17		0.17	0.17
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	471	2320	1099	383	2320	1099		254	269		228	269
v/s Ratio Prot	0.00	c0.31		c0.00	0.25							
v/s Ratio Perm	0.04		0.02	0.06		0.05		0.03	0.00		c0.10	0.00
v/c Ratio	0.05	0.45	0.02	0.09	0.36	0.07		0.19	0.02		0.62	0.02
Uniform Delay, d1	3.7	6.8	4.8	4.0	6.3	4.9		35.6	34.6		38.5	34.6
Progression Factor	0.85	0.95	0.55	0.18	0.17	0.04		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.6	0.0	0.1	0.4	0.1		0.4	0.0		4.9	0.0
Delay (s)	3.2	7.1	2.7	0.8	1.5	0.3		36.0	34.6		43.4	34.6
Level of Service	A	A	A	A	A	A		D	C		D	C
Approach Delay (s)		6.8			1.3			35.4			41.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		↰↑	↱		↰↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1770	3343	1583	1770	3343	1583		1791	1583		1787	1583
Flt Permitted	0.12	1.00	1.00	0.18	1.00	1.00		0.51	1.00		0.65	1.00
Satd. Flow (perm)	218	3343	1583	341	3343	1583		941	1583		1211	1583
Volume (vph)	40	1125	25	40	1350	150	70	15	45	185	30	70
Peak-hour factor, PHF	0.85	0.95	0.85	0.85	0.95	0.95	0.90	0.75	0.85	0.95	0.85	0.90
Adj. Flow (vph)	47	1184	29	47	1421	158	78	20	53	195	35	78
RTOR Reduction (vph)	0	0	10	0	0	58	0	0	41	0	0	60
Lane Group Flow (vph)	47	1184	19	47	1421	100	0	98	12	0	230	18
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	64.7	61.4	61.4	62.3	60.2	60.2		21.5	21.5		21.5	21.5
Effective Green, g (s)	68.7	64.4	64.4	66.3	63.2	63.2		23.5	23.5		23.5	23.5
Actuated g/C Ratio	0.69	0.64	0.64	0.66	0.63	0.63		0.24	0.24		0.24	0.24
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	217	2153	1019	270	2113	1000		221	372		285	372
v/s Ratio Prot	c0.01	0.35		0.01	c0.43							
v/s Ratio Perm	0.14		0.01	0.11		0.06		0.10	0.01		c0.19	0.01
v/c Ratio	0.22	0.55	0.02	0.17	0.67	0.10		0.44	0.03		0.81	0.05
Uniform Delay, d1	8.5	9.8	6.4	7.0	11.8	7.2		32.7	29.5		36.1	29.6
Progression Factor	0.83	1.02	0.85	0.17	0.14	0.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	1.0	0.0	0.1	0.7	0.1		1.4	0.0		15.3	0.1
Delay (s)	7.5	11.0	5.5	1.3	2.4	0.1		34.1	29.5		51.4	29.7
Level of Service	A	B	A	A	A	A		C	C		D	C
Approach Delay (s)		10.7			2.1			32.5			45.9	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			↰↑	↱	↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.96			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1703	3301		1770	3204			1832	1583	1703	2965	
Flt Permitted	0.40	1.00		0.53	1.00			0.81	1.00	0.51	1.00	
Satd. Flow (perm)	723	3301		988	3204			1505	1583	916	2965	
Volume (vph)	245	340	10	4	320	115	11	25	16	90	20	200
Peak-hour factor, PHF	0.95	0.95	0.70	0.60	0.95	0.95	0.70	0.80	0.75	0.85	0.75	0.95
Adj. Flow (vph)	258	358	14	7	337	121	16	31	21	106	27	211
RTOR Reduction (vph)	0	2	0	0	34	0	0	0	18	0	152	0
Lane Group Flow (vph)	258	370	0	7	424	0	0	47	3	106	86	0
Heavy Vehicles (%)	6%	9%	2%	2%	9%	6%	2%	2%	2%	6%	2%	6%
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	41.6	36.5		30.6	29.5			7.4	7.4	17.8	17.8	
Effective Green, g (s)	43.6	38.5		32.6	31.5			9.5	9.5	19.9	19.9	
Actuated g/C Ratio	0.61	0.54		0.46	0.44			0.13	0.13	0.28	0.28	
Clearance Time (s)	5.1	6.0		4.0	6.0			6.1	6.1	5.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	552	1777		463	1412			200	210	325	825	
v/s Ratio Prot	c0.05	0.11		0.00	0.13					c0.03	0.03	
v/s Ratio Perm	c0.23			0.01				0.03	0.00	c0.06		
v/c Ratio	0.47	0.21		0.02	0.30			0.24	0.01	0.33	0.10	
Uniform Delay, d1	6.8	8.6		10.6	12.9			27.7	26.9	20.0	19.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.3		0.0	0.5			0.6	0.0	0.6	0.1	
Delay (s)	7.4	8.8		10.6	13.4			28.4	27.0	20.6	19.2	
Level of Service	A	A		B	B			C	C	C	B	
Approach Delay (s)		8.3			13.4			27.9			19.6	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	71.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			↰↑	↱	↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.97			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1703	3294		1770	3221			1833	1583	1703	2970	
Flt Permitted	0.26	1.00		0.49	1.00			0.75	1.00	0.57	1.00	
Satd. Flow (perm)	465	3294		916	3221			1390	1583	1014	2970	
Volume (vph)	320	400	23	17	525	150	21	45	19	190	50	410
Peak-hour factor, PHF	0.95	0.95	0.80	0.75	0.95	0.95	0.80	0.85	0.75	0.95	0.85	0.95
Adj. Flow (vph)	337	421	29	23	553	158	26	53	25	200	59	432
RTOR Reduction (vph)	0	4	0	0	26	0	0	0	21	0	291	0
Lane Group Flow (vph)	337	446	0	23	685	0	0	79	4	200	200	0
Heavy Vehicles (%)	6%	9%	2%	2%	9%	6%	2%	2%	2%	6%	2%	6%
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	40.5	34.0		31.0	28.5			9.0	9.0	21.0	21.0	
Effective Green, g (s)	43.5	37.0		35.0	31.5			12.1	12.1	24.1	24.1	
Actuated g/C Ratio	0.59	0.50		0.48	0.43			0.16	0.16	0.33	0.33	
Clearance Time (s)	5.1	6.0		4.0	6.0			6.1	6.1	5.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	426	1656		476	1379			229	260	416	973	
v/s Ratio Prot	c0.10	0.14		0.00	0.21					c0.06	0.07	
v/s Ratio Perm	c0.37			0.02				0.06	0.00	c0.10		
v/c Ratio	0.79	0.27		0.05	0.50			0.34	0.02	0.48	0.21	
Uniform Delay, d1	9.3	10.5		10.3	15.3			27.2	25.8	18.9	17.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.7	0.4		0.0	1.3			0.9	0.0	0.9	0.1	
Delay (s)	19.0	10.9		10.3	16.6			28.1	25.8	19.8	18.0	
Level of Service	B	B		B	B			C	C	B	B	
Approach Delay (s)		14.4			16.4			27.6			18.5	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	73.6	Sum of lost time (s)	6.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.96			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1703	3300		1770	3207			1829	1583	1703	2933	
Flt Permitted	0.33	1.00		0.48	1.00			0.77	1.00	0.52	1.00	
Satd. Flow (perm)	586	3300		901	3207			1443	1583	928	2933	
Volume (vph)	325	425	15	15	435	150	15	30	20	125	15	260
Peak-hour factor, PHF	0.95	0.95	0.75	0.75	0.95	0.95	0.75	0.85	0.80	0.95	0.85	0.95
Adj. Flow (vph)	342	447	20	20	458	158	20	35	25	132	18	274
RTOR Reduction (vph)	0	3	0	0	34	0	0	0	22	0	213	0
Lane Group Flow (vph)	342	464	0	20	582	0	0	55	3	132	79	0
Heavy Vehicles (%)	6%	9%	2%	2%	9%	6%	2%	2%	2%	6%	2%	6%
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	51.7	46.6		36.8	35.7			8.1	8.1	15.4	15.4	
Effective Green, g (s)	53.7	48.6		38.8	37.7			10.2	10.2	17.5	17.5	
Actuated g/C Ratio	0.68	0.61		0.49	0.48			0.13	0.13	0.22	0.22	
Clearance Time (s)	5.1	6.0		4.0	6.0			6.1	6.1	5.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	567	2025		453	1527			186	204	237	648	
v/s Ratio Prot	c0.09	0.14		0.00	0.18					c0.02	0.03	
v/s Ratio Perm	c0.32			0.02				0.04	0.00	c0.10		
v/c Ratio	0.60	0.23		0.04	0.38			0.30	0.02	0.56	0.12	
Uniform Delay, d1	6.1	6.9		10.4	13.3			31.2	30.1	27.5	24.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	0.3		0.0	0.7			0.9	0.0	2.8	0.1	
Delay (s)	7.9	7.1		10.5	14.0			32.1	30.1	30.3	24.8	
Level of Service	A	A		B	B			C	C	C	C	
Approach Delay (s)		7.5			13.9			31.5			26.5	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	0.96			1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1703	3323		1770	3235			1832	1583	1703	2963	
Flt Permitted	0.20	1.00		0.44	1.00			0.72	1.00	0.53	1.00	
Satd. Flow (perm)	363	3323		823	3235			1335	1583	942	2963	
Volume (vph)	400	500	30	20	625	200	30	60	25	250	55	500
Peak-hour factor, PHF	0.95	0.95	0.85	0.80	0.95	0.95	0.85	0.85	0.80	0.95	0.85	0.95
Adj. Flow (vph)	421	526	35	25	658	211	35	71	31	263	65	526
RTOR Reduction (vph)	0	5	0	0	32	0	0	0	25	0	247	0
Lane Group Flow (vph)	421	556	0	25	837	0	0	106	6	263	344	0
Heavy Vehicles (%)	6%	8%	2%	2%	8%	6%	2%	2%	2%	6%	2%	6%
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	52.6	47.5		36.7	35.6			12.3	12.3	20.3	20.3	
Effective Green, g (s)	55.6	50.5		40.7	38.6			15.4	15.4	23.4	23.4	
Actuated g/C Ratio	0.65	0.59		0.48	0.45			0.18	0.18	0.28	0.28	
Clearance Time (s)	5.1	6.0		4.0	6.0			6.1	6.1	5.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	458	1974		417	1469			242	287	304	816	
v/s Ratio Prot	c0.15	0.17		0.00	0.26					c0.05	0.12	
v/s Ratio Perm	c0.45			0.03				0.08	0.00	c0.19		
v/c Ratio	0.92	0.28		0.06	0.57			0.44	0.02	0.87	0.42	
Uniform Delay, d1	14.2	8.4		11.7	17.1			31.0	28.6	29.4	25.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	23.3	0.4		0.1	1.6			1.3	0.0	21.7	0.4	
Delay (s)	37.5	8.8		11.8	18.7			32.2	28.6	51.1	25.6	
Level of Service	D	A		B	B			C	C	D	C	
Approach Delay (s)		21.1			18.5			31.4			33.5	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↱		↰↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.90		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3429		1770	3438	1553	1770	1681		3367	1574	
Flt Permitted	0.28	1.00		0.17	1.00	1.00	0.49	1.00		0.95	1.00	
Satd. Flow (perm)	510	3429		316	3438	1553	907	1681		3367	1574	
Volume (vph)	325	900	15	40	785	275	15	30	55	290	15	260
Peak-hour factor, PHF	0.95	0.95	0.75	0.85	0.95	0.95	0.75	0.85	0.85	0.95	0.75	0.95
Adj. Flow (vph)	342	947	20	47	826	289	20	35	65	305	20	274
RTOR Reduction (vph)	0	1	0	0	0	162	0	56	0	0	210	0
Lane Group Flow (vph)	342	966	0	47	826	127	20	44	0	305	84	0
Heavy Vehicles (%)	4%	5%	2%	2%	5%	4%	2%	2%	2%	4%	2%	4%
Turn Type	pm+pt			pm+pt		Perm	pm+pt			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)	55.6	54.7		40.9	40.9	40.9	11.6	10.4		9.9	20.2	
Effective Green, g (s)	57.7	57.7		43.9	43.9	43.9	15.7	13.5		12.0	23.3	
Actuated g/C Ratio	0.58	0.58		0.44	0.44	0.44	0.16	0.14		0.12	0.23	
Clearance Time (s)	5.1	6.0		4.0	6.0	6.0	4.0	6.1		5.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	522	1979		209	1509	682	161	227		404	367	
v/s Ratio Prot	c0.12	0.28		0.01	c0.24		0.00	0.03		c0.09	c0.05	
v/s Ratio Perm	c0.26			0.09		0.08	0.02					
v/c Ratio	0.66	0.49		0.22	0.55	0.19	0.12	0.19		0.75	0.23	
Uniform Delay, d1	20.9	12.5		17.7	20.7	17.1	36.0	38.4		42.6	31.1	
Progression Factor	0.76	0.64		0.44	0.49	0.97	1.00	1.00		0.84	0.62	
Incremental Delay, d2	5.9	0.8		0.5	1.3	0.5	0.3	0.4		7.6	0.3	
Delay (s)	21.8	8.8		8.2	11.5	17.2	36.3	38.8		43.2	19.5	
Level of Service	C	A		A	B	B	D	D		D	B	
Approach Delay (s)		12.2			12.7			38.4			31.6	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.92		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3425		1770	3438	1553	1770	1723		3367	1586	
Flt Permitted	0.12	1.00		0.12	1.00	1.00	0.38	1.00		0.95	1.00	
Satd. Flow (perm)	216	3425		220	3438	1553	703	1723		3367	1586	
Volume (vph)	400	1050	30	60	1225	410	30	60	60	440	55	500
Peak-hour factor, PHF	0.95	0.95	0.85	0.85	0.96	0.95	0.85	0.90	0.90	0.95	0.85	0.95
Adj. Flow (vph)	421	1105	35	71	1276	432	35	67	67	463	65	526
RTOR Reduction (vph)	0	2	0	0	0	262	0	36	0	0	283	0
Lane Group Flow (vph)	421	1138	0	71	1276	170	35	98	0	463	308	0
Heavy Vehicles (%)	4%	5%	2%	2%	5%	4%	2%	2%	2%	4%	2%	4%
Turn Type	pm+pt			pm+pt		Perm	pm+pt			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)	53.5	52.6		34.2	34.2	34.2	9.3	7.5		16.3	23.1	
Effective Green, g (s)	55.6	55.6		37.2	37.2	37.2	13.4	10.6		18.4	26.2	
Actuated g/C Ratio	0.56	0.56		0.37	0.37	0.37	0.13	0.11		0.18	0.26	
Clearance Time (s)	5.1	6.0		4.0	6.0	6.0	4.0	6.1		5.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	451	1904		135	1279	578	124	183		620	416	
v/s Ratio Prot	c0.20	0.33		0.02	c0.37		0.01	0.06		c0.14	c0.19	
v/s Ratio Perm	0.31			0.18		0.11	0.03					
v/c Ratio	0.93	0.60		0.53	1.00	0.29	0.28	0.54		0.75	0.74	
Uniform Delay, d1	34.3	14.8		23.3	31.4	22.1	38.8	42.4		38.6	33.8	
Progression Factor	0.81	0.64		0.44	0.59	1.30	1.00	1.00		0.83	0.43	
Incremental Delay, d2	26.1	1.2		2.4	19.8	0.8	1.3	3.0		4.4	6.3	
Delay (s)	54.0	10.7		12.6	38.2	29.6	40.1	45.4		36.5	20.9	
Level of Service	D	B		B	D	C	D	D		D	C	
Approach Delay (s)		22.3			35.1			44.3			27.7	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	41	315	3	3	300	21	16	9	7	6	1	39
Peak Hour Factor	0.85	0.95	0.60	0.60	0.95	0.80	0.75	0.65	0.65	0.65	0.60	0.85
Hourly flow rate (vph)	48	332	5	5	316	26	21	14	11	9	2	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1100										
pX, platoon unblocked												
vC, conflicting volume	342			337			645	783	168	619	772	171
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	342			337			645	783	168	619	772	171
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			93	96	99	97	99	95
cM capacity (veh/h)	1214			1219			325	310	846	344	314	843

