REVERE NORTH
TRANSPORTATION IMPACT STUDY

JOHNSTOWN, COLORADO

APRIL 2022

Prepared for:

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Project #2169

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I. INTRODUCTION

This Transportation Impact Study (TIS) addresses the capacity, geometric, and control requirements for the proposed Revere North. The proposed Revere North is located north of Veteran's Parkway (WCR50) and east of the future High Plains Boulevard in Johnstown, Colorado.

During the course of the analysis, numerous contacts were made with developer (Forestar), the project planning consultant (Terracina Design), project civil engineer (Innovative Land Consultants), and Town of Johnstown (Traffic Engineering Consultant). This study generally conforms to the format set forth in the Johnstown TIS Guidelines. A scoping discussion was held with the Charles Buck, Johnstown Traffic Engineering consultant. The study involved the following steps:

- Collect physical, traffic, and development data;
- Perform trip generation, trip distribution, and trip assignment;
- Determine peak hour traffic volumes;
- Conduct capacity and operational level of service analyses on key intersections;
- Analyze signal warrants;

The following intersections, as agreed to in the scoping discussions, were addressed in this traffic study: SH60/High Plains, High Plains/Veteran's Parkway (future), and the Site Access intersections. Appendix A contains base assumptions for the Revere North traffic analysis.

II. EXISTING CONDITIONS

The location of Revere North is shown in Figure 1. It is important that a thorough understanding of the existing conditions be presented.

Land Use

The project site is currently in agricultural use. The land surrounding the site consists primarily of agricultural uses. Interstate 25 is west of Revere North. The center of Johnstown lies to the east of the Revere North site.

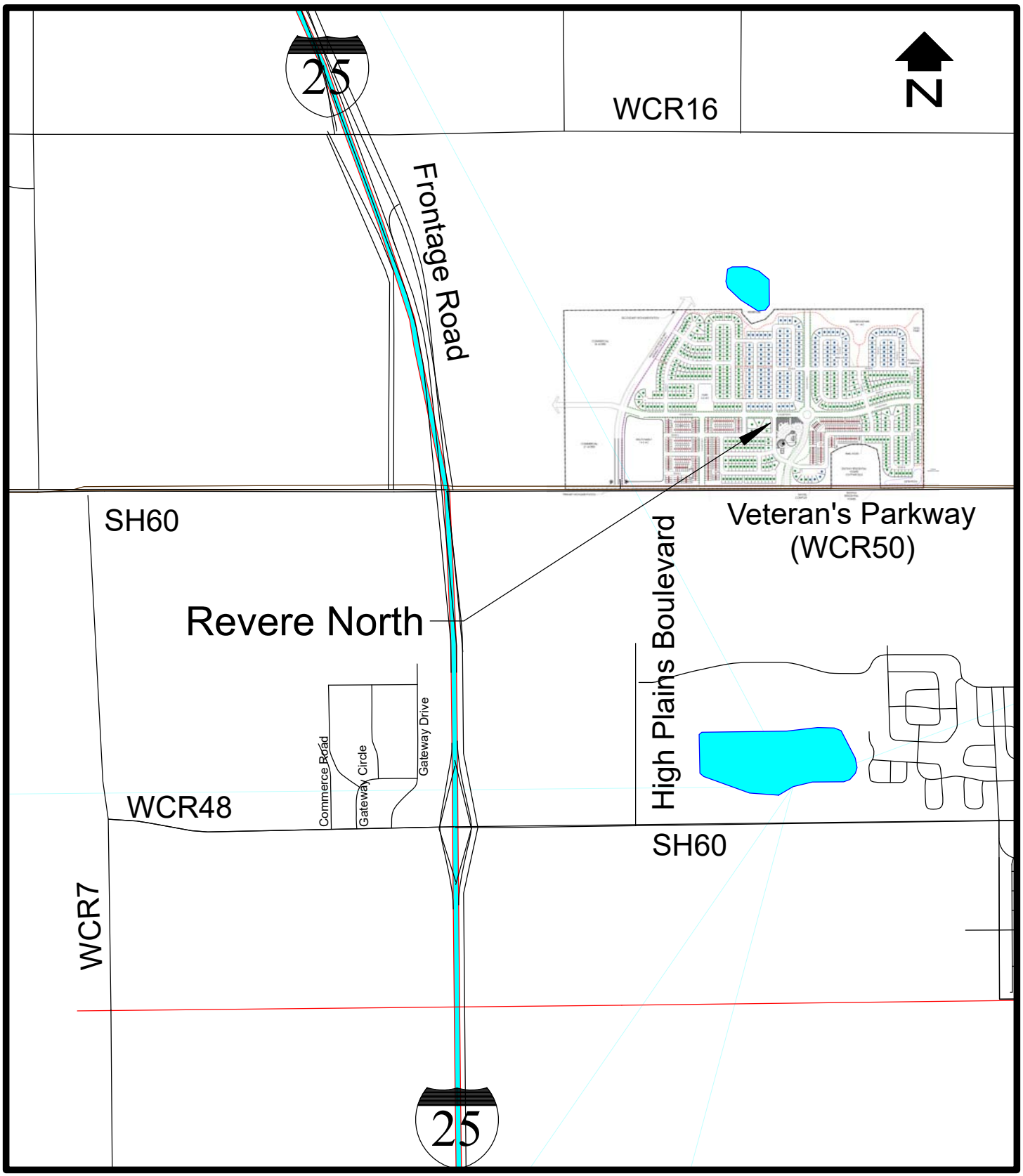
Streets

The primary streets near the site are State Highway 60, Veteran's Parkway (WCR50), and High Plains Boulevard. The existing geometry at the key intersections is shown in Figure 2.

State Highway 60 (SH60) is Classified as a Non-Rural Principal Highway (NR-A), east of I-25, and as a Rural Highway (R-B), west of I-25. State Highway 60 is WCR48, east of I-25, and is WCR50 (~one mile to the north), west of I-25. The two segments of SH60, one mile apart, are connected by the Frontage Road, which is also known as SH60. It has a two-lane cross section with a posted speed of 55 mph. To the east, SH60 goes through the center of Johnstown. At the SH60/High Plains intersection, SH60 has an eastbound left-turn lane, a through lane in each direction, and a westbound right-turn lane. The SH60/High Plains intersection has stop sign control on High Plains Boulevard.

High Plains Boulevard is classified as a major arterial street based on the Johnstown Transportation Plan. Currently, High Plains Boulevard has a four-lane cross section between SH60 and Rocksbury Lane, with a two lane cross section between Rocksbury Lane and Brunner Boulevard. High Plains Boulevard is built from SH60 to Brunner Boulevard (~ 0.5 miles). The posted speed on High Plains Boulevard is 35 mph. High Plains Boulevard only has a north leg at the SH60/High Plains intersection. At the SH60/High Plains intersection, High Plains Boulevard has southbound left-turn lane and southbound right-turn lane.

Veteran's Parkway (Weld County Road 50) is classified as a major arterial street based on the Johnstown Transportation Plan. It has a two-lane cross section. There is no posted speed on Veteran's Parkway, east of the frontage road.

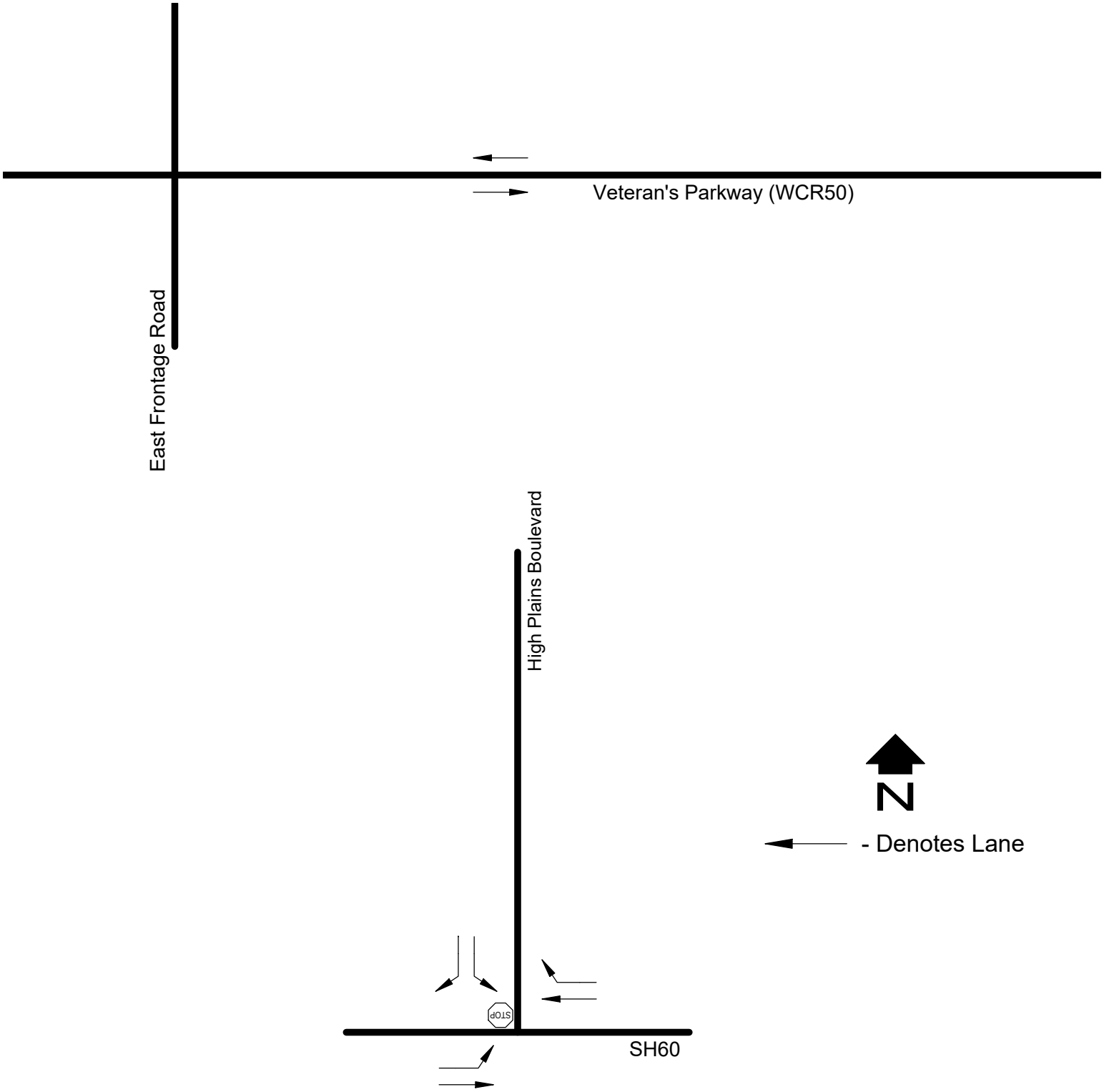


SCALE: 1"=2000'

SITE LOCATION

Figure 1

DELICH ASSOCIATES



EXISTING INTERSECTION GEOMETRY Figure 2

Existing Traffic

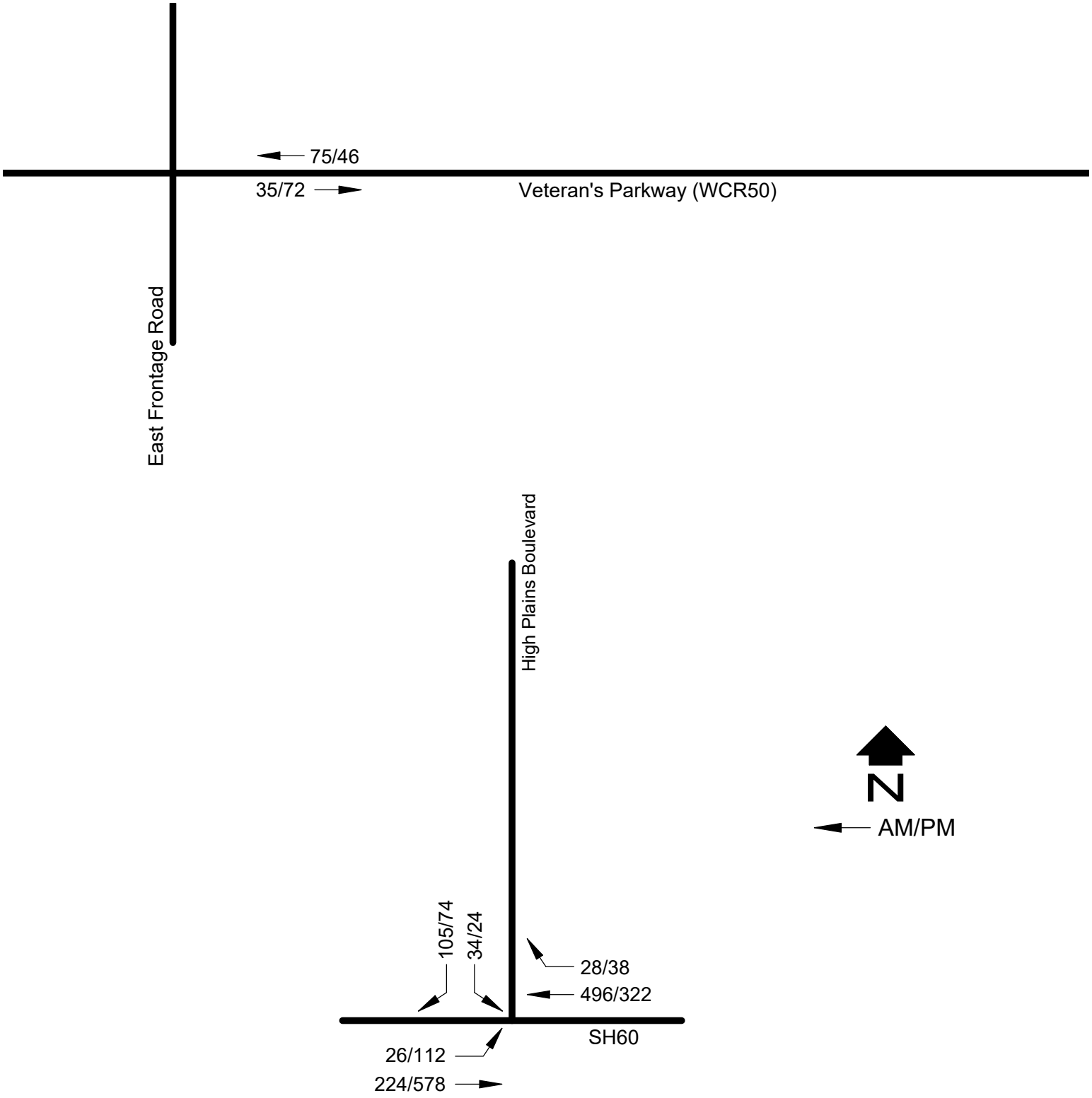
Figure 3 shows the recent peak hour traffic counts at the SH60/High Plains intersection and along Veteran's Parkway. Raw peak hour traffic count data is provided in Appendix B. Traffic counts at the SH60/High Plains intersection were obtained in May 2021. The traffic volumes along Veteran's Parkway were obtained in December 2018 and increased at 2% per year to get recent volumes. Based on historic data in the area, volumes are approximately 4% lower than two year ago, due to Covid-19. Therefore, the volumes were increase by 4% to compensate for the impact of Covid-19. Figure 4 shows the adjusted recent peak hour traffic estimates.

Existing Operation

The SH60/High Plains intersection was evaluated using techniques provided in the 2016 Highway Capacity Manual, 6th Edition. Using the morning and afternoon peak hour traffic shown in Figure 4, the peak hour operation is shown in Table 1. Calculation forms are provided in Appendix C. The SH60/High Plains intersection meets the Town of Johnstown LOS standard with existing control and geometry in the morning and afternoon peak hours. Acceptable operation is defined as level of service D or better, overall, during the peak hours per the Johnstown Transportation Plan. A description of level of service for signalized and unsignalized intersections from the Highway Capacity Manual, 6th Edition is also provided in Appendix C.

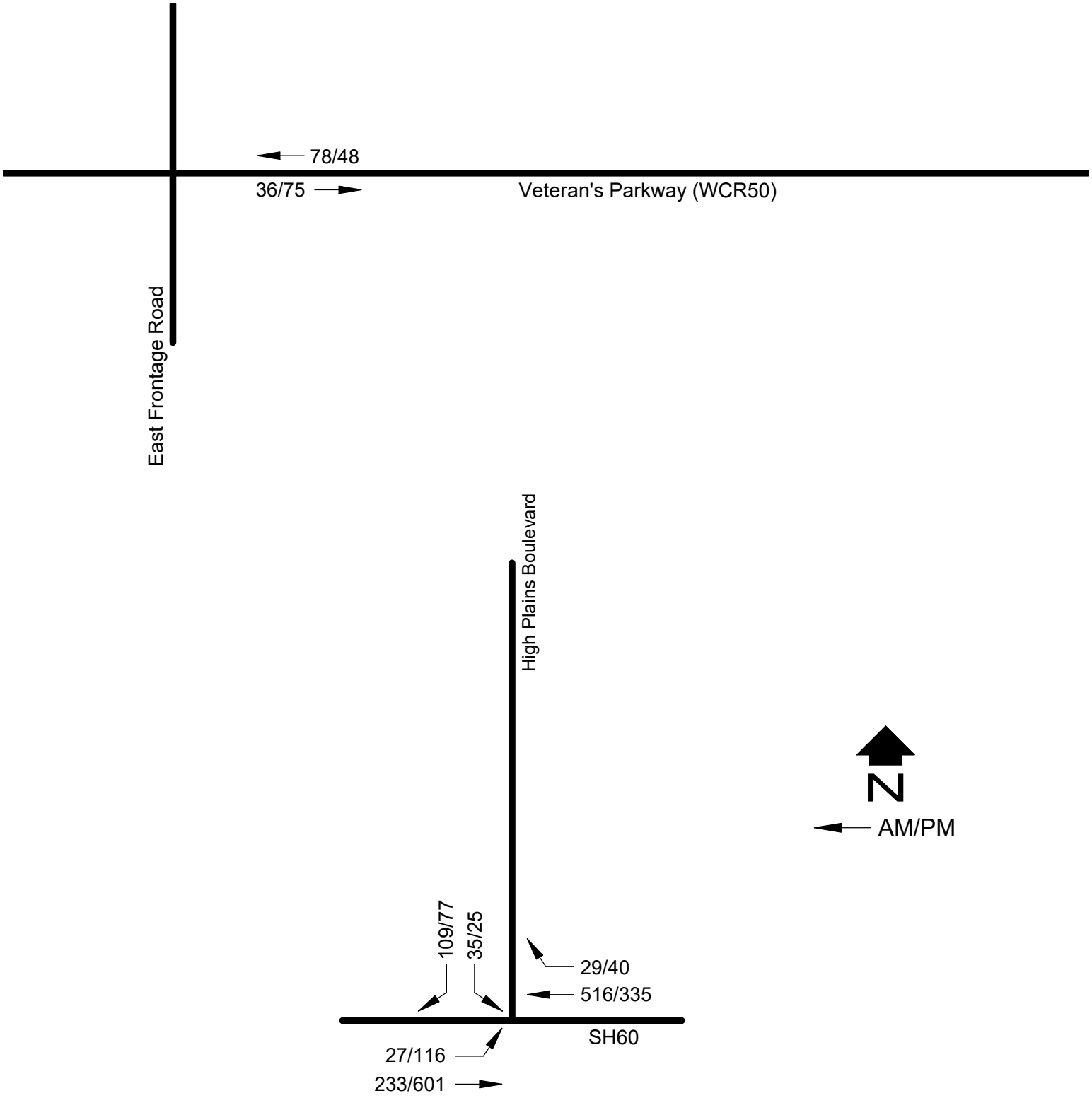
TABLE 1
Current Peak Hour Operation

Intersection	Movement	Level of Service	
		AM	PM
SH60/High Plains (stop sign)	EB LT	A	A
	SB LT	C	C
	SB RT	B	B
	SB APPROACH	B	B
	OVERALL	A	A



RECENT PEAK HOUR TRAFFIC

Figure 3



ADJUSTED RECENT
PEAK HOUR TRAFFIC

Figure 4

III. PROPOSED DEVELOPMENT

Revere North is a proposed 1,169 dwelling unit residential development. Figure 5 shows a site plan of the Revere North. The Revere North is expected to be built in the next 10 years. The short range analysis (Year 2026) includes development of the Revere North Phase 1 and an appropriate increase in background traffic, due to normal growth. There will be a full movement access to/from Veteran's Parkway with Phase 1. The mid range analysis (Year 2030) includes development of the Revere North Phase 1 and 2 and an appropriate increase in background traffic, due to normal growth. There will be two full movement accesses to/from Veteran's Parkway with Phase 2. The long range (Year 2040) included full development of the Revere North development. There will be two full movement accesses to/from Veteran's Parkway and two full movement accesses to/from High Plains Boulevard in the long range future. The site plan also shows a potential future connection to the property to the north and east of the site.

Trip Generation

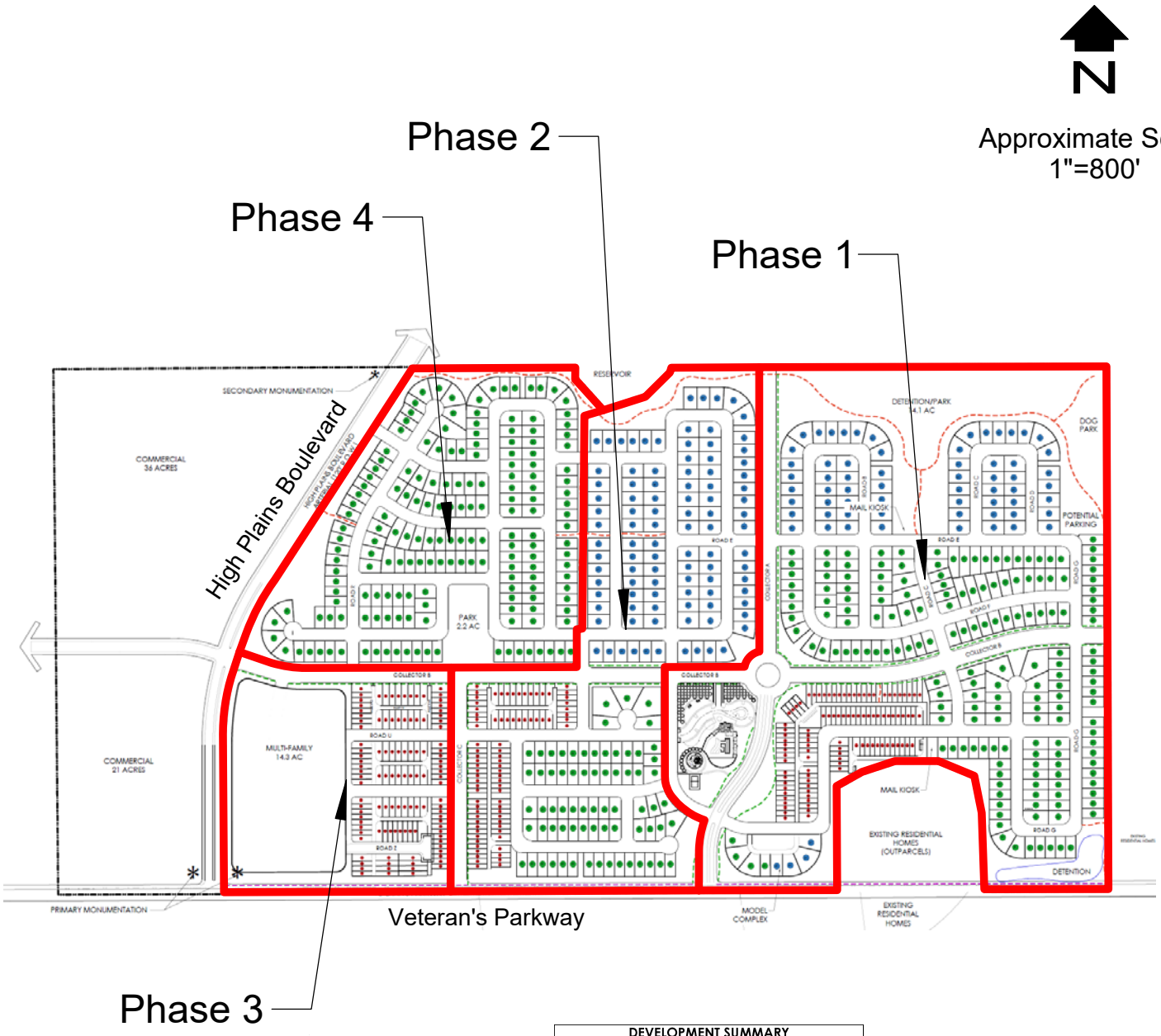
Trip generation is important in considering the impact of a development such as this upon the existing and proposed street system. Trip Generation, 11th Edition, ITE was used to estimate the trips that would be generated by the proposed/expected uses at the Revere North site. A trip is defined as a one-way vehicle movement from origin to destination. Table 2 shows the expected trip generation on a daily and peak hour basis for full development of Revere North. Phase 1, short range (2026) trip generation of the Revere North resulted in 2,850 daily trip ends, 203 morning peak hour trip ends, and 274 afternoon peak hour trip ends. Phase 1 and 2, mid range (2030) trip generation of the Revere North resulted in 4,948 daily trip ends, 352 morning peak hour trip ends, and 473 afternoon peak hour trip ends. The total, long range (2040) trip generation of the Revere North resulted in 9,256 daily trip ends, 643 morning peak hour trip ends, and 842 afternoon peak hour trip ends.

Trip Distribution

Trip distribution of the assigned trips for the Revere North site was based on existing/future travel patterns, land uses in the area, consideration of trip attractions/productions in the area, and engineering judgment. Figure 6 shows the short range (2026) and mid range (2030) trip distribution used for the Revere North site. Figure 7 shows the long range (2040) trip distribution. The trip distribution analysis was agreed to in the scoping discussions and is contained in Appendix A.

Background Traffic Projections

Figures 8 and 9 show the short range (2026) and mid range (2030) background peak hour traffic forecasts, respective. Background traffic projections for the future horizons were obtained by reviewing the CDOT 20-year growth factor on SH60 (1.56),



DEVELOPMENT SUMMARY		
LAND USE	**UNITS**	**% UNITS**
FILING 1		
SINGLE FAMILY DETACHED (51' x 110')	176	15.1%
SINGLE FAMILY DETACHED (61' x 110')	66	5.6%
DUPLEX (25' x 95')	98	8.4%
SUBTOTAL	340	29.1%
FUTURE FILINGS		
SINGLE FAMILY DETACHED (51' x 110')	247	21.1%
SINGLE FAMILY DETACHED (61' x 110')	100	8.6%
DUPLEX (25' x 100')	196	16.8%
MULTI-FAMILY (20 DU/AC)	286	24.5%
TOTAL	**1,169**	**100.0%**

LEGEND

- 10' ARTERIAL WALKS
- COLLECTOR WALKS
- NEIGHBORHOOD TRAIL

terracina design
10200 E. Girard Ave, Ste A-314
Denver, CO 80231
ph: 303.632.8867

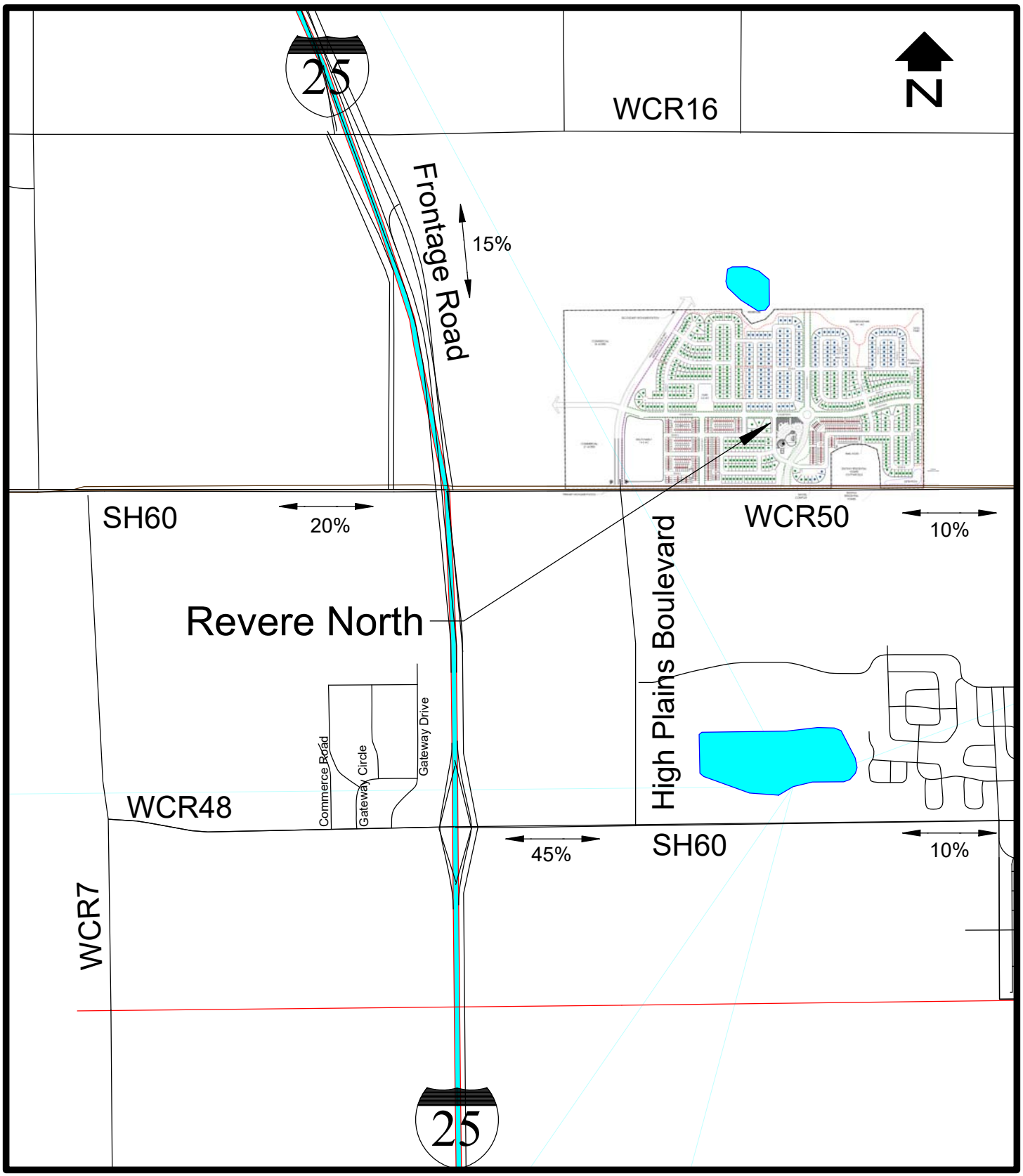
JANUARY 19, 2022

SITE PLAN

Figure 5

TABLE 2
Trip Generation

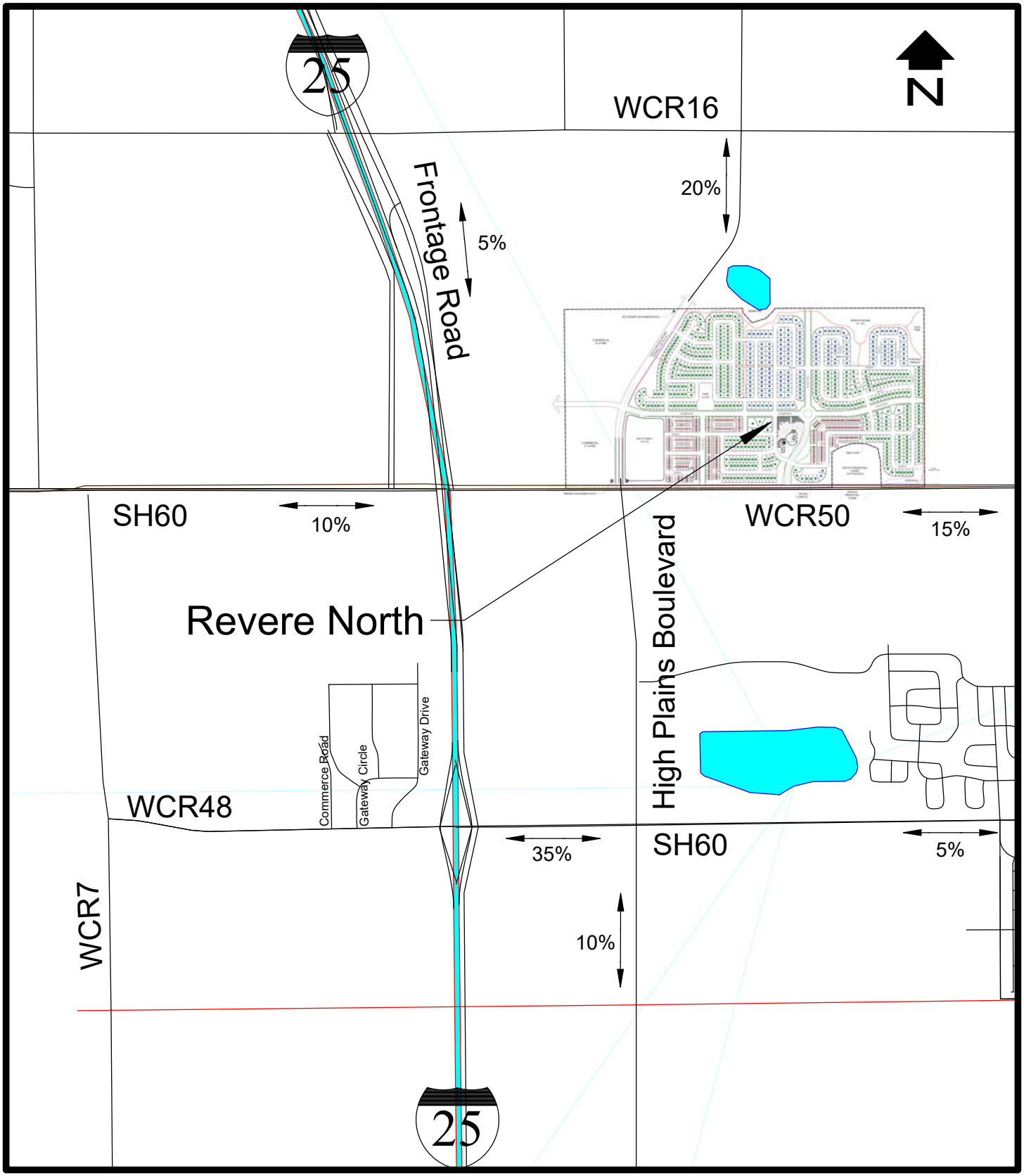
Code	Use	Size	AWDTE		AM Peak Hour				PM Peak Hour			
			Rate	Trips	Rate	In	Rate	Out	Rate	In	Rate	Out
Phase 1												
210	Single-Family Detached	242 D.U.	EQ.	2120	EQ.	40	EQ.	114	EQ.	136	EQ.	80
215	Single-Family Attached	98 D.U.	EQ.	730	EQ.	15	EQ.	34	EQ.	33	EQ.	25
Phase 1		340 D.U.		2850		55		148		169		105
Phase 2												
210	Single-Family Detached	170 D.U.	EQ.	1488	EQ.	28	EQ.	80	EQ.	96	EQ.	56
215	Single-Family Attached	82 D.U.	EQ.	610	EQ.	13	EQ.	28	EQ.	27	EQ.	20
Phase 2		179 D.U.		2098		41		108		123		76
Phase 3												
215	Single-Family Attached	114 D.U.	EQ.	850	EQ.	17	EQ.	40	EQ.	38	EQ.	29
220	Multi-Family Housing	286 D.U.	EQ.	1908	EQ.	27	EQ.	85	EQ.	90	EQ.	54
Phase 3		177 D.U.		2758		44		125		128		83
Phase 4												
210	Single-Family	177 D.U.	EQ.	1550	EQ.	29	EQ.	83	EQ.	99	EQ.	59
Phase 4		400 D.U.		1550		29		83		99		59
Total		1,169 DU		9,256		169		474		519		323



