



LSC TRANSPORTATION CONSULTANTS, INC.
2504 East Pikes Peak Avenue, Suite 304
Colorado Springs, CO 80909
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: <http://www.lsctrans.com>

The Glen at Widefield Filing No 10 Updated Transportation Memorandum (LSC #194800) June 10, 2020

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

A handwritten signature in blue ink, likely belonging to the Developer, is written over a horizontal line.

June 10th 2020

Date



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June 10, 2020

Mr. J. Ryan Watson
Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911

RE: The Glen at Widefield Filing No. 10
Updated Transportation Memorandum
El Paso County, Colorado
LSC #194800

Dear Mr. Watson:

In response to your request, LSC Transportation Consultants, Inc. has prepared this transportation memorandum for The Glen at Widefield Filing No. 10. As shown in Figure 1, the site is located west of the Marksheffel Road/Peaceful Valley Road intersection in El Paso County, Colorado. Filing 10 is planned to contain 40 lots for single-family homes. This memorandum is a supplement to the overall Glen at Widefield East Preliminary Plan traffic report dated January 18, 2016.

LSC Recently prepared a TIS for Filings 10 & 11 combined (dated March 11, 2020). LSC is in the process of addressing staff comments on that combined report for both filings combined. This includes working with staff on potential short term/interim improvements and/or intersection configurations prior to traffic signal installation(s) at intersections along Marksheffel Road.

Copies of the plat for Filing No. 10 are attached for reference. The lot and street layout for this filing matches the Preliminary Plan.

REPORT CONTENTS

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of this development. The report contains the following:

- Updated traffic count data;
- Projections of short-term (2022) baseline/background traffic volumes at the key area intersections;
- The projected average weekday and peak-hour vehicle-trips to be generated by Filing No. 10;
- The assignment of the Filing No. 10 projected trips to the key area intersections;
- The short-term level of service at these intersections;

- The short-term level of service and queuing analysis at the intersection of Powers Boulevard/Mesa Ridge Parkway;
- Findings and recommendations; and
- Signal escrow analysis tables.

LAND USE AND ACCESS

Since completion of the 2016 Glen at Widefield East Preliminary Plan Traffic Report, 356 of the 578 proposed lots for single-family homes within the preliminary plan area have been platted as The Glen at Widefield Filing Nos. 7, 8, and 9. At the time traffic counts were conducted in September 2019, about 144 homes had been constructed in The Glen at Widefield Filing 7 and about 32 homes had been constructed in Filing 8. Note: There is currently significant home construction activity within Filing No. 8, so these figures will change rapidly. None of the homes in Filing 9 had been constructed at the time of the counts. Access for these filings is via the intersection of Spring Glen Drive/Mesa Ridge Parkway and via the recently completed west leg of the intersection of Marksheffel/Peaceful Valley Road.

The currently proposed Glen at Widefield Filing No. 10 is planned to contain 40 lots for single-family homes. Figure 2 shows the location of The Glen at Widefield Filing Nos. 7 through 10 and the anticipated future filings. No new access points are proposed as part of Filing No. 10.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

Figure 1 shows the roadways in the vicinity of the site. The major roadways are identified below, followed by a brief description of each.

Powers Boulevard is a four-lane Expressway extending north from Mesa Ridge Parkway. In the future, Powers Boulevard is planned to be extended south to connect to Interstate 25 (I-25), potentially at Exit 122. In the vicinity of the site, Powers Boulevard has two through lanes in each direction and a posted speed limit of 55 miles per hour (mph). The Colorado Department of Transportation has been collecting escrow funds from the previous Glen at Widefield filings as participation toward the recently installed traffic signal at the intersection of Mesa Ridge/Powers.

Marksheffel Road extends north from the Link Road/C&S Road intersection in Fountain, Colorado to north of Woodmen Road. Marksheffel has recently been upgraded to an interim three-lane facility between Mesa Ridge Parkway and Bradley Road as part of a PPRTA project. Marksheffel Road is shown as a future four-lane Expressway on the El Paso County *Major Transportation Corridors Plan (MTCP)*. The posted speed limit on Marksheffel Road is 55 mph north of Mesa Ridge Parkway and 45 mph south of Mesa Ridge Parkway.

Mesa Ridge Parkway is a four-lane median-divided Principal Arterial extending east from I-25 to Powers Boulevard. A half-section of Mesa Ridge Parkway with one through lane in each direction has been constructed east from Powers Boulevard to Marksheffel Road. It is our understanding that the construction of the other half-section is not the applicant's responsibility. LSC estimates that Mesa Ridge Parkway will likely need to be widened to provide two lanes in each direction, once the average weekday traffic volumes reach 14,000 to 18,000 vehicles per day. Mesa Ridge Parkway improvements are listed as an "A-List" PPRTA project. The posted speed limit in the vicinity of the site is 45 mph.

Peaceful Valley Road is a two-lane City of Fountain street that extends east from Marksheffel Road about two-and-a-half miles to the location of a future extension of Meridian Road. The posted speed limit on Peaceful Valley Road is 30 mph. Most of Peaceful Valley Road is located within the City of Fountain.

Poa Annua Street is a two-lane City of Fountain street that extends east from Marksheffel about 850 feet, ending in a cul-de-sac. The posted speed limit on Poa Annua is 25 mph.

Notable Recent Area Roadway System Improvements

The Marksheffel South project has been completed, a traffic signal has been installed at the intersection of Mesa Ridge Parkway and Powers, and it is our understanding that this signal has only been fully operational since early January 2018. The temporary Roanfield Drive street connection to Powers Boulevard has been closed. Also, the southbound left-turn lane at the Mesa Ridge/Powers intersection was lengthened as required with The Glen at Widefield Filing No. 7. The Marksheffel painted center median at the intersection of Peaceful Valley Road/Marksheffel Road was originally striped (and currently remains striped) as a channelized T-configuration (with southbound left-turn deceleration and left-turn acceleration lanes).

EXISTING TRAFFIC VOLUMES

Figure 3a shows the existing peak-hour traffic volumes and Figure 3b shows the existing lane geometries and traffic controls. The traffic volumes are based on traffic counts conducted by LSC in September 2019 and February 2020. The traffic count reports are attached.

LEVEL OF SERVICE

Level of service (LOS) is a quantitative measure of the level of delay at an intersection. Level of service is indicated on a scale from A to F. LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle) ⁽¹⁾
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more
(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.		

The intersections of Powers/Mesa Ridge, Marksheffel/Mesa Ridge, Marksheffel/Peaceful Valley and Marksheffel/Poa Annua were analyzed to determine the existing levels of service. The intersection of Powers/Mesa Ridge was analyzed using Synchro. The intersections of Marksheffel/Mesa Ridge, Marksheffel/Peaceful Valley, and Marksheffel/Poa Annua were analyzed using the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The results of the analysis are shown in Figure 3b.

The intersection of Powers/Mesa Ridge currently operates at an overall LOS B or better during the peak hours. The westbound left-turn movement at this intersection is operating at LOS D during the peak hours.

The eastbound approach at the stop sign-controlled intersection of Marksheffel/Peaceful Valley is currently operating at LOS D during the morning peak hour and LOS E during the afternoon peak hour. The westbound approach is currently operating at LOS C or better during the peak hours.

All movements at the stop sign-controlled intersections of Marksheffel/Mesa Ridge and Marksheffel/Poa Annua are currently operating at LOS C or better during the peak hours.

SHORT-TERM (YEAR 2022) BACKGROUND TRAFFIC

Figure 4a shows the short-term (Year 2022) background traffic volumes at the key area intersections. Background traffic is the traffic estimated to be on the roadways without the Glen at Widefield Filing No. 10 traffic.

Background traffic includes the existing traffic volume (from Figure 3) plus increases in through traffic due to regional growth plus traffic estimated to be generated by buildout of existing and

currently proposed subdivisions in the vicinity of the site. These estimates include traffic projected to be generated by the development of the 180 single-family homes within The Glen at Widefield Filing Nos. 7, 8, and 9 that were unoccupied when traffic counts were conducted in September 2019 and traffic projected to be generated by buildout of all the existing and currently proposed developments within the Lorson Ranch development located east of the intersection of Marksheffel/Fontaine.

Increases in the through traffic volumes on Powers Boulevard were estimated, based on the growth rate calculated from the Colorado Department of Transportation 20-year growth factor for this section of Powers Boulevard.

Figure 4b shows the lane geometry, traffic control, and level of service at the key area intersections of based on the short-term background volumes.

TRIP GENERATION

The Filing No. 10 site-generated vehicle-trips have been estimated using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates for these filings. Table 2 also shows estimates of the additional traffic expected to be generated due to buildout of the approved Filings 7, 8, and 9 and future filings within the Glen at Widefield East Preliminary Plan area.

Filing 10 is expected to generate 378 vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 7 vehicles would enter and 22 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 25 vehicles would enter, and 15 vehicles would exit the site.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the street and roadway system serving the site is an important factor in determining the site's traffic impacts. Figure 5 shows the short-term distribution estimates. The directional distribution estimates have been based on the following factors: the location of the site with respect to the regional employment, commercial, and activity centers; the land use proposed for the site; the proposed access system for the site; and the roadway system serving the site. The short-term distribution assumes the existing street network.

When the estimated site trips (from Table 2) are directionally distributed according to the LSC-estimated percentages shown in Figure 5 and assigned/routed on the internal and area street network (according to LSC estimates) the resulting projected site-generated traffic volumes can be determined.

Figure 6 shows the projected short-term site-generated traffic volumes at the site access points and at key area intersections due to the currently proposed Glen at Widefield Filing No. 10 only. The short-term site-generated traffic volumes assume the internal street network through the future development area just north of Filing 10 has not been constructed.

SHORT-TERM TOTAL TRAFFIC

Figure 7a shows the projected short-term total traffic volumes at the key areas. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 4a) plus the Filing Nos. 10 and 11 short-term site-generated traffic volumes (from Figure 6).

Figure 7b shows the lane geometry, traffic control, and level of service at the key area intersections, based on the short-term total volumes.

LONG-TERM TOTAL TRAFFIC

Please refer to the master traffic report—the January 18, 2016 *Glen at Widefield East Preliminary Plan Traffic Report* for the long-term peak-hour traffic volume projections and level of service analysis. The original report is for the entire Glen at Widefield East preliminary plan area. No significant changes are projected to the results of this study.

LEVEL OF SERVICE

The intersections of Marksheffel/Mesa Ridge, Marksheffel/Peaceful Valley, and Marksheffel/Poa Annu were analyzed to determine the projected levels of service based on the short-term background and total traffic volumes using the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The signalized intersection of Powers/Mesa Ridge was analyzed using Synchro. The results of the analysis are shown in Figures 4b and 7b.

Powers Boulevard/Mesa Ridge Parkway

All movement at the intersection of Powers/Mesa Ridge is projected to continue to operate at LOS D or better during the peak hours based on the projected short-term background and total peak-hour traffic volumes. The short-term analysis assumes Mesa Ridge Parkway has been widened approaching Powers Boulevard to provide dual westbound left-turn lanes.

As discussed in the Preliminary Plan traffic report the 2040 analysis indicates an overall LOS C during the peak hours. Individual southbound and westbound left-turn movements are projected to operate at LOS E during the afternoon peak hour based on the projected 2040 background and total traffic volumes. LOS E does not necessarily indicate failure of the movement, the intersection, or a traffic safety problem. Given a longer cycle length and the prioritization by CDOT of north/south through traffic on Powers, some left-turn and minor street movements,

especially with protected-only phasing, may experience delays in the LOS E range as priority is given to the major street for traffic progression and for serving high volumes of through traffic.

Spring Glen Drive/Mesa Ridge Parkway

All movements at the stop sign-controlled intersection of Springs Glen/Mesa Ridge are projected to operate at LOS C or better during the peak hours, based on the projected short-term total traffic volumes.

Marksheffel Road/Mesa Ridge Parkway

The eastbound left-turn movement at the stop sign-controlled intersection of Marksheffel/Mesa Ridge is projected to operate at LOS E during the morning peak hour, based on the projected short-term background and total traffic volumes. If this intersection were restriped to provide a northbound left-turn acceleration lane, the eastbound left-turn movement is projected to operate at LOS D or better during the peak hours.

Marksheffel Road/Peaceful Valley Road

The eastbound approach at the stop sign-controlled intersection of Marksheffel/Peaceful Valley is currently operating at LOS D during the morning peak hour and LOS E during the afternoon peak hour. This approach is projected to operate at LOS E during the morning peak hour and LOS F during the afternoon peak hour based on the projected short-term background and total traffic volumes. Previous filings within the Glen at Widefield East Preliminary Plan area have contributed to an escrow account toward the Glen's portion of the cost for a potential future traffic signal at this location, however, a traffic signal may not be warranted in the short term.

QUEUING ANALYSIS

A queuing analysis has been performed for the southbound and westbound left turn at Powers/Mesa Ridge. The analysis has been completed based on dual left-turn lanes with existing length for the westbound Mesa Ridge left-turn lane, the recently extended southbound left-turn lane, and projected short-term total traffic.

The maximum southbound left-turn queue on Powers Boulevard approaching Mesa Ridge Parkway is projected to be about 181 feet long based on the projected short-term total traffic volumes. The southbound left-turn lane has recently been lengthened to 1,108 feet plus a 222-foot taper.

The maximum westbound left-turn queue on Mesa Ridge Parkway approaching Powers Boulevard is projected to be about 370 feet long, based on the projected short-term total traffic volumes, assuming dual westbound left-turn lanes. An additional queuing analysis was performed, based on the 2040 morning peak hour traffic volumes shown in the overall Glen at Widefield East Preliminary Plan traffic report dated January 18, 2016. The projected maximum westbound left-turn queue, based on the 2040 traffic volumes, is 469 feet.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersection of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley were analyzed to determine if either an Eight-Hour Vehicular Volume Traffic Signal Warrant or a Four-Hour Vehicular Volume Traffic Signal Warrant would be met or be close to being met, based on the projected existing and/or short-term total traffic volume.

Table 3 shows the results of the analysis for Marksheffel/Mesa Ridge. As shown in the table, the existing traffic volumes during five of the eight hours studied currently meet the thresholds for both the Eight-Hour Vehicular Volume Traffic Signal Warrant and the Four-Hour Vehicular Volume Traffic Signal Warrant. An additional two of the hours analyzed are projected to meet the threshold for an Eight-Hour Vehicular Volume Warrant, based on the short-term total traffic volumes. The satisfaction of warrants does not indicate that a signal must be installed. The decision to require a signal to be installed at this location rests with the County. As discussed in the Level of Service section above, this intersection could potentially continue to operate at a satisfactory level of service as a stop sign-controlled intersection in the short term, with minor modifications to the existing traffic lane striping.

The intersection of Marksheffel/Peaceful Valley was analyzed to determine if either an Eight-Hour Vehicular Volume Traffic Signal Warrant or a Four-Hour Vehicular Volume Traffic Signal Warrant would be met or be close to being met, based on the projected existing and/or short-term morning and afternoon peak-hour total traffic volumes only. The preliminary/partial (for planning purposes) traffic signal warrant analysis using the peak hours is intended to provide an indication that a warrant may be met or is close to being met. In order for a Four-Hour Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for two additional hours of the day. For example, the four-hour warrant would be satisfied with the volume thresholds met for one hour in the morning, two hours (instead of the one-hour peak) during the afternoon peak period, and an hour during the mid-afternoon. In order for an Eight-Hour Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for six additional hours of the day.

Table 4 shows the results of the analysis for Marksheffel/Peaceful Valley based on the existing, short-term background and short-term total traffic volumes. The minor approach volumes include the higher of either the westbound left-turn and through volumes or the eastbound left-turn, through, and right-turn volumes. As shown in Table 4, the existing morning peak hour traffic volumes currently meet the threshold for an Eight Hour Vehicular Volume Traffic Signal Warrant, but not a Four-Hour Vehicular Volume Traffic Signal Warrant. Based on the projected short-term total traffic volumes, the morning peak hour volumes are projected to meet the threshold for a Four-Hour Vehicular Volume Traffic Signal Warrant, but the afternoon peak hour volumes are not projected to meet the thresholds for either an Eight Hour Vehicular Volume Traffic Signal Warrant or a Four-Hour Vehicular Volume Traffic Signal Warrant. As the morning peak-hour volumes just meet the threshold for a Four-Hour Vehicular Volume Warrant and the afternoon peak-hour volumes do not meet the threshold, it is unlikely that any other hours of the day would meet the threshold in the short-term.

CONCLUSIONS AND RECOMMENDATIONS

Review 2 comment: Please provide the characteristics of the proposed acceleration lane.
Review 3: unresolved.

Trip Generation

- Filing 10 is expected to generate 378 vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, about 7 vehicles would enter and 22 vehicles would exit the site. During the afternoon peak hour, about 25 vehicles would enter and 15 vehicles would exit the site.

Level of Service

- The signalized intersection of Mesa Ridge Parkway/Powers Boulevard is projected to continue to operate at a satisfactory level of service based on the projected short-term background and total peak-hour traffic volumes.
- The eastbound left-turn movement at the stop sign-controlled intersection of Marksheffel/Mesa Ridge is projected to operate at LOS E during the afternoon peak hour, based on the projected short-term background and total traffic volumes. If this intersection were restriped to provide a northbound left-turn acceleration lane, the eastbound left-turn movement is projected to operate at LOS D or better during the peak hours.
- The intersection of Mesa Ridge Parkway/Spring Glen Drive would operate at satisfactory levels of service, as a stop sign-controlled intersection, based on the projected short-term background and total peak-hour traffic volumes.
- The eastbound approach at the stop sign-controlled intersection of Marksheffel/Peaceful Valley is currently operating at LOS D during the morning peak hour and LOS E during the afternoon peak. This approach is projected to operate at LOS E during the morning peak hour and LOS F during the afternoon peak hour, based on the projected short-term background and total traffic volumes. Previous filings within the Glen at Widefield East Preliminary Plan area have contributed to an escrow account for a potential traffic signal at this location. However, a traffic signal will not be warranted in the short term. The adjacent intersections of Marksheffel/Mesa Ridge and Marksheffel Lorson are planned to be signal controlled in the future. These future traffic signals will help to create gaps in through traffic on Marksheffel Road for the eastbound movements at Peaceful Valley to more easily occur. Short-term alternatives to potentially improve the level of service, prior to signalization of the adjacent intersections (with traffic gaps generated) or the intersection itself, are being studied as part of the traffic report addressing Filings 10 and 11 combined. LSC continues to work with County staff and complete additional study to address the comments on the combined Filing 10 & 11 TIS report.

Since the existing striping is recommended to remain, then the west leg of this intersection is limited to right-in right-out. Please state that. Additionally coordinate with the civil engineer so that the appropriate signs are provided at this intersection.

Intersection Lane Configurations

- Table 8 shows a summary of the recommended short-term improvements in the vicinity of the site.
- A 475-foot left-turn lane approaching Spring Glen Drive has been installed with the construction of Mesa Ridge Parkway.
- Mesa Ridge Parkway has been constructed and striped with 10-foot paved shoulders in the vicinity of Spring Glen Drive. Once the full four-lane Principal Arterial section is completed, it is anticipated that the acceleration lane will be implemented at that time. The width for a future westbound right-turn acceleration lane on Mesa Ridge Parkway will become available, as the half-section to be built with the initial Mesa Ridge construction will be sufficiently wide. This has been shown on the Mesa Ridge Parkway design plans.
- The addition of Filing No. 10 site-generated traffic will **not** require the addition a westbound right-turn deceleration lane on Mesa Ridge Parkway at Spring Glen Drive.
- The painted center median on Marksheffel Road at the Peaceful Valley Road intersection is currently striped for a dedicated southbound left-turn lane and a dedicated southbound left-turn acceleration lane. The west leg of this intersection was recently completed to provide a second access to the Glen at Widefield East. Previously, LSC recommended this painted center median be restriped as an exclusive northbound left-turn deceleration lane with taper, according to ECM standards. Based on the short-term total traffic volumes shown in Figure 7a, the northbound left-turn volume at this intersection is projected to remain below the 10 vehicle per hour threshold, where a turn-lane would be required. LSC recommends this restriping be identified as a "tentative but subject to change" Filing 10 improvement. Include a note that actual completion of the restriping should be put on short-term hold while LSC continues to work with County staff and complete additional study to address the comments on the combined Filing 10 & 11 TIS report.
- The painted center median on Marksheffel Road at Mesa Ridge Parkway is currently striped as a two-way left-turn lane. LSC recommended (as part of the recent TIS report for Filings 10 and 11 combined) that this painted center median be restriped to create an interim "Channelized T" type intersection. This would include a dedicated northbound left-turn lane and a dedicated northbound left-turn acceleration lane similar to the existing striping at the intersection of Marksheffel/Peaceful Valley. LSC is in the process of working with staff on this potential option as part of the comment resolution for that report. LSC suggests the analysis of this potential restriping be worked out with upcoming Filing 11.
- Based on the projected short-term total traffic volumes, the classification of Marksheffel Road as an Expressway (as shown in the 2016 MTCP 2040 Roadway Plan), and the criteria contained in the El Paso County Engineering Criteria Manual (ECM), a southbound right-turn deceleration lane is projected to be warranted on Marksheffel Road approaching Peaceful

Valley Road. Based on a design speed of 60 mph, the prescribed lane length for this deceleration lane is 290 feet plus a 240-foot taper.

- Based on the projected short-term total traffic volumes, the classification of Marksheffel Road as an Expressway, and the criteria contained in the El Paso County Engineering Criteria Manual (ECM), a southbound right-turn acceleration lane is projected to be warranted on Marksheffel Road at Peaceful Valley Road. Although Marksheffel Road is classified as an Expressway, it has recently been upgraded from a two-lane roadway to a Rural Minor Arterial Cross section instead of an Expressway cross section. Based on a Rural Minor Arterial classification, a right-turn acceleration lane would not be required. LSC recommends right-of-way be reserved for this lane, should Marksheffel be upgraded to an Expressway cross section in the future.
- The southbound left-turn lane on Powers Boulevard approaching Mesa Ridge Parkway was lengthened as part of the Glen at Widefield Filing 7 access permit. The level of service analysis and queueing analysis for the short-term total traffic volumes indicates acceptable operations with the current single-lane configuration.
- Based on the projected short-term and total traffic volumes, Mesa Ridge Parkway should be widened approaching Powers Boulevard to provide dual westbound left-turn lanes. Based on the queueing analysis, dual 475-foot left-turn lanes (plus transition taper) would be adequate to accommodate the projected queues. Deceleration distance would not be necessary, as Powers/Mesa Ridge is a T-intersection. New redirect tapers would be required east of the dual left-turn lanes to transition to the existing cross section. The taper ratio should be 45:1.

Proposed Subdivision Street Classifications

- Figure 8 shows the recommended street classifications for the proposed street sections within Filing No. 10.

Mesa Ridge Parkway/Powers Boulevard Intersection

- CDOT has agreed to a signal escrow amount of \$107,018 for all of Glen at Widefield East. The number of total lots in the Preliminary Plan has been reduced to 578 and therefore the corresponding escrow amount would be \$103,960 for all of Glen at Widefield East. For purposes of the Filing 10 access permit, the amount would be \$7,222. Table 5 presents the signal escrow analysis including the previously identified amount for Filings 7, 8, and 9 and the remaining amount for future filings.
- Access permit applications will be submitted to CDOT for these filings for purposes of processing the signal escrow and for work in the CDOT right-of-way to construct the westbound dual left-turn lanes and any associated traffic signal modifications. A new access permit and associated Notice-to-Proceed will be required.

Mesa Ridge Parkway/Spring Glen Drive Signal Escrow

- The Glen East Preliminary Plan traffic report contains an estimated signal escrow amount for the entire Preliminary Plan and states that the developer's percentage contribution toward this signal will be calculated and a proportional contribution made toward the signal construction with each filing. The estimated proportional contribution is \$2,276 for Filing No. 10. Table 6 presents the signal escrow analysis for this intersection including the previously identified amounts for Filings 7, 8, and 9 and the remaining amount for future filings.

Marksheffel Road/Peaceful Valley Road

- The Glen at Widefield East Preliminary Plan traffic report contains an estimated escrow amount for the Preliminary Plan and states that the developer's percentage contribution toward this signal will be calculated and a proportional contribution made toward the signal construction with each filing. The estimated proportional contribution is \$2,521 for Filing No. 10. Table 7 presents the signal escrow analysis for this intersection including the previously identified amounts for Filings 7, 8 and 9 and the remaining amounts for future filings.

Roadway Improvement Fee Program

- This project will be required to participate in the El Paso County Road Improvement Fee Program. The Glen at Widefield Filing No. 10 will join the ten-mil PID. The ten-mil PID building permit fee portion associated with this option is \$1,221 per single-family dwelling unit. The total building permit fee would be \$48,840 for the 40 lots within Filing No. 10.