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	48	221	116	5	211	132	46	11	46
Volume Left	48	0	0	5	0	0	21	9	0
Volume Right	0	0	5	0	0	26	11	0	46
cSH	1214	1700	1700	1219	1700	1700	373	339	843
Volume to Capacity	0.04	0.13	0.07	0.00	0.12	0.08	0.12	0.03	0.05
Queue Length 95th (ft)	3	0	0	0	0	0	10	2	4
Control Delay (s)	8.1	0.0	0.0	8.0	0.0	0.0	16.0	16.0	9.5
Lane LOS	A			A			C	C	A
Approach Delay (s)	1.0			0.1			16.0	10.8	
Approach LOS							C	B	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	30.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			↰↑	↱
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	49	445	10	2	460	18	4	3	2	29	4	86
Peak Hour Factor	0.85	0.95	0.70	0.60	0.95	0.75	0.60	0.60	0.60	0.80	0.60	0.85
Hourly flow rate (vph)	58	468	14	3	484	24	7	5	3	36	7	101
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1100										
pX, platoon unblocked												
vC, conflicting volume	508			483			944	1106	241	858	1101	254
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	508			483			944	1106	241	858	1101	254
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			96	97	100	84	97	86
cM capacity (veh/h)	1053			1076			175	197	760	234	198	745

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	58	312	170	3	323	185	15	43	101
Volume Left	58	0	0	3	0	0	7	36	0
Volume Right	0	0	14	0	0	24	3	0	101
cSH	1053	1700	1700	1076	1700	1700	221	227	745
Volume to Capacity	0.05	0.18	0.10	0.00	0.19	0.11	0.07	0.19	0.14
Queue Length 95th (ft)	4	0	0	0	0	0	5	17	12
Control Delay (s)	8.6	0.0	0.0	8.4	0.0	0.0	22.5	24.5	10.6
Lane LOS	A			A			C	C	B
Approach Delay (s)	0.9			0.1			22.5	14.7	
Approach LOS							C	B	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	31.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	50	425	5	5	510	50	25	15	10	15	3	50
Peak Hour Factor	0.85	0.95	0.65	0.65	0.95	0.85	0.85	0.75	0.70	0.75	0.60	0.85
Hourly flow rate (vph)	59	447	8	8	537	59	29	20	14	20	5	59
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1100										
pX, platoon unblocked												
vC, conflicting volume	596			455			914	1180	228	918	1125	268
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	596			455			914	1180	228	918	1125	268
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			99			85	89	98	90	97	92
cM capacity (veh/h)	977			1102			195	176	775	193	190	730

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2
Volume Total	59	298	157	8	268	268	59	64	25	59
Volume Left	59	0	0	8	0	0	0	29	20	0
Volume Right	0	0	8	0	0	0	59	14	0	59
cSH	977	1700	1700	1102	1700	1700	1700	225	192	730
Volume to Capacity	0.06	0.18	0.09	0.01	0.16	0.16	0.03	0.28	0.13	0.08
Queue Length 95th (ft)	5	0	0	1	0	0	0	28	11	7
Control Delay (s)	8.9	0.0	0.0	8.3	0.0	0.0	0.0	27.2	26.5	10.4
Lane LOS	A			A				D	D	B
Approach Delay (s)	1.0			0.1				27.2	15.2	
Approach LOS								D	C	

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	60	650	15	3	575	35	15	5	5	60	10	125
Peak Hour Factor	0.85	0.95	0.75	0.65	0.95	0.85	0.80	0.70	0.70	0.90	0.75	0.95
Hourly flow rate (vph)	71	684	20	5	605	41	19	7	7	67	13	132
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1100										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	646			704			1285	1491	352	1108	1460	303
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	646			682			1273	1482	323	1093	1450	303
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			78	94	99	55	89	81
cM capacity (veh/h)	935			891			85	112	661	147	117	693

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2
Volume Total	71	456	248	5	303	303	41	33	80	132
Volume Left	71	0	0	5	0	0	0	19	67	0
Volume Right	0	0	20	0	0	0	41	7	0	132
cSH	935	1700	1700	891	1700	1700	1700	112	141	693
Volume to Capacity	0.08	0.27	0.15	0.01	0.18	0.18	0.02	0.30	0.57	0.19
Queue Length 95th (ft)	6	0	0	0	0	0	0	28	72	17
Control Delay (s)	9.2	0.0	0.0	9.1	0.0	0.0	0.0	50.1	59.9	11.4
Lane LOS	A			A				F	F	B
Approach Delay (s)	0.8			0.1				50.1	29.7	
Approach LOS								F	D	

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱		✣		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1770	3341		1770	3343	1583		1729		1770	1605	
Flt Permitted	0.18	1.00		0.19	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (perm)	339	3341		354	3343	1583		1729		1770	1605	
Volume (vph)	50	1225	5	20	1110	120	25	15	30	110	3	50
Peak-hour factor, PHF	0.85	0.95	0.65	0.80	0.95	0.95	0.80	0.75	0.85	0.95	0.60	0.85
Adj. Flow (vph)	59	1289	8	25	1168	126	31	20	35	116	5	59
RTOR Reduction (vph)	0	1	0	0	0	42	0	24	0	0	52	0
Lane Group Flow (vph)	59	1296	0	25	1168	84	0	62	0	116	12	0
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt			Perm		Perm	Split			Split		
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	72.0	72.0		65.6	65.6	65.6		5.0		11.0	11.0	
Effective Green, g (s)	73.0	73.0		66.6	66.6	66.6		6.0		12.0	12.0	
Actuated g/C Ratio	0.73	0.73		0.67	0.67	0.67		0.06		0.12	0.12	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	296	2439		236	2226	1054		104		212	193	
v/s Ratio Prot	0.01	c0.39			0.35			c0.04		c0.07	0.01	
v/s Ratio Perm	0.14			0.07		0.05						
v/c Ratio	0.20	0.53		0.11	0.52	0.08		0.59		0.55	0.06	
Uniform Delay, d1	5.5	6.0		6.0	8.6	5.9		45.8		41.4	39.0	
Progression Factor	0.88	1.37		0.69	0.63	0.24		1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.7		0.8	0.8	0.1		8.7		9.8	0.6	
Delay (s)	5.1	8.9		5.0	6.2	1.6		54.5		51.2	39.6	
Level of Service	A	A		A	A	A		D		D	D	
Approach Delay (s)		8.7			5.8			54.5			47.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.92		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1770	3339		1770	3343	1583		1696		1770	1610	
Flt Permitted	0.07	1.00		0.10	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (perm)	133	3339		196	3343	1583		1696		1770	1610	
Volume (vph)	60	1580	15	30	1615	155	15	5	30	170	10	125
Peak-hour factor, PHF	0.85	0.95	0.75	0.85	0.95	0.95	0.75	0.65	0.85	0.95	0.70	0.95
Adj. Flow (vph)	71	1663	20	35	1700	163	20	8	35	179	14	132
RTOR Reduction (vph)	0	1	0	0	0	56	0	34	0	0	86	0
Lane Group Flow (vph)	71	1682	0	35	1700	107	0	29	0	179	60	0
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt			Perm		Perm	Split			Split		
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	71.0	71.0		64.6	64.6	64.6		3.0		14.0	14.0	
Effective Green, g (s)	72.0	72.0		65.6	65.6	65.6		4.0		15.0	15.0	
Actuated g/C Ratio	0.72	0.72		0.66	0.66	0.66		0.04		0.15	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	151	2404		129	2193	1038		68		266	242	
v/s Ratio Prot	0.02	c0.50			c0.51			c0.02		c0.10	0.04	
v/s Ratio Perm	0.32			0.18		0.07						
v/c Ratio	0.47	0.70		0.27	0.78	0.10		0.43		0.67	0.25	
Uniform Delay, d1	12.0	7.9		7.2	12.0	6.3		46.9		40.2	37.5	
Progression Factor	1.07	1.14		0.60	0.50	0.32		1.00		1.00	1.00	
Incremental Delay, d2	1.9	1.4		4.1	2.2	0.2		4.4		12.8	2.4	
Delay (s)	14.7	10.4		8.4	8.2	2.2		51.3		53.0	40.0	
Level of Service	B	B		A	A	A		D		D	D	
Approach Delay (s)		10.6			7.7			51.3			47.1	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			↰↑	↱
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	150	150	6	1	250	20	2	0	1	20	0	55
Peak Hour Factor	0.95	0.95	0.65	0.60	0.95	0.75	0.60	0.60	0.60	0.75	0.60	0.85
Hourly flow rate (vph)	158	158	9	2	263	27	3	0	2	27	0	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	290			167			678	771	84	676	763	145
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	290			167			678	771	84	676	763	145
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			100			99	100	100	91	100	93
cM capacity (veh/h)	1269			1408			283	288	959	306	291	876

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	158	105	62	2	175	114	5	27	65
Volume Left	158	0	0	2	0	0	3	27	0
Volume Right	0	0	9	0	0	27	2	0	65
cSH	1269	1700	1700	1408	1700	1700	370	306	876
Volume to Capacity	0.12	0.06	0.04	0.00	0.10	0.07	0.01	0.09	0.07
Queue Length 95th (ft)	11	0	0	0	0	0	1	7	6
Control Delay (s)	8.2	0.0	0.0	7.6	0.0	0.0	14.9	17.9	9.4
Lane LOS	A			A			B	C	A
Approach Delay (s)	4.0			0.0			14.9	11.9	
Approach LOS							B	B	

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	65	305	32	2	340	15	25	3	2	15	3	80
Peak Hour Factor	0.85	0.95	0.85	0.60	0.95	0.75	0.80	0.60	0.60	0.75	0.60	0.85
Hourly flow rate (vph)	76	321	38	3	358	20	31	5	3	20	5	94
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	378			359			775	877	179	694	886	189
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	378			359			775	877	179	694	886	189
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			87	98	100	93	98	89
cM capacity (veh/h)	1177			1197			238	266	833	307	263	821

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	76	214	145	3	239	139	40	25	94
Volume Left	76	0	0	3	0	0	31	20	0
Volume Right	0	0	38	0	0	20	3	0	94
cSH	1177	1700	1700	1197	1700	1700	257	297	821
Volume to Capacity	0.06	0.13	0.09	0.00	0.14	0.08	0.15	0.08	0.11
Queue Length 95th (ft)	5	0	0	0	0	0	13	7	10
Control Delay (s)	8.3	0.0	0.0	8.0	0.0	0.0	21.5	18.2	10.0
Lane LOS	A			A			C	C	A
Approach Delay (s)	1.5			0.1			21.5	11.7	
Approach LOS							C	B	

Intersection Summary

Average Delay	3.0		
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	190	240	10	2	500	30	5	2	2	25	2	70
Peak Hour Factor	0.95	0.95	0.70	0.60	0.95	0.85	0.65	0.60	0.60	0.85	0.65	0.90
Hourly flow rate (vph)	200	253	14	3	526	35	8	3	3	29	3	78
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	562			267			1002	1221	126	1064	1200	263
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	562			267			1002	1221	126	1064	1200	263
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	80			100			95	98	100	80	98	89
cM capacity (veh/h)	1006			1294			146	143	900	147	147	735

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2
Volume Total	200	126	126	14	3	263	263	35	14	32	78
Volume Left	200	0	0	0	3	0	0	0	8	29	0
Volume Right	0	0	0	14	0	0	0	35	3	0	78
cSH	1006	1700	1700	1700	1294	1700	1700	1700	180	147	735
Volume to Capacity	0.20	0.07	0.07	0.01	0.00	0.15	0.15	0.02	0.08	0.22	0.11
Queue Length 95th (ft)	18	0	0	0	0	0	0	0	6	20	9
Control Delay (s)	9.5	0.0	0.0	0.0	7.8	0.0	0.0	0.0	26.7	36.4	10.5
Lane LOS	A				A				D	E	B
Approach Delay (s)	4.1				0.0				26.7	18.1	
Approach LOS									D	C	

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			↰↑	↱
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	80	570	40	3	425	20	30	3	3	20	3	100
Peak Hour Factor	0.90	0.95	0.85	0.60	0.95	0.80	0.85	0.65	0.65	0.85	0.65	0.95
Hourly flow rate (vph)	89	600	47	5	447	25	35	5	5	24	5	105
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	472			647			1119	1260	300	942	1282	224
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	472			647			1119	1260	300	942	1282	224
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			72	97	99	88	97	86
cM capacity (veh/h)	1086			934			127	154	696	197	150	780

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2
Volume Total	89	300	300	47	5	224	224	25	45	28	105
Volume Left	89	0	0	0	5	0	0	0	35	24	0
Volume Right	0	0	0	47	0	0	0	25	5	0	105
cSH	1086	1700	1700	1700	934	1700	1700	1700	142	188	780
Volume to Capacity	0.08	0.18	0.18	0.03	0.01	0.13	0.13	0.01	0.31	0.15	0.14
Queue Length 95th (ft)	7	0	0	0	0	0	0	0	31	13	12
Control Delay (s)	8.6	0.0	0.0	0.0	8.9	0.0	0.0	0.0	41.5	27.6	10.3
Lane LOS	A				A				E	D	B
Approach Delay (s)	1.0				0.1				41.5	14.0	
Approach LOS									E	B	