SCALE: 1"=2000'

SHORT RANGE (2026)/MID RANGE (2030) TRIP DISTRIBUTION

Figure 6

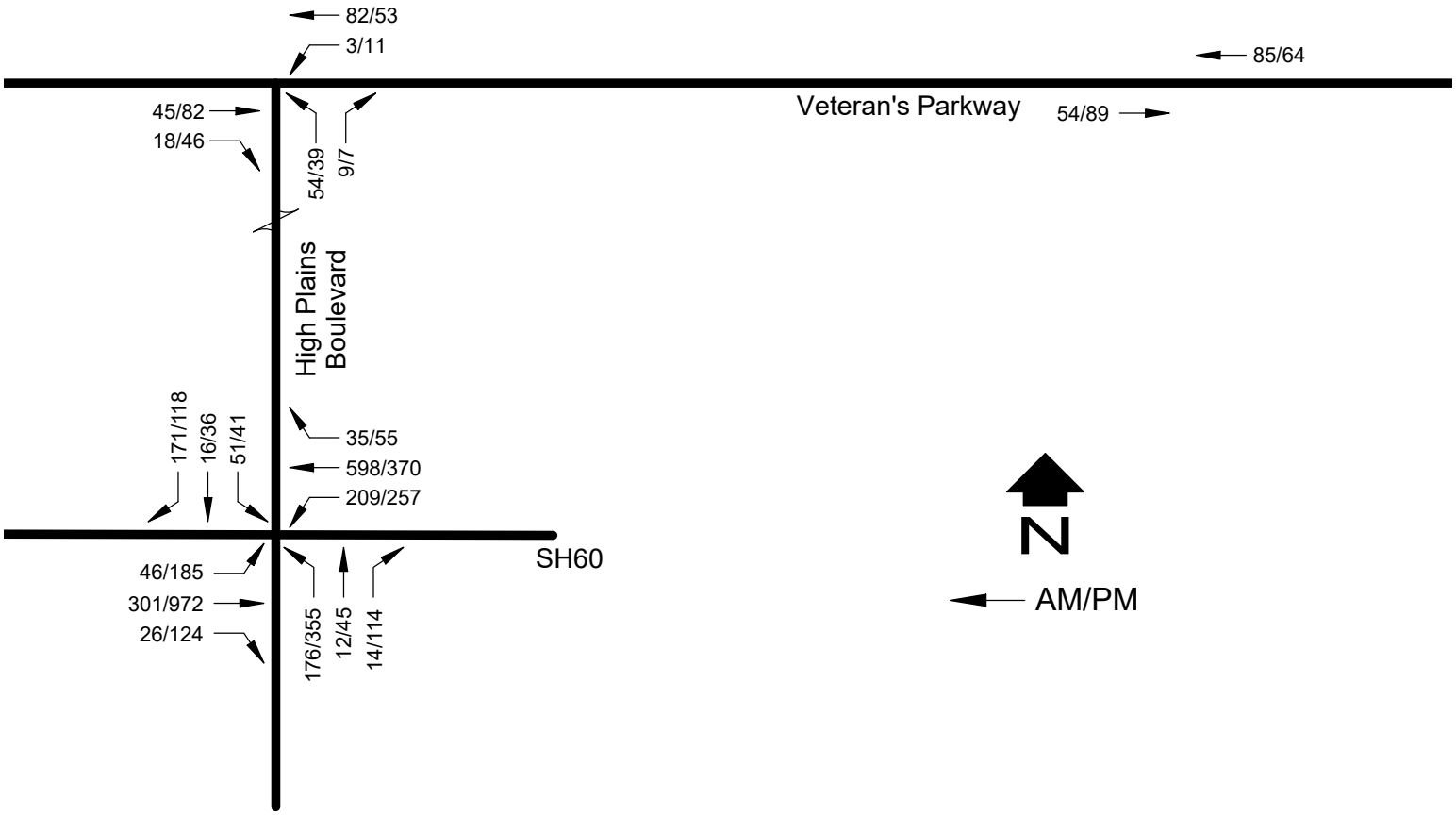


SCALE: 1"=2000'

LONG RANGE (2040) TRIP DISTRIBUTION

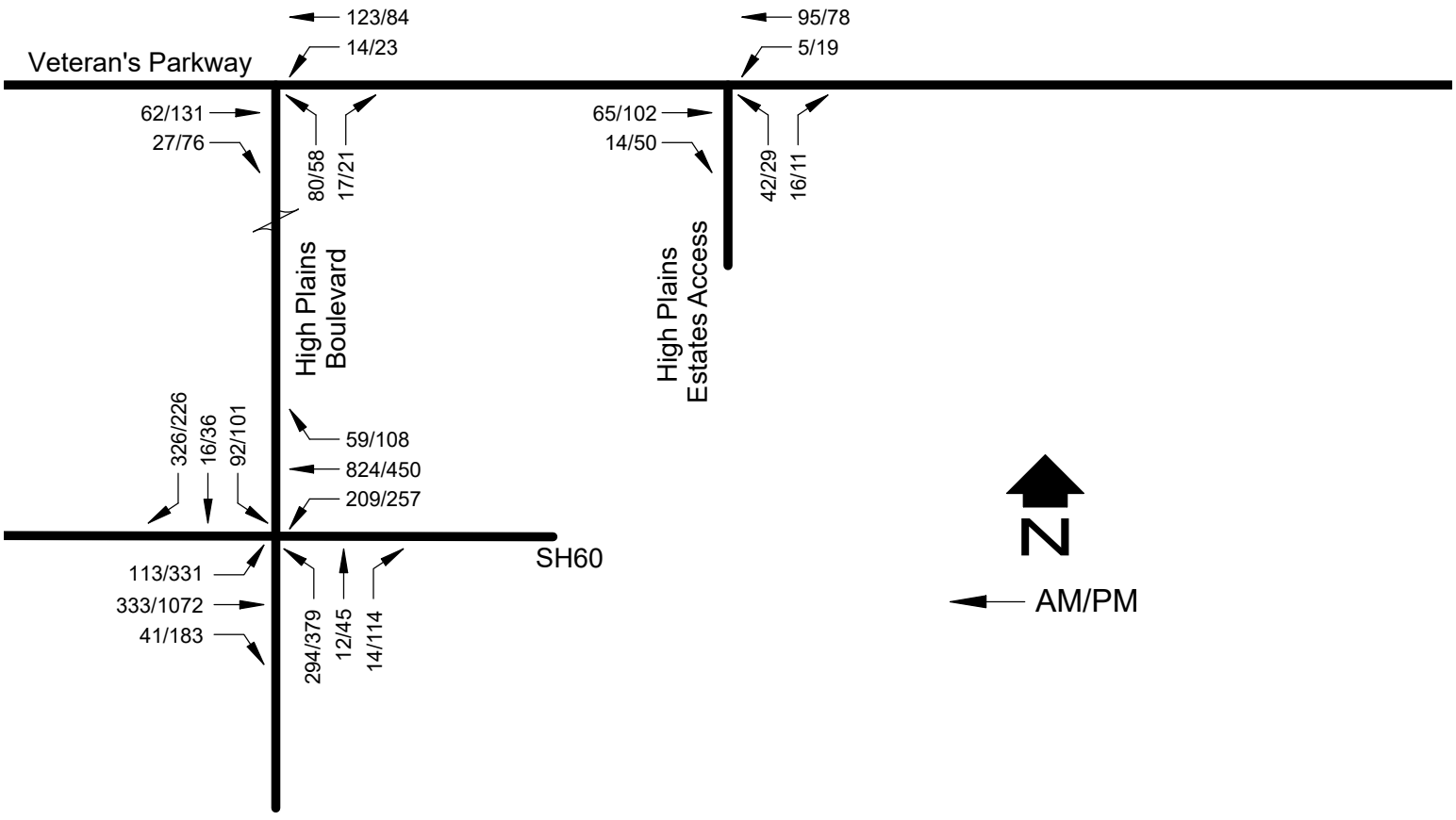
Figure 7

DELICH ASSOCIATES



SHORT RANGE (2026) BACKGROUND PEAK HOUR TRAFFIC

Figure 8



MID RANGE (2030) BACKGROUND PEAK HOUR TRAFFIC

Figure 9

factor on SH60 (1.56), North Front Range Regional Transportation Plan, Town of Johnstown Transportation Master Plan, and various traffic studies prepared for this area of Johnstown/Weld County. The current peak hour traffic was factored by 2.0 percent per year. A portion of the Revere at Johnstown and a portion of the Ledge Rock Center future traffic was added into the short range (2026) background traffic. The Revere at Johnstown, a portion of Vista Commons, a portion of Ledge Rock Center, and a portion of High Plains Estates future traffic was added into the mid range (2030) background traffic.

Figure 10 show the long range (2040) background peak hour traffic forecasts. The long range (2040) background traffic was derived from the volumes contained in the North I-25 Parallel Arterial Study with adjustments based on the known developments in the area and the Johnstown Transportation Plan.

Trip Assignment and Total Traffic

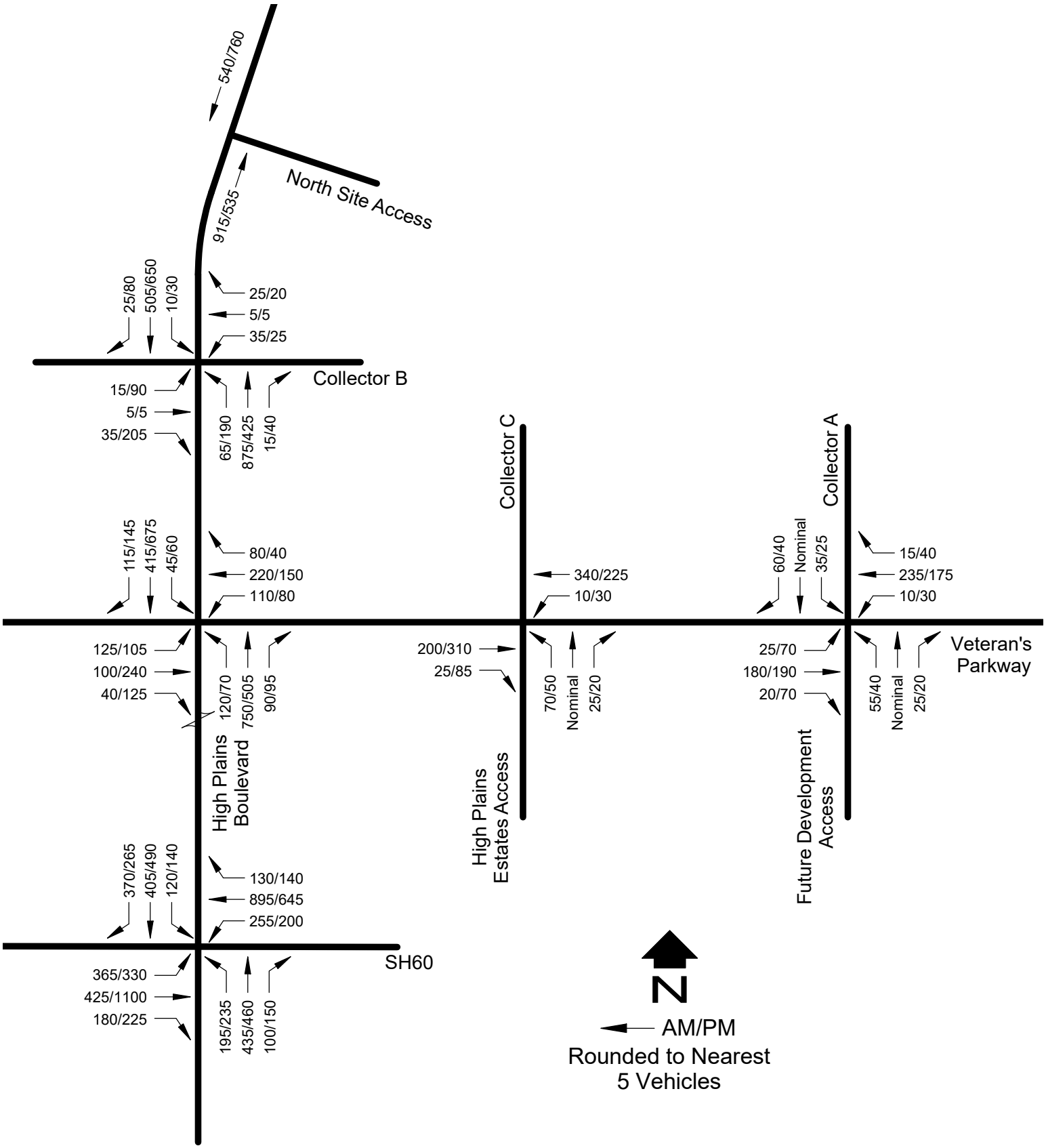
Trip assignment is how the generated and distributed trips are expected to be loaded on the street system. The assigned trips are the resultant of the trip distribution process. Figures 11, 12, and 13 show the site generated peak hour traffic assignment in the short range (2026), mid range (2030), and long range (2040) futures, respectively. Figures 14, 15, and 16 show the short range (2026), mid range (2030), and long range (2040) total peak hour traffic projections, respectively.

Signal Warrants

As a matter of policy, traffic signals are not installed at any location until such time that signal installation warrants are met according to the Manual on Uniform Traffic Control Devices. For the roads in the vicinity of the Revere North development, four hour and/or eight hour signal warrants are applicable. These warrants require much data and are applied when the traffic is actually on the area road system. It is acknowledged that peak hour signal warrants should not be applied, but since the peak hour forecasts are readily available in a traffic impact study, it is reasonable to use them to estimate whether other signal warrants would be met. If peak hour signal warrants will not be met at a given intersection, it is reasonable to conclude that it is not likely that other signal warrants would be met. If peak hour signal warrants are met, it merely indicates that further evaluation should occur in the future as the development occurs. However, a judgment can be made that some intersections will likely meet other signal warrants.

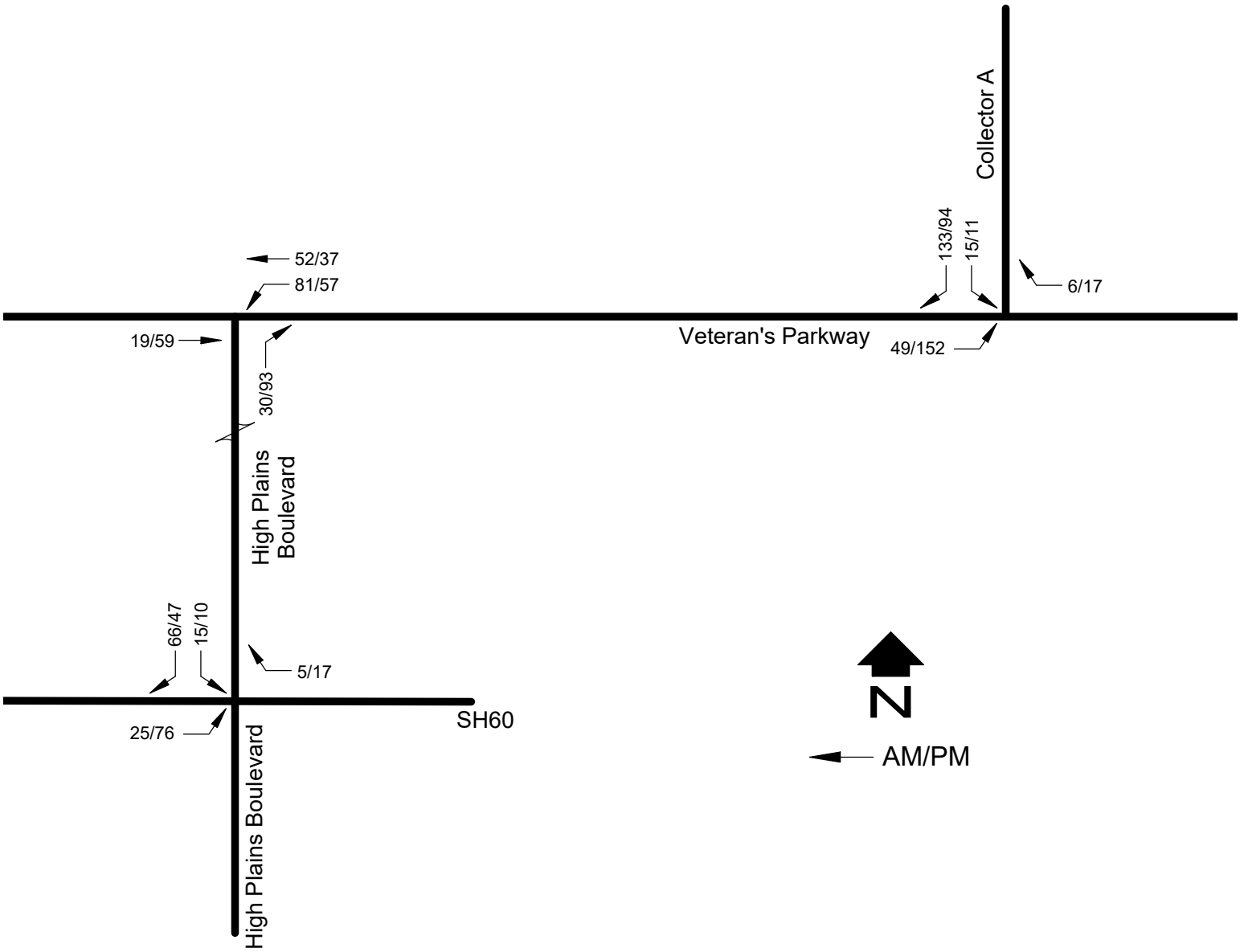
Using the short range (2026) background peak hour traffic (Figure 8), the SH60/High Plains intersection will meet the peak hour signal warrants. The High Plains/Veteran's Parkway and Veteran's Parkway/Collector A intersections will not meet the minor street lower threshold peak hour volumes with Revere North Phase 1.

Using the mid range (2030) total peak hour traffic (Figure 15), the High Plains/Veteran's Parkway intersection will not meet the peak hour signal warrants. The Veteran's Parkway/Collector A intersections will not meet the minor street lower threshold peak hour volumes.



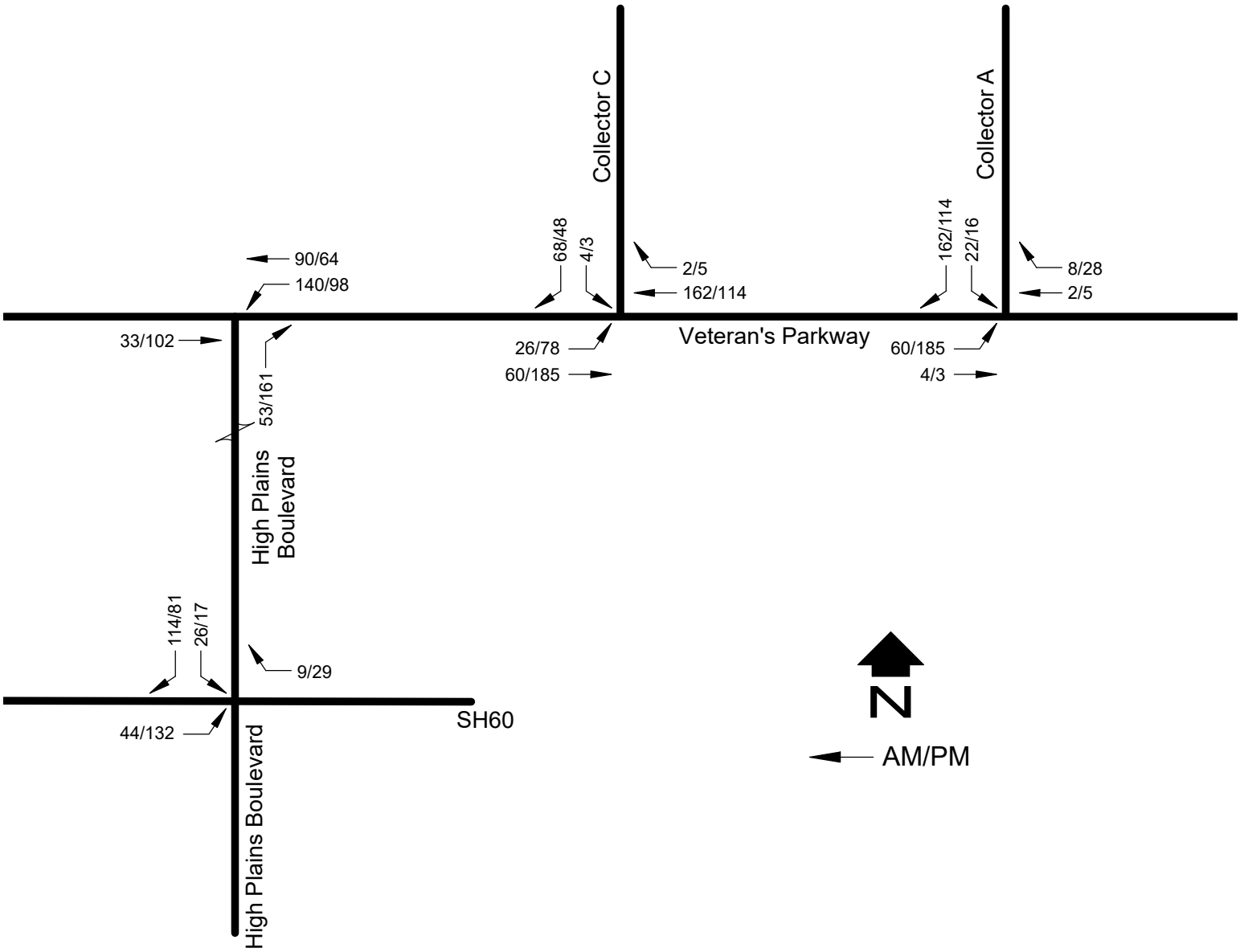
LONG RANGE (2040) BACKGROUND PEAK HOUR TRAFFIC

Figure 10



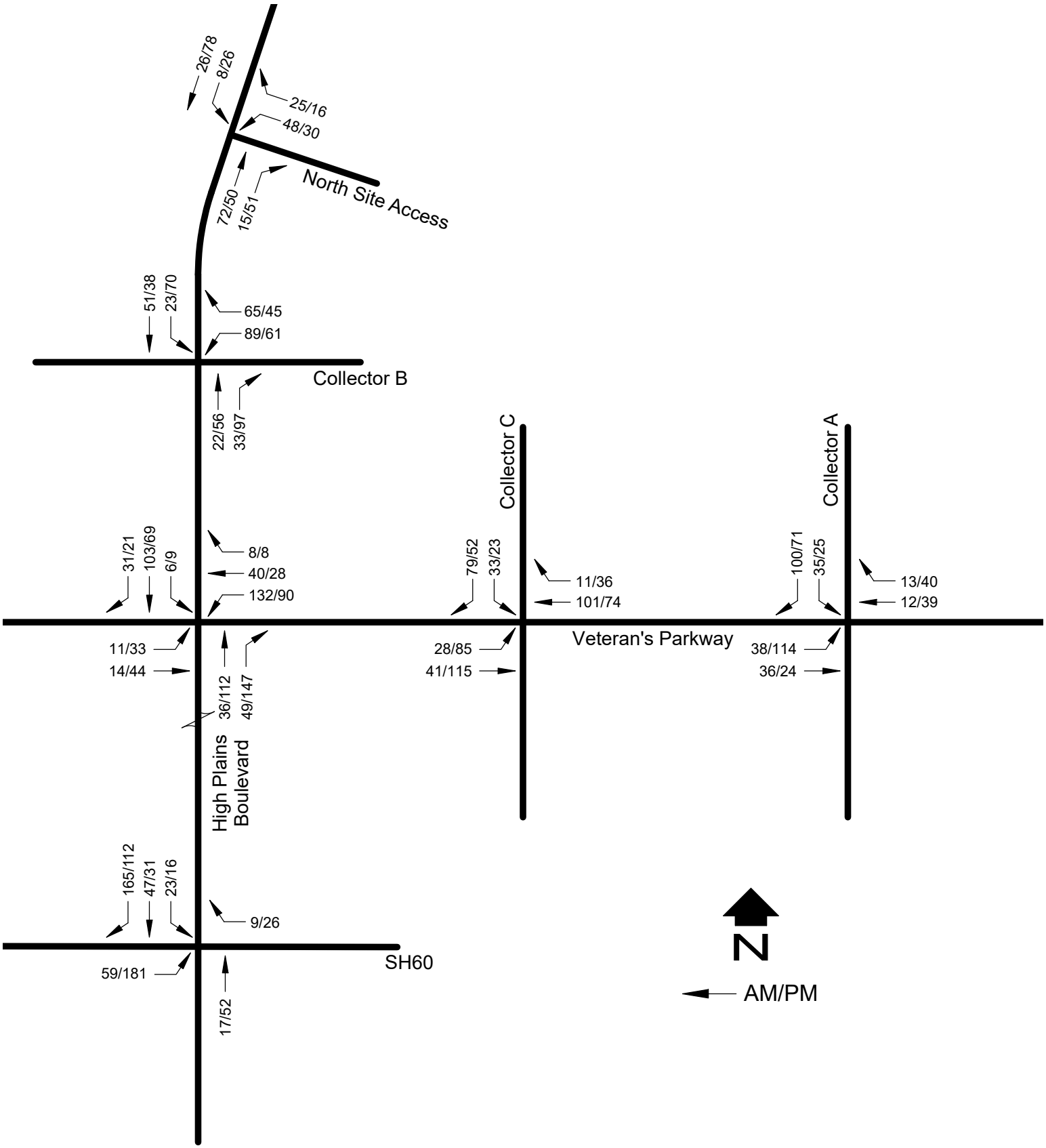
SHORT RANGE (2026) SITE GENERATED PEAK HOUR TRAFFIC