* * * * *

Please contact me if you have any questions regarding this report.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By: _____
Kirstin Day Ferrin, P.E.
Senior Transportation Engineer

JCH:KDF:jas

Enclosures: Tables 2-8
Figures 1-8
Traffic Count Reports
Level of Service Reports
Queuing Reports
Additional Attachments:
The Glen at Widefield Filing 10

Tables and Figures

Table 2
Trip Generation Estimate
The Glen at Widefield Filing 10

Filing	Land Use Code	Land Use Description	Trip Generation Units				Trip Generation Rates ⁽¹⁾					Future Total Trips Generated				
							Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
			Existing	Future	Total			In	Out	In	Out		In	Out	In	Out
Approved Filings																
7	210	Single-Family Detached Housing	144	4	148	DU ⁽²⁾	9.44	0.19	0.56	0.62	0.37	38	1	2	2	1
8	210	Single-Family Detached Housing	32	69	101	DU	9.44	0.19	0.56	0.62	0.37	651	13	38	43	25
9	210	Single-Family Detached Housing	0	107	107	DU ⁽²⁾	9.44	0.19	0.56	0.62	0.37	1,010	20	59	67	39
Total Filings 7-9			176	180	356	DU						1,699	34	99	112	65
Currently Proposed Filing																
10	210	Single-Family Detached Housing	0	40	40	DU ⁽²⁾	9.44	0.19	0.56	0.62	0.37	378	7	22	25	15
Total Filings 7-10			176	220	396	DU						2,077	41	121	137	80
Future Filings																
11	210	Single-Family Detached Housing	0	103	103	DU	9.44	0.19	0.56	0.62	0.37	972	19	57	64	38
12	210	Single-Family Detached Housing	0	79	79	DU	9.44	0.19	0.56	0.62	0.37	746	15	44	49	29
Total Filings 7-12			176	402	578	DU						3,795	75	222	250	147

Notes:

(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

Table 3
The Glen at Widefield Filing 10
Traffic Signal Warrant Analysis of Mesa Ridge Pkwy/Marksheffel Rd

Hour	Traffic Volumes		Warrant Analysis ⁽¹⁾							
			Warrant 1, Eight Hour Vehicular Volume Evaluation						Warrant 2, Four Hour Vehicular Volume Evaluation	
			Warrant Thresholds				Warrant Threshold Met?			Warrant Threshold Met?
			Condition A (70%)		Condition B (70%)		West Leg		70% Warrant Threshold Minor Minimum	West Leg
	Major ⁽²⁾	Minor ⁽³⁾	Major	Minor	Major	Minor	A	B		
Existing										
6:30 AM	831	153	420	105	630	53	Yes	Yes	75	Yes
7:30 AM	627	153	420	105	630	53	Yes	No	122	Yes
11:30 AM	389	176	420	105	630	53	No	No	221	No
12:30 PM	367	129	420	105	630	53	No	No	232	No
1:30 PM	321	170	420	105	630	53	No	No	255	No
2:30 PM	446	221	420	105	630	53	Yes	No	192	Yes
4:00 PM	696	296	420	105	630	53	Yes	Yes	101	Yes
5:00 PM	674	248	420	105	630	53	Yes	Yes	108	Yes
							5	3		5
Short-Term Total										
6:30 AM	924	159	420	105	630	53	Yes	Yes	64	Yes
7:30 AM	697	159	420	105	630	53	Yes	Yes	101	Yes
11:30 AM	448	188	420	105	630	53	Yes	No	191	No
12:30 PM	423	138	420	105	630	53	Yes	No	204	No
1:30 PM	370	181	420	105	630	53	No	No	230	No
2:30 PM	514	236	420	105	630	53	Yes	No	160	Yes
4:00 PM	802	316	420	105	630	53	Yes	Yes	80	Yes
5:00 PM	777	265	420	105	630	53	Yes	Yes	85	Yes
							7	4		5

Notes:

(1) Thresholds are based on 2 or more lanes on the major approach and 1 lane on the minor approach with the 70% factor used as the posted speed limit on Marksheffel Rd exceeds 40 mph.

(2) The major street traffic includes all northbound and southbound movements (left, through and right) on Marksheffel Rd.

(3) The minor street traffic includes the eastbound left-turn traffic only on Mesa Ridge Pkwy

Source: LSC Transportation Consultants, Inc.

<p align="center">Table 4</p> <p align="center">The Glen at Widefield Filing 10</p> <p align="center">Traffic Signal Warrant Analysis of Peaceful Valley Rd/Marksheffel Rd</p>

Hour	Traffic Volumes			Warrant Analysis ⁽¹⁾										Warrant 2, Four Hour Vehicular Volume Evaluation		
				Warrant 1, Eight Hour Vehicular Volume Evaluation												
				Warrant Thresholds				Warrant Threshold Met?					Warrant Threshold Met?			
	Minor			Condition A (70%)		Condition B (70%)		West Leg		East Leg		70% Warrant Threshold Minor Minimum	West Leg	East Leg		
	Major ⁽²⁾	West ⁽³⁾	East ⁽⁴⁾	Major	Minor	Major	Minor	A	B	A	B					
Existing Traffic																
AM Peak	1021	30	57	420	105	630	53	No	No	No	Yes	60	No	No		
PM Peak	1004	17	38	420	105	630	53	No	No	No	No	60	No	No		
Short-Term Background Traffic																
AM Peak	1106	45	57	420	105	630	53	No	No	No	Yes	60	No	No		
PM Peak	1127	26	38	420	105	630	53	No	No	No	No	60	No	No		
Short-Term Total Traffic																
AM Peak	1112	61	57	420	105	630	53	No	Yes	No	Yes	60	Yes	No		
PM Peak	1188	48	38	420	105	630	53	No	No	No	No	60	No	No		
Notes:																
(1) Thresholds are based on 2 or more lanes on the major approach and 1 lane on the minor approach with the 70% factor used as the posted speed limit on Marksheffel Rd exceeds 40 mph.																
(2) The major street traffic includes all northbound and southbound movements (left, through and right) on Marksheffel Rd.																
(3) The west leg minor street traffic includes all eastbound traffic left-turn, through and right-turn traffic on Peaceful Valley Rd																
(4) The east leg minor street traffic includes westbound traffic left-turn and through traffic only on Peaceful Valley Dri																
Source: LSC Transportation Consultants, Inc.																

Table 5
Glen East Preliminar Plan CDOT Access Permit and Escrow Analysis
Mesa Ridge & Powers (SH 21)
The Glen at Widefield Filing 10

Subdivisions Currently Proposed			Currently Proposed Separate Access Permits and Escrow Amounts per Access Permit			
Subdivision Name	Number of Lots	Status	Portion of total Escrow of \$103,960	Access Permits	Access Permit Escrow Amt.	Escrow to be deposited in Account with CDOT
Filing 7	148	Recorded	\$26,648	Permit No. 216057	\$26,648	Completed
Filing 8	101	Recorded	\$18,166	Permit No. 218055	\$18,166	Completed
Filing 9	107	Plat Approved - not recorded	\$19,065	Permit No. 218056	\$19,065	Completed
Filing 10	40	Pending	\$7,222	Application to be submitted soon	\$7,222	Prior to issuance of NTP
Filing 11	103	Future	\$18,596	Application to be submitted soon	\$18,596	Prior to issuance of NTP
Remaining Filings	79	Future	\$14,263	Application(s) not submitted	TBD	

Source: LSC Transportation Consultants, Inc.

Table 6
Glen East Preliminary Plan County Intersection Escrow Analysis
Mesa Ridge Parkway & Spring Glen Drive Intersection
The Glen at Widefield Filing 10

Subdivisions Currently Proposed			Signal Escrow Amounts
Subdivision Name	Number of Lots	Status	Portion of Total Escrow of \$33,750
Filing 7	148	Platted	\$8,875
Filing 8	101	Platted	\$6,057
Filing 9	107	Plat Approved - not recorded	\$6,189
Filing 10	40	Pending	\$2,276
Filing 11	103	Future	\$5,859
Remaining Filings	79	Future	\$4,494
			\$33,750
<i>Source: LSC Transportation Consultants, Inc. August 24, 2016</i>			

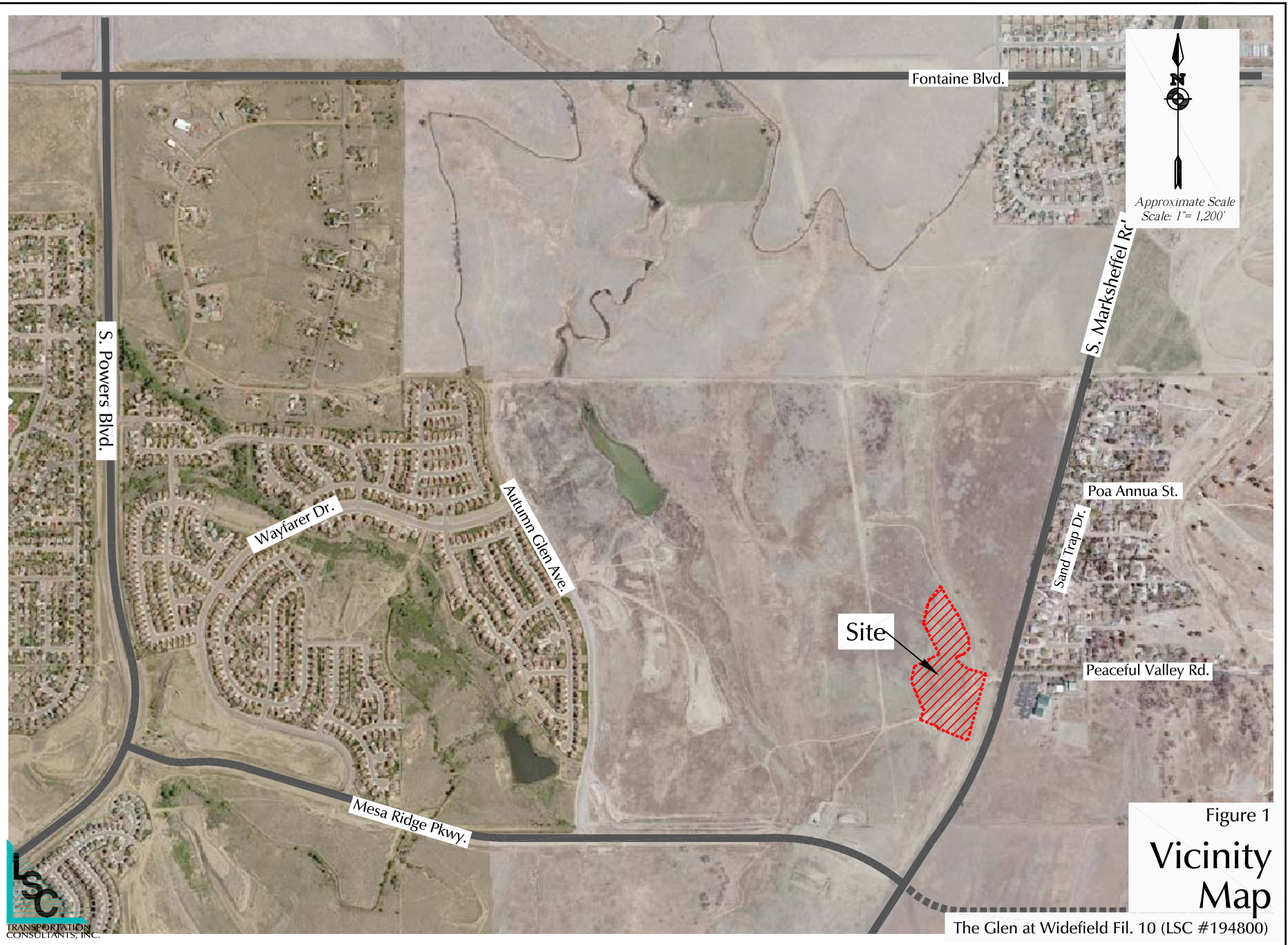
Table 7
Glen East Preliminary Plan County Intersection Escrow Analysis
Peaceful Valley Road & Marksheffel Road Intersection
The Glen at Widefield Filing 10

Subdivisions Currently Proposed			Signal Escrow Amounts
Subdivision Name	Number of Lots	Status	Portion of Total Escrow of \$36,250
Filing 7	148	Platted	Deferred to Fil 8
Filing 8	101	Platted	\$15,615
Filing 9	107	Plat Approved - not recorded	\$6,648
Filing 10	40	Pending	\$2,521
Filing 11	103	Future	\$6,489
Remaining Filings	79	Future	\$4,977
			\$36,250
Note: The escrow amount for Filing 8 includes the deferred amount for Filing 7			
Source: LSC Transportation Consultants, Inc. August 24, 2016			

The previous submittal indicated that restricting the Glen at widefield entrance (west leg) of this intersection to a right in and right out would achieve an acceptable level of service. Is that no longer the case? It appears that your recommendation is to keep the current striping which would make the west leg of this intersection a RIRO.

The Glen at Widefield Filing Nos. 10 and 11

Description	Trigger	Timing
Westbound right-turn deceleration Lane on Mesa Ridge Parkway approaching Spring Glen Drive	Eastbound right-turn volume of 25 vehicles per hour	Future
Westbound right-turn acceleration lane on Mesa Ridge Parkway at Spring Glen Drive	Southbound right-turn volume of 50 vehicles per hour (Existing southbound right-turn volume is 68 vehicles per hour)	Once the full four-lane Principal Arterial section is completed, it is anticipated that the acceleration lane will be implemented at that time. The width for a future westbound right-turn acceleration lane on Mesa Ridge Parkway will become available as the half-section to be built with the initial Mesa Ridge construction will be sufficiently wide. This has been shown on the Mesa Ridge Parkway design plans
The painted center median on Marksheffel Road in the vicinity of Peaceful Valley Road should be restriped as an exclusive northbound left-turn deceleration lane with taper according to ECM standards, as this intersection is no longer a T-intersection, rather a four-leg intersection. The white channelized T pavement markings in the center of the intersection will also need to be removed.	[originally called out] "With Glen at Widefield Filing No. 9", However NB LT movement is not shown to exceed the 10 vph turning movement threshold for a separate LT lane.	LSC recommends this restriping be identified as a "tentative but subject to change" Filing 10 improvement. Include a note that actual completion of the restriping should be put on short-term hold while LSC continues to work with county staff and complete additional study to address the comments on the combined Filing 10 & 11 TIS report.
Restripe the painted center median on Marksheffel Road in the vicinity of Mesa Ridge Parkway to create an interim "Channelized Tee" type intersection. This would include a dedicated northbound left-turn lane and a dedicated northbound left-turn acceleration lane similar to the existing striping at the intersection of Marksheffel/Peaceful Valley (that is being removed).	When the level of service for the easbound left-turn movement at the intersection of Marksheffel/Mesa Ridge drops below an acceptable level (LOS D)	This item is currently under discussion/reevaluation by LSC and county staff. LSC is working to complete an additional study to address the comments on the combined Filing 10 & 11 TIS report. The Filing 10 impact is low at this intersection and LSC suggests this item be deferred until Filing 11.
Southbound right-turn deceleration lane on Marksheffel Road approaching Poa Annua Street. Based on a design speed of 60 mph, the prescribed lane length for this deceleration lane is 290 feet plus a 240-foot taper.	Based on Expressway Classification: Southbound right-turn volume of 10 vehicles per hour Based on Minor Arterial Classification: Southbound right-turn volume of 50 vehicles per hour	Future (With The Glen at Widefield Filing No. 11)
Southbound right-turn deceleration lane on Marksheffel Road approaching Peaceful Valley Road. Based on a design speed of 60 mph, the prescribed lane length for this deceleration lane is 290 feet plus a 240-foot taper.	Based on Expressway Classification: Southbound right-turn volume of 10 vehicles per hour (Existing southbound right-turn volume is 20 vehicles per hour) Based on Minor Arterial Classification: Southbound right-turn volume of 50 vehicles per hour	With The Glen at Widefield Filing No. 10
Southbound right-turn acceleration lane on Marksheffel Road at Poa Annua Street.	Based on Expressway Classification: Eastbound right-turn volume of 10 vehicles per hour Based on Minor Arterial Classification: Generally not required	LSC recommends right-of-way be reserved for this improvement to be constructed if/when Marksheffel Road is upgraded to an Expressway cross section
Southbound right-turn acceleration lane on Marksheffel Road at Peaceful Valley Road	Based on Expressway Classification: Eastbound right-turn volume of 10 vehicles per hour Based on Minor Arterial Classification: Generally not required	LSC recommends right-of-way be reserved for this improvement to be constructed if/when Marksheffel Road is upgraded to an Expressway cross section
Mesa Ridge Parkway should be widened approaching Powers Boulevard to provide dual westbound left-turn lanes. Based on the queueing analysis, dual 475foot left turn lanes (plus transition taper) would be adequate to accommodate the projected queues. Deceleration distance would not be necessary, as Powers/Mesa Ridge is a T-intersection. New redirect tapers would be required east of the dual left turn lanes to transition to the existing cross section. The taper ratio should be 45:1.	Once the westbound left-turn volume exceeds the existing single left-turn lane	As the impact from Filing 10 only still results in an unsatisfactory LOS at this intersection a solution should be addressed with this filing. Per our conversation regarding this recommendation, it was relayed that the County Engineer indicated that improvements such as the one proposed at this intersection are a good consideration before installing a signal in accordance with the MUTCD guidance.



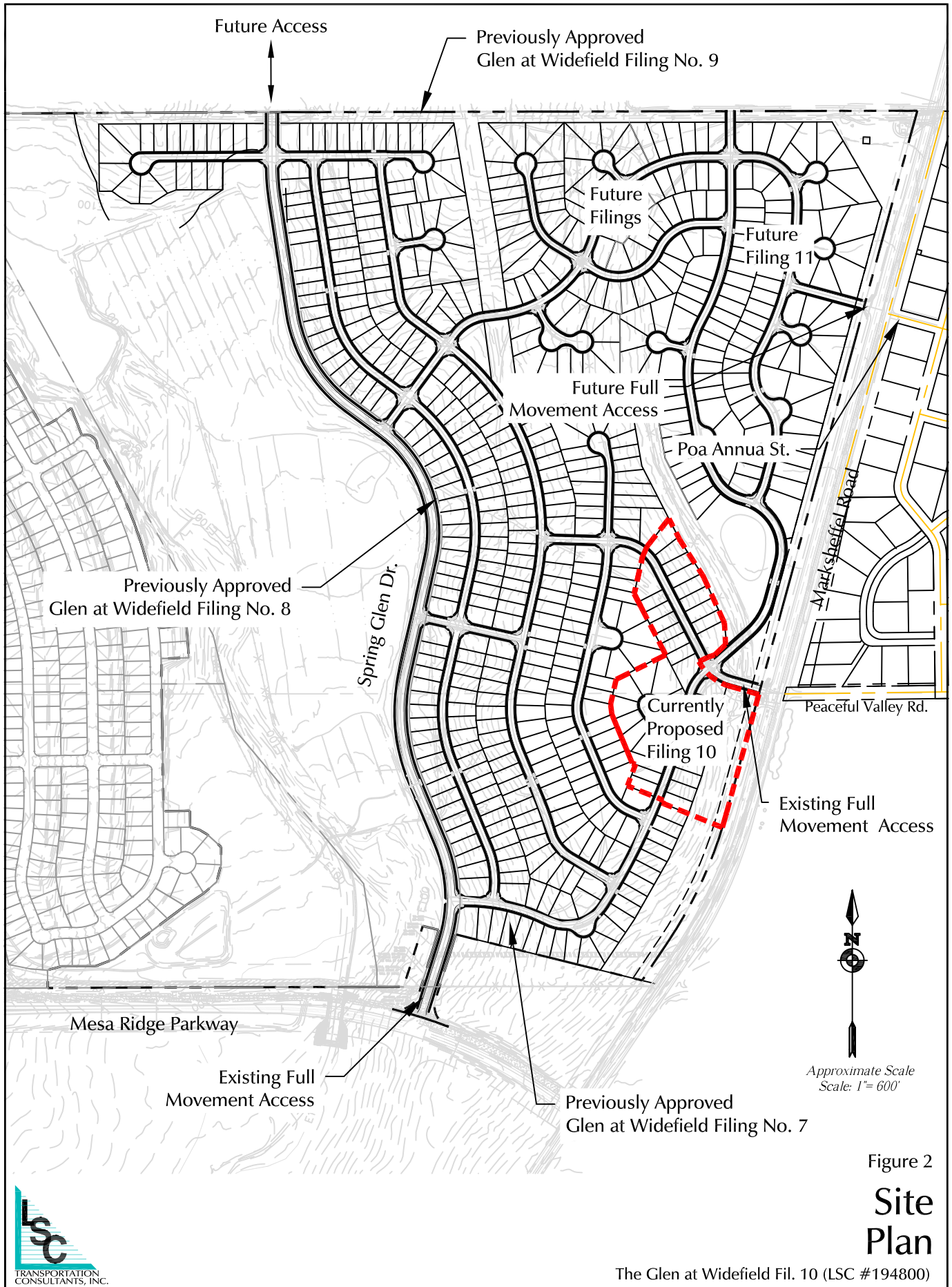
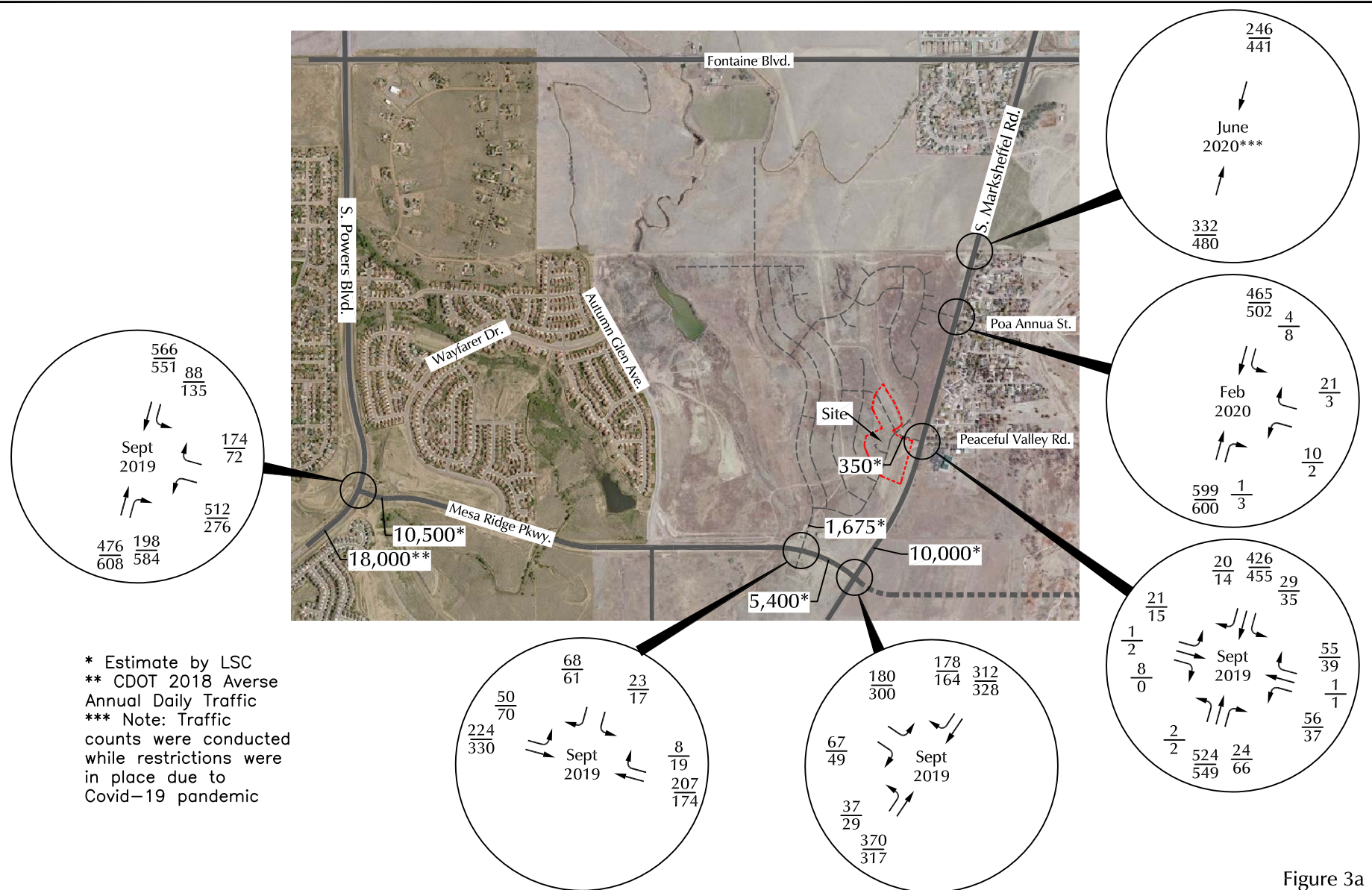


Figure 2

Site Plan

The Glen at Widefield Fil. 10 (LSC #194800)



* Estimate by LSC
 ** CDOT 2018 Averse Annual Daily Traffic
 *** Note: Traffic counts were conducted while restrictions were in place due to Covid-19 pandemic

LEGEND:

LSC TRANSPORTATION CONSULTANTS, INC.