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97			0.95	1.00
Satd. Flow (prot)	1770	3312	1583	1770	3312	1583		1759			1778	1583
Flt Permitted	0.20	1.00	1.00	0.21	1.00	1.00		0.85			0.73	1.00
Satd. Flow (perm)	382	3312	1583	391	3312	1583		1541			1354	1583
Volume (vph)	190	1175	10	2	1195	50	5	2	2	45	2	70
Peak-hour factor, PHF	0.95	0.95	0.70	0.60	0.95	0.85	0.65	0.60	0.60	0.80	0.60	0.85
Adj. Flow (vph)	200	1237	14	3	1258	59	8	3	3	56	3	82
RTOR Reduction (vph)	0	0	2	0	0	10	0	3	0	0	0	74
Lane Group Flow (vph)	200	1237	12	3	1258	49	0	11	0	0	59	8
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	82.5	82.5	82.5	82.5	82.5	82.5		9.5			9.5	9.5
Effective Green, g (s)	82.5	82.5	82.5	82.5	82.5	82.5		9.5			9.5	9.5
Actuated g/C Ratio	0.82	0.82	0.82	0.82	0.82	0.82		0.10			0.10	0.10
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	315	2732	1306	323	2732	1306		146			129	150
v/s Ratio Prot		0.37			0.38							
v/s Ratio Perm	c0.52		0.01	0.01		0.03		0.01			c0.04	0.00
v/c Ratio	0.63	0.45	0.01	0.01	0.46	0.04		0.08			0.46	0.05
Uniform Delay, d1	3.2	2.4	1.5	1.5	2.5	1.6		41.3			42.8	41.2
Progression Factor	1.32	0.53	0.82	0.17	1.12	0.11		1.00			1.00	1.00
Incremental Delay, d2	8.1	0.5	0.0	0.0	0.5	0.0		0.2			2.6	0.1
Delay (s)	12.4	1.8	1.3	0.3	3.3	0.2		41.5			45.4	41.3
Level of Service	B	A	A	A	A	A		D			D	D
Approach Delay (s)		3.2			3.1			41.5			43.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱		✥			↰↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96			0.96	1.00
Satd. Flow (prot)	1770	3312	1583	1770	3312	1583		1766			1781	1583
Flt Permitted	0.11	1.00	1.00	0.11	1.00	1.00		0.74			0.78	1.00
Satd. Flow (perm)	214	3312	1583	207	3312	1583		1354			1453	1583
Volume (vph)	80	1660	40	3	1635	45	30	3	3	45	3	100
Peak-hour factor, PHF	0.90	0.95	0.85	0.60	0.95	0.80	0.85	0.60	0.60	0.80	0.60	0.95
Adj. Flow (vph)	89	1747	47	5	1721	56	35	5	5	56	5	105
RTOR Reduction (vph)	0	0	8	0	0	10	0	5	0	0	0	47
Lane Group Flow (vph)	89	1747	39	5	1721	46	0	40	0	0	61	58
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	82.3	82.3	82.3	82.3	82.3	82.3		9.7			9.7	9.7
Effective Green, g (s)	82.3	82.3	82.3	82.3	82.3	82.3		9.7			9.7	9.7
Actuated g/C Ratio	0.82	0.82	0.82	0.82	0.82	0.82		0.10			0.10	0.10
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	176	2726	1303	170	2726	1303		131			141	154
v/s Ratio Prot		c0.53			0.52							
v/s Ratio Perm	0.42		0.02	0.02		0.03		0.03			c0.04	0.04
v/c Ratio	0.51	0.64	0.03	0.03	0.63	0.04		0.31			0.43	0.38
Uniform Delay, d1	2.7	3.3	1.6	1.6	3.3	1.6		42.0			42.6	42.3
Progression Factor	1.06	1.00	1.86	0.32	0.47	0.08		1.00			1.00	1.00
Incremental Delay, d2	7.2	0.8	0.0	0.2	0.8	0.0		1.3			2.1	1.5
Delay (s)	10.0	4.2	3.0	0.7	2.3	0.2		43.4			44.7	43.9
Level of Service	B	A	A	A	A	A		D			D	D
Approach Delay (s)		4.4			2.3			43.4			44.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3471	1583	1770	3471	1583	1770	1657		1770	1863	1583
Flt Permitted	0.22	1.00	1.00	0.33	1.00	1.00	0.56	1.00		0.75	1.00	1.00
Satd. Flow (perm)	412	3471	1583	612	3471	1583	1041	1657		1388	1863	1583
Volume (vph)	116	820	280	45	960	18	55	3	10	28	25	197
Peak-hour factor, PHF	0.95	0.95	0.95	0.85	0.95	0.75	0.85	0.60	0.70	0.80	0.80	0.95
Adj. Flow (vph)	122	863	295	53	1011	24	65	5	14	35	31	207
RTOR Reduction (vph)	0	0	71	0	0	8	0	11	0	0	0	188
Lane Group Flow (vph)	122	863	224	53	1011	16	65	8	0	35	31	19
Heavy Vehicles (%)	2%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	Perm		Perm	pm+pt			Perm		Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	74.8	74.8	74.8	63.6	63.6	63.6	17.2	17.2		8.4	8.4	8.4
Effective Green, g (s)	75.8	75.8	75.8	64.6	64.6	64.6	18.2	18.2		9.4	9.4	9.4
Actuated g/C Ratio	0.76	0.76	0.76	0.65	0.65	0.65	0.18	0.18		0.09	0.09	0.09
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	424	2631	1200	395	2242	1023	232	302		130	175	149
v/s Ratio Prot	0.02	c0.25			c0.29		c0.02	0.00			0.02	
v/s Ratio Perm	0.19		0.14	0.09		0.01	c0.03			0.03		0.01
v/c Ratio	0.29	0.33	0.19	0.13	0.45	0.02	0.28	0.02		0.27	0.18	0.13
Uniform Delay, d1	4.6	3.9	3.4	6.9	8.8	6.3	34.8	33.6		42.1	41.7	41.6
Progression Factor	0.50	0.36	0.52	0.96	1.00	1.05	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3	0.3	0.7	0.6	0.0	0.7	0.0		1.1	0.5	0.4
Delay (s)	2.6	1.7	2.1	7.3	9.5	6.7	35.4	33.6		43.2	42.2	42.0
Level of Service	A	A	A	A	A	A	D	C		D	D	D
Approach Delay (s)		1.9			9.3			35.0			42.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3471	1583	1770	3471	1583	1770	1702		1770	1863	1583
Flt Permitted	0.13	1.00	1.00	0.21	1.00	1.00	0.59	1.00		0.70	1.00	1.00
Satd. Flow (perm)	242	3471	1583	391	3471	1583	1097	1702		1313	1863	1583
Volume (vph)	395	1245	60	10	1105	60	220	29	39	53	20	330
Peak-hour factor, PHF	0.95	0.95	0.85	0.70	0.95	0.85	0.95	0.85	0.85	0.85	0.80	0.95
Adj. Flow (vph)	416	1311	71	14	1163	71	232	34	46	62	25	347
RTOR Reduction (vph)	0	0	20	0	0	35	0	36	0	0	0	241
Lane Group Flow (vph)	416	1311	51	14	1163	36	232	44	0	62	25	106
Heavy Vehicles (%)	2%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	Perm		Perm	pm+pt			Perm		Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	71.4	71.4	71.4	50.0	50.0	50.0	20.6	20.6		10.6	10.6	10.6
Effective Green, g (s)	72.4	72.4	72.4	51.0	51.0	51.0	21.6	21.6		11.6	11.6	11.6
Actuated g/C Ratio	0.72	0.72	0.72	0.51	0.51	0.51	0.22	0.22		0.12	0.12	0.12
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	456	2513	1146	199	1770	807	284	368		152	216	184
v/s Ratio Prot	c0.17	0.38			0.34		c0.06	0.03			0.01	
v/s Ratio Perm	c0.49		0.03	0.04		0.02	c0.12			0.05		0.07
v/c Ratio	0.91	0.52	0.04	0.07	0.66	0.04	0.82	0.12		0.41	0.12	0.57
Uniform Delay, d1	24.0	6.1	3.9	12.5	18.1	12.3	36.8	31.5		41.0	39.6	41.9
Progression Factor	1.40	0.53	0.27	1.11	1.29	1.38	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.5	0.6	0.1	0.6	1.7	0.1	16.4	0.1		1.8	0.2	4.3
Delay (s)	52.0	3.9	1.1	14.4	24.9	17.0	53.3	31.7		42.8	39.8	46.1
Level of Service	D	A	A	B	C	B	D	C		D	D	D
Approach Delay (s)		14.9			24.3			47.7			45.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱		↰	↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	47	810	860	6	23	165
Peak Hour Factor	0.85	0.95	0.95	0.65	0.80	0.95
Hourly flow rate (vph)	55	853	905	9	29	174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	914				1447	457
vC1, stage 1 conf vol					910	
vC2, stage 2 conf vol					537	
vCu, unblocked vol	914				1447	457
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	93				91	68
cM capacity (veh/h)	741				327	550

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	55	426	426	604	311	29	174
Volume Left	55	0	0	0	0	29	0
Volume Right	0	0	0	0	9	0	174
cSH	741	1700	1700	1700	1700	327	550
Volume to Capacity	0.07	0.25	0.25	0.36	0.18	0.09	0.32
Queue Length 95th (ft)	6	0	0	0	0	7	34
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	17.1	14.5
Lane LOS	B					C	B
Approach Delay (s)	0.6			0.0		14.9	
Approach LOS						B	

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	182	1155	1080	24	13	97
Peak Hour Factor	0.95	0.95	0.95	0.85	0.70	0.95
Hourly flow rate (vph)	192	1216	1137	28	19	102
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1165				2142	583
vC1, stage 1 conf vol					1151	
vC2, stage 2 conf vol					991	
vCu, unblocked vol	1165				2142	583
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	68				90	78
cM capacity (veh/h)	595				183	456

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	192	608	608	758	407	19	102
Volume Left	192	0	0	0	0	19	0
Volume Right	0	0	0	0	28	0	102
cSH	595	1700	1700	1700	1700	183	456
Volume to Capacity	0.32	0.36	0.36	0.45	0.24	0.10	0.22
Queue Length 95th (ft)	35	0	0	0	0	8	21
Control Delay (s)	13.9	0.0	0.0	0.0	0.0	26.9	15.2
Lane LOS	B					D	C
Approach Delay (s)	1.9			0.0		17.0	
Approach LOS						C	

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	142	205	1	1	15
Peak Hour Factor	0.65	0.95	0.95	0.60	0.60	0.75
Hourly flow rate (vph)	8	149	216	2	2	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	217				381	217
vC1, stage 1 conf vol					217	
vC2, stage 2 conf vol					165	
vCu, unblocked vol	217				381	217
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	98
cM capacity (veh/h)	1352				777	823

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	8	149	217	22
Volume Left	8	0	0	2
Volume Right	0	0	2	20
cSH	1352	1700	1700	819
Volume to Capacity	0.01	0.09	0.13	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	7.7	0.0	0.0	9.5
Lane LOS	A			A
Approach Delay (s)	0.4		0.0	9.5
Approach LOS				A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	20.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	265	195	1	1	10
Peak Hour Factor	0.80	0.95	0.95	0.60	0.60	0.70
Hourly flow rate (vph)	25	279	205	2	2	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	207				535	206
vC1, stage 1 conf vol					206	
vC2, stage 2 conf vol					329	
vCu, unblocked vol	207				535	206
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	98
cM capacity (veh/h)	1364				685	834

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	25	279	207	16
Volume Left	25	0	0	2
Volume Right	0	0	2	14
cSH	1364	1700	1700	816
Volume to Capacity	0.02	0.16	0.12	0.02
Queue Length 95th (ft)	1	0	0	1
Control Delay (s)	7.7	0.0	0.0	9.5
Lane LOS	A			A
Approach Delay (s)	0.6		0.0	9.5
Approach LOS				A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	26.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	240	470	2	2	30
Peak Hour Factor	0.70	0.95	0.95	0.60	0.60	0.85
Hourly flow rate (vph)	14	253	495	3	3	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	498				778	496
vC1, stage 1 conf vol					496	
vC2, stage 2 conf vol					281	
vCu, unblocked vol	498				778	496
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	94
cM capacity (veh/h)	1066				580	573

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	14	253	498	39
Volume Left	14	0	0	3
Volume Right	0	0	3	35
cSH	1066	1700	1700	574
Volume to Capacity	0.01	0.15	0.29	0.07
Queue Length 95th (ft)	1	0	0	5
Control Delay (s)	8.4	0.0	0.0	11.7
Lane LOS	A			B
Approach Delay (s)	0.5		0.0	11.7
Approach LOS				B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	40	535	395	2	2	20
Peak Hour Factor	0.85	0.95	0.95	0.60	0.60	0.80
Hourly flow rate (vph)	47	563	416	3	3	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	419				1075	417
vC1, stage 1 conf vol					417	
vC2, stage 2 conf vol					657	
vCu, unblocked vol	419				1075	417
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				99	96
cM capacity (veh/h)	1140				465	635

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	47	563	419	28
Volume Left	47	0	0	3
Volume Right	0	0	3	25
cSH	1140	1700	1700	609
Volume to Capacity	0.04	0.33	0.25	0.05
Queue Length 95th (ft)	3	0	0	4
Control Delay (s)	8.3	0.0	0.0	11.2
Lane LOS	A			B
Approach Delay (s)	0.6		0.0	11.2
Approach LOS				B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	810	13	2	820	3	17	0	3	3	0	32
Peak Hour Factor	0.70	0.95	0.70	0.60	0.95	0.60	0.75	0.60	0.60	0.60	0.60	0.85
Hourly flow rate (vph)	17	853	19	3	863	5	23	0	5	5	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								3			3	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	868			871			1794	1762	853	1764	1778	866
vC1, stage 1 conf vol							887	887		872	872	
vC2, stage 2 conf vol							907	875		892	905	
vCu, unblocked vol	868			871			1794	1762	853	1764	1778	866
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			90	100	99	98	100	89
cM capacity (veh/h)	776			774			236	282	359	263	284	353

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	17	853	19	3	868	23	5	5	38
Volume Left	17	0	0	3	0	23	0	5	0
Volume Right	0	0	19	0	5	0	5	0	38
cSH	776	1700	1700	774	1700	236	359	263	353
Volume to Capacity	0.02	0.50	0.01	0.00	0.51	0.10	0.01	0.02	0.11
Queue Length 95th (ft)	2	0	0	0	0	8	1	1	9
Control Delay (s)	9.7	0.0	0.0	9.7	0.0	21.9	15.2	19.0	16.4
Lane LOS	A			A		C	C	C	C
Approach Delay (s)	0.2			0.0		20.6		16.7	
Approach LOS						C		C	

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	42	1085	40	5	1065	3	17	0	3	3	0	22
Peak Hour Factor	0.85	0.95	0.85	0.65	0.95	0.60	0.80	0.60	0.60	0.60	0.60	0.80
Hourly flow rate (vph)	49	1142	47	8	1121	5	21	0	5	5	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								4			3	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1126			1189			2405	2382	1142	2385	2427	1124
vC1, stage 1 conf vol							1241	1241		1139	1139	
vC2, stage 2 conf vol							1164	1141		1246	1288	
vCu, unblocked vol	1126			1189			2405	2382	1142	2385	2427	1124
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			85	100	98	97	100	89
cM capacity (veh/h)	620			587			142	186	244	159	180	250

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	49	1142	47	8	1126	21	5	5	28
Volume Left	49	0	0	8	0	21	0	5	0
Volume Right	0	0	47	0	5	0	5	0	28
cSH	620	1700	1700	587	1700	142	244	159	250
Volume to Capacity	0.08	0.67	0.03	0.01	0.66	0.15	0.02	0.03	0.11
Queue Length 95th (ft)	6	0	0	1	0	13	2	2	9
Control Delay (s)	11.3	0.0	0.0	11.2	0.0	34.7	20.1	28.4	21.2
Lane LOS	B			B		D	C	D	C
Approach Delay (s)	0.5			0.1		31.9		22.3	
Approach LOS						D		C	

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	3	140	195	0	1	11
Peak Hour Factor	0.60	0.95	0.95	0.60	0.60	0.70
Hourly flow rate (vph)	5	147	205	0	2	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	205				363	205
vC1, stage 1 conf vol					205	
vC2, stage 2 conf vol					157	
vCu, unblocked vol	205				363	205
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	1366				788	835

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	147	205	17
Volume Left	5	0	0	2
Volume Right	0	0	0	16
cSH	1366	1700	1700	830
Volume to Capacity	0.00	0.09	0.12	0.02
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	7.6	0.0	0.0	9.4
Lane LOS	A			A
Approach Delay (s)	0.3		0.0	9.4
Approach LOS				A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	20.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	250	190	2	0	5
Peak Hour Factor	0.75	0.95	0.95	0.60	0.60	0.65
Hourly flow rate (vph)	20	263	200	3	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	203				505	202
vC1, stage 1 conf vol					202	
vC2, stage 2 conf vol					303	
vCu, unblocked vol	203				505	202
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	99
cM capacity (veh/h)	1368				704	839

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	20	263	203	8
Volume Left	20	0	0	0
Volume Right	0	0	3	8
cSH	1368	1700	1700	839
Volume to Capacity	0.01	0.15	0.12	0.01
Queue Length 95th (ft)	1	0	0	1
Control Delay (s)	7.7	0.0	0.0	9.3
Lane LOS	A			A
Approach Delay (s)	0.5		0.0	9.3
Approach LOS				A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	235	455	1	2	15
Peak Hour Factor	0.65	0.95	0.95	0.60	0.60	0.75
Hourly flow rate (vph)	8	247	479	2	3	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	481				743	480
vC1, stage 1 conf vol					480	
vC2, stage 2 conf vol					263	
vCu, unblocked vol	481				743	480
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	97
cM capacity (veh/h)	1082				593	586

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	8	247	481	23
Volume Left	8	0	0	3
Volume Right	0	0	2	20
cSH	1082	1700	1700	587
Volume to Capacity	0.01	0.15	0.28	0.04
Queue Length 95th (ft)	1	0	0	3
Control Delay (s)	8.4	0.0	0.0	11.4
Lane LOS	A			B
Approach Delay (s)	0.3		0.0	11.4
Approach LOS				B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↱		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	515	385	3	1	10
Peak Hour Factor	0.80	0.95	0.95	0.60	0.60	0.70
Hourly flow rate (vph)	25	542	405	5	2	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	410				1000	408
vC1, stage 1 conf vol					408	
vC2, stage 2 conf vol					592	
vCu, unblocked vol	410				1000	408
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	98
cM capacity (veh/h)	1149				502	643