Figure 11



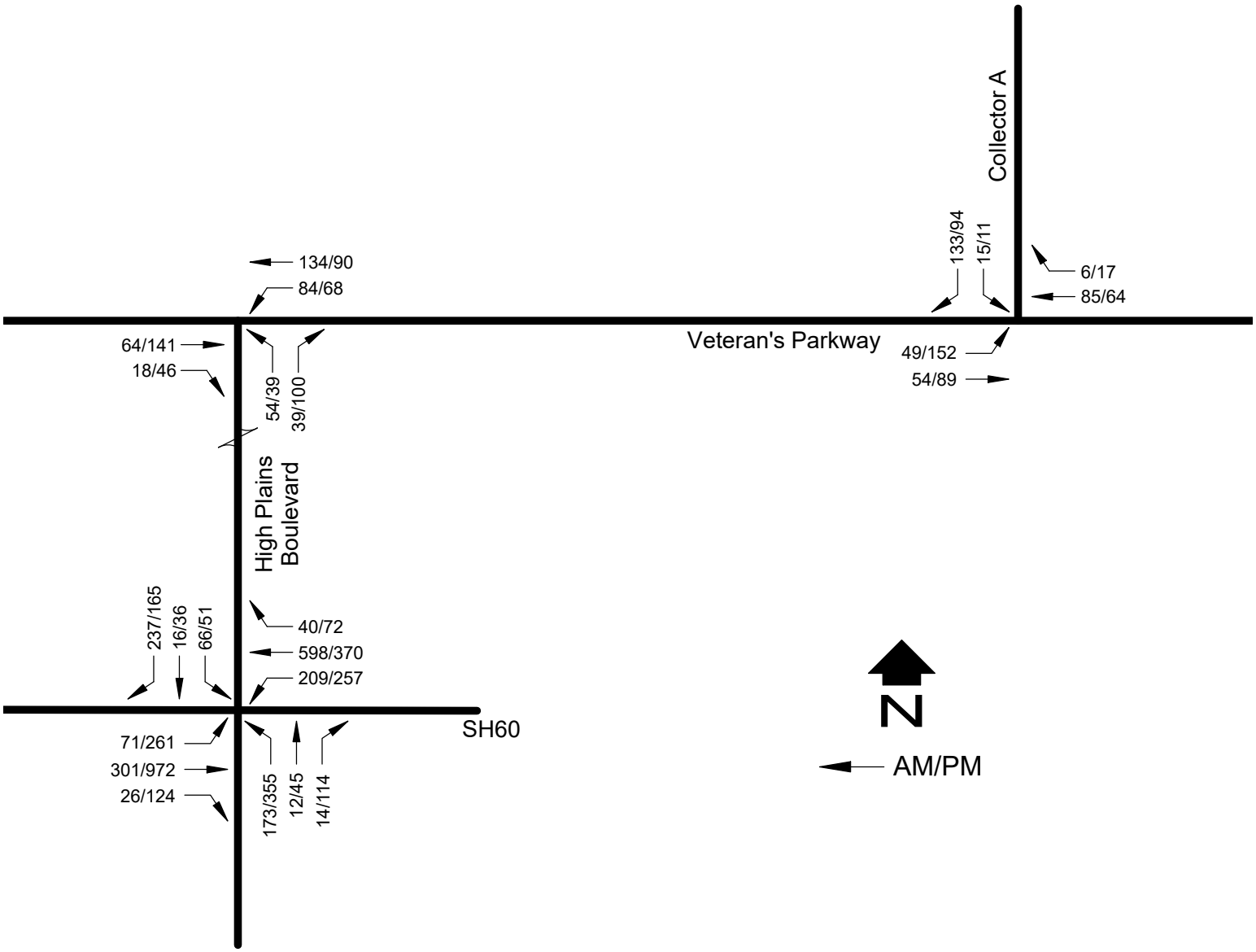
MID RANGE (2030) SITE
GENERATED PEAK HOUR TRAFFIC

Figure 12



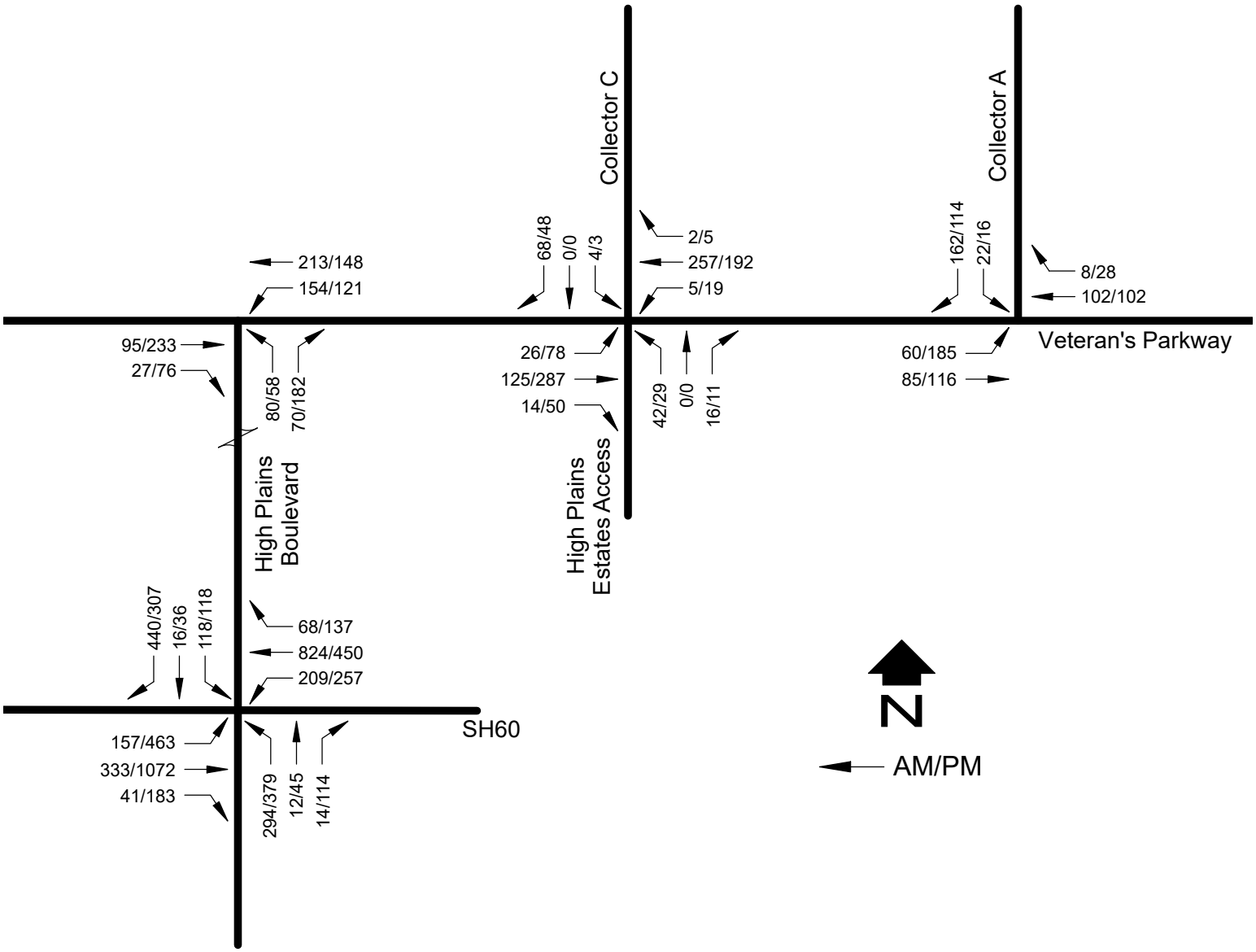
LONG RANGE (2040) SITE GENERATED PEAK HOUR TRAFFIC

Figure 13



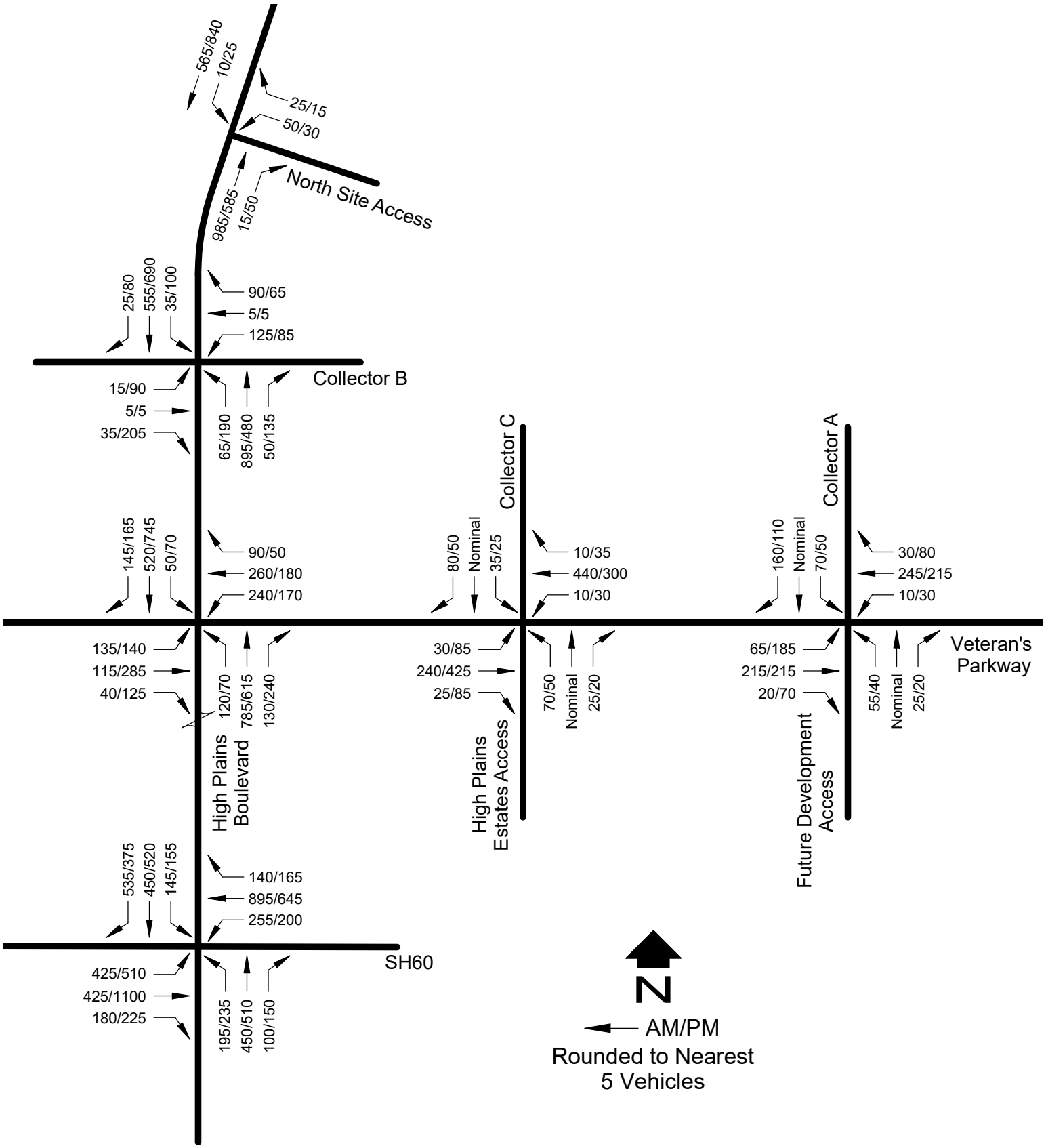
SHORT RANGE (2026) TOTAL PEAK HOUR TRAFFIC

Figure 14



MID RANGE (2030) TOTAL PEAK HOUR TRAFFIC

Figure 15



LONG RANGE (2040) TOTAL PEAK HOUR TRAFFIC

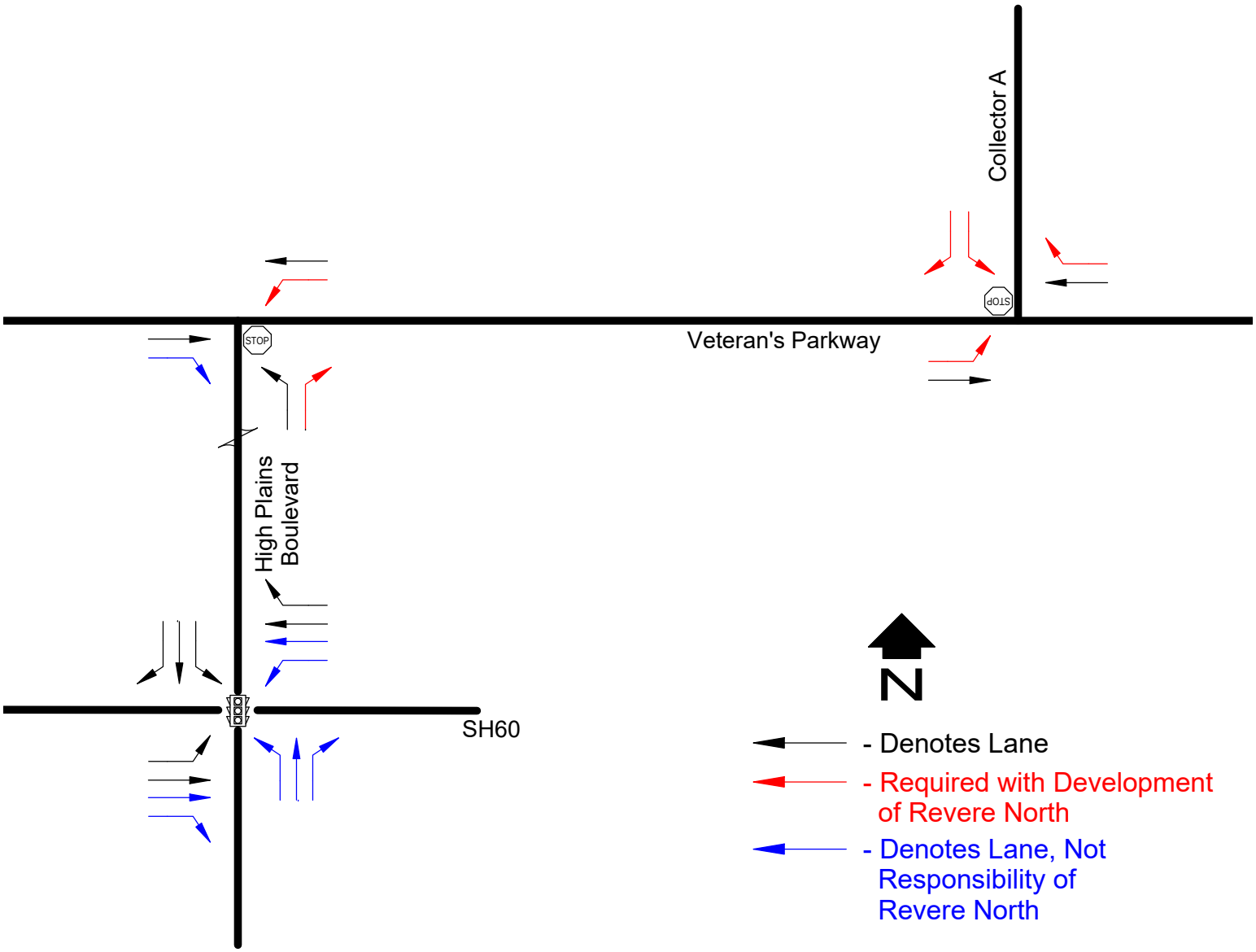
Figure 16

Using the long range (2040) total peak hour traffic (Figure 16), the High Plains/Veteran's Parkway and High Plains/Collector B intersections will meet the peak hour signal warrants. The Veteran's Parkway/Collector A will not meet the peak hour signal warrants. The Veteran's Parkway/Collector A intersection would be the location based on spacing if it is determined that it needs to be signalized in the future. Peak hour signal warrants are provided in Appendix D.

Geometry

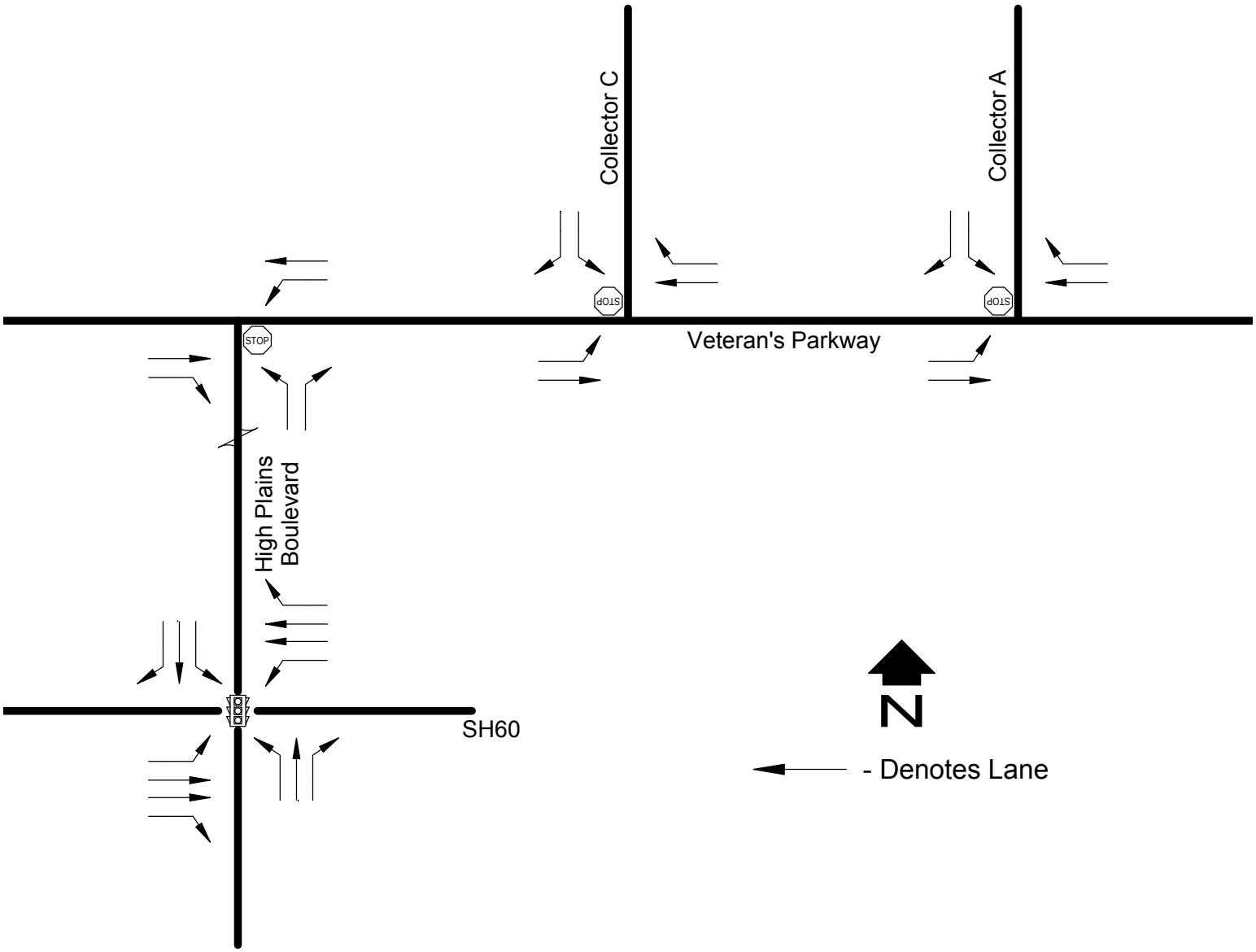
Figures 17, 18, and 19 show the respective short range (2026), mid range (2030), and long range (2040) geometry at the key intersections. State Highway 60 is classified as a Non-Rural Principal Highway (NR-A). It was determined that High Plains Boulevard and Veteran's Parkway should be evaluated to Non-Rural Arterial (NR-B) standards. Johnstown uses the State Highway Access Code (SHAC) in evaluating auxiliary lanes. Based on the SHAC, with a NR-A category and a posted speed greater than 40 mph, a left-turn deceleration lane is required at an intersection with a projected peak hour ingress turning volume greater than 10 vph, a right-turn deceleration lane is required at an intersection with a projected peak hour ingress turning volume greater than 25 vph, and a right-turn acceleration lane is required with a projected peak hour ingress turning volume greater than 50 vph. Left-turn acceleration lanes are generally not required. The left-turn deceleration lane should provide deceleration and storage length. The right-turn deceleration length lane should provide only the deceleration length. Based on the SHAC, with a NR-B category, a left-turn deceleration lane is required at an intersection with a projected peak hour ingress turning volume greater than 10 vph and a right-turn deceleration lane is required at an intersection with a projected peak hour ingress turning volume greater than 25 vph. Acceleration lanes are generally not required. Left-turn and right-turn deceleration lanes should provide only the deceleration length.

In the short range (2026) future, at the SH60/High Plains intersection, left-turn deceleration lanes and right-turn deceleration lanes are required on all legs. Eastbound and westbound right-turn acceleration lane are required. Currently, there is an eastbound left-turn deceleration lane, a westbound right-turn deceleration lane, a southbound left-turn deceleration lane, a southbound right-turn deceleration lane, and a westbound right-turn acceleration lane. It is expected that the Ledge Rock Center will build the four lane and auxiliary lanes along their roadway frontage on SH60 and High Plains Boulevard. This would include a westbound left-turn deceleration lane, an eastbound right-turn deceleration lane, and an additional through lane on SH60. At the High Plains/Veteran's Parkway intersection, a westbound left-turn deceleration lane, an eastbound right-turn deceleration lane, and a northbound right-turn lane are required. At the Veteran's Parkway/Collector A intersection, an eastbound left-turn deceleration lane, a westbound right-turn deceleration lane, and separate southbound let-turn and right-turn lanes are required.



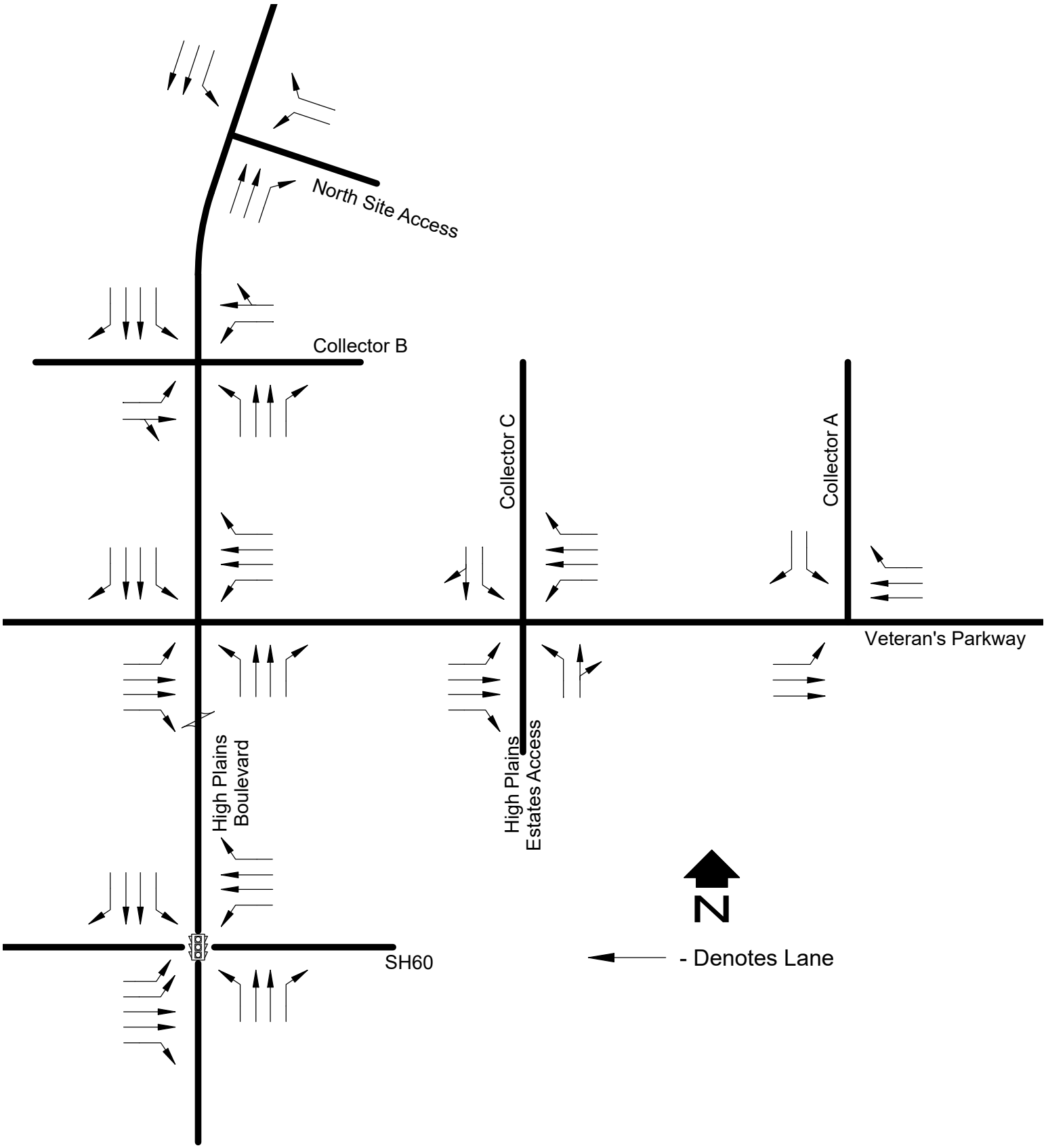
SHORT RANGE (2026) GEOMETRY

Figure 17



MID RANGE (2030) GEOMETRY

Figure 18



LONG RANGE (2040) GEOMETRY

Figure 19

In the mid range (2030) future, no additional auxiliary lanes are required at the SH60/High Plains, High Plains/Veteran's Parkway, and Veteran's Parkway/Collector A intersections. At the Veteran's Parkway/Collector C intersection, eastbound and westbound left-turn deceleration lanes, eastbound and westbound right-turn deceleration lanes, and northbound and southbound left-turn lanes are required.

In the long range (2030) future, it is expected that High Plains Boulevard will have a four lane cross section and continue north of Veteran's Parkway. Veteran's Parkway is also expected to have a four lane cross section. Left-turn and right-turn auxiliary lanes are required at all accesses along High Plains Boulevard and Veteran's Parkway.

Operation Analysis

Operation analyses were performed at the SH60/High Plains, High Plains/Veteran's Parkway, Veteran's Parkway/Collector A, Veteran's Parkway/Collector C-High Plains Estates Access, High Plains/Collector B, and High Plains/North Site Access intersections. The operations analyses were conducted for the short range future, reflecting a year 2026 condition, the mid range future, reflecting a year 2030 condition, and a long range future, reflecting a year 2040 condition.

Using the short range (2026) background peak hour traffic volumes (Figure 8), the SH60/High Plains and High Plains/Veteran's Parkway intersections operate as indicated in Table 3. Calculation forms for these analyses are provided in Appendix E. The SH60/High Plains and High Plains/Veteran's Parkway intersections meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours.

Using the mid range (2030) background peak hour traffic volumes (Figure 9), the SH60/High Plains, High Plains/Veteran's Parkway, and Veteran's Parkway/High Plains Estates Access intersections operate as indicated in Table 4. Calculation forms for these analyses are provided in Appendix F. The SH60/High Plains, High Plains/Veteran's Parkway, and Veteran's Parkway/High Plains Estates Access intersections meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours. At the SH60/High Plains intersection, the calculated delay for the afternoon westbound left-turn lane and westbound approach will be commensurate with level of service F and E, respectively.

Using the long range (2040) background peak hour traffic volumes (Figure 10), the SH60/High Plains, High Plains/Veteran's Parkway, Veteran's Parkway/Collector A, Veteran's Parkway/Collector C-High Plains Estates Access, High Plains/Collector B, and High Plains/North Site Access SH60/High Plains and High Plains/Veteran's Parkway intersections operate as indicated in Table 5. Calculation forms for these analyses are provided in Appendix G. The key intersections meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours.

TABLE 3 Short Range (2026) Background Peak Hour Operation			
Intersection	**Movement**	**Level of Service**	
		AM	**PM**
SH60/High Plains (signal)	EB LT	B	B
	EB T	B	B
	EB RT	B	A
	EB APPROACH	B	B
	WB LT	C	D
	WB T	C	B
	WB RT	B	B
	WB APPROACH	C	C
	NB LT	C	D
	NB T	B	C
	NB RT	B	C
	NB APPROACH	C	D
	SB LT	B	C
	SB T	B	C
	SB RT	B	C
	SB APPROACH	B	C
	OVERALL	C	C
High Plains/Veteran's Parkway (stop sign)	WB LT	A	A
	NB LT	A	A
	NB RT	A	A
	NB APPROACH	A	A
	OVERALL	A	A

TABLE 4 Mid Range (2030) Background Peak Hour Operation			
Intersection	**Movement**	**Level of Service**	
		AM	**PM**
SH60/High Plains (signal)	EB LT	C	B
	EB T	B	B
	EB RT	B	B
	EB APPROACH	B	B
	WB LT	C	F (173.4 secs)
	WB T	C	C
	WB RT	B	C
	WB APPROACH	C	E (76.4 secs)
	NB LT	C	D
	NB T	B	C
	NB RT	B	C
	NB APPROACH	C	D
	SB LT	B	C
	SB T	B	B
	SB RT	B	A
	SB APPROACH	B	C
	OVERALL	C	D
High Plains/Veteran's Parkway (stop sign)	WB LT	A	A
	NB LT	B	B
	NB RT	A	A
	NB APPROACH	B	B
	OVERALL	A	A
Veteran's Parkway/High Plains Estate Access (stop sign)	WB LT	A	A
	NB LT	A	B
	NB RT	A	A
	NB APPROACH	A	A
	OVERALL	A	A

TABLE 5 Long Range (2040) Background Peak Hour Operation			
Intersection	**Movement**	**Level of Service**	
		AM	**PM**
SH60/High Plains (signal)	EB LT	D	D
	EB T	B	B
	EB RT	A	B
	EB APPROACH	C	C
	WB LT	C	D
	WB T	C	C
	WB RT	B	B
	WB APPROACH	C	C
	NB LT	D	D
	NB T	D	C
	NB RT	C	C
	NB APPROACH	D	D
	SB LT	C	C
	SB T	C	A
	SB RT	C	A
	SB APPROACH	C	B
	OVERALL	C	C
High Plains/Veteran's Parkway (signal)	EB LT	B	B
	EB T	A	B
	EB RT	A	B
	EB APPROACH	B	B
	WB LT	B	C
	WB T	B	C
	WB RT	B	C
	WB APPROACH	B	C
	NB LT	C	B
	NB T	D	C
	NB RT	C	B
	NB APPROACH	D	C
	SB LT	C	B
	SB T	C	A
	SB RT	C	A
	SB APPROACH	C	A
	OVERALL	C	B

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TABLE 5
Long Range (2040) Background Peak Hour Operation

Intersection	Movement	Level of Service	
		AM	PM
High Plains/Collector B (signal)	EB LT	D	D
	EB T/RT	D	D
	EB APPROACH	D	D
	WB LT	D	D
	WB T/RT	D	D
	WB APPROACH	D	D
	NB LT	A	A
	NB T	A	A
	NB RT	A	A
	NB APPROACH	A	A
	SB LT	A	A
	SB T	A	A
	SB RT	A	A
	SB APPROACH	A	A
	OVERALL	A	A
Veteran's Parkway/High Plains Estates (stop sign)	WB LT	A	A
	NB LT	B	B
	NB RT	A	A
	NB APPROACH	B	B
	OVERALL	A	A
Veteran's Parkway/Collector A-Future Development Access (stop sign)	EB LT	A	A
	WB LT	A	A
	NB LT	B	C
	NB T/RT	A	A
	NB APPROACH	B	B
	SB LT	B	B
	SB T/RT	A	A
	SB APPROACH	B	B
	OVERALL	A	A

Using the short range (2026) total peak hour traffic volumes (Figure 14), the SH60/High Plains, High Plains/Veteran's Parkway, and Veteran's Parkway/Collector A intersections operate as indicated in Table 6. Calculation forms for these analyses are provided in Appendix H. The key intersections meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours

Using the mid range (2030) total peak hour traffic volumes (Figure 15), the SH60/High Plains, High Plains/Veteran's Parkway, Veteran's Parkway/Collector A, and Veteran's Parkway/Collector C-High Plains Estates Access intersections operate as indicated in Table 7. Calculation forms for these analyses are provided in Appendix I. The key intersections meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours. At the SH60/High Plains intersection, the calculated delay for the afternoon westbound left-turn lane and westbound approach will be commensurate with level of service F and E, respectively.

Using the long range (2040) total peak hour traffic volumes (Figure 16), the SH60/High Plains, High Plains/Veteran's Parkway, Veteran's Parkway/Collector A, Veteran's Parkway/Collector C-High Plains Estates Access, High Plains/Collector B, and High Plains/North Site Access SH60/High Plains and High Plains/Veteran's Parkway intersections operate as indicated in Table 5. Calculation forms for these analyses are provided in Appendix G. The key intersections meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours. At the SH60/High Plains intersection, the calculated delay for the afternoon westbound left-turn lane will be commensurate with level of service E.

Pedestrian/Bicycle Facilities

It is assumed that there will be pedestrian facilities (sidewalks/paths) along the Revere North site. They will connect to future pedestrian facilities on High Plains Boulevard and Veteran's Parkway in the future.