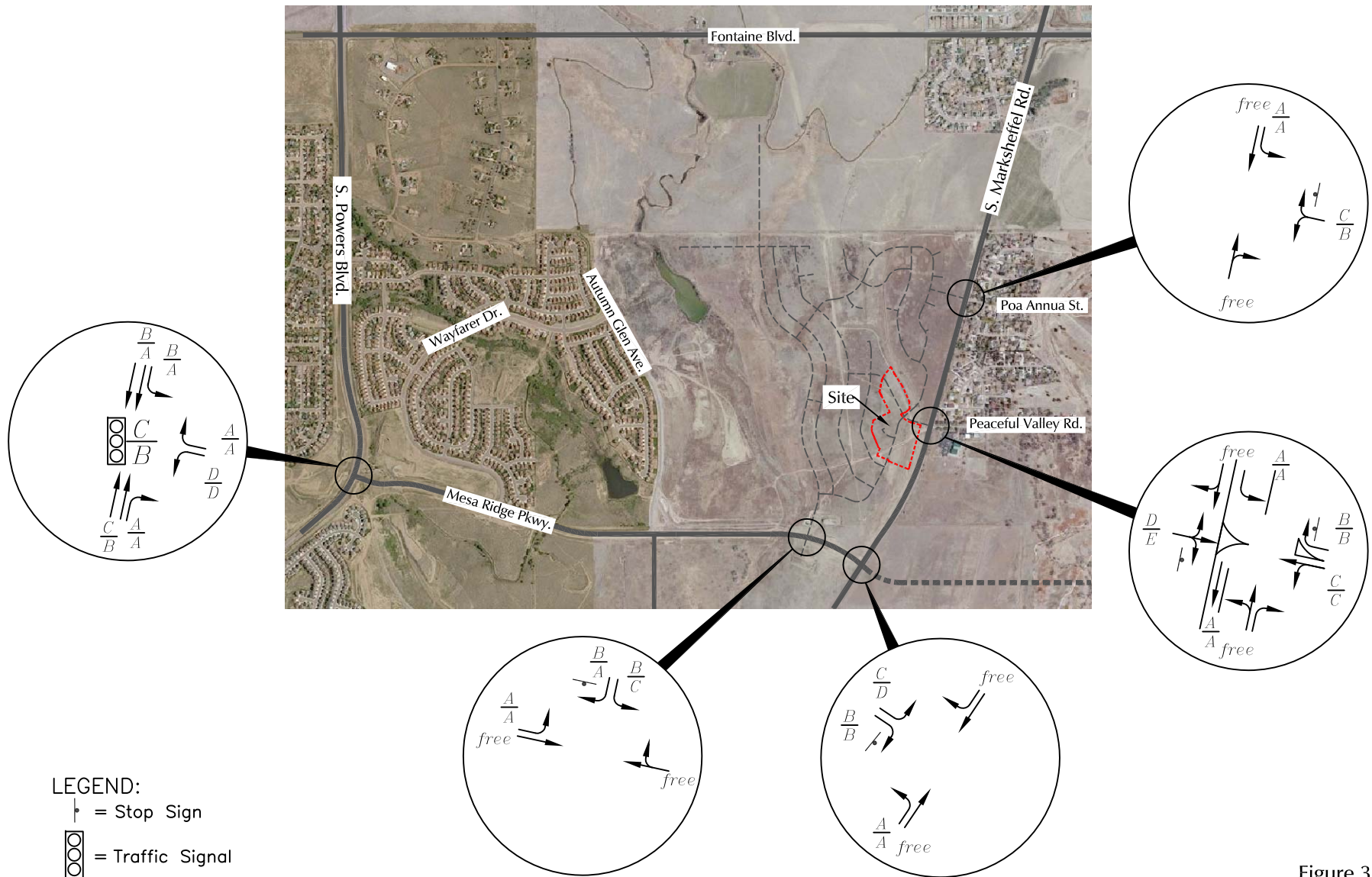
$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)
 X,XXX = Average Weekday Traffic (vehicles per day) *Estimates by LSC

Based on counts by LSC September 2019

Figure 3a

Existing Traffic

The Glen at Widefield Fil. 10 (LSC #194800)



LEGEND:

 = Stop Sign

 = Traffic Signal

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = PM Individual Movement Peak-Hour Level of Service

$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service

$\frac{D}{D}$ = PM Entire Intersection Peak-Hour Level of Service

Figure 3b

Existing Lane Geometry, Traffic Control and Level of Service

The Glen at Widefield Fil. 10 (LSC #194800)

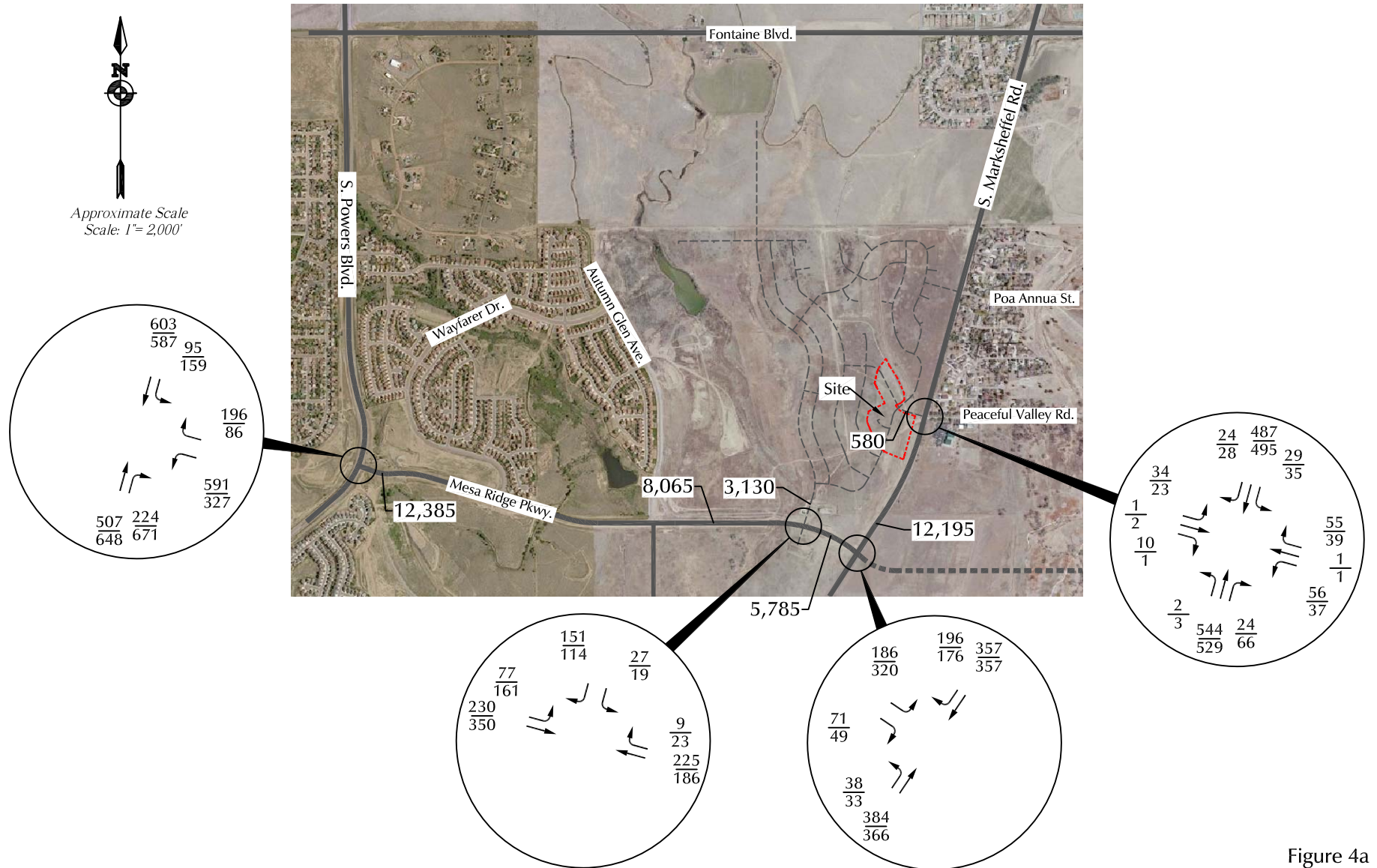
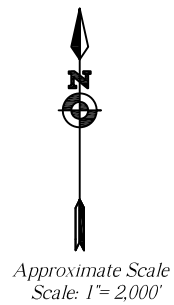


Figure 4a



LEGEND:

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)

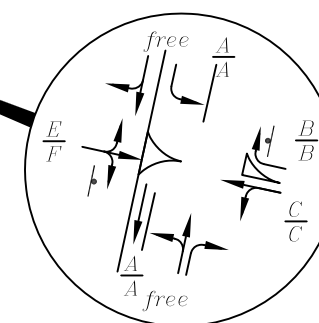
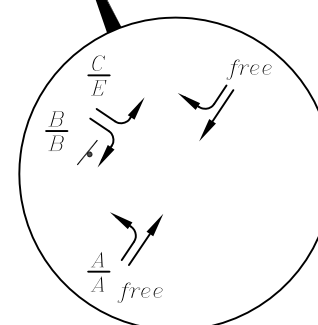
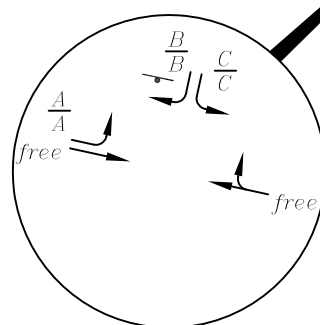
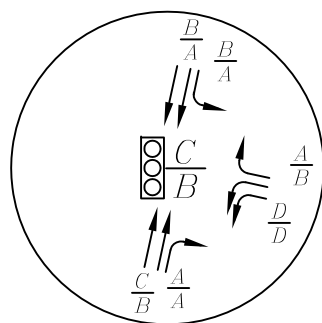
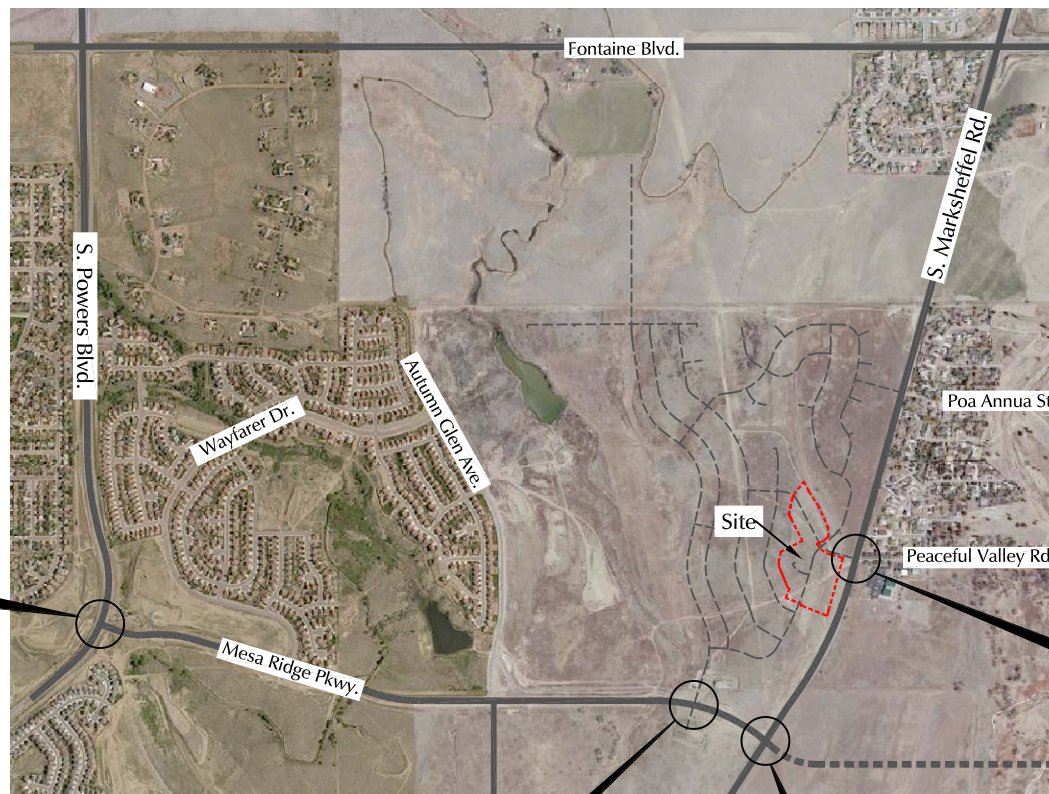
XXX = Average Weekday Traffic (vehicles per day)

Short-Term Background Traffic

The Glen at Widefield Fil. 10 (LSC #194800)



Approximate Scale
Scale: 1"= 2,000'



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = PM Individual Movement Peak-Hour Level of Service

$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service

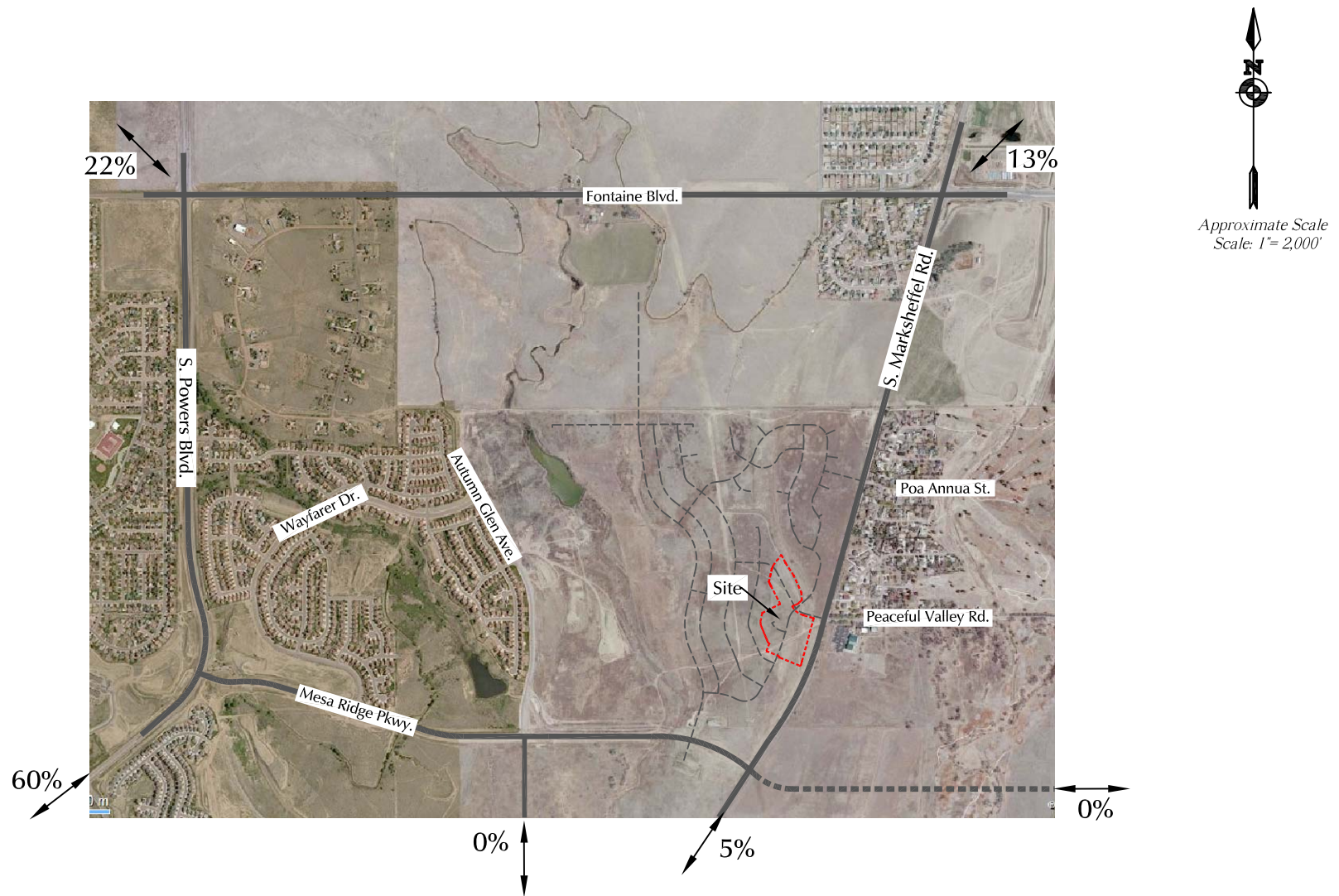
$\frac{D}{D}$ = PM Entire Intersection Peak-Hour Level of Service



Short-Term Background Lane Geometry, Traffic Control and Level of Service

Figure 4b

The Glen at Widefield Fil. 10 (LSC #194800)



LEGEND:

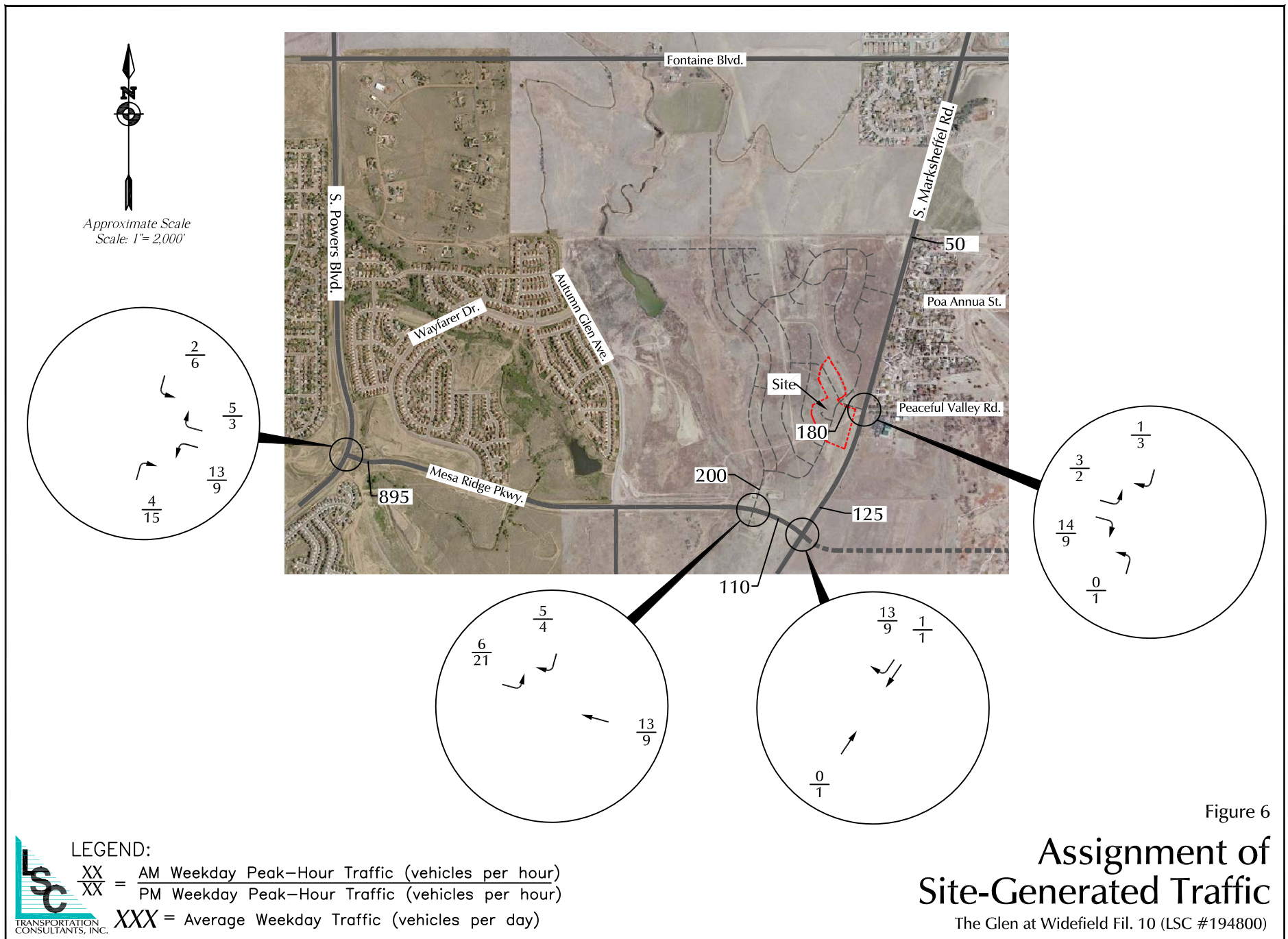
XX% = Short-Term Percent Directional Distribution

LSC
TRANSPORTATION
CONSULTANTS, INC.

Estimated Directional Distribution of Site-Generated Traffic

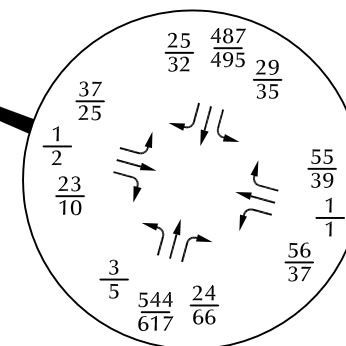
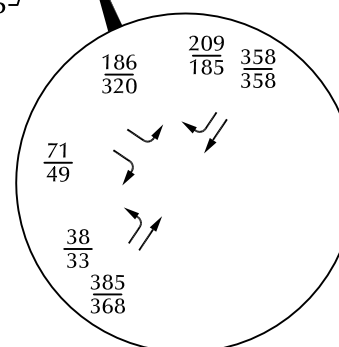
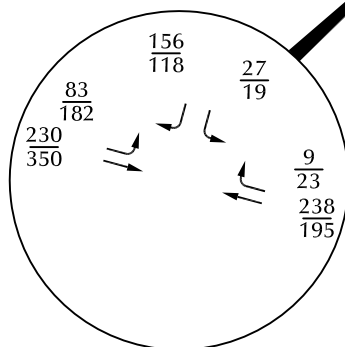
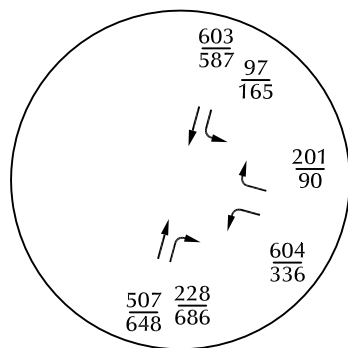
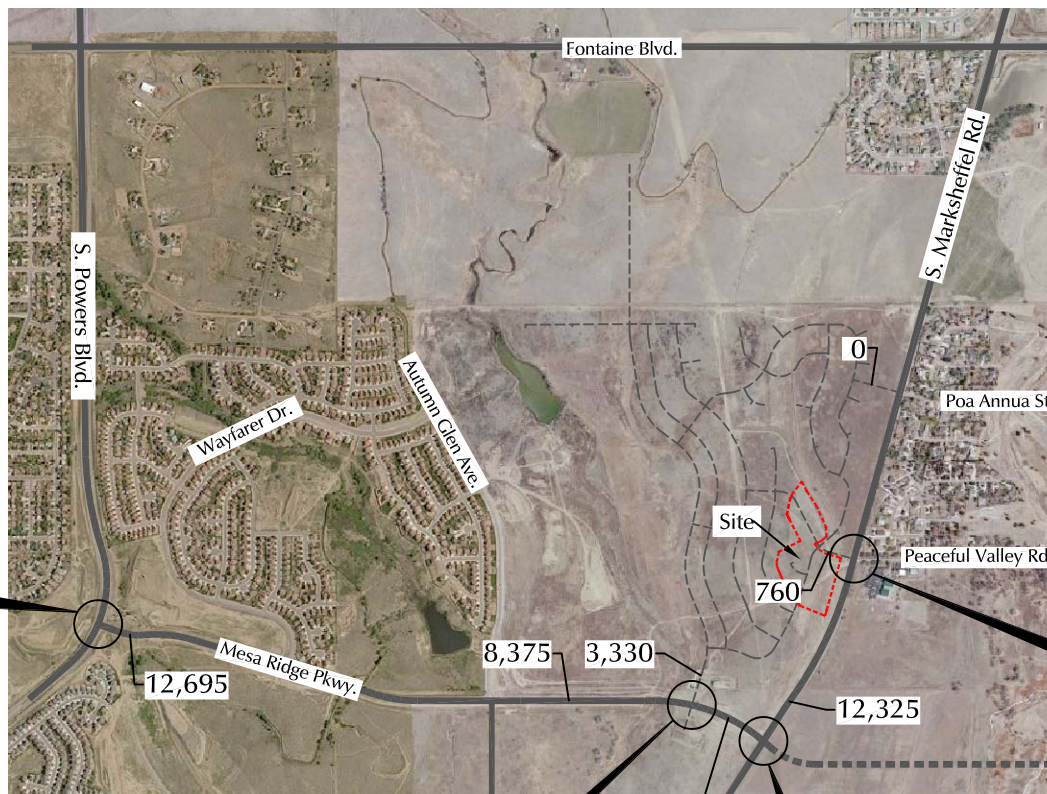
The Glen at Widefield Fil. 10 (LSC #194800)

Figure 5





Approximate Scale
Scale: 1"= 2,000'



LEGEND:

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day)