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	25	542	410	16
Volume Left	25	0	0	2
Volume Right	0	0	5	14
cSH	1149	1700	1700	625
Volume to Capacity	0.02	0.32	0.24	0.03
Queue Length 95th (ft)	2	0	0	2
Control Delay (s)	8.2	0.0	0.0	10.9
Lane LOS	A			B
Approach Delay (s)	0.4		0.0	10.9
Approach LOS				B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	810	805	1	2	15
Peak Hour Factor	0.80	0.95	0.95	0.60	0.60	0.70
Hourly flow rate (vph)	6	853	847	2	3	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	849				1713	848
vC1, stage 1 conf vol					848	
vC2, stage 2 conf vol					865	
vCu, unblocked vol	849				1713	848
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	94
cM capacity (veh/h)	789				333	361

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	6	853	849	25
Volume Left	6	0	0	3
Volume Right	0	0	2	21
cSH	789	1700	1700	357
Volume to Capacity	0.01	0.50	0.50	0.07
Queue Length 95th (ft)	1	0	0	6
Control Delay (s)	9.6	0.0	0.0	15.8
Lane LOS	A			C
Approach Delay (s)	0.1		0.0	15.8
Approach LOS				C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	1070	1060	3	1	10
Peak Hour Factor	0.80	0.95	0.95	0.60	0.60	0.70
Hourly flow rate (vph)	25	1126	1116	5	2	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1121				2295	1118
vC1, stage 1 conf vol					1118	
vC2, stage 2 conf vol					1176	
vCu, unblocked vol	1121				2295	1118
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				99	94
cM capacity (veh/h)	623				230	252

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	25	1126	1121	16
Volume Left	25	0	0	2
Volume Right	0	0	5	14
cSH	623	1700	1700	249
Volume to Capacity	0.04	0.66	0.66	0.06
Queue Length 95th (ft)	3	0	0	5
Control Delay (s)	11.0	0.0	0.0	20.4
Lane LOS	B			C
Approach Delay (s)	0.2		0.0	20.4
Approach LOS				C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	135	180	1	1	15
Peak Hour Factor	0.65	0.95	0.95	0.60	0.60	0.75
Hourly flow rate (vph)	8	142	189	2	2	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	191				348	190
vC1, stage 1 conf vol					190	
vC2, stage 2 conf vol					157	
vCu, unblocked vol	191				348	190
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	98
cM capacity (veh/h)	1382				796	851

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	8	142	191	22
Volume Left	8	0	0	2
Volume Right	0	0	2	20
cSH	1382	1700	1700	847
Volume to Capacity	0.01	0.08	0.11	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	7.6	0.0	0.0	9.4
Lane LOS	A			A
Approach Delay (s)	0.4		0.0	9.4
Approach LOS				A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	230	182	1	1	10
Peak Hour Factor	0.75	0.95	0.95	0.60	0.60	0.70
Hourly flow rate (vph)	27	242	192	2	2	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	193				488	192
vC1, stage 1 conf vol					192	
vC2, stage 2 conf vol					295	
vCu, unblocked vol	193				488	192
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	98
cM capacity (veh/h)	1380				709	849

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	27	242	193	16
Volume Left	27	0	0	2
Volume Right	0	0	2	14
cSH	1380	1700	1700	832
Volume to Capacity	0.02	0.14	0.11	0.02
Queue Length 95th (ft)	1	0	0	1
Control Delay (s)	7.7	0.0	0.0	9.4
Lane LOS	A			A
Approach Delay (s)	0.8		0.0	9.4
Approach LOS				A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	26.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	225	425	2	2	30
Peak Hour Factor	0.70	0.95	0.95	0.60	0.60	0.80
Hourly flow rate (vph)	14	237	447	3	3	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	451				714	449
vC1, stage 1 conf vol					449	
vC2, stage 2 conf vol					265	
vCu, unblocked vol	451				714	449
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	94
cM capacity (veh/h)	1110				608	610

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	14	237	451	41
Volume Left	14	0	0	3
Volume Right	0	0	3	38
cSH	1110	1700	1700	610
Volume to Capacity	0.01	0.14	0.27	0.07
Queue Length 95th (ft)	1	0	0	5
Control Delay (s)	8.3	0.0	0.0	11.3
Lane LOS	A			B
Approach Delay (s)	0.5		0.0	11.3
Approach LOS				B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	40	475	370	2	2	20
Peak Hour Factor	0.85	0.95	0.95	0.60	0.60	0.80
Hourly flow rate (vph)	47	500	389	3	3	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					3	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	393				985	391
vC1, stage 1 conf vol					391	
vC2, stage 2 conf vol					594	
vCu, unblocked vol	393				985	391
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				99	96
cM capacity (veh/h)	1166				497	657

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	47	500	393	28
Volume Left	47	0	0	3
Volume Right	0	0	3	25
cSH	1166	1700	1700	633
Volume to Capacity	0.04	0.29	0.23	0.04
Queue Length 95th (ft)	3	0	0	4
Control Delay (s)	8.2	0.0	0.0	11.0
Lane LOS	A			B
Approach Delay (s)	0.7		0.0	11.0
Approach LOS				B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	780	13	2	760	3	17	0	3	3	0	32
Peak Hour Factor	0.70	0.95	0.70	0.60	0.95	0.60	0.75	0.60	0.60	0.60	0.60	0.85
Hourly flow rate (vph)	17	821	19	3	800	5	23	0	5	5	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								3			3	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	805			840			1700	1667	821	1670	1683	802
vC1, stage 1 conf vol							855	855		809	809	
vC2, stage 2 conf vol							844	812		860	874	
vCu, unblocked vol	805			840			1700	1667	821	1670	1683	802
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			91	100	99	98	100	90
cM capacity (veh/h)	819			795			256	299	374	281	300	384

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	17	821	19	3	805	23	5	5	38
Volume Left	17	0	0	3	0	23	0	5	0
Volume Right	0	0	19	0	5	0	5	0	38
cSH	819	1700	1700	795	1700	256	374	281	384
Volume to Capacity	0.02	0.48	0.01	0.00	0.47	0.09	0.01	0.02	0.10
Queue Length 95th (ft)	2	0	0	0	0	7	1	1	8
Control Delay (s)	9.5	0.0	0.0	9.5	0.0	20.4	14.7	18.1	15.4
Lane LOS	A			A		C	B	C	C
Approach Delay (s)	0.2			0.0		19.4		15.7	
Approach LOS						C		C	

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	42	985	40	5	1030	3	17	0	3	3	0	22
Peak Hour Factor	0.85	0.95	0.85	0.65	0.95	0.60	0.80	0.60	0.60	0.60	0.60	0.80
Hourly flow rate (vph)	49	1037	47	8	1084	5	21	0	5	5	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								3			3	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1089			1084			2263	2240	1037	2243	2285	1087
vC1, stage 1 conf vol							1136	1136		1102	1102	
vC2, stage 2 conf vol							1127	1105		1141	1183	
vCu, unblocked vol	1089			1084			2263	2240	1037	2243	2285	1087
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			86	100	98	97	100	90
cM capacity (veh/h)	641			644			148	191	281	178	199	263

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	49	1037	47	8	1089	21	5	5	28
Volume Left	49	0	0	8	0	21	0	5	0
Volume Right	0	0	47	0	5	0	5	0	28
cSH	641	1700	1700	644	1700	148	281	178	263
Volume to Capacity	0.08	0.61	0.03	0.01	0.64	0.14	0.02	0.03	0.10
Queue Length 95th (ft)	6	0	0	1	0	12	1	2	9
Control Delay (s)	11.1	0.0	0.0	10.7	0.0	33.3	18.0	25.7	20.3
Lane LOS	B			B		D	C	D	C
Approach Delay (s)	0.5			0.1		30.4		21.1	
Approach LOS						D		C	

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	40	185	310	2	5	115
Peak Hour Factor	0.85	0.95	0.95	0.60	0.65	0.95
Hourly flow rate (vph)	47	195	326	3	8	121
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	330				617	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	330				617	328
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				98	83
cM capacity (veh/h)	1230				436	713

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	47	195	330	8	121
Volume Left	47	0	0	8	0
Volume Right	0	0	3	0	121
cSH	1230	1700	1700	436	713
Volume to Capacity	0.04	0.11	0.19	0.02	0.17
Queue Length 95th (ft)	3	0	0	1	15
Control Delay (s)	8.0	0.0	0.0	13.4	11.1
Lane LOS	A			B	B
Approach Delay (s)	1.6		0.0	11.2	
Approach LOS				B	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	135	340	295	6	3	75
Peak Hour Factor	0.95	0.95	0.95	0.65	0.60	0.90
Hourly flow rate (vph)	142	358	311	9	5	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	320				957	315
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	320				957	315
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				98	89
cM capacity (veh/h)	1240				253	725

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	142	358	320	5	83
Volume Left	142	0	0	5	0
Volume Right	0	0	9	0	83
cSH	1240	1700	1700	253	725
Volume to Capacity	0.11	0.21	0.19	0.02	0.11
Queue Length 95th (ft)	10	0	0	2	10
Control Delay (s)	8.3	0.0	0.0	19.5	10.6
Lane LOS	A			C	B
Approach Delay (s)	2.4		0.0	11.1	
Approach LOS				B	

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1758		1770	1639		1770	1590	
Flt Permitted	0.42	1.00	1.00	0.32	1.00		0.56	1.00		0.75	1.00	
Satd. Flow (perm)	775	1759	1583	590	1758		1045	1639		1393	1590	
Volume (vph)	40	700	47	2	515	2	134	2	8	5	2	115
Peak-hour factor, PHF	0.85	0.95	0.85	0.60	0.95	0.60	0.95	0.60	0.65	0.65	0.60	0.95
Adj. Flow (vph)	47	737	55	3	542	3	141	3	12	8	3	121
RTOR Reduction (vph)	0	0	13	0	0	0	0	10	0	0	99	0
Lane Group Flow (vph)	47	737	42	3	545	0	141	5	0	8	25	0
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	75.1	75.1	75.1	75.1	75.1		16.9	16.9		16.9	16.9	
Effective Green, g (s)	76.1	76.1	76.1	76.1	76.1		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.76		0.18	0.18		0.18	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	590	1339	1205	449	1338		187	293		249	285	
v/s Ratio Prot		c0.42			0.31			0.00			0.02	
v/s Ratio Perm	0.06		0.03	0.01			c0.13			0.01		
v/c Ratio	0.08	0.55	0.03	0.01	0.41		0.75	0.02		0.03	0.09	
Uniform Delay, d1	3.0	4.9	2.9	2.9	4.1		39.0	33.8		33.9	34.2	
Progression Factor	0.23	0.24	0.04	0.81	0.99		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.6	0.1	0.0	0.9		15.8	0.0		0.1	0.1	
Delay (s)	1.0	2.8	0.2	2.4	5.0		54.7	33.8		33.9	34.4	
Level of Service	A	A	A	A	A		D	C		C	C	
Approach Delay (s)		2.5			5.0			52.7			34.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1758		1770	1653		1770	1593	
Flt Permitted	0.25	1.00	1.00	0.33	1.00		0.63	1.00		0.75	1.00	
Satd. Flow (perm)	467	1759	1583	622	1758		1181	1653		1397	1593	
Volume (vph)	135	700	158	9	870	6	88	2	6	3	2	75
Peak-hour factor, PHF	0.95	0.95	0.95	0.70	0.95	0.65	0.90	0.60	0.65	0.60	0.60	0.90
Adj. Flow (vph)	142	737	166	13	916	9	98	3	9	5	3	83
RTOR Reduction (vph)	0	0	33	0	0	0	0	8	0	0	72	0
Lane Group Flow (vph)	142	737	133	13	925	0	98	4	0	5	14	0
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	79.2	79.2	79.2	79.2	79.2		12.8	12.8		12.8	12.8	
Effective Green, g (s)	80.2	80.2	80.2	80.2	80.2		13.8	13.8		13.8	13.8	
Actuated g/C Ratio	0.80	0.80	0.80	0.80	0.80		0.14	0.14		0.14	0.14	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	375	1411	1270	499	1410		163	228		193	220	
v/s Ratio Prot		0.42			c0.53			0.00			0.01	
v/s Ratio Perm	0.30		0.08	0.02			c0.08			0.00		
v/c Ratio	0.38	0.52	0.10	0.03	0.66		0.60	0.02		0.03	0.07	
Uniform Delay, d1	2.8	3.4	2.1	2.0	4.1		40.5	37.2		37.3	37.5	
Progression Factor	0.29	0.25	0.00	1.15	1.29		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	1.2	0.1	0.1	1.8		6.1	0.0		0.1	0.1	
Delay (s)	3.4	2.1	0.2	2.4	7.2		46.6	37.3		37.3	37.6	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		1.9			7.1			45.6			37.6	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	30	160	210	3	6	100
Peak Hour Factor	0.85	0.95	0.95	0.60	0.65	0.95
Hourly flow rate (vph)	35	168	221	5	9	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	226				463	224
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226				463	224
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				98	87
cM capacity (veh/h)	1342				543	816

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	35	168	226	9	105
Volume Left	35	0	0	9	0
Volume Right	0	0	5	0	105
cSH	1342	1700	1700	543	816
Volume to Capacity	0.03	0.10	0.13	0.02	0.13
Queue Length 95th (ft)	2	0	0	1	11
Control Delay (s)	7.8	0.0	0.0	11.7	10.1
Lane LOS	A			B	B
Approach Delay (s)	1.3		0.0	10.2	
Approach LOS				B	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	110	235	240	7	4	60
Peak Hour Factor	0.95	0.95	0.95	0.65	0.60	0.85
Hourly flow rate (vph)	116	247	253	11	7	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	263				737	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	263				737	258
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				98	91
cM capacity (veh/h)	1301				351	781

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	116	247	263	7	71
Volume Left	116	0	0	7	0
Volume Right	0	0	11	0	71
cSH	1301	1700	1700	351	781
Volume to Capacity	0.09	0.15	0.15	0.02	0.09
Queue Length 95th (ft)	7	0	0	1	7
Control Delay (s)	8.0	0.0	0.0	15.4	10.1
Lane LOS	A			C	B
Approach Delay (s)	2.6		0.0	10.5	
Approach LOS				B	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1756		1787	1734		1770	1616	
Flt Permitted	0.53	1.00	1.00	0.47	1.00		0.95	1.00		0.80	1.00	
Satd. Flow (perm)	989	1759	1583	881	1756		1787	1734		1490	1616	
Volume (vph)	30	350	332	16	275	3	144	10	8	6	10	100
Peak-hour factor, PHF	0.85	0.95	0.95	0.75	0.95	0.60	0.95	0.70	0.65	0.65	0.70	0.95
Adj. Flow (vph)	35	368	349	21	289	5	152	14	12	9	14	105
RTOR Reduction (vph)	0	0	143	0	1	0	0	9	0	0	100	0
Lane Group Flow (vph)	35	368	206	21	293	0	152	17	0	9	19	0
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	1%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm			Split			Perm		
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)	58.0	58.0	58.0	58.0	58.0		26.0	26.0		4.0	4.0	
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0		27.0	27.0		5.0	5.0	
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59		0.27	0.27		0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	584	1038	934	520	1036		482	468		75	81	
v/s Ratio Prot		c0.21			0.17		c0.09	0.01			c0.01	
v/s Ratio Perm	0.04		0.13	0.02						0.01		
v/c Ratio	0.06	0.35	0.22	0.04	0.28		0.32	0.04		0.12	0.24	
Uniform Delay, d1	8.7	10.6	9.7	8.6	10.1		29.1	26.9		45.4	45.7	
Progression Factor	0.47	0.61	2.28	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.8	0.5	0.1	0.7		1.7	0.1		0.7	1.5	
Delay (s)	4.3	7.3	22.5	8.8	10.8		30.8	27.1		46.1	47.2	
Level of Service	A	A	C	A	B		C	C		D	D	
Approach Delay (s)		14.2			10.6			30.3			47.1	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.90		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1755		1787	1676		1770	1629	
Flt Permitted	0.40	1.00	1.00	0.49	1.00		0.95	1.00		0.80	1.00	
Satd. Flow (perm)	748	1759	1583	911	1755		1787	1676		1490	1629	
Volume (vph)	110	330	267	14	430	7	397	10	22	4	10	60
Peak-hour factor, PHF	0.95	0.95	0.95	0.75	0.95	0.65	0.95	0.70	0.80	0.60	0.70	0.85
Adj. Flow (vph)	116	347	281	19	453	11	418	14	28	7	14	71
RTOR Reduction (vph)	0	0	115	0	1	0	0	20	0	0	67	0
Lane Group Flow (vph)	116	347	166	19	463	0	418	22	0	7	18	0
Heavy Vehicles (%)	2%	8%	2%	2%	8%	2%	1%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm			Split			Perm		
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)	58.0	58.0	58.0	58.0	58.0		26.0	26.0		4.0	4.0	
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0		27.0	27.0		5.0	5.0	
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59		0.27	0.27		0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	441	1038	934	537	1035		482	453		75	81	
v/s Ratio Prot		0.20			c0.26		c0.23	0.01			c0.01	
v/s Ratio Perm	0.15		0.10	0.02						0.00		
v/c Ratio	0.26	0.33	0.18	0.04	0.45		0.87	0.05		0.09	0.22	
Uniform Delay, d1	9.9	10.5	9.4	8.6	11.4		34.8	27.0		45.3	45.6	
Progression Factor	0.78	0.80	2.62	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.8	0.4	0.1	1.4		18.6	0.2		0.5	1.3	
Delay (s)	9.0	9.2	25.0	8.7	12.8		53.4	27.2		45.9	47.0	
Level of Service	A	A	C	A	B		D	C		D	D	
Approach Delay (s)		15.1			12.7			51.0			46.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	120	12	4	155	15	1
Peak Hour Factor	0.95	0.70	0.60	0.95	0.75	0.60
Hourly flow rate (vph)	126	17	7	163	20	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			143		311	135
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			143		311	135
tC, single (s)			4.4		6.6	6.4
tC, 2 stage (s)						
tF (s)			2.4		3.7	3.5
p0 queue free %			99		97	100
cM capacity (veh/h)			1310		633	856