Trip Generation Comparison

The trip generation comparison pertaining to the Revere North to the Great Plains Village Master Traffic Impact Study was requested. The "Great Plains Village Master Transportation Impact Study," dated August 2019 was prepared for this development and was accepted by the Town of Johnstown. The original site plan is shown in Appendix G. In the cited master transportation impact study, this area was proposed as 1,370 residential dwelling units. The trip generation in the Great Plains Village MTIS utilized **Trip Generation, 10th Edition**, ITE, as the reference document. The trip generation for subject Lots was: 11,470 daily trip ends, 910 morning peak hour trip ends, and 1,156 afternoon peak hour trip ends.

TABLE 6 Short Range (2026) Total Peak Hour Operation			
Intersection	**Movement**	**Level of Service**	
		AM	**PM**
SH60/High Plains (signal)	EB LT	B	B
	EB T	B	B
	EB RT	B	A
	EB APPROACH	B	B
	WB LT	C	D
	WB T	C	B
	WB RT	B	B
	WB APPROACH	C	C
	NB LT	C	D
	NB T	B	C
	NB RT	B	C
	NB APPROACH	C	D
	SB LT	B	C
	SB T	B	C
	SB RT	B	C
	SB APPROACH	B	C
	OVERALL	C	C
High Plains/Veteran's Parkway (stop sign)	WB LT	A	A
	NB LT	B	B
	NB RT	A	A
	NB APPROACH	B	B
	OVERALL	A	A
Veteran's Parkway/Collector A (stop sign)	EB LT	A	A
	SB LT	B	B
	SB RT	A	A
	SB APPROACH	A	A
	OVERALL	A	A

TABLE 7 Mid Range (2030) Total Peak Hour Operation			
Intersection	**Movement**	**Level of Service**	
		AM	**PM**
SH60/High Plains (signal)	EB LT	C	D
	EB T	B	B
	EB RT	B	B
	EB APPROACH	B	C
	WB LT	C	F (188.8 secs)
	WB T	C	C
	WB RT	C	C
	WB APPROACH	C	E (79.9 secs)
	NB LT	C	D
	NB T	B	C
	NB RT	B	C
	NB APPROACH	C	D
	SB LT	B	C
	SB T	B	B
	SB RT	B	B
	SB APPROACH	B	B
	OVERALL	C	D
High Plains/Veteran's Parkway (stop sign)	WB LT	A	A
	NB LT	C	C
	NB RT	A	B
	NB APPROACH	B	B
	OVERALL	A	A
Veteran's Parkway/Collector C (stop sign)	EB LT	A	A
	WB LT	A	A
	NB LT	B	C
	NB T/RT	A	B
	NB APPROACH	B	C
	SB LT	B	C
	SB T/RT	B	A
	SB APPROACH	B	B
	OVERALL	A	A
Veteran's Parkway/Collector A (stop sign)	EB LT	A	A
	SB LT	B	C
	SB RT	A	A
	SB APPROACH	A	B
	OVERALL	A	A

TABLE 8 Long Range (2040) Total Peak Hour Operation			
Intersection	**Movement**	**Level of Service**	
		AM	**PM**
SH60/High Plains (signal)	EB LT	D	D
	EB T	B	B
	EB RT	A	B
	EB APPROACH	C	C
	WB LT	C	E (58.7 secs)
	WB T	C	C
	WB RT	B	C
	WB APPROACH	C	C
	NB LT	D	D
	NB T	D	D
	NB RT	C	C
	NB APPROACH	D	D
	SB LT	C	C
	SB T	C	B
	SB RT	D	B
	SB APPROACH	C	B
	OVERALL	C	C
High Plains/Veteran's Parkway (signal)	EB LT	B	B
	EB T	B	B
	EB RT	A	B
	EB APPROACH	B	B
	WB LT	B	C
	WB T	B	C
	WB RT	B	C
	WB APPROACH	B	C
	NB LT	C	B
	NB T	D	C
	NB RT	C	B
	NB APPROACH	D	C
	SB LT	C	B
	SB T	C	A
	SB RT	C	A
	SB APPROACH	C	A
	OVERALL	C	B

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TABLE 8
Long Range (2040) Total Peak Hour Operation

Intersection	Movement	Level of Service	
		AM	PM
High Plains/Collector B (signal)	EB LT	D	D
	EB T/RT	C	D
	EB APPROACH	D	D
	WB LT	D	D
	WB T/RT	D	D
	WB APPROACH	D	D
	NB LT	A	A
	NB T	A	A
	NB RT	A	A
	NB APPROACH	A	A
	SB LT	A	A
	SB T	A	A
	SB RT	A	A
	SB APPROACH	A	A
	OVERALL	B	A
High Plains/North Site Access (stop sign)	WB LT	C	C
	WB RT	B	B
	WB APPROACH	C	B
	SB LT	B	A
	OVERALL	A	A
Veteran's Parkway/Collector C-High Plains Estates (stop sign)	EB LT	A	A
	WB LT	A	A
	NB LT	C	D
	NB RT	A	B
	NB APPROACH	C	D
	SB LT	C	C
	SB T/RT	B	B
	SB APPROACH	B	B
	OVERALL	A	A
Veteran's Parkway/Collector A-Future Development Access (stop sign)	EB LT	A	A
	WB LT	A	A
	NB LT	C	D
	NB T/RT	A	B
	NB APPROACH	C	D
	SB LT	C	D
	SB T/RT	B	A
	SB APPROACH	C	C
	OVERALL	A	A

The Revere North development will consist of all residential. The calculated trip generation for the Revere North is: 9,256 daily trip ends, 643 morning peak hour trip ends, and 842 afternoon peak hour trip ends. This is a decrease of 2,214 daily trip ends, 267 morning peak hour trip ends, and 314 afternoon peak hour trip ends compared to the cited TIS. From the foregoing analyses, it is concluded that the trip generation for the proposed Revere North will be significantly less than in the cited MTIS.

IV. CONCLUSIONS

This study assessed the impacts of Revere North on the street system in the vicinity of the proposed development in the short range (2026), mid range (2030), and long range (2040) futures. As a result of this analysis, the following is concluded:

- The development of the Revere North is feasible from a traffic engineering standpoint. Table 2 shows the expected trip generation on a daily and peak hour basis for full development of Revere North. Phase 1, short range (2026) trip generation of the Revere North resulted in 2,850 daily trip ends, 203 morning peak hour trip ends, and 274 afternoon peak hour trip ends. Phase 1 and 2, mid range (2030) trip generation of the Revere North resulted in 4,948 daily trip ends, 352 morning peak hour trip ends, and 473 afternoon peak hour trip ends. The total, long range (2040) trip generation of the Revere North resulted in 9,256 daily trip ends, 643 morning peak hour trip ends, and 842 afternoon peak hour trip ends.

- Currently, the SH60/High Plains intersection is currently operating acceptably with existing control and geometry in the morning and afternoon peak hours.

- The SH60/High Plains intersection will meet the peak hour signal warrants in the short range (2026) future. The High Plains/Veteran's Parkway and High Plains/Collector B will meet the peak hour signal warrants in the long range (2040) future.

- In the short range (2025) future, given development of the Revere North and an increase in background traffic, the SH60/High Plains, High Plains/Veteran's Parkway, and Veteran's Parkway/Collector A intersections will meet the Town of Johnstown LOS standard with the proposed control and geometry in the morning and afternoon peak hours.

- In the mid range (2030) future, given development of the Revere North and an increase in background traffic, the SH60/High Plains, High Plains/Veteran's Parkway, Veteran's Parkway/Collector A, and Veteran's Parkway/Collector C-High Plains Estates Access intersections will meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours. At the SH60/High Plains intersection, the calculated delay for the afternoon westbound left-turn lane and westbound approach will be commensurate with level of service F and E, respectively.

- In the long range (2040) future, given development of the Revere North and an increase in background traffic, the SH60/High Plains, High Plains/Veteran's Parkway, Veteran's Parkway/Collector A, Veteran's Parkway/Collector C-High Plains Estates Access, High Plains/Collector B, and High Plains/North Site Access SH60/High Plains and High Plains/Veteran's Parkway intersections will meet the Town of Johnstown LOS standard with proposed control and geometry in the morning and afternoon peak hours. At the SH60/High Plains intersection,

the calculated delay for the afternoon westbound left-turn lane and westbound approach will be commensurate with level of service F and E, respectively. At the High Plains/Veteran's Parkway intersection, the calculated delay for the afternoon westbound left-turn lane and westbound approach will be commensurate with level of service F and E, respectively.

- Figure 17, 18 and 19 shows the respective short range (2026), mid range (2030), and long range (2040) at the key intersection.

APPENDIX A

Attachment A
Transportation Impact Study Base Assumptions

Project Information		
Project Name	REVERE NORTH, JOHNSTOWN	
Project Location	NORTH OF WCR 50 (VETERANS PKWY), EAST OF HIGH PLAINS	
TIS Assumptions		
Type of Study	Full: YES	Intermediate: NO
	MTIS: NO	Memo: NO
Study Area Boundaries	North: SITE ACCESS	South: VETERANS PKWY
	East: SITE ACCESS	West: HIGH PLAINS BLVD
Study Years	Short Range: 2028	Long Range: 2040
Future Traffic Growth Rate	2%/YEAR PLUS OTHER KNOWN/APPROVED TIS	
Study Intersections	1. All access drives (3)	5. HIGH PLAINS/SITE (FUTURE)
	2. VETERANS/EAST ACCESS	6.
	3. VETERANS/WEST ACCESS	7.
	4. VETERANS/HIGH PLAINS	8.
Time Period for Study	AM: 7:00-9:00 PM: 4:00-6:00	Sat Noon: NO
Trip Generation Rates	PER T.G. 10TH EDITION (ATTACHED)	
Trip Adjustment Factors	Passby: N/A	Captive Market: N/A
Overall Trip Distribution	SEE ATTACHED SKETCH	
Mode Split Assumptions	N/A	
Design Vehicle Information		
Committed Roadway Improvements	NOT AWARE OF ANY (TOWN PROVIDE)	
Other Traffic Studies	• REVERE AT JOHNSTOWN, FILING 1 (WE HAVE) • DEVELOPMENT IN SE QUADRANT OF VETERANS/HIGH PLAINS – NEED TIS OR INFO	
~~Areas Requiring Special Study~~	• OTHERS ?	

Date: SEPTEMBER 27, 2021

Traffic Engineer: DELICH ASSOCIATES

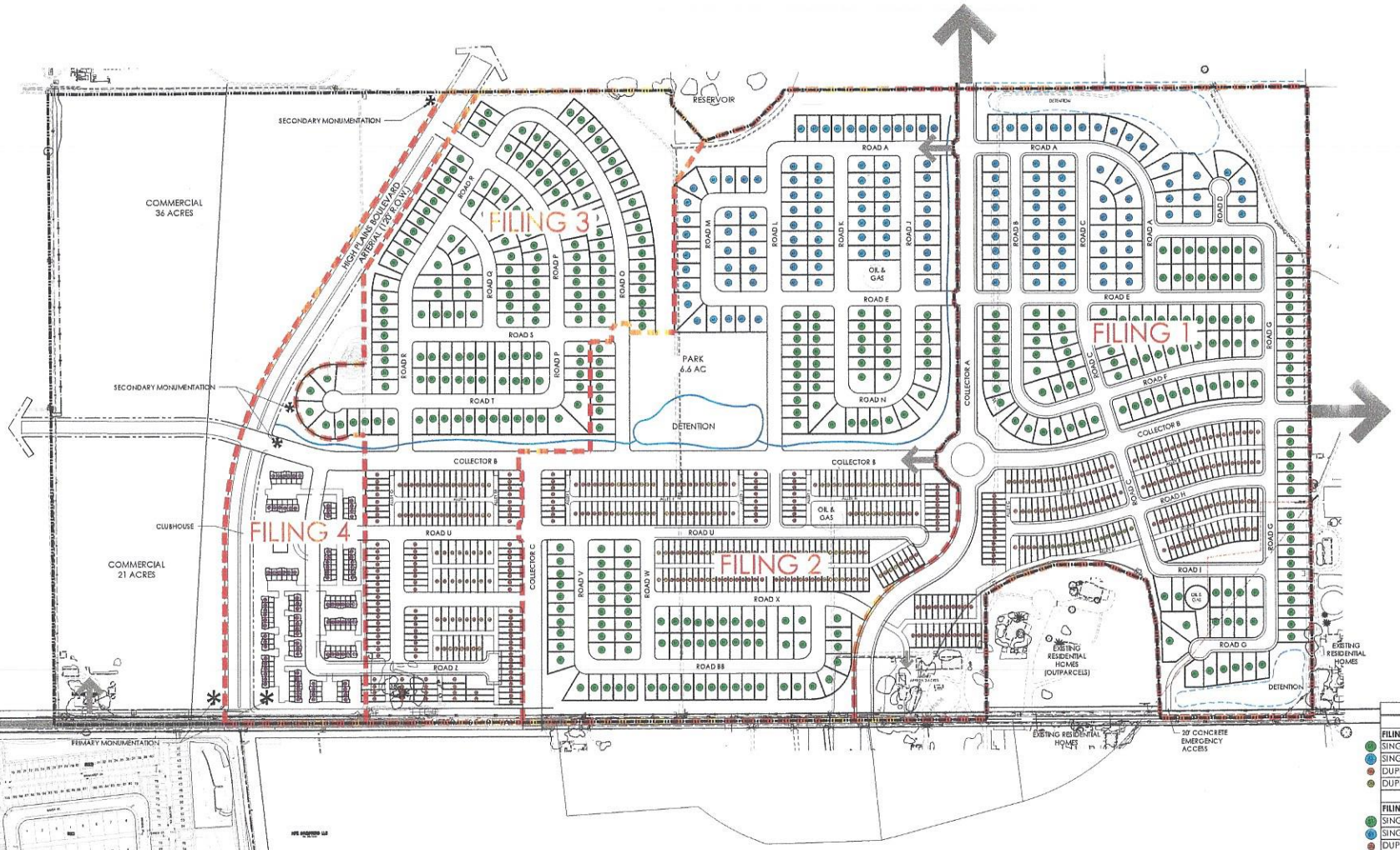
Local Entity Engineer: _____

2169 BAF

REVERE NORTH

Trip Generation

Code	Use	Size	AWDTE		AM Peak Hour				PM Peak Hour			
			Rate	Trips	Rate	In	Rate	Out	Rate	In	Rate	Out
	FILING 1											
210	S.F. DETACHED	193 DU	EQ	1904	EQ	36	EQ	106	EQ	120	EQ	71
210	S.F. DUPLEX	164 DU	EQ	1640	EQ	30	EQ	91	EQ	103	EQ	60
				3544		66		197		223		131
	FILING 2											
210	S.F. DETACHED	203 DU	EQ	1994	EQ	37	EQ	112	EQ	126	EQ	74
210	S.F. DUPLEX	190 DU	EQ	1876	EQ	35	EQ	105	EQ	118	EQ	70
				3870		72		217		244		144
	FILING 3											
210	S.F. DETACHED	156 DU	EQ	1566	EQ	29	EQ	87	EQ	98	EQ	58
210	S.F. DUPLEX	156 DU	EQ	1566	EQ	29	EQ	87	EQ	98	EQ	58
				3132		58		174		196		116
	FILING 4											
220	TOWNHOMES	94 DU	EQ	670	EQ	10	EQ	35	EQ	35	EQ	21
	TOTAL			11,216		206		623		698		412



REVERE NORTH DEVELOPMENT SUMMARY		
LAND USE	UNITS	% UNITS
FILING 1		
SINGLE FAMILY DETACHED - 51x110	130	36.4%
SINGLE FAMILY DETACHED - 61x110	63	17.6%
DUPLEX - 25x100	148	41.5%
DUPLEX - 25x85	16	4.5%
SUBTOTAL	357	100.0%
FILING 2		
SINGLE FAMILY DETACHED - 51x110	123	31.3%
SINGLE FAMILY DETACHED - 61x110	80	20.4%
DUPLEX - 25x100	190	48.3%
SUBTOTAL	393	100.0%
FILING 3		
SINGLE FAMILY DETACHED - 51x110	156	50.0%
DUPLEX - 25x100	156	50.0%
SUBTOTAL	312	100.0%
FILING 4		
TOWNHOMES	94	100.0%
SUBTOTAL	94	100.0%
TOTAL	1,156	100.0%

REVERE NORTH
FILING PLAN

terracina design
10200 E. Girard Ave. Ste A-314
Denver, CO 80231
ph: 303.632.8867

Scale: 1"= 200'-0"

SEPTEMBER 15, 2021

FORESTAR
REVERE FRAMEWORK PLAN

terracina design

Scale: 1"= 400'-0"

SHORT RANGE/MID RANGE TRIP DISTRIBUTION

FORESTAR
REVERE FRAMEWORK PLAN

terracina design

Scale: 1"= 400'-0"

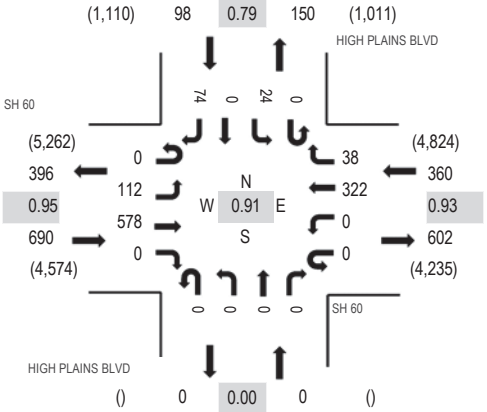
LONG RANGE TRIP DISTRIBUTION

APPENDIX B

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

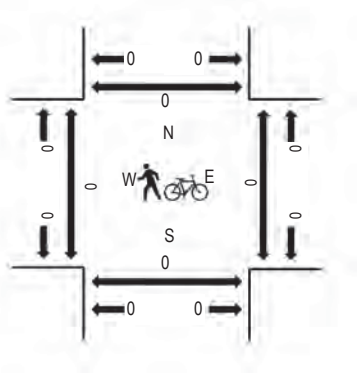
Location: 2 HIGH PLAINS BLVD & SH 60 AM
Date: Wednesday, May 13, 2020
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	SH 60 Eastbound				SH 60 Westbound				HIGH PLAINS BLVD Northbound				HIGH PLAINS BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:30 AM	0	2	37	0	0	0	122	4	0	0	0	0	0	5	0	33	203	901	0	0	0	0
6:45 AM	0	2	43	0	0	0	128	3	0	0	0	0	0	8	0	18	202	964	0	0	0	0
7:00 AM	0	2	39	0	0	0	165	0	0	0	0	0	0	20	0	30	256	955	0	0	0	0
7:15 AM	0	3	37	0	0	0	157	6	0	0	0	0	0	7	0	30	240	928	0	0	0	0
7:30 AM	0	5	52	0	0	0	162	7	0	0	0	0	0	3	0	37	266	913	0	0	0	0
7:45 AM	0	2	42	0	0	0	111	7	0	0	0	0	0	6	0	25	193	851	0	0	0	0
8:00 AM	0	10	66	0	0	0	114	7	0	0	0	0	0	8	0	24	229	852	0	0	0	0
8:15 AM	0	9	64	0	0	0	109	7	0	0	0	0	0	17	0	19	225	805	0	0	0	0
8:30 AM	0	11	40	0	0	0	125	8	0	0	0	0	0	5	0	15	204	741	0	0	0	0
8:45 AM	0	7	61	0	0	0	94	13	0	0	0	0	0	7	0	12	194	702	0	0	0	0
9:00 AM	0	8	49	0	0	0	99	3	0	0	0	0	0	5	0	18	182	678	0	0	0	0
9:15 AM	0	6	47	0	0	0	87	5	0	0	0	0	0	3	0	13	161	644	0	0	0	0
9:30 AM	0	7	48	0	0	0	93	2	0	0	0	0	0	1	0	14	165	674	0	0	0	0
9:45 AM	0	9	61	0	0	0	74	3	0	0	0	0	0	3	0	20	170	687	0	0	0	0
10:00 AM	0	4	54	0	0	0	69	4	0	0	0	0	0	4	0	13	148	682	0	0	0	0
10:15 AM	0	11	70	0	0	0	86	7	0	0	0	0	0	4	0	13	191	736	0	0	0	0
10:30 AM	0	8	52	0	0	0	96	4	0	0	0	0	0	7	0	11	178	730	0	0	0	0
10:45 AM	0	5	62	0	0	0	75	4	0	0	0	0	0	8	0	11	165	749	0	0	0	0
11:00 AM	0	14	65	0	0	0	105	7	0	0	0	0	0	2	0	9	202	762	0	0	0	0
11:15 AM	0	15	57	0	0	0	82	6	0	0	0	0	0	7	0	18	185	749	0	0	0	0
11:30 AM	0	9	73	0	0	0	88	5	0	0	0	0	0	6	0	16	197	760	0	0	0	0
11:45 AM	0	12	71	0	0	0	75	4	0	0	0	0	0	3	0	13	178	764	0	0	0	0
12:00 PM	0	8	64	0	0	0	88	8	0	0	0	0	0	6	0	15	189	771	0	0	0	0
12:15 PM	0	9	68	0	0	0	90	10	0	0	0	0	0	7	0	12	196	773	0	0	0	0
12:30 PM	0	20	84	0	0	0	75	7	0	0	0	0	0	6	0	9	201	781	0	0	0	0
12:45 PM	0	15	77	0	0	0	76	5	0	0	0	0	0	4	0	8	185	778	0	0	0	0
1:00 PM	0	20	61	0	0	0	83	11	0	0	0	0	0	6	0	10	191	771	0	0	0	0
1:15 PM	0	14	74	0	0	0	88	5	0	0	0	0	0	3	0	20	204	778	0	0	0	0
1:30 PM	0	14	81	0	0	0	78	9	0	0	0	0	0	5	0	11	198	802	0	0	0	0
1:45 PM	0	4	79	0	0	0	74	5	0	0	0	0	0	3	0	13	178	818	0	0	0	0
2:00 PM	0	13	86	0	0	0	72	6	0	0	0	0	0	7	0	14	198	857	0	0	0	0
2:15 PM	0	19	90	0	0	0	96	5	0	0	0	0	0	10	0	8	228	889	0	0	0	0
2:30 PM	0	16	97	0	0	0	73	10	0	0	0	0	0	6	0	12	214	920	0	0	0	0
2:45 PM	0	12	94	0	0	0	78	11	0	0	0	0	0	12	0	10	217	964	0	0	0	0
3:00 PM	0	15	105	0	0	0	80	8	0	0	0	0	0	8	0	14	230	1,019	0	0	0	0

3:15 PM	0	31	107	0	0	0	85	10	0	0	0	0	0	13	0	13	259	1,080	0	0	0	0
3:30 PM	0	14	110	0	0	0	89	15	0	0	0	0	0	11	0	19	258	1,082	0	0	0	0
3:45 PM	0	19	134	0	0	0	87	16	0	0	0	0	0	4	0	12	272	1,106	0	0	0	0
4:00 PM	0	21	126	0	0	0	109	7	0	0	0	0	0	8	0	20	291	1,077	0	0	0	0
4:15 PM	0	25	107	0	0	0	97	6	0	0	0	0	0	6	0	20	261	1,100	0	0	0	0
4:30 PM	0	23	136	0	0	0	90	4	0	0	0	0	0	12	0	17	282	1,121	0	0	0	0
4:45 PM	0	28	107	0	0	0	74	13	0	0	0	0	0	6	0	15	243	1,132	0	0	0	0
5:00 PM	0	31	151	0	0	0	89	12	0	0	0	0	0	9	0	22	314	1,148	0	0	0	0
5:15 PM	0	31	145	0	0	0	76	6	0	0	0	0	0	4	0	20	282	1,104	0	0	0	0
5:30 PM	0	27	147	0	0	0	84	14	0	0	0	0	0	4	0	17	293	1,083	0	0	0	0
5:45 PM	0	23	135	0	0	0	73	6	0	0	0	0	0	7	0	15	259		0	0	0	0
6:00 PM	0	27	127	0	0	0	77	17	0	0	0	0	0	5	0	17	270		0	0	0	0
6:15 PM	0	20	132	0	0	0	76	9	0	0	0	0	0	10	0	14	261		0	0	0	0
Count Total	0	660	3,914	0	0	0	4,473	351	0	0	0	0	0	321	0	789	10,508		0	0	0	0
Peak Hour	0	112	578	0	0	0	322	38	0	0	0	0	0	24	0	74	1,148		0	0	0	0

APPENDIX C

Intersection						
Int Delay, s/veh	2.5					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	233	516	29	35	109
Future Vol, veh/h	27	233	516	29	35	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	250	250	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	274	607	34	41	128

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	641	0	-	0	945	607
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	338	-
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	943	-	-	-	291	496
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	722	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	281	496
Mov Cap-2 Maneuver	-	-	-	-	400	-
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	722	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	943	-	-	-	400	496
HCM Lane V/C Ratio	0.034	-	-	-	0.103	0.259
HCM Control Delay (s)	9	-	-	-	15	14.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	116	601	335	40	25	77
Future Vol, veh/h	116	601	335	40	25	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	250	250	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	707	394	47	29	91

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	441	0	-	0	1373	394
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	979	-
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	1119	-	-	-	161	655
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	364	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1119	-	-	-	141	655
Mov Cap-2 Maneuver	-	-	-	-	266	-
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	364	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1119	-	-	-	266	655
HCM Lane V/C Ratio	0.122	-	-	-	0.111	0.138
HCM Control Delay (s)	8.7	-	-	-	20.2	11.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4	0.5

UNSIGNALIZED INTERSECTIONS

Level-of-Service	Average Total Delay sec/veh
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

SIGNALIZED INTERSECTIONS

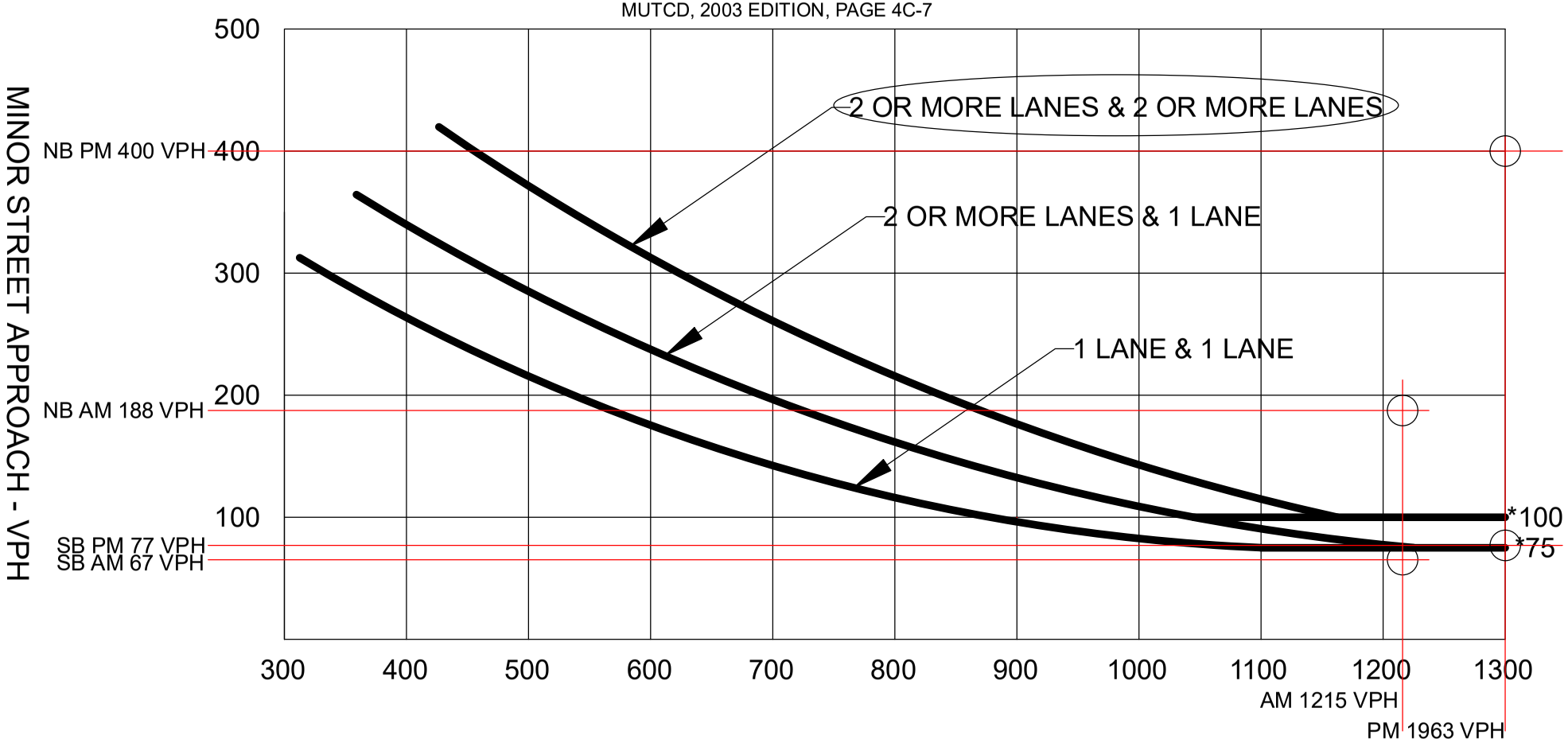
Level-of-Service	Average Total Delay sec/veh
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

APPENDIX D

FIGURE 4C-4. WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 KM/H (40 MPH) ON MAJOR STREET)

MUTCD, 2003 EDITION, PAGE 4C-7



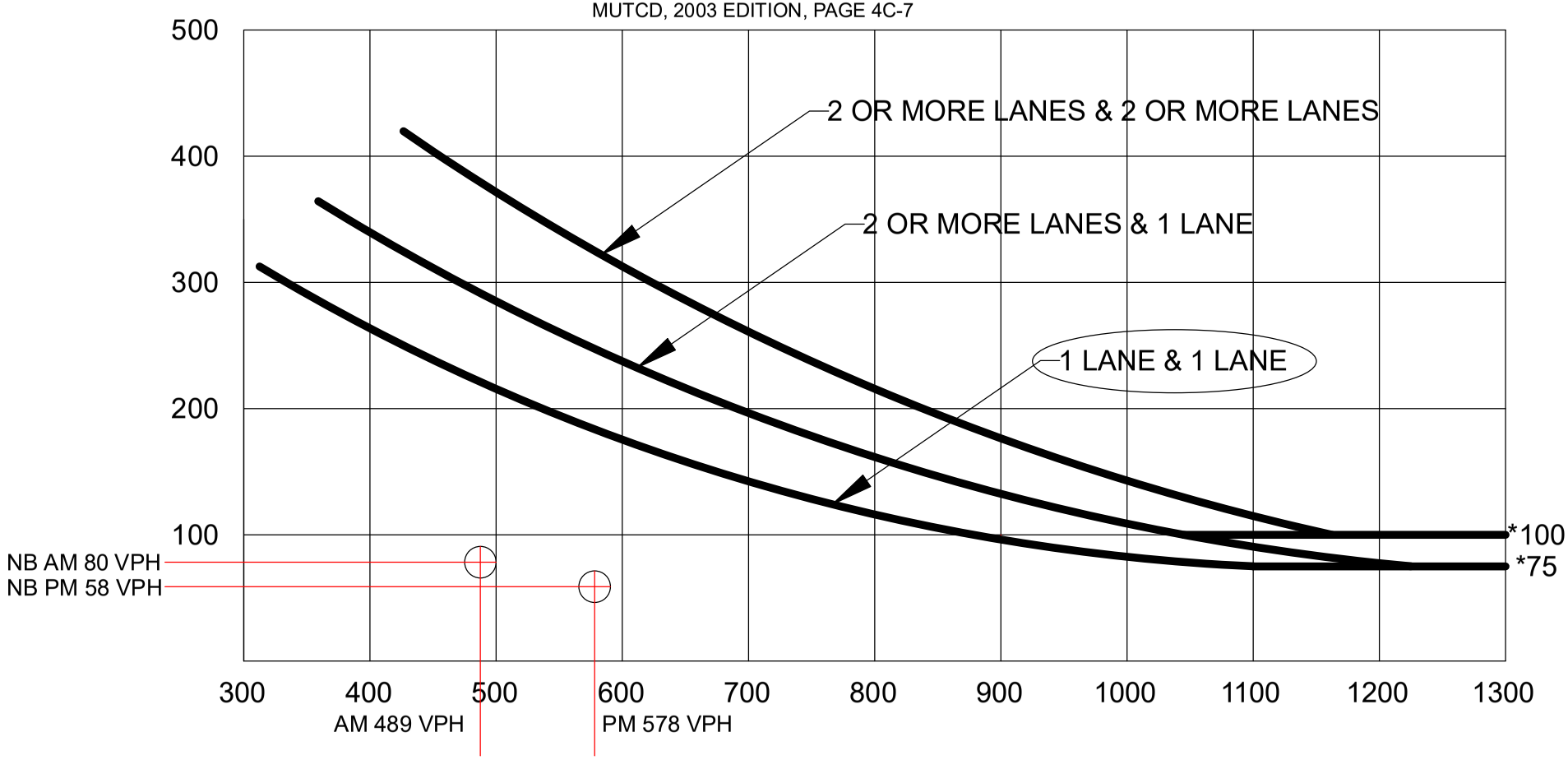
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SHORT RANGE (2026) BACKGROUND PEAK HOUR WARRANT AT SH60/HIGH PLAINS