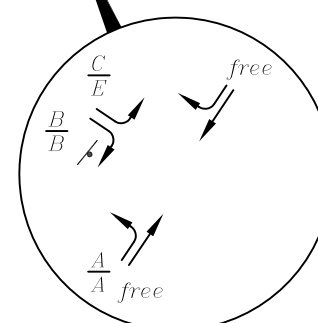
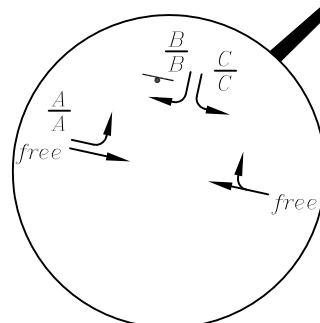
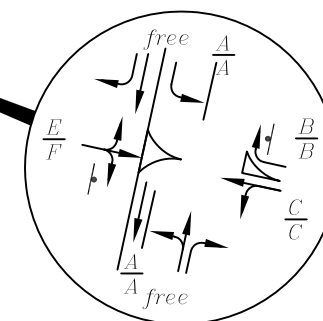
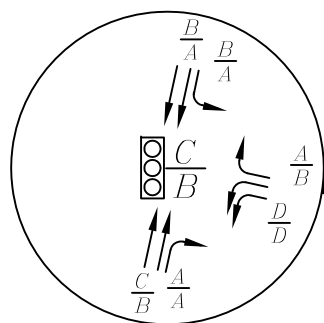
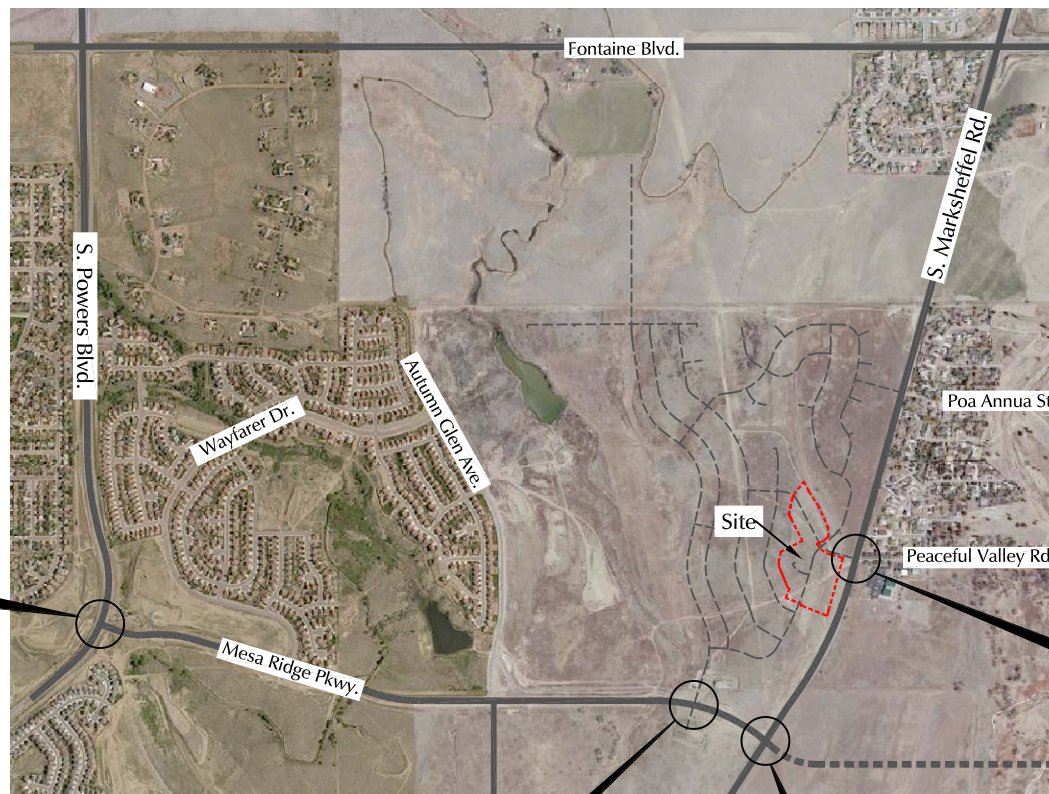
Figure 7a

Short-Term Total Traffic

The Glen at Widefield Fil. 10 (LSC #194800)



Approximate Scale
Scale: 1"= 2,000'



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service

$\frac{B}{A}$ = PM Individual Movement Peak-Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak-Hour Level of Service

$\frac{D}{C}$ = PM Entire Intersection Peak-Hour Level of Service



Figure 7b

Short-Term Total Lane Geometry, Traffic Control and Level of Service

The Glen at Widefield Fil. 10 (LSC #194800)



Traffic Counts



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Powers Blvd - Mesa Ridge Parkway AM 9-19

Site Code : 00194800

Start Date : 9/25/2019

Page No : 1

Groups Printed- Unshifted

	Powers Blvd Southbound					Mesa Ridge Pkwy Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
06:30 AM	9	137	0	0	146	114	0	32	0	146	0	109	29	0	138	0	0	0	0	0	430
06:45 AM	21	170	0	0	191	171	0	34	0	205	0	109	43	0	152	0	0	0	0	0	548
Total	30	307	0	0	337	285	0	66	0	351	0	218	72	0	290	0	0	0	0	0	978
07:00 AM	24	159	0	0	183	143	0	56	0	199	0	130	38	0	168	0	0	0	0	0	550
07:15 AM	18	115	0	0	133	112	0	48	0	160	0	119	65	0	184	0	0	0	0	0	477
07:30 AM	25	122	0	0	147	86	0	36	0	122	0	118	52	0	170	0	0	0	0	0	439
07:45 AM	14	118	0	0	132	94	0	41	0	135	0	96	46	0	142	0	0	0	0	0	409
Total	81	514	0	0	595	435	0	181	0	616	0	463	201	0	664	0	0	0	0	0	1875
08:00 AM	21	144	0	0	165	82	0	29	0	111	0	99	59	0	158	0	0	0	0	0	434
08:15 AM	14	151	0	0	165	105	0	23	0	128	0	70	43	0	113	0	0	0	0	0	406
Grand Total	146	1116	0	0	1262	907	0	299	0	1206	0	850	375	0	1225	0	0	0	0	0	3693
Apprch %	11.6	88.4	0	0		75.2	0	24.8	0		0	69.4	30.6	0		0	0	0	0		
Total %	4	30.2	0	0	34.2	24.6	0	8.1	0	32.7	0	23	10.2	0	33.2	0	0	0	0	0	



LSC Transportation Consultants, Inc.

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Colorado Springs, CO 80905
719-633-2868

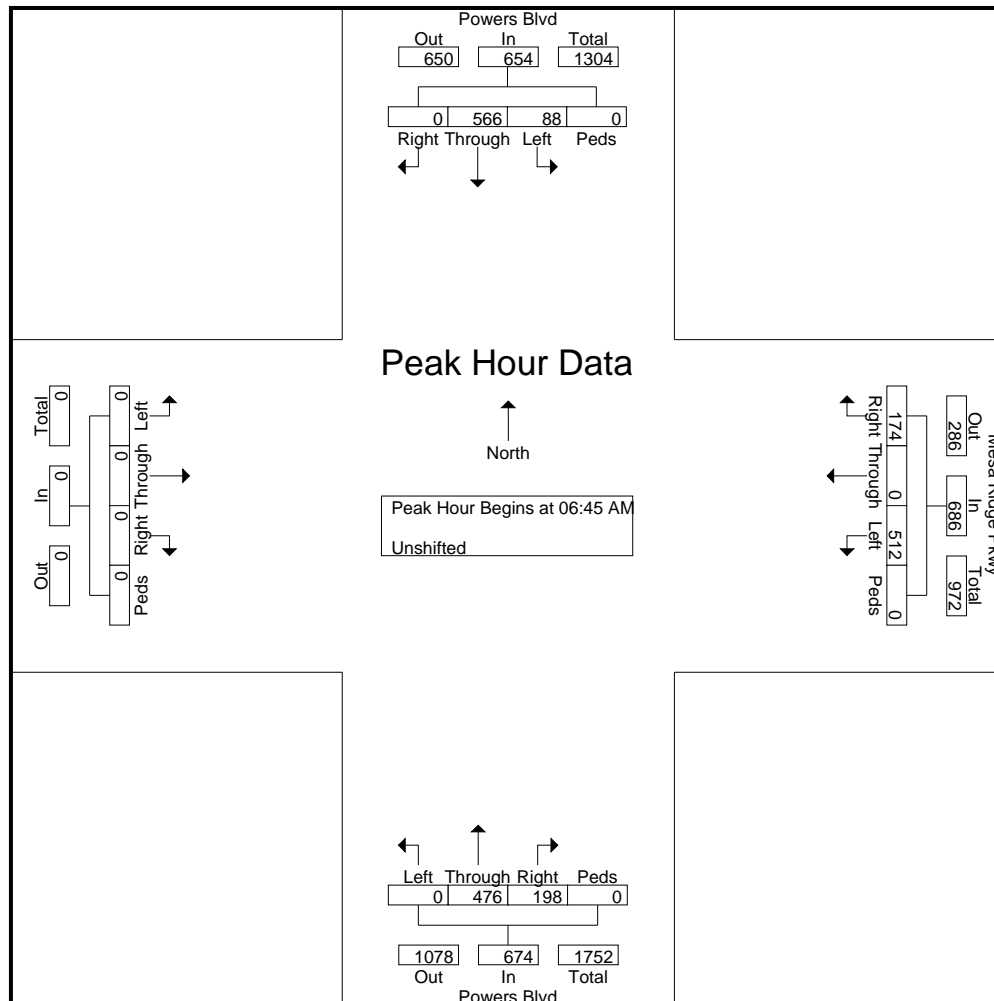
File Name : Powers Blvd - Mesa Ridge Parkway AM 9-19

Site Code : 00194800

Start Date : 9/25/2019

Page No : 2

	Powers Blvd Southbound					Mesa Ridge Pkwy Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	21	170	0	0	191	171	0	34	0	205	0	109	43	0	152	0	0	0	0	0	548
07:00 AM	24	159	0	0	183	143	0	56	0	199	0	130	38	0	168	0	0	0	0	0	550
07:15 AM	18	115	0	0	133	112	0	48	0	160	0	119	65	0	184	0	0	0	0	0	477
07:30 AM	25	122	0	0	147	86	0	36	0	122	0	118	52	0	170	0	0	0	0	0	439
Total Volume	88	566	0	0	654	512	0	174	0	686	0	476	198	0	674	0	0	0	0	0	2014
% App. Total	13.5	86.5	0	0		74.6	0	25.4	0		0	70.6	29.4	0		0	0	0	0	0	
PHF	.880	.832	.000	.000	.856	.749	.000	.777	.000	.837	.000	.915	.762	.000	.916	.000	.000	.000	.000	.000	.915





LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Powers Blvd - Mesa Ridge Parkway PM 9-19

Site Code : 00194800

Start Date : 9/25/2019

Page No : 1

Groups Printed- Unshifted

	Powers Blvd Southbound					Mesa Ridge Pkwy Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
04:00 PM	35	109	0	0	144	70	0	19	0	89	0	152	137	0	289	0	0	0	0	0	522
04:15 PM	37	137	0	0	174	61	0	24	0	85	0	146	145	0	291	0	0	0	0	0	550
04:30 PM	37	140	0	0	177	62	0	23	0	85	0	171	141	0	312	0	0	0	0	0	574
04:45 PM	29	138	0	0	167	77	0	14	0	91	0	147	140	0	287	0	0	0	0	0	545
Total	138	524	0	0	662	270	0	80	0	350	0	616	563	0	1179	0	0	0	0	0	2191
05:00 PM	30	112	0	0	142	78	0	18	0	96	0	160	137	0	297	0	0	0	0	0	535
05:15 PM	39	161	0	0	200	59	0	17	0	76	0	130	166	0	296	0	0	0	0	0	572
05:30 PM	33	147	0	0	180	61	0	17	0	78	0	161	128	0	289	0	0	0	0	0	547
05:45 PM	20	89	0	0	109	75	0	17	0	92	0	148	150	0	298	0	0	0	0	0	499
Total	122	509	0	0	631	273	0	69	0	342	0	599	581	0	1180	0	0	0	0	0	2153
Grand Total	260	1033	0	0	1293	543	0	149	0	692	0	1215	1144	0	2359	0	0	0	0	0	4344
Apprch %	20.1	79.9	0	0		78.5	0	21.5	0		0	51.5	48.5	0		0	0	0	0	0	
Total %	6	23.8	0	0	29.8	12.5	0	3.4	0	15.9	0	28	26.3	0	54.3	0	0	0	0	0	



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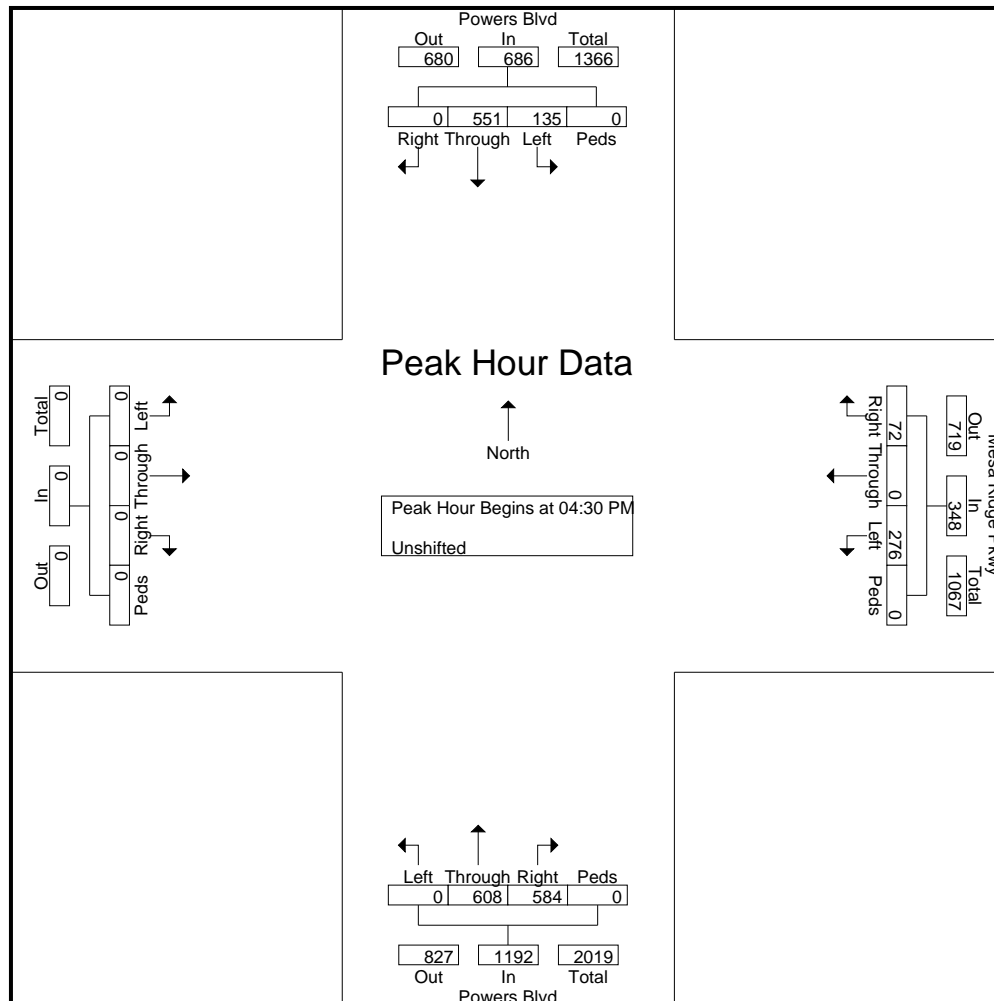
File Name : Powers Blvd - Mesa Ridge Parkway PM 9-19

Site Code : 00194800

Start Date : 9/25/2019

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	Powers Blvd Southbound					Mesa Ridge Pkwy Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	37	140	0	0	177	62	0	23	0	85	0	171	141	0	312	0	0	0	0	0	574
04:45 PM	29	138	0	0	167	77	0	14	0	91	0	147	140	0	287	0	0	0	0	0	545
05:00 PM	30	112	0	0	142	78	0	18	0	96	0	160	137	0	297	0	0	0	0	0	535
05:15 PM	39	161	0	0	200	59	0	17	0	76	0	130	166	0	296	0	0	0	0	0	572
Total Volume	135	551	0	0	686	276	0	72	0	348	0	608	584	0	1192	0	0	0	0	0	2226
% App. Total	19.7	80.3	0	0		79.3	0	20.7	0		0	51	49	0		0	0	0	0		
PHF	.865	.856	.000	.000	.858	.885	.000	.783	.000	.906	.000	.889	.880	.000	.955	.000	.000	.000	.000	.000	.970





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File Name : Spring Glen Dr - Mesa Ridge Pkwy AM
Site Code : 00194800
Start Date : 9/18/2019
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Groups Printed- Unshifted

Start Time	Spring Glen Dr Southbound					Mesa Ridge Pkwy Westbound					Northbound					Mesa Ridge Pkwy Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
06:30 AM	6	0	15	0	21	0	51	1	0	52	0	0	0	0	0	9	38	0	0	47	120
06:45 AM	4	0	21	0	25	0	47	4	0	51	0	0	0	0	0	10	58	0	0	68	144
Total	10	0	36	0	46	0	98	5	0	103	0	0	0	0	0	19	96	0	0	115	264
07:00 AM	7	0	21	0	28	0	58	1	0	59	0	0	0	0	0	12	52	0	0	64	151
07:15 AM	4	0	16	0	20	0	39	3	0	42	0	0	0	0	0	13	67	0	0	80	142
07:30 AM	8	0	11	0	19	0	38	1	0	39	0	0	0	0	0	7	52	0	0	59	117
07:45 AM	4	0	20	0	24	0	50	3	0	53	0	0	0	0	0	18	53	0	0	71	148
Total	23	0	68	0	91	0	185	8	0	193	0	0	0	0	0	50	224	0	0	274	558
08:00 AM	4	0	16	0	20	0	53	1	0	54	0	0	0	0	0	17	50	0	0	67	141
08:15 AM	0	0	13	0	13	0	38	1	0	39	0	0	0	0	0	14	53	0	0	67	119
Grand Total	37	0	133	0	170	0	374	15	0	389	0	0	0	0	0	100	423	0	0	523	1082
Apprch %	21.8	0	78.2	0		0	96.1	3.9	0		0	0	0	0		19.1	80.9	0	0		
Total %	3.4	0	12.3	0	15.7	0	34.6	1.4	0	36	0	0	0	0	0	9.2	39.1	0	0	48.3	



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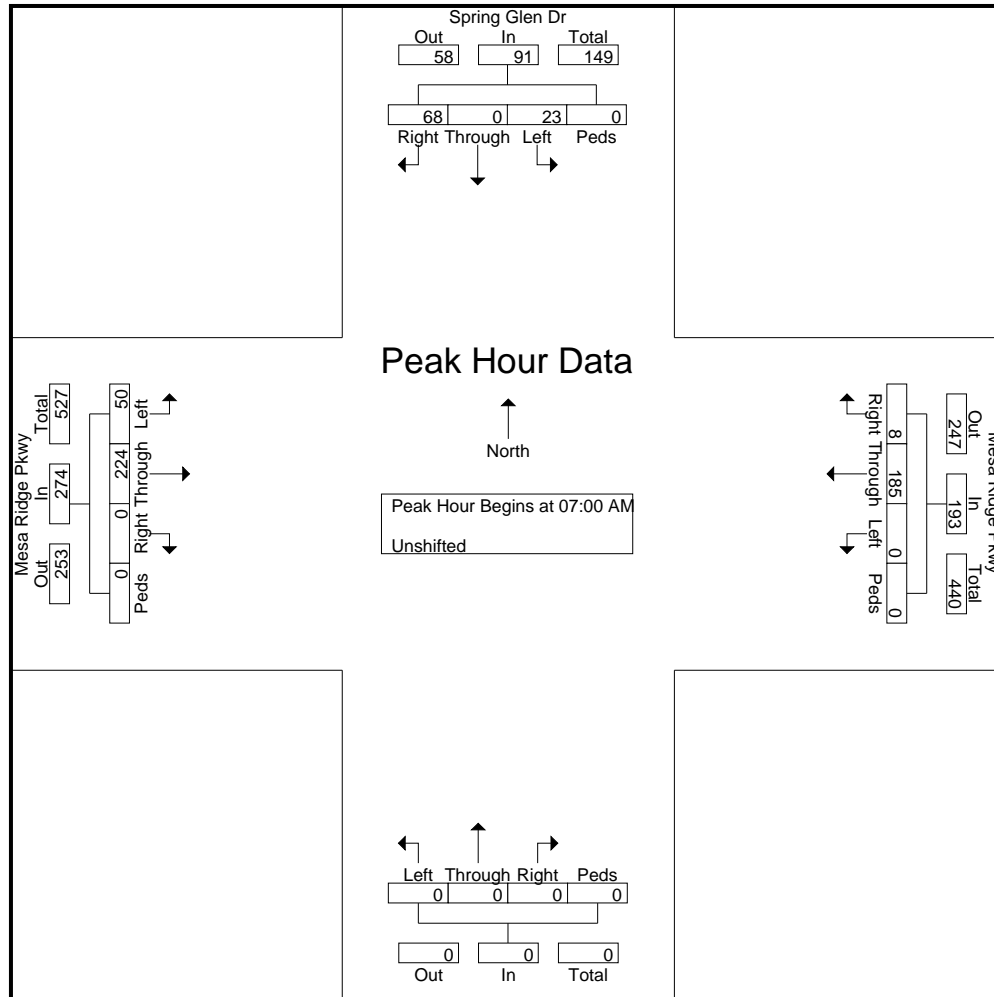
File Name : Spring Glen Dr - Mesa Ridge Pkwy AM

Site Code : 00194800

Start Date : 9/18/2019

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	Spring Glen Dr Southbound					Mesa Ridge Pkwy Westbound					Northbound					Mesa Ridge Pkwy Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	7	0	21	0	28	0	58	1	0	59	0	0	0	0	0	12	52	0	0	64	151
07:15 AM	4	0	16	0	20	0	39	3	0	42	0	0	0	0	0	13	67	0	0	80	142
07:30 AM	8	0	11	0	19	0	38	1	0	39	0	0	0	0	0	7	52	0	0	59	117
07:45 AM	4	0	20	0	24	0	50	3	0	53	0	0	0	0	0	18	53	0	0	71	148
Total Volume	23	0	68	0	91	0	185	8	0	193	0	0	0	0	0	50	224	0	0	274	558
% App. Total	25.3	0	74.7	0		0	95.9	4.1	0		0	0	0	0		18.2	81.8	0	0		
PHF	.719	.000	.810	.000	.813	.000	.797	.667	.000	.818	.000	.000	.000	.000	.000	.694	.836	.000	.000	.856	.924





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File Name : Spring Glen Dr - Mesa Ridge Pkwy PM

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Start Date : 9/18/2019

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Groups Printed- Unshifted

	Spring Glen Dr Southbound					Mesa Ridge Pkwy Westbound					Northbound					Mesa Ridge Pkwy Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
04:00 PM	5	0	10	0	15	0	41	1	0	42	0	0	0	0	0	22	67	0	0	89	146
04:15 PM	2	0	10	0	12	0	25	3	0	28	0	0	0	0	0	18	59	0	0	77	117
04:30 PM	1	0	16	0	17	0	32	5	0	37	0	0	0	0	0	20	77	0	0	97	151
04:45 PM	4	0	13	0	17	0	48	3	0	51	0	0	0	0	0	14	83	0	0	97	165
Total	12	0	49	0	61	0	146	12	0	158	0	0	0	0	0	74	286	0	0	360	579
05:00 PM	4	0	18	0	22	0	41	2	0	43	0	0	0	0	0	19	80	0	0	99	164
05:15 PM	5	0	16	0	21	0	38	8	0	46	0	0	0	0	0	13	85	0	0	98	165
05:30 PM	4	0	14	0	18	0	30	6	0	36	0	0	0	0	0	24	82	0	0	106	160
05:45 PM	2	0	13	0	15	0	52	5	0	57	0	0	0	0	0	20	67	0	0	87	159
Total	15	0	61	0	76	0	161	21	0	182	0	0	0	0	0	76	314	0	0	390	648
Grand Total	27	0	110	0	137	0	307	33	0	340	0	0	0	0	0	150	600	0	0	750	1227
Apprch %	19.7	0	80.3	0		0	90.3	9.7	0		0	0	0	0		20	80	0	0		
Total %	2.2	0	9	0	11.2	0	25	2.7	0	27.7	0	0	0	0		12.2	48.9	0	0	61.1	