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	143	170	22
Volume Left	0	7	20
Volume Right	17	0	2
cSH	1700	1310	646
Volume to Capacity	0.08	0.01	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.3	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	10.8
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	190	12	1	155	20	2
Peak Hour Factor	0.95	0.70	0.60	0.95	0.75	0.60
Hourly flow rate (vph)	200	17	2	163	27	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			217		375	209
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			217		375	209
tC, single (s)			4.4		6.6	6.4
tC, 2 stage (s)						
tF (s)			2.4		3.7	3.5
p0 queue free %			100		95	100
cM capacity (veh/h)			1227		582	777

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	217	165	30
Volume Left	0	2	27
Volume Right	17	0	3
cSH	1700	1227	599
Volume to Capacity	0.13	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.1	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	11.3
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	150	15	5	190	20	1
Peak Hour Factor	0.95	0.75	0.65	0.95	0.75	0.60
Hourly flow rate (vph)	158	20	8	200	27	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			178		383	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			178		383	168
tC, single (s)			4.4		6.6	6.4
tC, 2 stage (s)						
tF (s)			2.4		3.7	3.5
p0 queue free %			99		95	100
cM capacity (veh/h)			1271		573	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	178	208	28
Volume Left	0	8	27
Volume Right	20	0	2
cSH	1700	1271	584
Volume to Capacity	0.10	0.01	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.3	11.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	11.5
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	24.0%	ICU Level of Service	A
Analysis Period (min)	15		

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	Y	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	225	15	1	220	25	2
Peak Hour Factor	0.95	0.75	0.60	0.95	0.80	0.60
Hourly flow rate (vph)	237	20	2	232	31	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			257		482	247
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			257		482	247
tC, single (s)			4.4		6.6	6.4
tC, 2 stage (s)						
tF (s)			2.4		3.7	3.5
p0 queue free %			100		94	100
cM capacity (veh/h)			1185		503	739

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	257	233	35
Volume Left	0	2	31
Volume Right	20	0	3
cSH	1700	1185	519
Volume to Capacity	0.15	0.00	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.1	12.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	12.4
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1749		1770	3363		1770	3343	
Flt Permitted		0.86			0.96		0.38	1.00		0.45	1.00	
Satd. Flow (perm)		1529			1690		704	3363		846	3343	
Volume (vph)	52	30	39	8	41	36	22	490	11	48	605	53
Peak-hour factor, PHF	0.85	0.80	0.85	0.65	0.85	0.85	0.80	0.95	0.70	0.85	0.95	0.85
Adj. Flow (vph)	61	38	46	12	48	42	28	516	16	56	637	62
RTOR Reduction (vph)	0	38	0	0	34	0	0	3	0	0	8	0
Lane Group Flow (vph)	0	107	0	0	68	0	28	529	0	56	691	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		9.9			9.9		39.5	39.5		39.5	39.5	
Effective Green, g (s)		10.9			10.9		40.5	40.5		40.5	40.5	
Actuated g/C Ratio		0.18			0.18		0.68	0.68		0.68	0.68	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		281			310		480	2293		577	2279	
v/s Ratio Prot								0.16			c0.21	
v/s Ratio Perm		c0.07			0.04		0.04			0.07		
v/c Ratio		0.38			0.22		0.06	0.23		0.10	0.30	
Uniform Delay, d1		21.3			20.6		3.1	3.6		3.2	3.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			0.4		0.2	0.2		0.3	0.3	
Delay (s)		22.2			21.0		3.4	3.8		3.6	4.1	
Level of Service		C			C		A	A		A	A	
Approach Delay (s)		22.2			21.0			3.8			4.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	59.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1763			1750		1770	3364		1770	3322	
Flt Permitted		0.87			0.94		0.48	1.00		0.46	1.00	
Satd. Flow (perm)		1559			1667		888	3364		865	3322	
Volume (vph)	50	40	30	10	30	25	25	470	10	45	390	60
Peak-hour factor, PHF	0.85	0.85	0.85	0.70	0.85	0.80	0.80	0.95	0.70	0.85	0.95	0.85
Adj. Flow (vph)	59	47	35	14	35	31	31	495	14	53	411	71
RTOR Reduction (vph)	0	29	0	0	25	0	0	2	0	0	16	0
Lane Group Flow (vph)	0	112	0	0	55	0	31	507	0	53	466	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		9.9			9.9		40.0	40.0		40.0	40.0	
Effective Green, g (s)		10.9			10.9		41.0	41.0		41.0	41.0	
Actuated g/C Ratio		0.18			0.18		0.68	0.68		0.68	0.68	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		284			303		608	2303		592	2274	
v/s Ratio Prot								c0.15			0.14	
v/s Ratio Perm		c0.07			0.03		0.03			0.06		
v/c Ratio		0.40			0.18		0.05	0.22		0.09	0.21	
Uniform Delay, d1		21.6			20.7		3.1	3.5		3.2	3.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			0.3		0.2	0.2		0.3	0.2	
Delay (s)		22.5			21.0		3.2	3.7		3.5	3.7	
Level of Service		C			C		A	A		A	A	
Approach Delay (s)		22.5			21.0			3.7			3.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	59.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1738		1770	3361		1770	3344	
Flt Permitted		0.81			0.94		0.31	1.00		0.39	1.00	
Satd. Flow (perm)		1451			1642		583	3361		732	3344	
Volume (vph)	75	40	50	20	50	55	30	610	20	60	735	60
Peak-hour factor, PHF	0.90	0.85	0.85	0.80	0.85	0.85	0.85	0.95	0.80	0.85	0.95	0.85
Adj. Flow (vph)	83	47	59	25	59	65	35	642	25	71	774	71
RTOR Reduction (vph)	0	38	0	0	52	0	0	4	0	0	9	0
Lane Group Flow (vph)	0	151	0	0	97	0	35	663	0	71	836	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		9.2			9.2		30.3	30.3		30.3	30.3	
Effective Green, g (s)		10.2			10.2		31.3	31.3		31.3	31.3	
Actuated g/C Ratio		0.21			0.21		0.63	0.63		0.63	0.63	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		299			338		369	2125		463	2114	
v/s Ratio Prot								0.20			c0.25	
v/s Ratio Perm		c0.10			0.06		0.06			0.10		
v/c Ratio		0.50			0.29		0.09	0.31		0.15	0.40	
Uniform Delay, d1		17.4			16.6		3.6	4.2		3.7	4.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			0.5		0.5	0.4		0.7	0.6	
Delay (s)		18.8			17.1		4.1	4.6		4.4	5.0	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		18.8			17.1			4.5			5.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱			↰↑↱		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1751			1786		1770	3397		1770	3365	
Flt Permitted		0.82			0.95		0.38	1.00		0.41	1.00	
Satd. Flow (perm)		1452			1703		715	3397		758	3365	
Volume (vph)	50	65	60	10	70	30	50	570	10	55	565	60
Peak-hour factor, PHF	0.85	0.85	0.85	0.70	0.85	0.85	0.85	0.95	0.70	0.85	0.95	0.85
Adj. Flow (vph)	59	76	71	14	82	35	59	600	14	65	595	71
RTOR Reduction (vph)	0	23	0	0	16	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	183	0	0	115	0	59	613	0	65	660	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	2%	2%	6%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.0			16.0		74.0	74.0		74.0	74.0	
Effective Green, g (s)		18.0			18.0		76.0	76.0		76.0	76.0	
Actuated g/C Ratio		0.18			0.18		0.76	0.76		0.76	0.76	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		261			307		543	2582		576	2557	
v/s Ratio Prot								0.18			c0.20	
v/s Ratio Perm		c0.13			0.07		0.08			0.09		
v/c Ratio		0.70			0.38		0.11	0.24		0.11	0.26	
Uniform Delay, d1		38.5			36.1		3.1	3.5		3.2	3.6	
Progression Factor		1.00			1.00		1.26	1.31		0.91	0.97	
Incremental Delay, d2		8.2			0.8		0.4	0.2		0.4	0.2	
Delay (s)		46.7			36.8		4.3	4.8		3.3	3.7	
Level of Service		D			D		A	A		A	A	
Approach Delay (s)		46.7			36.8			4.7			3.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱			↰↑↱		↰	↑↑↱		↰	↑↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1759		1770	3394		1770	3378	
Flt Permitted		0.76			0.92		0.25	1.00		0.30	1.00	
Satd. Flow (perm)		1356			1629		462	3394		566	3378	
Volume (vph)	75	105	95	20	100	65	80	770	20	70	880	60
Peak-hour factor, PHF	0.90	0.95	0.90	0.80	0.95	0.85	0.90	0.95	0.80	0.85	0.95	0.85
Adj. Flow (vph)	83	111	106	25	105	76	89	811	25	82	926	71
RTOR Reduction (vph)	0	22	0	0	23	0	0	2	0	0	5	0
Lane Group Flow (vph)	0	278	0	0	183	0	89	834	0	82	992	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	2%	2%	6%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		22.5			22.5		67.5	67.5		67.5	67.5	
Effective Green, g (s)		24.5			24.5		69.5	69.5		69.5	69.5	
Actuated g/C Ratio		0.24			0.24		0.70	0.70		0.70	0.70	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		332			399		321	2359		393	2348	
v/s Ratio Prot								0.25			c0.29	
v/s Ratio Perm		c0.21			0.11		0.19			0.14		
v/c Ratio		0.84			0.46		0.28	0.35		0.21	0.42	
Uniform Delay, d1		35.9			32.1		5.8	6.2		5.4	6.6	
Progression Factor		1.00			1.00		1.19	1.13		1.04	1.11	
Incremental Delay, d2		16.6			0.8		1.5	0.3		1.2	0.5	
Delay (s)		52.5			32.9		8.3	7.3		6.8	7.8	
Level of Service		D			C		A	A		A	A	
Approach Delay (s)		52.5			32.9			7.4			7.8	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↱			↰↱		↰	↑↱		↰	↑↱	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	4	12	1	5	11	10	380	5	23	340	24
Peak Hour Factor	0.65	0.60	0.70	0.60	0.65	0.70	0.70	0.95	0.65	0.80	0.95	0.80
Hourly flow rate (vph)	12	7	17	2	8	16	14	400	8	29	358	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								410				
pX, platoon unblocked												
vC, conflicting volume	679	867	194	689	878	204	388			408		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	679	867	194	689	878	204	388			408		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	98	98	99	97	98	99			97		
cM capacity (veh/h)	315	279	815	310	275	803	1167			1148		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	25	14	267	141	29	239	149
Volume Left	12	2	14	0	0	29	0	0
Volume Right	17	16	0	0	8	0	0	30
cSH	430	473	1167	1700	1700	1148	1700	1700
Volume to Capacity	0.08	0.05	0.01	0.16	0.08	0.03	0.14	0.09
Queue Length 95th (ft)	7	4	1	0	0	2	0	0
Control Delay (s)	14.1	13.0	8.1	0.0	0.0	8.2	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	14.1	13.0	0.3			0.6		
Approach LOS	B	B						

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑↱		↰	↑↱	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	4	21	10	4	19	16	550	12	23	675	24
Peak Hour Factor	0.75	0.60	0.80	0.70	0.60	0.75	0.75	0.95	0.70	0.80	0.95	0.80
Hourly flow rate (vph)	25	7	26	14	7	25	21	579	17	29	711	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								410				
pX, platoon unblocked												
vC, conflicting volume	1144	1422	370	1073	1428	298	741			596		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1144	1422	370	1073	1428	298	741			596		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	82	95	96	91	95	96	98			97		
cM capacity (veh/h)	137	128	627	154	127	698	862			976		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	58	46	21	386	210	29	474	267
Volume Left	25	14	21	0	0	29	0	0
Volume Right	26	25	0	0	17	0	0	30
cSH	209	255	862	1700	1700	976	1700	1700
Volume to Capacity	0.28	0.18	0.02	0.23	0.12	0.03	0.28	0.16
Queue Length 95th (ft)	27	16	2	0	0	2	0	0
Control Delay (s)	28.7	22.2	9.3	0.0	0.0	8.8	0.0	0.0
Lane LOS	D	C	A			A		
Approach Delay (s)	28.7	22.2	0.3			0.3		
Approach LOS	D	C						

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	10	15	5	10	~~20~~ 25	15	515	10	45	475	45
Peak Hour Factor	0.80	0.70	0.75	0.65	0.70	0.80	0.75	0.95	0.70	0.85	0.95	0.85
Hourly flow rate (vph)	25	14	20	8	14	25	20	542	14	53	500	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								410				
pX, platoon unblocked												
vC, conflicting volume	976	1229	276	972	1248	278	553			556		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	976	1229	276	972	1248	278	553			556		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	91	97	96	91	97	98			95		
cM capacity (veh/h)	175	164	721	178	160	719	1013			1010		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	59	47	20	361	195	53	333	220
Volume Left	25	8	20	0	0	53	0	0
Volume Right	20	25	0	0	14	0	0	53
cSH	230	280	1013	1700	1700	1010	1700	1700
Volume to Capacity	0.26	0.17	0.02	0.21	0.11	0.05	0.20	0.13
Queue Length 95th (ft)	25	15	2	0	0	4	0	0
Control Delay (s)	26.0	20.4	8.6	0.0	0.0	8.8	0.0	0.0
Lane LOS	D	C	A			A		
Approach Delay (s)	26.0	20.4	0.3			0.8		
Approach LOS	D	C						

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	35	10	25	15	10	35	25	700	15	30	815	30
Peak Hour Factor	0.85	0.70	0.80	0.75	0.70	0.85	0.85	0.95	0.75	0.85	0.95	0.85
Hourly flow rate (vph)	41	14	31	20	14	41	29	737	20	35	858	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								410				
pX, platoon unblocked	0.95	0.95		0.95	0.95	0.95				0.95		
vC, conflicting volume	1422	1762	447	1344	1769	378	893			757		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1392	1749	447	1309	1757	294	893			692		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	43	81	94	76	81	94	96			96		
cM capacity (veh/h)	73	74	559	84	74	668	755			854		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	87	75	29	491	266	35	572	321
Volume Left	41	20	29	0	0	35	0	0
Volume Right	31	41	0	0	20	0	0	35
cSH	106	153	755	1700	1700	854	1700	1700
Volume to Capacity	0.82	0.49	0.04	0.29	0.16	0.04	0.34	0.19
Queue Length 95th (ft)	115	59	3	0	0	3	0	0
Control Delay (s)	116.4	49.6	10.0	0.0	0.0	9.4	0.0	0.0
Lane LOS	F	E	A			A		
Approach Delay (s)	116.4	49.6	0.4			0.4		
Approach LOS	F	E						