FIGURE 4C-4. WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 KM/H (40 MPH) ON MAJOR STREET)

MUTCD, 2003 EDITION, PAGE 4C-7

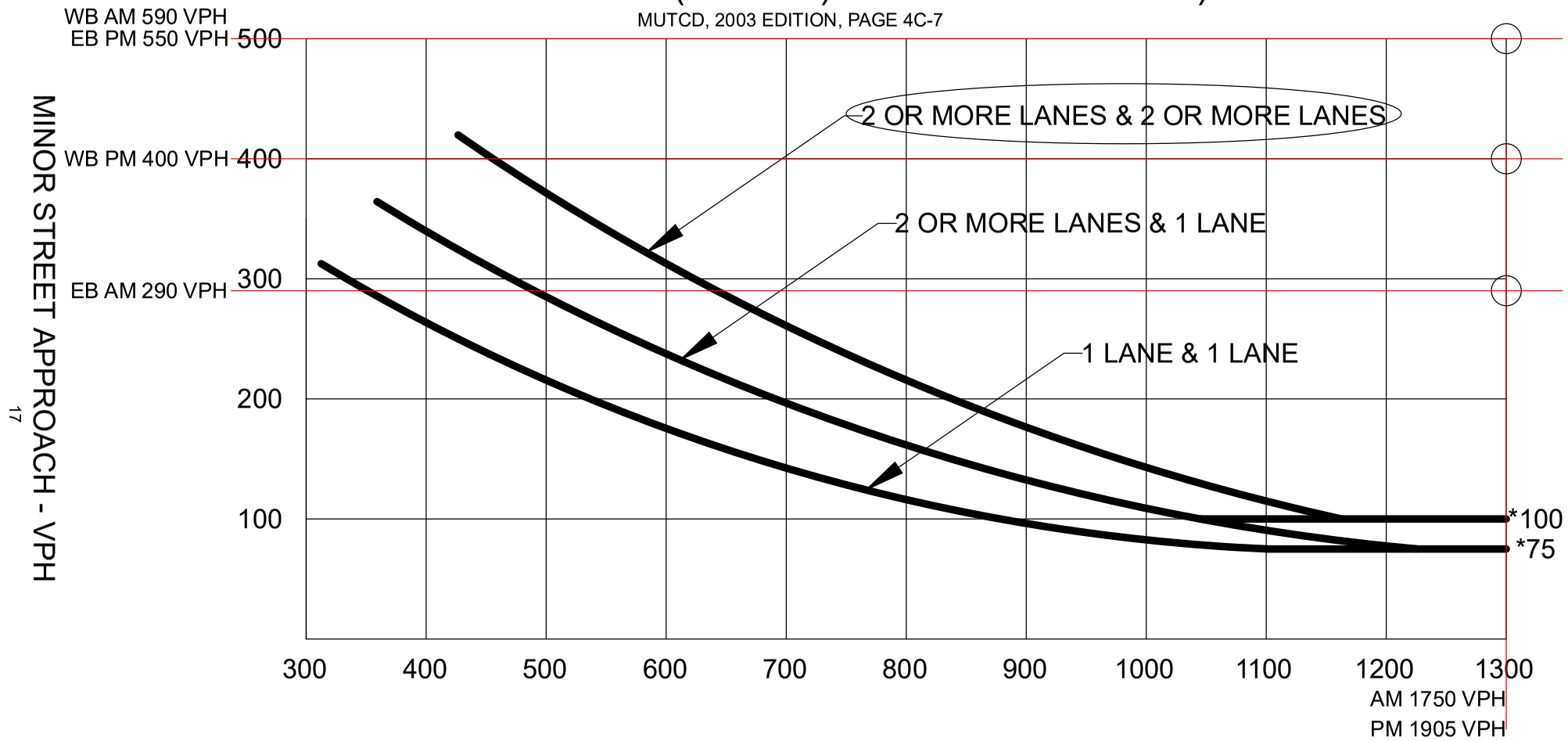


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

MID RANGE (2030) TOTAL PEAK HOUR WARRANT AT HIGH PLAINS/VETERAN'S PARKWAY

FIGURE 4C-4. WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 KM/H (40 MPH) ON MAJOR STREET)



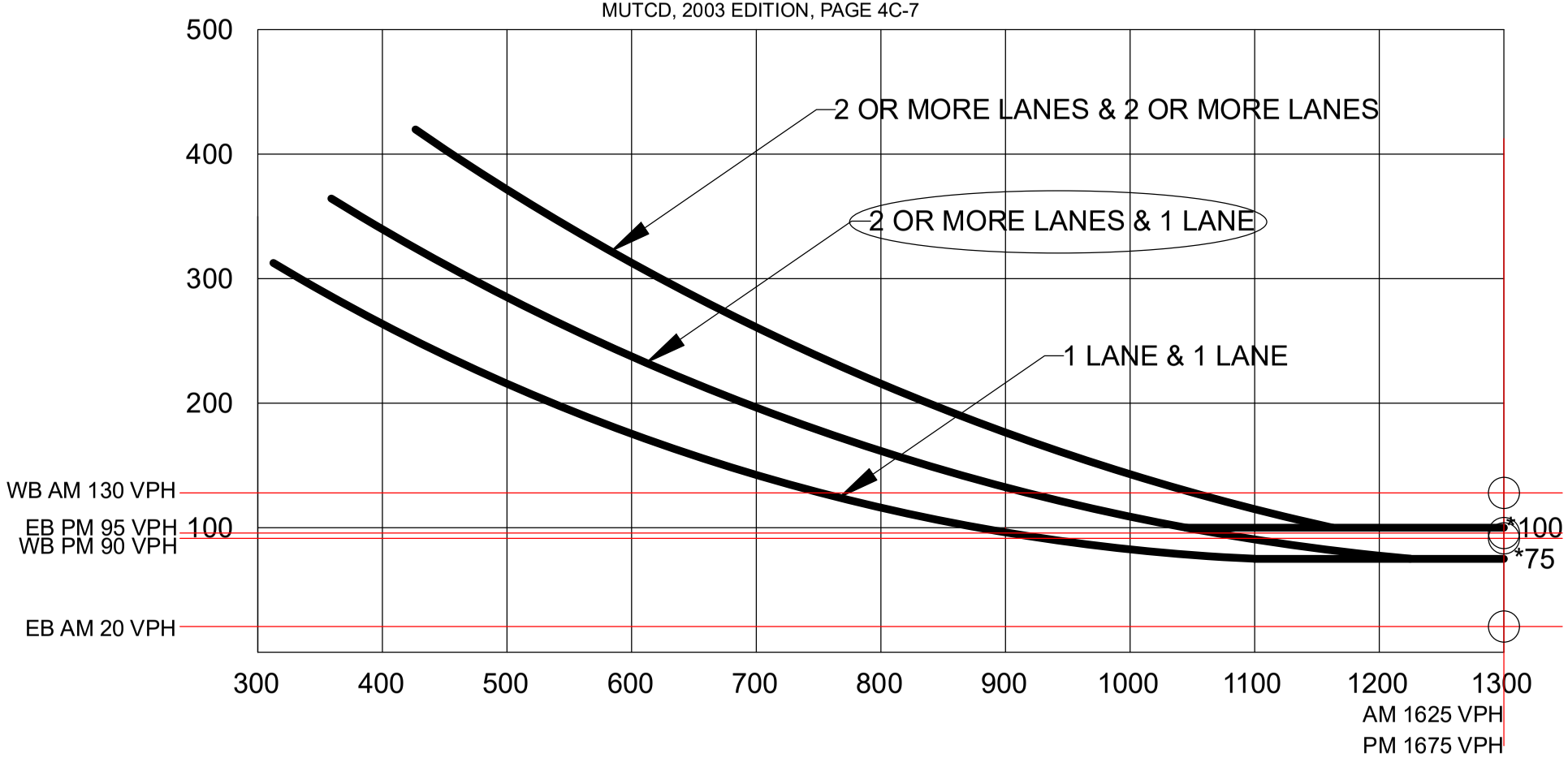
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

LONG RANGE (2040) TOTAL PEAK HOUR WARRANT AT HIGH PLAINS/VETERAN'S PARKWAY

FIGURE 4C-4. WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 KM/H (40 MPH) ON MAJOR STREET)

MUTCD, 2003 EDITION, PAGE 4C-7



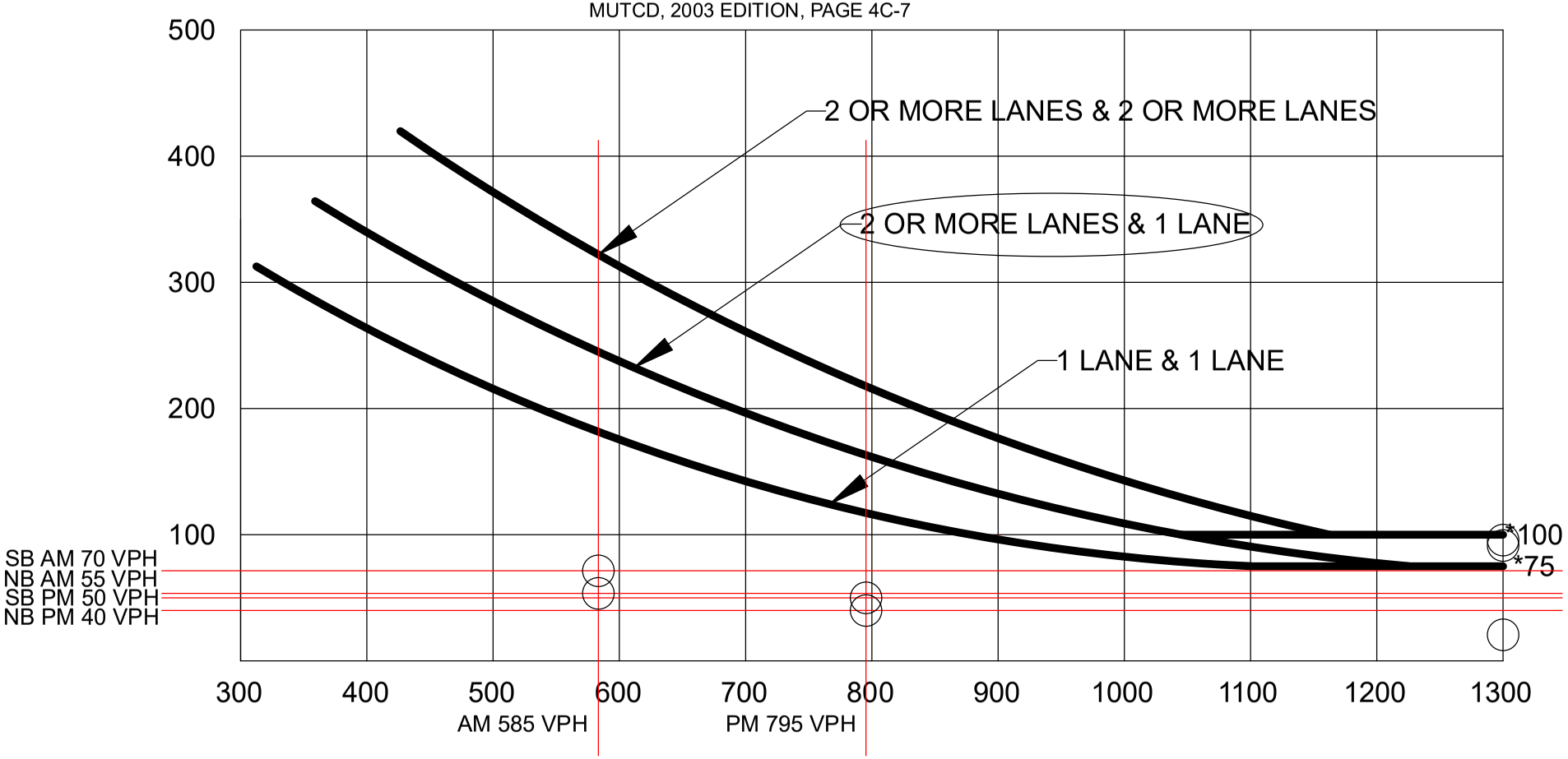
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

LONG RANGE (2040) TOTAL PEAK HOUR WARRANT AT HIGH PLAINS/COLLECTOR B

FIGURE 4C-4. WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 KM/H (40 MPH) ON MAJOR STREET)

MUTCD, 2003 EDITION, PAGE 4C-7



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

LONG RANGE (2040) TOTAL PEAK HOUR WARRANT AT VETERAN'S PARKWAY/COLLECTOR A

APPENDIX E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	301	26	209	598	35	173	12	14	51	16	171
Future Volume (veh/h)	46	301	26	209	598	35	173	12	14	51	16	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	354	6	246	704	6	204	14	5	60	19	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	1663	742	467	1339	597	552	634	537	622	808	685
Arrive On Green	0.04	0.47	0.47	0.00	0.38	0.38	0.00	0.34	0.34	0.04	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	54	354	6	246	704	6	204	14	5	60	19	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.6	5.3	0.2	0.1	13.9	0.2	0.1	0.4	0.2	1.9	0.5	0.2
Cycle Q Clear(g_c), s	1.6	5.3	0.2	0.1	13.9	0.2	0.1	0.4	0.2	1.9	0.5	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	318	1663	742	467	1339	597	552	634	537	622	808	685
V/C Ratio(X)	0.17	0.21	0.01	0.53	0.53	0.01	0.37	0.02	0.01	0.10	0.02	0.01
Avail Cap(c_a), veh/h	393	1663	742	791	1339	597	757	634	537	654	808	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	14.1	12.8	22.9	21.8	17.5	23.0	19.8	19.7	16.6	14.7	14.6
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.9	0.4	0.0	0.4	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.1	0.1	4.2	5.6	0.1	3.3	0.2	0.1	0.8	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	14.4	12.8	23.8	22.2	17.6	23.4	19.9	19.8	16.6	14.7	14.6
LnGrp LOS	B	B	B	C	C	B	C	B	B	B	B	B
Approach Vol, veh/h		414			956			223			85	
Approach Delay, s/veh		14.7			22.6			23.1			16.1	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	46.6	0.0	43.4	8.2	38.4	8.4	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	19.5	10.5	25.5	7.5	28.5	5.5	30.5
Max Q Clear Time (g_c+I1), s	0.0	7.3	0.0	2.2	3.6	15.9	3.9	0.0
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

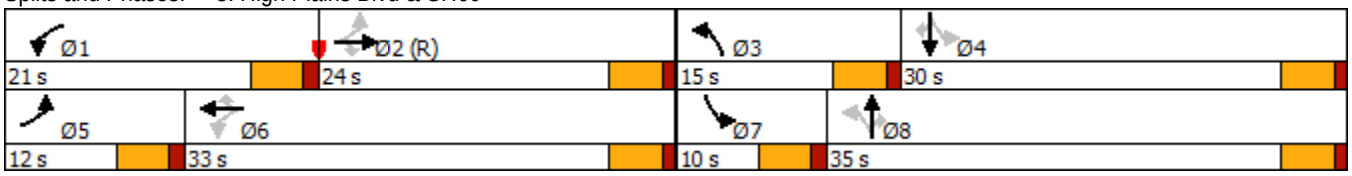
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	21	24	15	30	12	33	10	35
Maximum Split (%)	23.3%	26.7%	16.7%	33.3%	13.3%	36.7%	11.1%	38.9%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	35	56	80	5	35	47	80	0
End Time (s)	56	80	5	35	47	80	0	35
Yield/Force Off (s)	51.5	75.5	0.5	30.5	42.5	75.5	85.5	30.5
Yield/Force Off 170(s)	51.5	64.5	0.5	19.5	42.5	64.5	85.5	19.5
Local Start Time (s)	69	0	24	39	69	81	24	34
Local Yield (s)	85.5	19.5	34.5	64.5	76.5	19.5	29.5	64.5
Local Yield 170(s)	85.5	8.5	34.5	53.5	76.5	8.5	29.5	53.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	65

Offset: 56 (62%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	54	354	31	246	704	41	204	14	16	60	19	201
v/c Ratio	0.19	0.39	0.05	0.52	0.57	0.06	0.34	0.02	0.02	0.12	0.04	0.32
Control Delay	16.8	30.2	0.2	20.2	27.1	0.2	17.3	20.1	0.1	15.3	23.7	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	30.2	0.2	20.2	27.1	0.2	17.3	20.1	0.1	15.3	23.7	3.6
Queue Length 50th (ft)	17	88	0	86	176	0	70	5	0	19	8	0
Queue Length 95th (ft)	36	127	0	131	221	0	109	17	0	39	23	26
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	298	897	577	512	1228	668	602	672	687	510	538	625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.39	0.05	0.48	0.57	0.06	0.34	0.02	0.02	0.12	0.04	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	972	124	257	370	55	355	45	114	41	36	118
Future Volume (veh/h)	185	972	124	257	370	55	355	45	114	41	36	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	1068	5	282	407	5	390	49	5	45	40	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	583	2052	915	290	1617	721	407	447	379	435	603	511
Arrive On Green	0.07	0.58	0.58	0.00	0.46	0.46	0.00	0.24	0.24	0.03	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	203	1068	5	282	407	5	390	49	5	45	40	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	16.3	0.1	0.1	6.3	0.2	0.1	1.8	0.2	1.6	1.3	0.2
Cycle Q Clear(g_c), s	5.2	16.3	0.1	0.1	6.3	0.2	0.1	1.8	0.2	1.6	1.3	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	2052	915	290	1617	721	407	447	379	435	603	511
V/C Ratio(X)	0.35	0.52	0.01	0.97	0.25	0.01	0.96	0.11	0.01	0.10	0.07	0.01
Avail Cap(c_a), veh/h	583	2052	915	674	1617	721	712	447	379	622	603	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	11.5	8.1	31.6	15.1	13.4	36.0	26.8	26.2	23.0	21.1	20.7
Incr Delay (d2), s/veh	0.4	0.9	0.0	18.8	0.1	0.0	16.0	0.5	0.1	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	6.1	0.0	7.7	2.5	0.1	10.4	0.9	0.1	0.7	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	12.4	8.1	50.3	15.2	13.4	52.0	27.3	26.2	23.1	21.3	20.8
LnGrp LOS	B	B	A	D	B	B	D	C	C	C	C	C
Approach Vol, veh/h		1276			694			444			91	
Approach Delay, s/veh		12.2			29.4			49.0			22.2	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	56.5	0.0	33.5	11.0	45.5	7.5	26.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	18.5	15.5	18.5	6.5	31.5	12.5	21.5
Max Q Clear Time (g_c+I1), s	0.0	18.3	0.0	2.2	7.2	8.3	3.6	0.0
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0	0.0	2.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

Notes

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

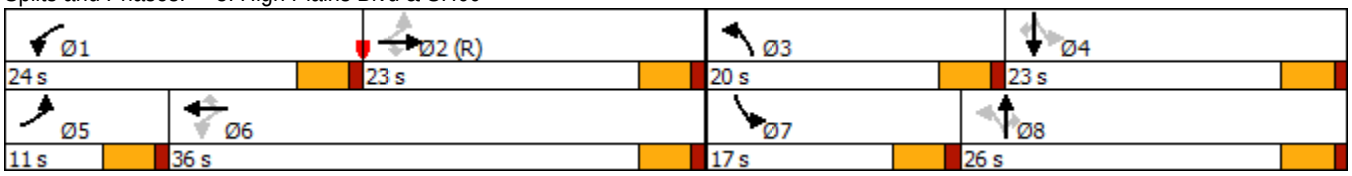
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	24	23	20	23	11	36	17	26
Maximum Split (%)	26.7%	25.6%	22.2%	25.6%	12.2%	40.0%	18.9%	28.9%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	33	57	80	10	33	44	80	7
End Time (s)	57	80	10	33	44	80	7	33
Yield/Force Off (s)	52.5	75.5	5.5	28.5	39.5	75.5	2.5	28.5
Yield/Force Off 170(s)	52.5	64.5	5.5	17.5	39.5	64.5	2.5	17.5
Local Start Time (s)	66	0	23	43	66	77	23	40
Local Yield (s)	85.5	18.5	38.5	61.5	72.5	18.5	35.5	61.5
Local Yield 170(s)	85.5	7.5	38.5	50.5	72.5	7.5	35.5	50.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90

Offset: 57 (63%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	203	1068	136	282	407	60	390	49	125	45	40	130
v/c Ratio	0.54	1.16	0.25	0.75	0.33	0.09	0.66	0.08	0.19	0.11	0.10	0.27
Control Delay	23.8	117.5	3.2	31.0	22.4	0.3	25.5	23.0	1.9	16.8	29.9	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	117.5	3.2	31.0	22.4	0.3	25.5	23.0	1.9	16.8	29.9	3.2
Queue Length 50th (ft)	66	~381	0	97	88	0	158	20	0	15	19	0
Queue Length 95th (ft)	111	#568	23	180	126	0	243	48	15	35	46	20
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	376	920	546	456	1238	636	591	646	668	530	392	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	1.16	0.25	0.62	0.33	0.09	0.66	0.08	0.19	0.08	0.10	0.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	18	3	82	54	9
Future Vol, veh/h	45	18	3	82	54	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	21	4	96	64	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	74	0	168	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	104	-
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	-	-	1526	-	822	1000
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1526	-	820	1000
Mov Cap-2 Maneuver	-	-	-	-	820	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	842	-	-	1526	-
HCM Lane V/C Ratio	0.088	-	-	0.002	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	82	46	11	53	39	7
Future Vol, veh/h	82	46	11	53	39	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	51	12	58	43	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	198	116
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	82	-
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	-	-	1442	-	791	936
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	784	936
Mov Cap-2 Maneuver	-	-	-	-	784	-
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	804	-	-	1442	-
HCM Lane V/C Ratio	0.063	-	-	0.008	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

APPENDIX F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	333	41	209	824	59	294	12	14	92	16	326
Future Volume (veh/h)	113	333	41	209	824	59	294	12	14	92	16	326
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	366	5	230	905	6	323	13	5	101	18	73
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	1628	726	432	1229	548	524	634	537	640	826	700
Arrive On Green	0.06	0.46	0.46	0.00	0.35	0.35	0.00	0.34	0.34	0.05	0.44	0.44
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	124	366	5	230	905	6	323	13	5	101	18	73
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.8	5.6	0.2	0.1	20.1	0.2	0.1	0.4	0.2	3.2	0.5	2.4
Cycle Q Clear(g_c), s	3.8	5.6	0.2	0.1	20.1	0.2	0.1	0.4	0.2	3.2	0.5	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	1628	726	432	1229	548	524	634	537	640	826	700
V/C Ratio(X)	0.47	0.22	0.01	0.53	0.74	0.01	0.62	0.02	0.01	0.16	0.02	0.10
Avail Cap(c_a), veh/h	303	1628	726	756	1229	548	730	634	537	655	826	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	14.7	13.3	24.8	25.8	19.3	26.0	19.8	19.7	16.4	14.2	14.7
Incr Delay (d2), s/veh	1.3	0.3	0.0	1.0	2.4	0.0	1.2	0.1	0.0	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.2	0.1	4.1	8.6	0.1	6.0	0.2	0.1	1.3	0.2	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	15.0	13.3	25.8	28.2	19.3	27.2	19.9	19.8	16.5	14.2	15.0
LnGrp LOS	C	B	B	C	C	B	C	B	B	B	B	B
Approach Vol, veh/h		495			1141			341			192	
Approach Delay, s/veh		16.4			27.7			26.8			15.7	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	45.7	0.0	44.3	10.1	35.6	9.3	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	19.5	10.5	25.5	7.5	28.5	5.5	30.5
Max Q Clear Time (g_c+I1), s	0.0	7.6	0.0	4.4	5.8	22.1	5.2	0.0
Green Ext Time (p_c), s	0.0	1.8	0.0	0.1	0.0	3.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

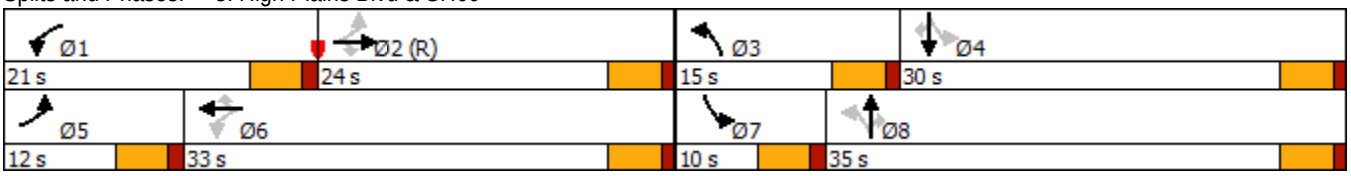
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	21	24	15	30	12	33	10	35
Maximum Split (%)	23.3%	26.7%	16.7%	33.3%	13.3%	36.7%	11.1%	38.9%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	4	25	49	64	4	16	49	59
End Time (s)	25	49	64	4	16	49	59	4
Yield/Force Off (s)	20.5	44.5	59.5	89.5	11.5	44.5	54.5	89.5
Yield/Force Off 170(s)	20.5	33.5	59.5	78.5	11.5	33.5	54.5	78.5
Local Start Time (s)	69	0	24	39	69	81	24	34
Local Yield (s)	85.5	19.5	34.5	64.5	76.5	19.5	29.5	64.5
Local Yield 170(s)	85.5	8.5	34.5	53.5	76.5	8.5	29.5	53.5

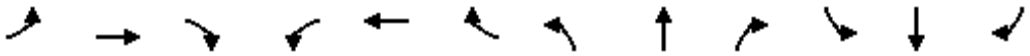
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	65

Offset: 25 (28%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	124	366	45	230	905	65	323	13	15	101	18	358
v/c Ratio	0.54	0.40	0.08	0.50	0.80	0.10	0.54	0.02	0.02	0.20	0.03	0.55
Control Delay	26.0	30.0	0.3	19.9	34.7	0.3	20.7	20.0	0.1	16.2	23.7	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	30.0	0.3	19.9	34.7	0.3	20.7	20.0	0.1	16.2	23.7	10.1
Queue Length 50th (ft)	40	90	0	80	246	0	119	5	0	32	7	32
Queue Length 95th (ft)	79	140	0	132	322	0	187	18	0	63	23	112
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	233	913	583	509	1129	628	602	672	687	503	527	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.40	0.08	0.45	0.80	0.10	0.54	0.02	0.02	0.20	0.03	0.55

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	1072	183	257	450	108	379	45	114	101	36	226
Future Volume (veh/h)	331	1072	183	257	450	108	379	45	114	101	36	226
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	360	1165	61	279	489	17	412	49	6	110	39	-43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	535	1873	835	217	1201	536	452	488	414	516	698	591
Arrive On Green	0.14	0.53	0.53	0.00	0.34	0.34	0.00	0.26	0.26	0.06	0.37	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	360	1165	61	279	489	17	412	49	6	110	39	-43
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	11.4	20.8	1.7	0.1	9.5	0.6	0.1	1.8	0.3	3.9	1.2	0.0
Cycle Q Clear(g_c), s	11.4	20.8	1.7	0.1	9.5	0.6	0.1	1.8	0.3	3.9	1.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	535	1873	835	217	1201	536	452	488	414	516	698	591
V/C Ratio(X)	0.67	0.62	0.07	1.29	0.41	0.03	0.91	0.10	0.01	0.21	0.06	-0.07
Avail Cap(c_a), veh/h	535	1873	835	581	1201	536	737	488	414	593	698	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.4	15.0	10.5	36.4	22.9	19.9	34.4	25.2	24.7	20.6	18.1	0.0
Incr Delay (d2), s/veh	3.3	1.6	0.2	136.9	0.2	0.0	10.1	0.4	0.1	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	8.2	0.6	13.0	3.9	0.2	10.2	0.8	0.1	1.6	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	16.5	10.6	173.4	23.1	20.0	44.4	25.6	24.7	20.9	18.2	0.0
LnGrp LOS	B	B	B	F	C	B	D	C	C	C	B	A
Approach Vol, veh/h		1586			785			467			106	
Approach Delay, s/veh		16.8			76.4			42.2			28.3	
Approach LOS		B			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	51.9	0.0	38.1	17.0	34.9	10.1	28.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	20.5	14.5	18.5	12.5	26.5	9.5	23.5
Max Q Clear Time (g_c+I1), s	0.0	22.8	0.0	0.0	13.4	11.5	5.9	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

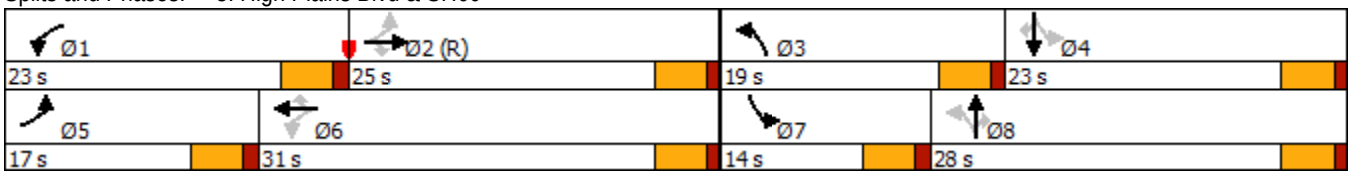
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	23	25	19	23	17	31	14	28
Maximum Split (%)	25.6%	27.8%	21.1%	25.6%	18.9%	34.4%	15.6%	31.1%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	2	25	50	69	2	19	50	64
End Time (s)	25	50	69	2	19	50	64	2
Yield/Force Off (s)	20.5	45.5	64.5	87.5	14.5	45.5	59.5	87.5
Yield/Force Off 170(s)	20.5	34.5	64.5	76.5	14.5	34.5	59.5	76.5
Local Start Time (s)	67	0	25	44	67	84	25	39
Local Yield (s)	85.5	20.5	39.5	62.5	79.5	20.5	34.5	62.5
Local Yield 170(s)	85.5	9.5	39.5	51.5	79.5	9.5	34.5	51.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90