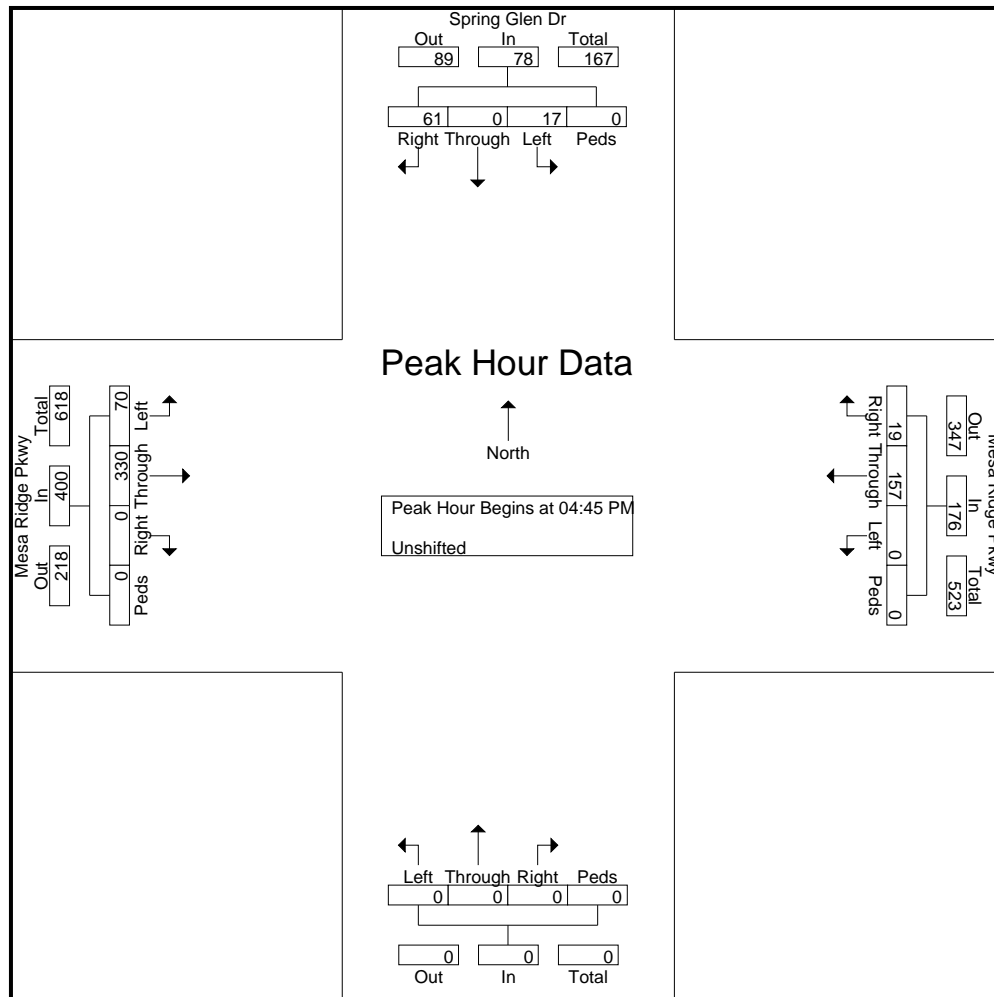


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File Name : Spring Glen Dr - Mesa Ridge Pkwy PM
Site Code : 00194800
Start Date : 9/18/2019
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	Spring Glen Dr Southbound					Mesa Ridge Pkwy Westbound					Northbound					Mesa Ridge Pkwy Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	4	0	13	0	17	0	48	3	0	51	0	0	0	0	0	14	83	0	0	97	165
05:00 PM	4	0	18	0	22	0	41	2	0	43	0	0	0	0	0	19	80	0	0	99	164
05:15 PM	5	0	16	0	21	0	38	8	0	46	0	0	0	0	0	13	85	0	0	98	165
05:30 PM	4	0	14	0	18	0	30	6	0	36	0	0	0	0	0	24	82	0	0	106	160
Total Volume	17	0	61	0	78	0	157	19	0	176	0	0	0	0	0	70	330	0	0	400	654
% App. Total	21.8	0	78.2	0		0	89.2	10.8	0		0	0	0	0		17.5	82.5	0	0		
PHF	.850	.000	.847	.000	.886	.000	.818	.594	.000	.863	.000	.000	.000	.000	.000	.729	.971	.000	.000	.943	.991





File Name : marksheffel rd - mesa ridge pkwy am 9-19

Site Code : 00194800

Start Date : 9/25/2019

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Groups Printed- Unshifted

	Marksheffel Rd Southbound					Westbound					Marksheffel Rd Northbound					Mesa Ridge Pkwy Eastbound					
06:30 AM	0	63	55	1	119	0	0	0	0	0	4	71	0	0	75	27	0	7	0	34	228
06:45 AM	0	64	53	0	117	0	0	0	0	0	9	93	0	0	102	43	0	13	0	56	275
Total	0	127	108	1	236	0	0	0	0	0	13	164	0	0	177	70	0	20	0	90	503
07:00 AM	0	66	52	0	118	0	0	0	0	0	7	97	0	0	104	35	0	20	0	55	277
07:15 AM	0	60	38	0	98	0	0	0	0	0	13	86	0	0	99	48	0	18	0	66	263
07:30 AM	0	53	35	0	88	0	0	0	0	0	8	81	0	0	89	43	0	16	0	59	236
07:45 AM	0	53	36	0	89	0	0	0	0	0	6	61	0	0	67	37	0	12	0	49	205
Total	0	232	161	0	393	0	0	0	0	0	34	325	0	0	359	163	0	66	0	229	981
08:00 AM	0	32	48	0	80	0	0	0	0	0	10	68	0	0	78	37	0	8	0	45	203
08:15 AM	0	34	54	0	88	0	0	0	0	0	4	44	0	0	48	36	0	3	0	39	175
	0	425	371	1	797	0	0	0	0	0	61	601	0	0	662	306	0	97	0	403	1862
Apprch %	0			0.1		0	0	0	0	0	9.2		0	0			0		0		
Total %	0			0.1	42.8	0	0	0	0	0	3.3		0	0	35.6		0	5.2	0	21.6	



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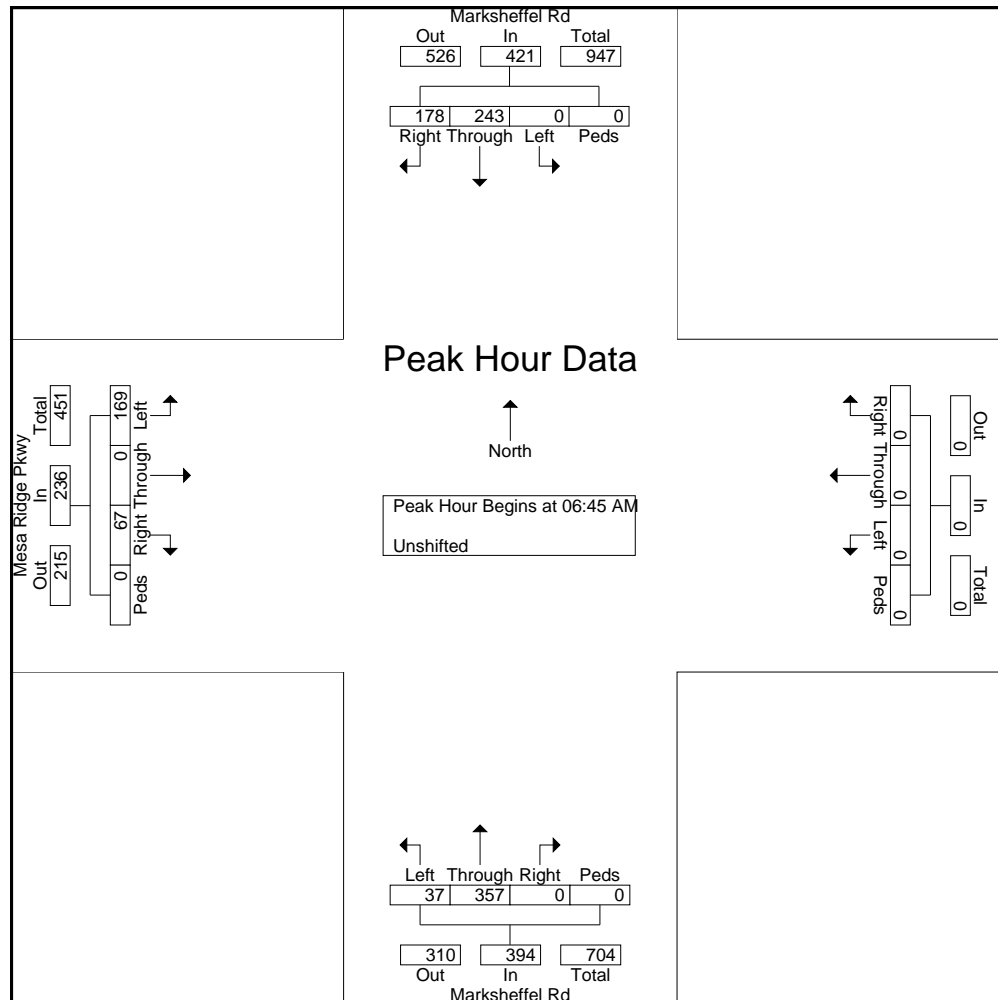
File Name : marksheffel rd - mesa ridge pkwy am 9-19

Site Code : 00194800

Start Date : 9/25/2019

Page No : 2

	Marksheffel Rd Southbound					Westbound					Marksheffel Rd Northbound					Mesa Ridge Pkwy Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	0	64	53	0	117	0	0	0	0	0	9	93	0	0	102	43	0	13	0	56	275
07:00 AM	0	66	52	0	118	0	0	0	0	0	7	97	0	0	104	35	0	20	0	55	277
07:15 AM	0	60	38	0	98	0	0	0	0	0	13	86	0	0	99	48	0	18	0	66	263
07:30 AM	0	53	35	0	88	0	0	0	0	0	8	81	0	0	89	43	0	16	0	59	236
Total Volume	0	243	178	0	421	0	0	0	0	0	37	357	0	0	394	169	0	67	0	236	1051
% App. Total	0	57.7	42.3	0		0	0	0	0		9.4	90.6	0	0		71.6	0	28.4	0		
PHF	.000	.920	.840	.000	.892	.000	.000	.000	.000	.000	.712	.920	.000	.000	.947	.880	.000	.838	.000	.894	.949





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File Name : Marksheffel Rd - Mesa Ridge Pkwy PM 9-19

Site Code : 00194800

Start Date : 9/25/2019

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Groups Printed- Unshifted

Start Time	Marksheffel Rd Southbound					Westbound					Marksheffel Rd Northbound					Mesa Ridge Pkwy Eastbound					Int. Total
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	
04:00 PM	0	56	39	0	95	0	0	0	0	0	5	76	0	0	81	67	0	11	0	78	254
04:15 PM	0	76	43	0	119	0	0	0	0	0	8	37	0	0	45	70	0	11	0	81	245
04:30 PM	0	66	41	0	107	0	0	0	0	0	12	51	0	0	63	76	0	12	0	88	258
04:45 PM	0	77	51	0	128	0	0	0	0	0	5	53	0	0	58	83	0	5	0	88	274
Total	0	275	174	0	449	0	0	0	0	0	30	217	0	0	247	296	0	39	0	335	1031
05:00 PM	0	70	39	0	109	0	0	0	0	0	8	52	0	0	60	60	0	7	0	67	236
05:15 PM	0	85	33	0	118	0	0	0	0	0	4	73	0	0	77	66	0	8	0	74	269
05:30 PM	0	57	45	0	102	0	0	0	0	0	10	52	0	0	62	62	0	9	0	71	235
05:45 PM	0	60	36	0	96	0	0	0	0	0	9	41	0	0	50	60	0	14	0	74	220
Total	0	272	153	0	425	0	0	0	0	0	31	218	0	0	249	248	0	38	0	286	960
Grand Total	0	547	327	0	874	0	0	0	0	0	61	435	0	0	496	544	0	77	0	621	1991
Apprch %	0	62.6	37.4	0		0	0	0	0		12.3	87.7	0	0		87.6	0	12.4	0		
Total %	0	27.5	16.4	0	43.9	0	0	0	0	0	3.1	21.8	0	0	24.9	27.3	0	3.9	0	31.2	



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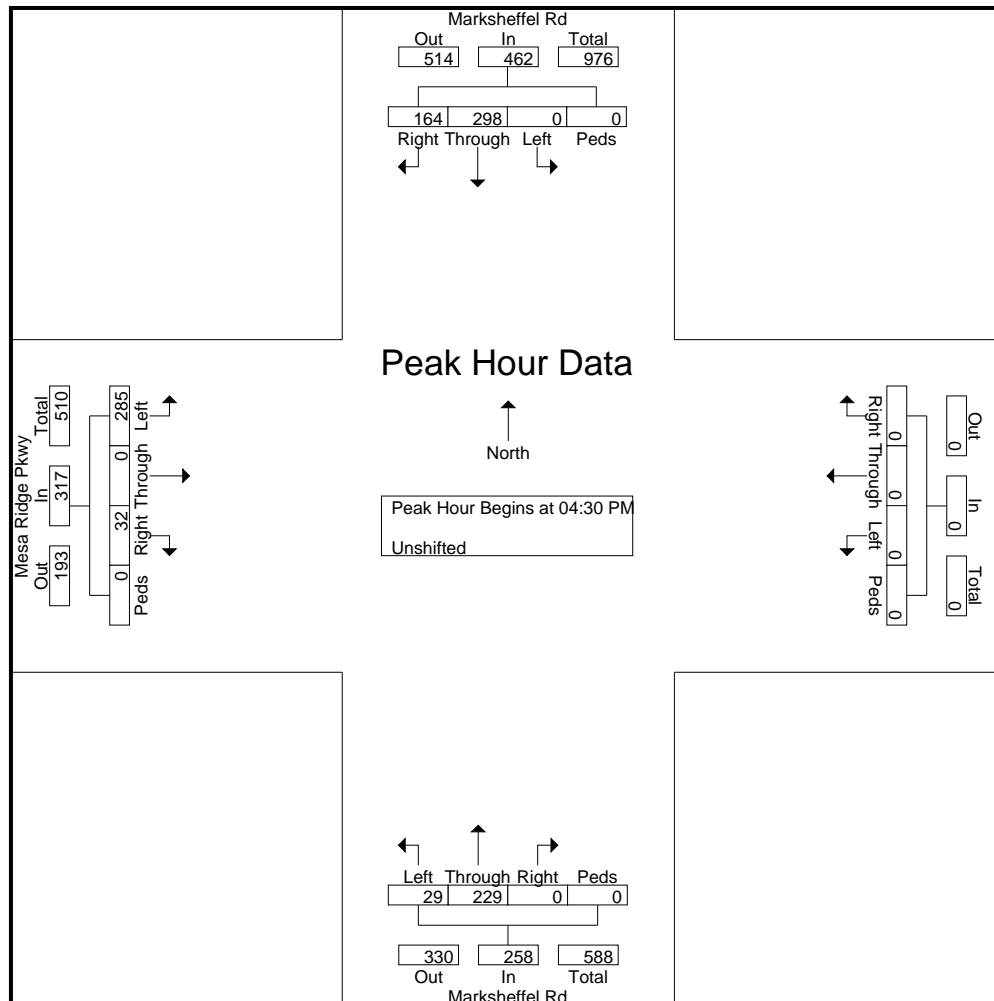
File Name : Marksheffel Rd - Mesa Ridge Pkwy PM 9-19

Site Code : 00194800

Start Date : 9/25/2019

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	Marksheffel Rd Southbound					Westbound					Marksheffel Rd Northbound					Mesa Ridge Pkwy Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	66	41	0	107	0	0	0	0	0	12	51	0	0	63	76	0	12	0	88	258
04:45 PM	0	77	51	0	128	0	0	0	0	0	5	53	0	0	58	83	0	5	0	88	274
05:00 PM	0	70	39	0	109	0	0	0	0	0	8	52	0	0	60	60	0	7	0	67	236
05:15 PM	0	85	33	0	118	0	0	0	0	0	4	73	0	0	77	66	0	8	0	74	269
Total Volume	0	298	164	0	462	0	0	0	0	0	29	229	0	0	258	285	0	32	0	317	1037
% App. Total	0	64.5	35.5	0		0	0	0	0		11.2	88.8	0	0		89.9	0	10.1	0		
PHF	.000	.876	.804	.000	.902	.000	.000	.000	.000	.000	.604	.784	.000	.000	.838	.858	.000	.667	.000	.901	.946





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File Name : Marksheffel Rd - Peaceful Valley Rd AM 9-19

Site Code : 194800

Start Date : 9/12/2019

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	Marksheffel Rd Southbound					Peaceful Valley Rd Westbound					Marksheffel Rd Northbound					Peaceful Valley Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
06:30 AM	3	72	4	0	79	8	0	7	0	15	0	94	3	0	97	7	0	1	0	8	199
06:45 AM	5	110	5	0	120	13	1	12	0	26	0	107	6	0	113	4	0	2	0	6	265
Total	8	182	9	0	199	21	1	19	0	41	0	201	9	0	210	11	0	3	0	14	464
07:00 AM	6	112	2	0	120	25	0	12	0	37	0	139	2	0	141	1	0	2	0	3	301
07:15 AM	7	92	5	0	104	12	0	12	0	24	2	147	9	0	158	13	1	3	0	17	303
07:30 AM	11	108	8	0	127	6	0	19	0	25	0	131	7	0	138	3	0	1	0	4	294
07:45 AM	13	77	3	0	93	6	0	6	0	12	0	98	12	0	110	3	0	1	0	4	219
Total	37	389	18	0	444	49	0	49	0	98	2	515	30	0	547	20	1	7	0	28	1117
08:00 AM	15	68	12	0	95	17	0	10	0	27	0	93	16	0	109	1	1	0	0	2	233
08:15 AM	23	69	2	0	94	24	0	16	0	40	0	45	25	0	70	1	0	0	0	1	205
Grand Total	83	708	41	0	832	111	1	94	0	206	2	854	80	0	936	33	2	10	0	45	2019
Apprch %	10	85.1	4.9	0		53.9	0.5	45.6	0		0.2	91.2	8.5	0		73.3	4.4	22.2	0		
Total %	4.1	35.1	2	0	41.2	5.5	0	4.7	0	10.2	0.1	42.3	4	0	46.4	1.6	0.1	0.5	0	2.2	



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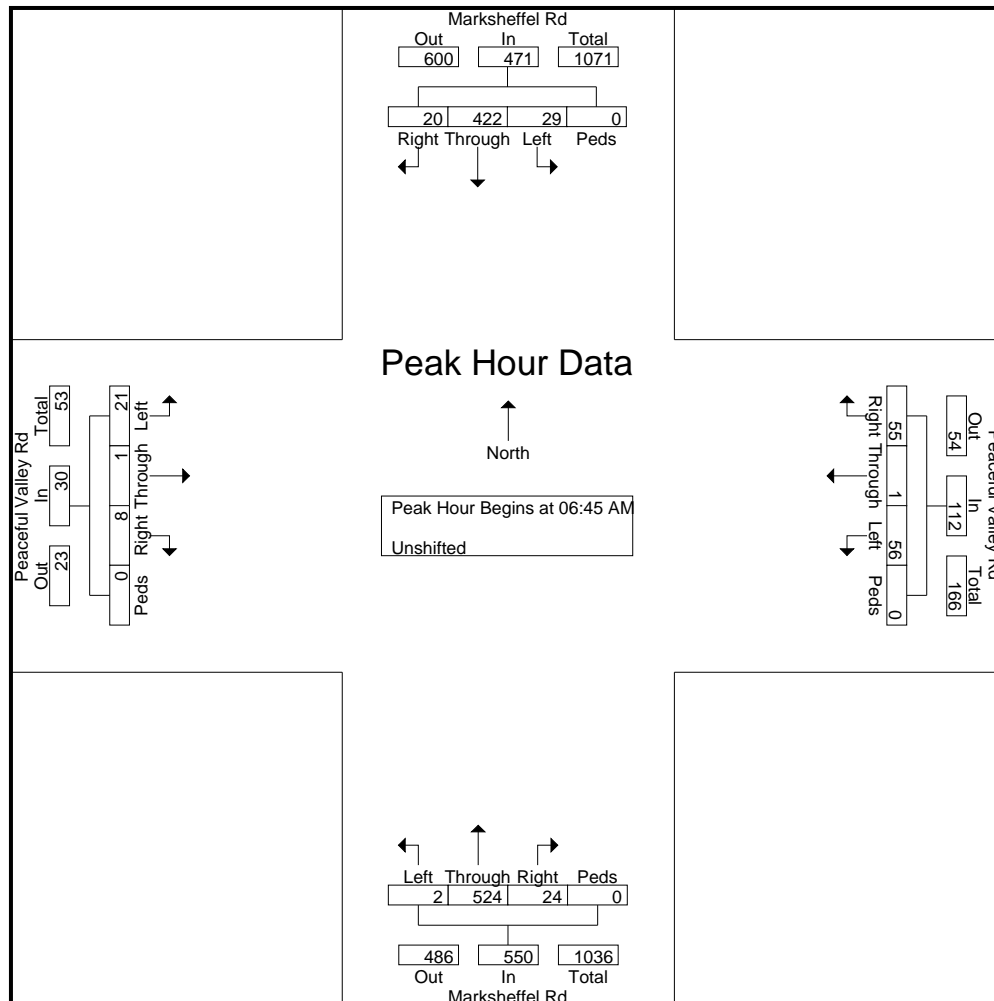
File Name : Marksheffel Rd - Peaceful Valley Rd AM 9-19

Site Code : 194800

Start Date : 9/12/2019

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	Marksheffel Rd Southbound					Peaceful Valley Rd Westbound					Marksheffel Rd Northbound					Peaceful Valley Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	5	110	5	0	120	13	1	12	0	26	0	107	6	0	113	4	0	2	0	6	265
07:00 AM	6	112	2	0	120	25	0	12	0	37	0	139	2	0	141	1	0	2	0	3	301
07:15 AM	7	92	5	0	104	12	0	12	0	24	2	147	9	0	158	13	1	3	0	17	303
07:30 AM	11	108	8	0	127	6	0	19	0	25	0	131	7	0	138	3	0	1	0	4	294
Total Volume	29	422	20	0	471	56	1	55	0	112	2	524	24	0	550	21	1	8	0	30	1163
% App. Total	6.2	89.6	4.2	0		50	0.9	49.1	0		0.4	95.3	4.4	0		70	3.3	26.7	0		
PHF	.659	.942	.625	.000	.927	.560	.250	.724	.000	.757	.250	.891	.667	.000	.870	.404	.250	.667	.000	.441	.960





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545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Marksheffel Rd - Peaceful Valley Rd PM 9-19

Site Code : 00194800

Start Date : 9/12/2019

Page No : 1

Groups Printed- Unshifted

	Marksheffel Rd Southbound					Peaceful Valley Rd Westbound					Marksheffel Rd Northbound					Peaceful Valley Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
04:00 PM	9	94	2	0	105	5	0	6	0	11	1	107	9	0	117	1	0	0	0	1	234
04:15 PM	19	120	3	0	142	5	0	7	0	12	0	118	14	0	132	5	1	0	0	6	292
04:30 PM	7	91	2	0	100	10	1	13	0	24	1	130	15	0	146	3	1	0	0	4	274
04:45 PM	3	110	6	0	119	11	0	8	0	19	1	109	20	0	130	3	0	0	0	3	271
Total	38	415	13	0	466	31	1	34	0	66	3	464	58	0	525	12	2	0	0	14	1071
05:00 PM	6	105	3	0	114	11	0	11	0	22	0	104	17	0	121	4	0	0	0	4	261
05:15 PM	7	94	4	0	105	9	0	8	0	17	0	121	22	0	143	1	0	0	0	1	266
05:30 PM	8	98	2	0	108	7	0	7	0	14	0	97	9	0	106	0	0	0	0	0	228
05:45 PM	6	98	1	0	105	6	0	9	0	15	1	100	11	0	112	3	1	1	0	5	237
Total	27	395	10	0	432	33	0	35	0	68	1	422	59	0	482	8	1	1	0	10	992
Grand Total	65	810	23	0	898	64	1	69	0	134	4	886	117	0	1007	20	3	1	0	24	2063
Apprch %	7.2	90.2	2.6	0		47.8	0.7	51.5	0		0.4	88	11.6	0		83.3	12.5	4.2	0		
Total %	3.2	39.3	1.1	0	43.5	3.1	0	3.3	0	6.5	0.2	42.9	5.7	0	48.8	1	0.1	0	0	1.2	