Intersection Summary			
Average Delay	7.7		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	15	35	5	20	25	30	600	10	50	590	45
Peak Hour Factor	0.80	0.75	0.85	0.65	0.80	0.85	0.85	0.95	0.70	0.85	0.95	0.85
Hourly flow rate (vph)	25	20	41	8	25	29	35	632	14	59	621	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								410				
pX, platoon unblocked	0.99	0.99		0.99	0.99	0.99				0.99		
vC, conflicting volume	1193	1482	337	1189	1501	323	674			646		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1181	1474	337	1176	1493	298	674			626		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	76	82	94	93	77	96	96			94		
cM capacity (veh/h)	104	111	659	108	108	688	913			938		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	86	62	35	421	225	59	414	260
Volume Left	25	8	35	0	0	59	0	0
Volume Right	41	29	0	0	14	0	0	53
cSH	179	180	913	1700	1700	938	1700	1700
Volume to Capacity	0.48	0.34	0.04	0.25	0.13	0.06	0.24	0.15
Queue Length 95th (ft)	58	36	3	0	0	5	0	0
Control Delay (s)	42.5	35.1	9.1	0.0	0.0	9.1	0.0	0.0
Lane LOS	E	E	A			A		
Approach Delay (s)	42.5	35.1	0.5			0.7		
Approach LOS	E	E						

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑↱		↰	↑↱	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	35	20	65	15	20	40	50	835	15	35	920	30
Peak Hour Factor	0.85	0.80	0.85	0.75	0.80	0.85	0.85	0.95	0.75	0.85	0.95	0.85
Hourly flow rate (vph)	41	25	76	20	25	47	59	879	20	41	968	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								410				
pX, platoon unblocked	0.93	0.93		0.93	0.93	0.93				0.93		
vC, conflicting volume	1685	2085	502	1662	2093	449	1004			899		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1660	2092	502	1635	2100	324	1004			810		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	40	85	19	39	92	91			95		
cM capacity (veh/h)	25	41	515	25	41	621	686			751		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	143	92	59	586	313	41	646	358
Volume Left	41	20	59	0	0	41	0	0
Volume Right	76	47	0	0	20	0	0	35
cSH	60	62	686	1700	1700	751	1700	1700
Volume to Capacity	2.37	1.49	0.09	0.34	0.18	0.05	0.38	0.21
Queue Length 95th (ft)	353	202	7	0	0	4	0	0
Control Delay (s)	771.6	401.8	10.7	0.0	0.0	10.1	0.0	0.0
Lane LOS	F	F	B			B		
Approach Delay (s)	771.6	401.8	0.7			0.4		
Approach LOS	F	F						

Intersection Summary			
Average Delay	66.2		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1810	1583		1822	1583	1770	3374	1583	1770	3294	
Flt Permitted		0.79	1.00		0.82	1.00	0.47	1.00	1.00	0.58	1.00	
Satd. Flow (perm)		1462	1583		1531	1583	872	3374	1583	1081	3294	
Volume (vph)	48	34	30	22	27	17	42	265	19	21	368	108
Peak-hour factor, PHF	0.85	0.85	0.85	0.80	0.80	0.75	0.85	0.95	0.75	0.80	0.95	0.95
Adj. Flow (vph)	56	40	35	28	34	23	49	279	25	26	387	114
RTOR Reduction (vph)	0	0	30	0	0	20	0	0	7	0	30	0
Lane Group Flow (vph)	0	96	5	0	62	3	49	279	18	26	471	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		7.7	7.7		7.7	7.7	41.8	41.8	41.8	41.8	41.8	
Effective Green, g (s)		7.7	7.7		7.7	7.7	43.8	43.8	43.8	43.8	43.8	
Actuated g/C Ratio		0.13	0.13		0.13	0.13	0.74	0.74	0.74	0.74	0.74	
Clearance Time (s)		4.0	4.0		4.0	4.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		189	205		198	205	642	2484	1165	796	2425	
v/s Ratio Prot								0.08			c0.14	
v/s Ratio Perm		c0.07	0.00		0.04	0.00	0.06		0.01	0.02		
v/c Ratio		0.51	0.02		0.31	0.01	0.08	0.11	0.02	0.03	0.19	
Uniform Delay, d1		24.1	22.6		23.5	22.6	2.2	2.3	2.1	2.1	2.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.1	0.0		0.9	0.0	0.2	0.1	0.0	0.1	0.2	
Delay (s)		26.3	22.7		24.4	22.6	2.4	2.3	2.1	2.2	2.6	
Level of Service		C	C		C	C	A	A	A	A	A	
Approach Delay (s)		25.3			23.9			2.3			2.6	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	59.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑↑	↱	↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1809	1583		1816	1583	1770	3374	1583	1770	3314	
Flt Permitted		0.70	1.00		0.76	1.00	0.48	1.00	1.00	0.49	1.00	
Satd. Flow (perm)		1311	1583		1419	1583	900	3374	1583	919	3314	
Volume (vph)	75	52	62	73	70	53	45	425	50	37	370	68
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.95	0.85	0.85	0.95	0.85
Adj. Flow (vph)	88	61	73	86	82	62	53	447	59	44	389	80
RTOR Reduction (vph)	0	0	58	0	0	50	0	0	21	0	25	0
Lane Group Flow (vph)	0	149	15	0	168	12	53	447	38	44	444	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		10.4	10.4		10.4	10.4	31.8	31.8	31.8	31.8	31.8	
Effective Green, g (s)		10.4	10.4		10.4	10.4	33.8	33.8	33.8	33.8	33.8	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.65	0.65	0.65	0.65	0.65	
Clearance Time (s)		4.0	4.0		4.0	4.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		261	315		283	315	583	2185	1025	595	2146	
v/s Ratio Prot								0.13			c0.13	
v/s Ratio Perm		0.11	0.01		c0.12	0.01	0.06		0.02	0.05		
v/c Ratio		0.57	0.05		0.59	0.04	0.09	0.20	0.04	0.07	0.21	
Uniform Delay, d1		18.9	16.9		19.0	16.9	3.4	3.7	3.3	3.4	3.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.0	0.1		3.3	0.1	0.3	0.2	0.1	0.2	0.2	
Delay (s)		21.9	17.0		22.3	16.9	3.8	3.9	3.4	3.6	4.0	
Level of Service		C	B		C	B	A	A	A	A	A	
Approach Delay (s)		20.3			20.9			3.9			3.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	8.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑↑	↱	↰	↑↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1809	1583		1817	1583	1770	3374	1583	1770	3374	1583
Flt Permitted		0.76	1.00		0.79	1.00	0.48	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1425	1583		1481	1583	901	3374	1583	887	3374	1583
Volume (vph)	80	55	100	40	40	35	80	460	45	60	445	65
Peak-hour factor, PHF	0.85	0.85	0.95	0.85	0.85	0.85	0.85	0.95	0.85	0.85	0.95	0.85
Adj. Flow (vph)	94	65	105	47	47	41	94	484	53	71	468	76
RTOR Reduction (vph)	0	0	84	0	0	33	0	0	18	0	0	25
Lane Group Flow (vph)	0	159	21	0	94	8	94	484	35	71	468	51
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		11.7	11.7		11.7	11.7	37.1	37.1	37.1	37.1	37.1	37.1
Effective Green, g (s)		11.7	11.7		11.7	11.7	39.1	39.1	39.1	39.1	39.1	39.1
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.66	0.66	0.66	0.66	0.66	0.66
Clearance Time (s)		4.0	4.0		4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		284	315		295	315	599	2244	1053	590	2244	1053
v/s Ratio Prot								c0.14			0.14	
v/s Ratio Perm		c0.11	0.01		0.06	0.01	0.10		0.02	0.08		0.03
v/c Ratio		0.56	0.07		0.32	0.03	0.16	0.22	0.03	0.12	0.21	0.05
Uniform Delay, d1		21.2	19.1		20.1	19.0	3.7	3.9	3.4	3.6	3.8	3.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.4	0.1		0.6	0.0	0.6	0.2	0.1	0.4	0.2	0.1
Delay (s)		23.6	19.2		20.8	19.0	4.2	4.1	3.4	4.0	4.0	3.5
Level of Service		C	B		C	B	A	A	A	A	A	A
Approach Delay (s)		21.9			20.2			4.0			4.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	58.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1814	1583		1817	1583	1770	3374	1583	1770	3374	1583
Flt Permitted		0.71	1.00		0.76	1.00	0.35	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)		1324	1583		1413	1583	650	3374	1583	765	3374	1583
Volume (vph)	75	65	75	80	80	75	120	600	125	90	725	65
Peak-hour factor, PHF	0.85	0.85	0.85	0.90	0.90	0.85	0.95	0.95	0.95	0.90	0.95	0.85
Adj. Flow (vph)	88	76	88	89	89	88	126	632	132	100	763	76
RTOR Reduction (vph)	0	0	70	0	0	70	0	0	48	0	0	28
Lane Group Flow (vph)	0	164	18	0	178	18	126	632	84	100	763	48
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		10.1	10.1		10.1	10.1	29.9	29.9	29.9	29.9	29.9	29.9
Effective Green, g (s)		10.1	10.1		10.1	10.1	31.9	31.9	31.9	31.9	31.9	31.9
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.64	0.64	0.64	0.64	0.64	0.64
Clearance Time (s)		4.0	4.0		4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		267	320		285	320	415	2153	1010	488	2153	1010
v/s Ratio Prot								0.19			c0.23	
v/s Ratio Perm		0.12	0.01		c0.13	0.01	0.19		0.05	0.13		0.03
v/c Ratio		0.61	0.06		0.62	0.06	0.30	0.29	0.08	0.20	0.35	0.05
Uniform Delay, d1		18.2	16.1		18.2	16.1	4.1	4.0	3.5	3.8	4.2	3.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		4.2	0.1		4.2	0.1	1.9	0.3	0.2	0.9	0.5	0.1
Delay (s)		22.3	16.2		22.4	16.2	5.9	4.4	3.6	4.7	4.7	3.5
Level of Service		C	B		C	B	A	A	A	A	A	A
Approach Delay (s)		20.2			20.4			4.5			4.6	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1813	1583		1823	1583	1770	3406	1583	1770	3406	1583
Flt Permitted		0.70	1.00		0.70	1.00	0.44	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1307	1583		1301	1583	825	3406	1583	830	3406	1583
Volume (vph)	80	65	100	40	50	65	80	510	45	85	515	65
Peak-hour factor, PHF	0.90	0.90	0.95	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.85
Adj. Flow (vph)	89	72	105	44	56	68	84	537	47	89	542	76
RTOR Reduction (vph)	0	0	88	0	0	57	0	0	10	0	0	17
Lane Group Flow (vph)	0	161	17	0	100	11	84	537	37	89	542	59
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	2%	2%	6%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		15.2	15.2		15.2	15.2	74.8	74.8	74.8	74.8	74.8	74.8
Effective Green, g (s)		16.2	16.2		16.2	16.2	77.8	77.8	77.8	77.8	77.8	77.8
Actuated g/C Ratio		0.16	0.16		0.16	0.16	0.78	0.78	0.78	0.78	0.78	0.78
Clearance Time (s)		4.0	4.0		4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		212	256		211	256	642	2650	1232	646	2650	1232
v/s Ratio Prot								0.16			c0.16	
v/s Ratio Perm		c0.12	0.01		0.08	0.01	0.10		0.02	0.11		0.04
v/c Ratio		0.76	0.07		0.47	0.04	0.13	0.20	0.03	0.14	0.20	0.05
Uniform Delay, d1		40.0	35.5		38.0	35.4	2.7	2.9	2.5	2.8	2.9	2.6
Progression Factor		1.00	1.00		1.00	1.00	2.34	2.22	4.66	1.00	1.00	1.00
Incremental Delay, d2		14.4	0.1		1.7	0.1	0.4	0.2	0.0	0.4	0.2	0.1
Delay (s)		54.5	35.6		39.7	35.4	6.8	6.7	11.8	3.2	3.1	2.6
Level of Service		D	D		D	D	A	A	B	A	A	A
Approach Delay (s)		47.0			38.0			7.0			3.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1835	1599		1838	1599	1787	3406	1599	1787	3406	1599
Flt Permitted		0.79	1.00		0.80	1.00	0.32	1.00	1.00	0.36	1.00	1.00
Satd. Flow (perm)		1486	1599		1505	1599	596	3406	1599	672	3406	1599
Volume (vph)	75	75	75	80	90	115	120	695	125	140	795	65
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90
Adj. Flow (vph)	79	79	79	84	95	121	126	732	132	147	837	72
RTOR Reduction (vph)	0	0	65	0	0	100	0	0	31	0	0	17
Lane Group Flow (vph)	0	158	14	0	179	21	126	732	101	147	837	55
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	6%	1%	1%	6%	1%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		16.3	16.3		16.3	16.3	73.7	73.7	73.7	73.7	73.7	73.7
Effective Green, g (s)		17.3	17.3		17.3	17.3	76.7	76.7	76.7	76.7	76.7	76.7
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.77	0.77	0.77	0.77	0.77	0.77
Clearance Time (s)		4.0	4.0		4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		257	277		260	277	457	2612	1226	515	2612	1226
v/s Ratio Prot								0.21			c0.25	
v/s Ratio Perm		0.11	0.01		c0.12	0.01	0.21		0.06	0.22		0.03
v/c Ratio		0.61	0.05		0.69	0.08	0.28	0.28	0.08	0.29	0.32	0.05
Uniform Delay, d1		38.3	34.5		38.8	34.6	3.4	3.5	2.9	3.5	3.6	2.8
Progression Factor		1.00	1.00		1.00	1.00	1.89	1.89	4.19	1.00	1.00	1.00
Incremental Delay, d2		4.3	0.1		7.4	0.1	1.4	0.3	0.1	1.4	0.3	0.1
Delay (s)		42.6	34.6		46.2	34.8	7.9	6.8	12.3	4.9	3.9	2.9
Level of Service		D	C		D	C	A	A	B	A	A	A
Approach Delay (s)		39.9			41.6			7.7			4.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱	↰	↑↑	↱	↰	↑↑	↱
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	65	0	0	30	65	485	25	35	505	45
Peak Hour Factor	0.60	0.60	0.85	0.60	0.60	0.85	0.85	0.95	0.80	0.85	0.95	0.85
Hourly flow rate (vph)	0	0	76	0	0	35	76	511	31	41	532	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								929				
pX, platoon unblocked												
vC, conflicting volume	1057	1309	266	1088	1330	255	585			542		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1057	1309	266	1088	1330	255	585			542		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	95	92			96		
cM capacity (veh/h)	156	140	732	139	136	744	986			1023		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	76	35	76	255	255	31	41	266	266	53
Volume Left	0	0	76	0	0	0	41	0	0	0
Volume Right	76	35	0	0	0	31	0	0	0	53
cSH	732	744	986	1700	1700	1700	1023	1700	1700	1700
Volume to Capacity	0.10	0.05	0.08	0.15	0.15	0.02	0.04	0.16	0.16	0.03
Queue Length 95th (ft)	9	4	6	0	0	0	3	0	0	0
Control Delay (s)	10.5	10.1	9.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0
Lane LOS	B	B	A				A			
Approach Delay (s)	10.5	10.1	1.1				0.6			
Approach LOS	B	B								

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	270	0	0	65	200	505	40	60	610	160
Peak Hour Factor	0.60	0.60	0.95	0.60	0.60	0.85	0.95	0.95	0.85	0.85	0.95	0.95
Hourly flow rate (vph)	0	0	284	0	0	76	211	532	47	71	642	168
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								941				
pX, platoon unblocked												
vC, conflicting volume	1547	1783	321	1699	1904	266	811			579		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1547	1783	321	1699	1904	266	811			579		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	58	100	100	90	74			93		
cM capacity (veh/h)	53	56	675	26	47	732	811			991		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	284	76	211	266	266	47	71	321	321	168
Volume Left	0	0	211	0	0	0	71	0	0	0
Volume Right	284	76	0	0	0	47	0	0	0	168
cSH	675	732	811	1700	1700	1700	991	1700	1700	1700
Volume to Capacity	0.42	0.10	0.26	0.16	0.16	0.03	0.07	0.19	0.19	0.10
Queue Length 95th (ft)	52	9	26	0	0	0	6	0	0	0
Control Delay (s)	14.2	10.5	11.0	0.0	0.0	0.0	8.9	0.0	0.0	0.0
Lane LOS	B	B	B				A			
Approach Delay (s)	14.2	10.5	2.9				0.7			
Approach LOS	B	B								

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱	↰	↑↑	↱	↰	↑↑	↱
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	65	0	0	60	65	565	25	60	600	45
Peak Hour Factor	0.60	0.60	0.95	0.60	0.60	0.95	0.95	0.95	0.85	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	68	0	0	63	68	595	29	63	632	47
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								941				
pX, platoon unblocked												
vC, conflicting volume	1255	1519	316	1242	1537	297	679			624		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1255	1519	316	1242	1537	297	679			624		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	91	92			93		
cM capacity (veh/h)	104	102	680	105	99	699	909			953		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	68	63	68	297	297	29	63	316	316	47
Volume Left	0	0	68	0	0	0	63	0	0	0
Volume Right	68	63	0	0	0	29	0	0	0	47
cSH	680	699	909	1700	1700	1700	953	1700	1700	1700
Volume to Capacity	0.10	0.09	0.08	0.17	0.17	0.02	0.07	0.19	0.19	0.03
Queue Length 95th (ft)	8	7	6	0	0	0	5	0	0	0
Control Delay (s)	10.9	10.7	9.3	0.0	0.0	0.0	9.0	0.0	0.0	0.0
Lane LOS	B	B	A				A			
Approach Delay (s)	10.9	10.7	0.9				0.8			
Approach LOS	B	B								

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	270	0	0	110	200	640	40	110	730	160
Peak Hour Factor	0.60	0.60	0.95	0.60	0.60	0.95	0.95	0.95	0.85	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	284	0	0	116	211	674	47	116	768	168
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								941				
pX, platoon unblocked												
vC, conflicting volume	1874	2142	384	1995	2263	337	937			721		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1874	2142	384	1995	2263	337	937			721		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	54	100	100	82	71			87		
cM capacity (veh/h)	25	30	614	13	25	659	727			877		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	284	116	211	337	337	47	116	384	384	168
Volume Left	0	0	211	0	0	0	116	0	0	0
Volume Right	284	116	0	0	0	47	0	0	0	168
cSH	614	659	727	1700	1700	1700	877	1700	1700	1700
Volume to Capacity	0.46	0.18	0.29	0.20	0.20	0.03	0.13	0.23	0.23	0.10
Queue Length 95th (ft)	61	16	30	0	0	0	11	0	0	0
Control Delay (s)	15.8	11.6	12.0	0.0	0.0	0.0	9.7	0.0	0.0	0.0
Lane LOS	C	B	B				A			
Approach Delay (s)	15.8	11.6	2.7				1.1			
Approach LOS	C	B								

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	1	16	1	3	4	11	5	68	15	56	40	2
Peak Hour Factor	0.60	0.75	0.60	0.60	0.60	0.70	0.65	0.85	0.75	0.85	0.85	0.60
Hourly flow rate (vph)	2	21	2	5	7	16	8	80	20	66	47	3

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	25	27	108	116
Volume Left (vph)	2	5	8	66
Volume Right (vph)	2	16	20	3
Hadj (s)	0.01	-0.27	-0.06	0.13
Departure Headway (s)	4.4	4.1	4.1	4.3
Degree Utilization, x	0.03	0.03	0.12	0.14
Capacity (veh/h)	769	819	859	830
Control Delay (s)	7.6	7.3	7.6	7.9
Approach Delay (s)	7.6	7.3	7.6	7.9
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.7		
HCM Level of Service	A		
Intersection Capacity Utilization	22.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	3	12	3	7	22	48	2	72	4	33	105	10
Peak Hour Factor	0.60	0.70	0.60	0.65	0.80	0.85	0.60	0.85	0.60	0.85	0.95	0.70
Hourly flow rate (vph)	5	17	5	11	28	56	3	85	7	39	111	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	27	95	95	164
Volume Left (vph)	5	11	3	39
Volume Right (vph)	5	56	7	14
Hadj (s)	-0.04	-0.30	0.00	0.03
Departure Headway (s)	4.6	4.2	4.4	4.3
Degree Utilization, x	0.03	0.11	0.11	0.20
Capacity (veh/h)	730	795	792	801
Control Delay (s)	7.7	7.7	7.9	8.4
Approach Delay (s)	7.7	7.7	7.9	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.0		
HCM Level of Service	A		
Intersection Capacity Utilization	26.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	25	2	5	10	15	10	85	20	75	60	5
Peak Hour Factor	0.60	0.80	0.60	0.65	0.70	0.75	0.70	0.90	0.80	0.90	0.85	0.65
Hourly flow rate (vph)	3	31	3	8	14	20	14	94	25	83	71	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	38	42	134	162
Volume Left (vph)	3	8	14	83
Volume Right (vph)	3	20	25	8
Hadj (s)	0.00	-0.22	-0.06	0.11
Departure Headway (s)	4.6	4.4	4.2	4.3
Degree Utilization, x	0.05	0.05	0.16	0.19
Capacity (veh/h)	721	755	828	811
Control Delay (s)	7.8	7.6	8.0	8.4
Approach Delay (s)	7.8	7.6	8.0	8.4
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.1		
HCM Level of Service	A		
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	20	5	10	30	65	5	85	10	45	150	10
Peak Hour Factor	0.65	0.80	0.65	0.70	0.85	0.85	0.65	0.90	0.70	0.85	0.95	0.70
Hourly flow rate (vph)	8	25	8	14	35	76	8	94	14	53	158	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	40	126	116	225
Volume Left (vph)	8	14	8	53
Volume Right (vph)	8	76	14	14
Hadj (s)	-0.04	-0.31	-0.03	0.04
Departure Headway (s)	4.8	4.4	4.5	4.5
Degree Utilization, x	0.05	0.16	0.15	0.28
Capacity (veh/h)	681	747	753	767
Control Delay (s)	8.1	8.3	8.3	9.2
Approach Delay (s)	8.1	8.3	8.3	9.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	50	20	15	70	40	25	120	30	85	105	5
Peak Hour Factor	0.60	0.85	0.80	0.75	0.85	0.85	0.80	0.95	0.85	0.90	0.95	0.65
Hourly flow rate (vph)	3	59	25	20	82	47	31	126	35	94	111	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	87	149	193	213
Volume Left (vph)	3	20	31	94
Volume Right (vph)	25	47	35	8
Hadj (s)	-0.13	-0.13	-0.04	0.10
Departure Headway (s)	5.0	4.9	4.7	4.9
Degree Utilization, x	0.12	0.20	0.25	0.29
Capacity (veh/h)	649	671	716	699
Control Delay (s)	8.7	9.1	9.3	9.8
Approach Delay (s)	8.7	9.1	9.3	9.8
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.4		
HCM Level of Service	A		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	110	30	20	100	95	30	135	20	85	200	10
Peak Hour Factor	0.65	0.95	0.85	0.80	0.95	0.90	0.85	0.95	0.80	0.90	0.95	0.70
Hourly flow rate (vph)	8	116	35	25	105	106	35	142	25	94	211	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	159	236	202	319
Volume Left (vph)	8	25	35	94
Volume Right (vph)	35	106	25	14
Hadj (s)	-0.09	-0.21	-0.01	0.07
Departure Headway (s)	5.7	5.4	5.6	5.4
Degree Utilization, x	0.25	0.36	0.31	0.48
Capacity (veh/h)	559	599	584	620
Control Delay (s)	10.6	11.4	11.1	13.4
Approach Delay (s)	10.6	11.4	11.1	13.4
Approach LOS	B	B	B	B

Intersection Summary			
Delay	11.9		
HCM Level of Service	B		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	12	7	38	102	68	50
Peak Hour Factor	0.70	0.65	0.85	0.95	0.85	0.85
Hourly flow rate (vph)	17	11	45	107	80	59

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	28	45	107	139
Volume Left (vph)	17	0	0	80
Volume Right (vph)	11	0	107	0
Hadj (s)	-0.07	0.03	-0.67	0.15
Departure Headway (s)	4.4	4.7	4.0	4.4
Degree Utilization, x	0.03	0.06	0.12	0.17
Capacity (veh/h)	751	750	881	816
Control Delay (s)	7.6	6.8	6.3	8.2
Approach Delay (s)	7.6	6.5		8.2
Approach LOS	A	A		A

Intersection Summary			
Delay	7.3		
HCM Level of Service	A		
Intersection Capacity Utilization	23.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	92	57	67	70	39	73
Peak Hour Factor	0.90	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	102	67	79	82	46	86

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	169	79	82	132
Volume Left (vph)	102	0	0	46
Volume Right (vph)	67	0	82	0
Hadj (s)	-0.08	0.03	-0.67	0.10
Departure Headway (s)	4.5	5.1	4.4	4.7
Degree Utilization, x	0.21	0.11	0.10	0.17
Capacity (veh/h)	753	681	787	728
Control Delay (s)	8.7	7.5	6.6	8.7
Approach Delay (s)	8.7	7.1		8.7
Approach LOS	A	A		A

Intersection Summary			
Delay	8.1		
HCM Level of Service	A		
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	20	15	50	105	75	65
Peak Hour Factor	0.80	0.75	0.85	0.95	0.85	0.85
Hourly flow rate (vph)	25	20	59	111	88	76

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	45	59	111	165
Volume Left (vph)	25	0	0	88
Volume Right (vph)	20	0	111	0
Hadj (s)	-0.12	0.03	-0.67	0.14
Departure Headway (s)	4.5	4.8	4.1	4.4
Degree Utilization, x	0.06	0.08	0.12	0.20
Capacity (veh/h)	739	738	864	803
Control Delay (s)	7.8	7.0	6.4	8.5
Approach Delay (s)	7.8	6.6		8.5
Approach LOS	A	A		A

Intersection Summary			
Delay	7.6		
HCM Level of Service	A		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	105	70	80	75	45	90
Peak Hour Factor	0.95	0.85	0.90	0.85	0.85	0.90
Hourly flow rate (vph)	111	82	89	88	53	100

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	193	89	88	153
Volume Left (vph)	111	0	0	53
Volume Right (vph)	82	0	88	0
Hadj (s)	-0.11	0.03	-0.67	0.10
Departure Headway (s)	4.6	5.2	4.5	4.8
Degree Utilization, x	0.24	0.13	0.11	0.20
Capacity (veh/h)	740	667	768	713
Control Delay (s)	9.0	7.7	6.8	9.0
Approach Delay (s)	9.0	7.3		9.0
Approach LOS	A	A		A

Intersection Summary			
Delay	8.4		
HCM Level of Service	A		
Intersection Capacity Utilization	30.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	30	50	90	105	95	105
Peak Hour Factor	0.85	0.85	0.90	0.95	0.90	0.95
Hourly flow rate (vph)	35	59	100	111	106	111

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	94	100	111	216
Volume Left (vph)	35	0	0	106
Volume Right (vph)	59	0	111	0
Hadj (s)	-0.27	0.03	-0.67	0.13
Departure Headway (s)	4.6	4.9	4.2	4.6
Degree Utilization, x	0.12	0.14	0.13	0.27
Capacity (veh/h)	721	707	821	760
Control Delay (s)	8.2	7.5	6.7	9.3
Approach Delay (s)	8.2	7.1		9.3
Approach LOS	A	A		A

Intersection Summary			
Delay	8.2		
HCM Level of Service	A		
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	115	115	130	85	105	155
Peak Hour Factor	0.95	0.95	0.95	0.90	0.95	0.95
Hourly flow rate (vph)	121	121	137	94	111	163

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	242	137	94	274
Volume Left (vph)	121	0	0	111
Volume Right (vph)	121	0	94	0
Hadj (s)	-0.17	0.03	-0.67	0.11
Departure Headway (s)	4.9	5.5	4.8	5.1
Degree Utilization, x	0.33	0.21	0.13	0.38
Capacity (veh/h)	677	624	711	678
Control Delay (s)	10.4	8.7	7.3	11.2
Approach Delay (s)	10.4	8.1		11.2
Approach LOS	B	A		B

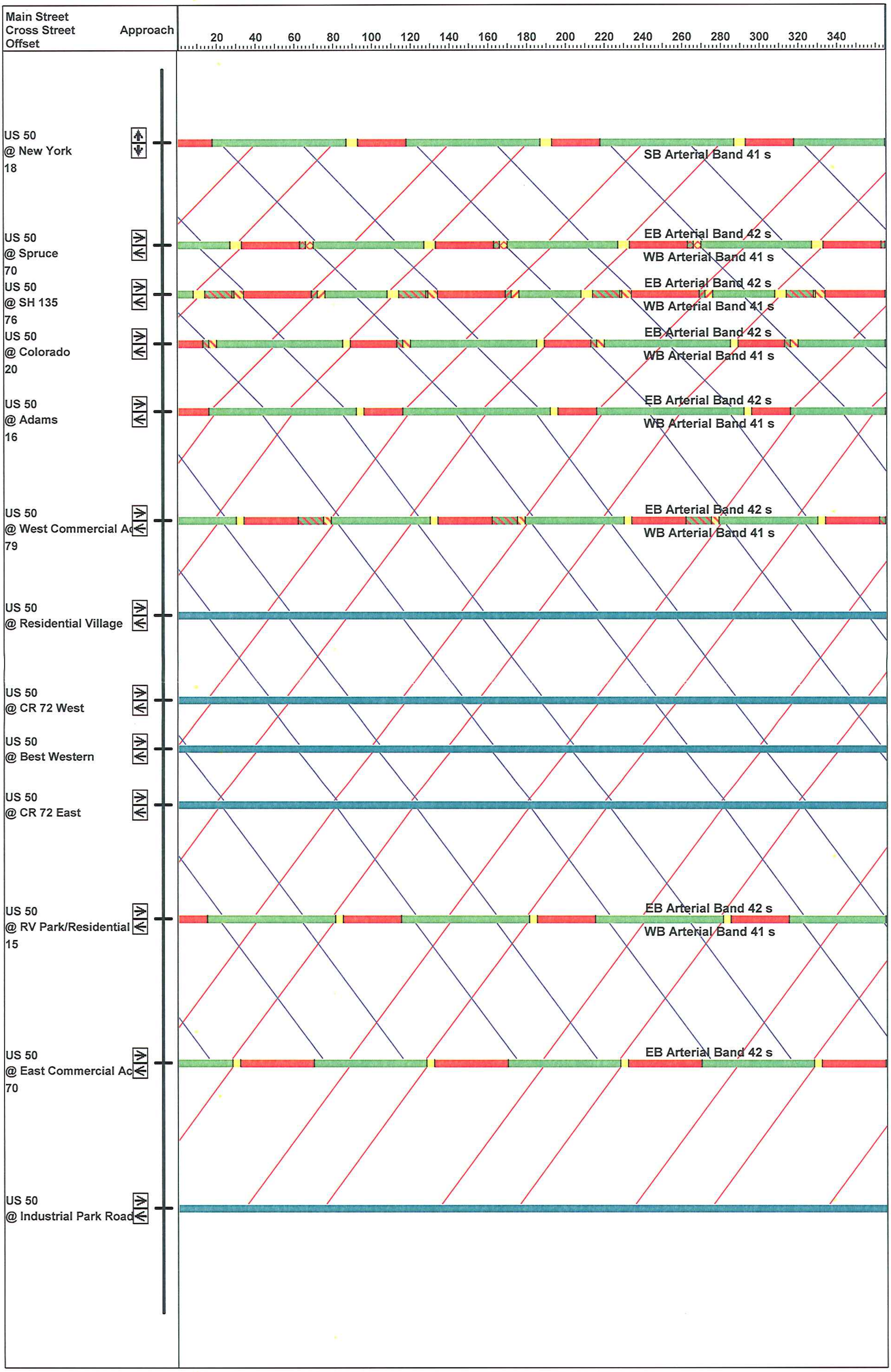
Intersection Summary			
Delay	10.0		
HCM Level of Service	A		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix C: Time/Space Diagrams

TRANSPORTATION
CONSULTANTS, INC.

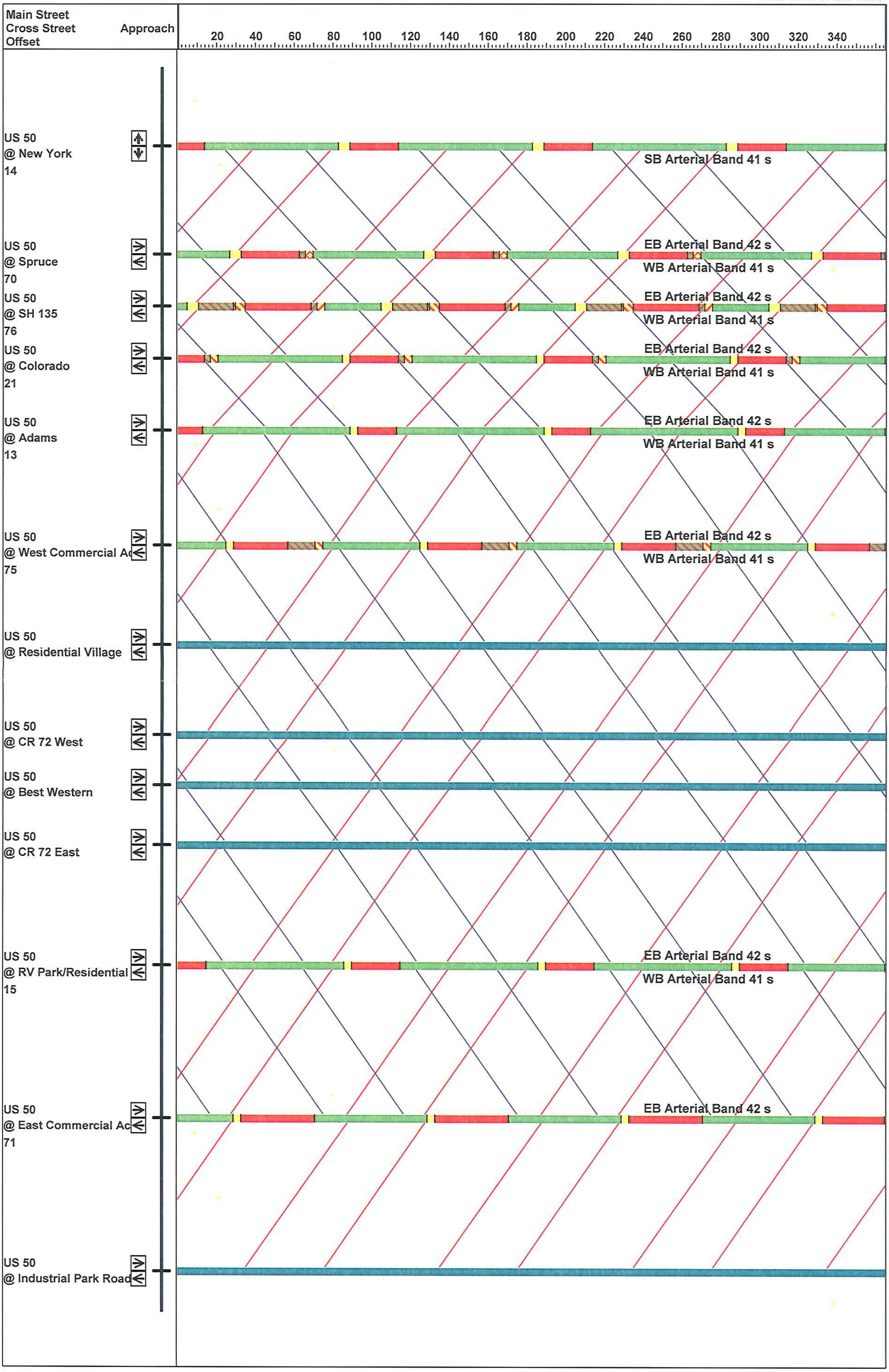
Time-Space Diagram - US 50

2027 Total AM Peak - 45mph east of Residential Village
New York to the east



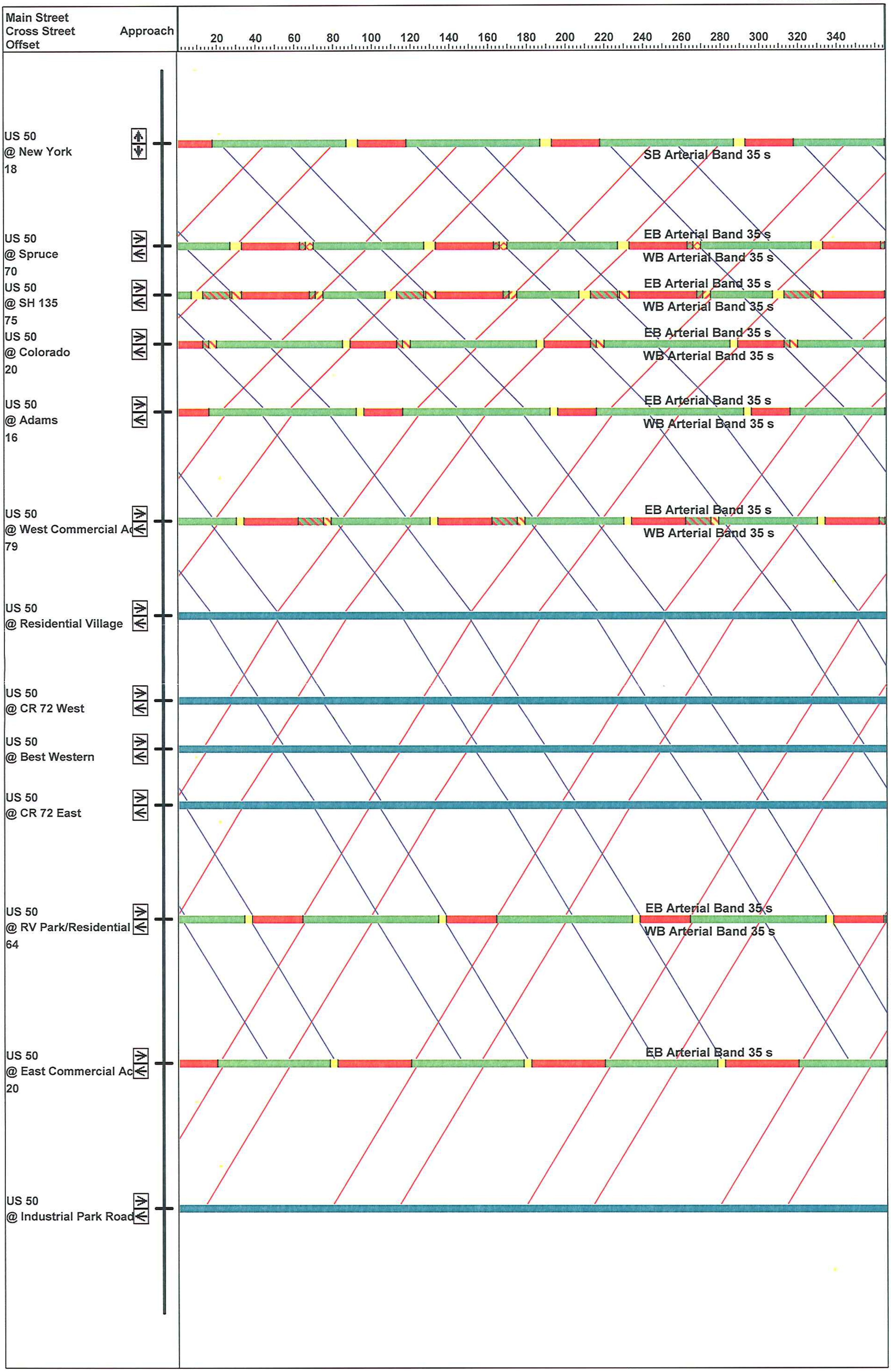
Time-Space Diagram - US 50

2027 Total PM Peak - 45mph east of Residential Village
New York to the east



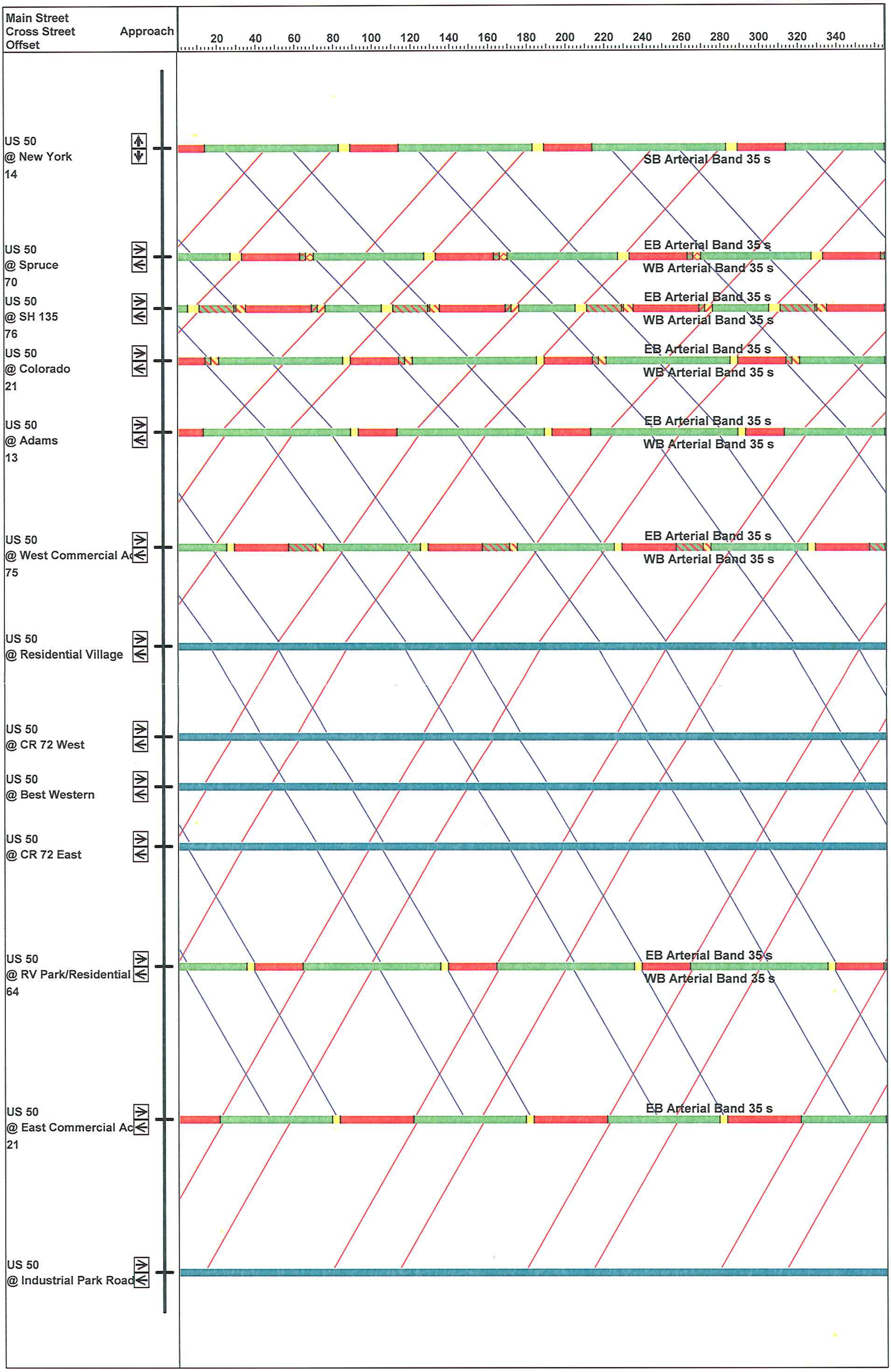
Time-Space Diagram - US 50

2027 Total AM Peak - 55mph east of Residential Village
New York to the east



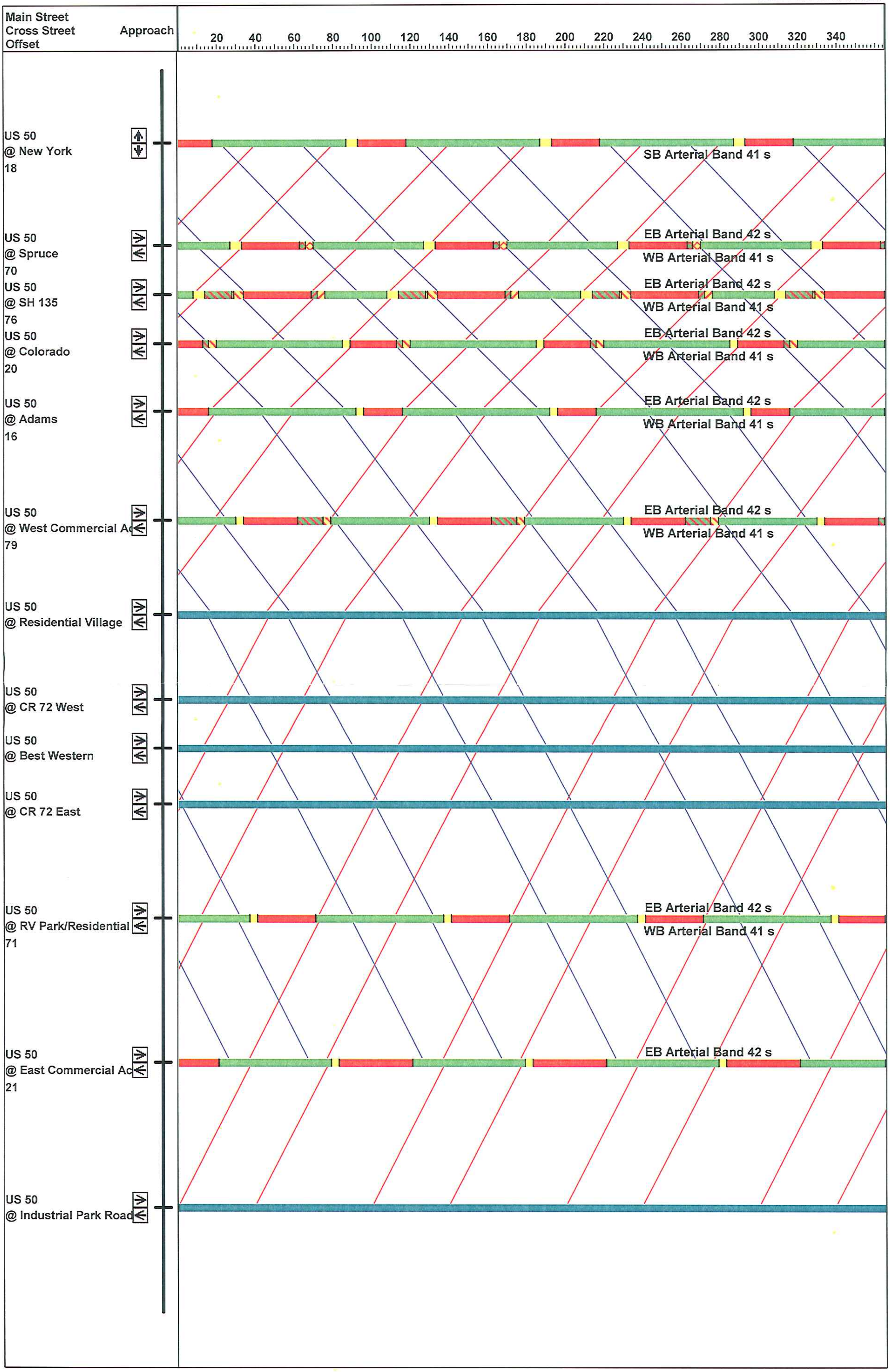
Time-Space Diagram - US 50

2027 Total PM Peak - 55mph east of Residential Village
New York to the east



Time-Space Diagram - US 50

2027 Total AM Peak - 65mph east of Residential Village
New York to the east



Time-Space Diagram - US 50

2027 Total PM Peak - 65mph east of Residential Village
New York to the east