Offset: 25 (28%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	360	1165	199	279	489	117	412	49	124	110	39	246
v/c Ratio	0.81	1.21	0.33	0.76	0.47	0.20	0.73	0.09	0.21	0.25	0.10	0.47
Control Delay	34.4	136.1	3.9	30.8	27.8	1.6	29.2	25.7	2.1	18.6	29.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	136.1	3.9	30.8	27.8	1.6	29.2	25.7	2.1	18.6	29.9	7.5
Queue Length 50th (ft)	127	~433	0	95	119	0	174	21	0	38	18	0
Queue Length 95th (ft)	#249	#606	35	175	166	10	265	49	15	72	45	60
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	442	962	602	444	1042	594	567	553	598	465	384	521
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	1.21	0.33	0.63	0.47	0.20	0.73	0.09	0.21	0.24	0.10	0.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	27	14	123	80	17
Future Vol, veh/h	62	27	14	123	80	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	30	15	135	88	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	98	0	233	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	165	-
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	-	-	1495	-	755	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1495	-	747	995
Mov Cap-2 Maneuver	-	-	-	-	747	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	747	995	-	-	1495	-
HCM Lane V/C Ratio	0.118	0.019	-	-	0.01	-
HCM Control Delay (s)	10.5	8.7	-	-	7.4	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	131	76	23	84	58	21
Future Vol, veh/h	131	76	23	84	58	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	144	84	25	92	64	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	228	0	286	144
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	142	-
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	-	-	1340	-	704	903
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1340	-	691	903
Mov Cap-2 Maneuver	-	-	-	-	691	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	868	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	691	903	-	-	1340	-
HCM Lane V/C Ratio	0.092	0.026	-	-	0.019	-
HCM Control Delay (s)	10.7	9.1	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	14	5	95	42	16
Future Vol, veh/h	65	14	5	95	42	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	15	5	104	46	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	86	0	185	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	114	-
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	-	-	1510	-	804	991
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1510	-	802	991
Mov Cap-2 Maneuver	-	-	-	-	802	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	802	991	-	-	1510	-
HCM Lane V/C Ratio	0.058	0.018	-	-	0.004	-
HCM Control Delay (s)	9.8	8.7	-	-	7.4	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	50	19	78	29	11
Future Vol, veh/h	102	50	19	78	29	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	55	21	86	32	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	167	0	240	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	128	-
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	-	-	1411	-	748	941
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1411	-	737	941
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	885	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	737	941	-	-	1411	-
HCM Lane V/C Ratio	0.043	0.013	-	-	0.015	-
HCM Control Delay (s)	10.1	8.9	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-

APPENDIX G

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	365	425	180	255	895	130	195	435	100	120	405	370
Future Volume (veh/h)	365	425	180	255	895	130	195	435	100	120	405	370
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	447	52	268	942	36	205	458	5	126	426	166
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	466	1994	889	420	1337	596	261	770	343	302	1205	537
Arrive On Green	0.13	0.56	0.56	0.00	0.38	0.38	0.00	0.22	0.22	0.02	0.11	0.11
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	384	447	52	268	942	36	205	458	5	126	426	166
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.7	5.7	1.3	0.1	20.3	1.3	0.1	10.4	0.2	4.7	10.0	8.7
Cycle Q Clear(g_c), s	9.7	5.7	1.3	0.1	20.3	1.3	0.1	10.4	0.2	4.7	10.0	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	466	1994	889	420	1337	596	261	770	343	302	1205	537
V/C Ratio(X)	0.82	0.22	0.06	0.64	0.70	0.06	0.79	0.59	0.01	0.42	0.35	0.31
Avail Cap(c_a), veh/h	557	1994	889	666	1337	596	407	770	343	362	1205	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	37.9	9.9	9.0	24.8	23.8	17.9	36.3	31.7	27.7	25.2	30.9	30.3
Incr Delay (d2), s/veh	8.4	0.3	0.1	1.6	1.7	0.0	5.3	3.4	0.1	0.8	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	2.1	0.5	5.0	8.5	0.5	4.9	4.7	0.1	2.1	4.8	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	10.2	9.1	26.4	25.5	18.0	41.7	35.1	27.8	26.1	31.6	31.6
LnGrp LOS	D	B	A	C	C	B	D	D	C	C	C	C
Approach Vol, veh/h		883			1246			668			718	
Approach Delay, s/veh		25.8			25.5			37.0			30.6	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	55.0	0.0	35.0	16.6	38.4	11.0	24.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	30.5	7.5	21.5	14.5	28.5	9.5	19.5
Max Q Clear Time (g_c+I1), s	0.0	7.7	0.0	10.7	11.7	22.3	6.7	0.0
Green Ext Time (p_c), s	0.0	2.7	0.0	0.1	0.4	3.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

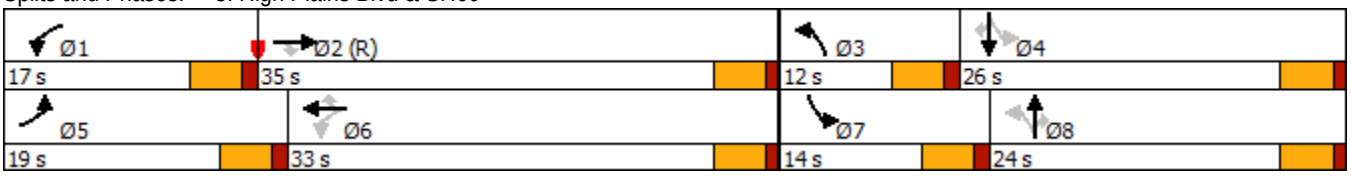
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	17	35	12	26	19	33	14	24
Maximum Split (%)	18.9%	38.9%	13.3%	28.9%	21.1%	36.7%	15.6%	26.7%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	73	0	35	47	73	2	35	49
End Time (s)	0	35	47	73	2	35	49	73
Yield/Force Off (s)	85.5	30.5	42.5	68.5	87.5	30.5	44.5	68.5
Yield/Force Off 170(s)	85.5	19.5	42.5	57.5	87.5	19.5	44.5	57.5
Local Start Time (s)	73	0	35	47	73	2	35	49
Local Yield (s)	85.5	30.5	42.5	68.5	87.5	30.5	44.5	68.5
Local Yield 170(s)	85.5	19.5	42.5	57.5	87.5	19.5	44.5	57.5

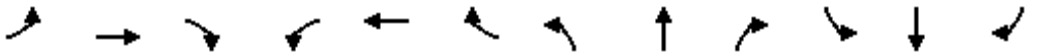
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	75

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	384	447	189	268	942	137	205	458	105	126	426	389
v/c Ratio	0.74	0.36	0.28	0.53	0.82	0.23	0.65	0.57	0.23	0.40	0.50	0.62
Control Delay	45.6	23.1	4.5	16.5	35.2	5.2	32.5	34.6	5.2	22.1	32.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	23.1	4.5	16.5	35.2	5.2	32.5	34.6	5.2	22.1	32.6	17.3
Queue Length 50th (ft)	107	100	0	80	261	0	81	124	0	58	124	91
Queue Length 95th (ft)	155	141	44	128	#345	39	#143	174	30	105	174	167
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	553	1236	675	522	1153	608	317	798	455	328	845	628
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.36	0.28	0.51	0.82	0.23	0.65	0.57	0.23	0.38	0.50	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	1100	225	200	645	140	235	460	150	140	490	265
Future Volume (veh/h)	330	1100	225	200	645	140	235	460	150	140	490	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	347	1158	88	211	679	14	247	484	11	147	516	-9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	1906	850	221	1278	570	290	829	370	324	1292	576
Arrive On Green	0.13	0.54	0.54	0.00	0.36	0.36	0.00	0.23	0.23	0.16	0.73	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	347	1158	88	211	679	14	247	484	11	147	516	-9
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.8	20.2	2.5	0.1	13.6	0.5	0.1	10.9	0.5	5.4	5.0	0.0
Cycle Q Clear(g_c), s	8.8	20.2	2.5	0.1	13.6	0.5	0.1	10.9	0.5	5.4	5.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	438	1906	850	221	1278	570	290	829	370	324	1292	576
V/C Ratio(X)	0.79	0.61	0.10	0.95	0.53	0.02	0.85	0.58	0.03	0.45	0.40	-0.02
Avail Cap(c_a), veh/h	634	1906	850	447	1278	570	506	829	370	340	1292	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	38.1	14.3	10.2	35.4	22.8	18.6	36.0	30.6	26.6	20.7	8.5	0.0
Incr Delay (d2), s/veh	4.4	1.4	0.2	18.9	0.4	0.0	6.9	3.0	0.1	0.9	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	7.9	0.9	5.8	5.6	0.2	6.0	4.9	0.2	2.1	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	15.8	10.5	54.3	23.2	18.6	43.0	33.6	26.8	21.6	9.3	0.0
LnGrp LOS	D	B	B	D	C	B	D	C	C	C	A	A
Approach Vol, veh/h		1593			904			742			654	
Approach Delay, s/veh		21.3			30.4			36.6			12.2	
Approach LOS		C			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	52.8	0.0	37.2	15.9	36.9	11.7	25.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	31.5	11.0	18.0	16.5	26.5	8.0	21.0
Max Q Clear Time (g_c+I1), s	0.0	22.2	0.0	0.0	10.8	15.6	7.4	0.0
Green Ext Time (p_c), s	0.0	5.2	0.0	0.0	0.6	3.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

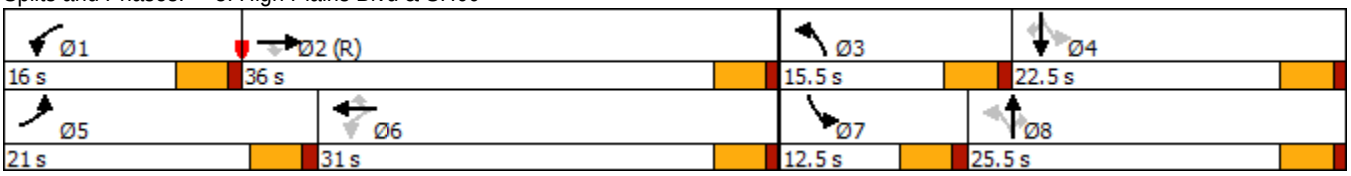
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	16	36	15.5	22.5	21	31	12.5	25.5
Maximum Split (%)	17.8%	40.0%	17.2%	25.0%	23.3%	34.4%	13.9%	28.3%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	74	0	36	51.5	74	5	36	48.5
End Time (s)	0	36	51.5	74	5	36	48.5	74
Yield/Force Off (s)	85.5	31.5	47	69.5	0.5	31.5	44	69.5
Yield/Force Off 170(s)	85.5	20.5	47	58.5	0.5	20.5	44	58.5
Local Start Time (s)	74	0	36	51.5	74	5	36	48.5
Local Yield (s)	85.5	31.5	47	69.5	0.5	31.5	44	69.5
Local Yield 170(s)	85.5	20.5	47	58.5	0.5	20.5	44	58.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	75

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	347	1158	237	211	679	147	247	484	158	147	516	279
v/c Ratio	0.65	0.91	0.33	0.73	0.59	0.23	0.80	0.58	0.31	0.50	0.73	0.52
Control Delay	41.6	39.5	4.3	33.8	28.6	3.0	42.5	33.8	4.9	37.4	48.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	39.5	4.3	33.8	28.6	3.0	42.5	33.8	4.9	37.4	48.8	18.1
Queue Length 50th (ft)	96	330	0	63	170	0	101	129	0	65	128	34
Queue Length 95th (ft)	137	#466	47	#163	236	27	#199	180	36	122	183	102
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	629	1276	722	308	1142	634	310	832	511	299	710	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.91	0.33	0.69	0.59	0.23	0.80	0.58	0.31	0.49	0.73	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	100	40	110	220	80	120	750	90	45	415	115
Future Volume (veh/h)	125	100	40	110	220	80	120	750	90	45	415	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	105	5	116	232	5	126	789	27	47	437	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	632	1917	855	633	1527	681	310	967	431	192	1282	572
Arrive On Green	0.06	0.54	0.54	0.00	0.43	0.43	0.00	0.27	0.27	0.01	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	132	105	5	116	232	5	126	789	27	47	437	36
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.5	1.3	0.1	0.1	3.6	0.2	0.1	18.7	1.1	1.6	10.2	1.8
Cycle Q Clear(g_c), s	3.5	1.3	0.1	0.1	3.6	0.2	0.1	18.7	1.1	1.6	10.2	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	632	1917	855	633	1527	681	310	967	431	192	1282	572
V/C Ratio(X)	0.21	0.05	0.01	0.18	0.15	0.01	0.41	0.82	0.06	0.25	0.34	0.06
Avail Cap(c_a), veh/h	674	1917	855	839	1527	681	457	967	431	232	1282	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	0.99	0.99	0.99
Uniform Delay (d), s/veh	11.8	9.8	9.6	16.0	15.7	14.7	29.3	30.6	24.2	23.8	29.8	26.1
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.1	0.2	0.0	0.7	6.0	0.2	0.7	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.5	0.0	1.5	1.5	0.1	2.3	8.6	0.4	0.7	4.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	9.9	9.6	16.2	15.9	14.7	30.0	36.6	24.5	24.4	30.5	26.4
LnGrp LOS	B	A	A	B	B	B	C	D	C	C	C	C
Approach Vol, veh/h		242			353			942			520	
Approach Delay, s/veh		11.0			15.9			35.4			29.7	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	53.0	0.0	37.0	9.9	43.2	8.0	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	31.5	7.5	22.5	7.5	34.5	5.5	24.5
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	12.2	5.5	2.2	3.6	20.7
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.1	0.0	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

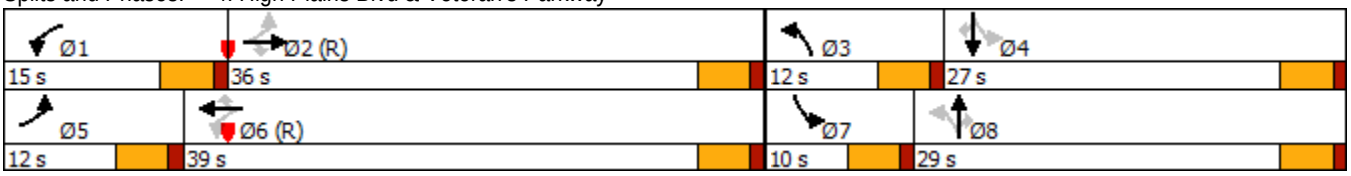
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	C-Max	None	Max
Maximum Split (s)	15	36	12	27	12	39	10	29
Maximum Split (%)	16.7%	40.0%	13.3%	30.0%	13.3%	43.3%	11.1%	32.2%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	65	80	26	38	65	77	26	36
End Time (s)	80	26	38	65	77	26	36	65
Yield/Force Off (s)	75.5	21.5	33.5	60.5	72.5	21.5	31.5	60.5
Yield/Force Off 170(s)	75.5	10.5	33.5	49.5	72.5	10.5	31.5	49.5
Local Start Time (s)	75	0	36	48	75	87	36	46
Local Yield (s)	85.5	31.5	43.5	70.5	82.5	31.5	41.5	70.5
Local Yield 170(s)	85.5	20.5	43.5	59.5	82.5	20.5	41.5	59.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	65

Offset: 80 (89%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Splits and Phases: 4: High Plains Blvd & Veteran's Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	132	105	42	116	232	84	126	789	95	47	437	121
v/c Ratio	0.23	0.07	0.06	0.18	0.17	0.12	0.39	0.70	0.16	0.23	0.49	0.24
Control Delay	12.8	18.8	0.1	12.1	18.7	1.6	7.8	14.2	2.4	19.3	30.4	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	18.8	0.1	12.1	18.7	1.6	7.8	14.2	2.4	19.3	30.4	11.9
Queue Length 50th (ft)	37	20	0	32	44	0	8	152	8	18	117	0
Queue Length 95th (ft)	68	38	0	60	70	12	m18	#204	m17	42	166	57
Internal Link Dist (ft)		1037			845			2748			960	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	575	1403	704	699	1365	688	326	1120	588	206	891	494
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.07	0.06	0.17	0.17	0.12	0.39	0.70	0.16	0.23	0.49	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	240	125	80	150	40	70	505	95	60	675	145
Future Volume (veh/h)	105	240	125	80	150	40	70	505	95	60	675	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	253	26	84	158	5	74	532	5	63	711	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1502	670	426	1112	496	353	1362	608	397	1696	757
Arrive On Green	0.06	0.42	0.42	0.00	0.31	0.31	0.00	0.38	0.38	0.09	0.95	0.95
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	111	253	26	84	158	5	74	532	5	63	711	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.6	4.0	0.9	0.1	2.9	0.2	0.1	9.8	0.2	1.8	1.4	0.1
Cycle Q Clear(g_c), s	3.6	4.0	0.9	0.1	2.9	0.2	0.1	9.8	0.2	1.8	1.4	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	530	1502	670	426	1112	496	353	1362	608	397	1696	757
V/C Ratio(X)	0.21	0.17	0.04	0.20	0.14	0.01	0.21	0.39	0.01	0.16	0.42	0.06
Avail Cap(c_a), veh/h	632	1502	670	652	1112	496	480	1362	608	447	1696	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81	0.96	0.96	0.96
Uniform Delay (d), s/veh	17.7	16.2	15.3	22.9	22.2	21.3	19.0	20.1	17.2	14.3	1.1	1.1
Incr Delay (d2), s/veh	0.2	0.2	0.1	0.2	0.3	0.0	0.2	0.7	0.0	0.2	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.6	0.3	1.3	1.2	0.1	1.0	4.0	0.1	0.7	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	16.4	15.4	23.1	22.5	21.3	19.2	20.8	17.2	14.4	1.8	1.2
LnGrp LOS	B	B	B	C	C	C	B	C	B	B	A	A
Approach Vol, veh/h		390			247			611			819	
Approach Delay, s/veh		16.8			22.7			20.6			2.8	
Approach LOS		B			C			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	42.5	0.0	47.5	9.9	32.7	8.5	39.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	19.5	6.5	34.5	10.5	20.5	6.5	34.5
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	3.4	5.6	2.2	3.8	11.8
Green Ext Time (p_c), s	0.0	0.0	0.0	5.7	0.1	0.0	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

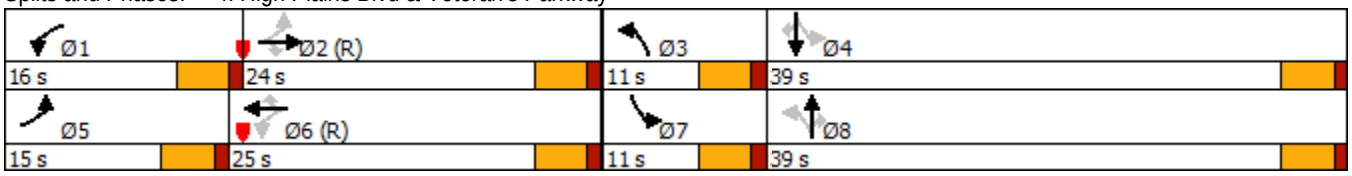
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	C-Max	None	Max
Maximum Split (s)	16	24	11	39	15	25	11	39
Maximum Split (%)	17.8%	26.7%	12.2%	43.3%	16.7%	27.8%	12.2%	43.3%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	39	55	79	0	39	54	79	0
End Time (s)	55	79	0	39	54	79	0	39
Yield/Force Off (s)	50.5	74.5	85.5	34.5	49.5	74.5	85.5	34.5
Yield/Force Off 170(s)	50.5	63.5	85.5	23.5	49.5	63.5	85.5	23.5
Local Start Time (s)	74	0	24	35	74	89	24	35
Local Yield (s)	85.5	19.5	30.5	69.5	84.5	19.5	30.5	69.5
Local Yield 170(s)	85.5	8.5	30.5	58.5	84.5	8.5	30.5	58.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	65

Offset: 55 (61%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Splits and Phases: 4: High Plains Blvd & Veteran's Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	111	253	132	84	158	42	74	532	100	63	711	153
v/c Ratio	0.23	0.26	0.25	0.19	0.17	0.08	0.22	0.37	0.14	0.15	0.49	0.21
Control Delay	19.1	27.8	6.7	18.7	27.4	0.3	16.8	22.2	6.7	10.7	16.6	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	27.8	6.7	18.7	27.4	0.3	16.8	22.2	6.7	10.7	16.6	2.0
Queue Length 50th (ft)	40	61	0	30	37	0	22	87	5	14	90	0
Queue Length 95th (ft)	76	97	45	60	65	0	m49	141	m24	32	123	10
Internal Link Dist (ft)		1037			845			2748			960	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	506	975	532	493	957	520	335	1443	721	411	1443	736
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.26	0.25	0.17	0.17	0.08	0.22	0.37	0.14	0.15	0.49	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	5	35	35	5	25	65	875	15	10	505	25
Future Volume (veh/h)	15	5	35	35	5	25	65	875	15	10	505	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	5	37	37	5	26	68	921	16	11	532	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	14	103	145	19	98	744	2716	1212	542	2603	1161
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.06	1.00	1.00	0.01	0.73	0.73
Sat Flow, veh/h	1378	192	1422	1365	262	1363	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	16	0	42	37	0	31	68	921	16	11	532	26
Grp Sat Flow(s),veh/h/ln	1378	0	1614	1365	0	1625	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	0.0	2.2	2.4	0.0	1.6	0.8	0.0	0.0	0.1	4.2	0.4
Cycle Q Clear(g_c), s	2.6	0.0	2.2	4.6	0.0	1.6	0.8	0.0	0.0	0.1	4.2	0.4
Prop In Lane	1.00		0.88	1.00		0.84	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	117	145	0	117	744	2716	1212	542	2603	1161
V/C Ratio(X)	0.10	0.00	0.36	0.26	0.00	0.26	0.09	0.34	0.01	0.02	0.20	0.02
Avail Cap(c_a), veh/h	415	0	422	403	0	424	812	2716	1212	646	2603	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0	39.8	42.0	0.0	39.5	2.3	0.0	0.0	2.9	3.8	3.3
Incr Delay (d2), s/veh	0.3	0.0	1.9	0.9	0.0	1.2	0.0	0.3	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.9	0.8	0.0	0.7	0.2	0.1	0.0	0.0	1.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	0.0	41.6	42.9	0.0	40.7	2.4	0.3	0.0	2.9	4.0	3.3
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		58			68			1005			569	
Approach Delay, s/veh		41.5			41.9			0.4			3.9	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	73.3		11.0	8.6	70.4		11.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	46.5		23.5	7.5	45.5		23.5				
Max Q Clear Time (g_c+I1), s	2.1	2.0		4.6	2.8	6.2		6.6				
Green Ext Time (p_c), s	0.0	8.3		0.2	0.0	4.1		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

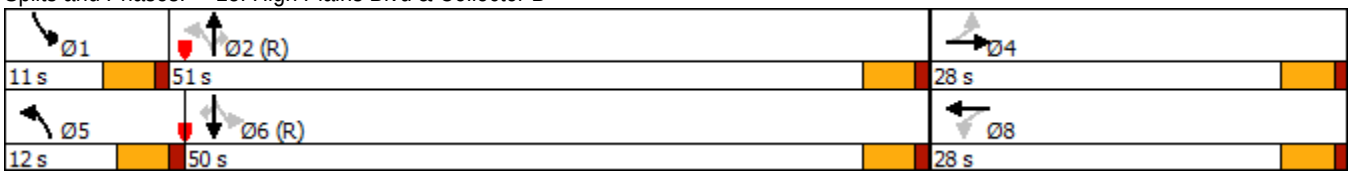
Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	None	None	C-Max	None
Maximum Split (s)	11	51	28	12	50	28
Maximum Split (%)	12.2%	56.7%	31.1%	13.3%	55.6%	31.1%
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)		7	7		7	7
Flash Dont Walk (s)		11	11		11	11
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	68	79	40	68	80	40
End Time (s)	79	40	68	80	40	68
Yield/Force Off (s)	74.5	35.5	63.5	75.5	35.5	63.5
Yield/Force Off 170(s)	74.5	24.5	52.5	75.5	24.5	52.5
Local Start Time (s)	78	89	50	78	0	50
Local Yield (s)	84.5	45.5	73.5	85.5	45.5	73.5
Local Yield 170(s)	84.5	34.5	62.5	85.5	34.5	62.5

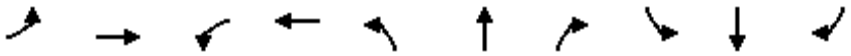
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	55

Offset: 80 (89%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Splits and Phases: 15: High Plains Blvd & Collector B





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	42	37	31	68	921	16	11	532	26
v/c Ratio	0.13	0.24	0.31	0.19	0.09	0.32	0.01	0.02	0.20	0.02
Control Delay	38.9	18.0	44.3	19.1	0.7	2.2	0.2	2.3	5.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	18.0	44.3	19.1	0.7	2.2	0.2	2.3	5.1	0.0
Queue Length 50th (ft)	9	3	20	3	1	7	0	1	48	0
Queue Length 95th (ft)	27	32	49	28	m2	230	m1	4	81	0
Internal Link Dist (ft)		775		476		960			238	
Turn Bay Length (ft)	150		150		250		250	250		250
Base Capacity (vph)	358	449	355	444	738	2903	1311	544	2643	1200
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.09	0.10	0.07	0.09	0.32	0.01	0.02	0.20	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	5	205	25	5	20	190	425	40	30	650	80
Future Volume (veh/h)	90	5	205	25	5	20	190	425	40	30	650	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	5	25	26	5	5	200	447	5	32	684	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	26	129	188	82	82	645	2574	1148	787	2471	1102
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.12	1.00	1.00	0.03	0.70	0.70
Sat Flow, veh/h	1405	271	1355	1380	858	858	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	95	0	30	26	0	10	200	447	5	32	684	30
Grp Sat Flow(s),veh/h/ln	1405	0	1626	1380	0	1716	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.9	0.0	1.5	1.6	0.0	0.5	3.0	0.0	0.0	0.5	6.5	0.5
Cycle Q Clear(g_c), s	6.4	0.0	1.5	3.1	0.0	0.5	3.0	0.0	0.0	0.5	6.5	0.5
Prop In Lane	1.00		0.83	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	206	0	155	188	0	163	645	2574	1148	787	2471	1102
V/C Ratio(X)	0.46	0.00	0.19	0.14	0.00	0.06	0.31	0.17	0.00	0.04	0.28	0.03
Avail Cap(c_a), veh/h	439	0	425	417	0	448	865	2574	1148	901	2471	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	37.5	39.0	0.0	37.1	3.2	0.0	0.0	3.4	5.2	4.3
Incr Delay (d2), s/veh	1.6	0.0	0.6	0.3	0.0	0.2	0.3	0.1	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.6	0.6	0.0	0.2	0.7	0.0	0.0	0.1	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	0.0	38.1	39.3	0.0	37.2	3.4	0.1	0.0	3.5	5.5	4.3
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		125			36			652			746	
Approach Delay, s/veh		40.7			38.7			1.1			5.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	69.7		13.1	9.9	67.1		13.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	44.5		23.5	16.5	36.5		23.5				
Max Q Clear Time (g_c+I1), s	2.5	2.0		8.4	5.0	8.5		5.1				
Green Ext Time (p_c), s	0.0	3.4		0.3	0.4	5.3		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

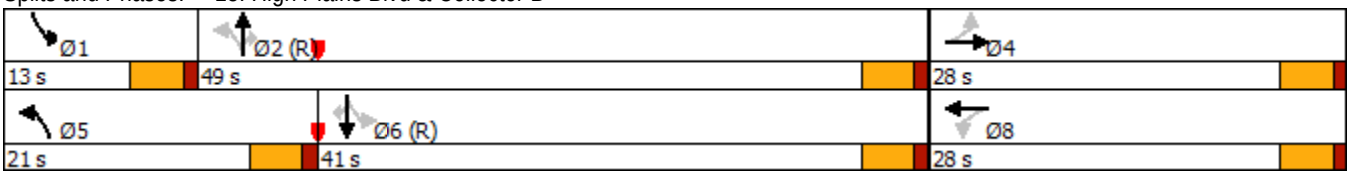
Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	None	None	C-Max	None
Maximum Split (s)	13	49	28	21	41	28
Maximum Split (%)	14.4%	54.4%	31.1%	23.3%	45.6%	31.1%
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)		7	7		7	7
Flash Dont Walk (s)		11	11		11	11
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	69	82	41	69	0	41
End Time (s)	82	41	69	0	41	69
Yield/Force Off (s)	77.5	36.5	64.5	85.5	36.5	64.5
Yield/Force Off 170(s)	77.5	25.5	53.5	85.5	25.5	53.5
Local Start Time (s)	69	82	41	69	0	41
Local Yield (s)	77.5	36.5	64.5	85.5	36.5	64.5
Local Yield 170(s)	77.5	25.5	53.5	85.5	25.5	53.5

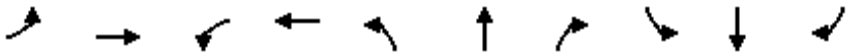
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Splits and Phases: 15: High Plains Blvd & Collector B





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	221	26	26	200	447	42	32	684	84
v/c Ratio	0.53	0.56	0.31	0.11	0.34	0.18	0.04	0.05	0.31	0.08
Control Delay	46.3	11.2	43.8	16.7	8.8	7.0	3.1	3.8	9.1	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	11.2	43.8	16.7	8.8	7.0	3.1	3.8	9.1	0.9
Queue Length 50th (ft)	51	3	14	3	33	73	2	3	84	0
Queue Length 95th (ft)	93	61	37	24	111	85	6	12	150	9
Internal Link Dist (ft)		775		476		960			238	
Turn Bay Length (ft)	150		150		250		250	250		250
Base Capacity (vph)	359	574	166	442	694	2472	1127	742	2219	1040
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.39	0.16	0.06	0.29	0.18	0.04	0.04	0.31	0.08

Intersection Summary

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	25	10	340	70	25
Future Vol, veh/h	200	25	10	340	70	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	26	11	358	74	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	237	0	412	106
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	201	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1327	-	568	928
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	813	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1327	-	563	928
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	806	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	563	928	-	-	1327	-
HCM Lane V/C Ratio	0.131	0.028	-	-	0.008	-
HCM Control Delay (s)	12.4	9	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	310	85	30	225	50	20
Future Vol, veh/h	310	85	30	225	50	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	326	89	32	237	53	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	415	0	509	163
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1140	-	494	853
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	830	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1140	-	480	853
Mov Cap-2 Maneuver	-	-	-	-	480	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	480	853	-	-	1140	-
HCM Lane V/C Ratio	0.11	0.025	-	-	0.028	-
HCM Control Delay (s)	13.4	9.3	-	-	8.2	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	180	20	10	235	15	55	1	25	35	1	60
Future Vol, veh/h	25	180	20	10	235	15	55	1	25	35	1	60
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	350	-	350	350	-	350	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	189	21	11	247	16	58	1	26	37	1	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	263	0	0	210	0	0	387	526	95	416	531	124
Stage 1	-	-	-	-	-	-	241	241	-	269	269	-
Stage 2	-	-	-	-	-	-	146	285	-	147	262	-
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	1298	-	-	1358	-	-	546	455	943	521	452	904
Stage 1	-	-	-	-	-	-	741	705	-	713	685	-
Stage 2	-	-	-	-	-	-	842	674	-	841	690	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1298	-	-	1358	-	-	496	442	943	495	439	904
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	442	-	495	439	-
Stage 1	-	-	-	-	-	-	726	691	-	699	680	-
Stage 2	-	-	-	-	-	-	776	669	-	800	676	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	11.9	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	496	904	1298	-	-	1358	-	-	495	889
HCM Lane V/C Ratio	0.117	0.03	0.02	-	-	0.008	-	-	0.074	0.072
HCM Control Delay (s)	13.2	9.1	7.8	-	-	7.7	-	-	12.9	9.4
HCM Lane LOS	B	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.4	0.1	0.1	-	-	0	-	-	0.2	0.2

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	70	190	70	30	175	40	40	1	20	25	1	40
Future Vol, veh/h	70	190	70	30	175	40	40	1	20	25	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	350	-	350	350	-	350	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	200	74	32	184	42	42	1	21	26	1	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	226	0	0	274	0	0	505	638	100	497	670	92
Stage 1	-	-	-	-	-	-	348	348	-	248	248	-
Stage 2	-	-	-	-	-	-	157	290	-	249	422	-
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	1340	-	-	1286	-	-	450	393	936	456	377	947
Stage 1	-	-	-	-	-	-	641	633	-	734	700	-
Stage 2	-	-	-	-	-	-	829	671	-	733	587	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1340	-	-	1286	-	-	403	362	936	418	347	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	403	362	-	418	347	-
Stage 1	-	-	-	-	-	-	606	598	-	694	683	-
Stage 2	-	-	-	-	-	-	771	654	-	676	555	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	1	13	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	403	870	1340	-	-	1286	-	-	418	909
HCM Lane V/C Ratio	0.104	0.025	0.055	-	-	0.025	-	-	0.063	0.047
HCM Control Delay (s)	15	9.2	7.8	-	-	7.9	-	-	14.2	9.2
HCM Lane LOS	C	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.3	0.1	0.2	-	-	0.1	-	-	0.2	0.1

APPENDIX H

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	301	26	209	598	40	173	12	14	66	16	237
Future Volume (veh/h)	71	301	26	209	598	40	173	12	14	66	16	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	354	6	246	704	6	204	14	5	78	19	66
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1647	735	455	1296	578	527	634	537	630	816	692
Arrive On Green	0.05	0.46	0.46	0.00	0.36	0.36	0.00	0.34	0.34	0.05	0.44	0.44
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	84	354	6	246	704	6	204	14	5	78	19	66
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.5	5.3	0.2	0.1	14.1	0.2	0.1	0.4	0.2	2.4	0.5	2.2
Cycle Q Clear(g_c), s	2.5	5.3	0.2	0.1	14.1	0.2	0.1	0.4	0.2	2.4	0.5	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	1647	735	455	1296	578	527	634	537	630	816	692
V/C Ratio(X)	0.26	0.21	0.01	0.54	0.54	0.01	0.39	0.02	0.01	0.12	0.02	0.10
Avail Cap(c_a), veh/h	382	1647	735	779	1296	578	733	634	537	654	816	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	14.4	13.0	23.8	22.6	18.2	23.2	19.8	19.7	16.5	14.4	14.9
Incr Delay (d2), s/veh	0.4	0.3	0.0	1.0	0.5	0.0	0.5	0.1	0.0	0.1	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.1	0.1	4.3	5.8	0.1	3.3	0.2	0.1	1.0	0.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	14.7	13.0	24.8	23.1	18.2	23.7	19.9	19.8	16.6	14.5	15.2
LnGrp LOS	B	B	B	C	C	B	C	B	B	B	B	B
Approach Vol, veh/h		444			956			223			163	
Approach Delay, s/veh		15.1			23.5			23.3			15.8	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	46.2	0.0	43.8	8.9	37.3	8.8	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	19.5	10.5	25.5	7.5	28.5	5.5	30.5
Max Q Clear Time (g_c+I1), s	0.0	7.3	0.0	4.2	4.5	16.1	4.4	0.0
Green Ext Time (p_c), s	0.0	1.7	0.0	0.1	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

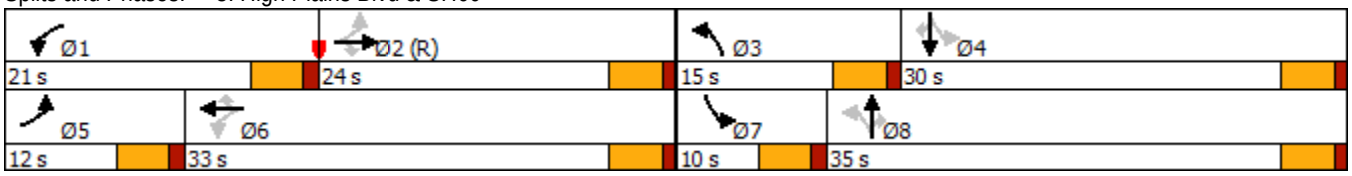
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	21	24	15	30	12	33	10	35
Maximum Split (%)	23.3%	26.7%	16.7%	33.3%	13.3%	36.7%	11.1%	38.9%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	35	56	80	5	35	47	80	0
End Time (s)	56	80	5	35	47	80	0	35
Yield/Force Off (s)	51.5	75.5	0.5	30.5	42.5	75.5	85.5	30.5
Yield/Force Off 170(s)	51.5	64.5	0.5	19.5	42.5	64.5	85.5	19.5
Local Start Time (s)	69	0	24	39	69	81	24	34
Local Yield (s)	85.5	19.5	34.5	64.5	76.5	19.5	29.5	64.5
Local Yield 170(s)	85.5	8.5	34.5	53.5	76.5	8.5	29.5	53.5

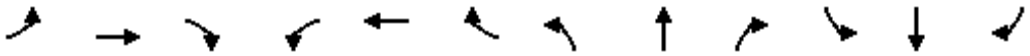
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	65

Offset: 56 (62%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	354	31	246	704	47	204	14	16	78	19	279
v/c Ratio	0.29	0.39	0.05	0.52	0.58	0.07	0.34	0.02	0.02	0.15	0.04	0.43
Control Delay	18.2	30.2	0.2	20.2	27.3	0.2	17.3	20.1	0.1	15.7	23.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	30.2	0.2	20.2	27.3	0.2	17.3	20.1	0.1	15.7	23.7	5.5
Queue Length 50th (ft)	27	88	0	86	178	0	70	5	0	25	8	0
Queue Length 95th (ft)	50	127	0	131	221	0	109	17	0	48	23	46
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	296	897	577	512	1218	664	602	672	687	510	538	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.39	0.05	0.48	0.58	0.07	0.34	0.02	0.02	0.15	0.04	0.43

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	972	124	257	370	72	355	45	114	51	36	165
Future Volume (veh/h)	261	972	124	257	370	72	355	45	114	51	36	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	287	1068	5	282	407	5	390	49	5	56	40	25
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	579	2038	909	287	1603	715	401	447	379	442	611	518
Arrive On Green	0.07	0.57	0.57	0.00	0.45	0.45	0.00	0.24	0.24	0.04	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	287	1068	5	282	407	5	390	49	5	56	40	25
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.5	16.5	0.1	0.1	6.4	0.2	0.1	1.8	0.2	2.0	1.3	1.0
Cycle Q Clear(g_c), s	6.5	16.5	0.1	0.1	6.4	0.2	0.1	1.8	0.2	2.0	1.3	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	579	2038	909	287	1603	715	401	447	379	442	611	518
V/C Ratio(X)	0.50	0.52	0.01	0.98	0.25	0.01	0.97	0.11	0.01	0.13	0.07	0.05
Avail Cap(c_a), veh/h	579	2038	909	671	1603	715	706	447	379	622	611	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	11.7	8.2	31.9	15.3	13.6	36.1	26.8	26.2	22.9	20.9	20.7
Incr Delay (d2), s/veh	0.7	1.0	0.0	20.8	0.1	0.0	18.7	0.5	0.1	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.2	0.0	7.8	2.5	0.1	10.7	0.9	0.1	0.9	0.6	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	12.7	8.2	52.7	15.4	13.6	54.8	27.3	26.2	23.1	21.1	20.9
LnGrp LOS	B	B	A	D	B	B	D	C	C	C	C	C
Approach Vol, veh/h		1360			694			444			121	
Approach Delay, s/veh		12.8			30.5			51.4			22.0	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	56.1	0.0	33.9	11.0	45.1	7.9	26.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	18.5	15.5	18.5	6.5	31.5	12.5	21.5
Max Q Clear Time (g_c+I1), s	0.0	18.5	0.0	3.0	8.5	8.4	4.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.7	0.1	0.0

Intersection Summary

HCM 6th Ctrl Delay		24.5	
HCM 6th LOS		C	

Notes

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

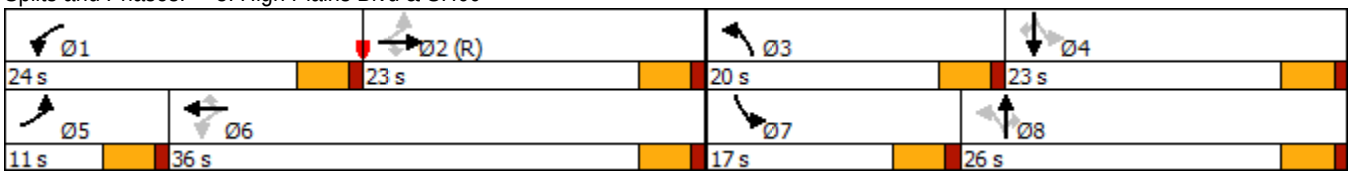
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	24	23	20	23	11	36	17	26
Maximum Split (%)	26.7%	25.6%	22.2%	25.6%	12.2%	40.0%	18.9%	28.9%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	33	57	80	10	33	44	80	7
End Time (s)	57	80	10	33	44	80	7	33
Yield/Force Off (s)	52.5	75.5	5.5	28.5	39.5	75.5	2.5	28.5
Yield/Force Off 170(s)	52.5	64.5	5.5	17.5	39.5	64.5	2.5	17.5
Local Start Time (s)	66	0	23	43	66	77	23	40
Local Yield (s)	85.5	18.5	38.5	61.5	72.5	18.5	35.5	61.5
Local Yield 170(s)	85.5	7.5	38.5	50.5	72.5	7.5	35.5	50.5

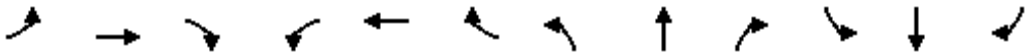
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90

Offset: 57 (63%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	287	1068	136	282	407	79	390	49	125	56	40	181
v/c Ratio	0.76	1.16	0.25	0.76	0.33	0.12	0.67	0.08	0.20	0.13	0.10	0.38
Control Delay	36.8	117.5	3.2	31.8	22.4	1.6	25.6	24.1	2.0	17.0	29.9	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	117.5	3.2	31.8	22.4	1.6	25.6	24.1	2.0	17.0	29.9	7.4
Queue Length 50th (ft)	99	~381	0	98	88	0	158	20	0	18	19	0
Queue Length 95th (ft)	#224	#568	23	182	126	10	243	48	15	41	46	52
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	376	920	546	454	1238	636	588	596	630	530	392	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	1.16	0.25	0.62	0.33	0.12	0.66	0.08	0.20	0.11	0.10	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	64	18	84	134	54	39
Future Vol, veh/h	64	18	84	134	54	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	21	99	158	64	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	96	0	431	75
Stage 1	-	-	-	-	75	-
Stage 2	-	-	-	-	356	-
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	-	-	1498	-	581	986
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1498	-	543	986
Mov Cap-2 Maneuver	-	-	-	-	543	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	662	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	543	986	-	-	1498	-
HCM Lane V/C Ratio	0.117	0.047	-	-	0.066	-
HCM Control Delay (s)	12.5	8.8	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	141	46	68	90	39	100
Future Vol, veh/h	141	46	68	90	39	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	51	75	99	43	110

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	206	0	404	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	249	-
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	-	-	1365	-	603	891
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1365	-	570	891
Mov Cap-2 Maneuver	-	-	-	-	570	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	570	891	-	-	1365	-
HCM Lane V/C Ratio	0.075	0.123	-	-	0.055	-
HCM Control Delay (s)	11.8	9.6	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	54	85	6	15	133
Future Vol, veh/h	49	54	85	6	15	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	350	-	-	350	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	64	100	7	18	156

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	107	0	-	0	280	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	180	-
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	1484	-	-	-	710	956
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1484	-	-	-	682	956
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1484	-	-	-	682	956
HCM Lane V/C Ratio	0.039	-	-	-	0.026	0.164
HCM Control Delay (s)	7.5	-	-	-	10.4	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.6

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	152	89	64	17	11	94
Future Vol, veh/h	152	89	64	17	11	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	350	-	-	350	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	167	98	70	19	12	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	502	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	432	-
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	1506	-	-	-	529	993
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	655	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1506	-	-	-	470	993
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1506	-	-	-	470	993
HCM Lane V/C Ratio	0.111	-	-	-	0.026	0.104
HCM Control Delay (s)	7.7	-	-	-	12.9	9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.1	0.3

APPENDIX I

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	333	41	209	824	68	294	12	14	118	16	440
Future Volume (veh/h)	157	333	41	209	824	68	294	12	14	118	16	440
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	366	5	230	905	6	323	13	5	130	18	199
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	279	1599	713	402	1126	502	477	634	537	655	842	713
Arrive On Green	0.08	0.45	0.45	0.00	0.32	0.32	0.00	0.34	0.34	0.06	0.45	0.45
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	173	366	5	230	905	6	323	13	5	130	18	199
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.6	5.7	0.2	0.1	21.0	0.2	0.1	0.4	0.2	4.1	0.5	7.1
Cycle Q Clear(g_c), s	5.6	5.7	0.2	0.1	21.0	0.2	0.1	0.4	0.2	4.1	0.5	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	1599	713	402	1126	502	477	634	537	655	842	713
V/C Ratio(X)	0.62	0.23	0.01	0.57	0.80	0.01	0.68	0.02	0.01	0.20	0.02	0.28
Avail Cap(c_a), veh/h	279	1599	713	727	1126	502	682	634	537	655	842	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	15.2	13.7	27.1	28.2	21.1	27.1	19.8	19.7	16.2	13.7	15.6
Incr Delay (d2), s/veh	4.1	0.3	0.0	1.3	4.3	0.0	1.7	0.1	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.3	0.1	4.3	9.3	0.1	6.2	0.2	0.1	1.6	0.2	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	15.5	13.7	28.3	32.5	21.1	28.8	19.9	19.8	16.4	13.8	16.5
LnGrp LOS	C	B	B	C	C	C	C	B	B	B	B	B
Approach Vol, veh/h		544			1141			341			347	
Approach Delay, s/veh		18.5			31.6			28.3			16.3	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	45.0	0.0	45.0	12.0	33.0	10.0	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	19.5	10.5	25.5	7.5	28.5	5.5	30.5
Max Q Clear Time (g_c+I1), s	0.0	7.7	0.0	9.1	7.6	23.0	6.1	0.0
Green Ext Time (p_c), s	0.0	1.8	0.0	0.5	0.0	2.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

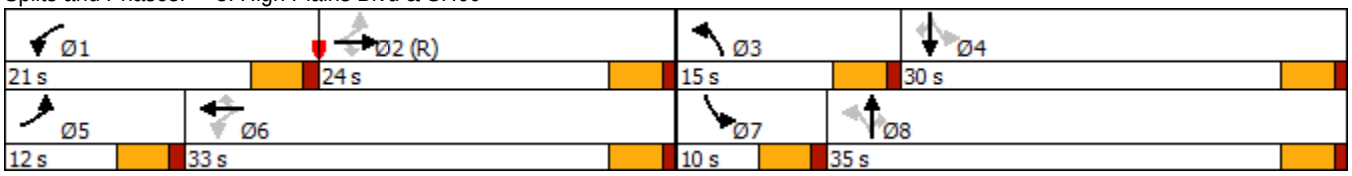
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	21	24	15	30	12	33	10	35
Maximum Split (%)	23.3%	26.7%	16.7%	33.3%	13.3%	36.7%	11.1%	38.9%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	4	25	49	64	4	16	49	59
End Time (s)	25	49	64	4	16	49	59	4
Yield/Force Off (s)	20.5	44.5	59.5	89.5	11.5	44.5	54.5	89.5
Yield/Force Off 170(s)	20.5	33.5	59.5	78.5	11.5	33.5	54.5	78.5
Local Start Time (s)	69	0	24	39	69	81	24	34
Local Yield (s)	85.5	19.5	34.5	64.5	76.5	19.5	29.5	64.5
Local Yield 170(s)	85.5	8.5	34.5	53.5	76.5	8.5	29.5	53.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	70

Offset: 25 (28%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	366	45	230	905	75	323	13	15	130	18	484
v/c Ratio	0.76	0.40	0.08	0.50	0.81	0.12	0.54	0.02	0.02	0.26	0.03	0.74
Control Delay	41.4	30.0	0.3	19.8	35.1	0.4	20.8	20.1	0.1	17.3	23.7	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	30.0	0.3	19.8	35.1	0.4	20.8	20.1	0.1	17.3	23.7	19.9
Queue Length 50th (ft)	58	90	0	80	246	0	119	5	0	42	7	101
Queue Length 95th (ft)	#158	140	0	132	322	0	187	18	0	78	23	226
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	229	913	583	512	1120	625	600	631	656	503	527	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.40	0.08	0.45	0.81	0.12	0.54	0.02	0.02	0.26	0.03	0.74

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	463	1072	183	257	450	137	379	45	114	118	36	307
Future Volume (veh/h)	463	1072	183	257	450	137	379	45	114	118	36	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	503	1165	61	279	489	49	412	49	6	128	39	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	521	1843	822	211	1172	523	425	488	414	530	713	604
Arrive On Green	0.14	0.52	0.52	0.00	0.33	0.33	0.00	0.26	0.26	0.07	0.38	0.38
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	503	1165	61	279	489	49	412	49	6	128	39	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	12.5	21.1	1.7	0.1	9.6	1.9	0.1	1.8	0.3	4.5	1.2	1.6
Cycle Q Clear(g_c), s	12.5	21.1	1.7	0.1	9.6	1.9	0.1	1.8	0.3	4.5	1.2	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	521	1843	822	211	1172	523	425	488	414	530	713	604
V/C Ratio(X)	0.97	0.63	0.07	1.32	0.42	0.09	0.97	0.10	0.01	0.24	0.05	0.07
Avail Cap(c_a), veh/h	521	1843	822	575	1172	523	710	488	414	593	713	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	15.5	10.8	36.9	23.4	20.9	35.1	25.2	24.7	20.4	17.6	17.7
Incr Delay (d2), s/veh	30.8	1.7	0.2	151.9	0.2	0.1	19.2	0.4	0.1	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	8.4	0.6	13.5	4.0	0.7	11.3	0.8	0.1	1.9	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	17.2	11.0	188.8	23.7	20.9	54.3	25.6	24.7	20.6	17.7	18.0
LnGrp LOS	D	B	B	F	C	C	D	C	C	C	B	B
Approach Vol, veh/h		1729			817			467			212	
Approach Delay, s/veh		27.5			79.9			50.9			19.5	
Approach LOS		C			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	51.2	0.0	38.8	17.0	34.2	10.8	28.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	20.5	14.5	18.5	12.5	26.5	9.5	23.5
Max Q Clear Time (g_c+I1), s	0.0	23.1	0.0	3.6	14.5	11.6	6.5	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.0	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

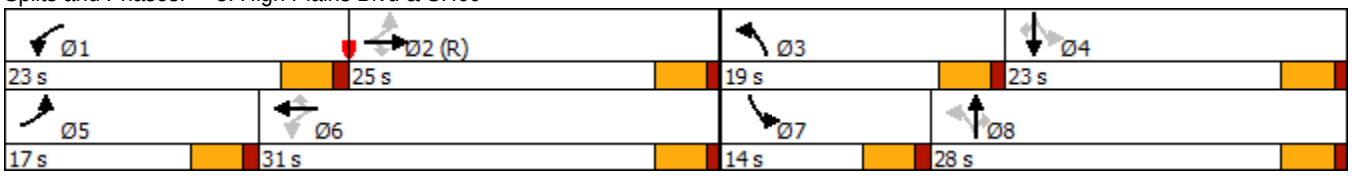
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	23	25	19	23	17	31	14	28
Maximum Split (%)	25.6%	27.8%	21.1%	25.6%	18.9%	34.4%	15.6%	31.1%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	2	25	50	69	2	19	50	64
End Time (s)	25	50	69	2	19	50	64	2
Yield/Force Off (s)	20.5	45.5	64.5	87.5	14.5	45.5	59.5	87.5
Yield/Force Off 170(s)	20.5	34.5	64.5	76.5	14.5	34.5	59.5	76.5
Local Start Time (s)	67	0	25	44	67	84	25	39
Local Yield (s)	85.5	20.5	39.5	62.5	79.5	20.5	34.5	62.5
Local Yield 170(s)	85.5	9.5	39.5	51.5	79.5	9.5	34.5	51.5

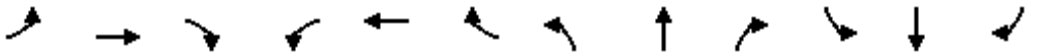
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90

Offset: 25 (28%), Referenced to phase 2:EBTL, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	503	1165	199	279	489	149	412	49	124	128	39	334
v/c Ratio	1.13	1.21	0.33	0.76	0.47	0.25	0.73	0.10	0.22	0.29	0.10	0.57
Control Delay	106.0	136.1	3.9	31.8	27.8	3.3	29.3	25.9	2.2	19.0	29.9	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.0	136.1	3.9	31.8	27.8	3.3	29.3	25.9	2.2	19.0	29.9	7.8
Queue Length 50th (ft)	~213	~433	0	97	119	0	174	21	0	45	18	0
Queue Length 95th (ft)	#433	#606	35	178	166	28	265	49	15	82	45	70
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	445	962	602	441	1042	594	565	503	560	465	384	591
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	1.21	0.33	0.63	0.47	0.25	0.73	0.10	0.22	0.28	0.10	0.57

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	27	154	213	80	70
Future Vol, veh/h	95	27	154	213	80	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	30	169	234	88	77

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	134	0	676	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	572	-
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	-	-	1451	-	419	951
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	565	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1451	-	370	951
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	499	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	370	951	-	-	1451	-
HCM Lane V/C Ratio	0.238	0.081	-	-	0.117	-
HCM Control Delay (s)	17.7	9.1	-	-	7.8	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0.4	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	233	76	121	148	58	182
Future Vol, veh/h	233	76	121	148	58	182
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	256	84	133	163	64	200

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	340	0	685	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	429	-
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	-	-	1219	-	414	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	657	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1219	-	369	783
Mov Cap-2 Maneuver	-	-	-	-	369	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	585	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	369	783	-	-	1219	-
HCM Lane V/C Ratio	0.173	0.255	-	-	0.109	-
HCM Control Delay (s)	16.8	11.2	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	1	-	-	0.4	-

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	125	14	5	257	2	42	0	16	4	0	68
Future Vol, veh/h	26	125	14	5	257	2	42	0	16	4	0	68
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	250	-	250	250	-	250	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	137	15	5	282	2	46	0	18	4	0	75

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	152	0	0	526	489	137	504	502	282
Stage 1	-	-	-	-	-	-	195	195	-	292	292	-
Stage 2	-	-	-	-	-	-	331	294	-	212	210	-
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	1278	-	-	1429	-	-	462	480	911	478	471	757
Stage 1	-	-	-	-	-	-	807	739	-	716	671	-
Stage 2	-	-	-	-	-	-	682	670	-	790	728	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1278	-	-	1429	-	-	408	468	911	459	459	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	408	468	-	459	459	-
Stage 1	-	-	-	-	-	-	788	722	-	700	669	-
Stage 2	-	-	-	-	-	-	613	668	-	757	711	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.1	13.3	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	408	911	1278	-	-	1429	-	-	459	757
HCM Lane V/C Ratio	0.113	0.019	0.022	-	-	0.004	-	-	0.01	0.099
HCM Control Delay (s)	14.9	9	7.9	-	-	7.5	-	-	12.9	10.3
HCM Lane LOS	B	A	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.4	0.1	0.1	-	-	0	-	-	0	0.3

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	78	287	50	19	192	5	29	0	11	3	0	48
Future Vol, veh/h	78	287	50	19	192	5	29	0	11	3	0	48
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	250	-	250	250	-	250	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	315	55	21	211	5	32	0	12	3	0	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	216	0	0	370	0	0	769	745	315	774	795	211
Stage 1	-	-	-	-	-	-	487	487	-	253	253	-
Stage 2	-	-	-	-	-	-	282	258	-	521	542	-
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	1354	-	-	1189	-	-	318	342	725	316	320	829
Stage 1	-	-	-	-	-	-	562	550	-	751	698	-
Stage 2	-	-	-	-	-	-	725	694	-	539	520	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1354	-	-	1189	-	-	280	314	725	292	294	829
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	314	-	292	294	-
Stage 1	-	-	-	-	-	-	526	515	-	703	685	-
Stage 2	-	-	-	-	-	-	667	682	-	496	487	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.7	16.9	10.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	280	725	1354	-	-	1189	-	-	292	829
HCM Lane V/C Ratio	0.114	0.017	0.063	-	-	0.018	-	-	0.011	0.064
HCM Control Delay (s)	19.5	10.1	7.8	-	-	8.1	-	-	17.5	9.6
HCM Lane LOS	C	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.4	0.1	0.2	-	-	0.1	-	-	0	0.2

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	85	102	8	22	162
Future Vol, veh/h	60	85	102	8	22	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	350	-	-	350	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	93	112	9	24	178

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	121	0	-	0	337	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	225	-
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	1467	-	-	-	658	941
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1467	-	-	-	628	941
Mov Cap-2 Maneuver	-	-	-	-	628	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	812	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1467	-	-	-	628	941
HCM Lane V/C Ratio	0.045	-	-	-	0.038	0.189
HCM Control Delay (s)	7.6	-	-	-	11	9.7
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.7

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	185	116	102	28	16	114
Future Vol, veh/h	185	116	102	28	16	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	350	-	-	350	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	203	127	112	31	18	125

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	143	0	-	0	645	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	533	-
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	1440	-	-	-	437	941
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1440	-	-	-	375	941
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1440	-	-	-	375	941
HCM Lane V/C Ratio	0.141	-	-	-	0.047	0.133
HCM Control Delay (s)	7.9	-	-	-	15.1	9.4
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.5	-	-	-	0.1	0.5

APPENDIX J

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	425	425	180	255	895	140	195	450	100	145	450	535
Future Volume (veh/h)	425	425	180	255	895	140	195	450	100	145	450	535
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	447	447	52	268	942	46	205	474	5	153	474	340
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	521	1950	870	395	1236	551	227	770	343	319	1248	557
Arrive On Green	0.15	0.55	0.55	0.00	0.35	0.35	0.00	0.22	0.22	0.03	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	447	447	52	268	942	46	205	474	5	153	474	340
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.4	5.8	1.4	0.1	21.2	1.8	0.1	10.9	0.2	5.7	11.1	18.4
Cycle Q Clear(g_c), s	11.4	5.8	1.4	0.1	21.2	1.8	0.1	10.9	0.2	5.7	11.1	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	521	1950	870	395	1236	551	227	770	343	319	1248	557
V/C Ratio(X)	0.86	0.23	0.06	0.68	0.76	0.08	0.90	0.62	0.01	0.48	0.38	0.61
Avail Cap(c_a), veh/h	557	1950	870	640	1236	551	374	770	343	356	1248	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	37.3	10.5	9.5	27.1	26.0	19.7	37.9	31.9	27.7	25.1	30.7	33.9
Incr Delay (d2), s/veh	12.1	0.3	0.1	2.1	2.8	0.1	15.7	3.7	0.1	0.9	0.7	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.2	0.5	5.3	9.1	0.6	5.5	5.0	0.1	2.6	5.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	10.8	9.6	29.2	28.9	19.8	53.6	35.5	27.8	26.1	31.5	38.1
LnGrp LOS	D	B	A	C	C	B	D	D	C	C	C	D
Approach Vol, veh/h		946			1256			684			967	
Approach Delay, s/veh		28.9			28.6			40.9			32.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	53.9	0.0	36.1	18.1	35.8	12.1	24.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	30.5	7.5	21.5	14.5	28.5	9.5	19.5
Max Q Clear Time (g_c+I1), s	0.0	7.8	0.0	20.4	13.4	23.2	7.7	0.0
Green Ext Time (p_c), s	0.0	2.7	0.0	0.1	0.2	2.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

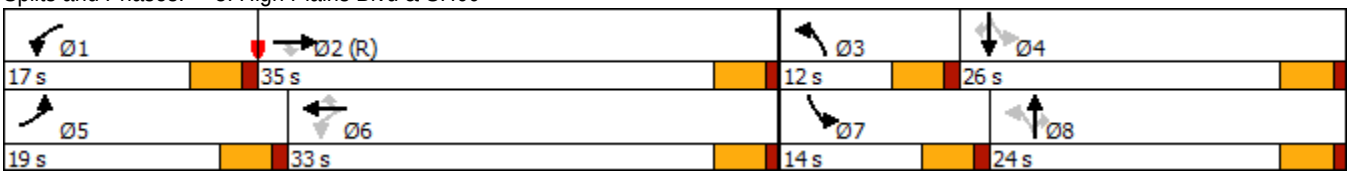
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	17	35	12	26	19	33	14	24
Maximum Split (%)	18.9%	38.9%	13.3%	28.9%	21.1%	36.7%	15.6%	26.7%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	73	0	35	47	73	2	35	49
End Time (s)	0	35	47	73	2	35	49	73
Yield/Force Off (s)	85.5	30.5	42.5	68.5	87.5	30.5	44.5	68.5
Yield/Force Off 170(s)	85.5	19.5	42.5	57.5	87.5	19.5	44.5	57.5
Local Start Time (s)	73	0	35	47	73	2	35	49
Local Yield (s)	85.5	30.5	42.5	68.5	87.5	30.5	44.5	68.5
Local Yield 170(s)	85.5	19.5	42.5	57.5	87.5	19.5	44.5	57.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	75

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	447	447	189	268	942	147	205	474	105	153	474	563
v/c Ratio	0.83	0.36	0.28	0.53	0.83	0.24	0.69	0.60	0.23	0.50	0.56	0.90
Control Delay	50.9	23.1	4.5	16.5	36.3	5.1	35.7	35.4	5.2	22.7	31.8	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	23.1	4.5	16.5	36.3	5.1	35.7	35.4	5.2	22.7	31.8	35.8
Queue Length 50th (ft)	127	100	0	80	261	0	81	128	0	67	140	183
Queue Length 95th (ft)	#199	141	44	128	#345	41	#155	181	30	m113	192	#378
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	553	1236	675	522	1133	606	296	786	450	318	845	626
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.36	0.28	0.51	0.83	0.24	0.69	0.60	0.23	0.48	0.56	0.90

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	1100	225	200	645	165	235	510	150	155	520	375
Future Volume (veh/h)	510	1100	225	200	645	165	235	510	150	155	520	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	537	1158	88	211	679	41	247	537	11	163	547	107
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	609	1882	839	217	1078	481	264	829	370	318	1316	587
Arrive On Green	0.18	0.53	0.53	0.00	0.30	0.30	0.00	0.23	0.23	0.12	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	537	1158	88	211	679	41	247	537	11	163	547	107
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	13.6	20.5	2.5	0.1	14.8	1.7	0.1	12.3	0.5	6.0	8.8	3.4
Cycle Q Clear(g_c), s	13.6	20.5	2.5	0.1	14.8	1.7	0.1	12.3	0.5	6.0	8.8	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	609	1882	839	217	1078	481	264	829	370	318	1316	587
V/C Ratio(X)	0.88	0.62	0.10	0.97	0.63	0.09	0.94	0.65	0.03	0.51	0.42	0.18
Avail Cap(c_a), veh/h	634	1882	839	442	1078	481	479	829	370	322	1316	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	36.2	14.8	10.5	36.1	27.0	22.4	37.1	31.2	26.6	22.1	16.6	15.2
Incr Delay (d2), s/veh	13.4	1.5	0.3	22.6	1.2	0.1	15.6	3.9	0.1	1.2	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	8.0	0.9	6.0	6.3	0.6	6.6	5.6	0.2	2.4	3.4	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	16.3	10.8	58.7	28.2	22.5	52.8	35.1	26.8	23.2	17.5	15.8
LnGrp LOS	D	B	B	E	C	C	D	D	C	C	B	B
Approach Vol, veh/h		1783			931			795			817	
Approach Delay, s/veh		26.0			34.8			40.4			18.4	
Approach LOS		C			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	52.2	0.0	37.8	20.4	31.8	12.3	25.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	31.5	11.0	18.0	16.5	26.5	8.0	21.0
Max Q Clear Time (g_c+I1), s	0.0	22.5	0.0	5.4	15.6	16.8	8.0	0.0
Green Ext Time (p_c), s	0.0	5.1	0.0	0.0	0.2	3.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

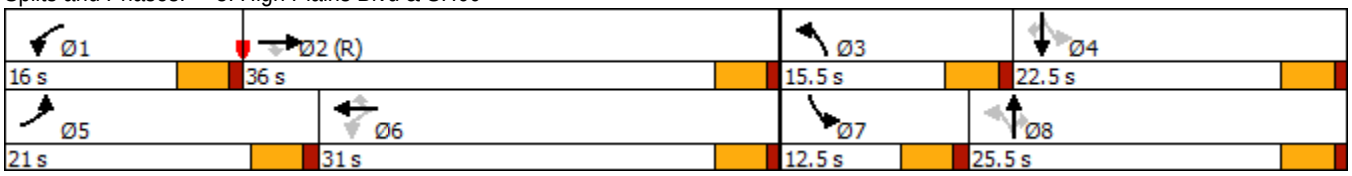
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	None	None	Max
Maximum Split (s)	16	36	15.5	22.5	21	31	12.5	25.5
Maximum Split (%)	17.8%	40.0%	17.2%	25.0%	23.3%	34.4%	13.9%	28.3%
Minimum Split (s)	9.5	22.5	9	22.5	9.5	22.5	9	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	4.5	5	5	5	4.5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	74	0	36	51.5	74	5	36	48.5
End Time (s)	0	36	51.5	74	5	36	48.5	74
Yield/Force Off (s)	85.5	31.5	47	69.5	0.5	31.5	44	69.5
Yield/Force Off 170(s)	85.5	20.5	47	58.5	0.5	20.5	44	58.5
Local Start Time (s)	74	0	36	51.5	74	5	36	48.5
Local Yield (s)	85.5	31.5	47	69.5	0.5	31.5	44	69.5
Local Yield 170(s)	85.5	20.5	47	58.5	0.5	20.5	44	58.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	80

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Splits and Phases: 3: High Plains Blvd & SH60



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	537	1158	237	211	679	174	247	537	158	163	547	395
v/c Ratio	0.87	0.91	0.33	0.73	0.64	0.29	0.83	0.65	0.31	0.59	0.77	0.67
Control Delay	52.1	39.5	4.3	33.1	30.9	4.9	45.8	35.4	4.9	40.4	50.3	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	39.5	4.3	33.1	30.9	4.9	45.8	35.4	4.9	40.4	50.3	22.6
Queue Length 50th (ft)	154	330	0	62	176	0	101	145	0	76	143	78
Queue Length 95th (ft)	#237	#466	47	#155	236	42	#214	201	36	138	#199	149
Internal Link Dist (ft)		830			923			372			2748	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	629	1276	722	309	1054	599	299	830	510	276	707	586
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.91	0.33	0.68	0.64	0.29	0.83	0.65	0.31	0.59	0.77	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	115	40	240	260	90	120	785	130	50	520	145
Future Volume (veh/h)	135	115	40	240	260	90	120	785	130	50	520	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	121	5	253	274	6	126	826	69	53	547	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	606	1908	851	618	1505	671	260	967	431	185	1290	575
Arrive On Green	0.06	0.54	0.54	0.00	0.42	0.42	0.00	0.27	0.27	0.01	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	142	121	5	253	274	6	126	826	69	53	547	68
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.8	1.5	0.1	0.1	4.3	0.2	0.1	19.8	3.0	1.8	12.8	3.4
Cycle Q Clear(g_c), s	3.8	1.5	0.1	0.1	4.3	0.2	0.1	19.8	3.0	1.8	12.8	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	606	1908	851	618	1505	671	260	967	431	185	1290	575
V/C Ratio(X)	0.23	0.06	0.01	0.41	0.18	0.01	0.48	0.85	0.16	0.29	0.42	0.12
Avail Cap(c_a), veh/h	641	1908	851	823	1505	671	406	967	431	221	1290	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72	0.96	0.96	0.96
Uniform Delay (d), s/veh	12.0	10.0	9.7	18.6	16.2	15.0	32.2	31.1	24.9	24.1	30.9	26.7
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.4	0.3	0.0	1.0	7.1	0.6	0.8	1.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.6	0.0	3.7	1.8	0.1	2.5	9.2	1.2	0.8	6.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.2	10.1	9.7	19.0	16.5	15.0	33.2	38.1	25.5	24.9	31.9	27.1
LnGrp LOS	B	B	A	B	B	B	C	D	C	C	C	C
Approach Vol, veh/h		268			533			1021			668	
Approach Delay, s/veh		11.2			17.7			36.7			30.8	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	52.8	0.0	37.2	10.2	42.6	8.2	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	31.5	7.5	22.5	7.5	34.5	5.5	24.5
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	14.8	5.8	2.2	3.8	21.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.1	0.0	0.0	1.4

Intersection Summary			
HCM 6th Ctrl Delay		28.3	
HCM 6th LOS		C	

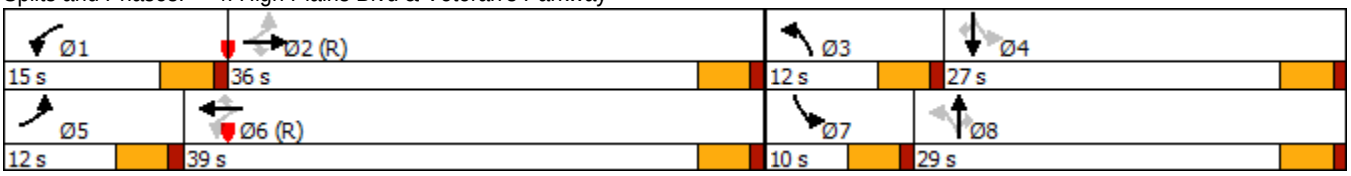
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	C-Max	None	Max
Maximum Split (s)	15	36	12	27	12	39	10	29
Maximum Split (%)	16.7%	40.0%	13.3%	30.0%	13.3%	43.3%	11.1%	32.2%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	65	80	26	38	65	77	26	36
End Time (s)	80	26	38	65	77	26	36	65
Yield/Force Off (s)	75.5	21.5	33.5	60.5	72.5	21.5	31.5	60.5
Yield/Force Off 170(s)	75.5	10.5	33.5	49.5	72.5	10.5	31.5	49.5
Local Start Time (s)	75	0	36	48	75	87	36	46
Local Yield (s)	85.5	31.5	43.5	70.5	82.5	31.5	41.5	70.5
Local Yield 170(s)	85.5	20.5	43.5	59.5	82.5	20.5	41.5	59.5

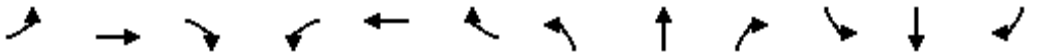
Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	65

Offset: 80 (89%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Splits and Phases: 4: High Plains Blvd & Veteran's Parkway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	121	42	253	274	95	126	826	137	53	547	153
v/c Ratio	0.27	0.10	0.07	0.39	0.20	0.14	0.45	0.74	0.23	0.27	0.61	0.30
Control Delay	13.3	19.9	0.2	14.4	19.0	2.2	10.3	14.4	2.7	20.7	34.8	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	19.9	0.2	14.4	19.0	2.2	10.3	14.4	2.7	20.7	34.8	10.7
Queue Length 50th (ft)	40	24	0	77	53	0	7	152	14	22	155	4
Queue Length 95th (ft)	72	43	0	124	81	17	m19	#220	m22	50	212	66
Internal Link Dist (ft)		1037			845			2748			960	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	531	1252	642	649	1363	688	284	1120	594	195	891	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.10	0.07	0.39	0.20	0.14	0.44	0.74	0.23	0.27	0.61	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	285	125	170	180	50	70	615	240	70	745	165
Future Volume (veh/h)	140	285	125	170	180	50	70	615	240	70	745	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	300	26	179	189	6	74	647	96	74	784	66
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	517	1492	665	391	1044	465	331	1362	608	340	1706	761
Arrive On Green	0.08	0.42	0.42	0.00	0.29	0.29	0.00	0.38	0.38	0.09	0.96	0.96
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	147	300	26	179	189	6	74	647	96	74	784	66
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.9	4.8	0.9	0.1	3.6	0.2	0.1	12.4	3.6	2.1	1.4	0.2
Cycle Q Clear(g_c), s	4.9	4.8	0.9	0.1	3.6	0.2	0.1	12.4	3.6	2.1	1.4	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	517	1492	665	391	1044	465	331	1362	608	340	1706	761
V/C Ratio(X)	0.28	0.20	0.04	0.46	0.18	0.01	0.22	0.47	0.16	0.22	0.46	0.09
Avail Cap(c_a), veh/h	589	1492	665	617	1044	465	457	1362	608	385	1706	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.66	0.66	0.66	0.92	0.92	0.92
Uniform Delay (d), s/veh	18.3	16.5	15.4	26.9	23.7	22.5	19.1	20.9	18.2	14.6	1.0	0.9
Incr Delay (d2), s/veh	0.3	0.3	0.1	0.8	0.4	0.1	0.2	0.8	0.4	0.3	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.0	0.3	3.2	1.5	0.1	1.0	5.1	1.3	0.8	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	16.8	15.5	27.8	24.1	22.6	19.4	21.7	18.6	14.9	1.8	1.1
LnGrp LOS	B	B	B	C	C	C	B	C	B	B	A	A
Approach Vol, veh/h		473			374			817			924	
Approach Delay, s/veh		17.3			25.8			21.1			2.8	
Approach LOS		B			C			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	42.3	0.0	47.7	11.4	30.9	8.7	39.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	19.5	6.5	34.5	10.5	20.5	6.5	34.5
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	3.4	6.9	2.2	4.1	14.4
Green Ext Time (p_c), s	0.0	0.0	0.0	6.5	0.1	0.0	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

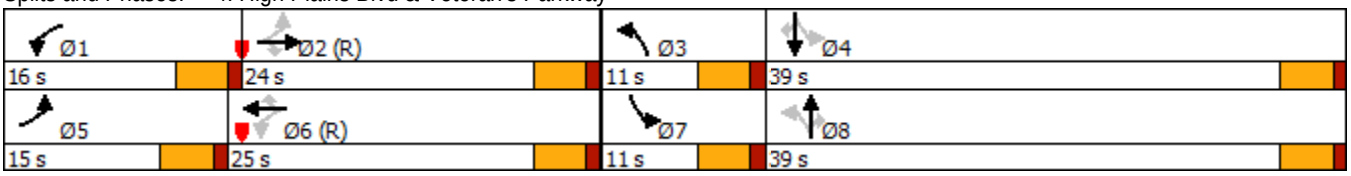
Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	C-Max	None	Max
Maximum Split (s)	16	24	11	39	15	25	11	39
Maximum Split (%)	17.8%	26.7%	12.2%	43.3%	16.7%	27.8%	12.2%	43.3%
Minimum Split (s)	9.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	39	55	79	0	39	54	79	0
End Time (s)	55	79	0	39	54	79	0	39
Yield/Force Off (s)	50.5	74.5	85.5	34.5	49.5	74.5	85.5	34.5
Yield/Force Off 170(s)	50.5	63.5	85.5	23.5	49.5	63.5	85.5	23.5
Local Start Time (s)	74	0	24	35	74	89	24	35
Local Yield (s)	85.5	19.5	30.5	69.5	84.5	19.5	30.5	69.5
Local Yield 170(s)	85.5	8.5	30.5	58.5	84.5	8.5	30.5	58.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	65

Offset: 55 (61%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Splits and Phases: 4: High Plains Blvd & Veteran's Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	147	300	132	179	189	53	74	647	253	74	784	174
v/c Ratio	0.32	0.37	0.29	0.43	0.22	0.11	0.24	0.45	0.32	0.21	0.54	0.23
Control Delay	20.4	31.3	7.3	22.0	28.8	0.5	18.4	25.3	9.5	11.0	17.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	31.3	7.3	22.0	28.8	0.5	18.4	25.3	9.5	11.0	17.1	1.9
Queue Length 50th (ft)	54	77	0	67	46	0	26	123	36	17	110	0
Queue Length 95th (ft)	96	116	45	115	75	0	m44	m182	m79	m34	144	9
Internal Link Dist (ft)		1037			845			2748			960	
Turn Bay Length (ft)	250		250	250		250	250		250	250		250
Base Capacity (vph)	475	808	463	440	846	475	307	1443	795	360	1443	748
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.37	0.29	0.41	0.22	0.11	0.24	0.45	0.32	0.21	0.54	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	5	35	125	5	90	65	895	50	35	555	25
Future Volume (veh/h)	15	5	35	125	5	90	65	895	50	35	555	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	5	37	132	5	95	68	942	53	37	584	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	28	208	249	12	222	640	2381	1062	452	2339	1043
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.67	0.67	0.03	0.66	0.66
Sat Flow, veh/h	1295	192	1422	1365	80	1517	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	16	0	42	132	0	100	68	942	53	37	584	26
Grp Sat Flow(s),veh/h/ln	1295	0	1614	1365	0	1597	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	0.0	2.1	8.4	0.0	5.1	1.1	10.7	1.0	0.6	6.0	0.5
Cycle Q Clear(g_c), s	6.2	0.0	2.1	10.5	0.0	5.1	1.1	10.7	1.0	0.6	6.0	0.5
Prop In Lane	1.00		0.88	1.00		0.95	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	0	236	249	0	234	640	2381	1062	452	2339	1043
V/C Ratio(X)	0.08	0.00	0.18	0.53	0.00	0.43	0.11	0.40	0.05	0.08	0.25	0.02
Avail Cap(c_a), veh/h	344	0	422	405	0	417	708	2381	1062	521	2339	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	33.7	38.3	0.0	35.0	4.3	6.7	5.1	4.9	6.3	5.3
Incr Delay (d2), s/veh	0.2	0.0	0.4	1.8	0.0	1.2	0.1	0.4	0.1	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	2.9	0.0	2.0	0.3	3.6	0.3	0.2	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	0.0	34.0	40.0	0.0	36.2	4.4	7.0	5.1	5.0	6.5	5.4
LnGrp LOS	D	A	C	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		58			232			1063			647	
Approach Delay, s/veh		35.1			38.4			6.8			6.4	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	64.8		17.7	8.6	63.7		17.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	46.5		23.5	7.5	45.5		23.5				
Max Q Clear Time (g_c+I1), s	2.6	12.7		8.2	3.1	8.0		12.5				
Green Ext Time (p_c), s	0.0	8.3		0.2	0.0	4.6		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

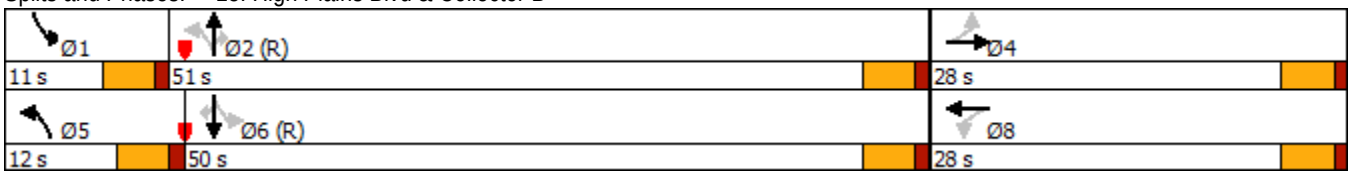
Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	None	None	C-Max	None
Maximum Split (s)	11	51	28	12	50	28
Maximum Split (%)	12.2%	56.7%	31.1%	13.3%	55.6%	31.1%
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)		7	7		7	7
Flash Dont Walk (s)		11	11		11	11
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	68	79	40	68	80	40
End Time (s)	79	40	68	80	40	68
Yield/Force Off (s)	74.5	35.5	63.5	75.5	35.5	63.5
Yield/Force Off 170(s)	74.5	24.5	52.5	75.5	24.5	52.5
Local Start Time (s)	78	89	50	78	0	50
Local Yield (s)	84.5	45.5	73.5	85.5	45.5	73.5
Local Yield 170(s)	84.5	34.5	62.5	85.5	34.5	62.5

Intersection Summary

Cycle Length	90	
Control Type	Actuated-Coordinated	
Natural Cycle	55	

Offset: 80 (89%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Splits and Phases: 15: High Plains Blvd & Collector B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	42	132	100	68	942	53	37	584	26
v/c Ratio	0.08	0.15	0.63	0.30	0.11	0.40	0.05	0.08	0.26	0.02
Control Delay	30.7	13.0	47.8	10.0	1.6	9.3	2.5	4.5	8.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	13.0	47.8	10.0	1.6	9.3	2.5	4.5	8.5	0.0
Queue Length 50th (ft)	8	2	71	2	1	258	3	4	71	0
Queue Length 95th (ft)	24	28	121	42	m2	341	m13	15	123	0
Internal Link Dist (ft)		775		476		960			557	
Turn Bay Length (ft)	150		150		250		250	250		250
Base Capacity (vph)	336	449	355	486	628	2378	1087	450	2280	1046
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.09	0.37	0.21	0.11	0.40	0.05	0.08	0.26	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	5	205	85	5	65	190	480	135	100	690	80
Future Volume (veh/h)	90	5	205	85	5	65	190	480	135	100	690	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	5	25	89	5	8	200	505	88	105	726	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	28	141	200	67	108	616	2468	1101	736	2435	1086
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.12	1.00	1.00	0.05	0.69	0.69
Sat Flow, veh/h	1401	271	1355	1380	648	1036	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	95	0	30	89	0	13	200	505	88	105	726	30
Grp Sat Flow(s),veh/h/ln	1401	0	1626	1380	0	1684	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.9	0.0	1.5	5.7	0.0	0.6	3.1	0.0	0.0	1.5	7.3	0.5
Cycle Q Clear(g_c), s	6.5	0.0	1.5	7.2	0.0	0.6	3.1	0.0	0.0	1.5	7.3	0.5
Prop In Lane	1.00		0.83	1.00		0.62	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	0	169	200	0	175	616	2468	1101	736	2435	1086
V/C Ratio(X)	0.44	0.00	0.18	0.44	0.00	0.07	0.32	0.20	0.08	0.14	0.30	0.03
Avail Cap(c_a), veh/h	436	0	425	417	0	440	835	2468	1101	813	2435	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	0.0	36.8	40.1	0.0	36.4	3.5	0.0	0.0	3.3	5.6	4.5
Incr Delay (d2), s/veh	1.4	0.0	0.5	1.5	0.0	0.2	0.3	0.2	0.1	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.6	2.0	0.0	0.3	0.8	0.1	0.0	0.4	2.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	0.0	37.3	41.6	0.0	36.6	3.7	0.2	0.1	3.4	5.9	4.6
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		125			102			793			861	
Approach Delay, s/veh		39.9			41.0			1.1			5.6	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	67.0		13.9	10.0	66.2		13.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	44.5		23.5	16.5	36.5		23.5				
Max Q Clear Time (g_c+I1), s	3.5	2.0		8.5	5.1	9.3		9.2				
Green Ext Time (p_c), s	0.1	4.1		0.3	0.4	5.6		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

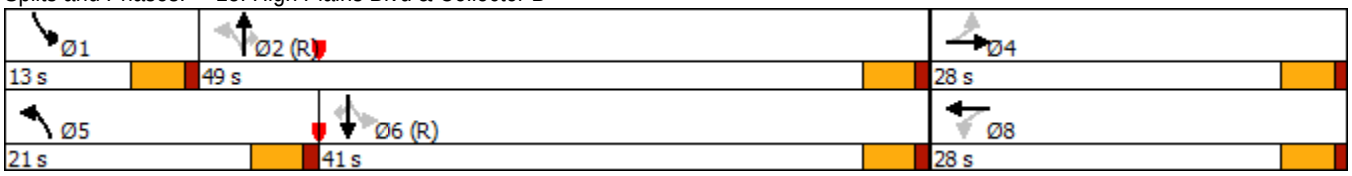
Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	None	None	C-Max	None
Maximum Split (s)	13	49	28	21	41	28
Maximum Split (%)	14.4%	54.4%	31.1%	23.3%	45.6%	31.1%
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)		7	7		7	7
Flash Dont Walk (s)		11	11		11	11
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	69	82	41	69	0	41
End Time (s)	82	41	69	0	41	69
Yield/Force Off (s)	77.5	36.5	64.5	85.5	36.5	64.5
Yield/Force Off 170(s)	77.5	25.5	53.5	85.5	25.5	53.5
Local Start Time (s)	69	82	41	69	0	41
Local Yield (s)	77.5	36.5	64.5	85.5	36.5	64.5
Local Yield 170(s)	77.5	25.5	53.5	85.5	25.5	53.5

Intersection Summary

Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Splits and Phases: 15: High Plains Blvd & Collector B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	221	89	73	200	505	142	105	726	84
v/c Ratio	0.46	0.52	0.89	0.24	0.37	0.22	0.13	0.16	0.34	0.08
Control Delay	40.3	9.3	100.1	10.6	10.9	9.2	4.3	4.9	11.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	9.3	100.1	10.6	10.9	9.2	4.3	4.9	11.0	1.1
Queue Length 50th (ft)	50	2	50	2	41	75	9	13	100	0
Queue Length 95th (ft)	89	58	#110	36	124	106	17	36	181	10
Internal Link Dist (ft)		775		476		960			557	
Turn Bay Length (ft)	150		150		250		250	250		250
Base Capacity (vph)	344	574	169	468	662	2258	1061	687	2115	997
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.39	0.53	0.16	0.30	0.22	0.13	0.15	0.34	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	25	985	15	10	565
Future Vol, veh/h	50	25	985	15	10	565
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	250	250	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	26	1037	16	11	595

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1357	519	0	0	1053	0
Stage 1	1037	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	140	502	-	-	657	-
Stage 1	303	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	138	502	-	-	657	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	303	-	-	-	-	-
Stage 2	697	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	242	502	657	-
HCM Lane V/C Ratio	-	-	0.217	0.052	0.016	-
HCM Control Delay (s)	-	-	24	12.6	10.6	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.2	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	15	585	50	25	840
Future Vol, veh/h	30	15	585	50	25	840
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	250	250	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	16	616	53	26	884

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1110	308	0	0	669	0
Stage 1	616	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	203	688	-	-	917	-
Stage 1	501	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	197	688	-	-	917	-
Mov Cap-2 Maneuver	331	-	-	-	-	-
Stage 1	501	-	-	-	-	-
Stage 2	563	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	331	688	917	-
HCM Lane V/C Ratio	-	-	0.095	0.023	0.029	-
HCM Control Delay (s)	-	-	17	10.4	9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	240	25	10	440	10	70	1	25	35	1	80
Future Vol, veh/h	30	240	25	10	440	10	70	1	25	35	1	80
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	250	-	250	250	-	250	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	253	26	11	463	11	74	1	26	37	1	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	474	0	0	279	0	0	571	813	127	676	828	232
Stage 1	-	-	-	-	-	-	317	317	-	485	485	-
Stage 2	-	-	-	-	-	-	254	496	-	191	343	-
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	1084	-	-	1281	-	-	404	311	900	339	305	770
Stage 1	-	-	-	-	-	-	669	653	-	532	550	-
Stage 2	-	-	-	-	-	-	728	544	-	792	636	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1084	-	-	1281	-	-	349	299	900	319	293	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	349	299	-	319	293	-
Stage 1	-	-	-	-	-	-	649	633	-	516	545	-
Stage 2	-	-	-	-	-	-	642	539	-	745	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	15.8	12.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	349	835	1084	-	-	1281	-	-	319	755
HCM Lane V/C Ratio	0.211	0.033	0.029	-	-	0.008	-	-	0.115	0.113
HCM Control Delay (s)	18.1	9.5	8.4	-	-	7.8	-	-	17.8	10.4
HCM Lane LOS	C	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.8	0.1	0.1	-	-	0	-	-	0.4	0.4

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	505	85	30	355	35	50	1	20	25	1	50
Future Vol, veh/h	85	505	85	30	355	35	50	1	20	25	1	50
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	250	-	250	250	-	250	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	532	89	32	374	37	53	1	21	26	1	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	411	0	0	621	0	0	962	1185	266	883	1237	187
Stage 1	-	-	-	-	-	-	710	710	-	438	438	-
Stage 2	-	-	-	-	-	-	252	475	-	445	799	-
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	1144	-	-	956	-	-	210	188	732	240	175	823
Stage 1	-	-	-	-	-	-	391	435	-	567	577	-
Stage 2	-	-	-	-	-	-	730	556	-	562	396	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1144	-	-	956	-	-	179	168	732	213	156	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	179	168	-	213	156	-
Stage 1	-	-	-	-	-	-	361	401	-	523	558	-
Stage 2	-	-	-	-	-	-	659	538	-	502	365	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.6	26.7	14.8
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	179	631	1144	-	-	956	-	-	213	759
HCM Lane V/C Ratio	0.294	0.035	0.078	-	-	0.033	-	-	0.124	0.071
HCM Control Delay (s)	33.3	10.9	8.4	-	-	8.9	-	-	24.3	10.1
HCM Lane LOS	D	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1.2	0.1	0.3	-	-	0.1	-	-	0.4	0.2

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	215	20	10	245	30	55	1	25	70	1	160
Future Vol, veh/h	65	215	20	10	245	30	55	1	25	70	1	160
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	350	-	350	350	-	350	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	226	21	11	258	32	58	1	26	74	1	168

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	290	0	0	247	0	0	514	674	113	530	663	129
Stage 1	-	-	-	-	-	-	362	362	-	280	280	-
Stage 2	-	-	-	-	-	-	152	312	-	250	383	-
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	1269	-	-	1316	-	-	443	375	918	432	380	897
Stage 1	-	-	-	-	-	-	629	624	-	703	678	-
Stage 2	-	-	-	-	-	-	835	656	-	732	610	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1269	-	-	1316	-	-	342	352	918	399	356	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	342	352	-	399	356	-
Stage 1	-	-	-	-	-	-	595	590	-	665	673	-
Stage 2	-	-	-	-	-	-	671	651	-	672	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.3	15	11.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	342	865	1269	-	-	1316	-	-	399	889
HCM Lane V/C Ratio	0.169	0.032	0.054	-	-	0.008	-	-	0.185	0.191
HCM Control Delay (s)	17.7	9.3	8	-	-	7.8	-	-	16.1	10
HCM Lane LOS	C	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.6	0.1	0.2	-	-	0	-	-	0.7	0.7

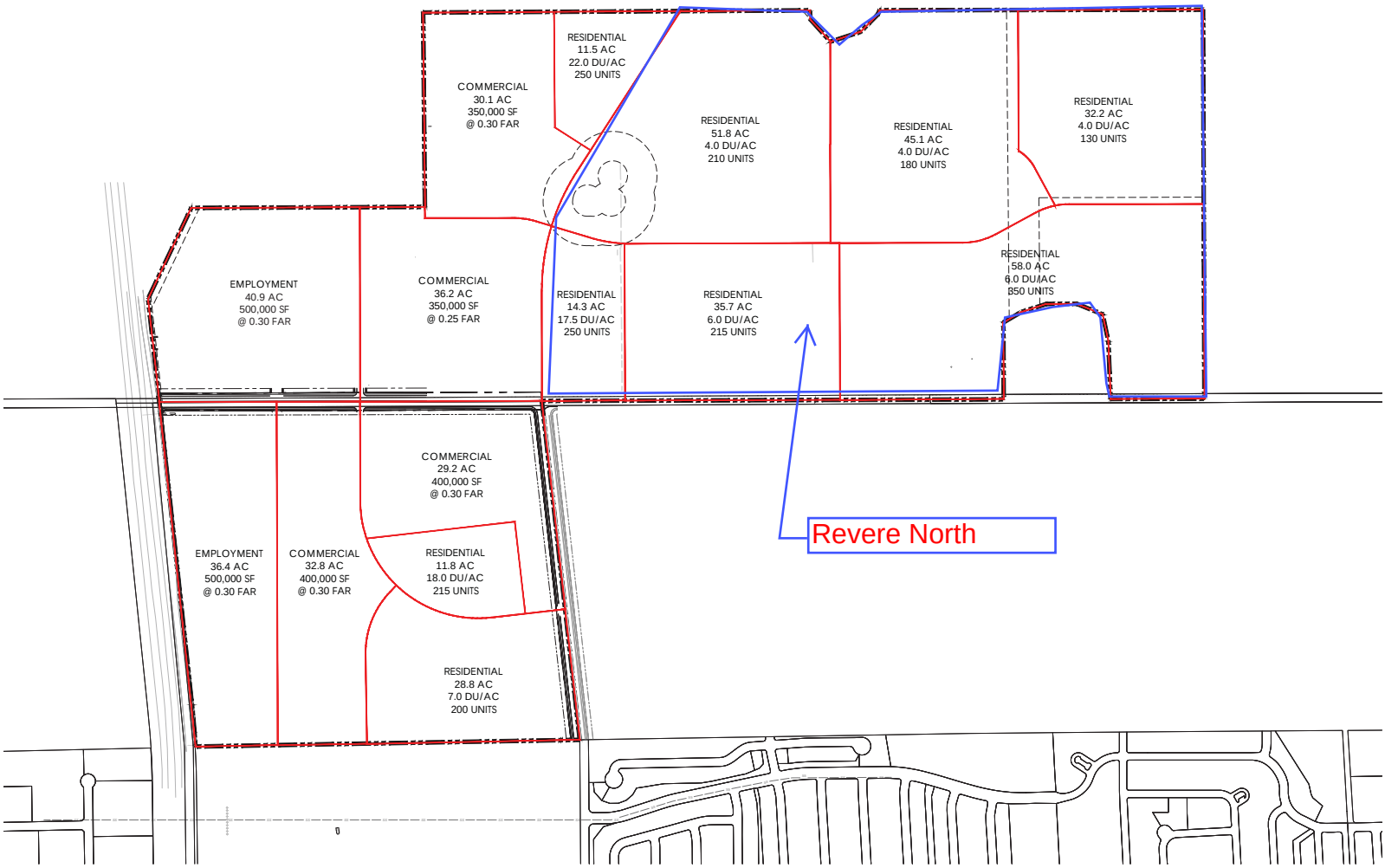
Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	185	295	70	30	270	80	40	1	20	50	1	110
Future Vol, veh/h	185	295	70	30	270	80	40	1	20	50	1	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	350	350	-	350	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	195	311	74	32	284	84	42	1	21	53	1	116

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	368	0	0	385	0	0	908	1133	156	894	1123	142
Stage 1	-	-	-	-	-	-	701	701	-	348	348	-
Stage 2	-	-	-	-	-	-	207	432	-	546	775	-
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	1187	-	-	1170	-	-	230	202	862	236	204	880
Stage 1	-	-	-	-	-	-	395	439	-	641	633	-
Stage 2	-	-	-	-	-	-	776	581	-	490	406	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1187	-	-	1170	-	-	170	164	862	196	166	880
Mov Cap-2 Maneuver	-	-	-	-	-	-	170	164	-	196	166	-
Stage 1	-	-	-	-	-	-	330	367	-	536	616	-
Stage 2	-	-	-	-	-	-	654	565	-	398	339	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0.6	25.2	16.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	170	717	1187	-	-	1170	-	-	196	847
HCM Lane V/C Ratio	0.248	0.031	0.164	-	-	0.027	-	-	0.269	0.138
HCM Control Delay (s)	33	10.2	8.6	-	-	8.2	-	-	30	9.9
HCM Lane LOS	D	B	A	-	-	A	-	-	D	A
HCM 95th %tile Q(veh)	0.9	0.1	0.6	-	-	0.1	-	-	1	0.5

APPENDIX K



Platte Land & Water
Great Plains Village

APPENDIX L

APPENDIX M

APPENDIX N

APPENDIX O

APPENDIX P