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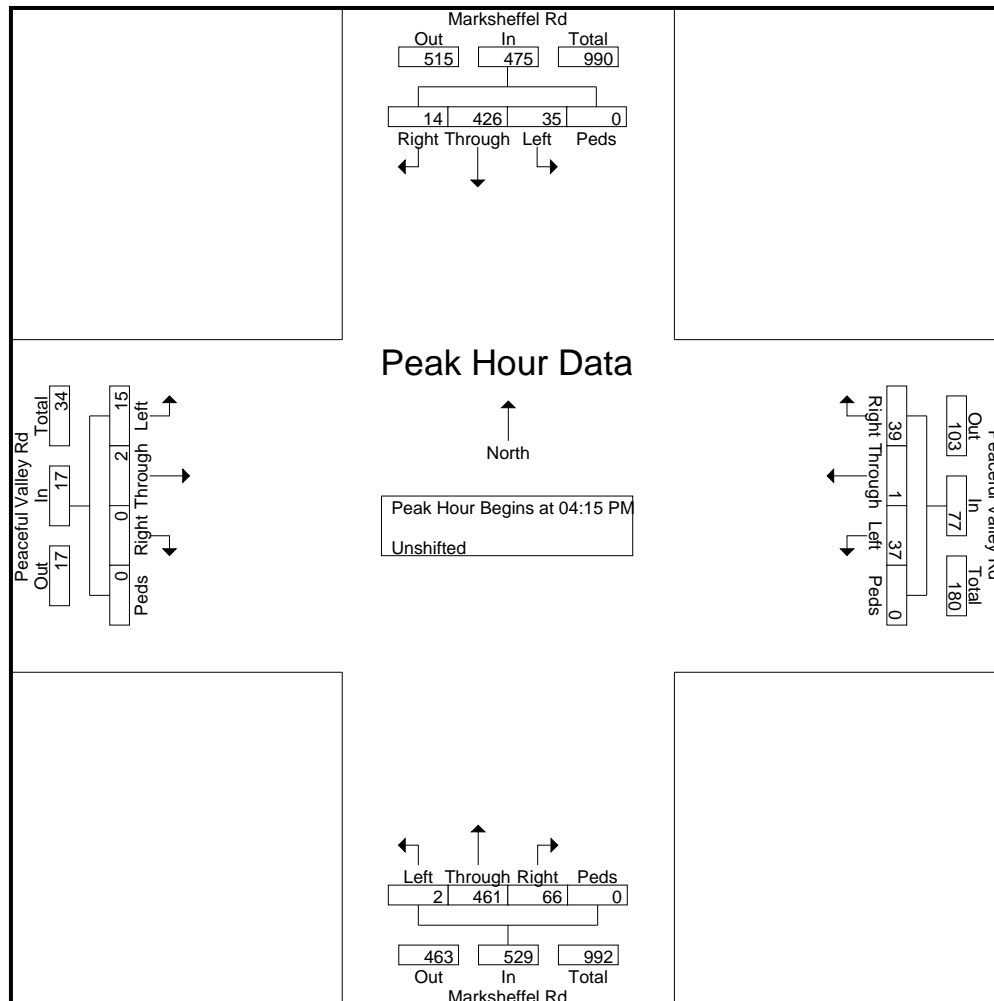
File Name : Marksheffel Rd - Peaceful Valley Rd PM 9-19

Site Code : 00194800

Start Date : 9/12/2019

Page No : 2

	Marksheffel Rd Southbound					Peaceful Valley Rd Westbound					Marksheffel Rd Northbound					Peaceful Valley Rd Eastbound					
Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	19	120	3	0	142	5	0	7	0	12	0	118	14	0	132	5	1	0	0	6	292
04:30 PM	7	91	2	0	100	10	1	13	0	24	1	130	15	0	146	3	1	0	0	4	274
04:45 PM	3	110	6	0	119	11	0	8	0	19	1	109	20	0	130	3	0	0	0	3	271
05:00 PM	6	105	3	0	114	11	0	11	0	22	0	104	17	0	121	4	0	0	0	4	261
Total Volume	35	426	14	0	475	37	1	39	0	77	2	461	66	0	529	15	2	0	0	17	1098
% App. Total	7.4	89.7	2.9	0		48.1	1.3	50.6	0		0.4	87.1	12.5	0		88.2	11.8	0	0		
PHF	.461	.888	.583	.000	.836	.841	.250	.750	.000	.802	.500	.887	.825	.000	.906	.750	.500	.000	.000	.708	.940



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
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719-633-2868

File Name : Marksheffel Rd - Poa Annua St AM

Site Code : 00194800

Start Date : 2/27/2020

Page No : 1

Groups Printed- Unshifted

Start Time	Marksheffel Rd Southbound					Poa Annua St Westbound					Marksheffel Rd Northbound					Eastbound					Int. Total
	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	
06:30 AM	0	96	0	0	96	1	0	1	0	2	0	111	0	0	111	0	0	0	0	0	209
06:45 AM	0	129	0	0	129	3	0	4	0	7	0	130	0	0	130	0	0	0	0	0	266
Total	0	225	0	0	225	4	0	5	0	9	0	241	0	0	241	0	0	0	0	0	475
07:00 AM	0	118	0	0	118	3	0	5	0	8	0	174	0	0	174	0	0	0	0	0	300
07:15 AM	2	110	0	0	112	1	0	7	0	8	0	150	1	0	151	0	0	0	0	0	271
07:30 AM	2	108	0	0	110	3	0	5	0	8	0	125	0	0	125	0	0	0	0	0	243
07:45 AM	2	104	0	0	106	1	0	5	0	6	0	107	0	0	107	0	0	0	0	0	219
Total	6	440	0	0	446	8	0	22	0	30	0	556	1	0	557	0	0	0	0	0	1033
08:00 AM	3	107	0	0	110	2	0	1	0	3	0	90	0	0	90	0	0	0	0	0	203
08:15 AM	0	92	0	0	92	0	0	2	0	2	0	85	0	0	85	0	0	0	0	0	179
Grand Total	9	864	0	0	873	14	0	30	0	44	0	972	1	0	973	0	0	0	0	0	1890
Apprch %	1	99	0	0		31.8	0	68.2	0		0	99.9	0.1	0		0	0	0	0		
Total %	0.5	45.7	0	0	46.2	0.7	0	1.6	0	2.3	0	51.4	0.1	0	51.5	0	0	0	0	0	

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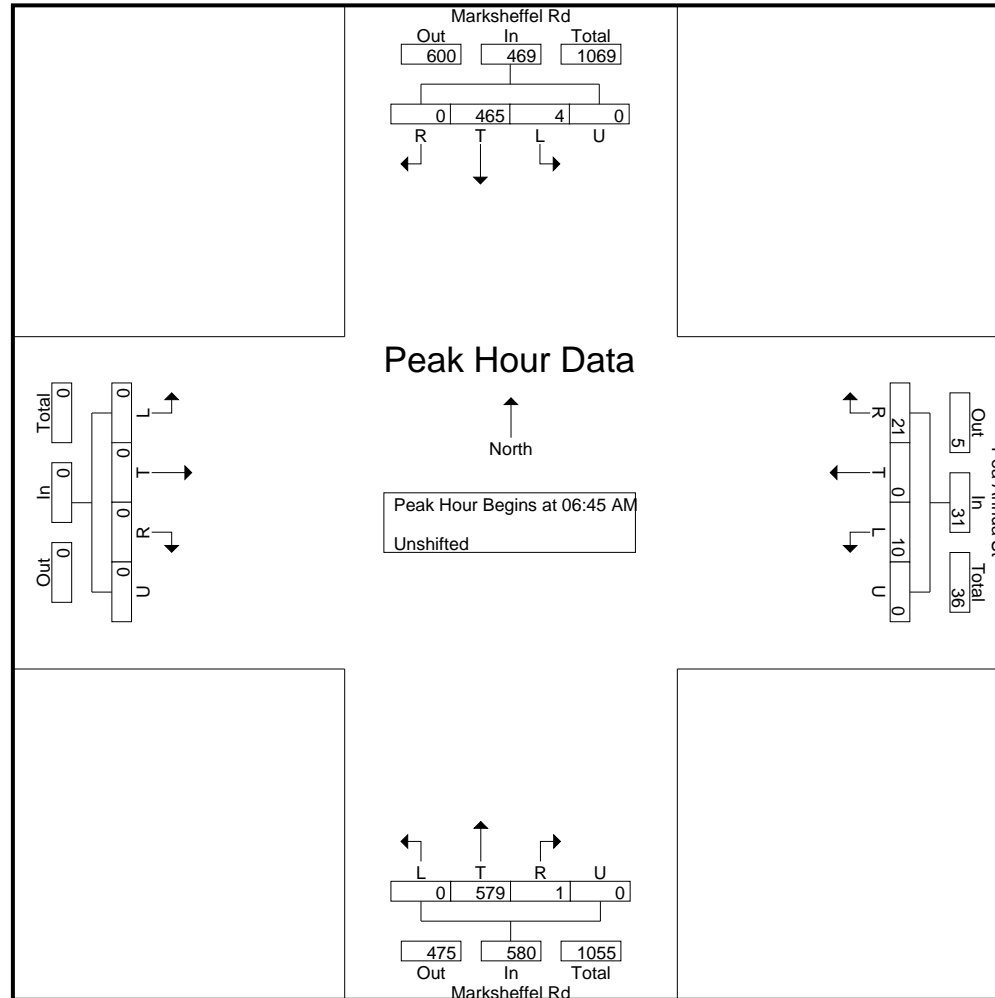
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719-633-2868

File Name : Marksheffel Rd - Poa Annua St AM

Site Code : 00194800

Start Date : 2/27/2020

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545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Marksheffel Rd - Poa Annua St PM
Site Code : 00194800
Start Date : 2/27/2020
Page No : 1

Groups Printed- Unshifted

	Marksheffel Rd Southbound					Poa Annua St Westbound					Marksheffel Rd Northbound					Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
04:00 PM	4	123	0	0	127	0	0	3	0	3	0	135	2	0	137	0	0	0	0	0	267
04:15 PM	5	134	0	0	139	0	0	0	0	0	0	141	0	0	141	0	0	0	0	0	280
04:30 PM	4	117	0	0	121	0	0	0	0	0	0	165	0	0	165	0	0	0	0	0	286
04:45 PM	2	125	0	0	127	1	0	0	0	1	0	152	1	0	153	0	0	0	0	0	281
Total	15	499	0	0	514	1	0	3	0	4	0	593	3	0	596	0	0	0	0	0	1114
05:00 PM	1	118	0	0	119	0	0	2	0	2	0	145	0	0	145	0	0	0	0	0	266
05:15 PM	1	142	0	0	143	1	0	1	0	2	0	138	2	0	140	0	0	0	0	0	285
05:30 PM	3	112	0	0	115	0	0	2	0	2	0	136	0	0	136	0	0	0	0	0	253
05:45 PM	2	105	0	0	107	1	0	1	0	2	0	127	1	0	128	0	0	0	0	0	237
Total	7	477	0	0	484	2	0	6	0	8	0	546	3	0	549	0	0	0	0	0	1041
Grand Total	22	976	0	0	998	3	0	9	0	12	0	1139	6	0	1145	0	0	0	0	0	2155
Apprch %	2.2	97.8	0	0		25	0	75	0		0	99.5	0.5	0		0	0	0	0		
Total %	1	45.3	0	0	46.3	0.1	0	0.4	0	0.6	0	52.9	0.3	0	53.1	0	0	0	0	0	

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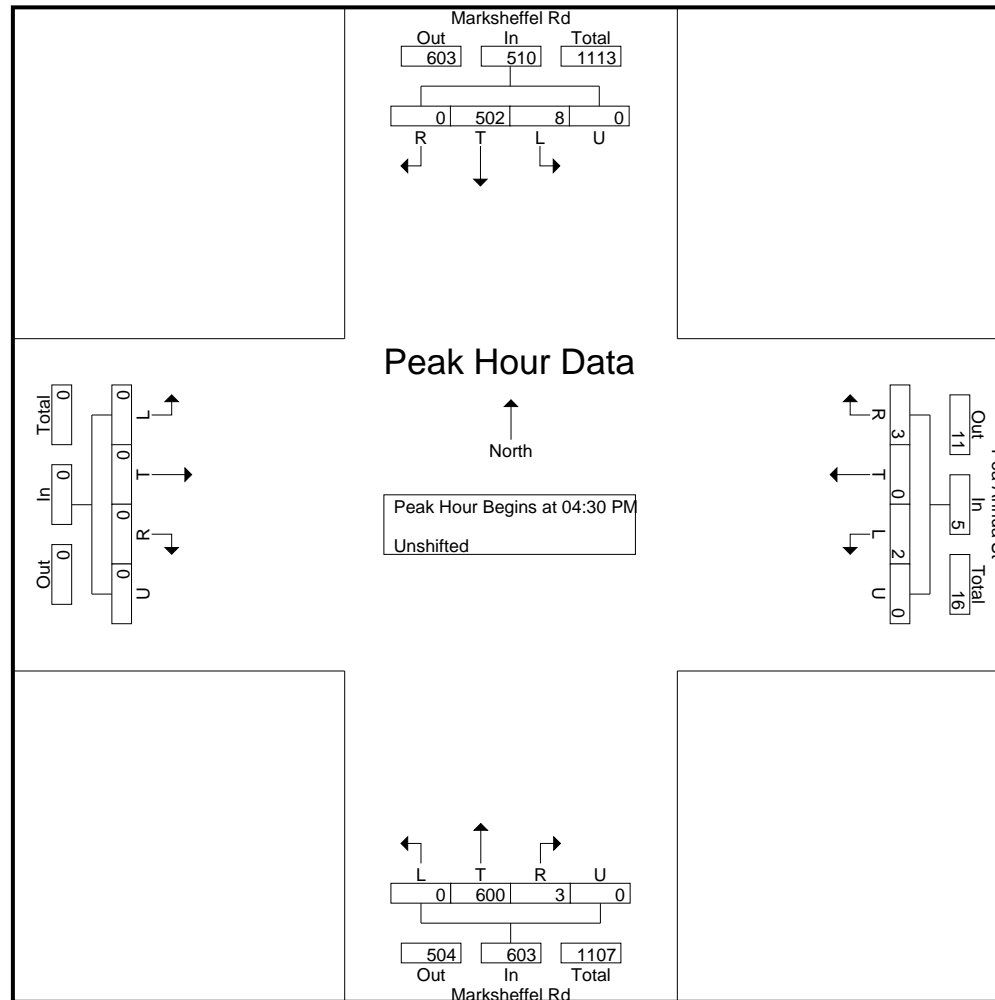
545 E Pikes Peak Ave, Suite 210
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File Name : Marksheffel Rd - Poa Annua St PM

Site Code : 00194800

Start Date : 2/27/2020

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LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
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719-633-2868

File Name : Marksheffel Rd - Lorson Blvd AM
Site Code : 00204050
Start Date : 5/28/2020
Page No : 1

Groups Printed- Unshifted

Start Time	Marksheffel Rd Southbound					Lorson Blvd Westbound					Marksheffel Rd Northbound					Eastbound					Int. Total
	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	
06:30 AM	1	32	0	0	33	7	0	7	0	14	0	74	6	0	80	0	0	0	0	0	127
06:45 AM	2	33	0	0	35	18	0	4	0	22	0	63	4	0	67	0	0	0	0	0	124
Total	3	65	0	0	68	25	0	11	0	36	0	137	10	0	147	0	0	0	0	0	251
07:00 AM	0	54	0	0	54	15	0	3	0	18	0	64	10	0	74	0	0	0	0	0	146
07:15 AM	0	52	0	0	52	15	0	4	0	19	0	80	4	0	84	0	0	0	0	0	155
07:30 AM	1	46	0	0	47	22	0	7	0	29	0	91	12	0	103	0	0	0	0	0	179
07:45 AM	0	56	0	0	56	17	0	5	0	22	0	74	8	0	82	0	0	0	0	0	160
Total	1	208	0	0	209	69	0	19	0	88	0	309	34	0	343	0	0	0	0	0	640
08:00 AM	1	66	0	0	67	22	0	4	0	26	0	55	8	0	63	0	0	0	0	0	156
08:15 AM	1	63	0	0	64	12	0	5	0	17	0	58	10	0	68	0	0	0	0	0	149
Grand Total	6	402	0	0	408	128	0	39	0	167	0	559	62	0	621	0	0	0	0	0	1196
Apprch %	1.5	98.5	0	0		76.6	0	23.4	0		0	90	10	0		0	0	0	0		
Total %	0.5	33.6	0	0	34.1	10.7	0	3.3	0	14	0	46.7	5.2	0	51.9	0	0	0	0	0	

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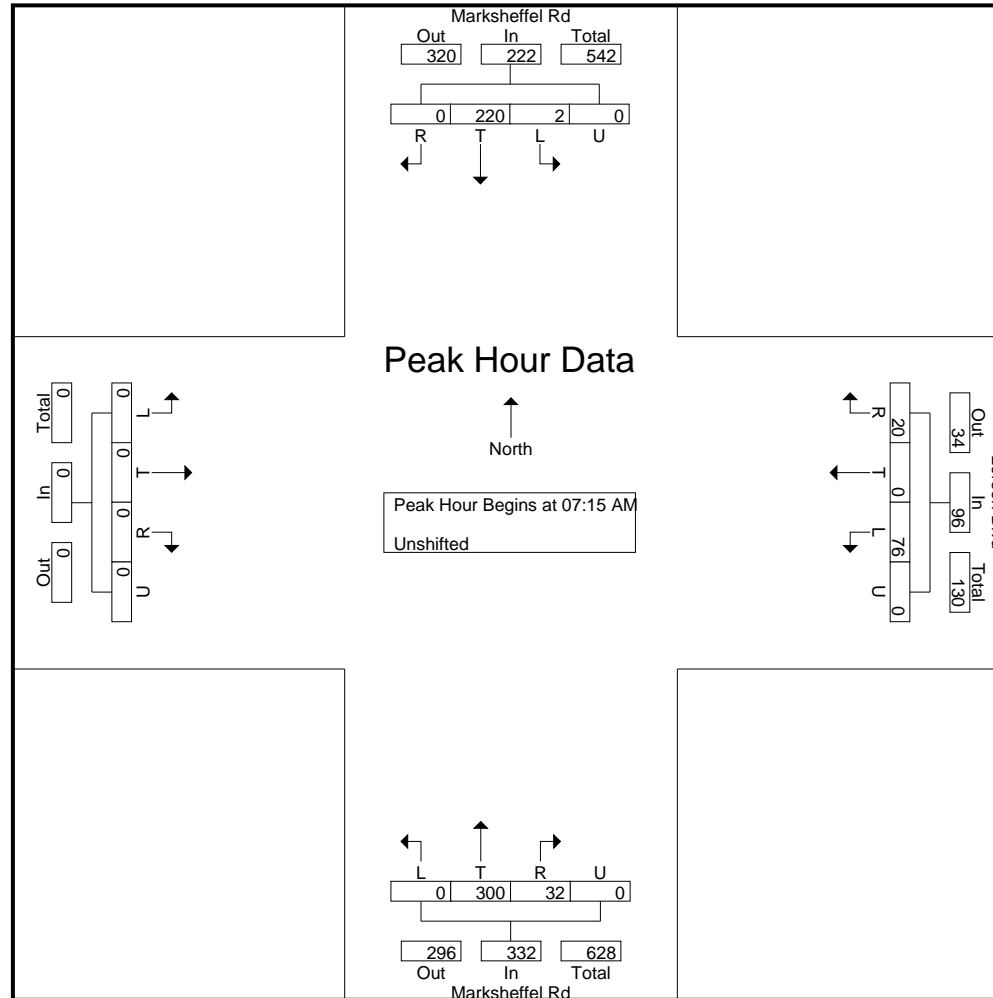
545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Marksheffel Rd - Lorson Blvd AM

Site Code : 00204050

Start Date : 5/28/2020

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LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Marksheffel Rd - Lorson Blvd PM
Site Code : 00204050
Start Date : 5/28/2020
Page No : 1

Groups Printed- Unshifted

	Marksheffel Rd Southbound					Lorson Blvd Westbound					Marksheffel Rd Northbound					Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
04:00 PM	3	71	0	0	74	12	0	2	0	14	0	98	23	0	121	0	0	0	0	0	209
04:15 PM	5	94	0	0	99	14	0	6	0	20	0	98	31	0	129	0	0	0	0	0	248
04:30 PM	4	95	0	0	99	9	0	3	0	12	0	98	27	0	125	0	0	0	0	0	236
04:45 PM	2	91	0	0	93	15	0	4	0	19	0	83	29	0	112	0	0	0	0	0	224
Total	14	351	0	0	365	50	0	15	0	65	0	377	110	0	487	0	0	0	0	0	917
05:00 PM	2	94	0	0	96	20	0	4	0	24	0	94	28	0	122	0	0	0	0	0	242
05:15 PM	6	88	0	0	94	13	0	4	0	17	0	97	25	0	122	0	0	0	0	0	233
05:30 PM	6	97	0	0	103	12	0	4	0	16	0	92	41	0	133	0	0	0	0	0	252
05:45 PM	4	98	0	0	102	19	0	4	0	23	0	69	34	0	103	0	0	0	0	0	228
Total	18	377	0	0	395	64	0	16	0	80	0	352	128	0	480	0	0	0	0	0	955
Grand Total	32	728	0	0	760	114	0	31	0	145	0	729	238	0	967	0	0	0	0	0	1872
Apprch %	4.2	95.8	0	0		78.6	0	21.4	0		0	75.4	24.6	0		0	0	0	0		
Total %	1.7	38.9	0	0	40.6	6.1	0	1.7	0	7.7	0	38.9	12.7	0	51.7	0	0	0	0	0	

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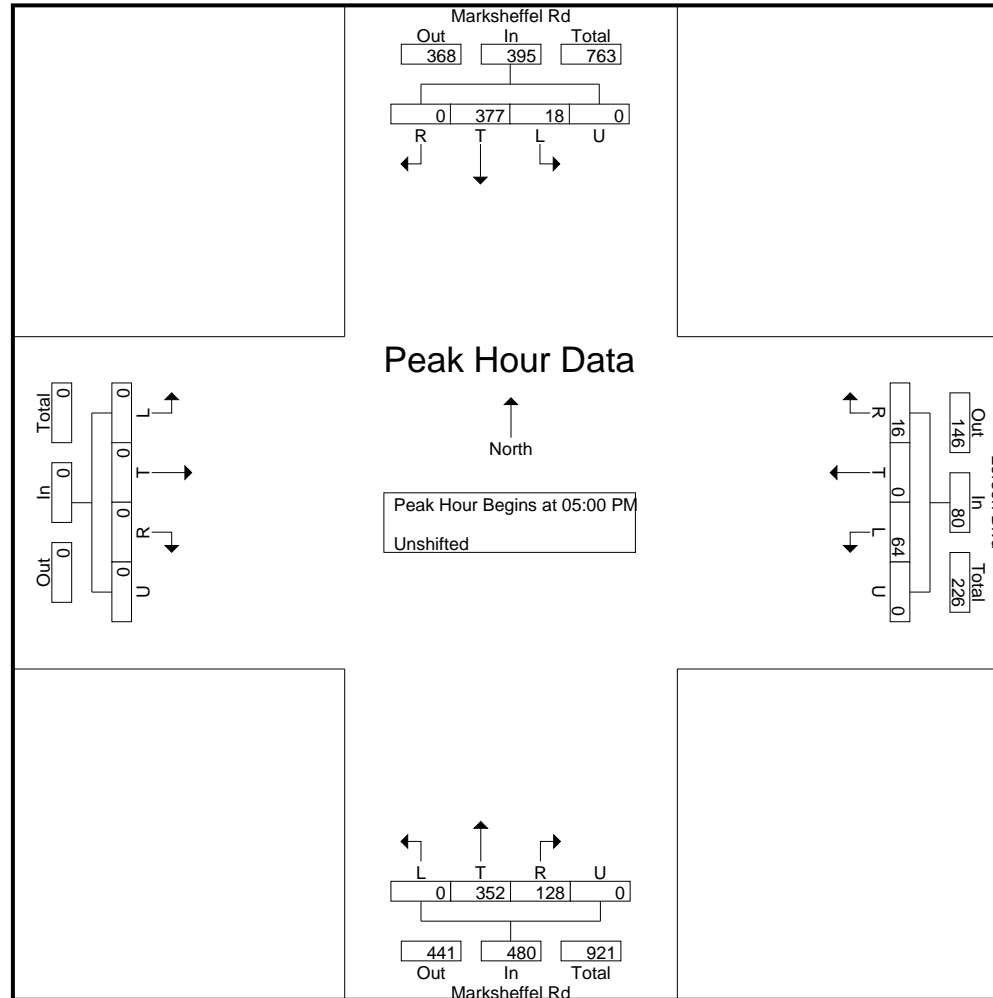
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719-633-2868

File Name : Marksheffel Rd - Lorson Blvd PM

Site Code : 00204050

Start Date : 5/28/2020





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Levels of Service

HCM 6th TWSC
4: Marksheffel Rd & Poa Annua St

Existing Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	21	579	1	4	465
Future Vol, veh/h	10	21	579	1	4	465
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	27	698	1	4	505
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1212	699	0	0	699	0
Stage 1	699	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	201	440	-	-	898	-
Stage 1	493	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	200	440	-	-	898	-
Mov Cap-2 Maneuver	336	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15	0	0.1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	400	898	-	
HCM Lane V/C Ratio	-	-	0.099	0.005	-	
HCM Control Delay (s)	-	-	15	9	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.3	0	-	

HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Existing Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	21	1	8	56	1	55	2	524	24	29	426	20
Future Vol, veh/h	21	1	8	56	1	55	2	524	24	29	426	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	83	83	83	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	1	10	67	1	66	2	602	28	33	490	23







Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1189	1202	502	1179	1185	602	513	0	0	630	0	0
Stage 1	568	568	-	606	606	-	-	-	-	-	-	-
Stage 2	621	634	-	573	579	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	165	185	569	167	189	500	1052	-	-	952	-	-
Stage 1	508	506	-	484	487	-	-	-	-	-	-	-
Stage 2	475	473	-	505	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	139	178	569	158	182	500	1052	-	-	952	-	-
Mov Cap-2 Maneuver	139	178	-	291	304	-	-	-	-	-	-	-
Stage 1	506	488	-	483	486	-	-	-	-	-	-	-
Stage 2	410	472	-	477	483	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.1		17.3		0		0.5	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1052	-	-	176 291 500	952	-	-
HCM Lane V/C Ratio	0.002	-	-	0.219 0.236 0.133	0.035	-	-
HCM Control Delay (s)	8.4	0	-	31.1 21.2 13.3	8.9	-	-
HCM Lane LOS	A	A	-	D C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8 0.9 0.5	0.1	-	-

HCM 6th TWSC
6: Marksheffel Rd & Mesa Ridge Pkwy

Existing Traffic
AM Peak Hour






Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	180	67	37	370	312	178
Future Vol, veh/h	180	67	37	370	312	178
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	95	95	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	67	39	389	351	200
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	818	351	551	0	-	0
Stage 1	351	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	346	692	1019	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	333	692	1019	-	-	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	16.6	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1019	-	440	692	-	-
HCM Lane V/C Ratio	0.038	-	0.409	0.097	-	-
HCM Control Delay (s)	8.7	-	18.7	10.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2	0.3	-	-

HCM 6th TWSC
7: Mesa Ridge Pkwy & Spring Glen Dr

Existing Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	224	207	8	23	68
Future Vol, veh/h	50	224	207	8	23	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	390	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	82	82	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	257	252	10	28	84

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	262	0	0 628 257
Stage 1	-	-	- - 257 -
Stage 2	-	-	- - 371 -
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	1302	-	- - 447 782
Stage 1	-	-	- - 786 -
Stage 2	-	-	- - 698 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	1302	-	- - 427 782
Mov Cap-2 Maneuver	-	-	- - 427 -
Stage 1	-	-	- - 751 -
Stage 2	-	-	- - 698 -

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1302	-	-	-	427	782
HCM Lane V/C Ratio	0.044	-	-	-	0.066	0.107
HCM Control Delay (s)	7.9	-	-	-	14	10.2
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.4

Timings 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

Existing Traffic
AM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	512	174	476	198	88	566
Future Volume (vph)	512	174	476	198	88	566
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	30.0	30.0	6.0	30.0
Minimum Split (s)	11.0	11.0	37.0	37.0	11.0	37.0
Total Split (s)	56.0	56.0	44.0	44.0	20.0	64.0
Total Split (%)	46.7%	46.7%	36.7%	36.7%	16.7%	53.3%
Yellow Time (s)	3.0	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	46.6	46.6	45.4	45.4	63.4	61.4
Actuated g/C Ratio	0.39	0.39	0.38	0.38	0.53	0.51
v/c Ratio	0.87	0.28	0.39	0.29	0.22	0.35
Control Delay	47.4	4.3	29.6	5.0	16.7	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	4.3	29.6	5.0	16.7	18.9
LOS	D	A	C	A	B	B
Approach Delay	36.5		22.4			18.6
Approach LOS	D		C			B

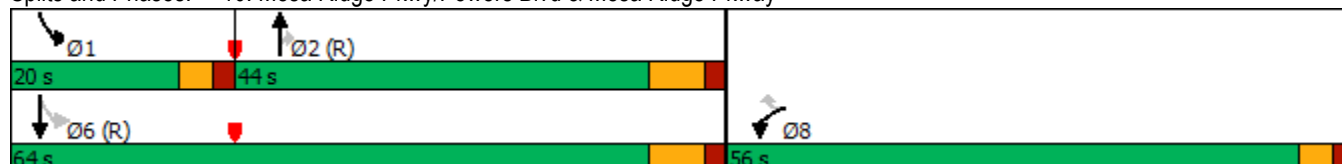
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 26.1
Intersection Capacity Utilization 72.5%
Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service C

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway







HCM 6th TWSC
4: Marksheffel Rd & Poa Annua St

Existing Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	3	600	3	8	502
Future Vol, veh/h	2	3	600	3	8	502
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	4	659	3	9	546

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1225	661	0
Stage 1	661	-	-
Stage 2	564	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	198	462	-
Stage 1	514	-	-
Stage 2	569	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	196	462	-
Mov Cap-2 Maneuver	333	-	-
Stage 1	509	-	-
Stage 2	569	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	400	927
HCM Lane V/C Ratio	-	-	0.016	0.009
HCM Control Delay (s)	-	-	14.1	8.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Existing Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	15	2	0	37	1	39	2	549	66	35	455	14
Future Vol, veh/h	15	2	0	37	1	39	2	549	66	35	455	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	78	78	78	92	92	92	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	3	0	47	1	50	2	597	72	42	542	17







Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1273	1308	551	1237	1244	597	559	0	0	669	0	0
Stage 1	635	635	-	601	601	-	-	-	-	-	-	-
Stage 2	638	673	-	636	643	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	144	159	534	153	174	503	1012	-	-	921	-	-
Stage 1	467	472	-	487	489	-	-	-	-	-	-	-
Stage 2	465	454	-	466	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	124	151	534	145	165	503	1012	-	-	921	-	-
Mov Cap-2 Maneuver	124	151	-	277	287	-	-	-	-	-	-	-
Stage 1	466	450	-	486	488	-	-	-	-	-	-	-
Stage 2	416	453	-	442	446	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	39.8		16.8		0		0.6	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1012	-	-	127 277 503	921	-	-
HCM Lane V/C Ratio	0.002	-	-	0.189 0.176 0.099	0.045	-	-
HCM Control Delay (s)	8.6	0	-	39.8 20.8 12.9	9.1	-	-
HCM Lane LOS	A	A	-	E C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7 0.6 0.3	0.1	-	-






HCM 6th TWSC
6: Marksheffel Rd & Mesa Ridge Pkwy

Existing Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	7.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	300	47	29	317	328	164
Future Vol, veh/h	300	47	29	317	328	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	100	100	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	333	52	29	317	364	182
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	739	364	546	0	-	0
Stage 1	364	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	385	681	1023	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	374	681	1023	-	-	-
Mov Cap-2 Maneuver	479	-	-	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	25.7	0.7		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1023	-	479	681	-	-
HCM Lane V/C Ratio	0.028	-	0.696	0.077	-	-
HCM Control Delay (s)	8.6	-	28	10.7	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	5.3	0.2	-	-








HCM 6th TWSC
7: Mesa Ridge Pkwy & Spring Glen Dr

Existing Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	330	174	19	17	61
Future Vol, veh/h	70	330	174	19	17	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	390	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	86	86	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	379	202	22	22	78
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	224	0	-	0	752	213
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	539	-
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	1345	-	-	-	378	827
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1345	-	-	-	356	827
Mov Cap-2 Maneuver	-	-	-	-	356	-
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	585	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.4	0		11.1		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1345	-	-	-	356	827
HCM Lane V/C Ratio	0.06	-	-	-	0.061	0.095
HCM Control Delay (s)	7.8	-	-	-	15.8	9.8
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.3

Timings 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

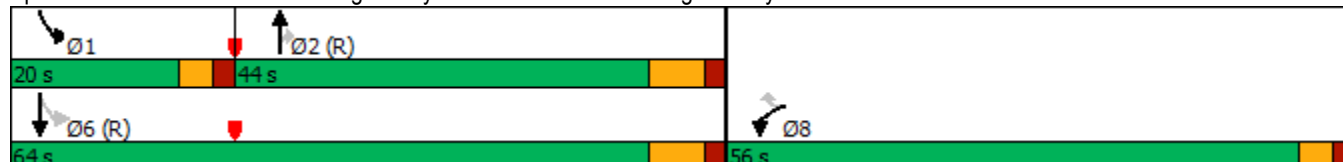
Existing Traffic
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	276	72	608	584	135	551
Future Volume (vph)	276	72	608	584	135	551
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	30.0	30.0	6.0	30.0
Minimum Split (s)	11.0	11.0	37.0	37.0	11.0	37.0
Total Split (s)	56.0	56.0	44.0	44.0	20.0	64.0
Total Split (%)	46.7%	46.7%	36.7%	36.7%	16.7%	53.3%
Yellow Time (s)	3.0	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	29.4	29.4	62.5	62.5	80.6	78.6
Actuated g/C Ratio	0.24	0.24	0.52	0.52	0.67	0.66
v/c Ratio	0.73	0.18	0.34	0.56	0.26	0.25
Control Delay	51.1	7.3	19.0	5.0	9.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	7.3	19.0	5.0	9.5	9.7
LOS	D	A	B	A	A	A
Approach Delay	42.0		12.1			9.6
Approach LOS	D		B			A

Intersection Summary





Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 16.5
Intersection LOS: B
Intersection Capacity Utilization 61.9%
ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway










HCM 6th TWSC
4: Marksheffel Rd & Poa Annua St

Short-Term Background Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	21	632	1	4	530
Future Vol, veh/h	10	21	632	1	4	530
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	27	761	1	4	576
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1346	762	0	0	762	0
Stage 1	762	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	167	405	-	-	850	-
Stage 1	461	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	166	405	-	-	850	-
Mov Cap-2 Maneuver	304	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	16	0	0.1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	366	850	-	
HCM Lane V/C Ratio	-	-	0.109	0.005	-	
HCM Control Delay (s)	-	-	16	9.3	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Short-Term Background Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	1	10	56	1	55	2	544	24	29	487	24
Future Vol, veh/h	34	1	10	56	1	55	2	544	24	29	487	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	83	83	83	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	1	13	67	1	66	2	625	28	33	560	28







Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1284	1297	574	1276	1283	625	588	0	0	653	0	0
Stage 1	640	640	-	629	629	-	-	-	-	-	-	-
Stage 2	644	657	-	647	654	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	142	162	518	144	165	485	987	-	-	934	-	-
Stage 1	464	470	-	470	475	-	-	-	-	-	-	-
Stage 2	461	462	-	460	463	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	119	156	518	136	159	485	987	-	-	934	-	-
Mov Cap-2 Maneuver	119	156	-	267	282	-	-	-	-	-	-	-
Stage 1	463	454	-	469	474	-	-	-	-	-	-	-
Stage 2	396	461	-	432	447	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	45.8		18.4		0		0.5	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	987	-	-	144 267 485	934	-	-
HCM Lane V/C Ratio	0.002	-	-	0.401 0.257 0.137	0.036	-	-
HCM Control Delay (s)	8.7	0	-	45.8 23.1 13.6	9	-	-
HCM Lane LOS	A	A	-	E C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.7 1 0.5	0.1	-	-






HCM 6th TWSC
6: Marksheffel Rd & Mesa Ridge Pkwy

Short-Term Background Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	186	71	38	384	357	196
Future Vol, veh/h	186	71	38	384	357	196
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	95	95	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	186	71	40	404	401	220
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	885	401	621	0	-	0
Stage 1	401	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	315	649	960	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	649	960	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.9	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	960	-	416	649	-	-
HCM Lane V/C Ratio	0.042	-	0.447	0.109	-	-
HCM Control Delay (s)	8.9	-	20.5	11.2	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.2	0.4	-	-













HCM 6th TWSC
7: Mesa Ridge Pkwy & Spring Glen Dr

Short-Term Background Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	230	225	9	27	151
Future Vol, veh/h	77	230	225	9	27	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	390	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	82	82	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	264	274	11	33	186
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	285	0	-	0	722	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	442	-
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	1277	-	-	-	394	759
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	648	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1277	-	-	-	366	759
Mov Cap-2 Maneuver	-	-	-	-	366	-
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	648	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		12		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1277	-	-	-	366	759
HCM Lane V/C Ratio	0.069	-	-	-	0.091	0.246
HCM Control Delay (s)	8	-	-	-	15.8	11.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	1

Timings 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

Short-Term Background Traffic
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	591	196	507	224	95	603
Future Volume (vph)	591	196	507	224	95	603
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	30.0	30.0	6.0	30.0
Minimum Split (s)	11.0	11.0	37.0	37.0	11.0	37.0
Total Split (s)	56.0	56.0	44.0	44.0	20.0	64.0
Total Split (%)	46.7%	46.7%	36.7%	36.7%	16.7%	53.3%
Yellow Time (s)	3.0	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	34.6	34.6	57.9	57.9	75.4	73.4
Actuated g/C Ratio	0.29	0.29	0.48	0.48	0.63	0.61
v/c Ratio	0.69	0.37	0.32	0.27	0.20	0.31
Control Delay	41.4	5.3	21.1	3.7	11.1	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	5.3	21.1	3.7	11.1	12.5
LOS	D	A	C	A	B	B
Approach Delay	32.4		15.8			12.3
Approach LOS	C		B			B

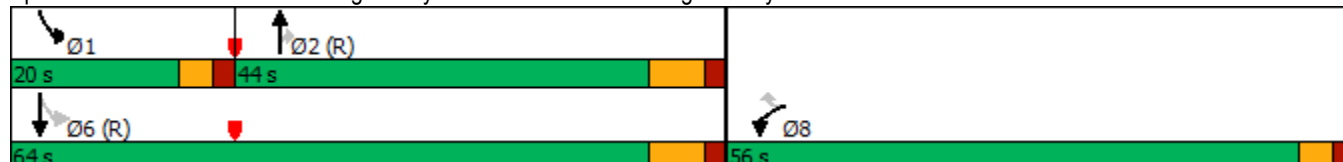
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 20.8
Intersection Capacity Utilization 61.3%
Analysis Period (min) 15

Intersection LOS: C





ICU Level of Service B

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy










HCM 6th TWSC
4: Marksheffel Rd & Poa Annua St

Short-Term Background Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	3	676	3	8	556
Future Vol, veh/h	2	3	676	3	8	556
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	4	743	3	9	604
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1367	745	0	0	746	0
Stage 1	745	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	162	414	-	-	862	-
Stage 1	469	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	160	414	-	-	862	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15.2	0	0.1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	358	862	-	
HCM Lane V/C Ratio	-	-	0.018	0.01	-	
HCM Control Delay (s)	-	-	15.2	9.2	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	







HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Short-Term Background Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	2	1	37	1	39	3	617	66	35	495	28
Future Vol, veh/h	23	2	1	37	1	39	3	617	66	35	495	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	78	78	78	92	92	92	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	3	1	47	1	50	3	671	72	42	589	33
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1404	1439	606	1369	1383	671	622	0	0	743	0	0
Stage 1	690	690	-	677	677	-	-	-	-	-	-	-
Stage 2	714	749	-	692	706	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	117	133	497	124	144	456	959	-	-	864	-	-
Stage 1	435	446	-	443	452	-	-	-	-	-	-	-
Stage 2	422	419	-	434	439	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	100	126	497	117	136	456	959	-	-	864	-	-
Mov Cap-2 Maneuver	100	126	-	246	259	-	-	-	-	-	-	-
Stage 1	433	424	-	441	450	-	-	-	-	-	-	-
Stage 2	373	417	-	409	417	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	56.6		18.5		0		0.6					
HCM LOS	F		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	959	-	-	105 246 456	864	-	-					
HCM Lane V/C Ratio	0.003	-	-	0.349 0.198 0.11	0.048	-	-					
HCM Control Delay (s)	8.8	0	-	56.6 23.2 13.9	9.4	-	-					
HCM Lane LOS	A	A	-	F C B	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	1.4 0.7 0.4	0.2	-	-					






HCM 6th TWSC
6: Marksheffel Rd & Mesa Ridge Pkwy

Short-Term Background Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	10.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	320	49	33	366	357	176
Future Vol, veh/h	320	49	33	366	357	176
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	100	100	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	356	54	33	366	397	196
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	829	397	593	0	-	0
Stage 1	397	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 340	652	983	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 328	652	983	-	-	-
Mov Cap-2 Maneuver	441	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	35.5	0.7		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	983	-	441	652	-	-
HCM Lane V/C Ratio	0.034	-	0.806	0.084	-	-
HCM Control Delay (s)	8.8	-	39.3	11	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	7.4	0.3	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 6th TWSC
7: Mesa Ridge Pkwy & Spring Glen Dr

Short-Term Background Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	161	350	186	23	19	114
Future Vol, veh/h	161	350	186	23	19	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	390	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	86	86	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	185	402	216	27	24	146








Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	243	0	-	0	1002
Stage 1	-	-	-	-	230
Stage 2	-	-	-	-	772
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1323	-	-	-	269
Stage 1	-	-	-	-	808
Stage 2	-	-	-	-	456
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1323	-	-	-	231
Mov Cap-2 Maneuver	-	-	-	-	231
Stage 1	-	-	-	-	695
Stage 2	-	-	-	-	456

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1323	-	-	-	231	809
HCM Lane V/C Ratio	0.14	-	-	-	0.105	0.181
HCM Control Delay (s)	8.2	-	-	-	22.4	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.3	0.7

Timings 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

Short-Term Background Traffic
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	327	86	648	671	159	587
Future Volume (vph)	327	86	648	671	159	587
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	30.0	30.0	6.0	30.0
Minimum Split (s)	11.0	11.0	37.0	37.0	11.0	37.0
Total Split (s)	56.0	56.0	44.0	44.0	20.0	64.0
Total Split (%)	46.7%	46.7%	36.7%	36.7%	16.7%	53.3%
Yellow Time (s)	3.0	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	21.2	21.2	70.9	70.9	88.8	86.8
Actuated g/C Ratio	0.18	0.18	0.59	0.59	0.74	0.72
v/c Ratio	0.62	0.27	0.32	0.59	0.29	0.24
Control Delay	49.8	9.5	13.8	4.9	6.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	9.5	13.8	4.9	6.3	6.2
LOS	D	A	B	A	A	A
Approach Delay	41.4		9.3			6.2
Approach LOS	D		A			A

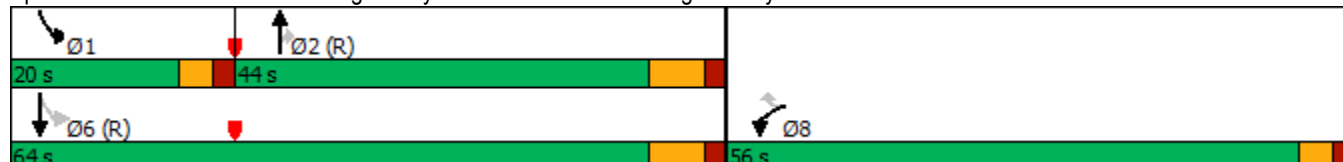
Intersection Summary





Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 14.2
Intersection Capacity Utilization 60.4%
Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service B

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy



Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	21	635	1	4	531
Future Vol, veh/h	10	21	635	1	4	531
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	27	765	1	4	577

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1351	766	0	0	766
Stage 1	766	-	-	-	-
Stage 2	585	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	166	403	-	-	847
Stage 1	459	-	-	-	-
Stage 2	557	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	165	403	-	-	847
Mov Cap-2 Maneuver	303	-	-	-	-
Stage 1	457	-	-	-	-
Stage 2	557	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	0.1
HCM LOS	C		







Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	364	847
HCM Lane V/C Ratio	-	-	0.109	0.005
HCM Control Delay (s)	-	-	16.1	9.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.4	0

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	37	1	23	56	1	55	3	544	24	29	487	25
Future Vol, veh/h	37	1	23	56	1	55	3	544	24	29	487	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	83	83	83	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	1	29	67	1	66	3	625	28	33	560	29

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1287	1300	575	1287	1286	625	589	0	0	653	0	0
Stage 1	641	641	-	631	631	-	-	-	-	-	-	-
Stage 2	646	659	-	656	655	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	141	161	518	141	164	485	986	-	-	934	-	-
Stage 1	463	469	-	469	474	-	-	-	-	-	-	-
Stage 2	460	461	-	454	463	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	118	155	518	128	157	485	986	-	-	934	-	-
Mov Cap-2 Maneuver	118	155	-	257	280	-	-	-	-	-	-	-
Stage 1	461	453	-	467	472	-	-	-	-	-	-	-
Stage 2	394	459	-	412	447	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	44.2		18.9		0		0.5	
HCM LOS	E		C					






Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	986	-	-	167 257 485	934	-	-
HCM Lane V/C Ratio	0.003	-	-	0.468 0.267 0.137	0.036	-	-
HCM Control Delay (s)	8.7	0	-	44.2 24 13.6	9	-	-
HCM Lane LOS	A	A	-	E C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.2 1 0.5	0.1	-	-

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	186	71	38	385	358	209
Future Vol, veh/h	186	71	38	385	358	209
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	95	95	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	186	71	40	405	402	235

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	887	402	637	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	315	648	947	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	648	947	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.9	0.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	947	-	416	648	-	-
HCM Lane V/C Ratio	0.042	-	0.447	0.11	-	-
HCM Control Delay (s)	9	-	20.5	11.2	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.2	0.4	-	-

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	83	230	238	9	27	156
Future Vol, veh/h	83	230	238	9	27	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	390	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	82	82	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	264	290	11	33	193
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	301	0	-	0	750	296
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	454	-
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	1260	-	-	-	379	743
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	640	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1260	-	-	-	351	743
Mov Cap-2 Maneuver	-	-	-	-	351	-
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	640	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.1	0		12.2		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1260	-	-	-	351	743
HCM Lane V/C Ratio	0.076	-	-	-	0.095	0.259
HCM Control Delay (s)	8.1	-	-	-	16.3	11.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	1

Timings

Fil 10 Generated + Short-Term Background Traffic

10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

AM Peak Hour

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↖	↖	↖	↖↖
Traffic Volume (vph)	604	201	507	228	97	603
Future Volume (vph)	604	201	507	228	97	603
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	30.0	30.0	6.0	30.0
Minimum Split (s)	11.0	11.0	37.0	37.0	11.0	37.0
Total Split (s)	56.0	56.0	44.0	44.0	20.0	64.0
Total Split (%)	46.7%	46.7%	36.7%	36.7%	16.7%	53.3%
Yellow Time (s)	3.0	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	35.3	35.3	57.1	57.1	74.7	72.7
Actuated g/C Ratio	0.29	0.29	0.48	0.48	0.62	0.61
v/c Ratio	0.70	0.37	0.33	0.28	0.21	0.32
Control Delay	41.0	5.2	21.6	3.7	11.3	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	5.2	21.6	3.7	11.3	12.8
LOS	D	A	C	A	B	B
Approach Delay	32.0		16.1			12.6
Approach LOS	C		B			B

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 20.9

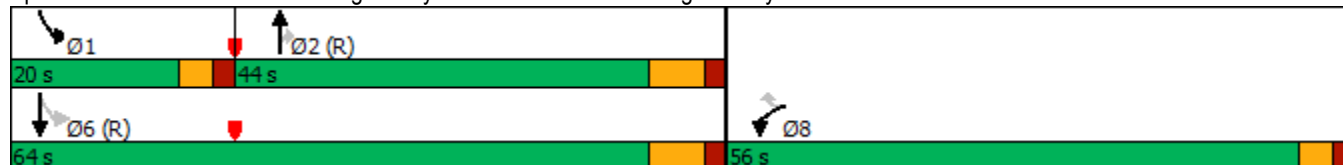
Intersection LOS: C





Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy



Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	3	678	3	8	560
Future Vol, veh/h	2	3	678	3	8	560
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	4	745	3	9	609

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1374	747	0
Stage 1	747	-	-
Stage 2	627	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	160	413	-
Stage 1	468	-	-
Stage 2	532	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	158	413	-
Mov Cap-2 Maneuver	296	-	-
Stage 1	463	-	-
Stage 2	532	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	0.1
HCM LOS	C		







Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	357	861
HCM Lane V/C Ratio	-	-	0.018	0.01
HCM Control Delay (s)	-	-	15.3	9.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0






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	25	2	10	37	1	39	5	617	66	35	495	32
Future Vol, veh/h	25	2	10	37	1	39	5	617	66	35	495	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	78	78	78	92	92	92	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	3	14	47	1	50	5	671	72	42	589	38






Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1410	1445	608	1382	1392	671	627	0	0	743	0	0
Stage 1	692	692	-	681	681	-	-	-	-	-	-	-
Stage 2	718	753	-	701	711	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	116	132	496	121	142	456	955	-	-	864	-	-
Stage 1	434	445	-	440	450	-	-	-	-	-	-	-
Stage 2	420	417	-	429	436	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	98	124	496	110	134	456	955	-	-	864	-	-
Mov Cap-2 Maneuver	98	124	-	238	256	-	-	-	-	-	-	-
Stage 1	430	423	-	436	446	-	-	-	-	-	-	-
Stage 2	370	413	-	394	415	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	51.8		18.9		0.1		0.6	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	955	-	-	127 238 456	864	-	-
HCM Lane V/C Ratio	0.006	-	-	0.41 0.205 0.11	0.048	-	-
HCM Control Delay (s)	8.8	0	-	51.8 24 13.9	9.4	-	-
HCM Lane LOS	A	A	-	F C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.8 0.7 0.4	0.2	-	-

Intersection						
Int Delay, s/veh	10.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	320	49	33	368	358	185
Future Vol, veh/h	320	49	33	368	358	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	100	100	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	356	54	33	368	398	206
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	832	398	604	0	-	0
Stage 1	398	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 339	652	974	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 327	652	974	-	-	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	35.8	0.7		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	974	-	440	652	-	-
HCM Lane V/C Ratio	0.034	-	0.808	0.084	-	-
HCM Control Delay (s)	8.8	-	39.6	11	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	7.4	0.3	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	320	49	33	0	358	185
Future Vol, veh/h	320	49	33	0	358	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	100	100	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	356	54	33	0	398	206
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	464	398	604	0	-	0
Stage 1	398	-	-	-	-	-
Stage 2	66	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	556	652	974	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	537	652	974	-	-	-
Mov Cap-2 Maneuver	573	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.7	8.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	974	-	573	652	-	-
HCM Lane V/C Ratio	0.034	-	0.621	0.084	-	-
HCM Control Delay (s)	8.8	0	21	11	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	4.2	0.3	-	-

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	182	350	195	23	19	118
Future Vol, veh/h	182	350	195	23	19	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	390	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	86	86	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	209	402	227	27	24	151
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	254	0	-	0	1061	241
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	820	-
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	1311	-	-	-	248	798
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	433	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1311	-	-	-	209	798
Mov Cap-2 Maneuver	-	-	-	-	209	-
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	433	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.8	0		12.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1311	-	-	-	209	798
HCM Lane V/C Ratio	0.16	-	-	-	0.117	0.19
HCM Control Delay (s)	8.3	-	-	-	24.5	10.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.4	0.7

Timings

Fil 10 Generated + Short-Term Background Traffic

10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

PM Peak Hour

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↖	↖	↖	↖↖
Traffic Volume (vph)	336	90	648	686	165	587
Future Volume (vph)	336	90	648	686	165	587
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	30.0	30.0	6.0	30.0
Minimum Split (s)	11.0	11.0	37.0	37.0	11.0	37.0
Total Split (s)	56.0	56.0	44.0	44.0	20.0	64.0
Total Split (%)	46.7%	46.7%	36.7%	36.7%	16.7%	53.3%
Yellow Time (s)	3.0	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	7.0	7.0	5.0	7.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	21.6	21.6	70.4	70.4	88.4	86.4
Actuated g/C Ratio	0.18	0.18	0.59	0.59	0.74	0.72
v/c Ratio	0.63	0.28	0.33	0.61	0.30	0.24
Control Delay	49.7	9.3	14.1	5.1	6.5	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.7	9.3	14.1	5.1	6.5	6.3
LOS	D	A	B	A	A	A
Approach Delay	41.1		9.4			6.4
Approach LOS	D		A			A

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 14.4

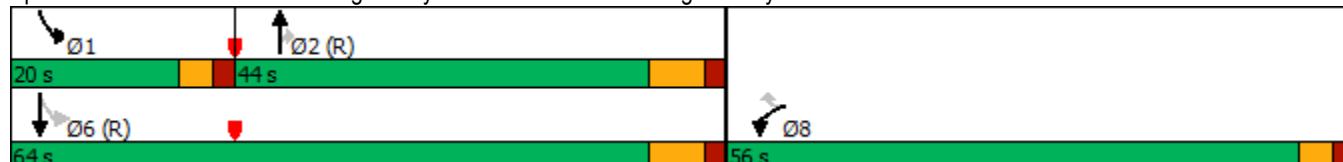
Intersection LOS: B

Intersection Capacity Utilization 61.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy



Queuing Reports

Queuing and Blocking Report

Intersection: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	313	370	105	264	228	98	124	246	219
Average Queue (ft)	162	213	41	154	99	44	52	126	82
95th Queue (ft)	269	311	78	241	210	75	101	207	172
Link Distance (ft)			824	517	517			1087	1087
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	350	350				150	750		
Storage Blk Time (%)	0	0			1				
Queuing Penalty (veh)	0	1			2				

Queuing and Blocking Report

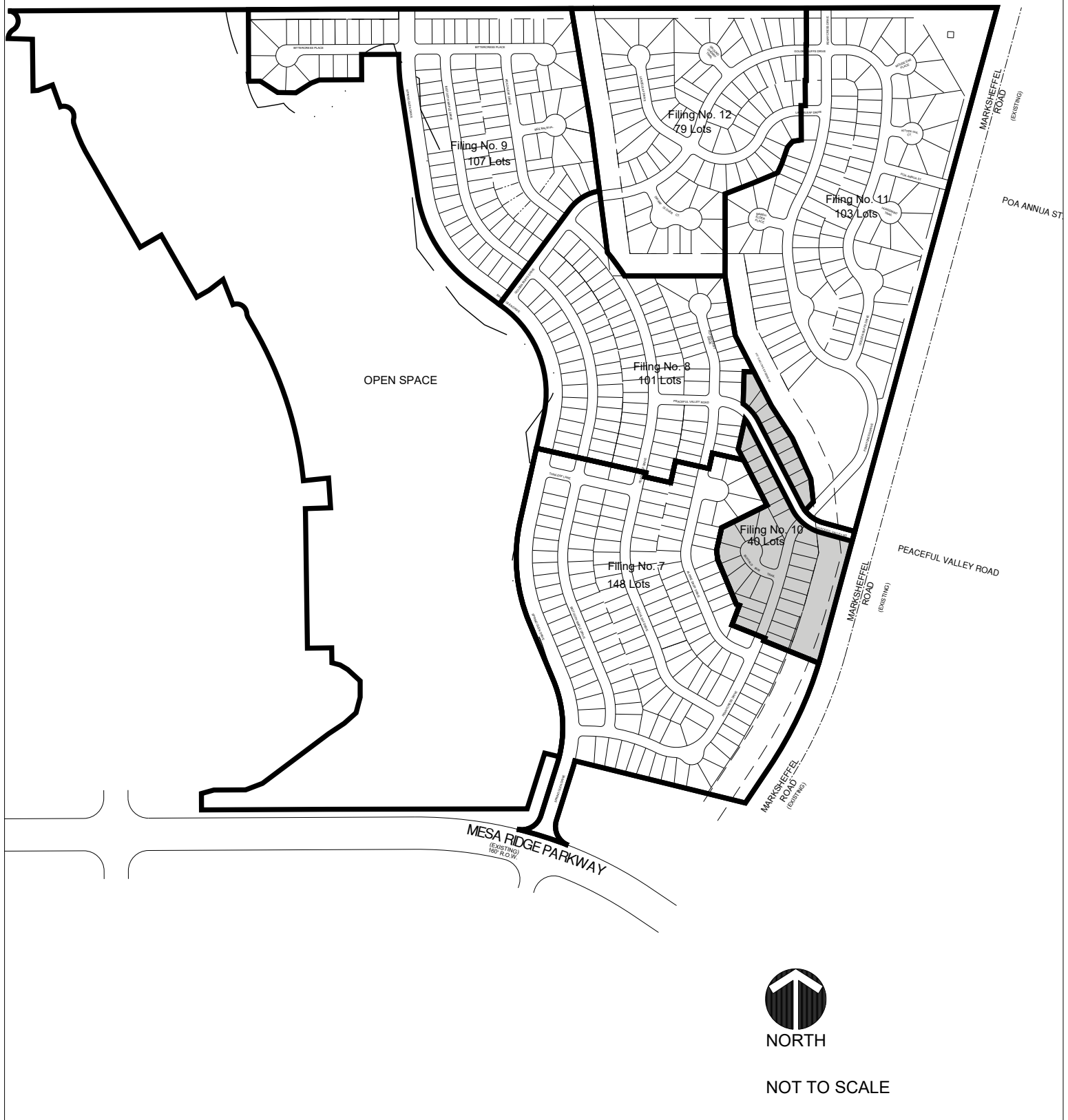
Intersection: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	193	248	65	331	375	248	181	177	123
Average Queue (ft)	96	152	22	170	129	151	81	80	47
95th Queue (ft)	199	222	47	279	312	259	137	140	100
Link Distance (ft)			824	517	517			1087	1087
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	350	350				150	750		
Storage Blk Time (%)					2	12			
Queuing Penalty (veh)					11	38			

Additional Attachments

The Glen at Widefield Filing 10





VICINITY MAP

EXHIBIT A

LAND DESCRIPTION:

PARCEL "A"

A tract of land located in a Portion of the Southwest One-quarter (SW1/4) of Section 22 and the Northwest One-quarter (NW1/4) of Section 27, Township 15 South (T15S), Range 65 West (R65W) of the 6th P.M., County of El Paso, State of Colorado, being more particularly described as follows:

Beginning at the most Northeast corner of Lot 98, Glen at Widefield Subdivision No. 8 as recorded under Reception No. 218714205 in the records of the Clerk and Recorder's Office, County of El Paso, State of Colorado. Said point being also a point on the Southerly Right-of-Way line of Peaceful Valley Road as platted in said Glen at Widefield Subdivision No. 8; Thence along said Southerly Right-of-Way line the following four (4) courses: 1.) along the arc of a non-tangential curve to the right, having a central angle of 12°07'10", a radius of 175.00 feet, an arc length of 37.02 feet, whose chord bears S33°17'00"E; 2.) Thence S27°13'25"E, a distance of 468.13 feet; 3.) Thence along the arc of a curve to the left having a central angle of 47°14'18", a radius of 225.00 feet, an arc length of 185.50 feet; 4.) Thence S74°27'43"E, a distance of 162.02 feet to a point on the Westerly Right-of-Way line of Marksheffel Road; Thence along said Westerly Right-of-Way line, S15°11'44"W, a distance of 560.50 feet; Thence continuing along said Westerly Right-of-Way line on the arc of a curve to the right having a central angle of 01°53'00", a radius of 1965.40 feet, an arc length of 64.60 feet to a point on the Northerly line of the Glen at Widefield Subdivision Filing No. 7 as recorded under Reception No. 217713903 in the records of the Clerk and Recorder's Office of said County; Thence along the Northerly and Westerly boundary lines of said Glen at Widefield Filing No. 7, the following ten (10) courses: 1.) N67°54'25"W, a distance of 293.95 feet; 2.) Thence along the arc of a non-tangential curve to the left having a central angle of 00°15'40", a radius of 3025.00 feet, an arc length of 13.78 feet, whose chord bears N21°57'45"E; 3.) Thence N68°10'05"W, a distance of 175.00 feet; 4.) Thence N20°47'09"E, a distance of 104.08 feet; 5.) Thence N70°15'38"W, a distance of 16.28 feet; 6.) Thence N22°38'09"W, a distance of 239.19 feet; 7.) Thence N07°13'27"W, a distance of 46.12 feet; 8.) Thence N12°37'51"E, a distance of 115.00 feet; 9.) Thence N62°46'35"E, a distance of 250.28 feet; 10.) Thence N27°13'25"W, a distance of 307.62 feet to the angle point of said Glen at Widefield Subdivision Filing No. 8; Thence N12°37'51"E along the Easterly line of said Glen at Widefield Subdivision Filing No. 8, a distance of 153.08 feet to the Point of Beginning.

Said Parcel contains 8.856 acres (385,757 S.F.) more or less.

PARCEL "B"

A tract of land located in a Portion of the Southwest One-quarter (SW1/4) of Section 22, Township 15 South (T15S), Range 65 West (R65W) of the 6th P.M., County of El Paso, State of Colorado, being more particularly described as follows:

Beginning at the Southeast corner of Lot 97, Glen at Widefield Subdivision No. 8 as recorded under Reception No. 218714205 in the records of the Clerk and Recorder's Office, County of El Paso, State of Colorado; Thence N01°44'08"E along the Easterly line of said Glen at Widefield Subdivision No. 8; Thence S88°15'51"E along the Southerly line of said Glen at Widefield Subdivision No. 8 to a point on the Westerly line of a 110.00 foot Gas Line Easement as described under Reception No. 202092771 in the records of the Clerk and Recorder's Office of said County; Thence along the Westerly line of said 110.00 foot Gas Line Easement, the following four (4) courses: 1.) S27°15'04"E, a distance of 188.77 feet; 2.) Thence S32°55'46"E, a distance of 190.67 feet; 3.) Thence S24°24'25"E, a distance of 220.92 feet; 4.) Thence S06°05'38"E, a distance of 115.36 feet;

Thence S43°21'16"W, a distance of 34.29 feet; Thence along the arc of a curve to the right having a central angle of 106°52'38", a radius of 20.00 feet, an arc length of 37.31 feet to a point on the Northerly Right-of-Way line of Peaceful Valley Road as described in said Glen at Widefield Subdivision No. 8; Thence along said Northerly Right-of-Way line the following three (3) courses: 1.) on the arc of a curve to the right having a central angle of 02°32'41", a radius of 175.00 feet, an arc length of 7.77 feet; 2.) Thence N27°13'25"W, a distance of 468.13 feet; 3.) Thence along the arc of a curve to the left having a central angle of 28°35'08", a radius of 225.00 feet, an arc length of 112.25 feet to the Point of Beginning.

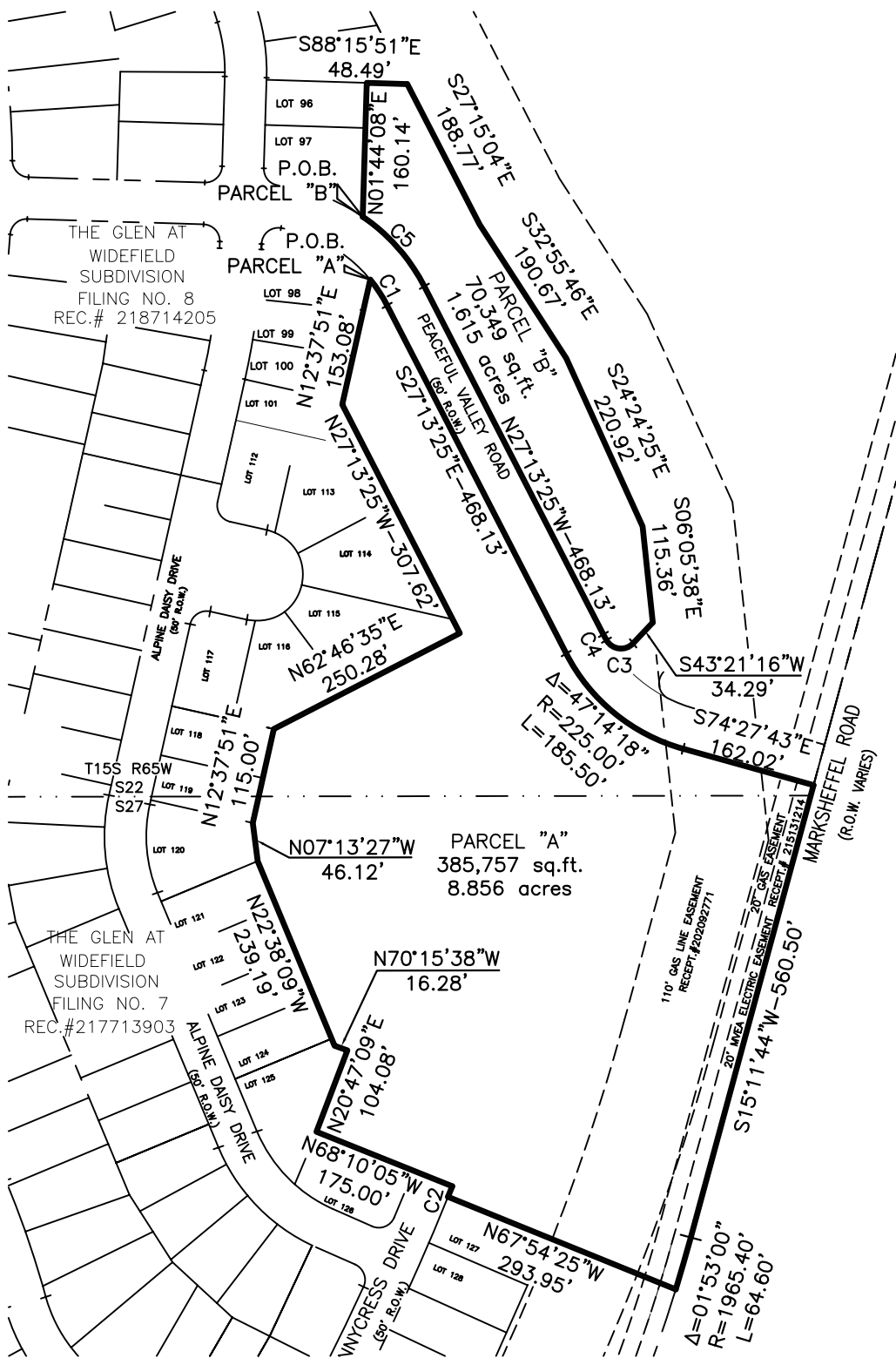
Said Parcel contains 1.615 acres (70,349 S.F.) more or less.

Said Parcels combined contain 10.471 acres (456,106 S.F.) more or less.

For and on Behalf of
Pinnacle Land Surveying Co., Inc.
John W. Towner
P.L.S. #25968

PINNACLE LAND SURVEYING, INC.		
121 County Road 5, Divide, CO 80814		
EXHIBIT A		
TITLE: THE GLEN AT WIDEFIELD FILING NO. 10		
SCALE: 1"= 200'	DRAWN BY: MWW	FILE: 19001600-exh.dwg
DATE: 05/28/19	CHECKED BY: JWT	JOB NO. 19001600

EXHIBIT B



GLEN 10-BOUNDARY CURVE TABLE				
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING
C1	12°07'10"	175.00'	37.02'	S33°17'00"E
C2	0°15'40"	3025.00'	13.78'	N21°57'45"E
C3	106°52'38"	20.00'	37.31'	N83°12'25"W
C4	2°32'41"	175.00'	7.77'	N28°29'46"W
C5	28°35'08"	225.00'	112.25'	N41°30'59"W

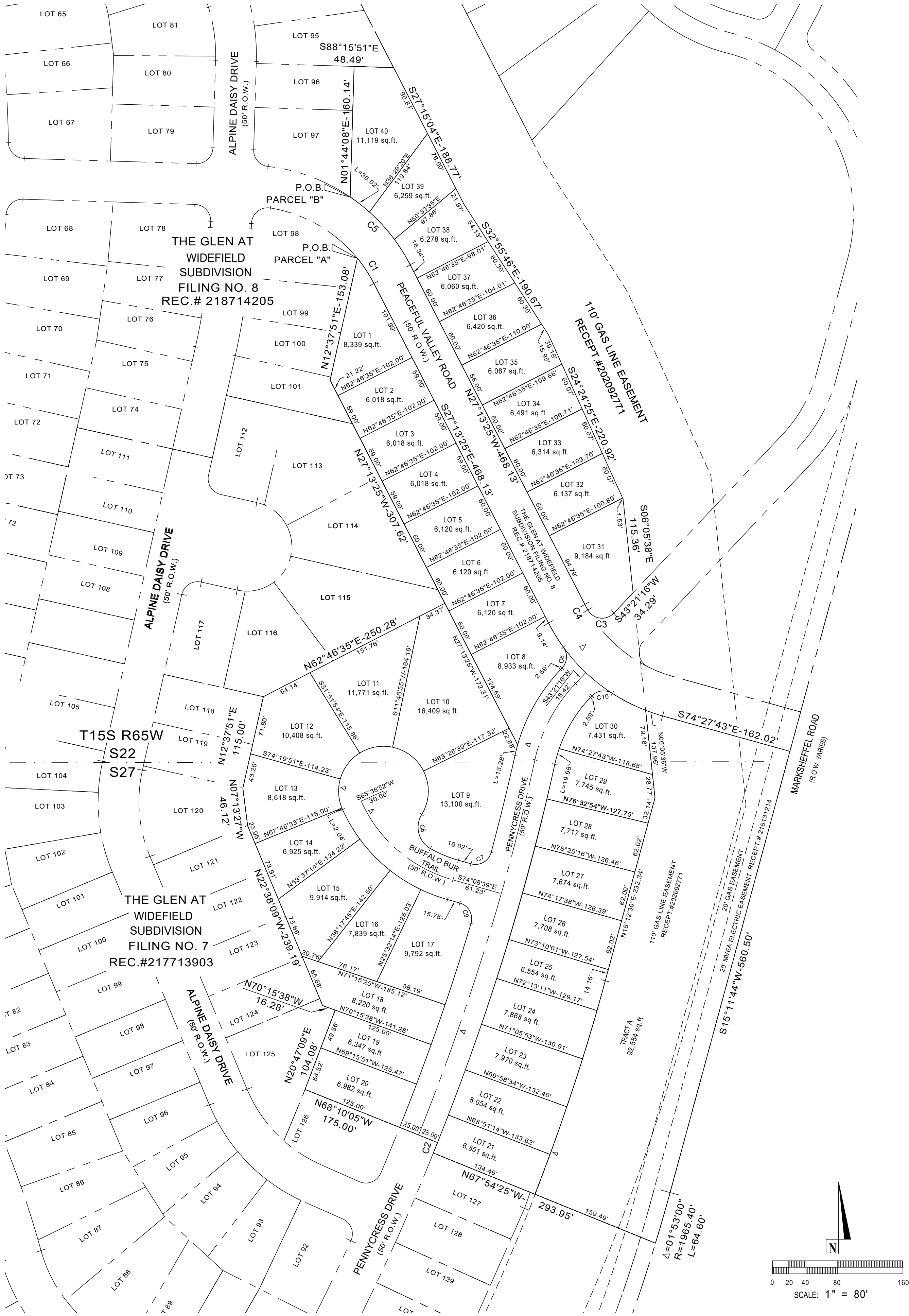
For and on Behalf of
Pinnacle Land Surveying Co., Inc.
John W. Towner
P.L.S. #25968

PINNACLE LAND SURVEYING, INC.
121 County Road 5, Divide, CO 80814

EXHIBIT B		
TITLE: THE GLEN AT WIDEFIELD FILING NO. 10		
SCALE: 1" = 200'	DRAWN BY: MWW	FILE: 19001600-exh.dwg
DATE: 05/28/19	CHECKED BY: JWT	JOB NO. 19001600

THE GLEN AT WIDEFIELD SUBDIVISION FILING NO. 10

A portion of the Southwest One-quarter (SW1/4) of Section 22 and the Northwest One-quarter (NW1/4) of Section 27
Township 15 South (T15S), Range 65 West (R65W) of the 6TH P.M.
County of El Paso, State of Colorado



KEY MAP THIS SHEET

TYPICAL LOT EASEMENTS
SCALE:N.T.S.

TYPICAL SIGHT VISIBILITY &
PUBLIC IMPROVEMENT EASEMENT
SCALE:1"=20'

PINNACLE LAND SURVEYING COMPANY, INC.
121 COUNTY ROAD 5, DIVIDE, CO 687-7360

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

THE GLEN AT WIDEFIELD SUBDIVISION FILING NO.10		
DRAWN BY:MMW	CHECKED BY:JWT	DATE: 05/28/19
JOB NO.: 19001600	DWG: 19001600-FP.DWG	SHEET 2 OF 2

TIS_V3.pdf Markup Summary

As the impact from Filing 10 only still results in an unsatisfactory LOS at this intersection a solution should be addressed with this filing



Subject: Cloud+
Page Label: 22
Lock: Locked
Author: Daniel Torres
Date: 7/14/2020 11:08:06 AM
Status:
Color: ■
Layer:
Space:

As the impact from Filing 10 only still results in an unsatisfactory LOS at this intersection a solution should be addressed with this filing. Per our conversation regarding this recommendation, it was relayed that the County Engineer indicated that improvements such as the one proposed at this intersection are a good consideration before installing a signal in accordance with the MUTCD guidance.

Per your recommendations the striping at this intersection is to be put on hold. Revise. (1)



Subject: Callout
Page Label: 22
Lock: Locked
Author: Daniel Torres
Date: 7/14/2020 11:08:09 AM
Status:
Color: ■
Layer:
Space:

Per your recommendations the striping at this intersection is to be put on hold. Revise.

Review 2 comment: Please provide the characteristics of the proposed acceleration lane. Review 3: unresolved. (1)



Subject: Callout
Page Label: 10
Lock: Locked
Author: Daniel Torres
Date: 7/14/2020 11:08:11 AM
Status:
Color: ■
Layer:
Space:

Review 2 comment: Please provide the characteristics of the proposed acceleration lane.
Review 3: unresolved.

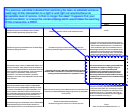
Since the existing striping is recommended to remain, then the west leg of this intersection is limited to right-in right-out. Please state



Subject: Callout
Page Label: 11
Lock: Locked
Author: Daniel Torres
Date: 7/14/2020 11:08:12 AM
Status:
Color: ■
Layer:
Space:

Since the existing striping is recommended to remain, then the west leg of this intersection is limited to right-in right-out. Please state that. Additionally coordinate with the civil engineer so that the appropriate signs are provided at this intersection.

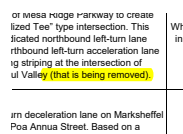
The previous submittal indicated that restricting the Glen at widefield entrance (west leg) of this intersection to a right in and right out




Subject: Cloud+
Page Label: 22
Lock: Locked
Author: Daniel Torres
Date: 7/14/2020 11:08:15 AM
Status:
Color: ■
Layer:
Space:

The previous submittal indicated that restricting the Glen at widefield entrance (west leg) of this intersection to a right in and right out would achieve an acceptable level of service. Is that no longer the case? It appears that your recommendation is to keep the current striping which would make the west leg of this intersection a RIRO.

y (that is being removed). (1)




Subject: Highlight
Page Label: 22
Lock: Locked
Author: Daniel Torres
Date: 7/14/2020 11:08:18 AM
Status:
Color: 
Layer:
Space:

y (that is being removed).

(1)



Subject: Arrow
Page Label: 22
Lock: Locked
Author: Daniel Torres
Date: 7/14/2020 11:08:05 AM
Status:
Color: 
Layer:
Space: