2024.06.24 MATRIX DESIGN GROUP RESPONSES

Rolling Meadows/Bull Hill
Master Traffic Impact Study
SKP233

Prepared for:

El Paso County, CO

Prepared by:

Matrix
Excellence by Design

2435 Research Parkway, Suite 300
Colorado Springs, CO 80920

Contact: Scott Barnhart, PE, PTOE

On Behalf of:

The Landhuis Company
212 N. Wahsatch Avenue, Suite 301
Colorado Springs, CO 80903

February 23, 2024

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Traffic Engineer's Statement

The attached 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.

COLORADO REGISTERED SCOTT D. BARNHART 37447 PROFESSIONAL ENGINEER

Scott D. Barnhart

Scott D. Barnhart, P.E. #37447

2/23/2024

Date

Developer's Statement

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

Jeff Mark, President

2/23/24

Date

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Introduction

The Rolling Meadows/Bull Hill project (project) is a 1,136.9-acre development located in southern El Paso County. The project consists of 4,600 single-family residences, 840 multi-family residences, three elementary schools and one middle school.

The project lies on the west side of Meridian Road, bounded on the north by Drennan Road and bounded on the south by the Lorson Ranch development.

The purpose of this master traffic impact study is to assess the effects this proposed development will have on the surrounding transportation system.

The report is organized as follows:

- ***Introduction –*** Describes the purpose and intent of this study.
- ***Area Conditions –*** Describes the study area land uses as well as the existing and future roadway network.
- ***Proposed Development –*** Describes the proposed development and the location.
- ***Projected Traffic –*** Identifies the expected number of daily that will be generated by the Rolling Meadows/Bull Hill development. The expected external trip distribution is also shown.
- ***Traffic Analysis –*** Will analyze the existing conditions in the study area as well as the Phase 1 (2028) buildout year, Phase 2 (2030) buildout year, Phase 3 (2032) buildout year, Phase 4 (2034), buildout year, and horizon year (2045) conditions with and without the project.
- ***Findings and Conclusions –*** Identifies the future roadway needs and a summary of signal warrant analyses.

Area Conditions

This section describes the existing conditions and the planned level of improvements adjacent to the Rolling Meadows/Bull Hill development.

Site Accessibility

The existing roadway system consists of the following transportation facilities:

State Highway 21 (Powers Boulevard) is a north-south facility that provides a 4-lane divided roadway. State Highway 21 is owned by the CDOT. The speed limit on this roadway is 55 miles-per-hour. CDOT classifies this road as a freeway. The City of Colorado Springs also classifies this road as a freeway.

Marksheffel Road is a north-south transportation facility and is a three-lane facility between Fontaine Boulevard and Bradley Road, and a 4-lane facility north of Bradley Road. This roadway is classified as a 4-lane Expressway in the El Paso County 2040 Major Transportation Corridor Plan (MTCP). The daily traffic capacity is 48,000 ADT. Marksheffel Road provides a paved shoulder to accommodate cyclists. The City of Colorado Springs Major Throughfare Plan classifies this road as a principal arterial with a daily traffic capacity of up to 25,000 ADT for a 4-lane Principal Arterial or 60,000 ADT for a 6-lane Principal Arterial. The City ently taken over the ownership and maintenance of this roadway.

Thank you for reviewing our MTIS. This section has been revised.

Fontaine Boulev lassified as a 4-lane Principal Arterial in the 2040 MTCP. The daily traffic c aine Boulevard is currently providing 2 lanes in each direction and a paved shoulder to accommodate cyclists. The City of Colorado Springs also classified this road as a principal arterial.

Meridian Road is a north-south road that is classified as a 2-lane rural minor arterial south of Bradley Road in the 2040 MTCP. This road is a local road north of Drennan Road and a collector road between Bradley Road and Drennan Road. The daily traffic capacity for this facility is 10,000 ADT where it is a minor arterial and is 3,000 ADT where it is a non-residential collector. Meridian road is currently an unpaved transportation facility in the project area. For the future roadway classification, Matrix used the urban design and standards for all roadways, included Meridian Road.

Drennan Road is an east-west road that provides one lane in each direction. The Colorado Springs Major Thoroughfare Plan classifies Drennan Road as a Principal Arterial between Marksheffel Road and Banning Lewis Parkway. El Paso County classifies this road as a collector in unincorporated county areas. Drennan Road west of Mockingbird Lane is owned by the City of Colorado Springs.

Bradley Road is an east-west road owned by the City of Colorado Springs to the City limits and then owned by El Paso County east of City limits that provides one lane in each direction. Opposing directions are separated by double yellow lines at the centerline. Bradley Road is classified as a minor arterial in the 2040 MTCP and as a principal arterial in the Colorado Springs Major Thoroughfare Plan.

The project will have multiple accesses to collector roads that will be located within the development to ultimately reach Meridian Road, Bradley Road and Fontaine Boulevard. As of today, these access points are mainly theoretical and the exact location, and the traffic operation of the accesses should be

change "City Limits" to "450 feet east of Hammer Ranch Road"

determined later as more infromation becomes available. This will be performed in future traffic impact studies for individual phases of the development.

The study area is rapidly growing, and multiple large-scale developments are planning to be built in the future in the vicinity of the project. Namely, Bradley Heig[illegible]s, and Norris Ranch Developments. In this memo, Matrix has used the traffic[illegible]for these developments to obtain the daily volumes for most of th[illegible]nd horizon year background conditions. For the remaining sections, traff[illegible]June 15, 2021 to analyze the existing and future conditions. Existing cour[illegible] A – Existing Conditions Analysis.

The intersection of Powers Bl/Fontaine Bl has been added to the existing conditions.

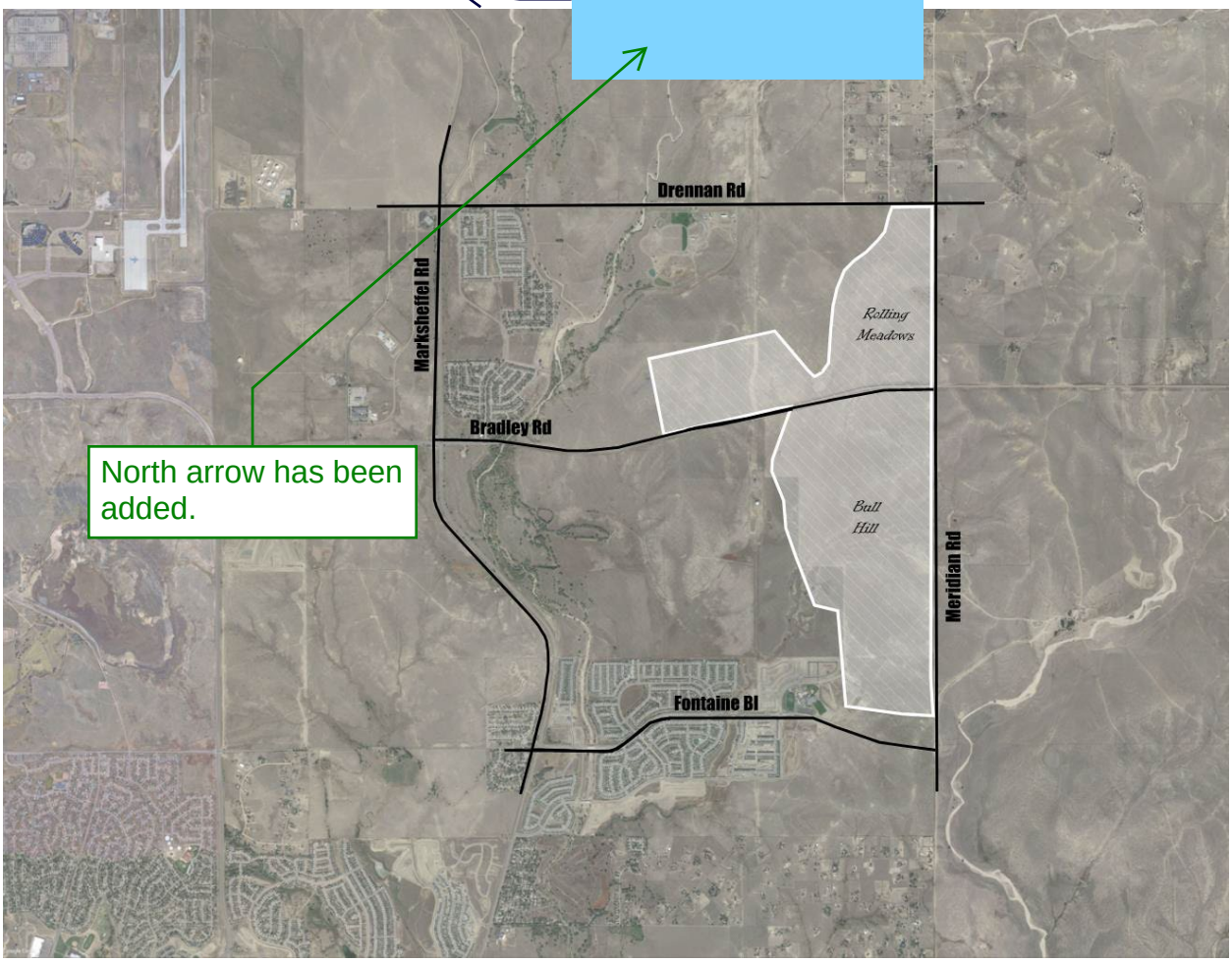
The *Corvallis TIS* (June 2021) was used to obtain 2030 and 2045 volumes at Marksheffel Rd/Fontaine Bl. Th[illegible]*radley Heights Master Development TIS* was used to obtain 2030 and 2045 volumes at Marksheffel Rd/[illegible]radley Rd. A 2 percent annual growth rate was assumed for Marksheffel Rd/Drennan Rd, Drennan Rd/Meridian Rd and Meridian Rd/Bradley Rd. This is a common assumption in traffic impact studies for the locations similar to Drennan Road, and Meridian Road. Per our discussion with the City of Colorado Springs, an additional 2.5% growth was applied to the intersections along Marksheffel Road to account for the impact of COVID-19 on the collected counts. Using the annual growth rate of 2 percent results in a 1.1487 growth factor for 2028, a 1.1951 growth factor for 2030, a 1.2434 growth factor for 2032, a 1.2936 growth factor for 2034, and a 1.6084 growth factor for 2045. Finally, the daily traffic from the Norris Ranch development was added to the 2040 background conditions. Intersection analyses for the existing conditions were confined to the intersections listed below

- Marksheffel Road/Drennan Road
- Meridian Road/Drennan Road
- Marksheffel Road/Bradley Road
- Meridian Road/Bradley Road
- Marksheffel Road/Fontaine Boulevard
- Lamprey Drive/Fontaine Boulevard
- Powers Boulevard/Bradley Road (*The Nor*[illegible]2023)

please see CDOT comments as Powers/Fontaine intersection is indicated as needing to be analyzed. Verify if thresholds are met per ECM to analyze this intersection.

The vicinity map is shown in Figure 1. Site plan is shown in Figure 2. The AM and PM peak hour volumes at the studied intersections are shown in Figure 3 and Figure 4 and the daily traffic volumes in the existing conditions are shown in Figure 5

Figure 1. Vicinity Map



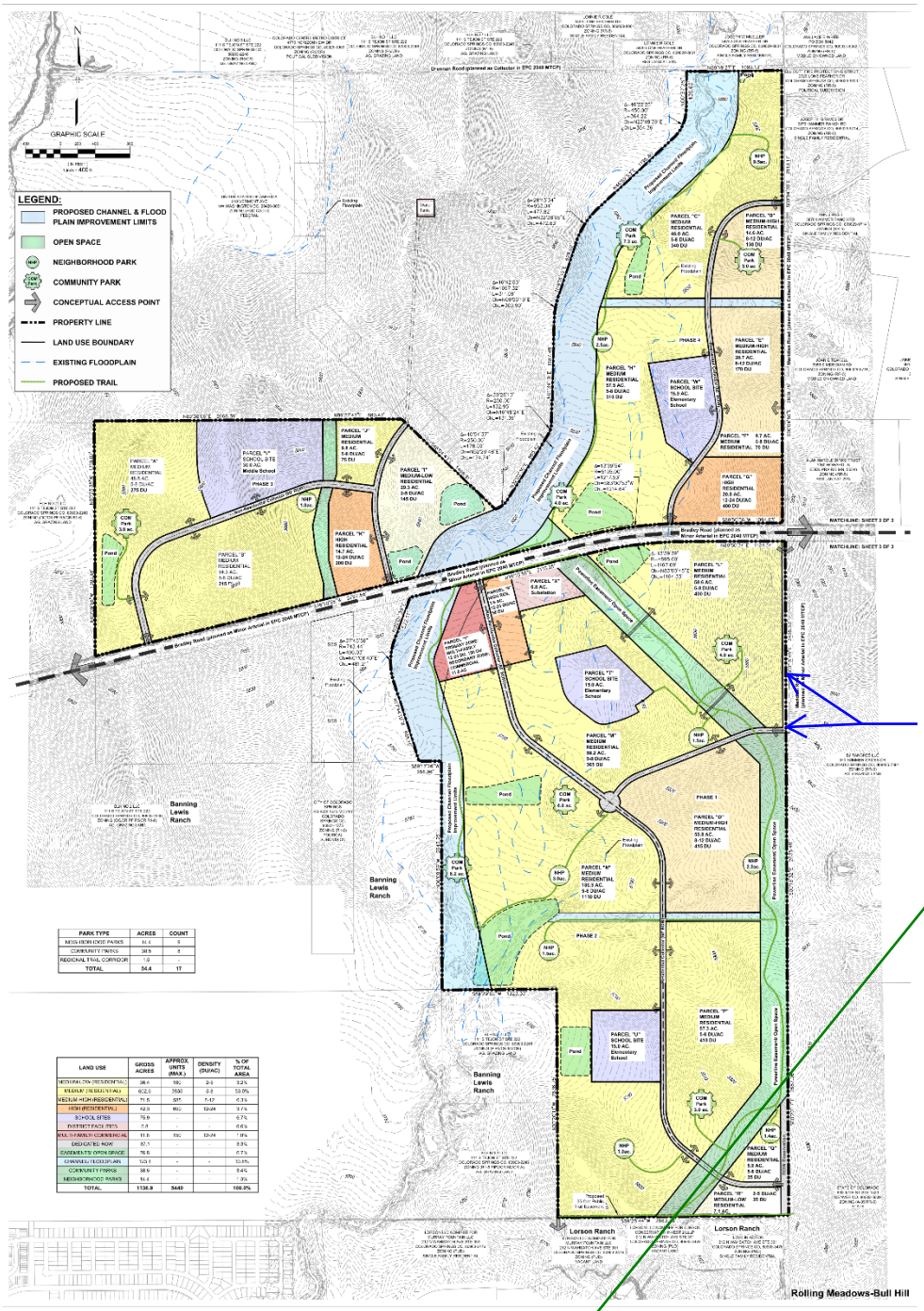
Proposed Development

The Project will consist of 4,600 single-family residences, 850 multi-family residences, three elementary schools, and one middle school. For the phasing overview see Figure 9. For a detailed table regarding the land uses and their size, as well as the opening dates see Table 3. Roadways were classified based on the El Paso County Engineering Criteria Manual, and the City of Colorado Springs Traffic Criteria Manual for each opening year as well as for the horizon year.

Currently, Meridian Road ends south of Bradley Road. The extension of this roadway to Fontaine Boulevard requires more investigation as more information regarding Phase 1, and Phase 2 becomes available.

Figure 2 illustrates the project site plan. The development is on the west side of Meridian Road between Drennan Road and Fontaine Boulevard. A higher resolution of this figure is located in the appendices. For the location of homes and schools see Appendix D – Supporting Documents.

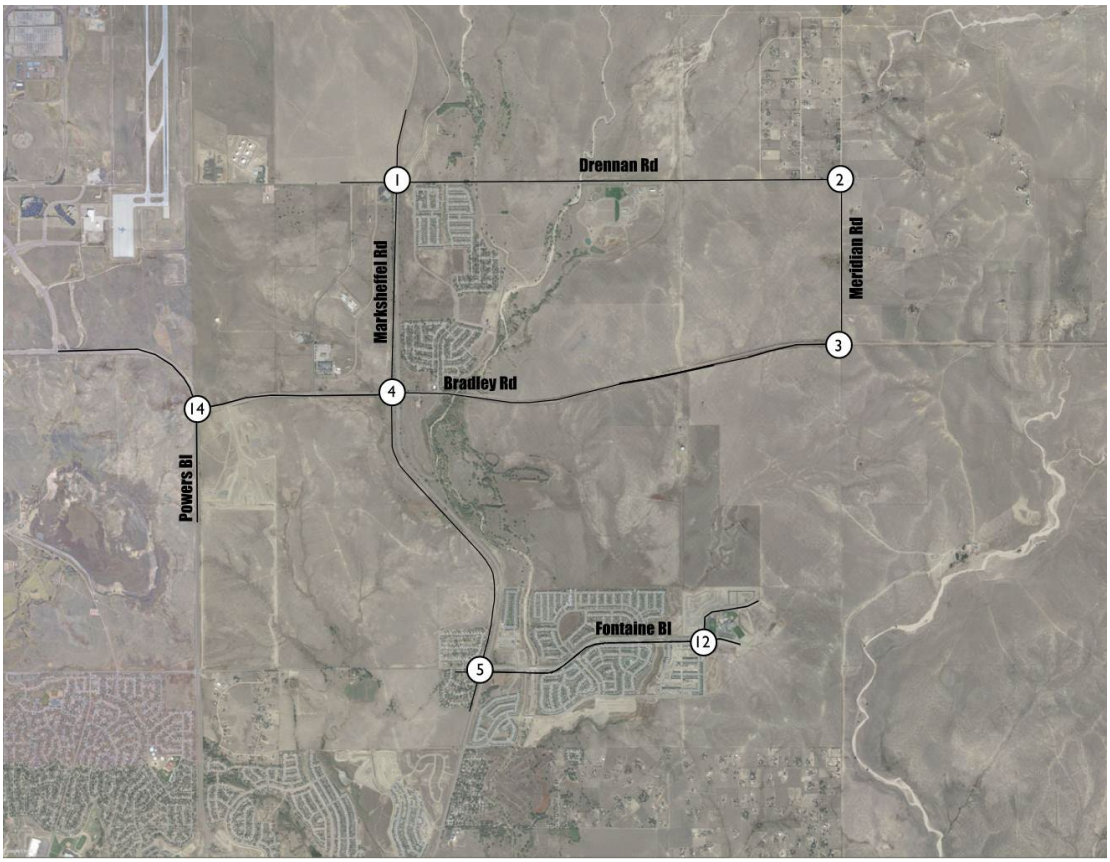
Figure 2. Rolling Meadows/Bull Hill Site Plan

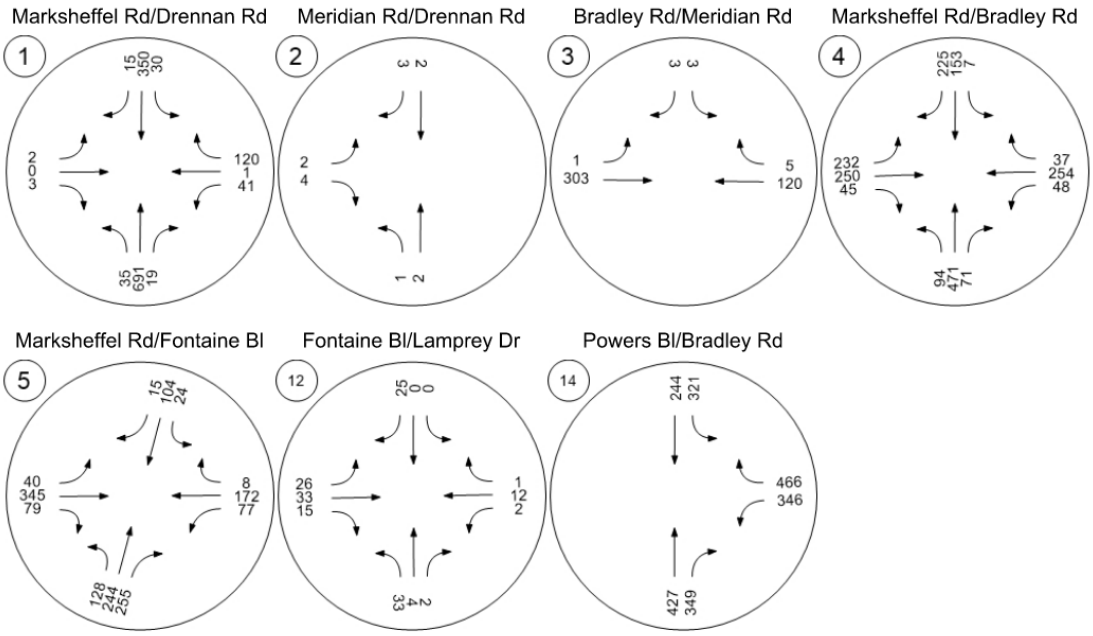


Address whether this access point should be at the high point to the north, rather than on the slope. The grade at the proposed location appears to be around 4.7%.

The intersection is in a theoretical location for zoning purposes. More detail will be provided once the project begins engineering.

Figure 3. Existing Conditions Traffic Volumes (AM Peak Hour)



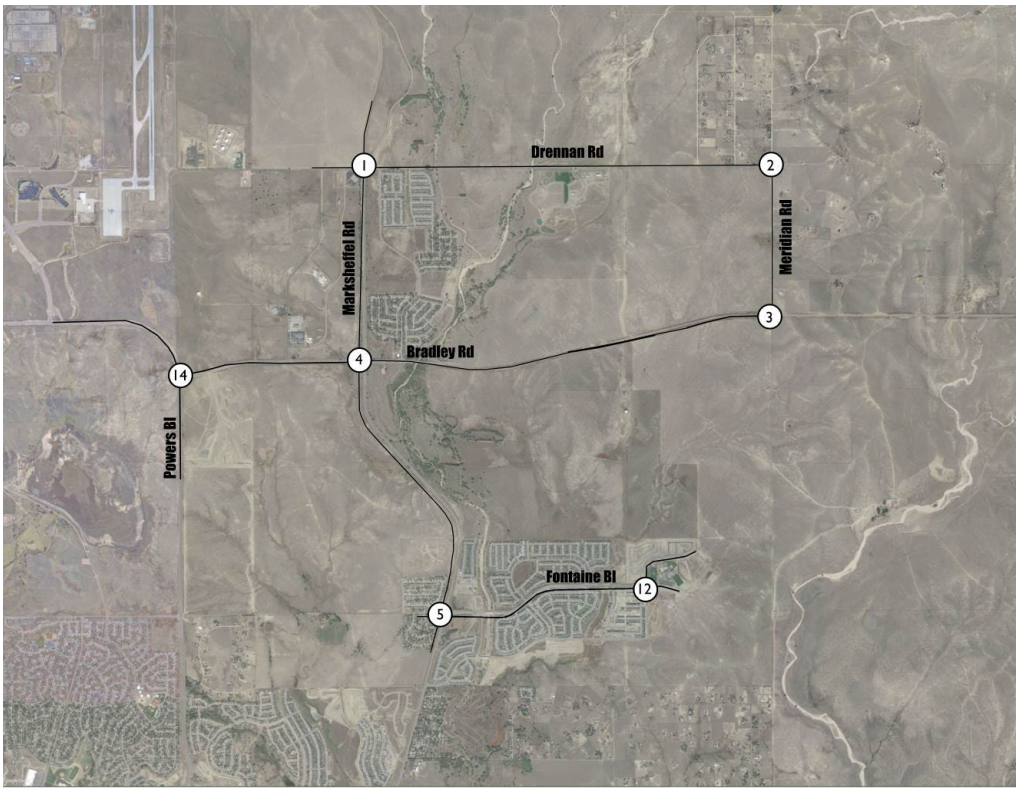


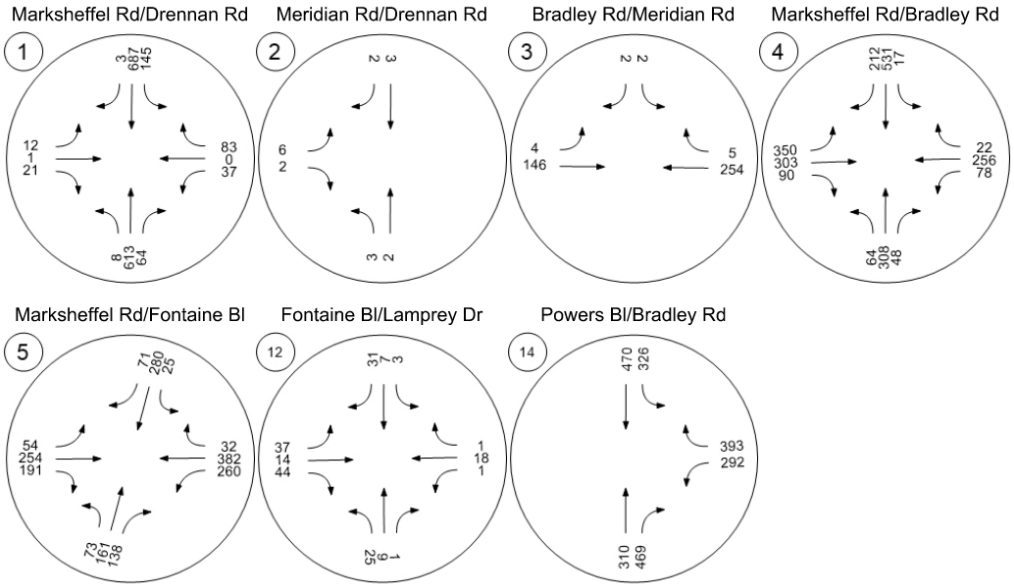
A two percent annual growth rate was applied to all intersections except for Powers Bl/Bradley Rd.

Powers Bl/Bradley Rd counts were obtained from Norris Ranch (2023) Memorandum.

An additional 1.025 growth factor was applied to intersections along Marksheffel Road to account for the impact of COVID-19 on the collected counts.

Figure 4. Existing Conditions Traffic Volumes (PM Peak Hour)



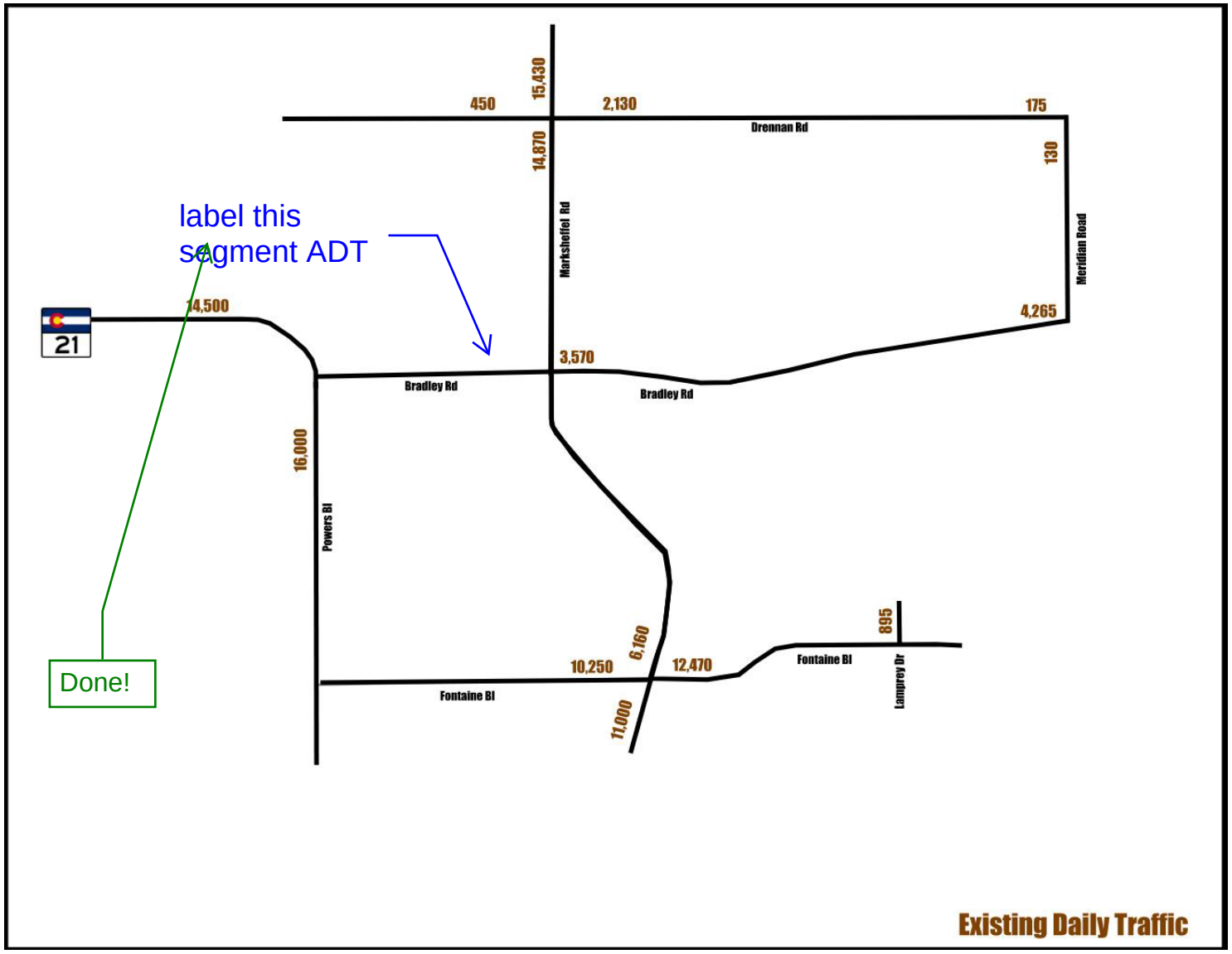


A two percent annual growth rate was applied to all intersections except for Powers Bl/Bradley Rd.

Powers Bl/Bradley Rd counts were obtained from Norris Ranch (2023) Memorandum.

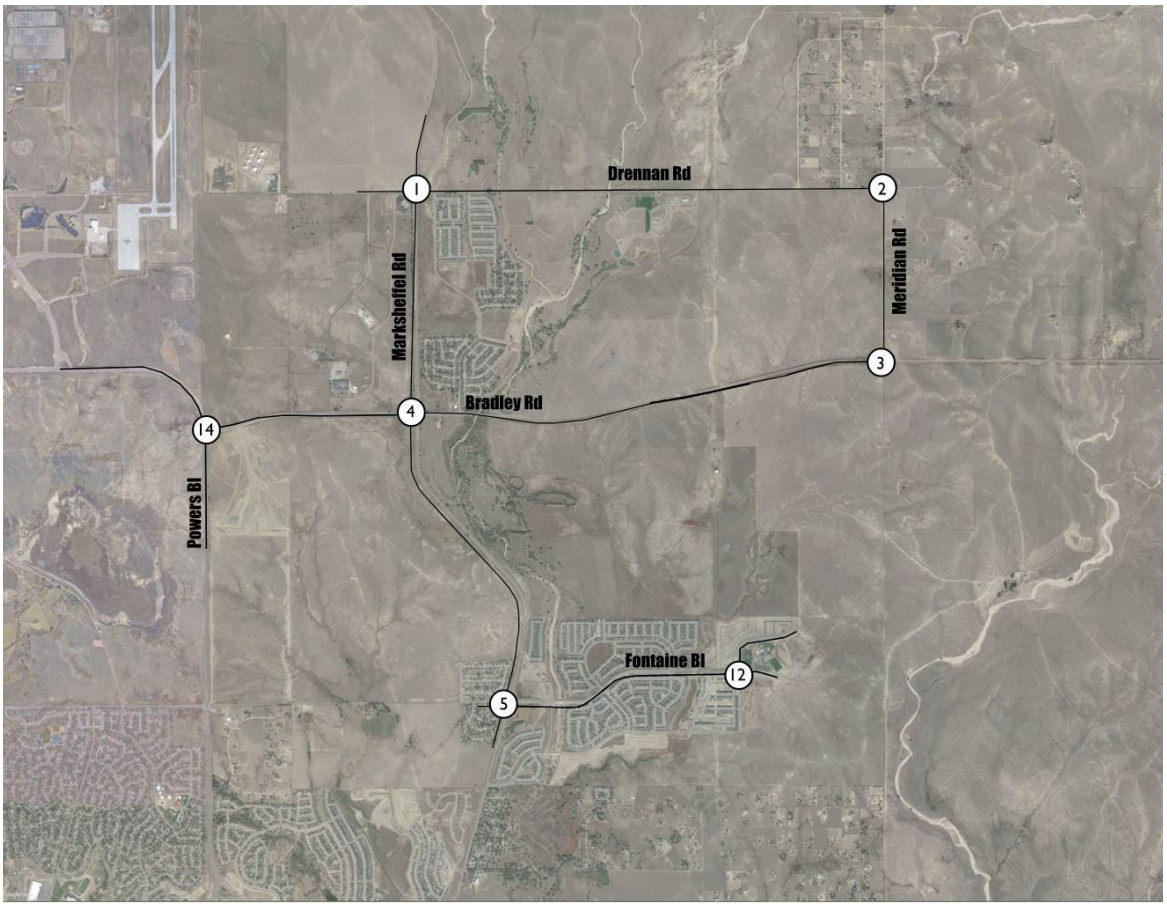
An additional 1.025 growth factor was applied to intersections along Marksheffel Road to account for the impact of COVID-19 on the collected counts

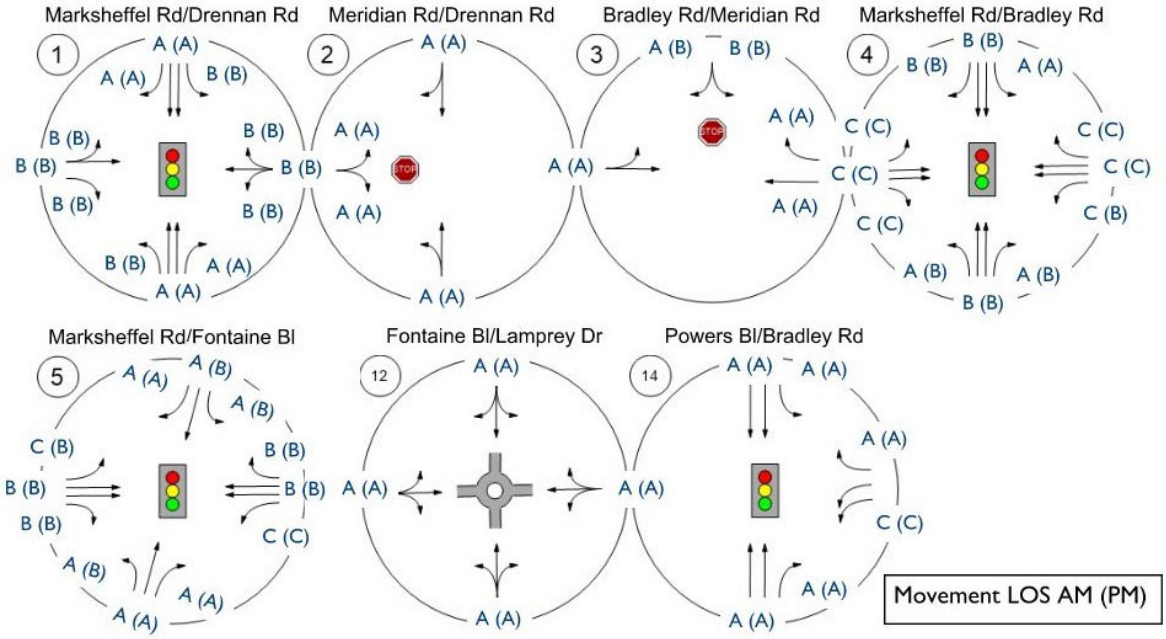
Figure 5. Existing Conditions Daily Traffic Volumes



The existing intersection configurations are shown in Figure 6

Figure 6. Existing Conditions Intersection Configurations





Intersection LOS analysis was performed for the study area intersections and the results are shown in Table 1 and Table 2. All intersections along Marksheffel Road were studied based on the City of Colorado Springs Traffic Criteria Manual, and the remaining intersections were studied based on the El Paso County Engineering Criteria Manual.

Table 1. Existing Conditions Intersection Operations (AM Peak Hour)

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marksheffel Rd/Drennan Rd	Signalized	HCM 7th Edition	WB Right	0.303	9.8	A
2	Meridian Rd/Drennan Rd	Two-way stop	HCM 7th Edition	EB Left	0.004	8.6	A
3	Bradley Rd/Meridian Rd	Two-way stop	HCM 7th Edition	SB Left	0.008	12.0	B
4	Marksheffel Rd/Bradley Rd	Signalized	HCM 7th Edition	WB Thru	0.329	20.3	C
5	Marksheffel Rd/Fontaine Bl	Signalized	HCM 7th Edition	WB Left	0.258	13.0	B
12	Fontaine Bl/Lamprey Dr	Roundabout	HCM 7th Edition	EB Thru		3.2	A
14	Powers Bl/Bradley Rd	Signalized	HCM 6th Edition	WB Left	0.485	10.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 2. Existing Conditions Intersection Operations (PM Peak Hour)

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marksheffel Rd/Drennan Rd	Signalized	HCM 7th Edition	SB Left	0.335	9.5	A
2	Meridian Rd/Drennan Rd	Two-way stop	HCM 7th Edition	EB Left	0.011	8.7	A
3	Bradley Rd/Meridian Rd	Two-way stop	HCM 7th Edition	SB Left	0.008	12.1	B
4	Marksheffel Rd/Bradley Rd	Signalized	HCM 7th Edition	EB Left	0.385	21.9	C
5	Marksheffel Rd/Fontaine Bl	Signalized	HCM 7th Edition	WB Left	0.460	13.6	B
12	Fontaine Bl/Lamprey Dr	Roundabout	HCM 7th Edition	EB Right		3.2	A
14	Powers Bl/Bradley Rd	Signalized	HCM 6th Edition	WB Left	0.389	8.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 1 and Table 2 indicate all intersections operate at an acceptable LOS. Acceptable operations per the El Paso County Engineering Criteria Manual (ECM) are defined as any intersection that operates at LOS D or better. However, the City of Colorado Springs Traffic Criteria Manual requires all intersection approaches operate at LOS D or better. All approaches also operate at LOS D or better for the studied intersections.

Crash History

The El Paso County Road Safety Plan website was used to obtain the number of fatal and severe crashes in the vicinity of the project. Crash data from the year 2015 to 2019 were collected and shown as a density map on the website. As shown in Figure 7 and Figure 8, four fatal crashes occurred near the project at three locations, while one serious injury crash was reported. The development will ultimately convert the isolated roadways to well-traveled urban roadways which will improve the safety of the roadways by adding more lanes in each direction and concrete curb and gutter. An updated crash history report will be obtained from the Colorado State Patrol for future traffic impact studies for this development.

Standard roadway cross-sections provided by the El Paso County will be used to ensure safe and ADA compliant sidewalks. However, unless the school plan is determined, it is impossible to define the exact school routes. This will be studied in future traffic impacts studies as details of each phase and/or filing is known.

No public transit is available for this development. As a result, it was assumed 100 percent of the trips will be made by personal vehicles. See the Trip Generation section for more information.

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Figure 7. Fatality Crash Map

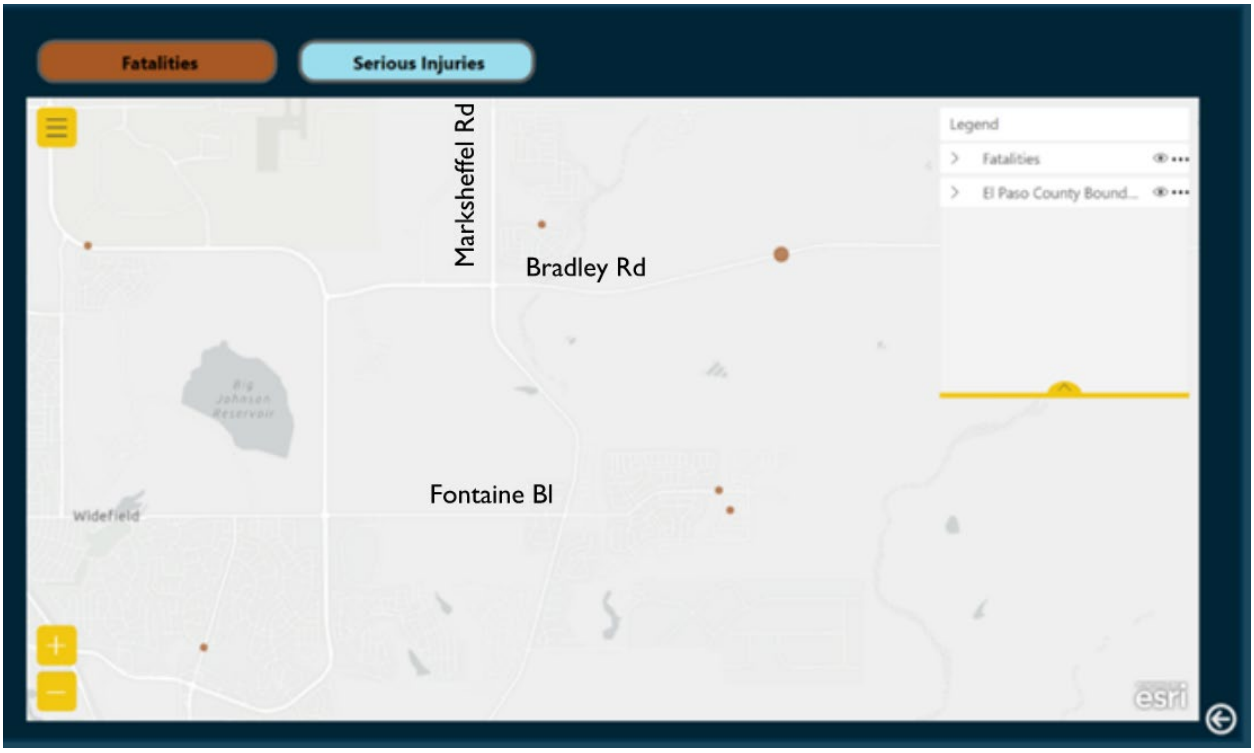
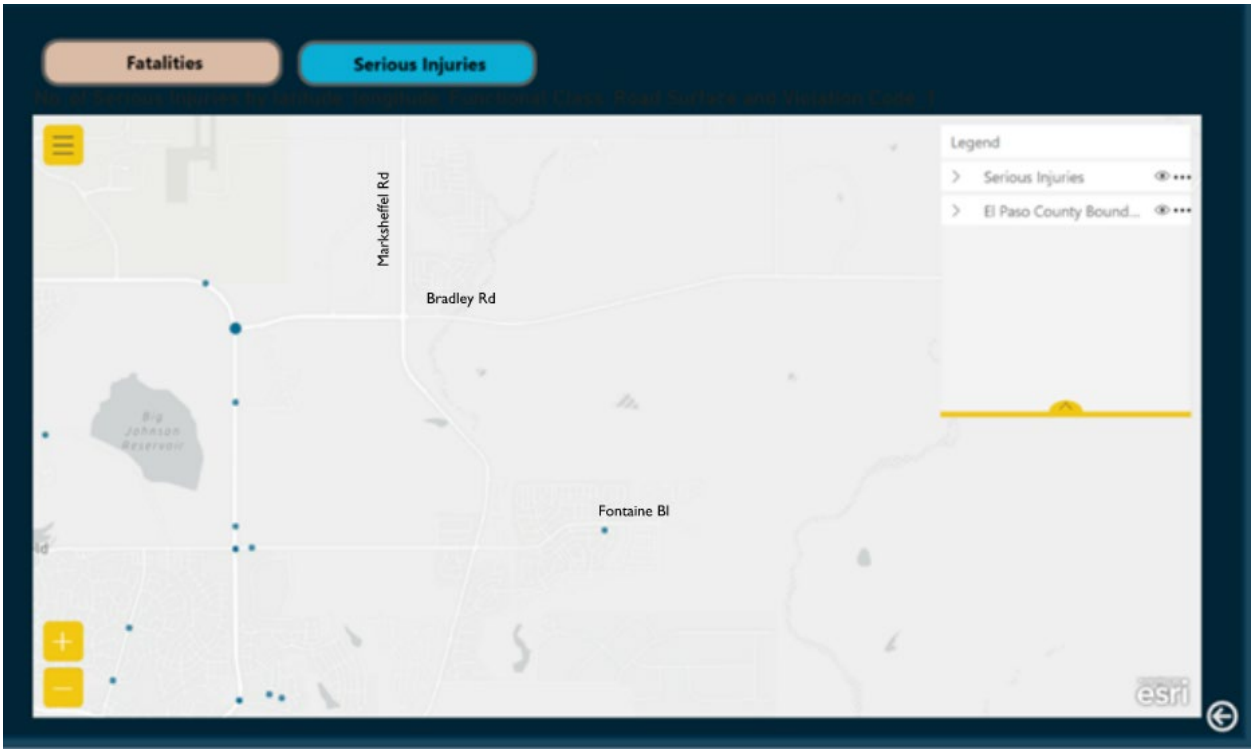


Figure 8. Serious Injury Crash Map



Projected Development Traffic

This section documents how much traffic the project development is expected to generate and how the external site trips will be distributed on the adjacent roadway network.

Trip Generation

The vehicle trips associated with the project were calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition.* This methodology consists of choosing an independent variable for the land use for a particular time of day. The independent variable correlates to the variation in trip ends and is related to the land use. The value of the independent variable is either multiplied by a weighted average or used in a regression equation to calculate the trips generated by the land use. The *ITE Trip Generation Manual* provides guidance on when to use the weighted average versus the regression equation.

Table 3 shows the trips that are expected to be generated by Rolling Meadows/Bull Hill at build out. It was assumed that 100% of trips will be made by personal vehicles and no public transit use was assumed for this development. The single-family residences were generated for all of Rolling Meadows and all of Bull Hill separately with the total number of trips distributed to each zone based on the percentage of single family units proposed in each zone. Same logic was followed for multi-family homes as well.

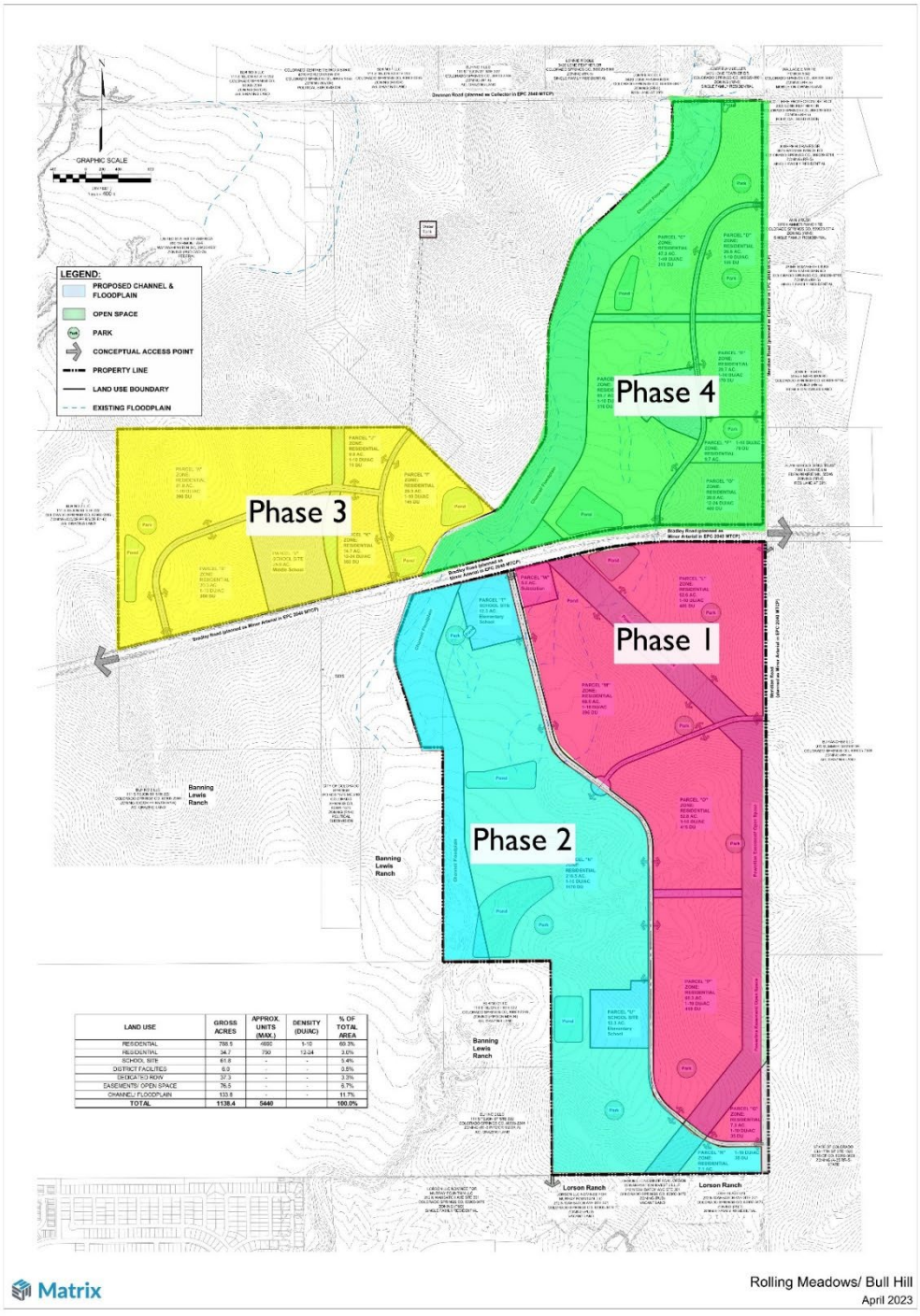
Table 3. Rolling Meadows/Bull Hill Trip Generation

Parcel	Phase/Opening Year	ITE Code - Land Use	Quantity	Unit	Size(Acre)	%SFDU	%MFDU	AM Peak Hour Trips			PM Peak Hour Trips			Weekday Trips		
								In	Out	Total	In	Out	Total	In	Out	Total
Rolling Meadows																
A	Phase 3/2032	210- Single-Family Detached Housing	275	Dwelling Unit	48.8	15.03%		39	118	158	145	85	229	1100	1100	2199
B	Phase 3/2032	210- Single-Family Detached Housing	315	Dwelling Unit	54.3	17.21%		45	135	181	166	97	263	1259	1259	2519
C	Phase 4/2034	210- Single-Family Detached Housing	340	Dwelling Unit	46	18.58%		49	146	195	179	105	284	1359	1359	2719
D	Phase 4/2034	210- Single-Family Detached Housing	130	Dwelling Unit	14.6	7.10%		19	56	75	68	40	108	520	520	1040
E	Phase 4/2034	210- Single-Family Detached Housing	170	Dwelling Unit	20.7	9.29%		24	73	97	89	52	142	680	680	1359
F	Phase 4/2034	210- Single-Family Detached Housing	70	Dwelling Unit	9.7	3.83%		10	30	40	37	22	58	280	280	560
G	Phase 4/2034	220- Multifamily Housing (Low-Rise)	400	Dwelling Unit	20		66.67%	33	106	139	117	69	185	1307	1307	2615
H	Phase 4/2034	210- Single-Family Detached Housing	310	Dwelling Unit	57.5	16.94%		44	133	178	163	96	259	1239	1239	2479
I	Phase 3/2032	210- Single-Family Detached Housing	145	Dwelling Unit	29.3	7.92%		21	62	83	76	45	121	580	580	1160
J	Phase 3/2032	210- Single-Family Detached Housing	75	Dwelling Unit	9.8	4.10%		11	32	43	39	23	63	300	300	600
K	Phase 3/2032	220- Multifamily Housing (Low-Rise)	200	Dwelling Unit	14.7		33.33%	17	53	70	58	34	93	654	654	1307
W	Phase 4/2034	520-Elementary School	515	Student	15.9			206	175	381	38	44	82	585	585	1170
V	Phase 3/2032	522-Middle School	1140	Student	30			412	351	763	82	89	171	1193	1193	2386
						Total		**930**	**1,472**	**2,402**	**1,257**	**801**	**2,058**	**11,056**	**11,056**	**22,112**
Bull Hill																
L	Phase1/2028	210- Single-Family Detached Housing	400	Dwelling Unit	58.6	14.44%		55	166	221	205	120	326	1547	1547	3094
M	Phase1/2028	210- Single-Family Detached Housing	365	Dwelling Unit	59.2	13.18%		50	151	202	187	110	297	1412	1412	2824
N(I)	Phase 2/2030	210- Single-Family Detached Housing	564	Dwelling Unit	180.9	20.38%		78	234	312	290	170	460	2183	2183	4367
N(II)	Phase 2/2030	210- Single-Family Detached Housing	299	Dwelling Unit		10.79%		41	124	165	153	90	243	1156	1156	2312
N(III)	Phase 2/2030	210- Single-Family Detached Housing	247	Dwelling Unit		8.90%		34	102	136	127	74	201	954	954	1908
O	Phase1/2028	210- Single-Family Detached Housing	415	Dwelling Unit	50.8	14.98%		57	172	229	213	125	338	1605	1605	3210
P	Phase1/2028	210- Single-Family Detached Housing	410	Dwelling Unit	57.3	14.80%		57	170	227	210	123	334	1586	1586	3172
Q	Phase1/2028	210- Single-Family Detached Housing	35	Dwelling Unit	5.9	1.26%		5	15	19	18	11	28	135	135	271
R	Phase 2/2030	210- Single-Family Detached Housing	35	Dwelling Unit	7.1	1.26%		5	15	19	18	11	28	135	135	271
S	Phase1/2028	220- Multifamily Housing (Low-Rise)	90	Dwelling Unit	7.6		38%	9	28	36	29	17	47	303	303	605
T	Phase 2/2030	520-Elementary School	490	Student	15			196	167	363	36	42	78	556	556	1112
U	Phase 2/2030	520-Elementary School	490	Student	15			196	167	363	36	42	78	556	556	1112
Y	Phase 2/2030	220- Multifamily Housing (Low-Rise)	150	Dwelling Unit	11.8		63%	14	46	61	49	29	78	504	504	1009
						Total		**798**	**1,556**	**2,354**	**1,571**	**964**	**2,535**	**12,633**	**12,633**	**25,266**
						Grand Total		**1,728**	**3,028**	**4,756**	**2,828**	**1,765**	**4,593**	**23,689**	**23,689**	**47,378**

SFDU: Single-Family Dwelling Unit MFDU: Multi-Family Dwelling Unit

Figure 9 shows the phasing of the Rolling Meadows/Bull Hill project.

Figure 9. Rolling Meadows/Bull Hill Phasing Overview



Phase 1 opening year: 2028

Phase 2 opening year: 2030

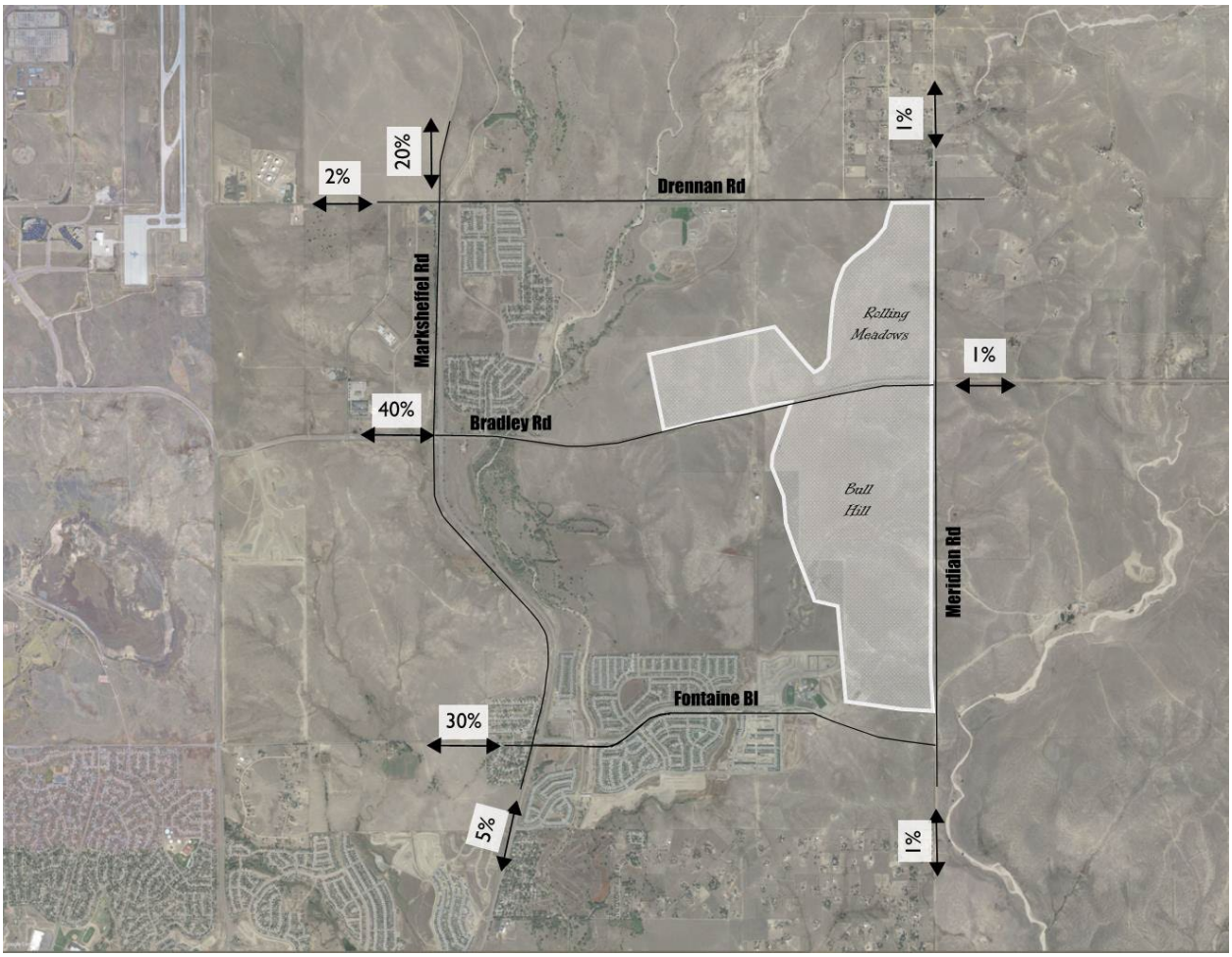
Phase 3 opening year: 2032

Phase 4 opening year: 2034

Trip Distribution

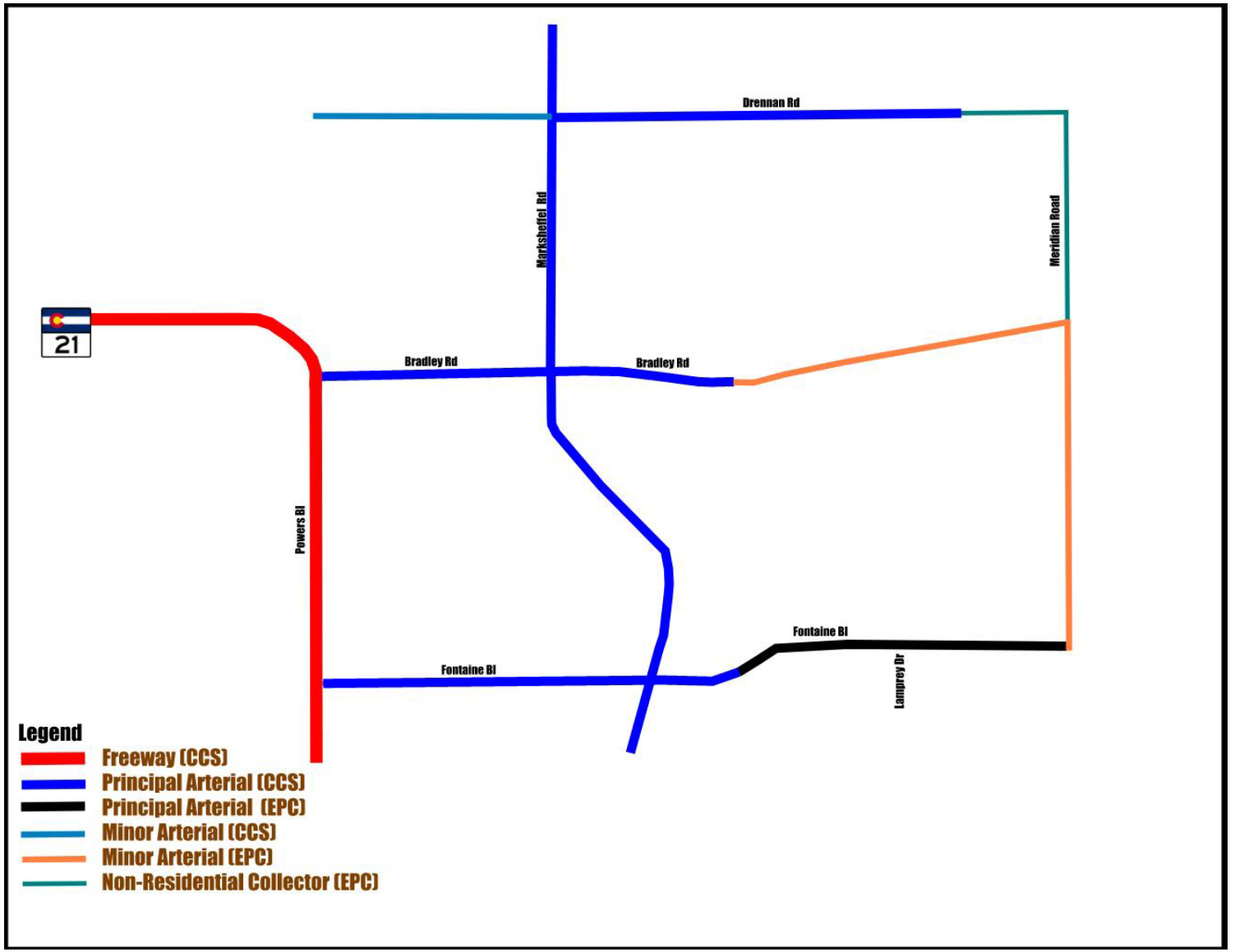
Figure 10 illustrates the expected external distribution of travel for the site-generated trips. This distribution was determined by reviewing current traffic volumes and trip distributions of surrounding developments.

Figure 10. Trip Distribution



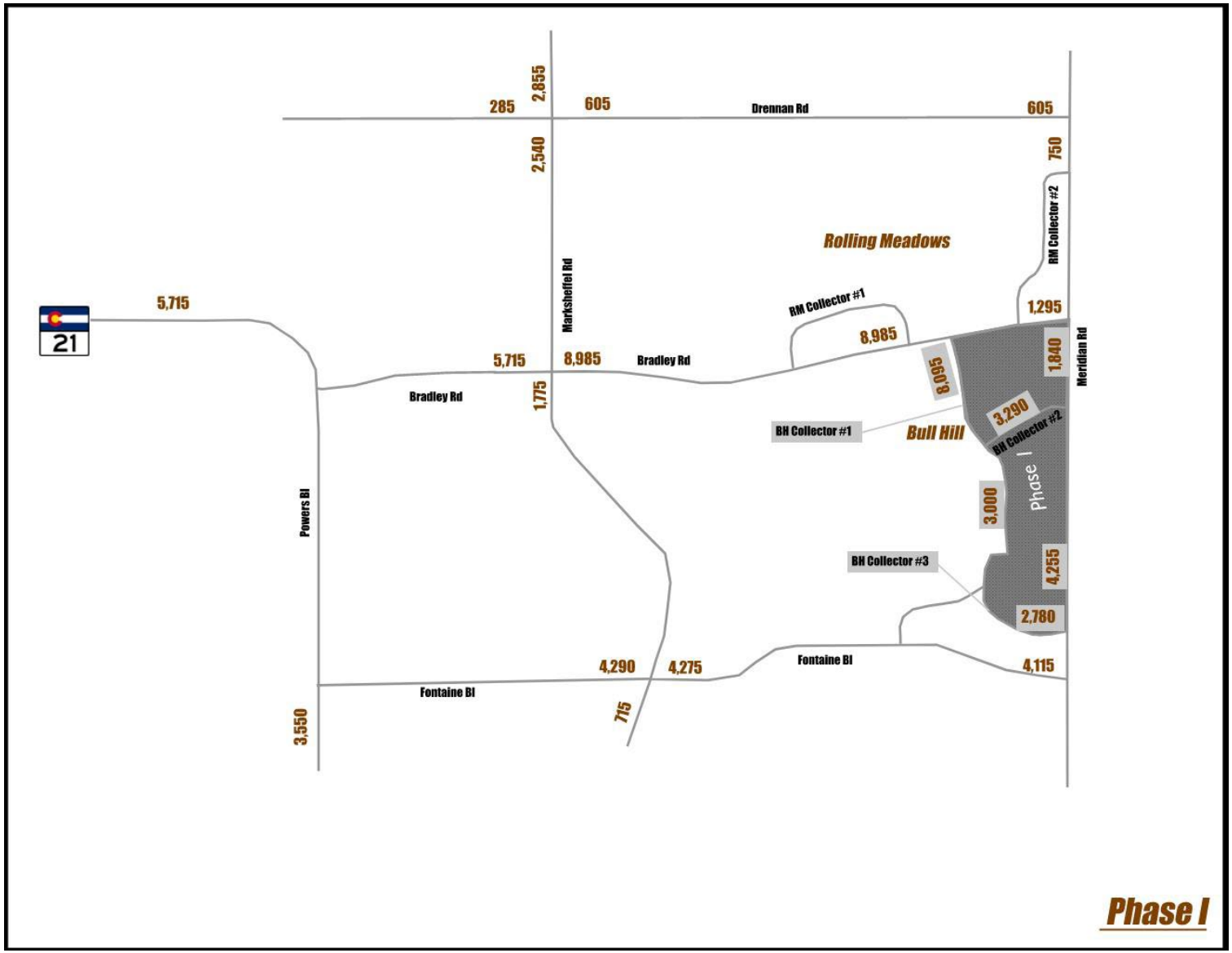
Roadways adjacent to the new development were classified based on the 2040 Major Transportation Corridor Plan (EPC), or the City of Colorado Springs Major Throughfare Plan (CCS) and are shown in Figure 11.

Figure 11. Roadway Classification



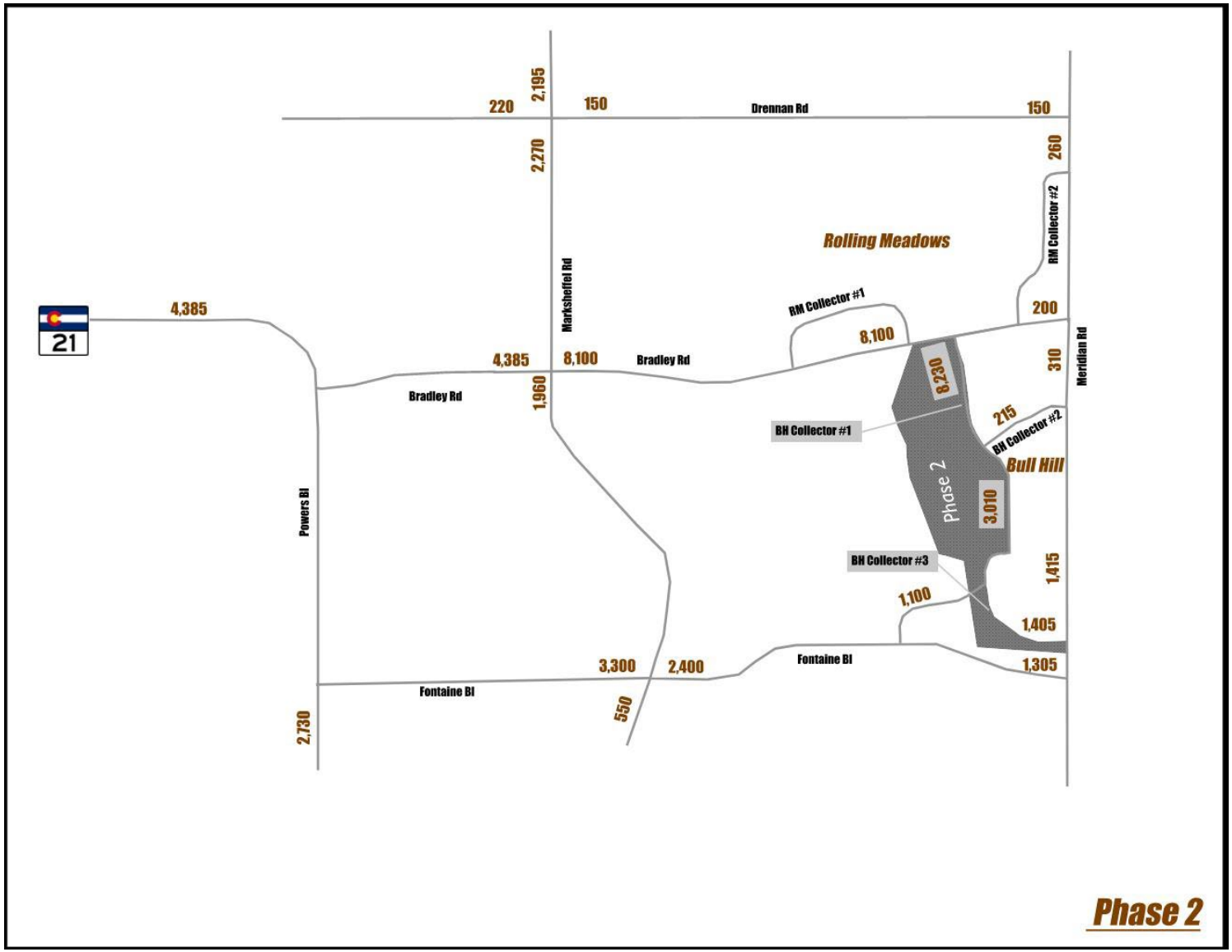
The Phase 1 project daily trips are shown in Figure 12

Figure 12. Rolling Meadows/Bull Hill Phase 1 (2028) Site Trips



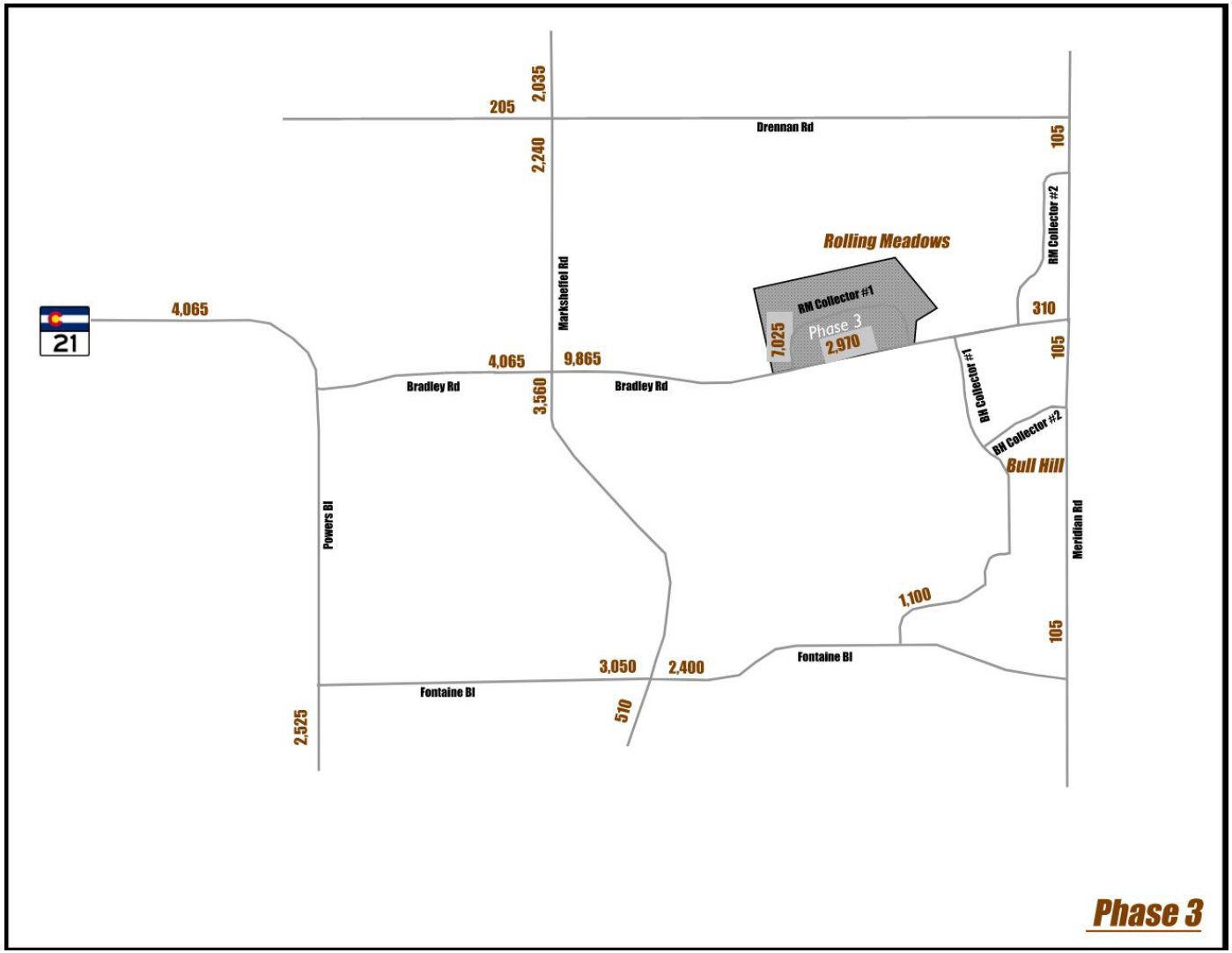
The Phase 2 project daily trips are shown in Figure 13.

Figure 13. Rolling Meadows/Bull Hill Phase 2 (2030) Site Trips



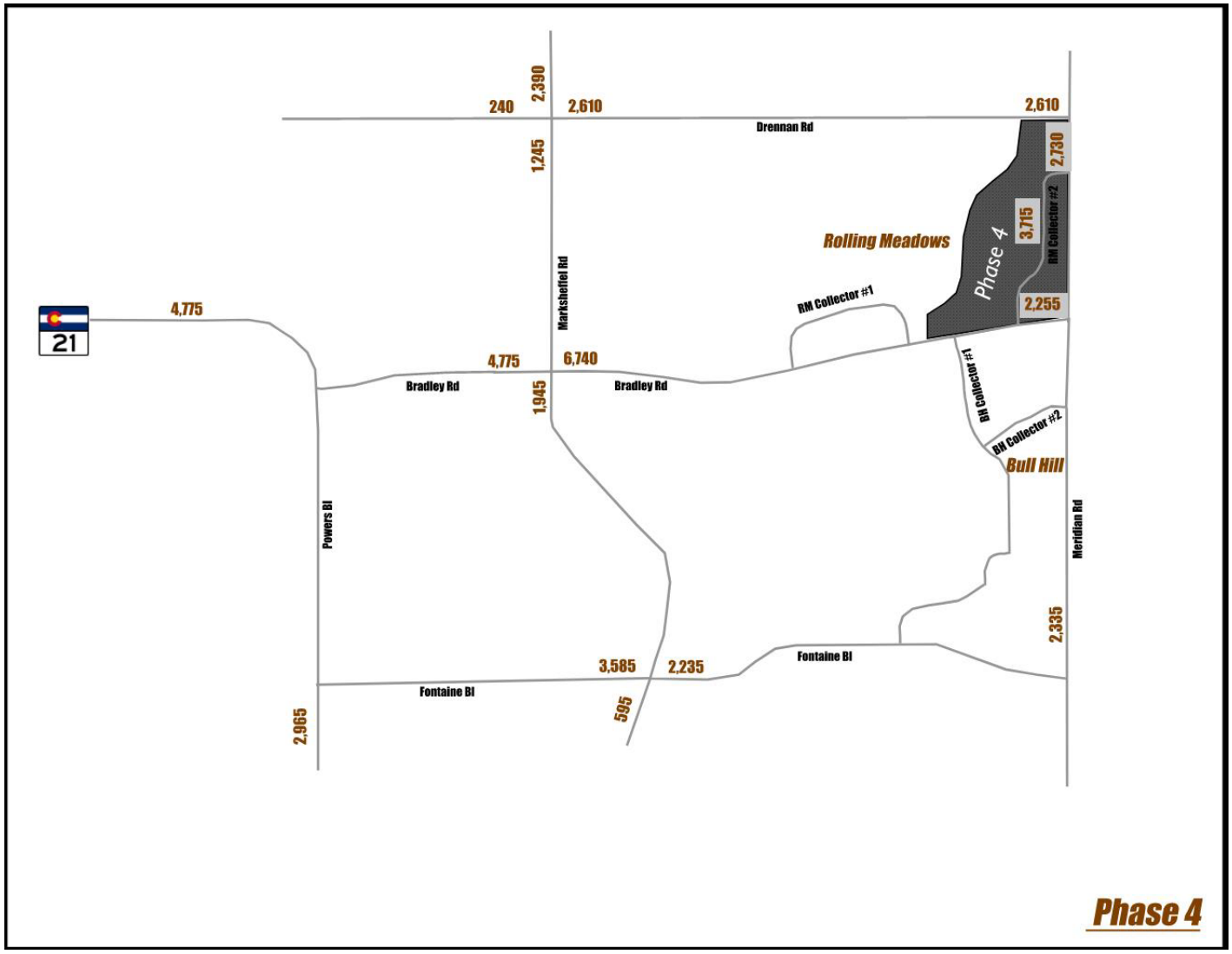
The Phase 3 daily project trips are shown in Figure 14

Figure 14. Rolling Meadows/Bull Hill Phase 3 (2032) Site Trips



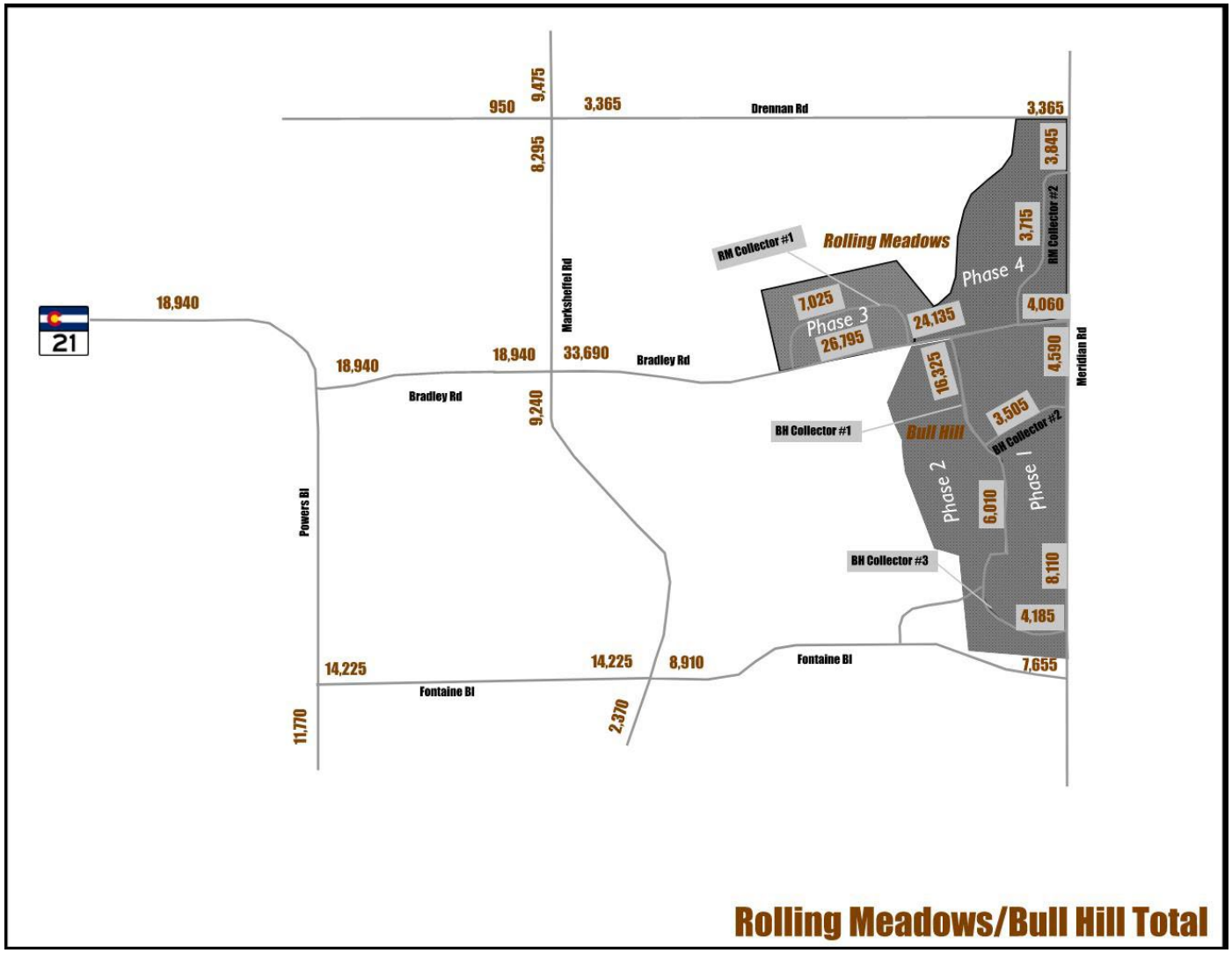
The Phase 4 project daily trips are shown in Figure 15.

Figure 15. Rolling Meadows/Bull Hill Phase 4 (2034) Site Trips



The total daily site trips for the Rolling Meadows/Bull Hill project are shown in Figure 16.

Figure 16. Rolling Meadows/Bull Hill Total Site Trips



Traffic Analysis

Traffic conditions without the project have been analyzed for the Phase 1 buildout year (2028) and horizon year (2045) conditions.

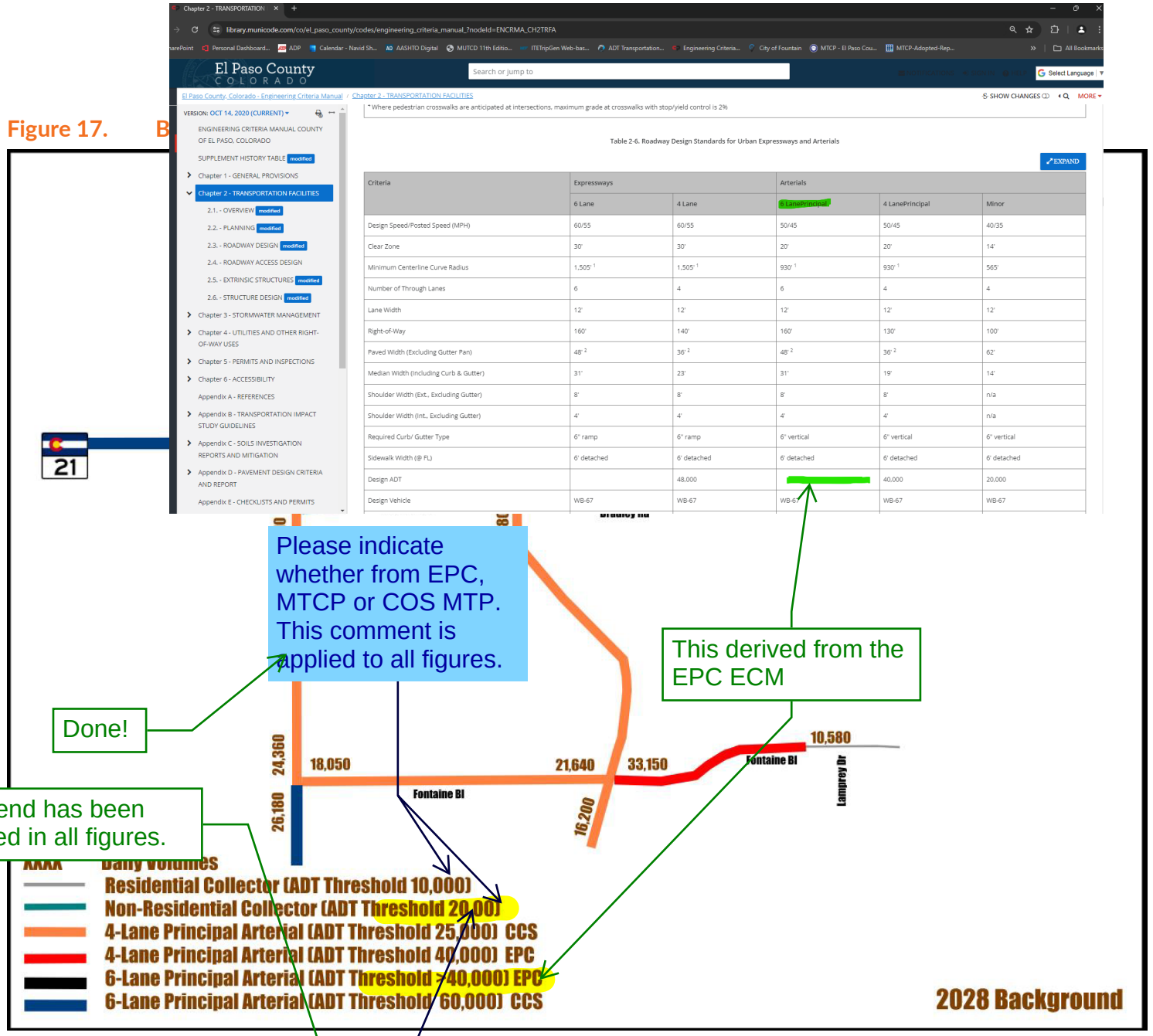
Buildout (2028) Background Conditions

The buildout year traffic volumes without the project are shown in Figure 17. The volumes for Marksheffel Road/Bradley Road, Marksheffel Road/Fontaine Boulevard, and Fontaine Boulevard/Lamprey Drive in the background conditions are derived from the *Bradley Heights MTIS* (2021), *Corvallis TIS* (2021), and *The Hills at Lorson Ranch* (2020) respectively. A 1.1487 growth factor was applied for other intersections. An additional 1.025 growth factor was applied for Marksheffel Road/Drennan Road to consider the impact of COVID-19 on the collected counts. Roadway classifications in the following figures are based on daily traffic thresholds and not classifications dictated by each agency.

Please provide the peak volumes, intersection configurations, intersection operations (LOS), turn lane requirements and accompanying narrative for the background conditions year 2028 and 2045 as done in the previous submittal.

Per the County's own ECM (B.2.4.A) , this level of detail is not needed at this point because the developer is not seeking vesting and this is not a site specific development plan. It is just a conceptual sketch plan. When the development progresses to a site specific development plan or is seeking vesting, this level of detail will be added.

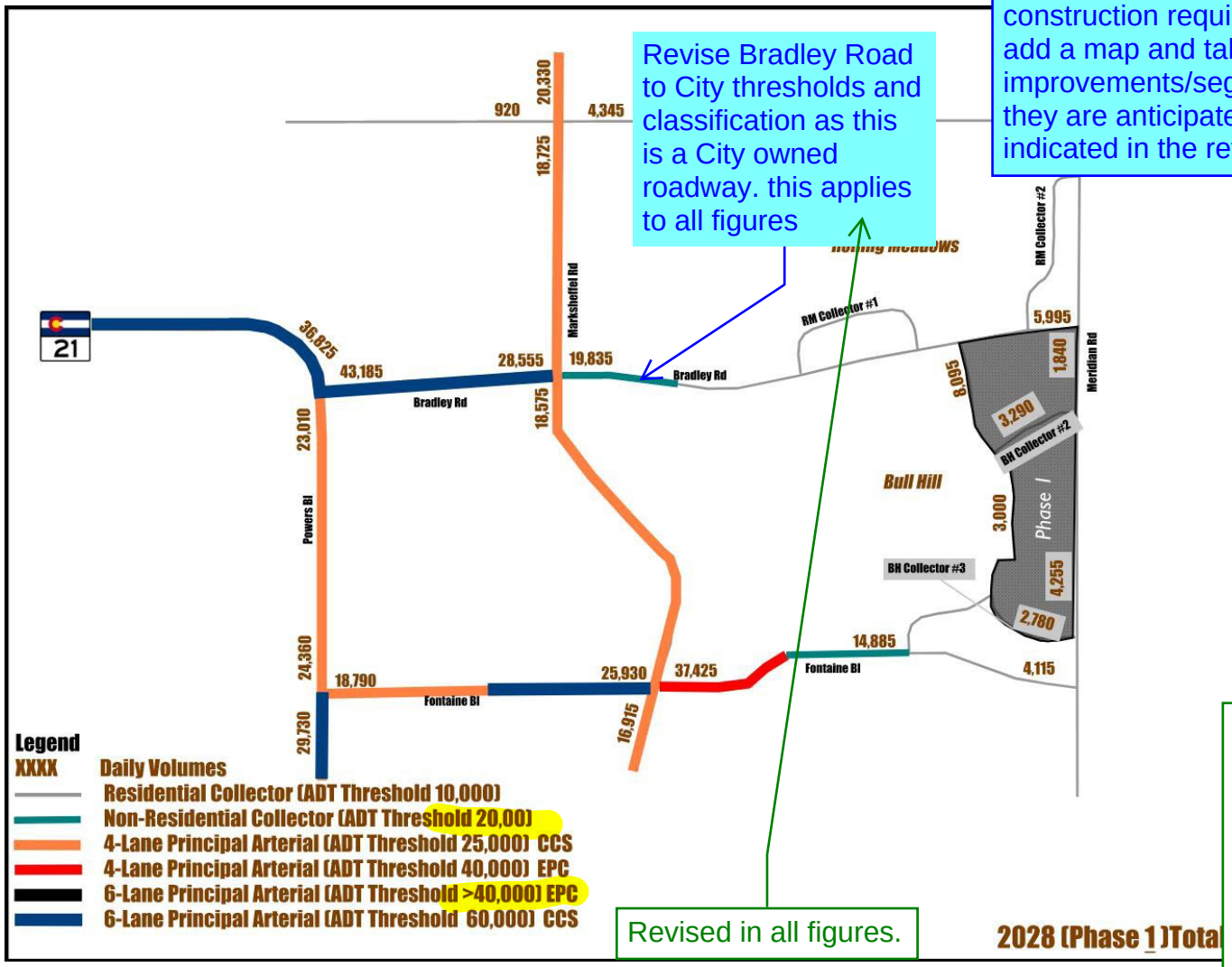
Figure 17. B


El Paso County
COLORADO
Table 2-6. Roadway Design Standards for Urban Expressways and Arterials
Please indicate whether from EPC, MTCP or COS MTP. This comment is applied to all figures.
This derived from the EPC ECM
Done!
Legend has been edited in all figures.
Please revise to 20,000. This comment is applied to all figures.
18,050
21,640
33,150
24,360
26,180
16,200
10,580
Fontaine Bl
Lamprey Dr
Residential Collector (ADT Threshold 10,000)
Non-Residential Collector (ADT Threshold 20,000)
4-Lane Principal Arterial (ADT Threshold 25,000) CCS
4-Lane Principal Arterial (ADT Threshold 40,000) EPC
6-Lane Principal Arterial (ADT Threshold >40,000) EPC
6-Lane Principal Arterial (ADT Threshold 60,000) CCS
2028 Background

Buildout (2028) Phase 1 Total Conditions

Buildout traffic volumes with the Phase 1 project traffic added are shown in Figure 18.

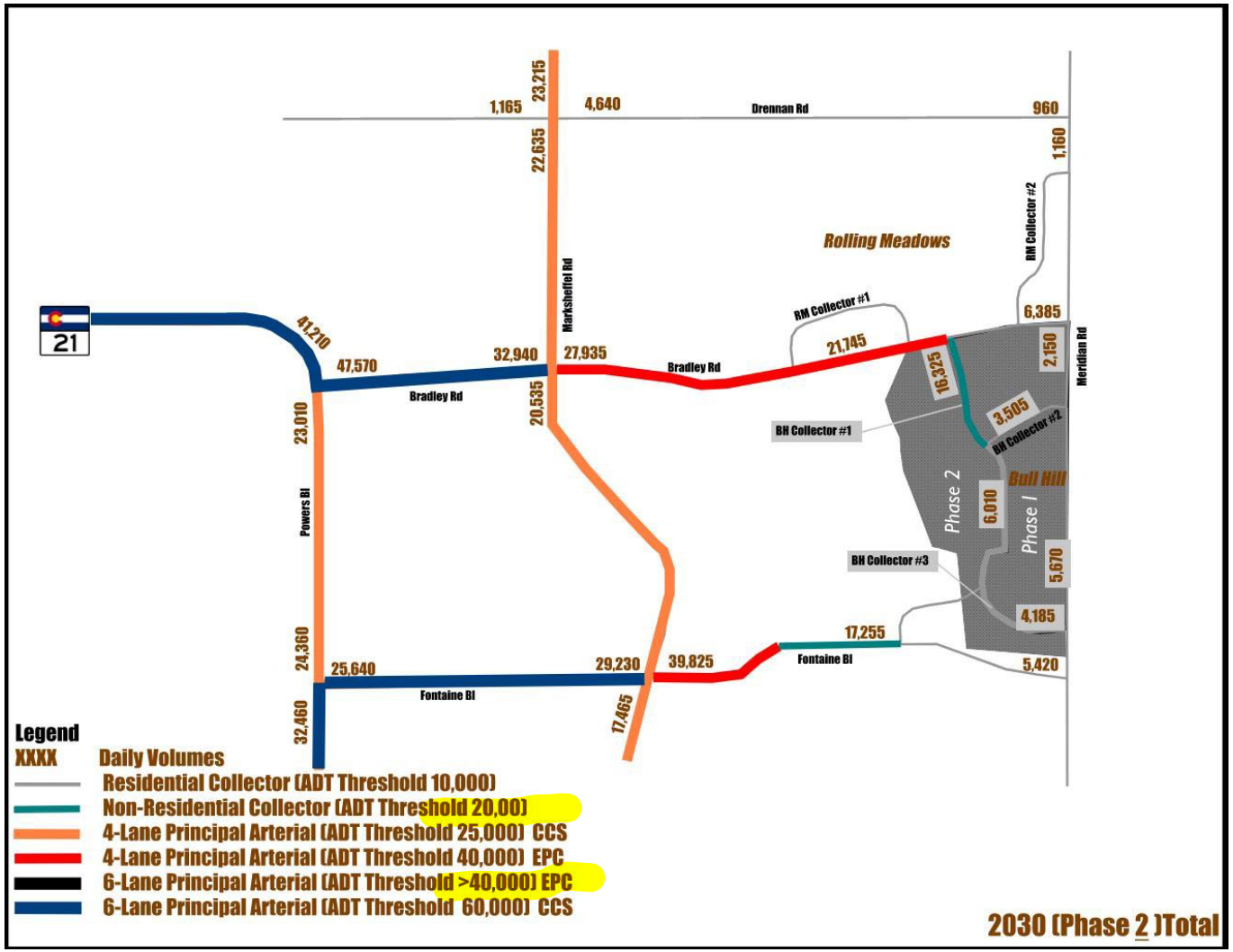
Figure 18. Buildout (2028) Phase 1 Total Traffic Volumes and Roadway Classific



Buildout (2030) Phase 2 Total Conditions

Buildout traffic volumes with Phase 1, and Phase 2 project traffic added are shown in Figure 19.

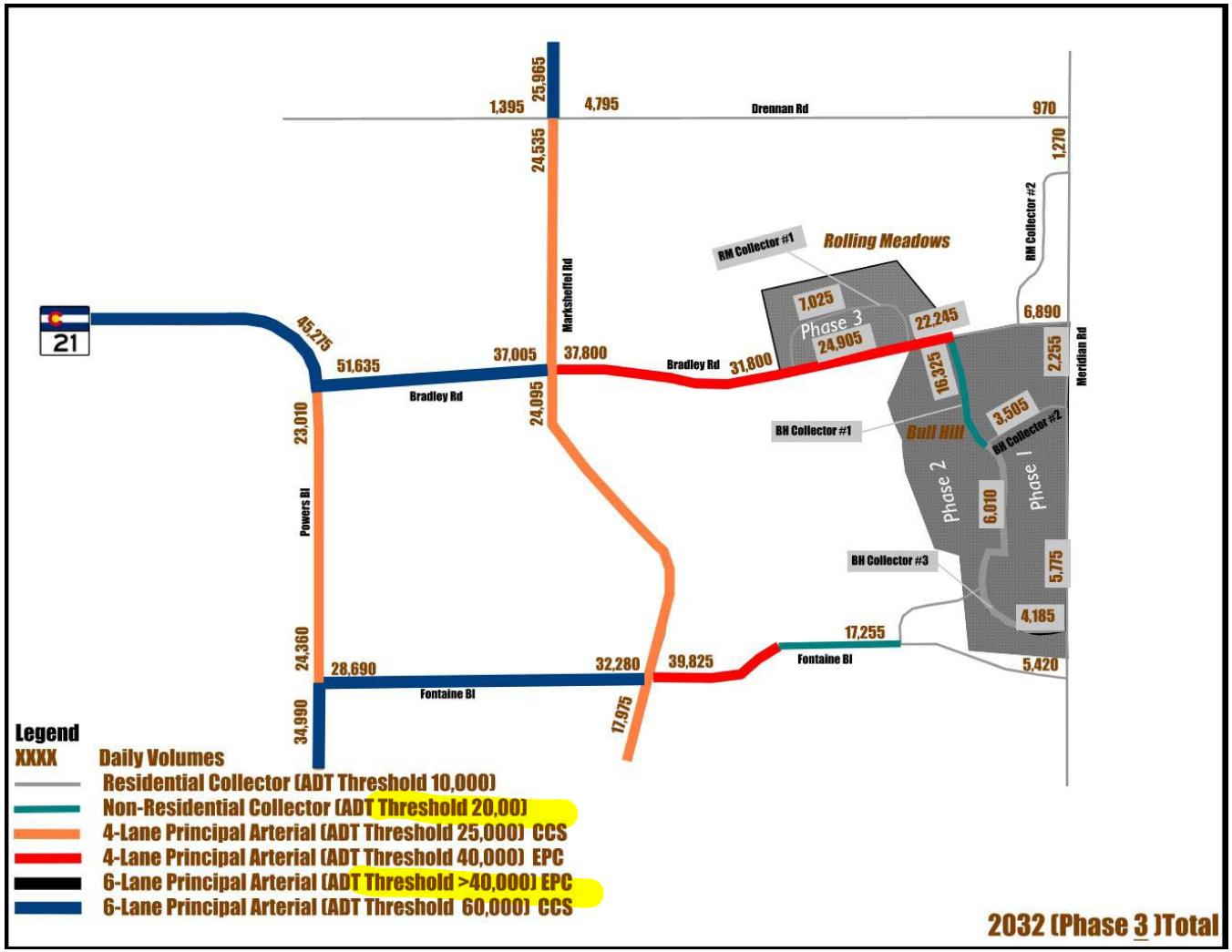
Figure 19. Buildout (2030) Phase 2 Total Traffic Volumes and Roadway Classification



Buildout (2032) Phase 3 Total Conditions

Buildout traffic volumes with Phase 1, Phase 2, and Phase 3 project traffic added are shown in Figure 20.

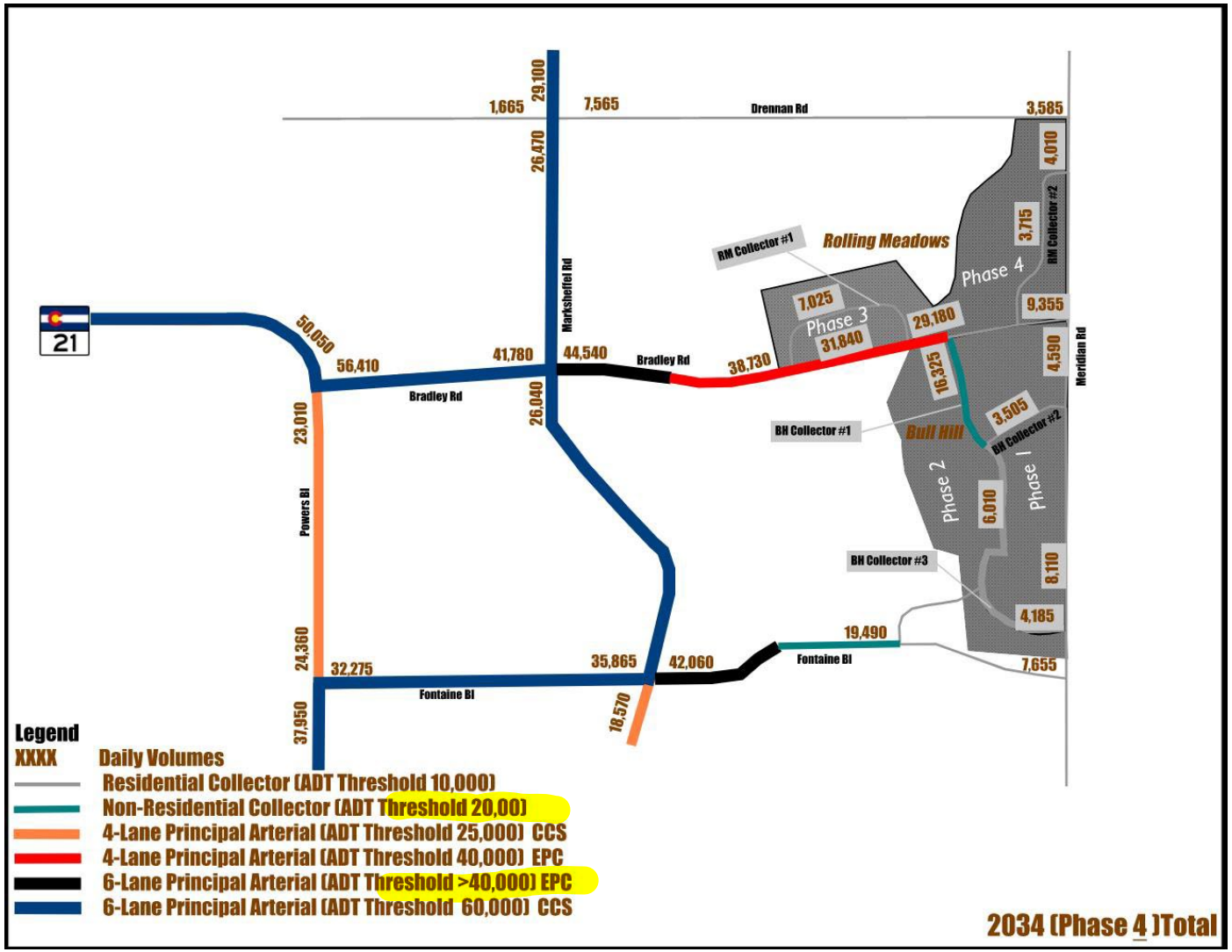
Figure 20. Buildout (2032) Phase 3 Total Traffic Volumes and Roadway Classification



Buildout (2034) Phase 4 Total Conditions

Buildout traffic volumes with Phase 1, Phase 2, Phase 3, and Phase 4 project traffic added are shown in Figure 21.

Figure 21. Buildout (2034) Phase 4 Total Traffic Volumes and Roadway Classification



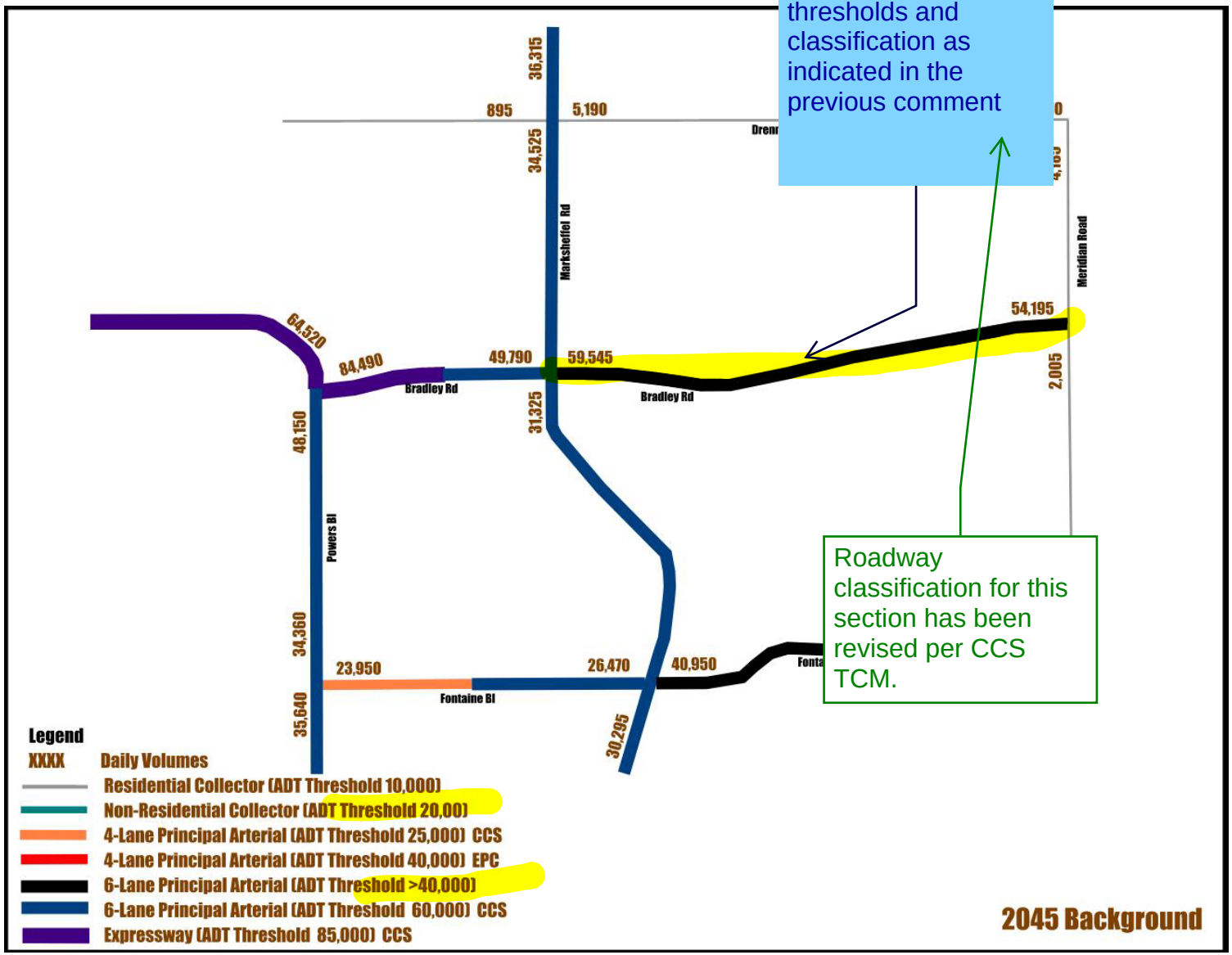
Horizon (2045) Background Conditions

The horizon year traffic volumes without the Rolling Meadows/Bull Hill project are shown in Figure 22. The volumes for the intersection of Marksheffel Road/Fontaine Boulevard were obtained from the *Crovallis TIS (2021),* for the intersection of Marksheffel Road/Bradley Road were obtained from the *Bradley Heights MTIS (2021)*, and for the intersection of Fontaine Boulevard/Lamprey Drive were obtained from The *Hillside at Lorson Ranch*. A growth factor of 1.6084 was applied for the remaining studied intersections. Moreover, an additional 1.025 growth factor was applied to the intersection of Marksheffel Road/Drennan Road to adjust for the impact of COVID-19 on collected data. Finally, daily traffic from a mix-used development to the east of Rolling Meadows/Bull Hill, namely Norris Ranch (*The Norris Ranch Memorandum*, 2023) were added to the studied network.

Please provide the peak volumes, intersection configurations, intersection operations (LOS), turn lane requirements and accompanying narrative for the background conditions year 2028 and 2045 as done in the previous submittal.

Per the County's own ECM (B.2.4.A) , this level of detail is not needed at this point because the developer is not seeking vesting and this is not a site specific development plan. It is just a conceptual sketch plan. When the development progresses to a site specific development plan or is seeking vesting, this level of detail will be added.

Figure 22. Horizon (2045) Background Traffic Volumes and Roadway



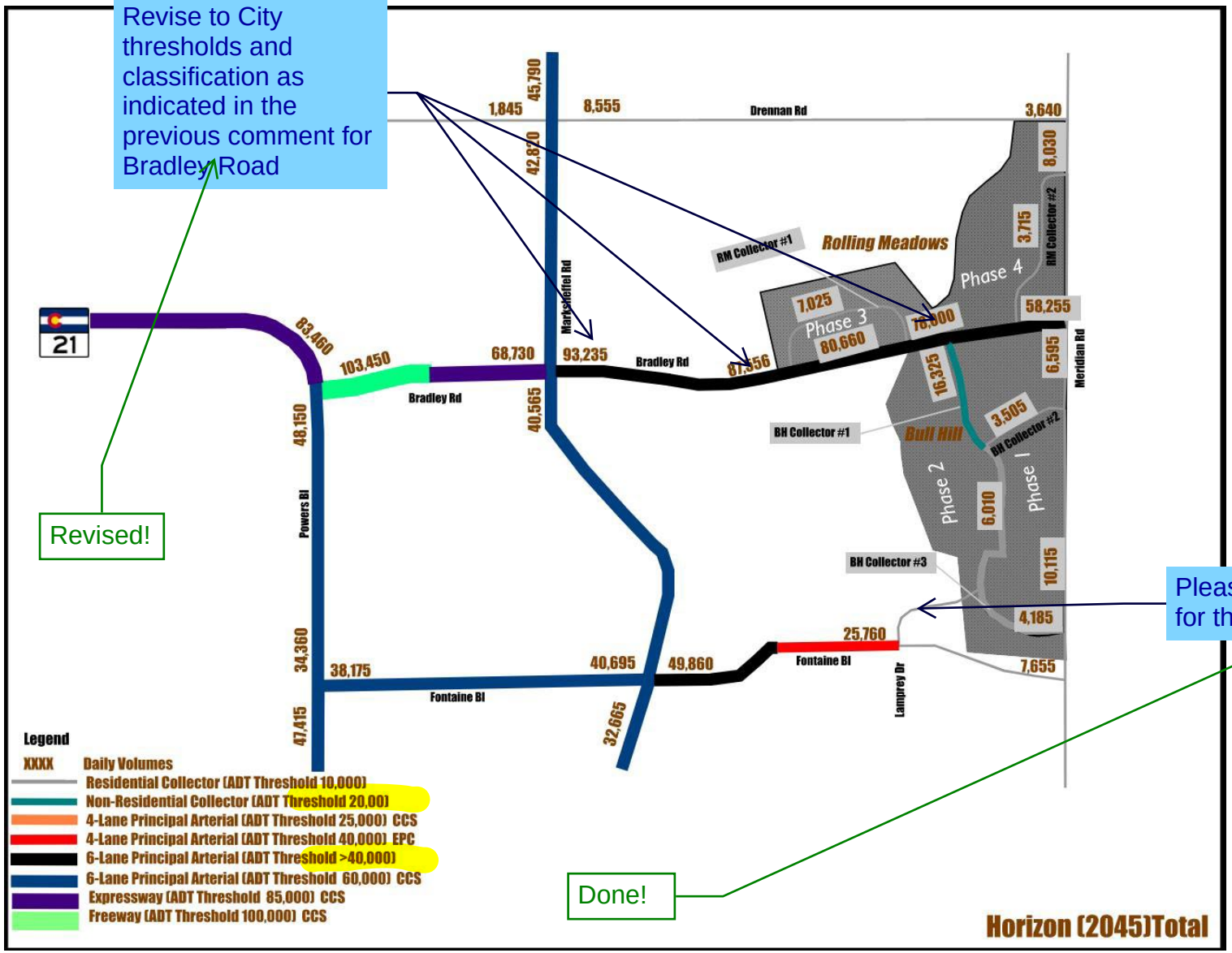
Horizon (2045) Total Conditions

When the project traffic is added to the 2045 background traffic, the resulting daily traffic volumes as well as the roadway classification in the horizon year total conditions are shown in Figure 23

Please provide the peak volumes, intersection configurations, intersection operations (LOS), turn lane requirements and accompanying narrative for the buildout total conditions of each phase as done in the previous submittal.

Per the County's own ECM (B.2.4.A) , this level of detail is not needed at this point because the developer is not seeking vesting and this is not a site specific development plan. It is just a conceptual sketch plan. When the development progresses to a site specific development plan or is seeking vesting, this level of detail will be added.

Figure 23. Horizon (2045) Total Traffic Volumes and Roadway Classifications



? use latest national MUTCD 11 edition, December 2023

Co ecommendations

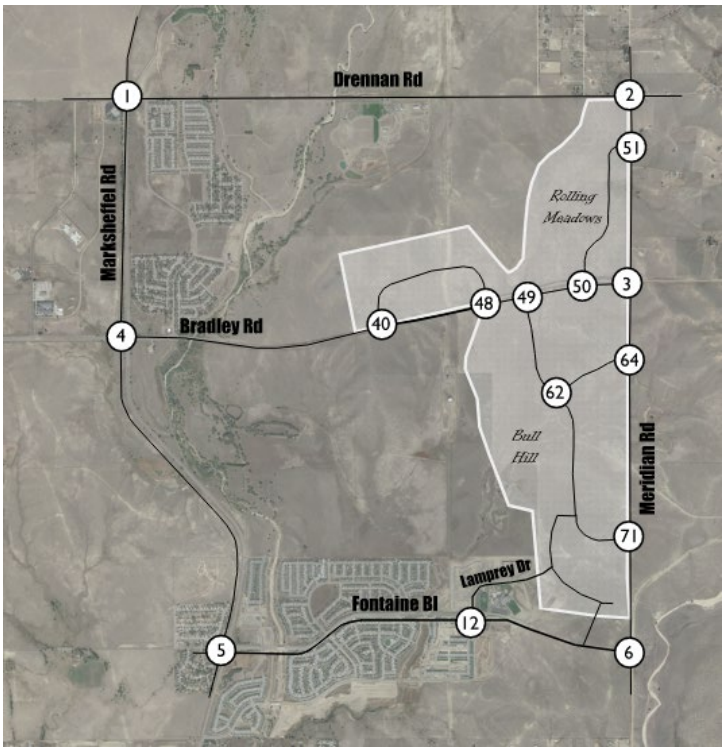
The traffic impact of Rolling Meadows/Bull Hill project in the buildout Phase 1(2028), buildout Phase 2 (2030), buildout Phase 3 (2032), buildout Phase 4 (2034) and horizon year (2045) was assessed in this study. The transportation roadway network was classified per the El Pas a Manual, and the City of Colorado Springs Traffic Criteria Manual and we ure 23.

We are using this edition because the data for the full analysis required in the current MUTCD is not available.

The California MUTCD 2014 Edition was used to perform the signal war lows for using the average traffic estimate to perform the signal warrant analy checked against minimum vehicular volume, interruption of continuous v the aforementioned warrants. Table 4 summarizes the signal warrants for the studied intersections. The signal warrant analyses are included in Appendix D – Supporting Documents.

Table 4. Traffic Signal Warrant Summary

ID	INTERSECTION	YEAR	NOTE
49	BRADLEY/BH COLLECOTOR #1	PHASE 1 (2028)	
12	FONTAINE/LAMPREY	PHASE 2 (2030)	Currently designed as a roundabout. It is not anticipated that the roundbount would be converted untul it no longer operates at an acceptable LOS. This should be determined in future traffic studies.
40	BRADLEY/RM COLLECTOR #1	PHASE 3 (2032)	
48	BRADLEY/RM COLLECTOR #2	PHASE 3 (2032)	
50	BRADLEY/RM COLLECOTOR #3	PHASE 4 (2034)	
3	BRADLEY RD/MERIDIAN RD	HORIZON (2045)	



The project fair share for some of the major roadways are summarized in Table 5.

Table 5. Rolling Meadows/Bull Hill Fair Share Calculations

Location	Horizon Total ADT	Site Total ADT	Existing ADT	Fair Share
Marksheffel Rd N.O Drennan Rd	45,790	9,475	15,430	31%
Bradley Rd E.O Marksheffel Rd	93,235	33,690	3,570	38%
Bradley Rd W.O Meridian Rd	58,255	4,060	4,265	8%
Fontiane Bl E.O Marksheffel Rd	49,860	8,910	12,470	24%
Powers Bl N.O Bradley Rd	83,460	18,940	14,500	27%
Bradley E.O Powers Bl	103,450	18,940	15,540	22%

Table 6 summarizes the required roadway improvements.

A new table has been provided.

Table 6. Roadway Improvement Summary

Roadway Segment	Current	MTCP/MTP Classification	Classification Based on ADT	Year/Scneario Required
Marksheffek Rd N.O Drennan Rd	2-Lane Roadway	Principal Arterial	4-Lane Principal Arterial	Existing
Powers Bl N.O Bradley Rd	4-Lane Roadway	Freeway	6-Lane Principal Arterial	2028/Background
Powers Bl S.O Fontiane Bl	4-Lane Roadway	Freeway	6-Lane Principal Arterial	2028/Background
Fontaine Bl E.O Powers Bl	2-Lane Roadway	Principal Arterial	4-Lane Principal Arterial	2028/Background
Bradley Rd E.O Powers Bl	4-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2028/Background
Bradley Rd W.O Marksheffel Rd	4-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2028/Phase 1
Fontaine Bl W.O Markshefel Rd	4-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2028/Phase 1
Fontaine Bl E.O Powers Bl	2-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2030/Phase 2
Bradley Rd E.O Marksheffel Rd	2-Lane Roadway	Principal Arterial	4-Lane Principal Arterial	2030/Phase 2
Marksheffek Rd N.O Drennan Rd	2-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2032/Phase 3
Marksheffel Rd N.O Fontaine Bl	3-Lane Roadway S.O Bradley Rd. 4-Lane Roadway N.O Bradley Rd	Principal Arterial	6-Lane Principal Arterial	2034/Phase 4
Bradley Rd E.O Marksheffel Rd	2-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2034/Phase 4
Bradley Road W.O Meridian Rd	2-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2045/Horizon Background
Powers Bl N.O Bradley Rd	4-Lane Roadway	Freeway	Expressway	2045/Horizon Background
Bradley Rd E.O Powers Bl	4-Lane Roadway	Principal Arterial	Expressway	2045/Horizon Background
Marksheffel Rd S.O Fontaine Bl	3-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2045/Horizon Background
Fontiane Bl E.O Marksheffel Rd	4-Lane Roadway	Principal Arterial	6-Lane Principal Arterial	2045/Horizon Background
Powers Bl S.O Bradley	4-Lane Roadway	Freeway	6-Lane Principal Arterial	2045/Horizon Background
Fontaine W.O Lamprey Dr	3-Lane Roadway	Principal Arterial	4-Lane Principal Arterial	2045/HorizonTotal
Bradley Rd E.O Powers Bl	4-Lane Roadway	Principal Arterial	Freeway	2045/HorizonTotal
Bradley Rd W.O Marksheffel Rd	4-Lane Roadway	Principal Arterial	Expressway	2045/HorizonTotal

The development should be responsible for widening to the MTCP/MTP classification if it is not already, or to the necessary classification. However, since everything except for the internal collector roads are in the MTCP/MTP, any construction towards realizing the MTCP/MTP classification should be reimbursable.

Add Meridian Road segments

(note that only the highlighted segments are County roads, and Meridian Rd.)

Done!

please add "per the road fee program".

Finally, the applicant is required to pay road impact fees to El Paso County. The County allows for the applicant to pay three different upfront fee amounts. The applicant can either pay the full fee amount, a smaller upfront fee to the 5 mill Public Improvement District (PID), or an even smaller upfront fee amount to the 10 mill PID. The different fee amounts are shown in Table 7, calculated based on 4,600 Single-Family dwelling units and 840 Multi-Family dwelling units. The applicant will choose which fee method to follow at a later date. If the applicant chooses one of the PIDs, the PID will collect taxes over time. Table 7 summarizes the road impact fees.

Table 7. Road Impact Fee Schedule

Phase 1					
	Unit	**No. Units**	**Full Fee**	**5 Mill PID**	**10 Mill PID**
Single-Family	Dwelling	1625	$ 6,223,750.00	$ 4,106,375.00	$ 1,984,125.00
Multi-Family	Dwelling	90	$ 216,630.00	$ 174,060.00	$ 131,220.00
Total			**$ 6,440,380.00**	**$ 4,280,435.00**	**$ 2,115,345.00**
Phase 2					
	Unit	**No. Units**	**Full Fee**	**5 Mill PID**	**10 Mill PID**
Single-Family	Dwelling	1145	$ 4,385,350.00	$ 2,893,415.00	$ 1,398,045.00
Multi-Family	Dwelling	150	$ 361,050.00	$ 290,100.00	$ 218,700.00
Total			**$ 4,746,400.00**	**$ 3,183,515.00**	**$ 1,616,745.00**
Phase 3					
	Unit	**No. Units**	**Full Fee**	**5 Mill PID**	**10 Mill PID**
Single-Family	Dwelling	810	$ 3,102,300.00	$ 2,046,870.00	$ 989,010.00
Multi-Family	Dwelling	200	$ 481,400.00	$ 386,800.00	$ 291,600.00
Total			**$ 3,583,700.00**	**$ 2,433,670.00**	**$ 1,280,610.00**
Phase 4					
	Unit	**No. Units**	**Full Fee**	**5 Mill PID**	**10 Mill PID**
Single-Family	Dwelling	1020	$ 3,906,600.00	$ 2,577,540.00	$ 1,245,420.00
Multi-Family	Dwelling	400	$ 962,800.00	$ 773,600.00	$ 583,200.00
Total			**$ 4,869,400.00**	**$ 3,351,140.00**	**$ 1,828,620.00**
Total					
	Unit	**No. Units**	**Full Fee**	**5 Mill PID**	**10 Mill PID**
Single-Family	Dwelling	4600	$ 17,618,000.00	$ 11,624,200.00	$ 5,616,600.00
Multi-Family	Dwelling	840	$ 2,021,880.00	$ 1,624,560.00	$ 1,224,720.00
Total			**$ 19,639,880.00**	**$ 13,248,760.00**	**$ 6,841,320.00**

Since the square footage of schools is not known yet, the required roadway impact fees will be determined once more details are known.

Appendix A – Traffic Counts

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 7
Station ID: 7
DRENNAN RD W.O. MARKSHEFFEL RD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		4	3							7
01:00		2	3							5
02:00		1	0							1
03:00		2	8							10
04:00		6	4							10
05:00		6	13							19
06:00		7	13							20
07:00		8	**53**							**61**
08:00		22	20							42
09:00		17	23							40
10:00		**31**	23							54
11:00		19	17							36
12:00 PM		21	26							47
01:00		18	24							42
02:00		20	**29**							49
03:00		19	13							32
04:00		**42**	11							**53**
05:00		14	7							21
06:00		14	6							20
07:00		4	3							7
08:00		5	5							10
09:00		2	4							6
10:00		3	5							8
11:00		2	4							6
Total		289	317							606
Percent		47.7%	52.3%							
AM Peak	-	10:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	31	53	-	-	-	-	-	-	61
PM Peak	-	16:00	14:00	-	-	-	-	-	-	16:00
Vol.	-	42	29	-	-	-	-	-	-	53
Grand Total		289	317							606
Percent		47.7%	52.3%							
ADT		ADT 606		AADT 606						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 8
Station ID: 8
MARKSHEFFEL RD N.O. DRENNAN RD

Start Time	15-Jun-21 Tue	NB	SB							Total
12:00 AM		39	29							68
01:00		20	27							47
02:00		16	14							30
03:00		23	21							44
04:00		57	71							128
05:00		229	233							462
06:00		616	352							968
07:00		**748**	381							**1129**
08:00		567	**382**							949
09:00		411	300							711
10:00		389	290							679
11:00		414	298							712
12:00 PM		436	380							816
01:00		385	411							796
02:00		447	442							889
03:00		562	599							1161
04:00		643	**772**							**1415**
05:00		**679**	732							1411
06:00		441	437							878
07:00		240	352							592
08:00		136	256							392
09:00		74	196							270
10:00		44	99							143
11:00		19	43							62
Total		7635	7117							14752
Percent		51.8%	48.2%							
AM Peak	-	07:00	08:00	-	-	-	-	-	-	07:00
Vol.	-	748	382	-	-	-	-	-	-	1129
PM Peak	-	17:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	679	772	-	-	-	-	-	-	1415
Grand Total		7635	7117							14752
Percent		51.8%	48.2%							
ADT		ADT 14,752		AADT 14,752						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 9
Station ID: 9
DRENNAN RD W.O. MERIDIAN RD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		0	0							0
01:00		1	0							1
02:00		1	0							1
03:00		0	0							0
04:00		2	0							2
05:00		0	3							3
06:00		1	5							6
07:00		6	4							10
08:00		1	6							7
09:00		2	6							8
10:00		5	3							8
11:00		**10**	**10**							**20**
12:00 PM		6	4							10
01:00		1	1							2
02:00		4	2							6
03:00		**10**	**7**							**17**
04:00		7	7							14
05:00		9	3							12
06:00		7	1							8
07:00		5	1							6
08:00		5	4							9
09:00		6	5							11
10:00		1	2							3
11:00		1	0							1
Total		91	74							165
Percent		55.2%	44.8%							
AM Peak	-	11:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	10	10	-	-	-	-	-	-	20
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	10	7	-	-	-	-	-	-	17
Grand Total		91	74							165
Percent		55.2%	44.8%							
ADT		ADT 165		AADT 165						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 10
Station ID: 10
MERIDIAN RD N.O. DRENNAN RD

Start Time	15-Jun-21 Tue	NB	SB							Total
12:00 AM		0	0							0
01:00		0	1							1
02:00		0	0							0
03:00		0	2							2
04:00		2	0							2
05:00		0	4							4
06:00		0	**8**							8
07:00		2	5							7
08:00		0	3							3
09:00		**6**	4							**10**
10:00		0	5							5
11:00		4	5							9
12:00 PM		4	3							7
01:00		2	2							4
02:00		4	2							6
03:00		7	**5**							**12**
04:00		7	4							11
05:00		**9**	2							11
06:00		5	2							7
07:00		6	1							7
08:00		3	4							7
09:00		2	0							2
10:00		0	2							2
11:00		0	0							0
Total		63	64							127
Percent		49.6%	50.4%							
AM Peak	-	09:00	06:00	-	-	-	-	-	-	09:00
Vol.	-	6	8	-	-	-	-	-	-	10
PM Peak	-	17:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	9	5	-	-	-	-	-	-	12
Grand Total		63	64							127
Percent		49.6%	50.4%							
ADT		ADT 127		AADT 127						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 11
Station ID: 11
MARKSHEFFEL RD S.O. DRENNAN RD

Start Time	15-Jun-21 Tue	NB	SB							Total
12:00 AM		38	29							67
01:00		20	27							47
02:00		17	14							31
03:00		24	21							45
04:00		49	66							115
05:00		213	238							451
06:00		568	360							928
07:00		**715**	393							**1108**
08:00		460	**394**							854
09:00		376	309							685
10:00		354	297							651
11:00		372	310							682
12:00 PM		428	348							776
01:00		375	377							752
02:00		438	394							832
03:00		550	535							1085
04:00		**675**	**689**							**1364**
05:00		627	653							1280
06:00		369	390							759
07:00		222	314							536
08:00		164	229							393
09:00		112	175							287
10:00		65	89							154
11:00		31	39							70
Total		7262	6690							13952
Percent		52.0%	48.0%							
AM Peak	-	07:00	08:00	-	-	-	-	-	-	07:00
Vol.	-	715	394	-	-	-	-	-	-	1108
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	675	689	-	-	-	-	-	-	1364
Grand Total		7262	6690							13952
Percent		52.0%	48.0%							
ADT		ADT 13,952		AADT 13,952						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 12
Station ID: 12
MERIDIAN RD S.O. DRENNAN RD

Start Time	15-Jun-21 Tue	NB	SB							Total
12:00 AM		0	0							0
01:00		0	2							2
02:00		0	1							1
03:00		0	2							2
04:00		0	0							0
05:00		1	3							4
06:00		0	3							3
07:00		0	6							6
08:00		3	1							4
09:00		**6**	2							**8**
10:00		0	**7**							7
11:00		3	5							8
12:00 PM		5	6							11
01:00		3	3							6
02:00		4	4							8
03:00		**7**	**7**							**14**
04:00		7	4							11
05:00		2	2							4
06:00		2	4							6
07:00		3	2							5
08:00		2	4							6
09:00		4	3							7
10:00		0	1							1
11:00		0	1							1
Total		52	73							125
Percent		41.6%	58.4%							
AM Peak	-	09:00	10:00	-	-	-	-	-	-	09:00
Vol.	-	6	7	-	-	-	-	-	-	8
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	7	7	-	-	-	-	-	-	14
Grand Total		52	73							125
Percent		41.6%	58.4%							
ADT		ADT 125		AADT 125						

All Traffic Data Services

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Date Start: 15-Jun-21
Site Code: 13
Station ID: 13
BRADLEY RD W.O. MARKSHEFFEL BLVD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		44	34							78
01:00		22	22							44
02:00		17	19							36
03:00		17	33							50
04:00		40	111							151
05:00		158	404							562
06:00		348	496							844
07:00		**518**	**542**							**1060**
08:00		321	497							818
09:00		280	359							639
10:00		274	350							624
11:00		332	322							654
12:00 PM		335	340							675
01:00		338	331							669
02:00		371	368							739
03:00		509	487							996
04:00		**754**	**520**							**1274**
05:00		644	389							1033
06:00		376	294							670
07:00		266	198							464
08:00		198	144							342
09:00		151	94							245
10:00		102	59							161
11:00		49	32							81
Total		6464	6445							12909
Percent		50.1%	49.9%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	518	542	-	-	-	-	-	-	1060
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	754	520	-	-	-	-	-	-	1274
Grand Total		6464	6445							12909
Percent		50.1%	49.9%							
ADT		ADT 12,909		AADT 12,909						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 14
Station ID: 14
BRADLEY RD E.O. MARKSHEFFEL RD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		2	6							8
01:00		6	6							12
02:00		3	5							8
03:00		6	12							18
04:00		35	18							53
05:00		76	81							157
06:00		223	117							340
07:00		**289**	**127**							**416**
08:00		133	78							211
09:00		70	59							129
10:00		66	52							118
11:00		70	69							139
12:00 PM		71	86							157
01:00		60	81							141
02:00		61	131							192
03:00		83	213							296
04:00		**144**	**252**							**396**
05:00		112	125							237
06:00		65	53							118
07:00		44	33							77
08:00		27	16							43
09:00		24	20							44
10:00		16	18							34
11:00		4	8							12
Total		1690	1666							3356
Percent		50.4%	49.6%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	289	127	-	-	-	-	-	-	416
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	144	252	-	-	-	-	-	-	396
Grand Total		1690	1666							3356
Percent		50.4%	49.6%							
ADT		ADT 3,356		AADT 3,356						

All Traffic Data Services

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Date Start: 15-Jun-21
Site Code: 15
Station ID: 15
BRADLEY RD E.O. MERIDIAN RD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		2	6							8
01:00		7	5							12
02:00		3	5							8
03:00		5	10							15
04:00		35	20							55
05:00		75	87							162
06:00		225	115							340
07:00		**287**	**123**							**410**
08:00		135	84							219
09:00		66	64							130
10:00		72	55							127
11:00		62	81							143
12:00 PM		61	92							153
01:00		57	88							145
02:00		58	140							198
03:00		85	229							314
04:00		**138**	**255**							**393**
05:00		106	130							236
06:00		64	54							118
07:00		40	31							71
08:00		28	15							43
09:00		21	18							39
10:00		16	17							33
11:00		4	8							12
Total		1652	1732							3384
Percent		48.8%	51.2%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	287	123	-	-	-	-	-	-	410
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	138	255	-	-	-	-	-	-	393
Grand Total		1652	1732							3384
Percent		48.8%	51.2%							
ADT		ADT 3,384		AADT 3,384						

All Traffic Data Services

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Date Start: 15-Jun-21
Site Code: 16
Station ID: 16
MARKSHEFFEL RD N.O. FONTAINE BLVD

Start Time	15-Jun-21 Tue	NB	SB							Total
12:00 AM		15	9							24
01:00		5	8							13
02:00		9	6							15
03:00		8	7							15
04:00		38	28							66
05:00		94	123							217
06:00		264	146							410
07:00		280	**183**							**463**
08:00		**286**	135							421
09:00		168	113							281
10:00		147	117							264
11:00		161	141							302
12:00 PM		172	160							332
01:00		153	144							297
02:00		147	158							305
03:00		175	214							389
04:00		216	**368**							584
05:00		**253**	363							**616**
06:00		137	132							269
07:00		88	97							185
08:00		66	64							130
09:00		54	48							102
10:00		28	24							52
11:00		13	12							25
Total		2977	2800							5777
Percent		51.5%	48.5%							
AM Peak	-	08:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	286	183	-	-	-	-	-	-	463
PM Peak	-	17:00	16:00	-	-	-	-	-	-	17:00
Vol.	-	253	368	-	-	-	-	-	-	616
Grand Total		2977	2800							5777
Percent		51.5%	48.5%							
ADT		ADT 5,777		AADT 5,777						

All Traffic Data Services

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Date Start: 15-Jun-21
Site Code: 17
Station ID: 17
FONTAINE BLVD W.O. MARKSHEFFEL RD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		46	12							58
01:00		22	3							25
02:00		8	6							14
03:00		8	9							17
04:00		22	32							54
05:00		74	171							245
06:00		169	184							353
07:00		**438**	**337**							**775**
08:00		331	330							661
09:00		277	209							486
10:00		249	176							425
11:00		231	233							464
12:00 PM		252	242							494
01:00		228	240							468
02:00		247	279							526
03:00		330	301							631
04:00		427	**486**							913
05:00		**484**	448							**932**
06:00		316	317							633
07:00		200	208							408
08:00		127	110							237
09:00		92	92							184
10:00		50	51							101
11:00		33	30							63
Total		4661	4506							9167
Percent		50.8%	49.2%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	438	337	-	-	-	-	-	-	775
PM Peak	-	17:00	16:00	-	-	-	-	-	-	17:00
Vol.	-	484	486	-	-	-	-	-	-	932
Grand Total		4661	4506							9167
Percent		50.8%	49.2%							
ADT		ADT 9,167		AADT 9,167						

All Traffic Data Services

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Date Start: 15-Jun-21
Site Code: 18
Station ID: 18
FONTAINE BLVD E.O. MARKSHEFFEL RD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		16	33							49
01:00		12	26							38
02:00		12	9							21
03:00		21	10							31
04:00		80	11							91
05:00		350	44							394
06:00		403	155							558
07:00		**527**	255							**782**
08:00		494	249							743
09:00		308	258							566
10:00		202	240							442
11:00		293	**346**							639
12:00 PM		323	387							710
01:00		267	353							620
02:00		294	375							669
03:00		314	478							792
04:00		366	606							972
05:00		**407**	**635**							**1042**
06:00		335	521							856
07:00		238	406							644
08:00		165	291							456
09:00		101	213							314
10:00		39	126							165
11:00		26	74							100
Total		5593	6101							11694
Percent		47.8%	52.2%							
AM Peak	-	07:00	11:00	-	-	-	-	-	-	07:00
Vol.	-	527	346	-	-	-	-	-	-	782
PM Peak	-	17:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	407	635	-	-	-	-	-	-	1042
Grand Total		5593	6101							11694
Percent		47.8%	52.2%							
ADT		ADT 11,694		AADT 11,694						

All Traffic Data Services

www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 19
Station ID: 19
MARKSHEFFEL RD S.O. FONTAINE BLVD

Start Time	15-Jun-21 Tue	NB	SB							Total
12:00 AM		18	17							35
01:00		8	7							15
02:00		10	6							16
03:00		11	9							20
04:00		42	30							72
05:00		157	205							362
06:00		439	243							682
07:00		**670**	**276**							**946**
08:00		499	271							770
09:00		286	204							490
10:00		263	213							476
11:00		302	257							559
12:00 PM		328	283							611
01:00		278	261							539
02:00		276	283							559
03:00		331	388							719
04:00		345	**708**							1053
05:00		**402**	661							**1063**
06:00		329	293							622
07:00		225	244							469
08:00		173	172							345
09:00		120	119							239
10:00		62	57							119
11:00		34	29							63
Total		5608	5236							10844
Percent		51.7%	48.3%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	670	276	-	-	-	-	-	-	946
PM Peak	-	17:00	16:00	-	-	-	-	-	-	17:00
Vol.	-	402	708	-	-	-	-	-	-	1063
Grand Total		5608	5236							10844
Percent		51.7%	48.3%							
ADT		ADT 10,844		AADT 10,844						

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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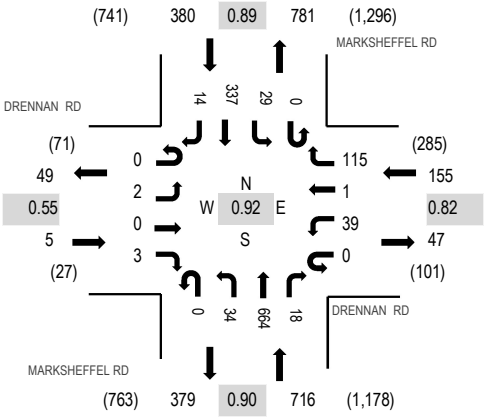
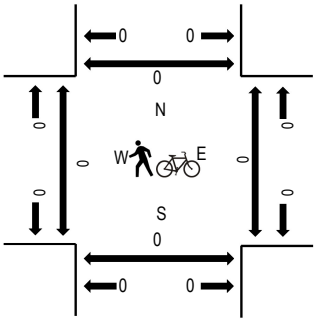
Location: 1 MARKSHEFFEL RD & DRENNAN RD AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	DRENNAN RD Eastbound				DRENNAN RD Westbound				MARKSHEFFEL RD Northbound				MARKSHEFFEL RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	14	0	33	0	5	151	0	0	6	74	4	287	1,256	0	0	0	0
7:15 AM	0	0	0	3	0	11	1	29	0	8	185	7	0	5	80	3	332	1,223	0	0	0	0
7:30 AM	0	1	0	0	0	7	0	34	0	12	168	8	0	10	95	6	341	1,127	0	0	0	0
7:45 AM	0	1	0	0	0	7	0	19	0	9	160	3	0	8	88	1	296	1,018	0	0	0	0
8:00 AM	0	3	0	7	0	17	0	14	0	3	120	6	0	5	74	5	254	975	0	0	0	0
8:15 AM	0	1	1	2	1	10	1	23	0	4	86	4	0	8	93	2	236		0	0	0	0
8:30 AM	0	2	1	2	0	11	0	17	0	2	105	6	0	10	75	1	232		0	0	0	0
8:45 AM	0	1	0	2	0	11	0	25	0	4	118	4	0	8	80	0	253		0	0	0	0
Count Total	0	9	2	16	1	88	2	194	0	47	1,093	38	0	60	659	22	2,231		0	0	0	0
Peak Hour	0	2	0	3	0	39	1	115	0	34	664	18	0	29	337	14	1,256		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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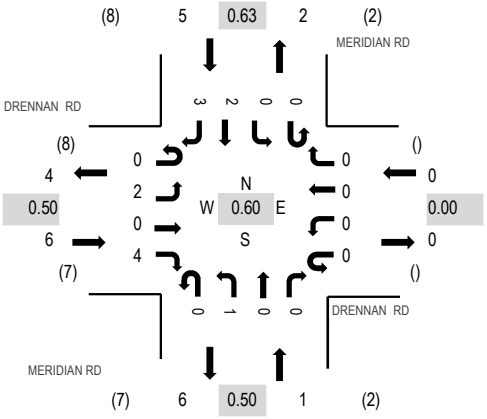
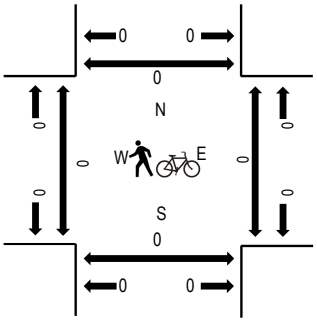
Location: 2 MERIDIAN RD & DRENNAN RD AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	DRENNAN RD Eastbound				DRENNAN RD Westbound				MERIDIAN RD Northbound				MERIDIAN RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	11	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	11	0	0	0	0
7:30 AM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	5	12	0	0	0	0
7:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	3	7	0	0	0	0
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	6	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2		0	0	0	0
Count Total	0	2	0	5	0	0	0	0	0	2	0	0	0	0	2	6	17		0	0	0	0
Peak Hour	0	2	0	4	0	0	0	0	0	1	0	0	0	0	2	3	12		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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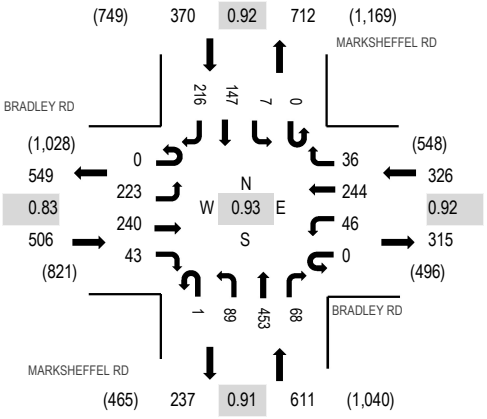
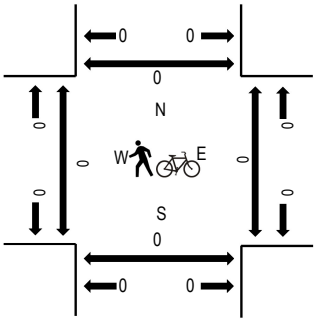
Location: 3 MARKSHEFFEL RD & BRADLEY RD AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



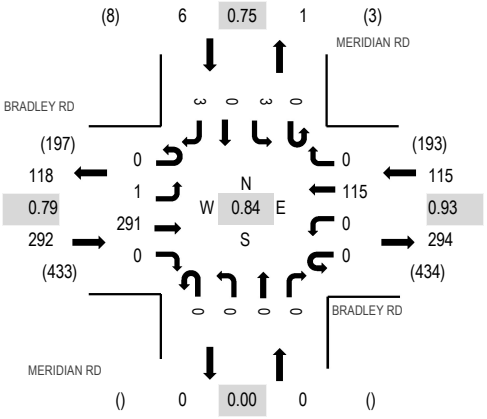
Traffic Counts

Interval Start Time	BRADLEY RD Eastbound				BRADLEY RD Westbound				MARKSHEFFEL RD Northbound				MARKSHEFFEL RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	45	52	12	0	11	59	11	0	24	106	24	0	1	28	52	425	1,813	0	0	0	0
7:15 AM	0	55	68	12	0	8	61	9	0	24	129	15	0	0	32	58	471	1,755	0	0	0	0
7:30 AM	0	65	77	11	0	9	59	10	0	20	115	15	0	4	44	59	488	1,609	0	0	0	0
7:45 AM	0	58	43	8	0	18	65	6	1	21	103	14	0	2	43	47	429	1,459	0	0	0	0
8:00 AM	0	38	41	15	0	8	41	5	0	25	80	14	1	2	40	57	367	1,345	0	0	0	0
8:15 AM	0	36	30	13	0	2	50	8	0	21	61	8	0	1	36	59	325		0	0	0	0
8:30 AM	0	36	26	12	0	7	45	3	0	24	81	14	0	0	38	52	338		0	0	0	0
8:45 AM	0	25	34	9	0	3	45	5	0	13	78	10	0	1	45	47	315		0	0	0	0
Count Total	0	358	371	92	0	66	425	57	1	172	753	114	1	11	306	431	3,158		0	0	0	0
Peak Hour	0	223	240	43	0	46	244	36	1	89	453	68	0	7	147	216	1,813		0	0	0	0

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

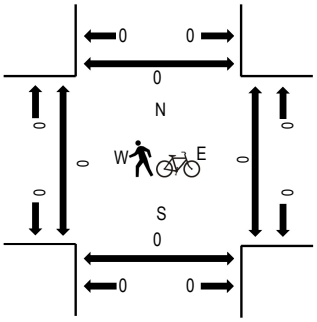
Location: 4 MERIDIAN RD & BRADLEY RD AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	BRADLEY RD Eastbound				BRADLEY RD Westbound				MERIDIAN RD Northbound				MERIDIAN RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	74	0	0	0	28	0	0	0	0	0	0	1	0	1	104	413	0	0	0	0
7:15 AM	0	0	73	0	0	0	31	0	0	0	0	0	0	0	0	0	104	374	0	0	0	0
7:30 AM	0	0	92	0	0	0	29	0	0	0	0	0	0	2	0	0	123	327	0	0	0	0
7:45 AM	0	1	52	0	0	0	27	0	0	0	0	0	0	0	0	2	82	257	0	0	0	0
8:00 AM	0	0	39	0	0	0	25	0	0	0	0	0	0	1	0	0	65	221	0	0	0	0
8:15 AM	0	2	39	0	0	0	15	0	0	0	0	0	0	0	0	1	57		0	0	0	0
8:30 AM	0	0	29	0	0	0	24	0	0	0	0	0	0	0	0	0	53		0	0	0	0
8:45 AM	0	0	32	0	0	0	14	0	0	0	0	0	0	0	0	0	46		0	0	0	0
Count Total	0	3	430	0	0	0	193	0	0	0	0	0	0	4	0	4	634		0	0	0	0
Peak Hour	0	1	291	0	0	0	115	0	0	0	0	0	0	3	0	3	413		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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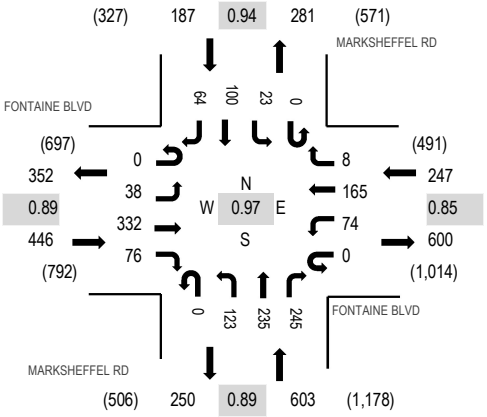
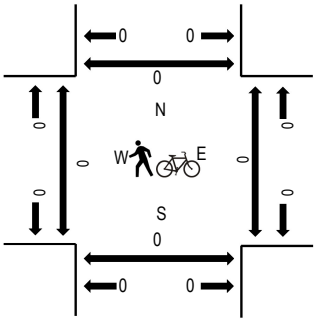
Location: 5 MARKSHEFFEL RD & FONTAINE BLVD AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	FONTAINE BLVD Eastbound				FONTAINE BLVD Westbound				MARKSHEFFEL RD Northbound				MARKSHEFFEL RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	6	88	19	0	18	31	2	0	35	70	64	0	4	27	17	381	1,483	0	0	0	0
7:15 AM	0	10	99	16	0	18	36	1	0	27	50	49	0	9	21	17	353	1,427	0	0	0	0
7:30 AM	0	13	77	18	0	21	42	1	0	28	64	72	0	4	23	15	378	1,413	0	0	0	0
7:45 AM	0	9	68	23	0	17	56	4	0	33	51	60	0	6	29	15	371	1,374	0	0	0	0
8:00 AM	0	11	70	23	0	20	42	3	0	38	36	48	0	3	22	9	325	1,305	0	0	0	0
8:15 AM	0	16	42	15	0	21	33	3	0	50	67	50	0	2	25	15	339		1	0	0	0
8:30 AM	0	11	62	16	0	25	32	3	0	45	73	44	0	0	23	5	339		0	0	0	0
8:45 AM	0	11	50	19	0	21	37	4	0	33	52	39	0	4	26	6	302		0	0	0	0
Count Total	0	87	556	149	0	161	309	21	0	289	463	426	0	32	196	99	2,788		1	0	0	0
Peak Hour	0	38	332	76	0	74	165	8	0	123	235	245	0	23	100	64	1,483		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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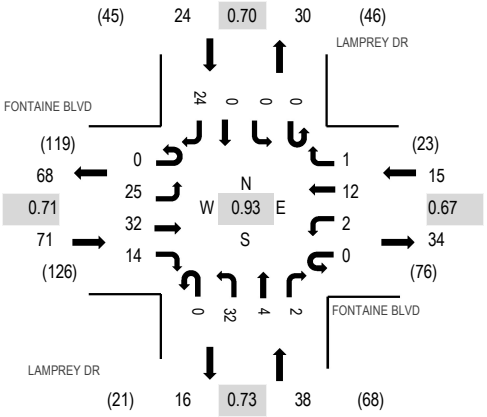
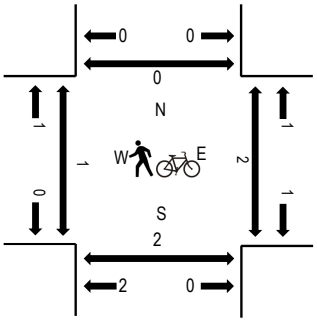
Location: 6 LAMPREY DR & FONTAINE BLVD AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	FONTAINE BLVD Eastbound				FONTAINE BLVD Westbound				LAMPREY DR Northbound				LAMPREY DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	11	1	0	0	0	1	0	2	0	0	0	0	0	7	23	115	0	0	0	2
7:15 AM	0	1	8	0	0	0	3	1	0	8	0	0	0	1	0	1	23	128	0	0	0	0
7:30 AM	0	2	16	0	0	0	1	0	0	8	0	1	0	0	0	1	29	140	1	0	1	1
7:45 AM	0	9	13	5	0	0	1	0	0	8	0	0	0	0	0	4	40	148	0	1	0	0
8:00 AM	0	7	9	1	0	0	5	1	0	5	0	0	0	0	0	8	36	147	0	0	0	0
8:15 AM	0	5	4	6	0	1	4	0	0	8	2	1	0	0	0	4	35		1	0	0	0
8:30 AM	0	4	6	2	0	1	2	0	0	11	2	1	0	0	0	8	37		0	1	2	0
8:45 AM	0	8	4	3	0	0	2	0	0	9	2	0	0	1	1	9	39		0	0	0	1
Count Total	0	37	71	18	0	2	18	3	0	59	6	3	0	2	1	42	262		2	2	3	4
Peak Hour	0	25	32	14	0	2	12	1	0	32	4	2	0	0	0	24	148		1	2	2	0

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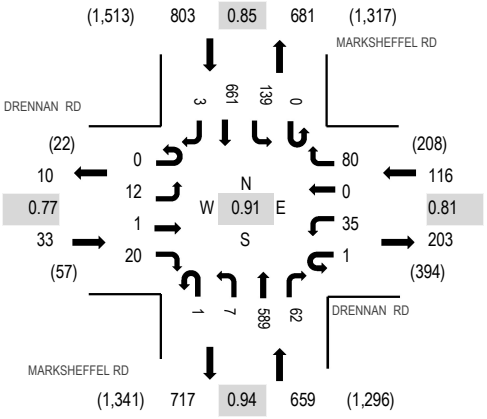
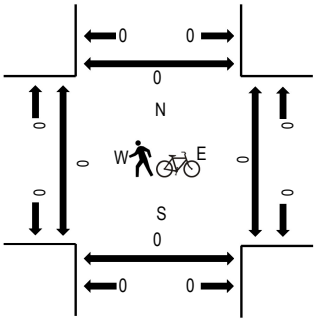
Location: 1 MARKSHEFFEL RD & DRENNAN RD PM
Date: Tuesday, June 15, 2021
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	DRENNAN RD Eastbound				DRENNAN RD Westbound				MARKSHEFFEL RD Northbound				MARKSHEFFEL RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	5	0	3	0	9	0	15	0	5	142	15	0	20	134	0	348	1,564	0	0	0	0
4:15 PM	0	5	0	3	0	6	0	15	0	2	147	17	0	28	178	1	402	1,568	0	0	0	0
4:30 PM	0	7	0	6	0	13	0	23	0	1	155	20	0	22	167	1	415	1,611	0	0	0	0
4:45 PM	0	2	0	9	0	6	0	24	0	2	147	11	0	32	164	2	399	1,554	0	0	0	0
5:00 PM	0	2	1	1	1	8	0	13	0	3	127	17	0	43	136	0	352	1,510	0	0	0	0
5:15 PM	0	1	0	4	0	8	0	20	1	1	160	14	0	42	194	0	445		0	0	0	0
5:30 PM	0	1	0	2	0	7	0	20	0	1	139	16	0	33	139	0	358		0	0	0	0
5:45 PM	0	1	1	3	0	3	0	17	1	2	129	21	0	40	136	1	355		0	0	0	0
Count Total	0	24	2	31	1	60	0	147	2	17	1,146	131	0	260	1,248	5	3,074		0	0	0	0
Peak Hour	0	12	1	20	1	35	0	80	1	7	589	62	0	139	661	3	1,611		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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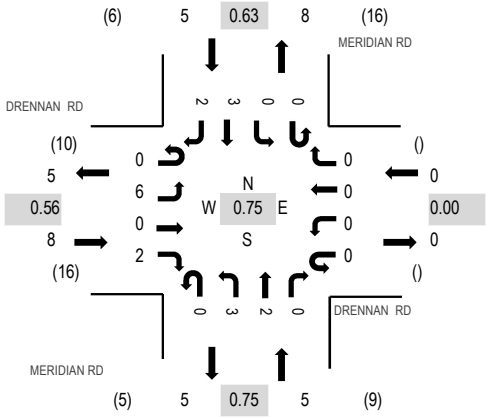
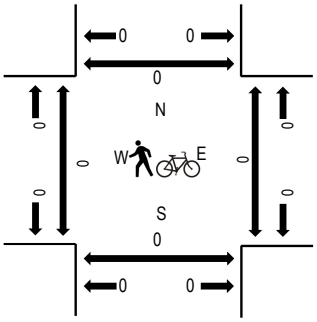
Location: 2 MERIDIAN RD & DRENNAN RD PM
Date: Tuesday, June 15, 2021
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	DRENNAN RD Eastbound				DRENNAN RD Westbound				MERIDIAN RD Northbound				MERIDIAN RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	16	0	0	0	0
4:15 PM	0	2	0	0	0	0	0	0	0	1	1	0	0	0	2	0	6	18	0	0	0	0
4:30 PM	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	1	6	17	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	14	0	0	0	0
5:00 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	1	5	15	0	0	0	0
5:15 PM	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5		0	0	0	0
5:30 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3		0	0	0	0
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		0	0	0	0
Count Total	1	13	0	2	0	0	0	0	0	6	3	0	0	0	3	3	31		0	0	0	0
Peak Hour	0	6	0	2	0	0	0	0	0	3	2	0	0	0	3	2	18		0	0	0	0

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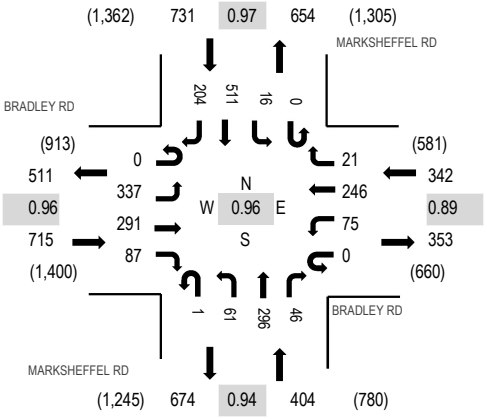
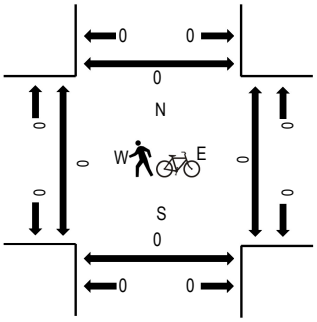
Location: 3 MARKSHEFFEL RD & BRADLEY RD PM
Date: Tuesday, June 15, 2021
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	BRADLEY RD Eastbound				BRADLEY RD Westbound				MARKSHEFFEL RD Northbound				MARKSHEFFEL RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	98	57	24	0	20	46	5	0	12	65	9	0	3	90	47	476	2,167	0	0	0	0
4:15 PM	0	83	74	19	0	18	77	3	0	20	77	11	0	2	130	55	569	2,192	0	0	0	0
4:30 PM	0	95	69	27	0	23	66	1	0	10	81	15	0	3	124	53	567	2,163	0	0	0	0
4:45 PM	0	92	74	19	0	19	64	8	1	13	70	10	0	9	122	54	555	2,068	0	0	0	0
5:00 PM	0	67	74	22	0	15	39	9	0	18	68	10	0	2	135	42	501	1,956	0	0	0	0
5:15 PM	0	88	76	20	0	11	47	4	0	14	88	4	0	5	125	58	540		0	0	0	0
5:30 PM	0	73	63	25	0	12	39	3	0	11	72	9	0	6	112	47	472		0	0	0	0
5:45 PM	0	81	64	16	0	12	38	2	0	12	72	8	0	3	104	31	443		0	0	0	0
Count Total	0	677	551	172	0	130	416	35	1	110	593	76	0	33	942	387	4,123		0	0	0	0
Peak Hour	0	337	291	87	0	75	246	21	1	61	296	46	0	16	511	204	2,192		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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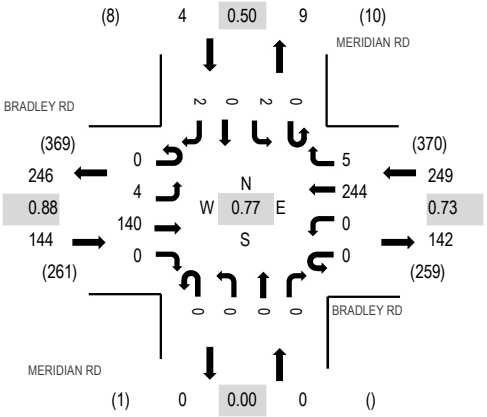
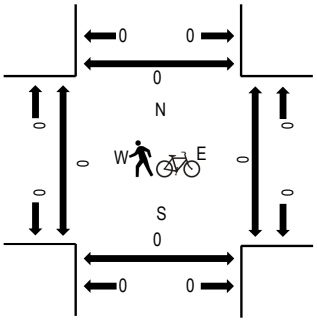
Location: 4 MERIDIAN RD & BRADLEY RD PM
Date: Tuesday, June 15, 2021
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	BRADLEY RD Eastbound				BRADLEY RD Westbound				MERIDIAN RD Northbound				MERIDIAN RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	25	0	0	0	48	2	0	0	0	0	0	0	0	1	76	397	0	0	0	0
4:15 PM	0	1	41	0	0	0	84	1	0	0	0	0	0	1	0	1	129	387	0	0	0	0
4:30 PM	0	2	40	0	0	0	60	0	0	0	0	0	0	1	0	0	103	336	0	0	0	0
4:45 PM	0	1	34	0	0	0	52	2	0	0	0	0	0	0	0	0	89	288	0	0	0	0
5:00 PM	0	0	31	0	0	0	32	0	0	0	0	0	0	1	1	1	66	242	0	0	0	0
5:15 PM	0	0	43	0	0	0	35	0	0	0	0	0	0	0	0	0	78		0	0	0	0
5:30 PM	0	1	26	0	0	0	28	0	0	0	0	0	0	0	0	0	55		0	0	0	0
5:45 PM	0	0	16	0	0	0	26	0	0	0	0	0	0	0	0	1	43		0	0	0	0
Count Total	0	5	256	0	0	0	365	5	0	0	0	0	0	3	1	4	639		0	0	0	0
Peak Hour	0	4	140	0	0	0	244	5	0	0	0	0	0	2	0	2	397		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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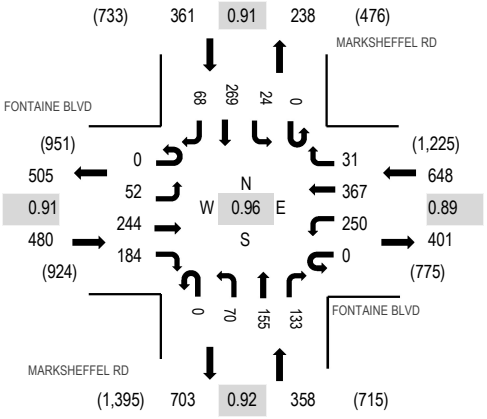
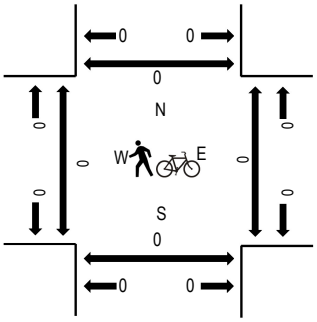
Location: 5 MARKSHEFFEL RD & FONTAINE BLVD PM
Date: Tuesday, June 15, 2021
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	FONTAINE BLVD Eastbound				FONTAINE BLVD Westbound				MARKSHEFFEL RD Northbound				MARKSHEFFEL RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	14	61	36	0	58	75	6	0	22	30	26	0	8	60	17	413	1,789	0	0	0	0
4:15 PM	0	11	64	32	0	61	88	3	0	12	36	29	0	10	82	12	440	1,820	0	0	0	0
4:30 PM	0	4	65	41	0	73	103	7	0	19	51	36	0	3	65	15	482	1,847	0	0	0	0
4:45 PM	0	8	57	43	0	62	97	11	0	18	37	23	0	12	66	20	454	1,838	0	0	0	0
5:00 PM	0	22	59	47	0	57	70	9	0	18	32	38	0	4	71	17	444	1,808	0	0	0	0
5:15 PM	0	18	63	53	0	58	97	4	0	15	35	36	0	5	67	16	467		0	0	0	0
5:30 PM	0	15	50	52	0	67	86	6	0	28	42	30	0	9	76	12	473		0	0	0	0
5:45 PM	0	15	51	43	0	60	61	6	0	19	54	29	0	7	65	14	424		0	0	0	0
Count Total	0	107	470	347	0	496	677	52	0	151	317	247	0	58	552	123	3,597		0	0	0	0
Peak Hour	0	52	244	184	0	250	367	31	0	70	155	133	0	24	269	68	1,847		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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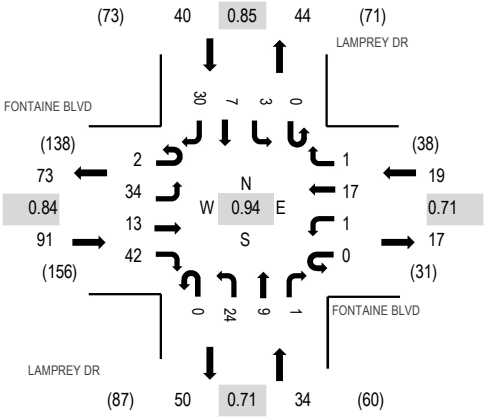
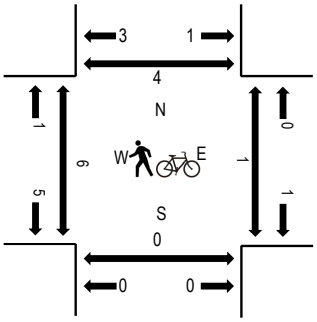
Location: 6 LAMPREY DR & FONTAINE BLVD PM
Date: Tuesday, June 15, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	FONTAINE BLVD Eastbound				FONTAINE BLVD Westbound				LAMPREY DR Northbound				LAMPREY DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	2	2	6	0	0	6	0	0	8	2	0	0	0	0	9	35	148	0	0	0	0
4:15 PM	0	3	1	5	0	2	4	0	0	3	4	0	0	2	0	4	28	158	0	0	0	0
4:30 PM	0	5	4	9	0	0	2	1	0	5	0	0	0	0	1	9	36	179	2	0	0	0
4:45 PM	1	11	5	10	0	0	3	0	0	9	3	0	0	3	0	4	49	184	1	0	0	0
5:00 PM	1	11	1	10	0	1	2	0	0	6	1	1	0	0	3	8	45	179	3	1	0	3
5:15 PM	0	9	5	15	0	0	6	1	0	2	1	0	0	0	3	7	49		0	0	0	0
5:30 PM	0	3	2	7	0	0	6	0	0	7	4	0	0	0	1	11	41		1	0	0	1
5:45 PM	1	10	5	12	0	1	3	0	0	4	0	0	0	0	1	7	44		0	0	0	1
Count Total	3	54	25	74	0	4	32	2	0	44	15	1	0	5	9	59	327		7	1	0	5
Peak Hour	2	34	13	42	0	1	17	1	0	24	9	1	0	3	7	30	184		5	1	0	4

Appendix B – Existing Conditions Analyses

Existing AM Intersection Level Of Service Summary

Existing PM Intersection Level Of Service Summary

Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Drennan Rd

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd			Drennan Rd			Drennan Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	970.00	100.00	995.00	665.00	100.00	700.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1445.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Marksheffel Rd			Marksheffel Rd			Drennan Rd			Drennan Rd		
Base Volume Input [veh/h]	34	664	18	29	337	14	2	0	3	39	1	115
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	8	0	0	2	0	0	60
Total Hourly Volume [veh/h]	35	691	9	30	350	7	2	0	1	41	1	60
Peak Hour Factor	0.9000	0.9000	0.9000	0.8900	0.8900	0.8900	0.5500	0.5500	0.5500	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250
Total 15-Minute Volume [veh/h]	10	197	3	9	101	2	1	0	0	13	0	19
Total Analysis Volume [veh/h]	40	787	10	35	403	8	4	0	2	51	1	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	31	0	0	31	0	0	21	0	0	21	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	35	0	0	35	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	31	31	31	31	21	21	21
g / C, Green / Cycle	0.52	0.52	0.52	0.52	0.52	0.52	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.04	0.22	0.01	0.05	0.11	0.01	0.00	0.00	0.08
s, saturation flow rate [veh/h]	975	3560	1589	681	3560	1589	1351	1589	1541
c, Capacity [veh/h]	531	1840	821	356	1840	821	593	556	623
d1, Uniform Delay [s]	10.46	9.00	7.05	13.52	7.90	7.04	12.71	12.69	13.70
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	0.73	0.03	0.55	0.27	0.02	0.02	0.01	0.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.43	0.01	0.10	0.22	0.01	0.01	0.00	0.20
d, Delay for Lane Group [s/veh]	10.74	9.73	7.08	14.07	8.18	7.07	12.73	12.70	14.44
Lane Group LOS	B	A	A	B	A	A	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.28	2.22	0.05	0.31	0.99	0.04	0.03	0.02	1.13
50th-Percentile Queue Length [ft/ln]	6.88	55.62	1.17	7.70	24.67	0.93	0.81	0.41	28.14
95th-Percentile Queue Length [veh/ln]	0.50	4.00	0.08	0.55	1.78	0.07	0.06	0.03	2.03
95th-Percentile Queue Length [ft/ln]	12.38	100.11	2.10	13.87	44.41	1.68	1.46	0.74	50.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.74	9.73	7.08	14.07	8.18	7.07	12.73	12.73	12.70	14.44	14.44	14.44
Movement LOS	B	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	9.74			8.62			12.72			14.44		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	9.82											
Intersection LOS	A											
Intersection V/C	0.303											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1033	1033	700	700
d_b, Bicycle Delay [s]	7.01	7.01	12.68	12.68
l_b,int, Bicycle LOS Score for Intersection	2.258	1.934	1.573	1.868
Bicycle LOS	B	A	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Meridian Rd/Drennan Rd

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Meridian Rd		Meridian Rd		Drennan Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		35.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Meridian Rd		Meridian Rd		Drennan Rd	
Base Volume Input [veh/h]	1	2	2	3	2	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	2	2	3	2	4
Peak Hour Factor	0.5000	0.5000	0.6300	0.6300	0.5000	0.5000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	2
Total Analysis Volume [veh/h]	2	4	3	5	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.62	8.38
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.87	0.87
d_A, Approach Delay [s/veh]	2.41		0.00		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.46					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Bradley Rd/Meridian Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Meridian Rd		Bradley Rd		Bradley Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	730.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	615.00	0.00	0.00
Speed [mph]	45.00		65.00		65.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Meridian Rd		Bradley Rd		Bradley Rd	
Base Volume Input [veh/h]	3	3	1	291	115	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	3	1	303	120	5
Peak Hour Factor	0.7500	0.7500	0.7900	0.7900	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	96	32	1
Total Analysis Volume [veh/h]	4	4	1	384	129	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.00	8.98	7.48	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.91	0.91	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	10.49		0.02		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Marksheffel Rd/Bradley Rd

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.329

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd			Bradley Rd			Bradley Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	915.00	100.00	910.00	970.00	100.00	1015.00	1230.00	100.00	1230.00	985.00	100.00	310.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	2	0	0	1
Exit Pocket Length [ft]	0.00	0.00	1000.00	0.00	0.00	965.00	0.00	0.00	257.11	0.00	0.00	550.00
Speed [mph]	30.00			55.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Marksheffel Rd			Marksheffel Rd			Bradley Rd			Bradley Rd		
Base Volume Input [veh/h]	90	453	68	7	147	216	223	240	43	46	244	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	36	0	0	113	0	0	23	0	0	19
Total Hourly Volume [veh/h]	94	471	35	7	153	112	232	250	22	48	254	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250
Total 15-Minute Volume [veh/h]	26	131	10	2	43	31	65	70	6	13	71	5
Total Analysis Volume [veh/h]	105	525	39	8	170	125	258	279	25	53	283	20
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	33	0	9	33	0	9	39	0	9	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	30	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	56	51	51	56	47	47	26	18	18	26	17	17
g / C, Green / Cycle	0.62	0.57	0.57	0.62	0.53	0.53	0.29	0.20	0.20	0.29	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.09	0.15	0.02	0.01	0.05	0.08	0.20	0.08	0.02	0.04	0.08	0.01
s, saturation flow rate [veh/h]	1167	3560	1589	895	3560	1589	1266	3560	1589	1229	3560	1589
c, Capacity [veh/h]	816	2020	902	609	1873	836	414	726	324	406	673	301
d1, Uniform Delay [s]	6.87	9.88	8.63	6.74	10.62	10.98	29.25	30.95	28.98	23.63	32.14	29.97
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.31	0.09	0.04	0.10	0.38	2.35	0.33	0.10	0.14	0.42	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.26	0.04	0.01	0.09	0.15	0.62	0.38	0.08	0.13	0.42	0.07
d, Delay for Lane Group [s/veh]	6.94	10.19	8.72	6.78	10.72	11.36	31.61	31.28	29.08	23.78	32.56	30.06
Lane Group LOS	A	B	A	A	B	B	C	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.75	2.52	0.34	0.05	0.72	1.15	4.56	2.51	0.42	0.79	2.61	0.35
50th-Percentile Queue Length [ft/ln]	18.65	63.06	8.47	1.25	18.05	28.68	114.09	62.75	10.61	19.84	65.27	8.66
95th-Percentile Queue Length [veh/ln]	1.34	4.54	0.61	0.09	1.30	2.06	8.07	4.52	0.76	1.43	4.70	0.62
95th-Percentile Queue Length [ft/ln]	33.58	113.51	15.24	2.25	32.48	51.62	201.67	112.96	19.11	35.71	117.49	15.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.94	10.19	8.72	6.78	10.72	11.36	31.61	31.28	29.08	23.78	32.56	30.06
Movement LOS	A	B	A	A	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.60			10.88			31.33			31.11		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	20.32											
Intersection LOS	C											
Intersection V/C	0.329											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	778	778
d_b, Bicycle Delay [s]	20.67	20.67	16.81	16.81
l_b,int, Bicycle LOS Score for Intersection	2.141	1.903	2.042	1.869
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Marksheffel Rd/Fontaine Bl

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd			Fontaine Bl			Fontaine Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	740.00	100.00	740.00	665.00	100.00	330.00	330.00	100.00	50.00	545.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	55.00			55.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Marksheffel Rd			Marksheffel Rd			Fontaine Bl			Fontaine Bl		
Base Volume Input [veh/h]	123	235	245	23	100	14	38	332	76	74	165	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	128	0	0	8	0	0	40	0	0	4
Total Hourly Volume [veh/h]	128	244	127	24	104	7	40	345	39	77	172	4
Peak Hour Factor	0.8900	0.8900	0.8900	0.9400	0.9400	0.9400	0.9200	0.9200	0.9200	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250
Total 15-Minute Volume [veh/h]	37	70	37	7	28	2	11	96	11	23	52	1
Total Analysis Volume [veh/h]	147	281	146	26	113	8	45	384	43	93	207	5
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	36	0	0	36	0	0	24	0	0	24	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	23	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	37	37	37	37	37	37	15	15	15	15	15	15
g / C, Green / Cycle	0.61	0.61	0.61	0.61	0.61	0.61	0.26	0.26	0.26	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.12	0.15	0.09	0.03	0.06	0.01	0.04	0.11	0.03	0.10	0.06	0.00
s, saturation flow rate [veh/h]	1270	1870	1589	960	1870	1589	1169	3560	1589	960	3560	1589
c, Capacity [veh/h]	825	1139	968	611	1139	968	324	918	410	245	918	410
d1, Uniform Delay [s]	6.72	5.40	5.05	7.35	4.88	4.61	21.26	18.53	16.99	25.13	17.55	16.58
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.52	0.33	0.13	0.17	0.02	0.19	0.30	0.11	0.97	0.12	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.25	0.15	0.04	0.10	0.01	0.14	0.42	0.10	0.38	0.23	0.01
d, Delay for Lane Group [s/veh]	7.19	5.92	5.38	7.48	5.06	4.63	21.45	18.83	17.10	26.10	17.67	16.59
Lane Group LOS	A	A	A	A	A	A	C	B	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.67	0.99	0.49	0.13	0.36	0.02	0.52	2.03	0.42	1.19	0.98	0.05
50th-Percentile Queue Length [ft/ln]	16.85	24.78	12.28	3.31	8.90	0.61	12.89	50.77	10.54	29.77	24.57	1.14
95th-Percentile Queue Length [veh/ln]	1.21	1.78	0.88	0.24	0.64	0.04	0.93	3.66	0.76	2.14	1.77	0.08
95th-Percentile Queue Length [ft/ln]	30.33	44.61	22.10	5.96	16.02	1.09	23.19	91.38	18.98	53.59	44.23	2.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.19	5.92	5.38	7.48	5.06	4.63	21.45	18.83	17.10	26.10	17.67	16.59
Movement LOS	A	A	A	A	A	A	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	6.11			5.46			18.93			20.23		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	12.96											
Intersection LOS	B											
Intersection V/C	0.258											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1067	667	667
d_b, Bicycle Delay [s]	6.53	6.53	13.34	13.34
l_b,int, Bicycle LOS Score for Intersection	2.718	1.815	1.982	1.815
Bicycle LOS	B	A	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: Fontaine Bl/Lamprey Dr

Control Type:	Roundabout	Delay (sec / veh):	3.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lamprey Dr			Lamprey Dr			Fontaine Bl			Fontaine Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lamprey Dr			Lamprey Dr			Fontaine Bl			Fontaine Bl		
Base Volume Input [veh/h]	32	4	2	0	0	24	25	32	14	2	12	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	4	2	0	0	25	26	33	15	2	12	1
Peak Hour Factor	0.7300	0.7300	0.7300	0.7000	0.7000	0.7000	0.7100	0.7100	0.7100	0.6700	0.6700	0.6700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	1	1	0	0	9	9	12	5	1	4	0
Total Analysis Volume [veh/h]	45	5	3	0	0	36	37	46	21	3	18	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	85			67			3			89		
Exiting Flow Rate [veh/h]	24			44			101			50		
Demand Flow Rate [veh/h]	33	4	2	0	0	25	26	33	15	2	12	1
Adjusted Demand Flow Rate [veh/h]	45	5	3	0	0	36	37	46	21	3	18	1

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	55	37	107	23
Capacity of Entry and Bypass Lanes [veh/h]	1266	1289	1376	1261
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1242	1264	1349	1236
X, volume / capacity	0.04	0.03	0.08	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.09	0.25	0.05
95th-Percentile Queue Length [ft]	3.34	2.20	6.26	1.36
Approach Delay [s/veh]	3.24	3.08	3.28	3.05
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	3.21			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 14: Powers Bl/Bradley Rd

Control Type:	Signalized	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name					Bradley Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name					Bradley Rd	
Base Volume Input [veh/h]	427	349	321	244	346	466
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	349	0	0	0	466
Total Hourly Volume [veh/h]	427	0	321	244	346	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	0	87	66	94	0
Total Analysis Volume [veh/h]	464	0	349	265	376	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Unsignalized	Permissive	Permissive	Permissive	Unsignalized
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	5	0
Maximum Green [s]	30	0	0	30	22	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	26	0	0	26	34	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	17	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	L	C	L
C, Cycle Length [s]	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	43	43	9
g / C, Green / Cycle	0.71	0.71	0.71	0.15
(v / s)_i Volume / Saturation Flow Rate	0.13	0.38	0.07	0.11
s, saturation flow rate [veh/h]	3560	928	3560	3459
c, Capacity [veh/h]	2533	697	2533	537
d1, Uniform Delay [s]	2.87	6.87	2.70	24.02
k, delay calibration	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.16	2.56	0.08	1.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.50	0.10	0.70
d, Delay for Lane Group [s/veh]	3.03	9.43	2.78	25.69
Lane Group LOS	A	A	A	C
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.57	2.40	0.30	2.49
50th-Percentile Queue Length [ft/ln]	14.15	59.97	7.57	62.23
95th-Percentile Queue Length [veh/ln]	1.02	4.32	0.55	4.48
95th-Percentile Queue Length [ft/ln]	25.47	107.94	13.63	112.01

Movement, Approach, & Intersection Results

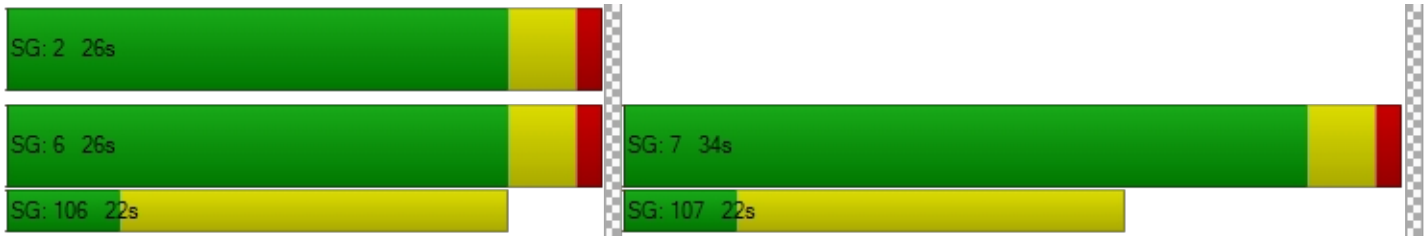
d_M, Delay for Movement [s/veh]	3.03	0.00	9.43	2.78	25.69	0.00
Movement LOS	A		A	A	C	
d_A, Approach Delay [s/veh]	3.03		6.56		25.69	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	10.38					
Intersection LOS	B					
Intersection V/C	0.485					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersectio	2.496	2.491	2.918
Crosswalk LOS	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	733	1000
d_b, Bicycle Delay [s]	12.03	12.03	7.50
l_b,int, Bicycle LOS Score for Intersection	1.942	2.066	1.560
Bicycle LOS	A	B	A

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Drennan Rd

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.335

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd			Drennan Rd			Drennan Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	970.00	100.00	995.00	665.00	100.00	700.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1445.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Marksheffel Rd			Marksheffel Rd			Drennan Rd			Drennan Rd		
Base Volume Input [veh/h]	8	589	62	139	661	3	12	1	20	36	0	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	2	0	0	11	0	0	42
Total Hourly Volume [veh/h]	8	613	32	145	687	1	12	1	10	37	0	41
Peak Hour Factor	0.9400	0.9400	0.9400	0.8500	0.8500	0.8500	0.7700	0.7700	0.7700	0.8100	0.8100	0.8100
Other Adjustment Factor	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250
Total 15-Minute Volume [veh/h]	2	167	9	44	207	0	4	0	3	12	0	13
Total Analysis Volume [veh/h]	9	668	35	175	828	1	16	1	13	47	0	52
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	34	0	0	34	0	0	18	0	0	18	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	38	0	0	38	0	0	22	0	0	22	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	34	34	34	34	18	18	18
g / C, Green / Cycle	0.57	0.57	0.57	0.57	0.57	0.57	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.02	0.26	0.26	0.00	0.01	0.01	0.07
s, saturation flow rate [veh/h]	595	3204	1431	670	3204	1431	1269	1431	1345
c, Capacity [veh/h]	348	1816	811	401	1816	811	497	429	492
d1, Uniform Delay [s]	11.62	7.12	5.77	13.70	7.60	5.64	14.87	14.83	15.77
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	0.58	0.10	3.44	0.83	0.00	0.13	0.13	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.37	0.04	0.44	0.46	0.00	0.03	0.03	0.20
d, Delay for Lane Group [s/veh]	11.76	7.69	5.87	17.14	8.42	5.64	15.00	14.97	16.69
Lane Group LOS	B	A	A	B	A	A	B	B	B
Critical Lane Group	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.07	1.50	0.14	1.72	2.00	0.00	0.16	0.12	0.98
50th-Percentile Queue Length [ft/ln]	1.77	37.40	3.44	43.08	49.90	0.10	3.93	3.05	24.57
95th-Percentile Queue Length [veh/ln]	0.13	2.69	0.25	3.10	3.59	0.01	0.28	0.22	1.77
95th-Percentile Queue Length [ft/ln]	3.18	67.32	6.18	77.55	89.82	0.17	7.07	5.49	44.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.76	7.69	5.87	17.14	8.42	5.64	15.00	15.00	14.97	16.69	16.69	16.69
Movement LOS	B	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	7.65			9.94			14.98			16.69		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	9.50											
Intersection LOS	A											
Intersection V/C	0.335											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1133	1133	600	600
d_b, Bicycle Delay [s]	5.63	5.63	14.70	14.70
l_b,int, Bicycle LOS Score for Intersection	2.173	2.390	1.627	1.792
Bicycle LOS	B	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Meridian Rd/Drennan Rd

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Meridian Rd		Meridian Rd		Drennan Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		35.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Meridian Rd		Meridian Rd		Drennan Rd	
Base Volume Input [veh/h]	3	2	3	2	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	3	2	6	2
Peak Hour Factor	0.7500	0.7500	0.6300	0.6300	0.5600	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	3	1
Total Analysis Volume [veh/h]	4	3	5	3	11	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.66	8.40
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.00	0.00	1.12	1.12
d_A, Approach Delay [s/veh]	4.14		0.00		8.59	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.26					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Bradley Rd/Meridian Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Meridian Rd		Bradley Rd		Bradley Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	730.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	615.00	0.00	0.00
Speed [mph]	45.00		65.00		65.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Meridian Rd		Bradley Rd		Bradley Rd	
Base Volume Input [veh/h]	2	2	4	140	244	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	4	146	254	5
Peak Hour Factor	0.5000	0.5000	0.8800	0.8800	0.7300	0.7300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	41	87	2
Total Analysis Volume [veh/h]	4	4	5	166	348	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.13	10.26	8.00	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.03	1.03	0.21	0.21	0.00	0.00
d_A, Approach Delay [s/veh]	11.19		0.23		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Marksheffel Rd/Bradley Rd

Control Type:	Signalized	Delay (sec / veh):	21.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd			Bradley Rd			Bradley Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	915.00	100.00	910.00	970.00	100.00	1015.00	1230.00	100.00	1230.00	985.00	100.00	310.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	2	0	0	1
Exit Pocket Length [ft]	0.00	0.00	1000.00	0.00	0.00	965.00	0.00	0.00	257.11	0.00	0.00	550.00
Speed [mph]	30.00			55.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Marksheffel Rd			Marksheffel Rd			Bradley Rd			Bradley Rd		
Base Volume Input [veh/h]	62	296	46	16	511	204	337	291	87	75	246	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	106	0	0	45	0	0	11
Total Hourly Volume [veh/h]	64	308	24	17	531	106	350	303	45	78	256	11
Peak Hour Factor	0.9400	0.9400	0.9400	0.9700	0.9700	0.9700	0.9200	0.9200	0.9200	0.8900	1.0000	0.8900
Other Adjustment Factor	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250
Total 15-Minute Volume [veh/h]	17	84	7	4	140	28	97	84	13	22	66	3
Total Analysis Volume [veh/h]	70	336	26	18	561	112	390	338	50	90	262	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	33	0	9	33	0	12	39	0	9	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	30	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	49	43	43	49	40	40	33	25	25	33	21	21
g / C, Green / Cycle	0.54	0.48	0.48	0.54	0.45	0.45	0.37	0.28	0.28	0.37	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.09	0.02	0.02	0.16	0.07	0.30	0.09	0.03	0.08	0.07	0.01
s, saturation flow rate [veh/h]	894	3560	1589	1080	3560	1589	1306	3560	1589	1150	3560	1589
c, Capacity [veh/h]	531	1688	753	656	1596	713	527	986	440	460	851	380
d1, Uniform Delay [s]	10.38	13.75	12.66	9.76	16.26	14.74	26.00	25.99	24.29	19.06	28.14	26.29
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.37	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	0.26	0.09	0.08	0.61	0.47	6.88	0.21	0.11	0.21	0.20	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.20	0.03	0.03	0.35	0.16	0.74	0.34	0.11	0.20	0.31	0.03
d, Delay for Lane Group [s/veh]	10.49	14.02	12.75	9.84	16.87	15.21	32.87	26.20	24.40	19.27	28.34	26.32
Lane Group LOS	B	B	B	A	B	B	C	C	C	B	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.64	1.96	0.29	0.15	3.38	1.27	7.07	2.74	0.76	1.18	2.21	0.21
50th-Percentile Queue Length [ft/ln]	16.12	49.05	7.21	3.76	84.53	31.70	176.87	68.49	19.09	29.45	55.35	5.17
95th-Percentile Queue Length [veh/ln]	1.16	3.53	0.52	0.27	6.09	2.28	11.44	4.93	1.37	2.12	3.98	0.37
95th-Percentile Queue Length [ft/ln]	29.02	88.29	12.99	6.76	152.16	57.05	285.92	123.28	34.36	53.01	99.62	9.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.49	14.02	12.75	9.84	16.87	15.21	32.87	26.20	24.40	19.27	28.34	26.32
Movement LOS	B	B	B	A	B	B	C	C	C	B	C	C
d_A, Approach Delay [s/veh]	13.37			16.42			29.43			26.03		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	21.85											
Intersection LOS	C											
Intersection V/C	0.385											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	778	711
d_b, Bicycle Delay [s]	20.68	20.68	16.81	18.69
l_b,int, Bicycle LOS Score for Intersection	1.936	2.217	2.239	1.870
Bicycle LOS	A	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Marksheffel Rd/Fontaine Bl

Control Type:	Signalized	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd			Fontaine Bl			Fontaine Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	740.00	100.00	740.00	665.00	100.00	330.00	330.00	100.00	50.00	545.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	55.00			55.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Marksheffel Rd			Marksheffel Rd			Fontaine Bl			Fontaine Bl		
Base Volume Input [veh/h]	70	155	133	24	269	68	52	244	184	250	367	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	69	0	0	36	0	0	96	0	0	16
Total Hourly Volume [veh/h]	73	161	69	25	280	35	54	254	95	260	382	16
Peak Hour Factor	1.0000	0.9200	0.9200	0.9100	0.9100	1.0000	1.0000	1.0000	1.0000	0.8900	1.0000	0.8900
Other Adjustment Factor	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250
Total 15-Minute Volume [veh/h]	19	45	19	7	79	9	14	65	24	75	98	5
Total Analysis Volume [veh/h]	75	179	77	28	315	36	55	260	97	299	392	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	33	0	0	33	0	0	27	0	0	27	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	23	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	29	29	23	23	23	23	23	23
g / C, Green / Cycle	0.48	0.48	0.48	0.48	0.48	0.48	0.38	0.38	0.38	0.38	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.05	0.02	0.17	0.02	0.06	0.07	0.06	0.29	0.11	0.01
s, saturation flow rate [veh/h]	1030	1870	1589	1123	1870	1589	976	3560	1589	1024	3560	1589
c, Capacity [veh/h]	474	902	767	563	902	767	391	1368	611	433	1368	611
d1, Uniform Delay [s]	13.97	8.90	8.46	11.31	9.68	8.23	16.59	12.29	12.13	20.44	12.80	11.52
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	0.49	0.26	0.17	1.07	0.12	0.16	0.07	0.12	2.65	0.11	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.20	0.10	0.05	0.35	0.05	0.14	0.19	0.16	0.69	0.29	0.03
d, Delay for Lane Group [s/veh]	14.69	9.39	8.72	11.48	10.74	8.35	16.75	12.36	12.25	23.09	12.92	11.54
Lane Group LOS	B	A	A	B	B	A	B	B	B	C	B	B
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.65	1.04	0.43	0.20	2.01	0.19	0.54	1.02	0.76	3.71	1.50	0.13
50th-Percentile Queue Length [ft/ln]	16.36	25.88	10.71	5.02	50.29	4.86	13.47	25.45	19.02	92.65	37.52	3.14
95th-Percentile Queue Length [veh/ln]	1.18	1.86	0.77	0.36	3.62	0.35	0.97	1.83	1.37	6.67	2.70	0.23
95th-Percentile Queue Length [ft/ln]	29.44	46.58	19.28	9.03	90.53	8.74	24.24	45.81	34.24	166.78	67.53	5.65

Movement, Approach, & Intersection Results

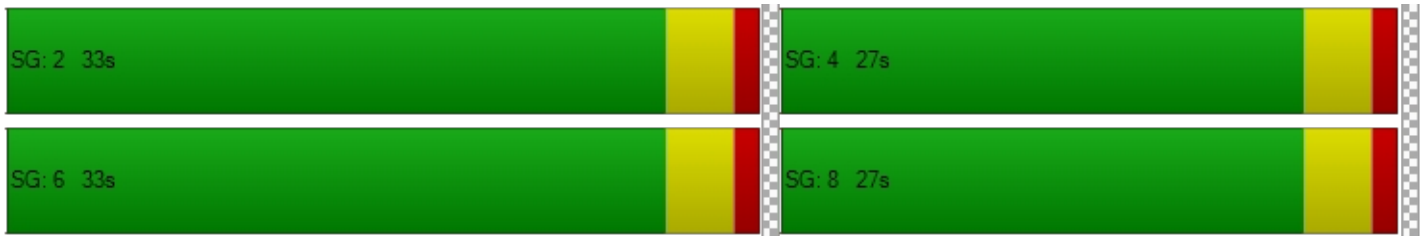
d_M, Delay for Movement [s/veh]	14.69	9.39	8.72	11.48	10.74	8.35	16.75	12.36	12.25	23.09	12.92	11.54
Movement LOS	B	A	A	B	B	A	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	10.44			10.57			12.92			17.17		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	13.63											
Intersection LOS	B											
Intersection V/C	0.460											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	966	966	766	766
d_b, Bicycle Delay [s]	8.03	8.03	11.43	11.43
l_b,int, Bicycle LOS Score for Intersection	2.220	2.244	1.979	2.158
Bicycle LOS	B	B	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 12: Fontaine Bl/Lamprey Dr

Control Type:	Roundabout	Delay (sec / veh):	3.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lamprey Dr			Lamprey Dr			Fontaine Bl			Fontaine Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lamprey Dr			Lamprey Dr			Fontaine Bl			Fontaine Bl		
Base Volume Input [veh/h]	24	9	1	3	7	30	36	13	42	1	17	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	9	1	3	7	31	37	14	44	1	18	1
Peak Hour Factor	0.7100	0.7100	0.7100	0.8500	0.8500	0.8500	0.8400	0.8400	0.8400	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	3	0	1	2	9	11	4	13	0	6	0
Total Analysis Volume [veh/h]	35	13	1	4	8	36	44	17	52	1	25	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	66			62			13			94		
Exiting Flow Rate [veh/h]	62			59			98			22		
Demand Flow Rate [veh/h]	25	9	1	3	7	31	37	14	44	1	18	1
Adjusted Demand Flow Rate [veh/h]	35	13	1	4	8	36	44	17	52	1	25	1

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	50	49	116	28
Capacity of Entry and Bypass Lanes [veh/h]	1290	1296	1362	1255
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1265	1270	1335	1230
X, volume / capacity	0.04	0.04	0.08	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.12	0.12	0.28	0.07
95th-Percentile Queue Length [ft]	3.02	2.94	6.92	1.68
Approach Delay [s/veh]	3.16	3.14	3.37	3.10
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	3.25			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 14: Powers Bl/Bradley Rd

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.389

Intersection Setup

Name					Bradley Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name					Bradley Rd	
Base Volume Input [veh/h]	310	469	326	470	292	393
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	469	0	0	0	393
Total Hourly Volume [veh/h]	310	0	326	470	292	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	0	82	118	73	0
Total Analysis Volume [veh/h]	310	0	326	470	292	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Unsignalized	Permissive	Permissive	Permissive	Unsignalized
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	5	0
Maximum Green [s]	26	0	0	26	26	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	26	0	0	26	34	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	17	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	L	C	L
C, Cycle Length [s]	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	44	44	44	8
g / C, Green / Cycle	0.74	0.74	0.74	0.13
(v / s)_i Volume / Saturation Flow Rate	0.09	0.30	0.13	0.08
s, saturation flow rate [veh/h]	3560	1069	3560	3459
c, Capacity [veh/h]	2627	829	2627	446
d1, Uniform Delay [s]	2.26	4.89	2.38	24.86
k, delay calibration	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	1.40	0.15	1.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.39	0.18	0.65
d, Delay for Lane Group [s/veh]	2.35	6.29	2.53	26.50
Lane Group LOS	A	A	A	C
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.28	1.59	0.45	1.96
50th-Percentile Queue Length [ft/ln]	7.04	39.72	11.26	49.01
95th-Percentile Queue Length [veh/ln]	0.51	2.86	0.81	3.53
95th-Percentile Queue Length [ft/ln]	12.68	71.50	20.27	88.22

Movement, Approach, & Intersection Results

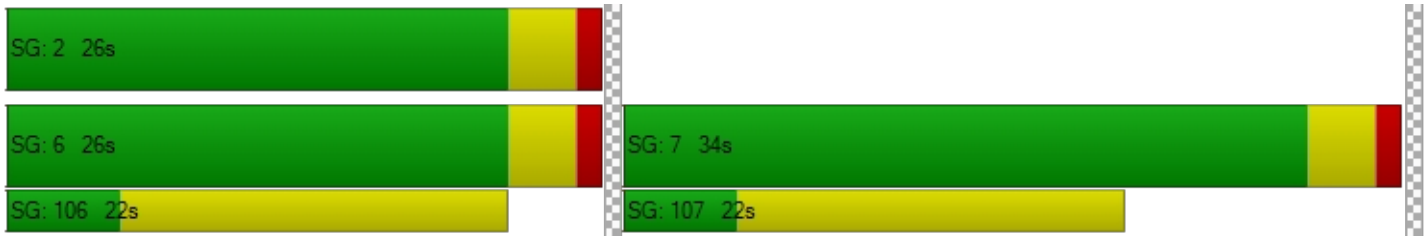
d_M, Delay for Movement [s/veh]	2.35	0.00	6.29	2.53	26.50	0.00
Movement LOS	A		A	A	C	
d_A, Approach Delay [s/veh]	2.35		4.07		26.50	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.37					
Intersection LOS	A					
Intersection V/C	0.389					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersectio	2.490	2.496	2.865
Crosswalk LOS	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	733	1000
d_b, Bicycle Delay [s]	12.03	12.03	7.50
l_b,int, Bicycle LOS Score for Intersection	1.815	2.216	1.560
Bicycle LOS	A	B	A

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix C – Trip Generation Calculations

Rolling Meadows Trip Generation Summary

Bull Hill Trip Generation Summary

PROJECT DETAILS

Project Name:	Rolling Meadows 012024	Type of Project:	
Project No:		City:	
Country:		Built-up Area(Sq.ft):	
Analyst Name:	Scott Barnhart	Clients Name:	
Date:	6/25/2023	ZIP/Postal Code:	
State/Province:		No. of Scenarios:	3
Analysis Region:			

SCENARIO SUMMARY

Scenarios	Name	No. of Land Uses	Phases of Development	No. of Years to Project Traffic	User Group	Estimated New Vehicle Trips		
						Entry	Exit	Total
Scenario - 1	Weekday	4	1	0		11056	11056	22112
Scenario - 2	AM Peak	4	1	0		930	1472	2402
Scenario - 3	PM Peak	4	1	0		1257	801	2058

Scenario - 1

Scenario Name: Weekday
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method Rate/Equation	Entry Split%	Exit Split%	Total
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	1830	Weekday	Best Fit (LOG)	7317	7317	14634
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.92Ln(X) + 2.68	50%	50%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	600	Weekday	Best Fit (LIN)	1961	1961	3922
Data Source: Trip Generation Manual, 11th Ed					T = 6.41(X) + 75.31	50%	50%	
520 - Elementary School	General Urban/Suburban	Students	515	Weekday	Average	585	585	1170
Data Source: Trip Generation Manual, 11th Ed					2.27	50%	50%	
522 - Middle School/Junior High School	General Urban/Suburban	Students	1140	Weekday	Best Fit (LOG)	1193	1193	2386
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.97Ln(X) + 0.95	50%	50%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	50	50
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	50	50
520 - Elementary School	100	100	1	1	50	50
522 - Middle School/Junior High School	100	100	1	1	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	7317	7317	0	0	7317	7317
	14634		0		14634	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1961	1961	0	0	1961	1961
	3922		0		3922	
520 - Elementary School	585	585	0	0	585	585
	1170		0		1170	
522 - Middle School/Junior High School	1193	1193	0	0	1193	1193
	2386		0		2386	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100%	100%	0%	0%	0%	0%
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%
520 - Elementary School	100%	100%	0%	0%	0%	0%
522 - Middle School/Junior High School	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Use	Vehicle	
	Entry	Exit
210 - Single-Family Detached Housing	1.00	1.00
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1.00	1.00
520 - Elementary School	1.00	1.00
522 - Middle School/Junior High School	1.00	1.00

ADJUSTED VEHICLE TRIPS:

Land Use	Entry				Exit			
	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
210 - Single-Family Detached Housing	7317	100%	1.00	7317	7317	100%	1.00	7317
220 - Multifamily Housing (Low-Rise) - Not Close	1961	100%	1.00	1961	1961	100%	1.00	1961
520 - Elementary School	585	100%	1.00	585	585	100%	1.00	585
522 - Middle School/Junior High School	1193	100%	1.00	1193	1193	100%	1.00	1193

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

Land Use	Land Use Group
210 - Single-Family Detached Housing	Residential
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Residential
520 - Elementary School	Others
522 - Middle School/Junior High School	Others

BALANCED PERSON TRIPS:

210 - Single-Family Detached Housing — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
7317	0	0	0	**0**	0	0	0	1961
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
7317	0	0	0	**0**	0	0	0	1961

210 - Single-Family Detached Housing — 520 - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
7317	0	0	0	**0**	0	0	0	585
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
7317	0	0	0	**0**	0	0	0	585

210 - Single-Family Detached Housing — 522 - Middle School/Junior High School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
7317	0	0	0	**0**	0	0	0	1193
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
7317	0	0	0	**0**	0	0	0	1193

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit — 520 - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
1961	0	0	0	**0**	0	0	0	585
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
1961	0	0	0	**0**	0	0	0	585

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit — 522 - Middle School/Junior High School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
1961	0	0	0	**0**	0	0	0	1193
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
1961	0	0	0	**0**	0	0	0	1193

520 - Elementary School — 522 - Middle School/Junior High School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
585	0	0	0	**0**	0	0	0	1193
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
585	0	0	0	**0**	0	0	0	1193

INTERNAL PERSON TRIPS:

210 - Single-Family Detached Housing

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520 - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

522 - Middle School/Junior High School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

INTERNAL VEHICLE TRIPS AND CAPTURE:

210 - Single-Family Detached Housing

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	7317	7317	14634
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-

Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	1961	1961	3922
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520 - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	585	585	1170
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

522 - Middle School/Junior High School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	1193	1193	2386
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

PASS-BY VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Pass-by Vehicle Trip %		Pass-by Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	7317	7317	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1961	1961	0.00%	0.00%	0	0
520 - Elementary School	585	585	0.00%	0.00%	0	0
522 - Middle School/Junior High School	1193	1193	0.00%	0.00%	0	0

DIVERTED VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Diverted Vehicle Trip %		Diverted Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	7317	7317	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1961	1961	0.00%	0.00%	0	0
520 - Elementary School	585	585	0.00%	0.00%	0	0
522 - Middle School/Junior High School	1193	1193	0.00%	0.00%	0	0

EXTRA VEHICLE TRIP REDUCTION

Land Use	(External - (Pass-by + Diverted)) Vehicle Trips		Extra Vehicle Trip Reduction %		Extra Reduced Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	7317	7317	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1961	1961	0.00%	0.00%	0	0
520 - Elementary School	585	585	0.00%	0.00%	0	0
522 - Middle School/Junior High School	1193	1193	0.00%	0.00%	0	0

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	7317	7317	14634
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1961	1961	3922
520 - Elementary School	585	585	1170
522 - Middle School/Junior High School	1193	1193	2386

Land Use	New Vehicle Trips (PPV)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	7317	7317	14634
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1961	1961	3922
520 - Elementary School	585	585	1170
522 - Middle School/Junior High School	1193	1193	2386

Land Use	New Vehicle Trips (Truck)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	0	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	0	0	0
520 - Elementary School	0	0	0
522 - Middle School/Junior High School	0	0	0

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	11056	11056	22112
Vehicle Trips After Multi-modal Adjustment	11056	11056	22112
Internal Vehicle Trips	0	0	0
External Vehicle Trips	11056	11056	22112
Internal Vehicle Trip Capture	0%	0%	0%
Pass-by Vehicle Trips	0	0	0
Diverted Vehicle Trips	0	0	0
Extra Reduced Vehicle Trips	0	0	0
New Vehicle Trips	11056	11056	22112
PPV	11056	11056	22112
Truck	0	0	0
Person Trips by Other Modes	0	0	0

Scenario - 2

Scenario Name: AM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	1830	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	262	787	1049
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.91Ln(X) + 0.12	25%	75%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	600	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	50	159	209
Data Source: Trip Generation Manual, 11th Ed					T = 0.31(X) + 22.85	24%	76%	
520 - Elementary School	General Urban/Suburban	Students	515	Weekday, Peak Hour of Adjacent Street Traffic,	Average	206	175	381
Data Source: Trip Generation Manual, 11th Ed					0.74	54%	46%	
522 - Middle School/Junior High School	General Urban/Suburban	Students	1140	Weekday, Peak Hour of Adjacent Street Traffic,	Average	412	351	763
Data Source: Trip Generation Manual, 11th Ed					0.67	54%	46%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	25	75
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	24	76
520 - Elementary School	100	100	1	1	54	46
522 - Middle School/Junior High School	100	100	1	1	54	46

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	262	787	0	0	262	787
	1049		0		1049	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	50	159	0	0	50	159
	209		0		209	
520 - Elementary School	206	175	0	0	206	175
	381		0		381	
522 - Middle School/Junior High School	412	351	0	0	412	351
	763		0		763	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100%	100%	0%	0%	0%	0%
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%
520 - Elementary School	100%	100%	0%	0%	0%	0%
522 - Middle School/Junior High School	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Use	Vehicle	
	Entry	Exit
210 - Single-Family Detached Housing	1.00	1.00
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1.00	1.00
520 - Elementary School	1.00	1.00
522 - Middle School/Junior High School	1.00	1.00

ADJUSTED VEHICLE TRIPS:

Land Use	Entry				Exit			
	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
210 - Single-Family Detached Housing	262	100%	1.00	262	787	100%	1.00	787
220 - Multifamily Housing (Low-Rise) - Not Close	50	100%	1.00	50	159	100%	1.00	159
520 - Elementary School	206	100%	1.00	206	175	100%	1.00	175
522 - Middle School/Junior High School	412	100%	1.00	412	351	100%	1.00	351

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

Land Use	Land Use Group
210 - Single-Family Detached Housing	Residential
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Residential
520 - Elementary School	Others
522 - Middle School/Junior High School	Others

BALANCED PERSON TRIPS:

210 - Single-Family Detached Housing

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
787	0	0	0	**0**	0	0	0	50
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
262	0	0	0	**0**	0	0	0	159

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

210 - Single-Family Detached Housing

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
787	0	0	0	**0**	0	0	0	206
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
262	0	0	0	**0**	0	0	0	175

520 - Elementary School

210 - Single-Family Detached Housing

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
787	0	0	0	**0**	0	0	0	412
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
262	0	0	0	**0**	0	0	0	351

522 - Middle School/Junior High School

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

520 - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
159	0	0	0	**0**	0	0	0	206
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
50	0	0	0	**0**	0	0	0	175

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit — 522 - Middle School/Junior High School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
159	0	0	0	**0**	0	0	0	412
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
50	0	0	0	**0**	0	0	0	351

520 - Elementary School — 522 - Middle School/Junior High School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
175	0	0	0	**0**	0	0	0	412
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
206	0	0	0	**0**	0	0	0	351

INTERNAL PERSON TRIPS:

210 - Single-Family Detached Housing

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520 - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

522 - Middle School/Junior High School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

INTERNAL VEHICLE TRIPS AND CAPTURE:

210 - Single-Family Detached Housing

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	262	787	1049
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-

Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	50	159	209
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520 - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	206	175	381
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

522 - Middle School/Junior High School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	412	351	763
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

PASS-BY VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Pass-by Vehicle Trip %		Pass-by Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	262	787	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	50	159	0.00%	0.00%	0	0
520 - Elementary School	206	175	0.00%	0.00%	0	0
522 - Middle School/Junior High School	412	351	0.00%	0.00%	0	0

DIVERTED VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Diverted Vehicle Trip %		Diverted Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	262	787	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	50	159	0.00%	0.00%	0	0
520 - Elementary School	206	175	0.00%	0.00%	0	0
522 - Middle School/Junior High School	412	351	0.00%	0.00%	0	0

EXTRA VEHICLE TRIP REDUCTION

Land Use	(External - (Pass-by + Diverted)) Vehicle Trips		Extra Vehicle Trip Reduction %		Extra Reduced Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	262	787	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	50	159	0.00%	0.00%	0	0
520 - Elementary School	206	175	0.00%	0.00%	0	0
522 - Middle School/Junior High School	412	351	0.00%	0.00%	0	0

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	262	787	1049
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	50	159	209
520 - Elementary School	206	175	381
522 - Middle School/Junior High School	412	351	763

Land Use	New Vehicle Trips (PPV)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	262	787	1049
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	50	159	209
520 - Elementary School	206	175	381
522 - Middle School/Junior High School	412	351	763

Land Use	New Vehicle Trips (Truck)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	0	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	0	0	0
520 - Elementary School	0	0	0
522 - Middle School/Junior High School	0	0	0

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	930	1472	2402
Vehicle Trips After Multi-modal Adjustment	930	1472	2402
Internal Vehicle Trips	0	0	0
External Vehicle Trips	930	1472	2402
Internal Vehicle Trip Capture	0%	0%	0%
Pass-by Vehicle Trips	0	0	0
Diverted Vehicle Trips	0	0	0
Extra Reduced Vehicle Trips	0	0	0
New Vehicle Trips	930	1472	2402
PPV	930	1472	2402
Truck	0	0	0
Person Trips by Other Modes	0	0	0

Scenario - 3

Scenario Name: PM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	1830	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	962	565	1527
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.94Ln(X) + 0.27	63%	37%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	600	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	175	103	278
Data Source: Trip Generation Manual, 11th Ed					T = 0.43(X) + 20.55	63%	37%	
520 - Elementary School	General Urban/Suburban	Students	515	Weekday, Peak Hour of Adjacent Street Traffic,	Average	38	44	82
Data Source: Trip Generation Manual, 11th Ed					0.16	46%	54%	
522 - Middle School/Junior High School	General Urban/Suburban	Students	1140	Weekday, Peak Hour of Adjacent Street Traffic,	Average	82	89	171
Data Source: Trip Generation Manual, 11th Ed					0.15	48%	52%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	63	37
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	63	37
520 - Elementary School	100	100	1	1	46	54
522 - Middle School/Junior High School	100	100	1	1	48	52

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	962	565	0	0	962	565
	1527		0		1527	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	175	103	0	0	175	103
	278		0		278	
520 - Elementary School	38	44	0	0	38	44
	82		0		82	
522 - Middle School/Junior High School	82	89	0	0	82	89
	171		0		171	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100%	100%	0%	0%	0%	0%
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%
520 - Elementary School	100%	100%	0%	0%	0%	0%
522 - Middle School/Junior High School	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Use	Vehicle	
	Entry	Exit
210 - Single-Family Detached Housing	1.00	1.00
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1.00	1.00
520 - Elementary School	1.00	1.00
522 - Middle School/Junior High School	1.00	1.00

ADJUSTED VEHICLE TRIPS:

Land Use	Entry				Exit			
	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
210 - Single-Family Detached Housing	962	100%	1.00	962	565	100%	1.00	565
220 - Multifamily Housing (Low-Rise) - Not Close	175	100%	1.00	175	103	100%	1.00	103
520 - Elementary School	38	100%	1.00	38	44	100%	1.00	44
522 - Middle School/Junior High School	82	100%	1.00	82	89	100%	1.00	89

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

Land Use	Land Use Group
210 - Single-Family Detached Housing	Residential
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Residential
520 - Elementary School	Others
522 - Middle School/Junior High School	Others

BALANCED PERSON TRIPS:

210 - Single-Family Detached Housing

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
565	0	0	0	**0**	0	0	0	175
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
962	0	0	0	**0**	0	0	0	103

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

210 - Single-Family Detached Housing

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
565	0	0	0	**0**	0	0	0	38
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
962	0	0	0	**0**	0	0	0	45

520 - Elementary School

210 - Single-Family Detached Housing

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
565	0	0	0	**0**	0	0	0	82
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
962	0	0	0	**0**	0	0	0	89

522 - Middle School/Junior High School

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

520 - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
103	0	0	0	**0**	0	0	0	38
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
175	0	0	0	**0**	0	0	0	45

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit — 522 - Middle School/Junior High School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
103	0	0	0	**0**	0	0	0	82
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
175	0	0	0	**0**	0	0	0	89

520 - Elementary School — 522 - Middle School/Junior High School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
45	0	0	0	**0**	0	0	0	82
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
38	0	0	0	**0**	0	0	0	89

INTERNAL PERSON TRIPS:

210 - Single-Family Detached Housing

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520 - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

522 - Middle School/Junior High School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

INTERNAL VEHICLE TRIPS AND CAPTURE:

210 - Single-Family Detached Housing

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	962	565	1527
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-

Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	175	103	278
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520 - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	38	44	82
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

522 - Middle School/Junior High School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	82	89	171
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

PASS-BY VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Pass-by Vehicle Trip %		Pass-by Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	962	565	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	175	103	0.00%	0.00%	0	0
520 - Elementary School	38	44	0.00%	0.00%	0	0
522 - Middle School/Junior High School	82	89	0.00%	0.00%	0	0

DIVERTED VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Diverted Vehicle Trip %		Diverted Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	962	565	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	175	103	0.00%	0.00%	0	0
520 - Elementary School	38	44	0.00%	0.00%	0	0
522 - Middle School/Junior High School	82	89	0.00%	0.00%	0	0

EXTRA VEHICLE TRIP REDUCTION

Land Use	(External - (Pass-by + Diverted)) Vehicle Trips		Extra Vehicle Trip Reduction %		Extra Reduced Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	962	565	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	175	103	0.00%	0.00%	0	0
520 - Elementary School	38	44	0.00%	0.00%	0	0
522 - Middle School/Junior High School	82	89	0.00%	0.00%	0	0

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	962	565	1527
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	175	103	278
520 - Elementary School	38	44	82
522 - Middle School/Junior High School	82	89	171

Land Use	New Vehicle Trips (PPV)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	962	565	1527
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	175	103	278
520 - Elementary School	38	44	82
522 - Middle School/Junior High School	82	89	171

Land Use	New Vehicle Trips (Truck)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	0	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	0	0	0
520 - Elementary School	0	0	0
522 - Middle School/Junior High School	0	0	0

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	1257	801	2058
Vehicle Trips After Multi-modal Adjustment	1257	801	2058
Internal Vehicle Trips	0	0	0
External Vehicle Trips	1257	801	2058
Internal Vehicle Trip Capture	0%	0%	0%
Pass-by Vehicle Trips	0	0	0
Diverted Vehicle Trips	0	0	0
Extra Reduced Vehicle Trips	0	0	0
New Vehicle Trips	1257	801	2058
PPV	1257	801	2058
Truck	0	0	0
Person Trips by Other Modes	0	0	0

PROJECT DETAILS

Project Name:	Bull Hill 012024	Type of Project:	
Project No:		City:	
Country:		Built-up Area(Sq.ft):	
Analyst Name:	Scott Barnhart	Clients Name:	
Date:	6/26/2023	ZIP/Postal Code:	
State/Province:		No. of Scenarios:	3
Analysis Region:			

SCENARIO SUMMARY

Scenarios	Name	No. of Land Uses	Phases of Development	No. of Years to Project Traffic	User Group	Estimated New Vehicle Trips		
						Entry	Exit	Total
Scenario - 1	Weekday	4	1	0		12633	12633	25266
Scenario - 2	AM Peak	4	1	0		798	1556	2354
Scenario - 3	PM Peak	4	1	0		1571	964	2535

Scenario - 1

Scenario Name: Weekday
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	2770	Weekday	Best Fit (LOG)	10714	10714	21428
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.92Ln(X) + 2.68	50%	50%	
520 - Elementary School	General Urban/Suburban	Students	490	Weekday	Average	556	556	1112
Data Source: Trip Generation Manual, 11th Ed					2.27	50%	50%	
520(1) - Elementary School	General Urban/Suburban	Students	490	Weekday	Average	556	556	1112
Data Source: Trip Generation Manual, 11th Ed					2.27	50%	50%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	240	Weekday	Best Fit (LIN)	807	807	1614
Data Source: Trip Generation Manual, 11th Ed					T = 6.41(X) + 75.31	50%	50%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	50	50
520 - Elementary School	100	100	1	1	50	50
520(1) - Elementary School	100	100	1	1	50	50
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	10714	10714	0	0	10714	10714
	21428		0		21428	
520 - Elementary School	556	556	0	0	556	556
	1112		0		1112	
520(1) - Elementary School	556	556	0	0	556	556
	1112		0		1112	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	807	807	0	0	807	807
	1614		0		1614	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100%	100%	0%	0%	0%	0%
520 - Elementary School	100%	100%	0%	0%	0%	0%
520(1) - Elementary School	100%	100%	0%	0%	0%	0%
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Use	Vehicle	
	Entry	Exit
210 - Single-Family Detached Housing	1.00	1.00
520 - Elementary School	1.00	1.00
520(1) - Elementary School	1.00	1.00
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1.00	1.00

ADJUSTED VEHICLE TRIPS:

Land Use	Entry				Exit			
	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
210 - Single-Family Detached Housing	10714	100%	1.00	10714	10714	100%	1.00	10714
520 - Elementary School	556	100%	1.00	556	556	100%	1.00	556
520(1) - Elementary School	556	100%	1.00	556	556	100%	1.00	556
220 - Multifamily Housing (Low-Rise) - Not Close	807	100%	1.00	807	807	100%	1.00	807

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

Land Use	Land Use Group
210 - Single-Family Detached Housing	Residential
520 - Elementary School	Others
520(1) - Elementary School	Others
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Residential

BALANCED PERSON TRIPS:

210 - Single-Family Detached Housing — 520 - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
10714	0	0	0	**0**	0	0	0	556
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
10714	0	0	0	**0**	0	0	0	556

210 - Single-Family Detached Housing — 520(1) - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
10714	0	0	0	**0**	0	0	0	556
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
10714	0	0	0	**0**	0	0	0	556

210 - Single-Family Detached Housing — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
10714	0	0	0	**0**	0	0	0	807
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
10714	0	0	0	**0**	0	0	0	807

520 - Elementary School — 520(1) - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
556	0	0	0	**0**	0	0	0	556
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
556	0	0	0	**0**	0	0	0	556

520 - Elementary School — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
556	0	0	0	**0**	0	0	0	807
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
556	0	0	0	**0**	0	0	0	807

520(1) - Elementary School — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
556	0	0	0	**0**	0	0	0	807
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
556	0	0	0	**0**	0	0	0	807

INTERNAL PERSON TRIPS:

210 - Single-Family Detached Housing

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520 - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520(1) - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

INTERNAL VEHICLE TRIPS AND CAPTURE:

210 - Single-Family Detached Housing

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	10714	10714	21428
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520 - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-

Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	556	556	1112
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520(1) - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	556	556	1112
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	807	807	1614
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

PASS-BY VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Pass-by Vehicle Trip %		Pass-by Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	10714	10714	0.00%	0.00%	0	0
520 - Elementary School	556	556	0.00%	0.00%	0	0
520(1) - Elementary School	556	556	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	807	807	0.00%	0.00%	0	0

DIVERTED VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Diverted Vehicle Trip %		Diverted Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	10714	10714	0.00%	0.00%	0	0
520 - Elementary School	556	556	0.00%	0.00%	0	0
520(1) - Elementary School	556	556	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	807	807	0.00%	0.00%	0	0

EXTRA VEHICLE TRIP REDUCTION

Land Use	(External - (Pass-by + Diverted)) Vehicle Trips		Extra Vehicle Trip Reduction %		Extra Reduced Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	10714	10714	0.00%	0.00%	0	0
520 - Elementary School	556	556	0.00%	0.00%	0	0
520(1) - Elementary School	556	556	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	807	807	0.00%	0.00%	0	0

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	10714	10714	21428
520 - Elementary School	556	556	1112
520(1) - Elementary School	556	556	1112
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	807	807	1614

Land Use	New Vehicle Trips (PPV)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	10714	10714	21428
520 - Elementary School	556	556	1112
520(1) - Elementary School	556	556	1112
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	807	807	1614

Land Use	New Vehicle Trips (Truck)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	0	0	0
520 - Elementary School	0	0	0
520(1) - Elementary School	0	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	0	0	0

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	12633	12633	25266
Vehicle Trips After Multi-modal Adjustment	12633	12633	25266
Internal Vehicle Trips	0	0	0
External Vehicle Trips	12633	12633	25266
Internal Vehicle Trip Capture	0%	0%	0%
Pass-by Vehicle Trips	0	0	0
Diverted Vehicle Trips	0	0	0
Extra Reduced Vehicle Trips	0	0	0
New Vehicle Trips	12633	12633	25266
PPV	12633	12633	25266
Truck	0	0	0
Person Trips by Other Modes	0	0	0

Scenario - 2

Scenario Name: AM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method / Rate/Equation	Entry / Split%	Exit / Split%	Total
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	2770	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	383	1148	1531
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.91Ln(X) + 0.12	25%	75%	
520 - Elementary School	General Urban/Suburban	Students	490	Weekday, Peak Hour of Adjacent Street Traffic,	Average	196	167	363
Data Source: Trip Generation Manual, 11th Ed					0.74	54%	46%	
520(1) - Elementary School	General Urban/Suburban	Students	490	Weekday, Peak Hour of Adjacent Street Traffic,	Average	196	167	363
Data Source: Trip Generation Manual, 11th Ed					0.74	54%	46%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	240	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	23	74	97
Data Source: Trip Generation Manual, 11th Ed					T = 0.31(X) + 22.85	24%	76%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	25	75
520 - Elementary School	100	100	1	1	54	46
520(1) - Elementary School	100	100	1	1	54	46
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	24	76

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	383	1148	0	0	383	1148
	1531		0		1531	
520 - Elementary School	196	167	0	0	196	167
	363		0		363	
520(1) - Elementary School	196	167	0	0	196	167
	363		0		363	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	23	74	0	0	23	74
	97		0		97	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100%	100%	0%	0%	0%	0%
520 - Elementary School	100%	100%	0%	0%	0%	0%
520(1) - Elementary School	100%	100%	0%	0%	0%	0%
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Use	Vehicle	
	Entry	Exit
210 - Single-Family Detached Housing	1.00	1.00
520 - Elementary School	1.00	1.00
520(1) - Elementary School	1.00	1.00
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1.00	1.00

ADJUSTED VEHICLE TRIPS:

Land Use	Entry				Exit			
	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
210 - Single-Family Detached Housing	383	100%	1.00	383	1148	100%	1.00	1148
520 - Elementary School	196	100%	1.00	196	167	100%	1.00	167
520(1) - Elementary School	196	100%	1.00	196	167	100%	1.00	167
220 - Multifamily Housing (Low-Rise) - Not Close	23	100%	1.00	23	74	100%	1.00	74

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

Land Use	Land Use Group
210 - Single-Family Detached Housing	Residential
520 - Elementary School	Others
520(1) - Elementary School	Others
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Residential

BALANCED PERSON TRIPS:

210 - Single-Family Detached Housing — 520 - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
1148	0	0	0	**0**	0	0	0	196
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
383	0	0	0	**0**	0	0	0	167

210 - Single-Family Detached Housing — 520(1) - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
1148	0	0	0	**0**	0	0	0	196
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
383	0	0	0	**0**	0	0	0	167

210 - Single-Family Detached Housing — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
1148	0	0	0	**0**	0	0	0	23
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
383	0	0	0	**0**	0	0	0	74

520 - Elementary School — 520(1) - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
167	0	0	0	**0**	0	0	0	196
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
196	0	0	0	**0**	0	0	0	167

520 - Elementary School

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
167	0	0	0	**0**	0	0	0	23
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
196	0	0	0	**0**	0	0	0	74

520(1) - Elementary School

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
167	0	0	0	**0**	0	0	0	23
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
196	0	0	0	**0**	0	0	0	74

INTERNAL PERSON TRIPS:

210 - Single-Family Detached Housing

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520 - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520(1) - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

INTERNAL VEHICLE TRIPS AND CAPTURE:

210 - Single-Family Detached Housing

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	383	1148	1531
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520 - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-

Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	196	167	363
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520(1) - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	196	167	363
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	23	74	97
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

PASS-BY VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Pass-by Vehicle Trip %		Pass-by Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	383	1148	0.00%	0.00%	0	0
520 - Elementary School	196	167	0.00%	0.00%	0	0
520(1) - Elementary School	196	167	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	23	74	0.00%	0.00%	0	0

DIVERTED VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Diverted Vehicle Trip %		Diverted Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	383	1148	0.00%	0.00%	0	0
520 - Elementary School	196	167	0.00%	0.00%	0	0
520(1) - Elementary School	196	167	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	23	74	0.00%	0.00%	0	0

EXTRA VEHICLE TRIP REDUCTION

Land Use	(External - (Pass-by + Diverted)) Vehicle Trips		Extra Vehicle Trip Reduction %		Extra Reduced Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	383	1148	0.00%	0.00%	0	0
520 - Elementary School	196	167	0.00%	0.00%	0	0
520(1) - Elementary School	196	167	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	23	74	0.00%	0.00%	0	0

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	383	1148	1531
520 - Elementary School	196	167	363
520(1) - Elementary School	196	167	363
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	23	74	97

Land Use	New Vehicle Trips (PPV)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	383	1148	1531
520 - Elementary School	196	167	363
520(1) - Elementary School	196	167	363
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	23	74	97

Land Use	New Vehicle Trips (Truck)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	0	0	0
520 - Elementary School	0	0	0
520(1) - Elementary School	0	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	0	0	0

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	798	1556	2354
Vehicle Trips After Multi-modal Adjustment	798	1556	2354
Internal Vehicle Trips	0	0	0
External Vehicle Trips	798	1556	2354
Internal Vehicle Trip Capture	0%	0%	0%
Pass-by Vehicle Trips	0	0	0
Diverted Vehicle Trips	0	0	0
Extra Reduced Vehicle Trips	0	0	0
New Vehicle Trips	798	1556	2354
PPV	798	1556	2354
Truck	0	0	0
Person Trips by Other Modes	0	0	0

Scenario - 3

Scenario Name: PM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	2770	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	1421	834	2255
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.94Ln(X) + 0.27	63%	37%	
520 - Elementary School	General Urban/Suburban	Students	490	Weekday, Peak Hour of Adjacent Street Traffic,	Average	36	42	78
Data Source: Trip Generation Manual, 11th Ed					0.16	46%	54%	
520(1) - Elementary School	General Urban/Suburban	Students	490	Weekday, Peak Hour of Adjacent Street Traffic,	Average	36	42	78
Data Source: Trip Generation Manual, 11th Ed					0.16	46%	54%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	240	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	78	46	124
Data Source: Trip Generation Manual, 11th Ed					T = 0.43(X) + 20.55	63%	37%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	63	37
520 - Elementary School	100	100	1	1	46	54
520(1) - Elementary School	100	100	1	1	46	54
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	63	37

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	1421	834	0	0	1421	834
	2255		0		2255	
520 - Elementary School	36	42	0	0	36	42
	78		0		78	
520(1) - Elementary School	36	42	0	0	36	42
	78		0		78	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	78	46	0	0	78	46
	124		0		124	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100%	100%	0%	0%	0%	0%
520 - Elementary School	100%	100%	0%	0%	0%	0%
520(1) - Elementary School	100%	100%	0%	0%	0%	0%
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Use	Vehicle	
	Entry	Exit
210 - Single-Family Detached Housing	1.00	1.00
520 - Elementary School	1.00	1.00
520(1) - Elementary School	1.00	1.00
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	1.00	1.00

ADJUSTED VEHICLE TRIPS:

Land Use	Entry				Exit			
	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
210 - Single-Family Detached Housing	1421	100%	1.00	1421	834	100%	1.00	834
520 - Elementary School	36	100%	1.00	36	42	100%	1.00	42
520(1) - Elementary School	36	100%	1.00	36	42	100%	1.00	42
220 - Multifamily Housing (Low-Rise) - Not Close	78	100%	1.00	78	46	100%	1.00	46

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

Land Use	Land Use Group
210 - Single-Family Detached Housing	Residential
520 - Elementary School	Others
520(1) - Elementary School	Others
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	Residential

BALANCED PERSON TRIPS:

210 - Single-Family Detached Housing — 520 - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
834	0	0	0	**0**	0	0	0	36
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
1421	0	0	0	**0**	0	0	0	42

210 - Single-Family Detached Housing — 520(1) - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
834	0	0	0	**0**	0	0	0	36
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
1421	0	0	0	**0**	0	0	0	42

210 - Single-Family Detached Housing — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
834	0	0	0	**0**	0	0	0	78
Persons Entry	**PAF**	**UIPTC**	**Unconstrained Demand**	**<<<== BALANCED <<<==**	**Unconstrained Demand**	**UIPTC**	**PAF**	**Persons Exit**
1421	0	0	0	**0**	0	0	0	46

520 - Elementary School — 520(1) - Elementary School

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
42	0	0	0	**0**	0	0	0	36
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
36	0	0	0	**0**	0	0	0	42

520 - Elementary School — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
42	0	0	0	**0**	0	0	0	78
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
36	0	0	0	**0**	0	0	0	46

520(1) - Elementary School — 220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Persons Exit	PAF	UIPTC	Unconstrained Demand	==>>> BALANCED ==>>>	Unconstrained Demand	UIPTC	PAF	Persons Entry
42	0	0	0	**0**	0	0	0	78
Persons Entry	PAF	UIPTC	Unconstrained Demand	<<<== BALANCED <<<==	Unconstrained Demand	UIPTC	PAF	Persons Exit
36	0	0	0	**0**	0	0	0	46

INTERNAL PERSON TRIPS:

210 - Single-Family Detached Housing

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520 - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

520(1) - Elementary School

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Internal Person Trips From	Entry	Exit	Total
Total Internal Person Trips	**0**	**0**	**0**

INTERNAL VEHICLE TRIPS AND CAPTURE:

210 - Single-Family Detached Housing

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	1421	834	2255
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520 - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-

Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	36	42	78
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

520(1) - Elementary School

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	36	42	78
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

220 - Multifamily Housing (Low-Rise)-Not Close to Rail Transit

Total Internal Person Trips	0	0	0
Vehicle Mode Share	100%	100%	-
Vehicle Occupancy	1.00	1.00	-
Total Vehicle Internal Trips	**0**	**0**	**0**
Total External Vehicle Trips	78	46	124
Internal Vehicle Trip Capture	**0%**	**0%**	**0%**

PASS-BY VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Pass-by Vehicle Trip %		Pass-by Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	1421	834	0.00%	0.00%	0	0
520 - Elementary School	36	42	0.00%	0.00%	0	0
520(1) - Elementary School	36	42	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	78	46	0.00%	0.00%	0	0

DIVERTED VEHICLE TRIP REDUCTION

Land Use	External Vehicle Trips		Diverted Vehicle Trip %		Diverted Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	1421	834	0.00%	0.00%	0	0
520 - Elementary School	36	42	0.00%	0.00%	0	0
520(1) - Elementary School	36	42	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	78	46	0.00%	0.00%	0	0

EXTRA VEHICLE TRIP REDUCTION

Land Use	(External - (Pass-by + Diverted)) Vehicle Trips		Extra Vehicle Trip Reduction %		Extra Reduced Vehicle Trips	
	Entry	Exit	Entry (%)	Exit (%)	Entry	Exit
210 - Single-Family Detached Housing	1421	834	0.00%	0.00%	0	0
520 - Elementary School	36	42	0.00%	0.00%	0	0
520(1) - Elementary School	36	42	0.00%	0.00%	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	78	46	0.00%	0.00%	0	0

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	1421	834	2255
520 - Elementary School	36	42	78
520(1) - Elementary School	36	42	78
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	78	46	124

Land Use	New Vehicle Trips (PPV)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	1421	834	2255
520 - Elementary School	36	42	78
520(1) - Elementary School	36	42	78
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	78	46	124

Land Use	New Vehicle Trips (Truck)		
	Entry	Exit	Total
210 - Single-Family Detached Housing	0	0	0
520 - Elementary School	0	0	0
520(1) - Elementary School	0	0	0
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	0	0	0

RESULTS

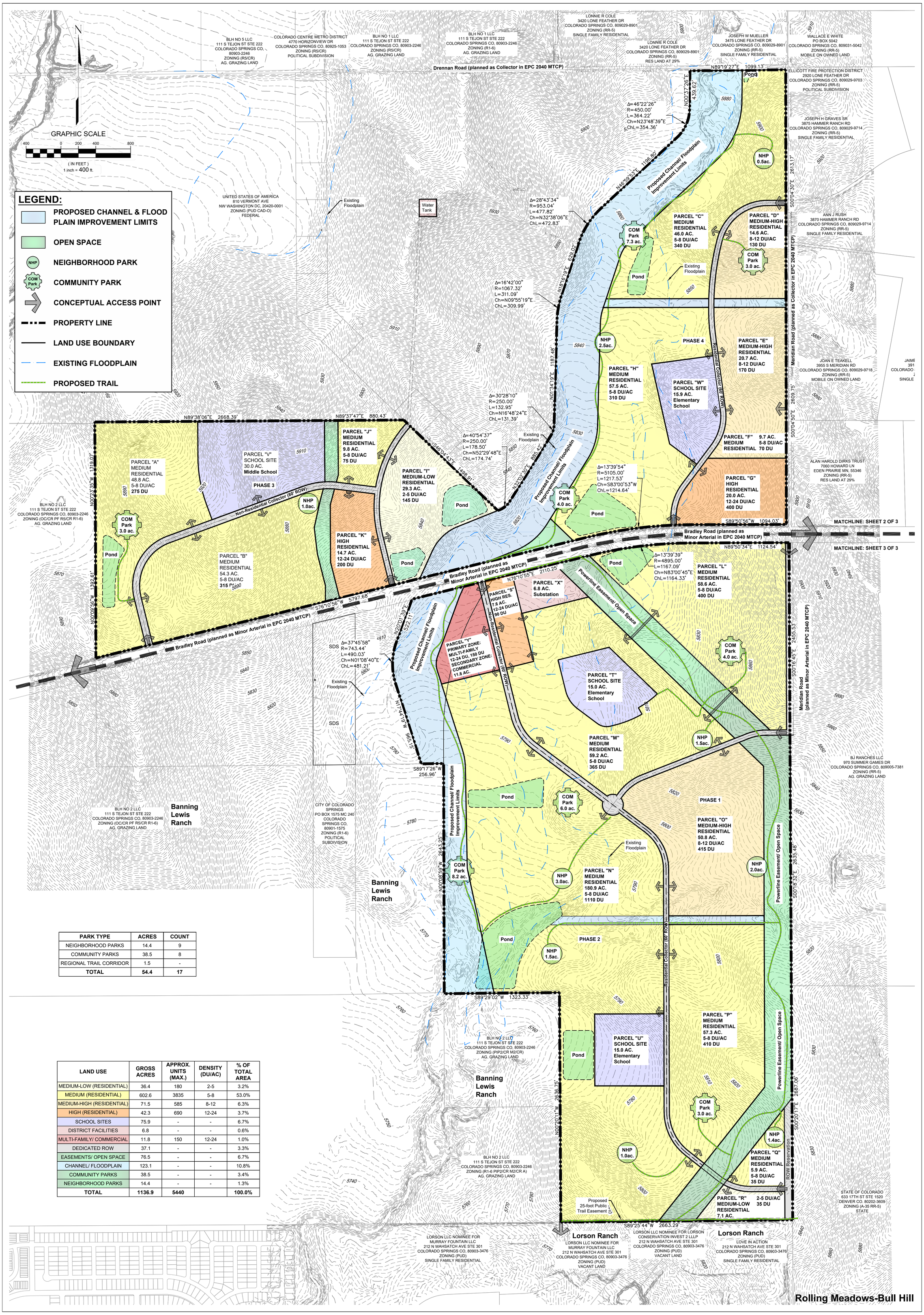
Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	1571	964	2535
Vehicle Trips After Multi-modal Adjustment	1571	964	2535
Internal Vehicle Trips	0	0	0
External Vehicle Trips	1571	964	2535
Internal Vehicle Trip Capture	0%	0%	0%
Pass-by Vehicle Trips	0	0	0
Diverted Vehicle Trips	0	0	0
Extra Reduced Vehicle Trips	0	0	0
New Vehicle Trips	1571	964	2535
PPV	1571	964	2535
Truck	0	0	0
Person Trips by Other Modes	0	0	0

Appendix D –Supporting Documents

Rolling Meadows/Bull Hill Plan

Previous Studies

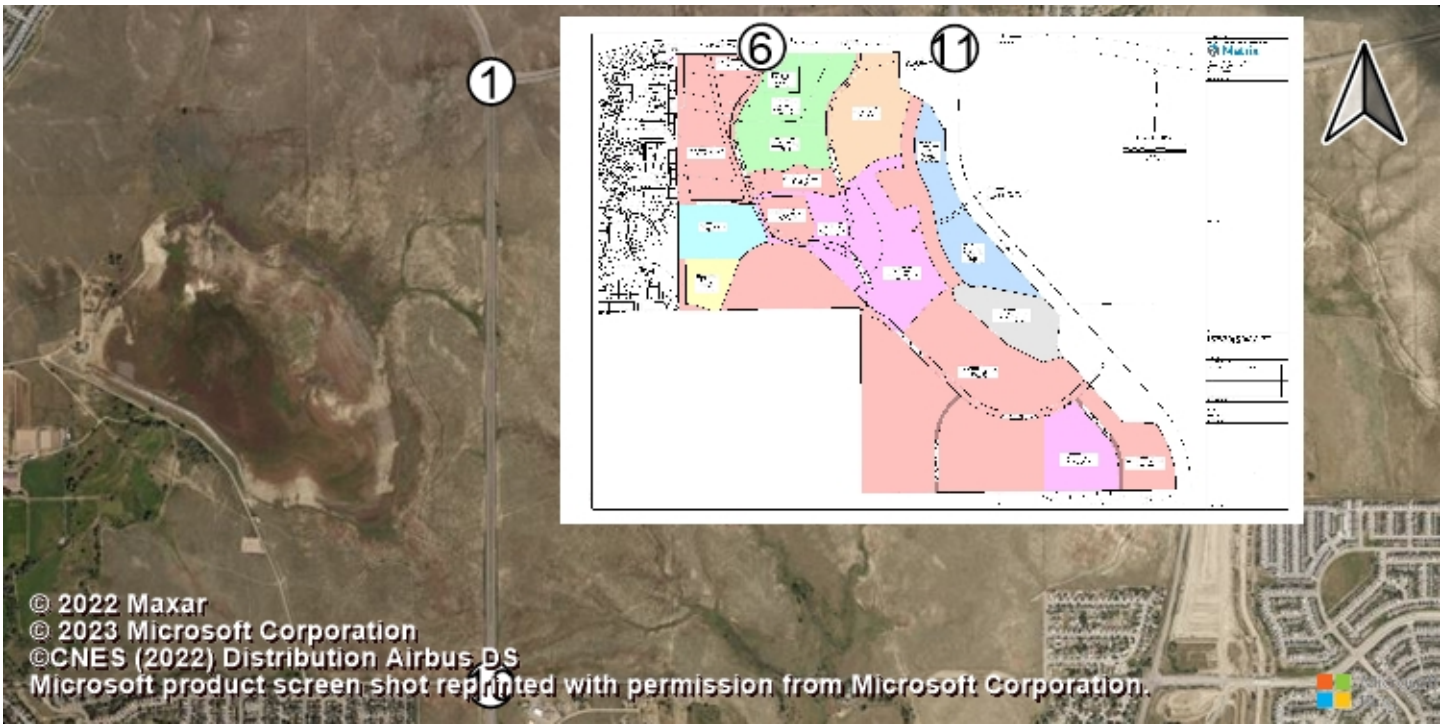
Signal Warrant Analysis

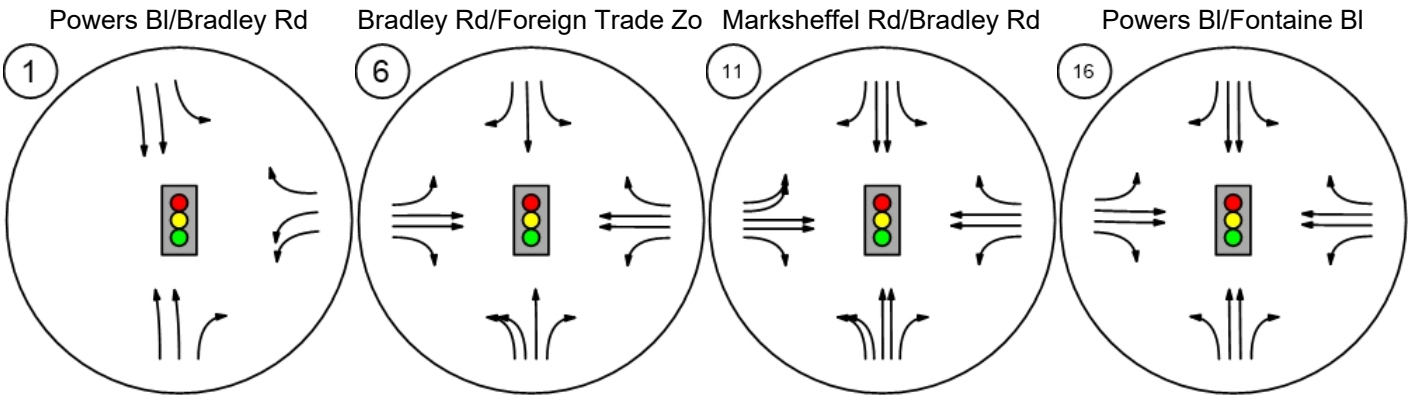


PARK TYPE	ACRES	COUNT
NEIGHBORHOOD PARKS	14.4	9
COMMUNITY PARKS	38.5	8
REGIONAL TRAIL CORRIDOR	1.5	-
TOTAL	**54.4**	**17**

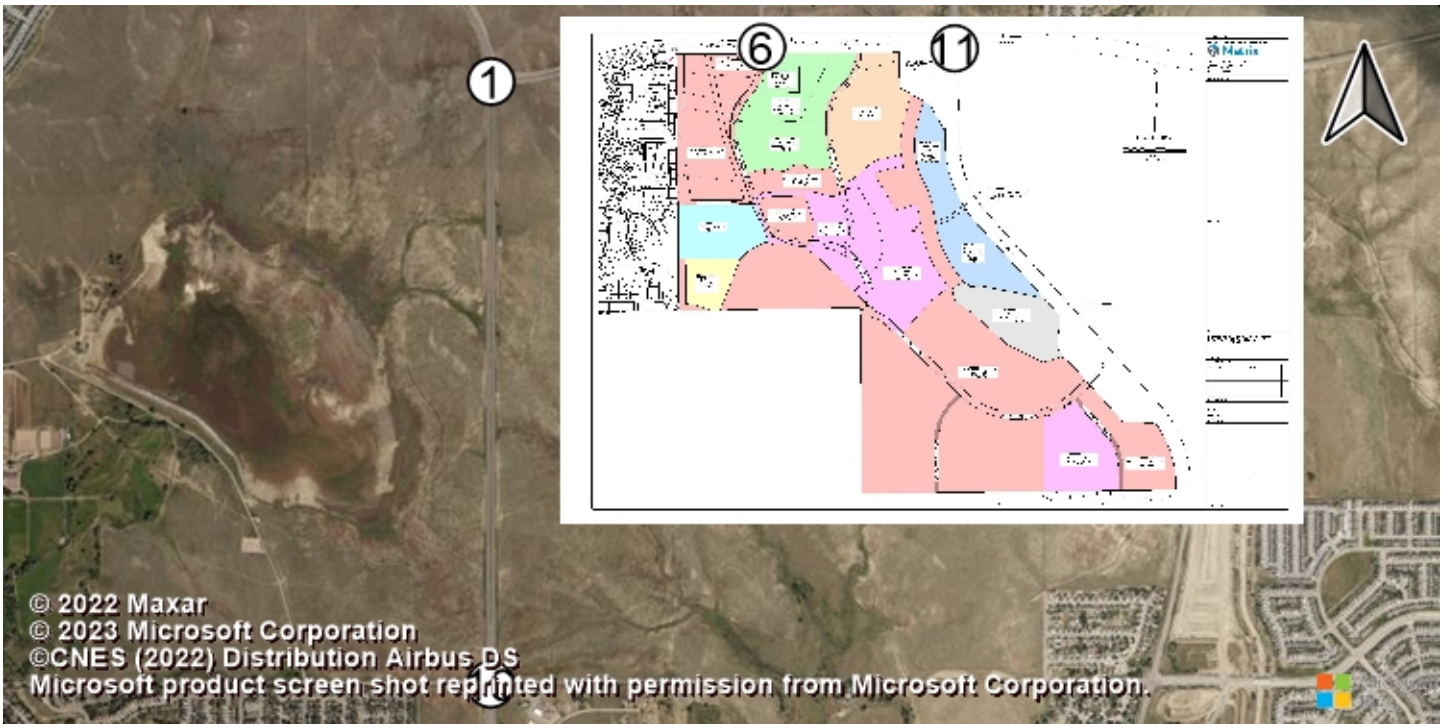
LAND USE	GROSS ACRES	APPROX. UNITS (MAX.)	DENSITY (DU/AC)	% OF TOTAL AREA
MEDIUM-LOW (RESIDENTIAL)	36.4	180	2-5	3.2%
MEDIUM (RESIDENTIAL)	602.6	3835	5-8	53.0%
MEDIUM-HIGH (RESIDENTIAL)	71.5	585	8-12	6.3%
HIGH (RESIDENTIAL)	42.3	690	12-24	3.7%
SCHOOL SITES	75.9	-	-	6.7%
DISTRICT FACILITIES	6.8	-	-	0.6%
MULTI-FAMILY/ COMMERCIAL	11.8	150	12-24	1.0%
DEDICATED ROW	37.1	-	-	3.3%
EASEMENTS/ OPEN SPACE	76.5	-	-	6.7%
CHANNEL/ FLOODPLAIN	123.1	-	-	10.8%
COMMUNITY PARKS	38.5	-	-	3.4%
NEIGHBORHOOD PARKS	14.4	-	-	1.3%
TOTAL	**1136.9**	**5440**		**100.0%**

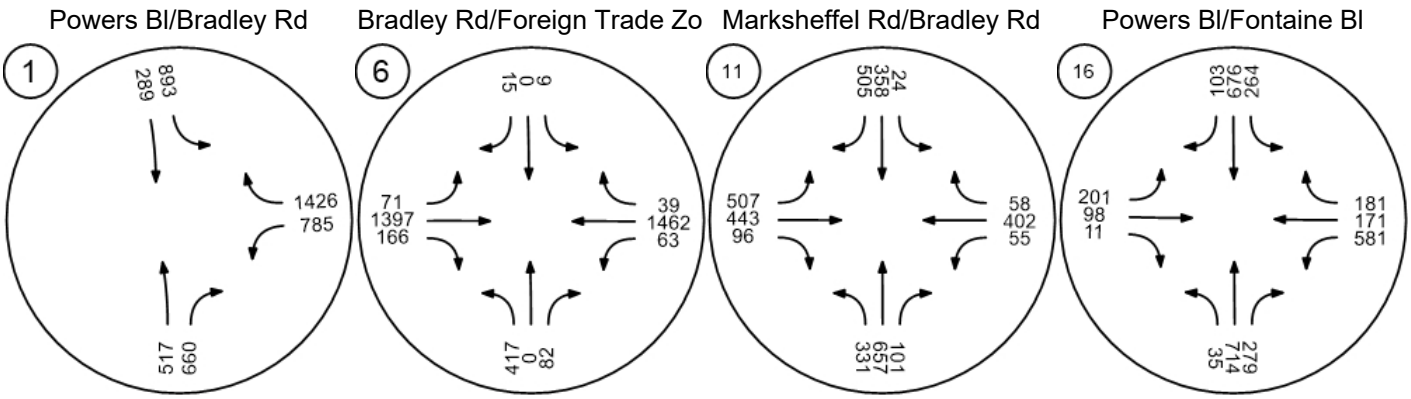
Lane Configuration and Traffic Control



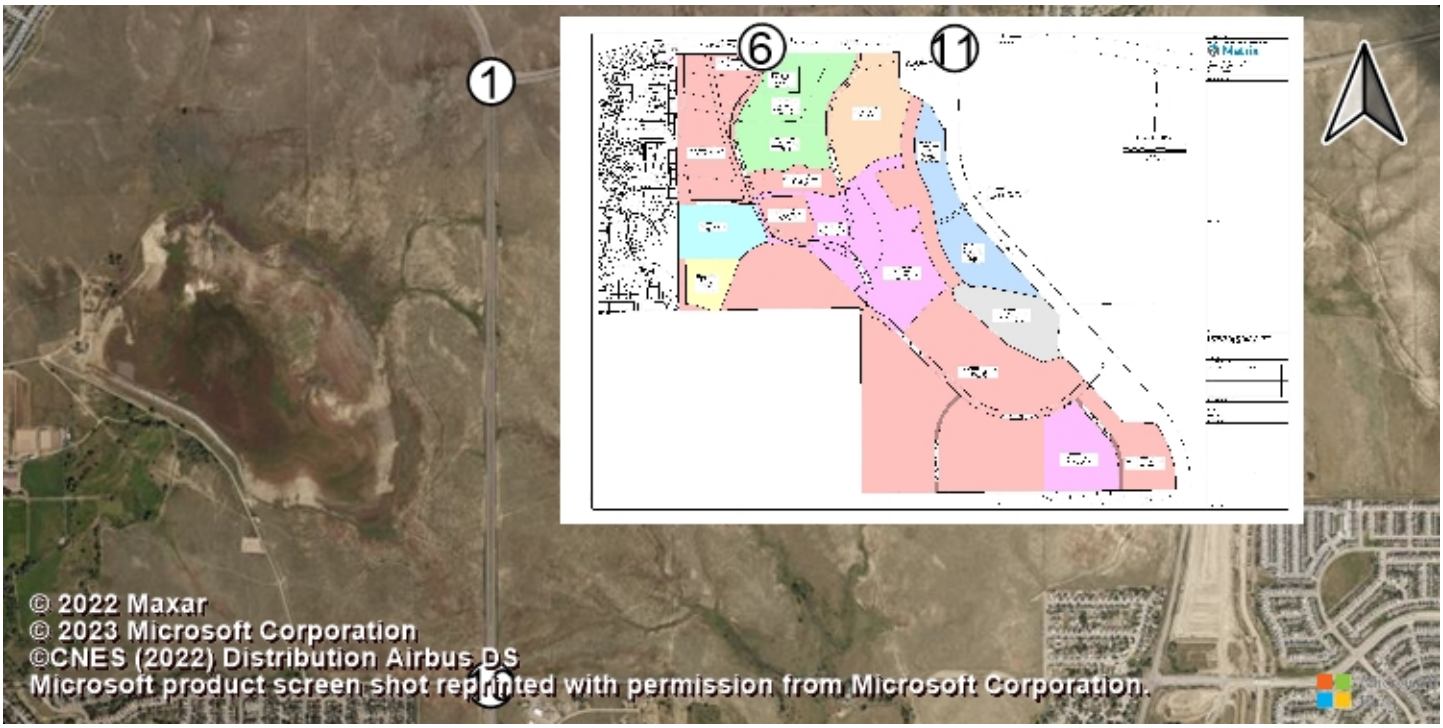


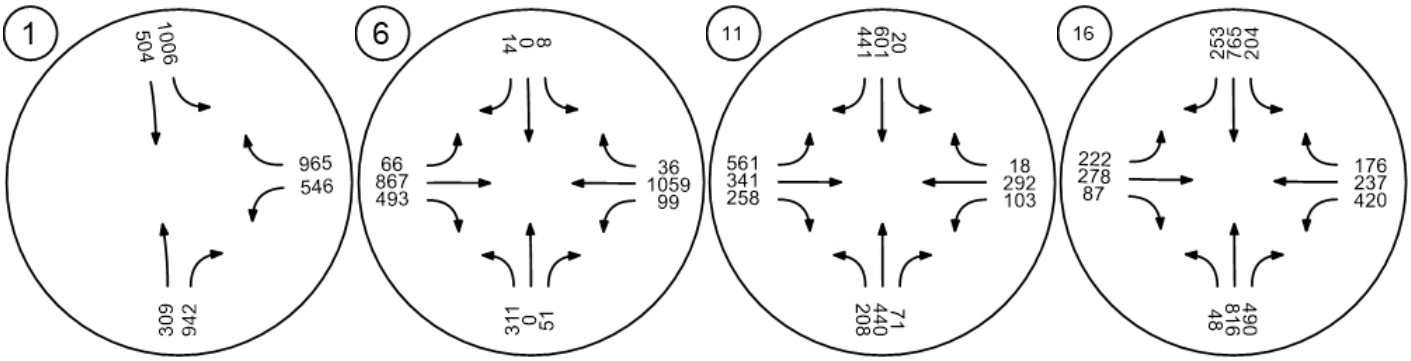
Traffic Volume - Future Total Volume



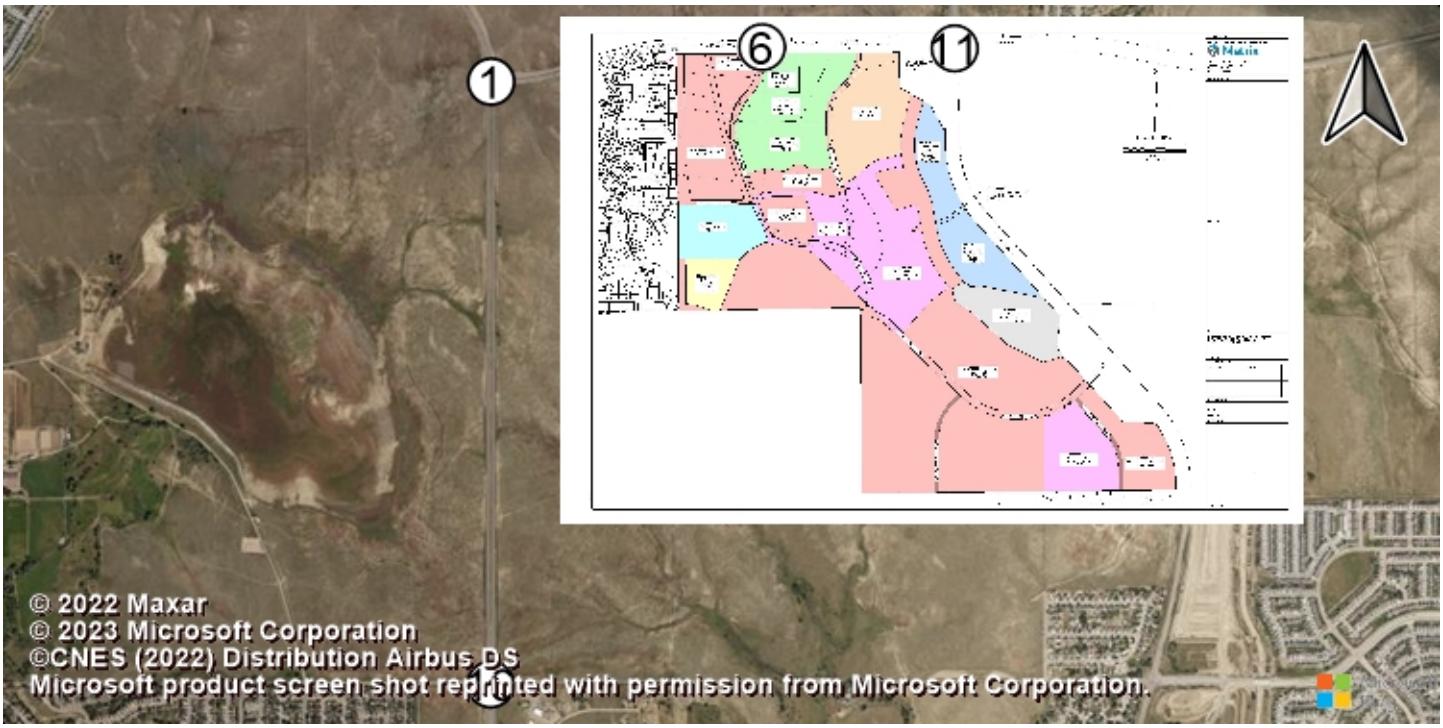


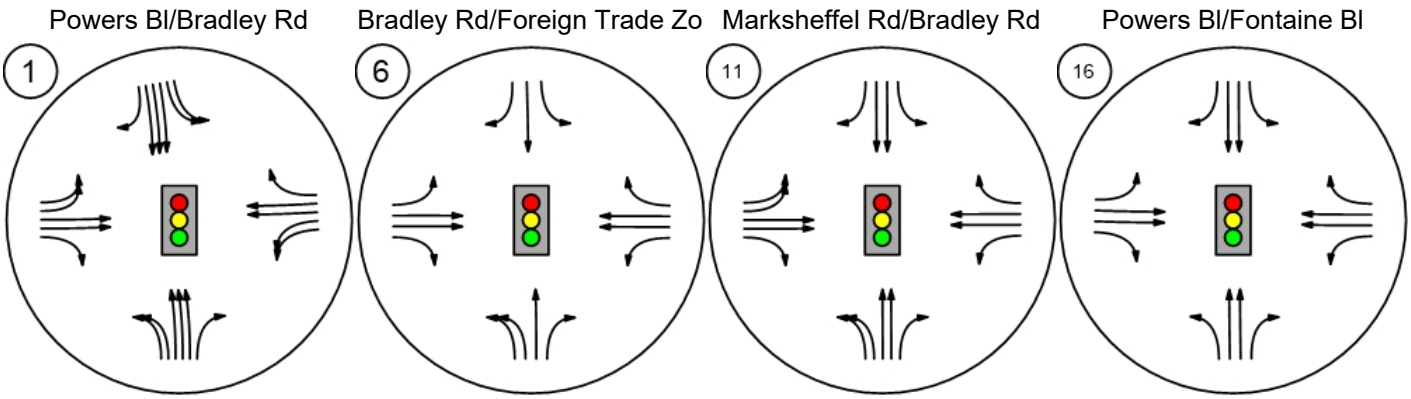
Traffic Volume - Future Total Volume



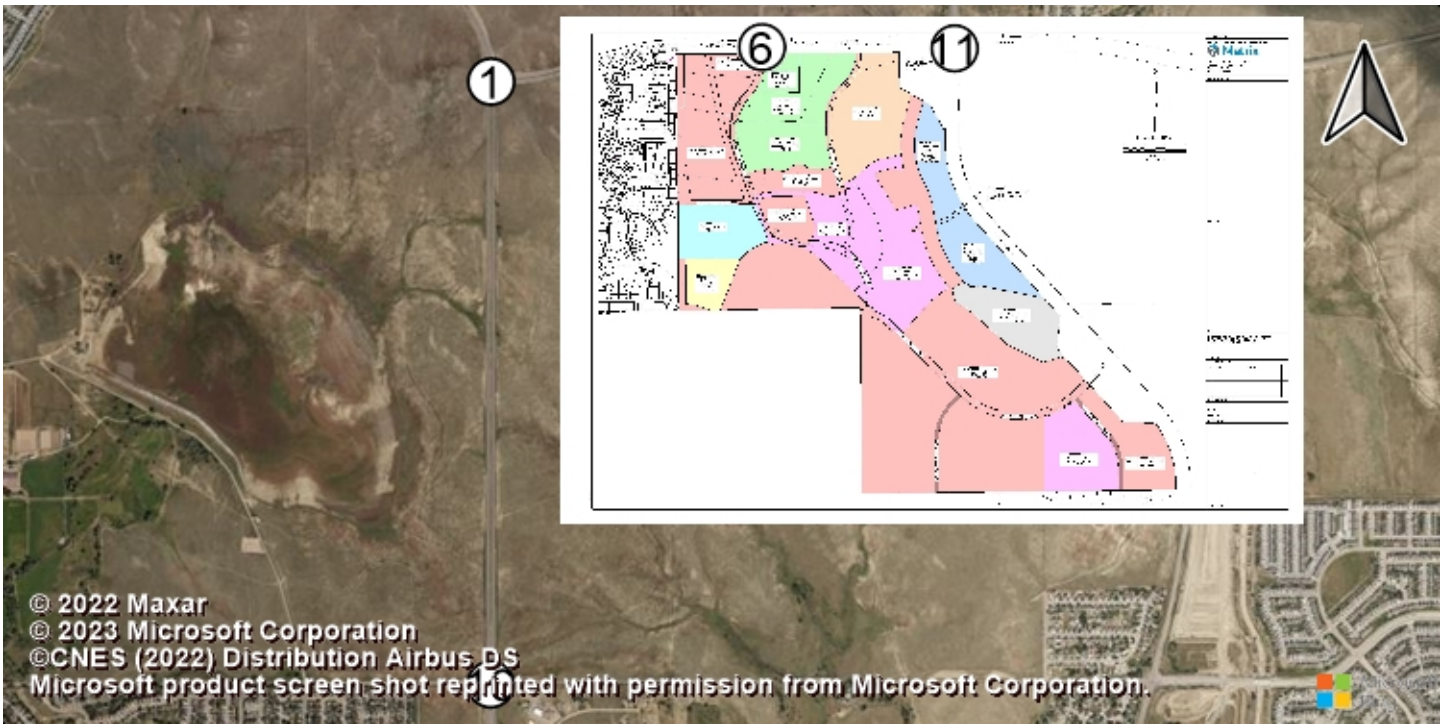


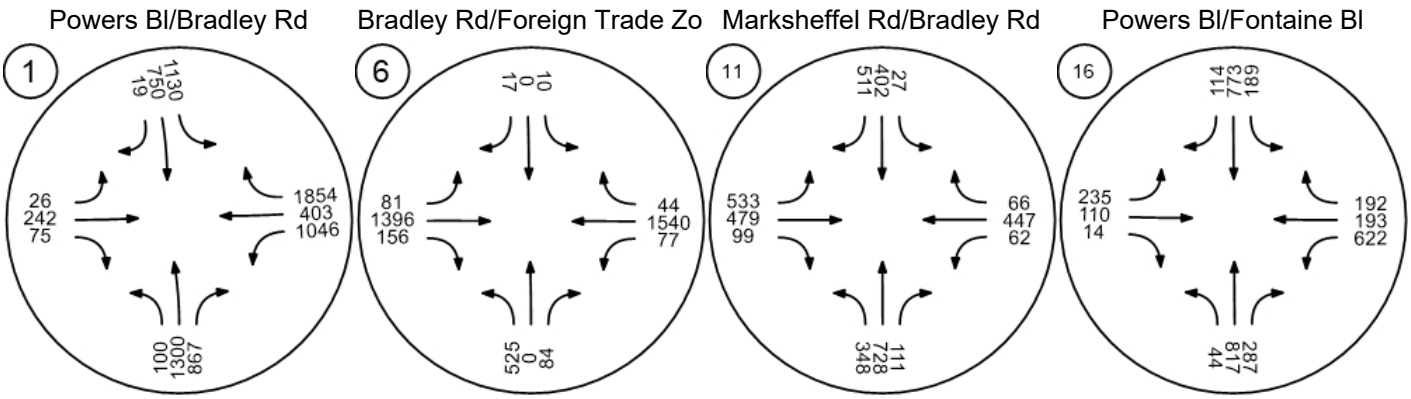
Report Figure 1: Lane Configuration and Traffic Control



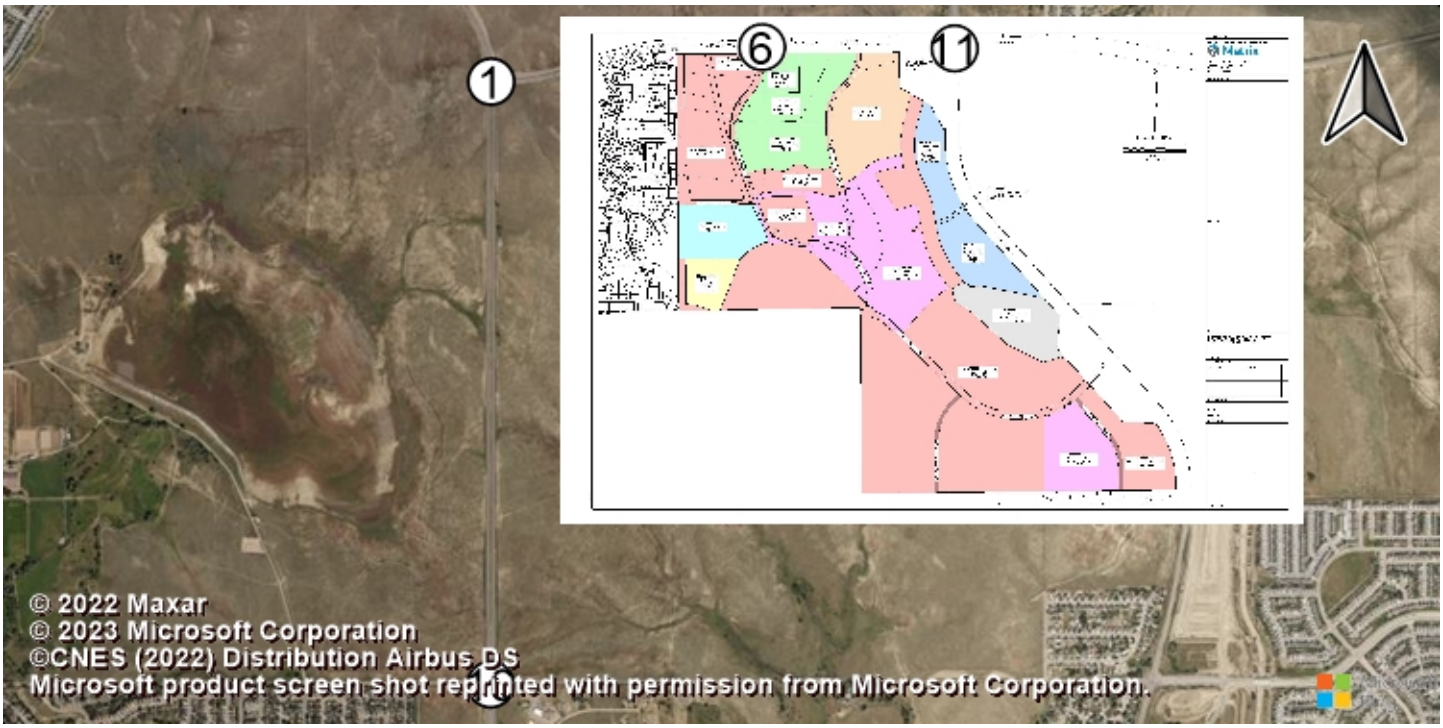


Report Figure 2f: Traffic Volume - Future Total Volume





Report Figure 1f: Traffic Volume - Future Total Volume



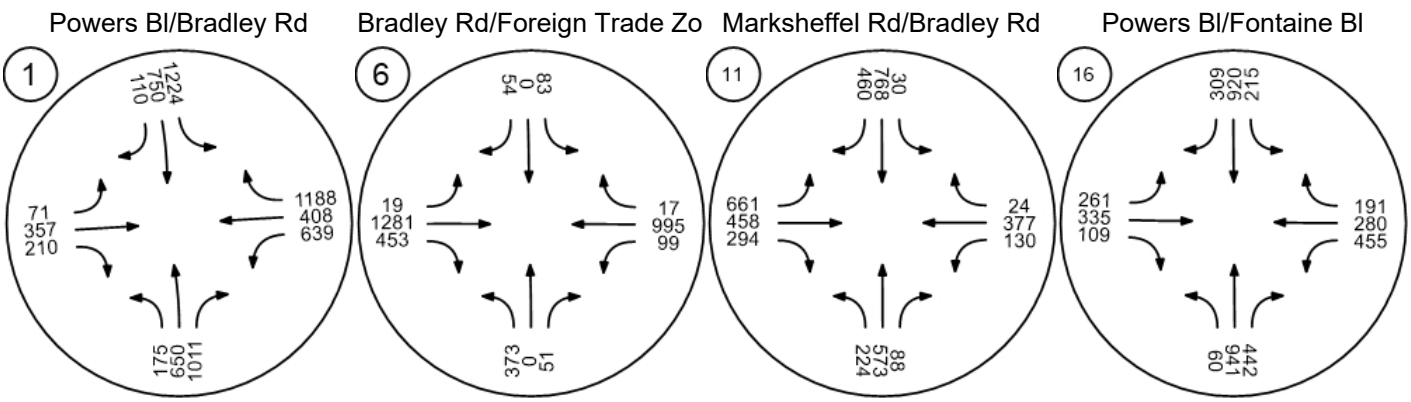


Figure 9 - 2030 Total Lane Configurations & Traffic Control

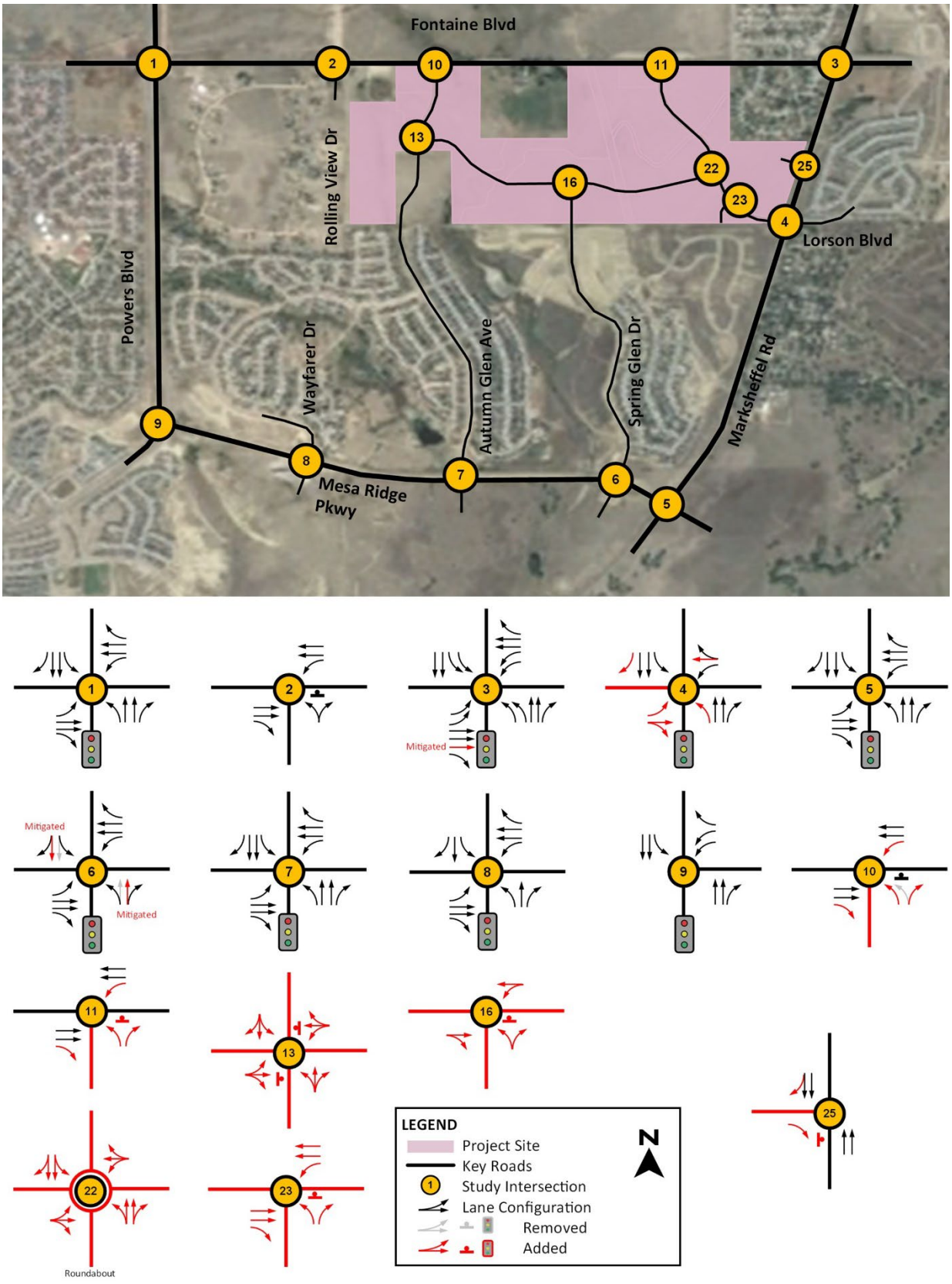


Figure 8 - Buildout Year (2030) Total Traffic with Project

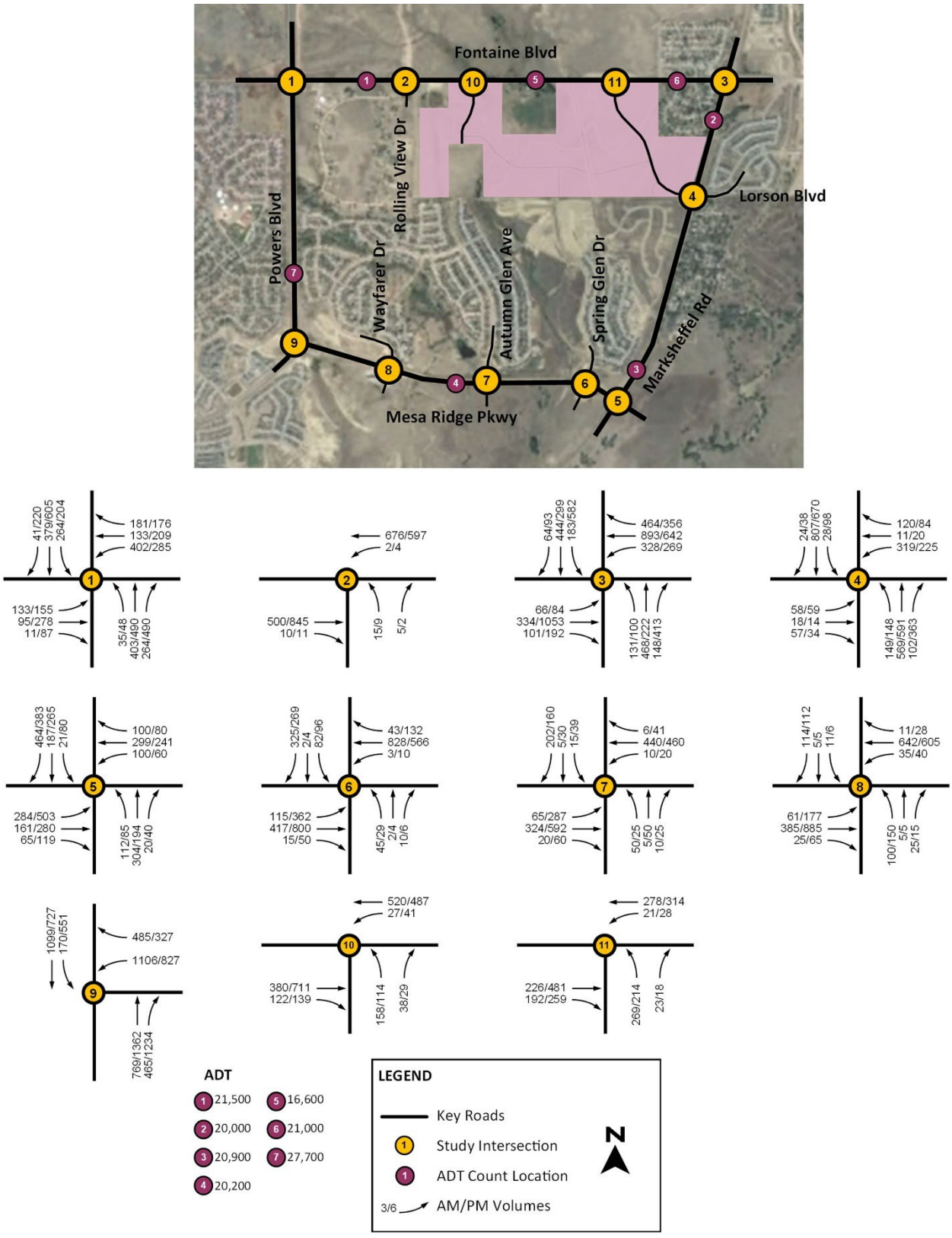
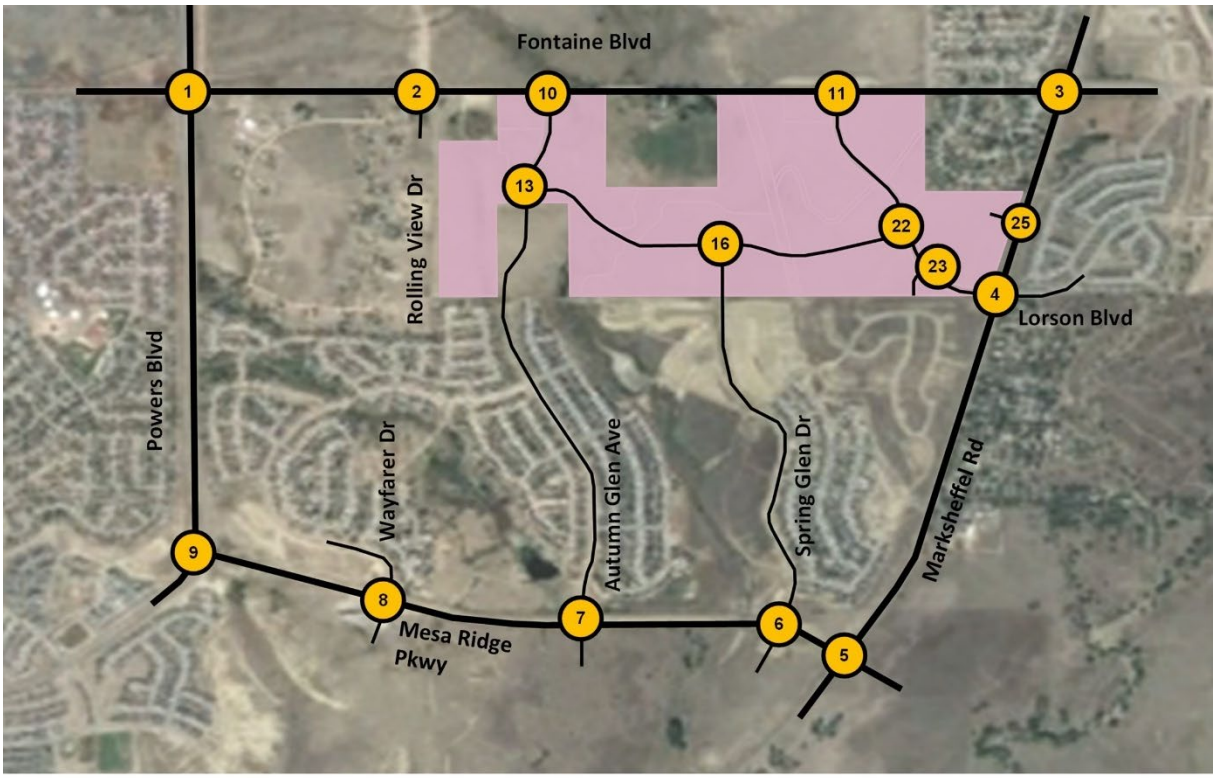


Figure 13 - 2040 Total Lane Configurations & Traffic Control



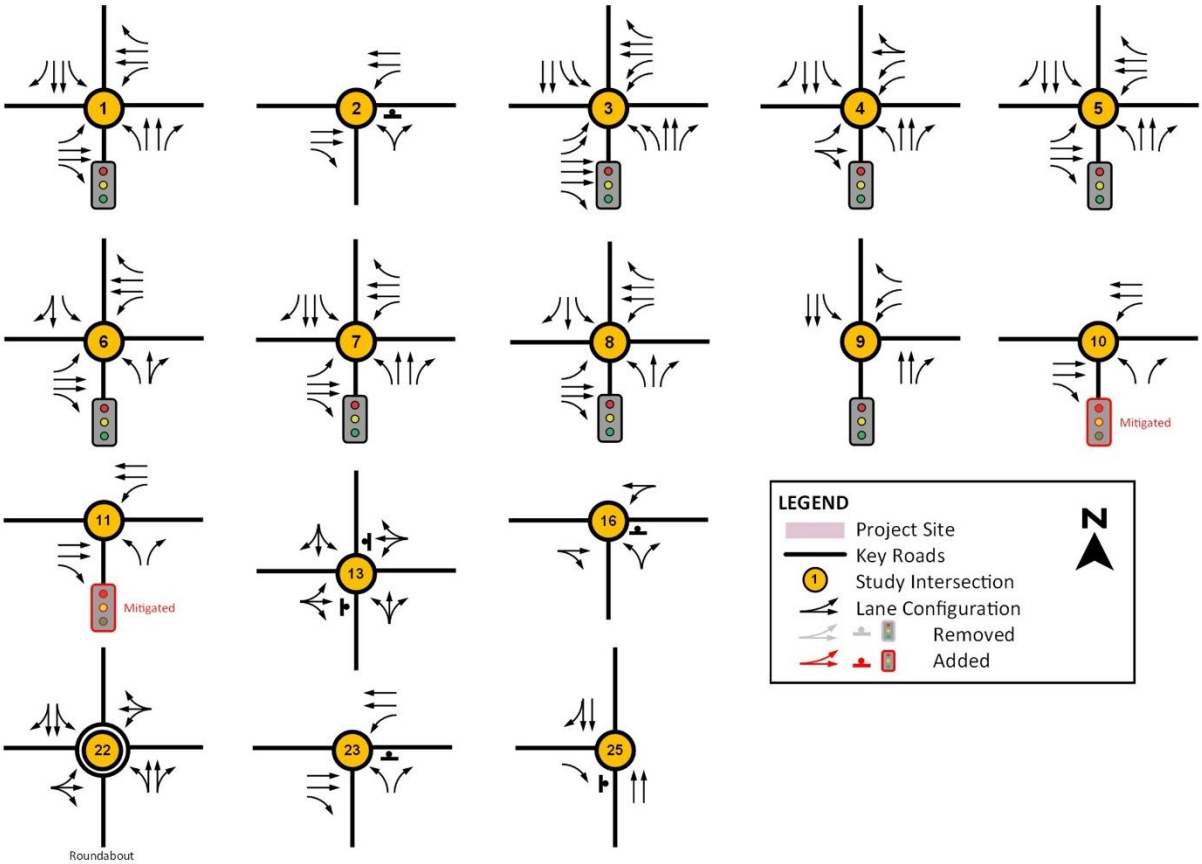
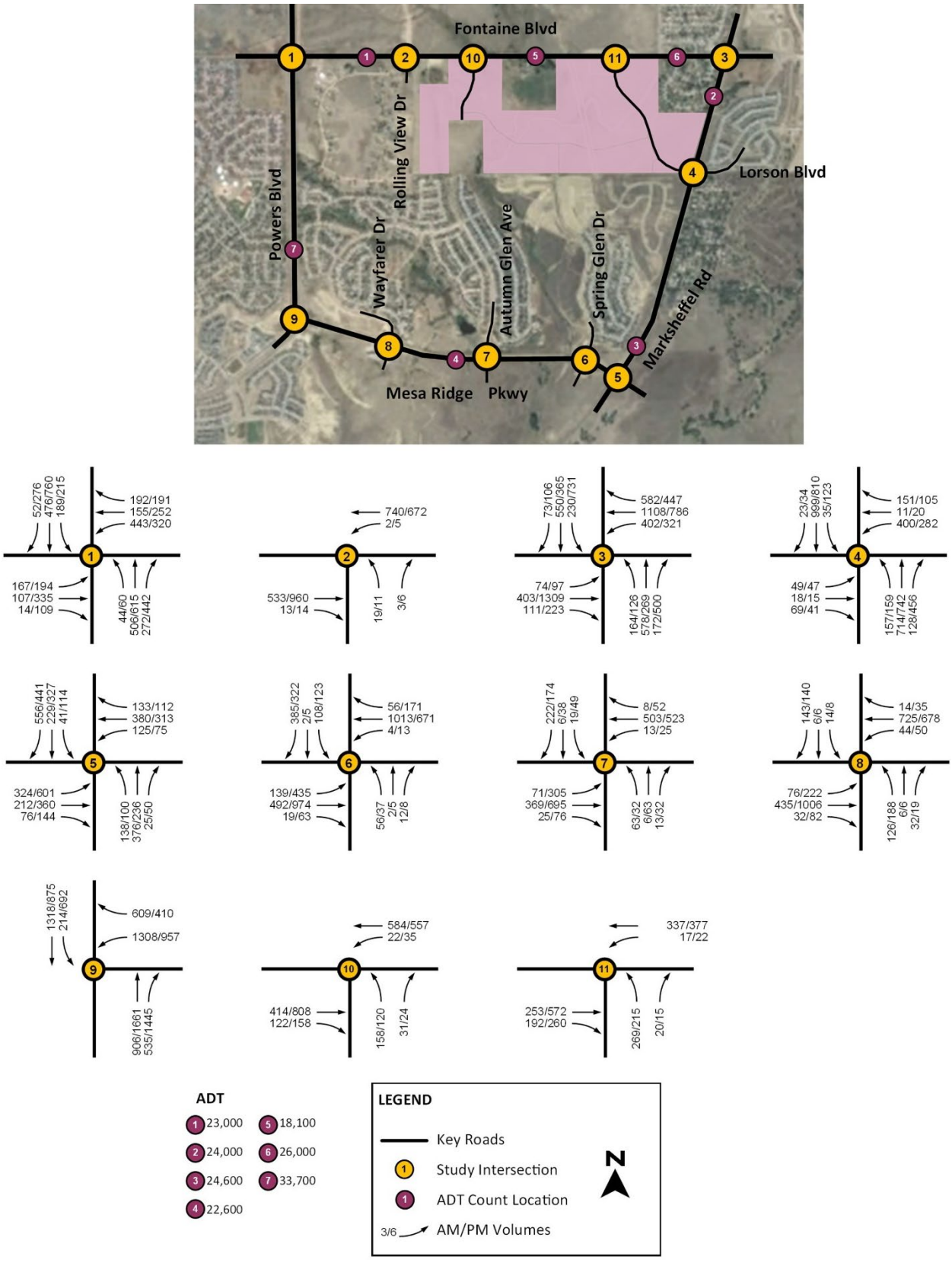
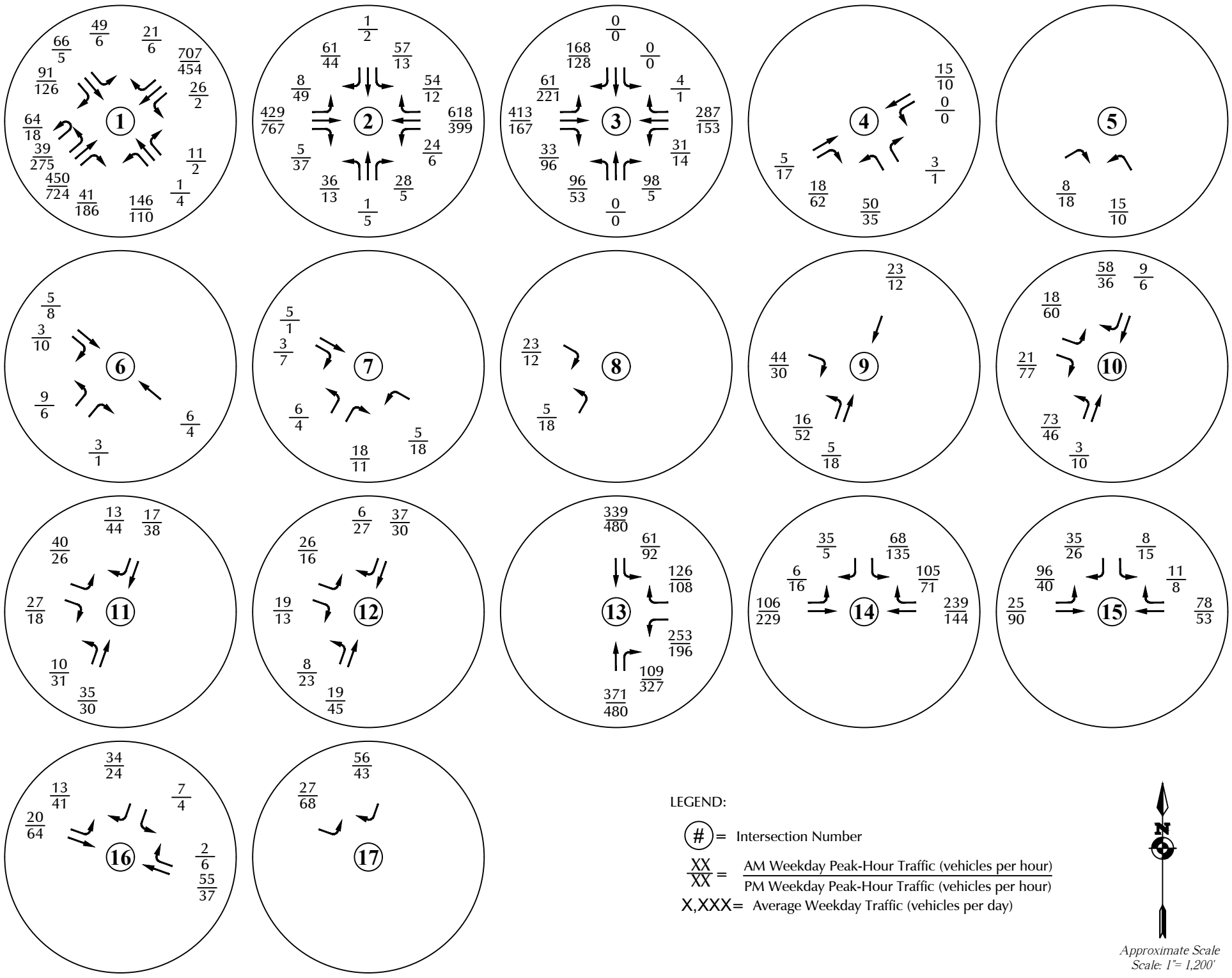


Figure 12 - Horizon Year (2040) Total Traffic with Project





LEGEND:

(#) = Intersection Number

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

X,XXX= Average Weekday Traffic (vehicles per day)

N

Approximate Scale
Scale: 1"= 1,200'

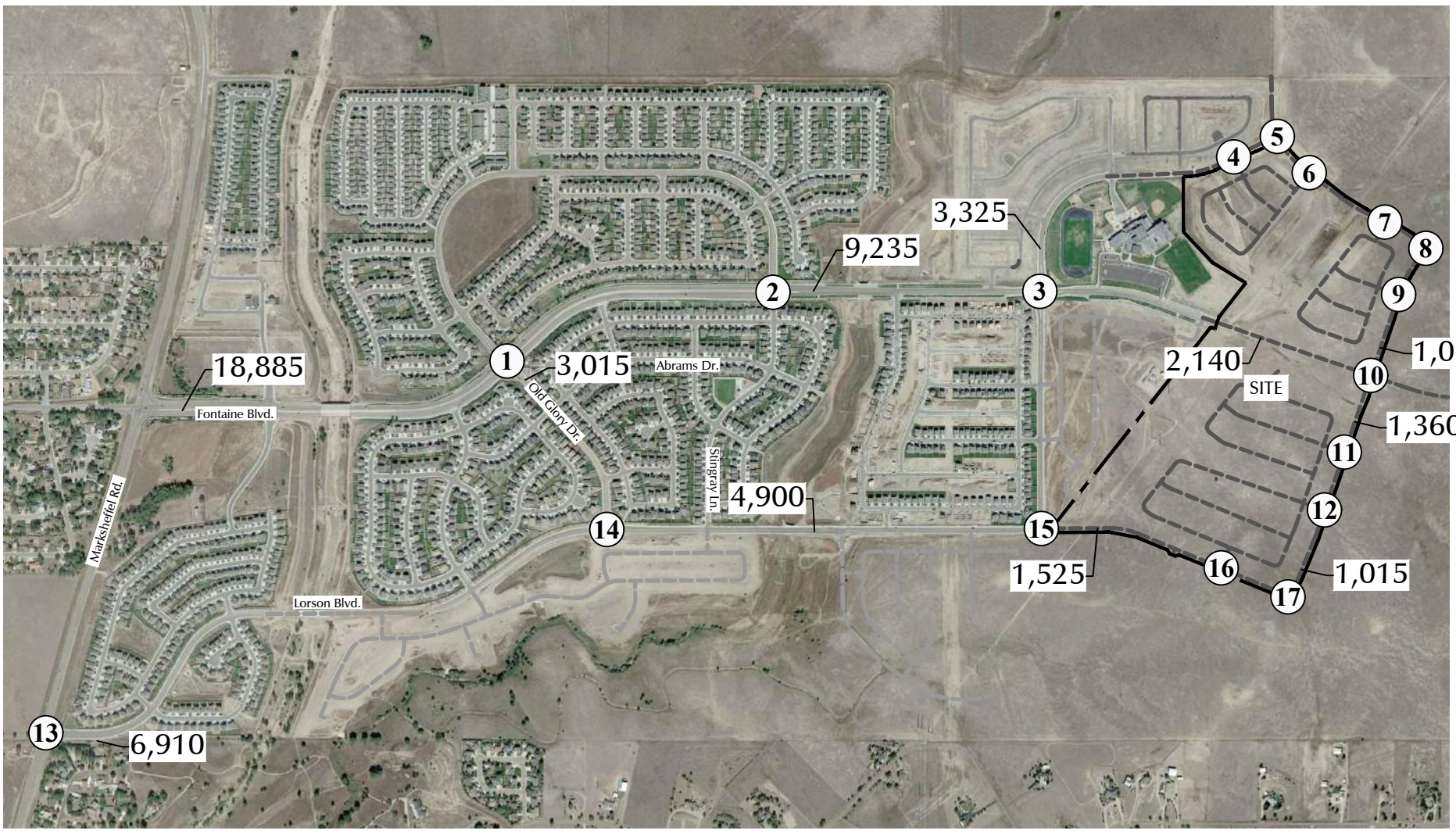
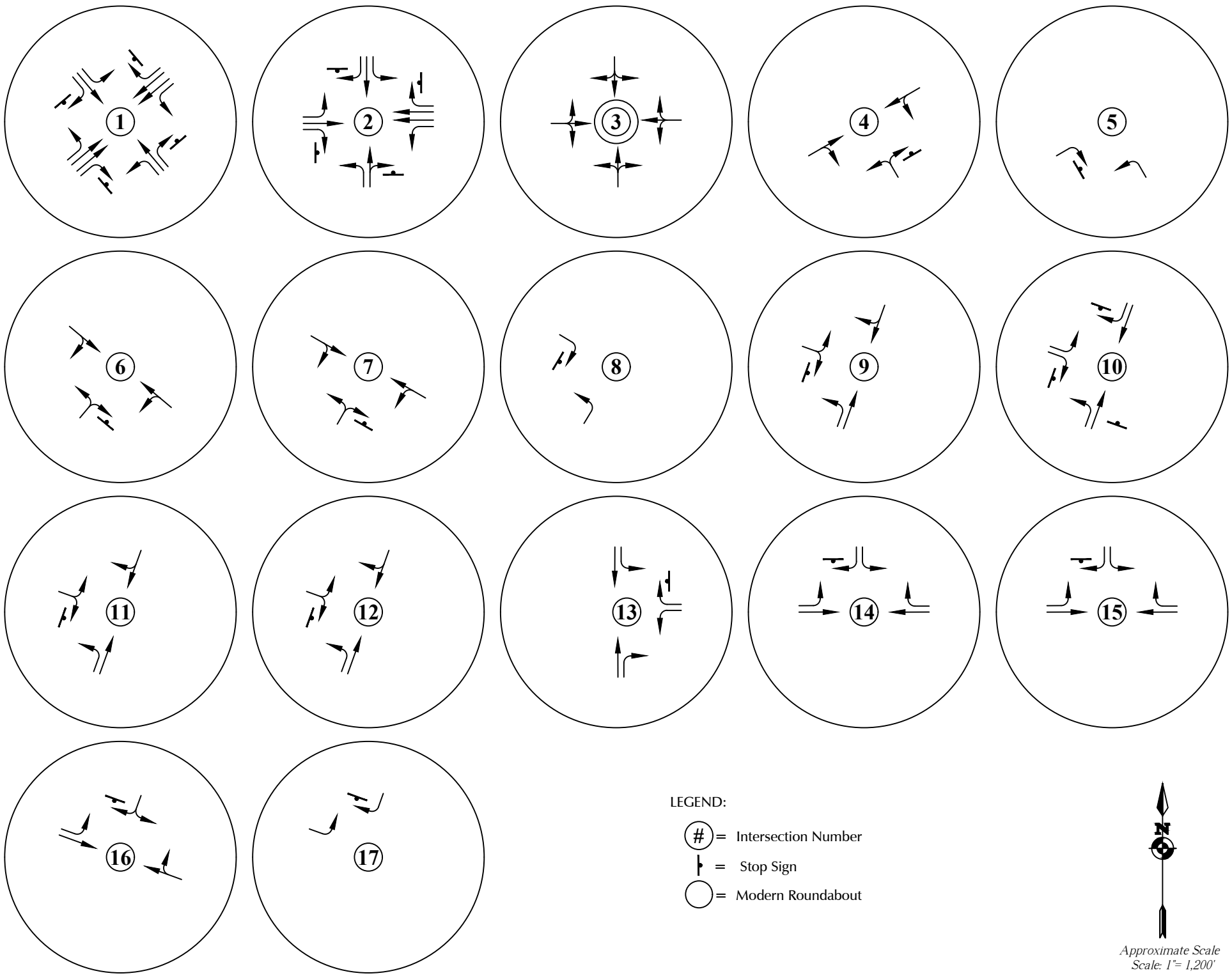


Figure 9a

Short-Term Total Traffic

The Hills at Lorson Ranch (LSC #204050)

TRANSPORTATION CONSULTANTS, INC.



LEGEND:

(#) = Intersection Number

= Stop Sign

= Modern Roundabout

N

Approximate Scale
Scale: 1"= 1,200'

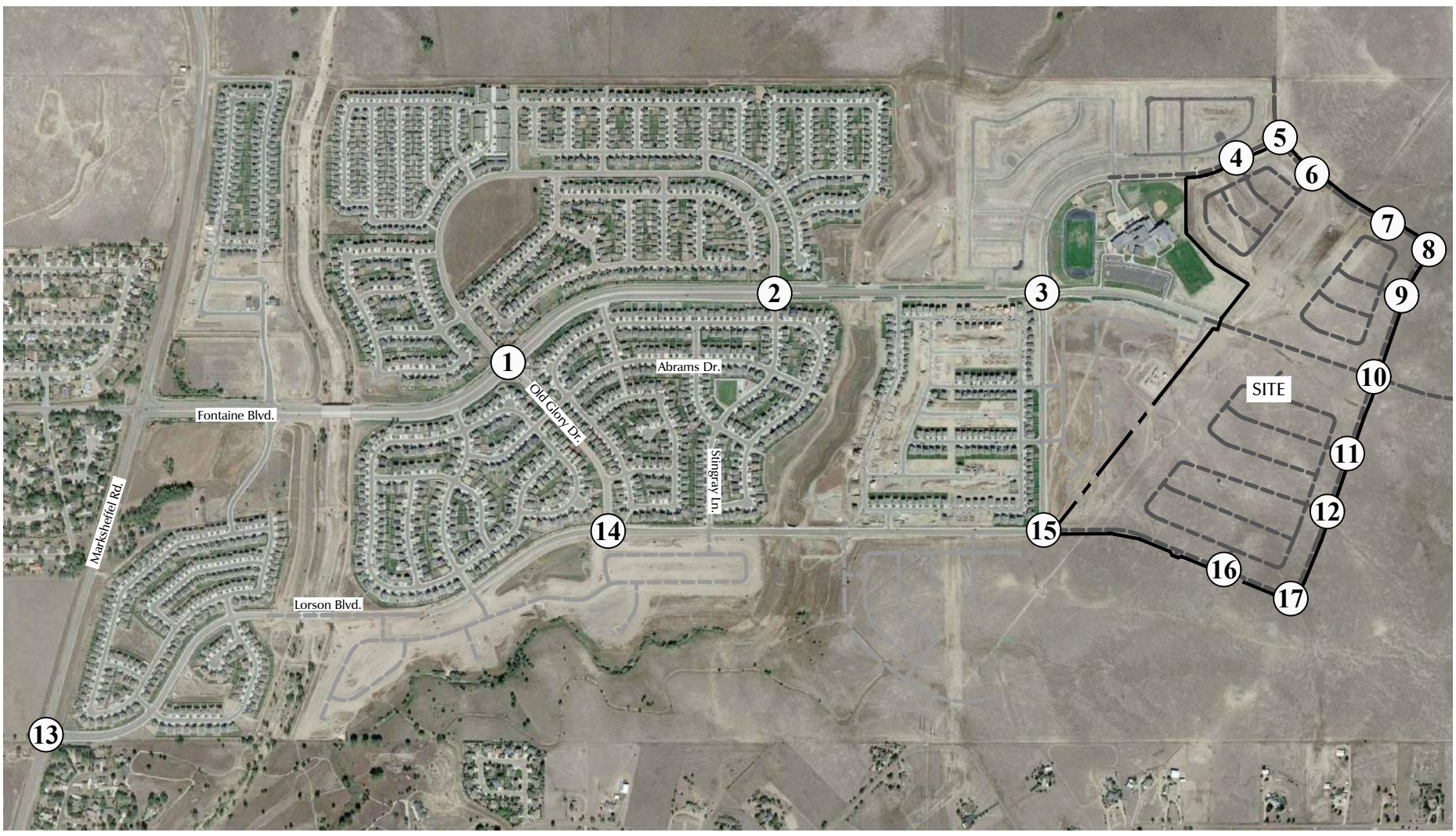
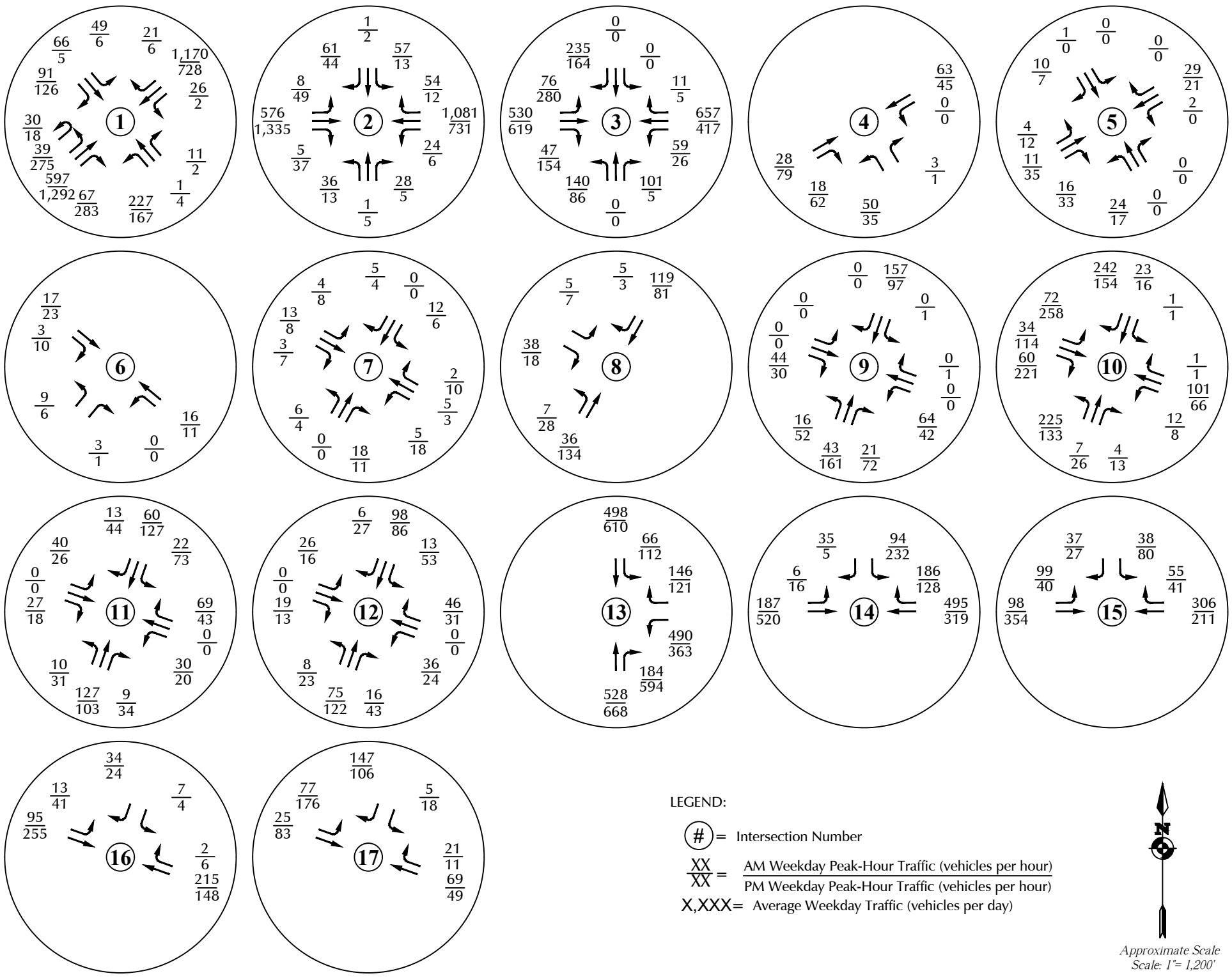


Figure 9b

Short-Term Total Lane Geometry and Traffic Control

The Hills at Lorson Ranch (LSC #204050)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

(#) = Intersection Number

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

X,XXX= Average Weekday Traffic (vehicles per day)

N

Approximate Scale
Scale: 1"= 1,200'

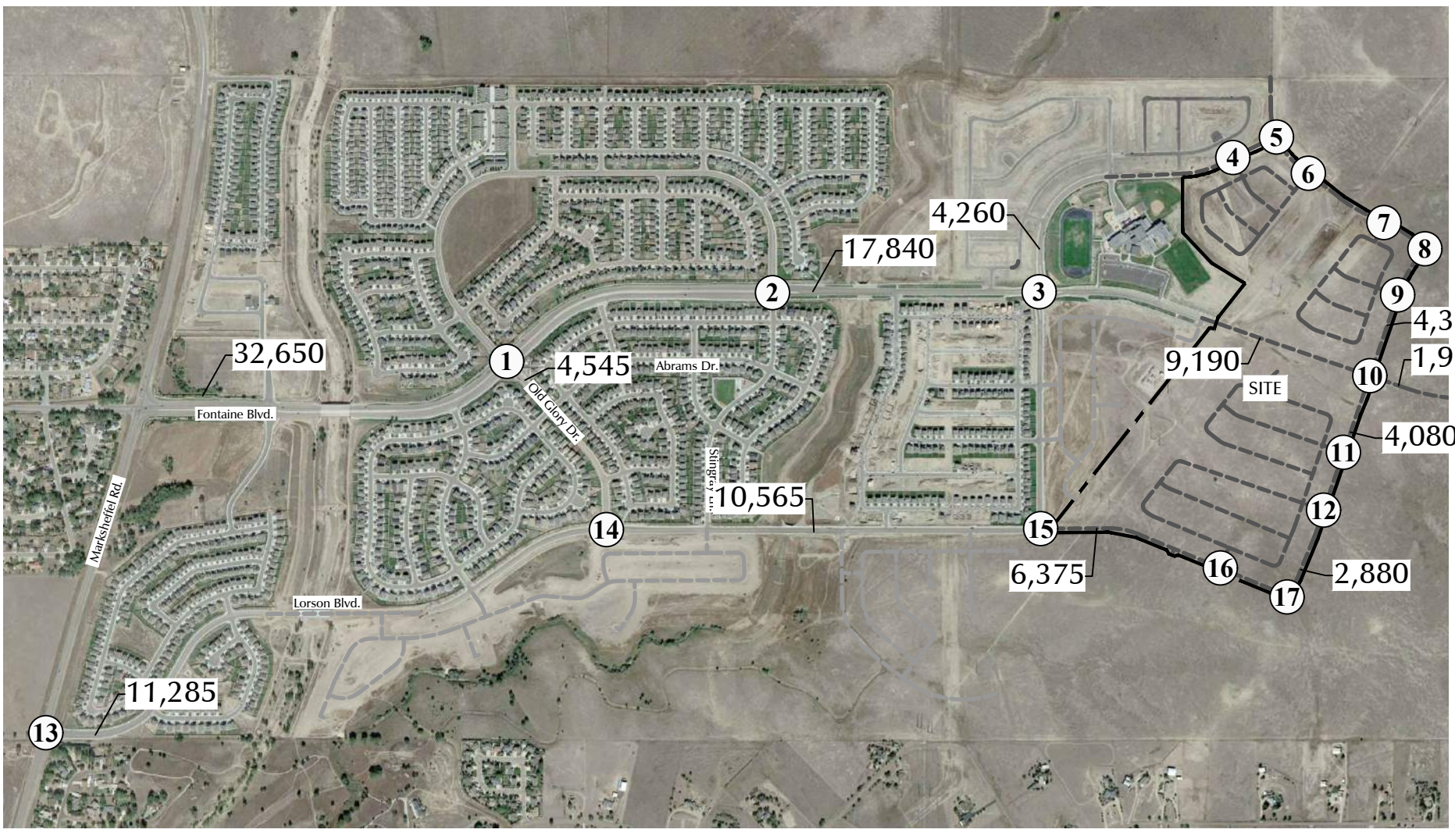
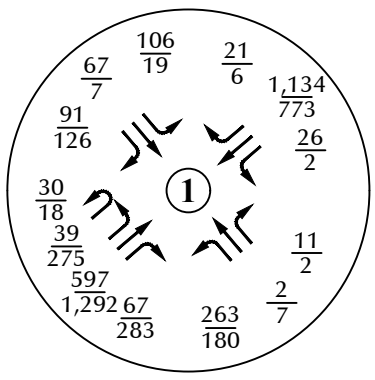


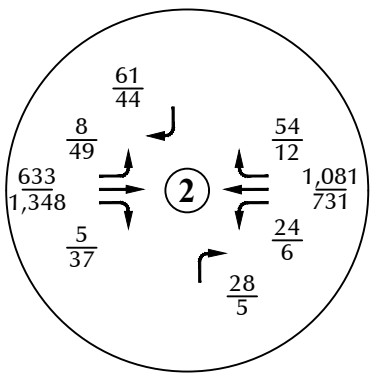
Figure 10a

Year 2040 Total Traffic

The Hills at Lorson Ranch (LSC #204050)

TRANSPORTATION CONSULTANTS, INC.





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LEGEND:

(#) = Intersection Number

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

X,XXX = Average Weekday Traffic (vehicles per day)

N

Approximate Scale
Scale: 1"= 1,200'

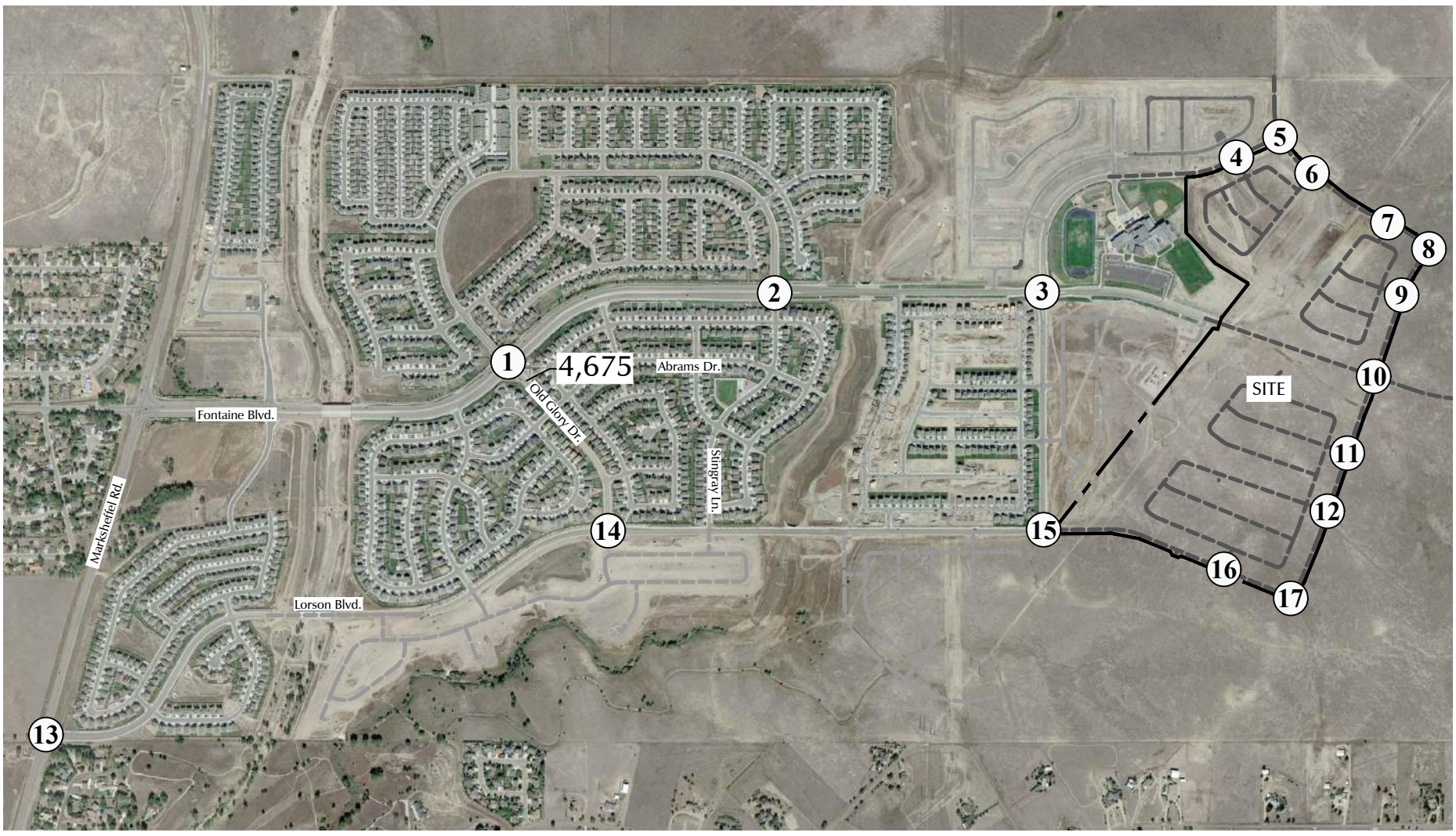
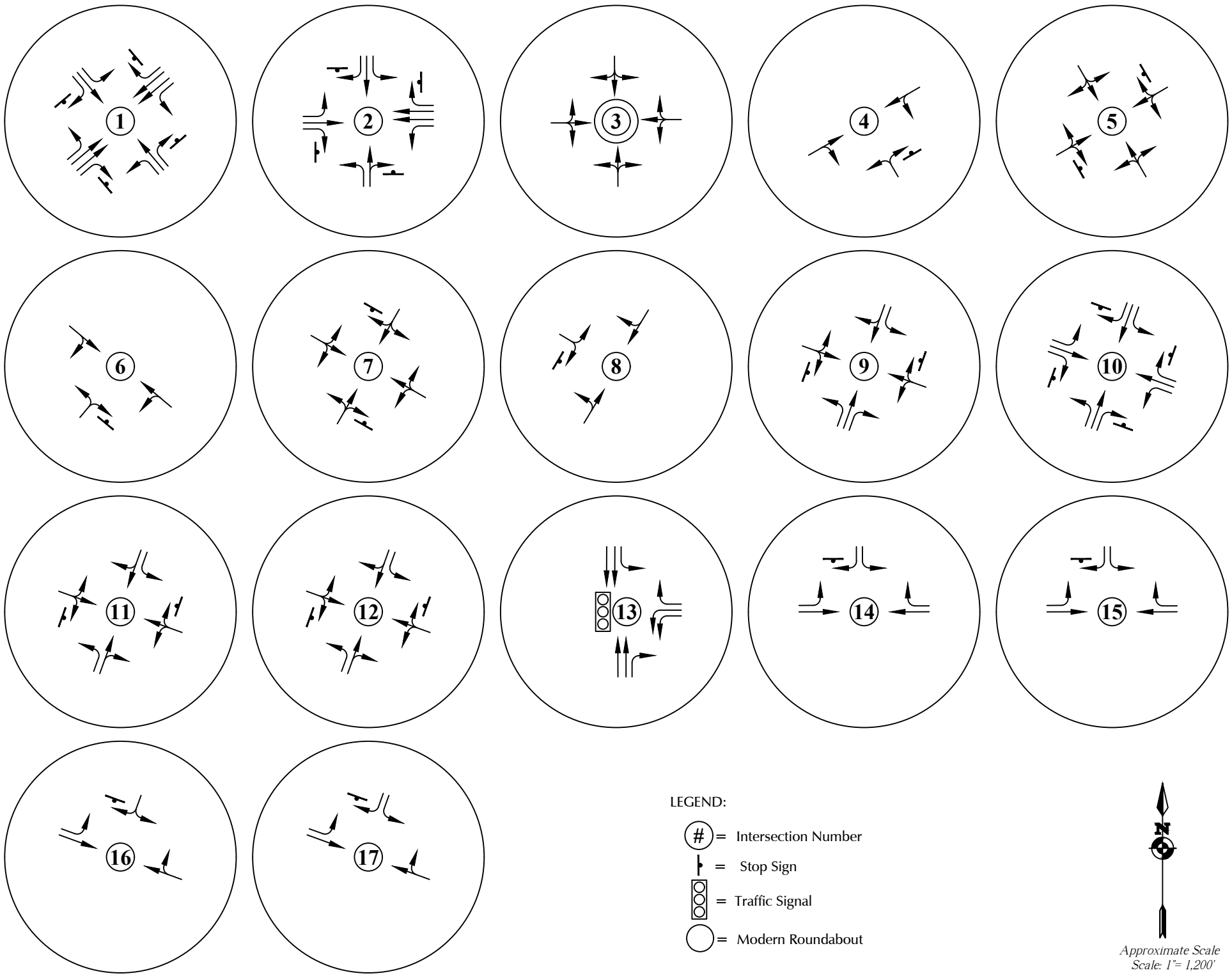


Figure 10b

Year 2040 Total Traffic
With Fontaine/Old Glory/Stingray Restricted to 3/4 Movement

The Hills at Lorson Ranch (LSC #204050)

TRANSPORTATION CONSULTANTS, INC.



LEGEND:

(#) = Intersection Number

= Stop Sign

= Traffic Signal

= Modern Roundabout

N

Approximate Scale
Scale: 1"= 1,200'

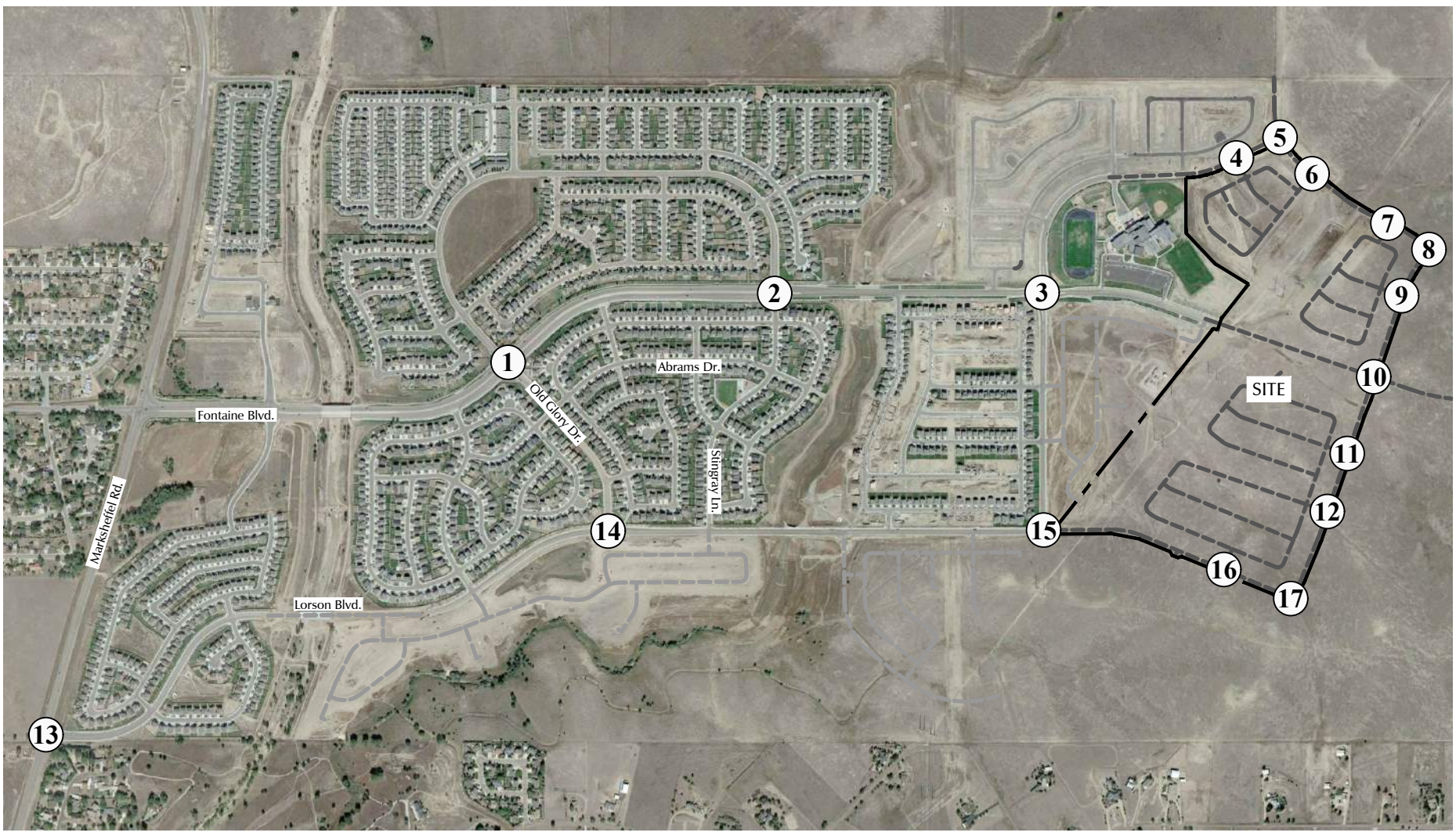
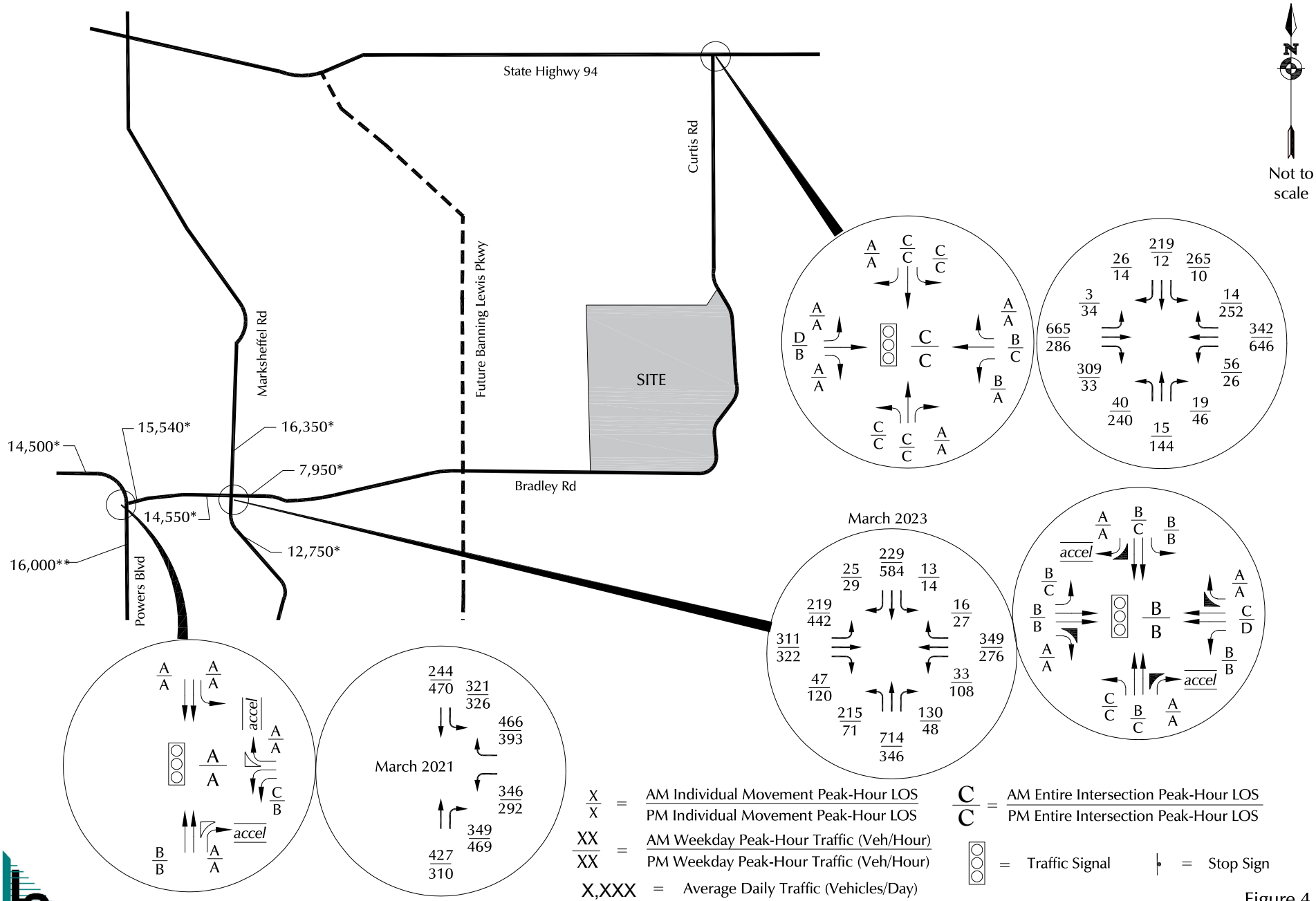


Figure 10c

Year 2040 Total Lane Geometry and Traffic Control

The Hills at Lorson Ranch (LSC #204050)

TRANSPORTATION CONSULTANTS, INC.



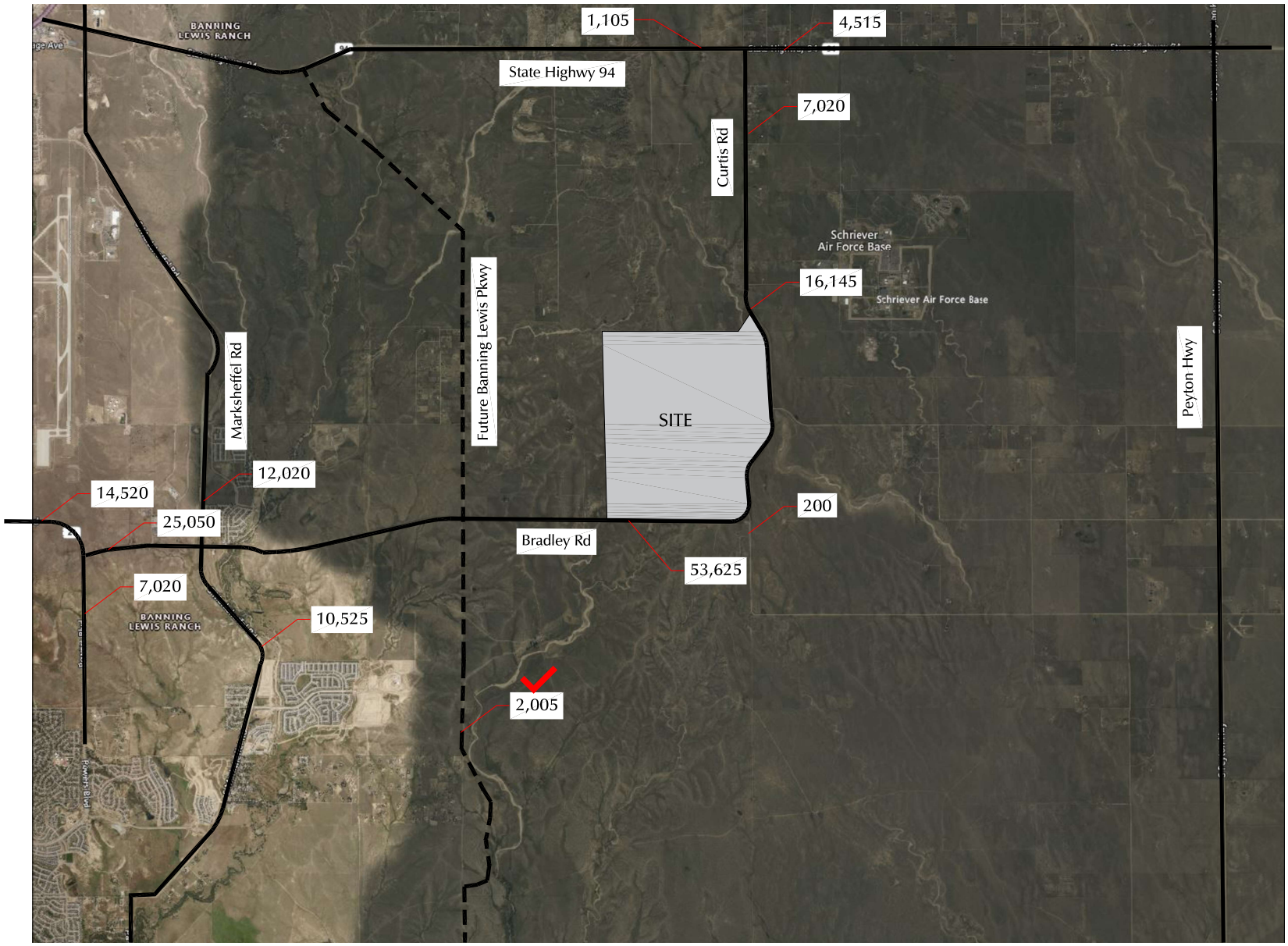
*Estimates by LSC
** 2021 AADT CDOT

Figure 4

Existing Traffic Conditions

Norris Ranch (LSC# S234150)

TRANSPORTATION CONSULTANTS, INC.



N

Not to scale

TRANSPORTATION CONSULTANTS, INC.

X,XXX = Average Daily Traffic (Vehicles/Day)

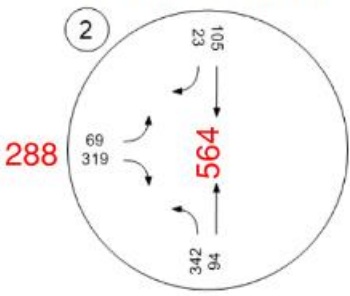
Figure 7

Site-Generated Traffic on External Roadways

Norris Ranch (LSC# S234150)

Phase 1 (2028)

Meridian Rd/Drennan Rd



California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/09/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd — Critical Approach Speed 35 mph
Minor St: Meridian Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐ **RURAL (R)**
☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	X 12,000	8,400	X 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

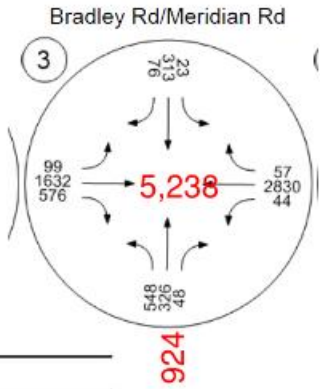
2 CONDITIONS 80% | 2 CONDITIONS 80%

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 1 (2028)



California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE _____
CHK _____ DATE 02/09/2024

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd — Critical Approach Speed 55 mph
Minor St: Meridian Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑
or
In built up area of isolated community of < 10,000 population..... ☐
} **RURAL (R)**

☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....✓.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....✓.....	1.....✓.....
2 or More.....	1.....
2 or More.....	2 or More.....
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	✓5,600	2,400	X 1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....✓.....	1.....✓.....
2 or More.....	1.....
2 or More.....	2 or More.....
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	X 8,400	1,200	✓850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
✓ 4,480	X 1344
X 6,720	✓ 680

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

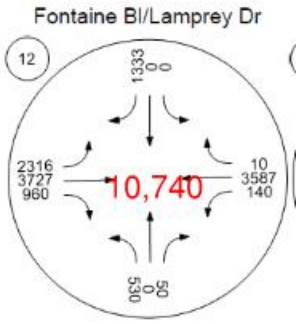


Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/09/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Fontaine Bl — Critical Approach Speed 35 mph
Minor St: Lamprey Dr — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..✓.. RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Minimum Requirements EADT

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 ✓	1 ✓	✓ 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 ✓	1 ✓	X 12,000	8,400	✓ 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ (A) ✓ (B)

2 CONDITIONS 80%	2 CONDITIONS 80%
✓ 6,400	X 1,920
✓ 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 1 (2028)

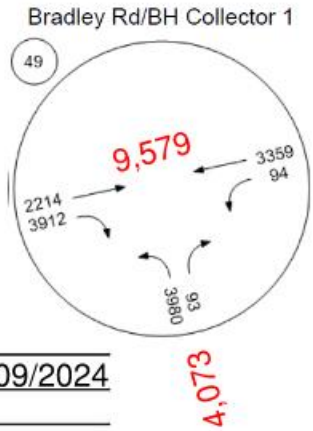


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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/09/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Road — Critical Approach Speed 55 mph
Minor St: BH Collector #1 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑
or
In built up area of isolated community of < 10,000 population..... ☐
→ RURAL (R)
☐ URBAN (U)

Current speed.

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL ✓

CONDITION A - Minimum Vehicular Volume

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	8,000	✓5,600	2,400	✓1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	12,000	✓8,400	1,200	✓850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ✓ Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

	2 CONDITIONS 80%
Vehicles Per Day on Major Street (Total of Both Approaches)	✓4,480 / ✓6,720
Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	✓1344 / ✓680

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 1 (2028)

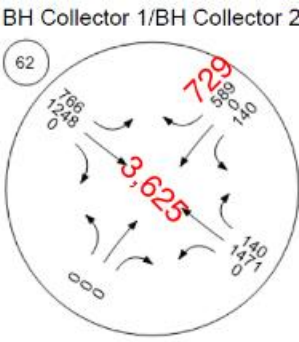

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/09/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: BH Collector #1 Critical Approach Speed 35 mph
Minor St: BH Collector #2 Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)
☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 12,000	8,400	X 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	X 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 1 (2028)

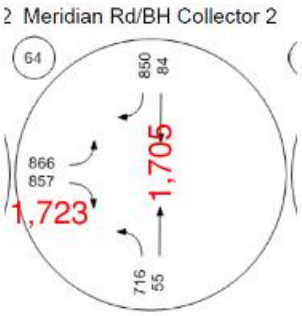

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST ____ CO ____ RTE ____ PM ____

COUNT DATE ____
CALC NS DATE 02/09/2024
CHK ____ DATE ____

Major St: Meridian Rd — Critical Approach Speed 35 mph
Minor St: BH Collector #2 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... 35 ☐
or
In built up area of isolated community of < 10,000 population..... 35 ☐ } RURAL (R)
☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied ____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	X 12,000	8,400	✓ 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... ____ (A) ____ (B)

	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
2 CONDITIONS 80%		
	X 6,400	X 1,920
	X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Meridian Rd/BH Collector 1

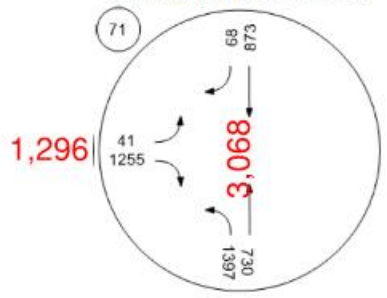

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/09/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Meridian Rd
Minor St: BH Collector #3 (#1 in model)

Critical Approach Speed 35 mph
Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	✓ 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 2 (2030)

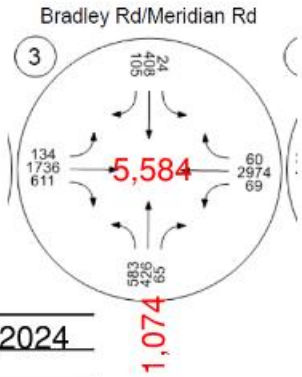

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/12/2024
CHK _____ DATE _____

_____ DIST _____ CO _____ RTE _____ PM

Major St: Bradley Rd — Critical Approach Speed 55 mph
Minor St: Meridian Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑
or
In built up area of isolated community of < 10,000 population..... ☐ } **RURAL (R)**

☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....✓.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....✓.....	1.....✓.....
2 or More.....	1.....
2 or More.....	2 or More.....
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	✓ 5,600	2,400	X 1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....✓.....	1.....✓.....
2 or More.....	1.....
2 or More.....	2 or More.....
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches) / Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)

Urban	Rural	Urban	Rural
12,000	X 8,400	1,200	✓ 850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80%	2 CONDITIONS 80%
✓ 4,480	X 1344
X 6,720	✓ 680

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 2 (2030)

Designed as a roundabout all the assumed traffic are right-turns

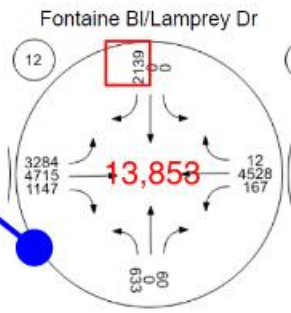

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/12/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Fontaine Bl
Minor St: Lamprey Dr

Critical Approach Speed 35 mph
Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
RURAL (R)

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..✓.. RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Minimum Requirements EADT

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 ✓	1 ✓	✓8,000	5,600	x2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 ✓	1 ✓	✓12,000	8,400	✓1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ✓ Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
✓ 6,400	✓ 1,920
✓ 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 2 (2030)

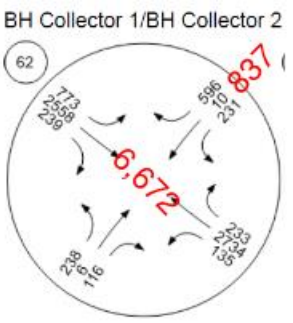

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/12/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: BH Collector #1 Critical Approach Speed 35 mph
Minor St: BH Collector #2 Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)
☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	X 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... X (A) X (B)

2 CONDITIONS 80%	2 CONDITIONS 80%
✓ 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 2 (2030)

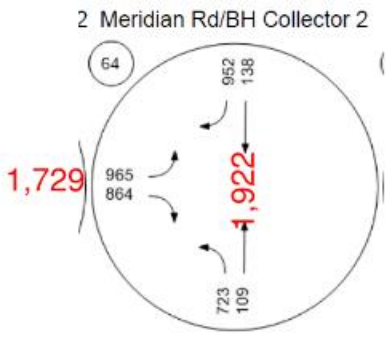

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/12/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Meridian Rd — Critical Approach Speed 35 mph
Minor St: BH Collector #2 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... 35 ☐
In built up area of isolated community of < 10,000 population..... 35 ☐ } or
☑ **URBAN (U)**
RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	✓ 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 2 (2030)

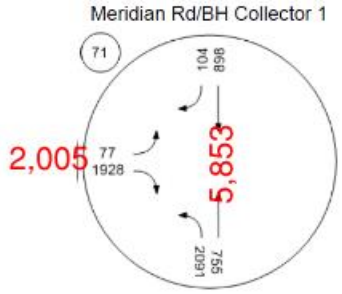

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

CALC NS DATE 02/09/2024

CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Meridian Rd — Critical Approach Speed 35 mph

Minor St: BH Collector #3 (#1 in model) — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....	Minimum Requirements EADT	
CONDITION A - Minimum Vehicular Volume	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Satisfied ✓ Not Satisfied X	Urban / Rural	Urban / Rural
Number of lanes for moving traffic on each approach		
Major Street / Minor Street		
1 ✓ / 1 ✓	X 8,000 / 5,600	✓ 2,400 / 1,680
2 or More / 1	9,600 / 6,720	2,400 / 1,680
2 or More / 2 or More	9,600 / 6,720	3,200 / 2,240
1 / 2 or More	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Satisfied _____ Not Satisfied X		
Number of lanes for moving traffic on each approach		
Major Street / Minor Street		
1 ✓ / 1 ✓	X 12,000 / 8,400	✓ 1,200 / 850
2 or More / 1	14,400 / 10,080	1,200 / 850
2 or More / 2 or More	14,400 / 10,080	1,600 / 1,120
1 / 2 or More	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A + B		
Satisfied _____ Not Satisfied X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____	X 6,400 / X 9,600	✓ 1,920 / ✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 2 (2030)

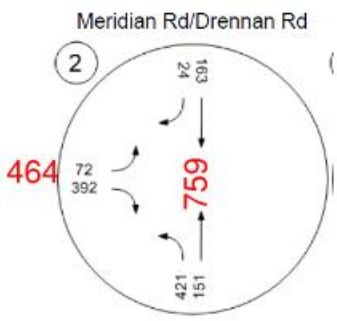

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/12/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd — Critical Approach Speed 35 mph
Minor St: Meridian Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
} **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Minimum Requirements EADT

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 ✓	1 ✓	X 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 ✓	1 ✓	X 12,000	8,400	X 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%		2 CONDITIONS 80%	
X 6,400	X 9,600	X 1,920	X 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 3 (2032)

Meridian Rd/Drennan Rd

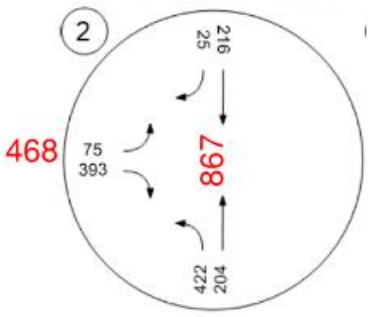

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd — Critical Approach Speed 35 mph
Minor St: Drennan Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
☑ **URBAN (U)**
RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 12,000	8,400	X 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	X 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 3 (2032)

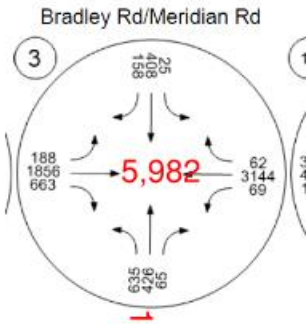

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd — Critical Approach Speed 35 mph
Minor St: Meridian Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
☑ **RURAL (R)**
URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	X 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1344
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 3 (2032)

Fontaine Bl/Lamprey Dr

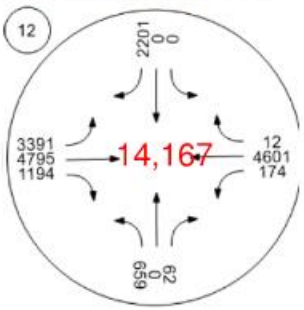

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

CALC NS DATE 02/13/2024

CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Fontaine Bl — Critical Approach Speed 35 mph

Minor St: Lamprey Dr — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐

☑ **URBAN (U)**

☐ **RURAL (R)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	✓ 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	✓ 12,000	8,400	✓ 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ✓ Not Satisfied _____

	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or more.....		
A	✓ 6,400	✓ 1,920
B	✓ 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 3 (2032)

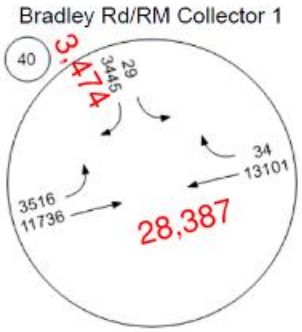

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Road — Critical Approach Speed 45 mph
Minor St: RM Collector #1 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑
or
In built up area of isolated community of < 10,000 population..... ☐ **RURAL (R)**
☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....✓

CONDITION A - Minimum Vehicular Volume

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More ✓	1 ✓	9,600	✓6,720	2,400	✓1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More ✓	1 ✓	14,400	✓10,080	1,200	✓850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ✓ Not Satisfied _____

	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or more.....		
A	✓ 4,480	✓ 1344
B	✓ 6,720	✓ 680

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 3 (2032)

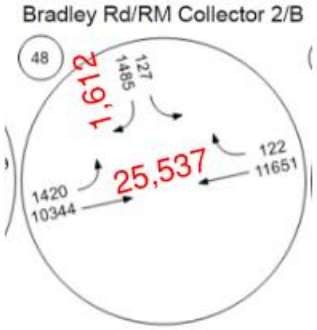

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Road — Critical Approach Speed 45 mph
Minor St: RM Collector #2 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑
or
In built up area of isolated community of < 10,000 population..... ☐
→ RURAL (R)
☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... ✓

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More ✓	1 ✓
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	✓6,720	2,400	X 1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More ✓	1 ✓
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	✓10,080	1,200	✓850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ✓ Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
✓ 4,480	✓ 1344
✓ 6,720	✓ 680

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 3 (2032)

Meridian Rd/BH Collector 2

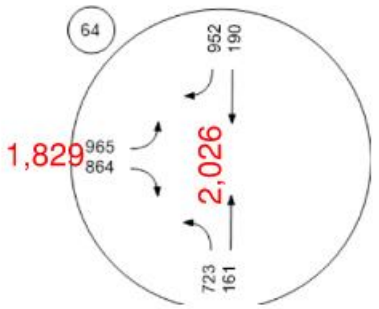

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

CALC NS DATE 02/13/2024

CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Meridian Rd — Critical Approach Speed 35 mph

Minor St: BH Collector #2 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... 35 ☐

In built up area of isolated community of < 10,000 population..... 35 ☐ } or — **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Minimum Requirements EADT

Number of lanes for moving traffic on each approach				Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major	Street	Minor	Street	Urban	Rural	Urban	Rural
1 ✓		1 ✓		X 8,000	5,600	X 2,400	1,680
2 or More		1		9,600	6,720	2,400	1,680
2 or More		2 or More		9,600	6,720	3,200	2,240
1		2 or More		8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach				Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major	Street	Minor	Street	Urban	Rural	Urban	Rural
1 ✓		1 ✓		X 12,000	8,400	✓ 1,200	850
2 or More		1		14,400	10,080	1,200	850
2 or More		2 or More		14,400	10,080	1,600	1,120
1		2 or More		12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 4 (2034)

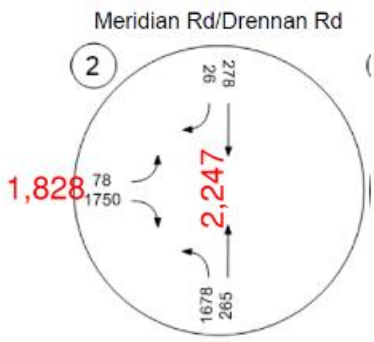

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

DIST	CO	RTE	PM

CALC NS DATE 02/13/2024

CHK _____ DATE _____

Major St: Meridian Rd — Critical Approach Speed 35 mph

Minor St: Drennan — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐ **RURAL (R)**

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..✓.. RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Minimum Requirements EADT

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Vehicles Per Day on Major Street (Total of Both Approaches) Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Rural
1 ✓	1 ✓	X 8,000	5,600	X 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Vehicles Per Day on Major Street (Total of Both Approaches) Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Rural
1 ✓	1 ✓	X 12,000	8,400	✓ 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 4 (2034)

Bradley Rd/Meridian Rd

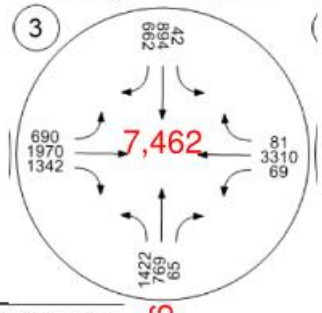

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd
Minor St: Meridian Rd

Critical Approach Speed 35 mph
Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐

☑ **URBAN (U)**
☐ **RURAL (R)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 8,000	5,600	✓ 2,400	1,680
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 ✓	1 ✓	X 12,000	8,400	✓ 1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... ✓ (A) _____ (B)

	2 CONDITIONS 80%
Vehicles Per Day on Major Street	✓ 6,400 / X 9,600
Vehicles Per Day on Higher-Volume Minor Street Approach	✓ 1,920 / ✓ 680

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Phase 4 (2034)

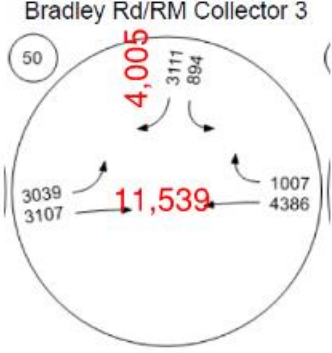

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd — Critical Approach Speed 45 mph
Minor St: RM Collector #3 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑
or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)
☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....✓.....

CONDITION A - Minimum Vehicular Volume

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 or More ✓	1 ✓	9,600	✓ 6,720	2,400	✓ 1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More ✓	1 ✓	14,400	✓ 10,080	1,200	✓ 850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ✓ Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

Note: To be used only for NEW INTERSECTIONS or ot actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not

Phase 4 (2034)

Meridian Rd/RM Collector 3

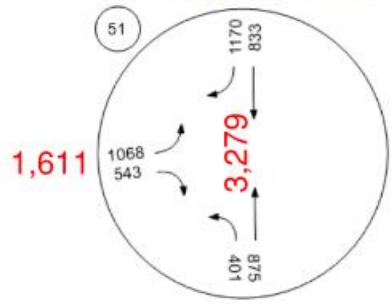

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Meridian Rd — Critical Approach Speed 35 mph
Minor St: RM Collector #3 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐
RURAL (R)

☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	✓ 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Horizon (No Norris)

California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Meridian Rd/Drennan Rd

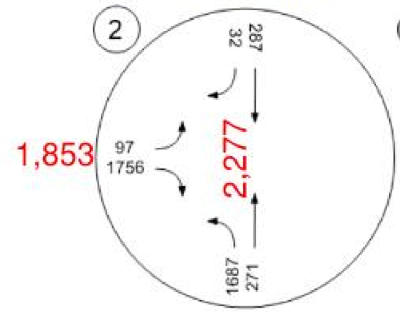


Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE ______
CALC NS DATE 02/13/2024
CHK ______ DATE ______

____ DIST ____ CO ____ RTE ____ PM

Major St: Bradley Rd — Critical Approach Speed 35 mph
Minor St: Drennan Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph.......... ☐ or
In built up area of isolated community of < 10,000 population.......... ☐ } RURAL (R)
☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN....✓.... RURAL..........	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume Satisfied ______ Not Satisfied X	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach	Urban	Rural	Urban	Rural
Major Street 1....✓.... / Minor Street 1....✓....	X 8,000	5,600	X 2,400	1,680
Major Street 2 or More / Minor Street 1	9,600	6,720	2,400	1,680
Major Street 2 or More / Minor Street 2 or More	9,600	6,720	3,200	2,240
Major Street 1 / Minor Street 2 or More	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic Satisfied ______ Not Satisfied X	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach	Urban	Rural	Urban	Rural
Major Street 1....✓.... / Minor Street 1....✓....	X 12,000	8,400	✓ 1,200	850
Major Street 2 or More / Minor Street 1	14,400	10,080	1,200	850
Major Street 2 or More / Minor Street 2 or More	14,400	10,080	1,600	1,120
Major Street 1 / Minor Street 2 or More	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B Satisfied ______ Not Satisfied X <u>No one condition satisfied</u>, but following conditions fulfilled 80% or more.......... ______ A ______ B	2 CONDITIONS 80% X 6,400 X 9,600		2 CONDITIONS 80% X 1,920 ✓ 960	

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Horizon (No Norris)

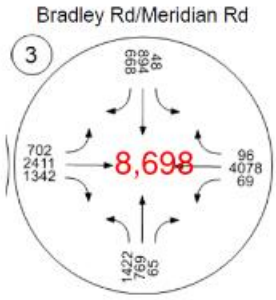


Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

2,256

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd
Minor St: Meridian Rd

Critical Approach Speed 35 mph
Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐

☐ RURAL (R)
☑ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
✓ 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	✓ 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

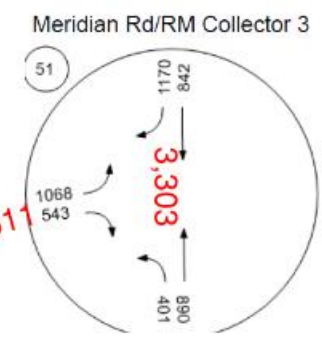
No one condition satisfied, but following conditions fulfilled 80% or more..... ✓ (A) _____ (B)

2 CONDITIONS 80%	2 CONDITIONS 80%
✓ 6,400	✓ 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Horizon (No Norris)



California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Meridian Rd — Critical Approach Speed 35 mph
Minor St: RM Collector #3 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐ **RURAL (R)**
☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	✓ 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

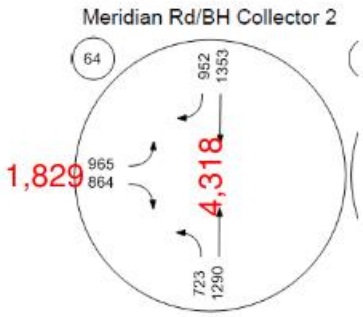
No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Horizon (No Norris)



California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC NS DATE 02/13/2024
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Meridian Rd — Critical Approach Speed 35 mph
Minor St: BH Collector #2 — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐
or
In built up area of isolated community of < 10,000 population..... ☐ **RURAL (R)**
☑ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X 12,000	8,400	✓ 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
X 6,400	X 1,920
X 9,600	✓ 960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Horizon (With Norris)

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC _____ DATE _____
CHK _____ DATE _____

_____ DIST _____ CO _____ RTE _____ PM

Major St: Bradley Rd _____ Critical Approach Speed 45 mph
Minor St: Meridian Rd _____ Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑
or
In built up area of isolated community of < 10,000 population..... ☐ **RURAL (R)**

☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More ✓	1 ✓
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
✓9,600	6,720	✓2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More ✓	1 ✓
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
✓14,400	10,080	✓1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ✓ Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... _____ A _____ B

2 CONDITIONS 80%	2 CONDITIONS 80%
✓6,400	✓1,920
✓9,600	✓960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Horizon (With Norris)

1,820 (One Way)

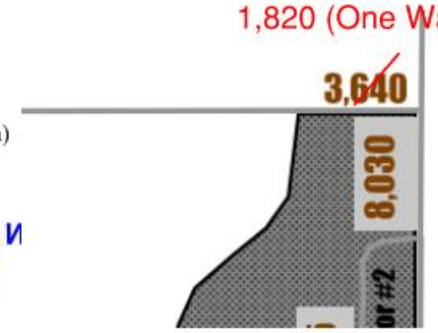


Figure 4C-103 (CA). Traffic Signal Warrants W (Average Traffic Estimate Form)

COUNT DATE _____

CALC _____ DATE _____

CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: Bradley Rd — Critical Approach Speed 35 mph

Minor St: Drennan Rd — Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐

or

In built up area of isolated community of < 10,000 population..... ☐

☑ **URBAN (U)**

☐ **RURAL (R)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN ✓ RURAL.....

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
✓8,000	5,600	X 2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied X

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 ✓	1 ✓
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
X12,000	8,400	✓ 1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied X

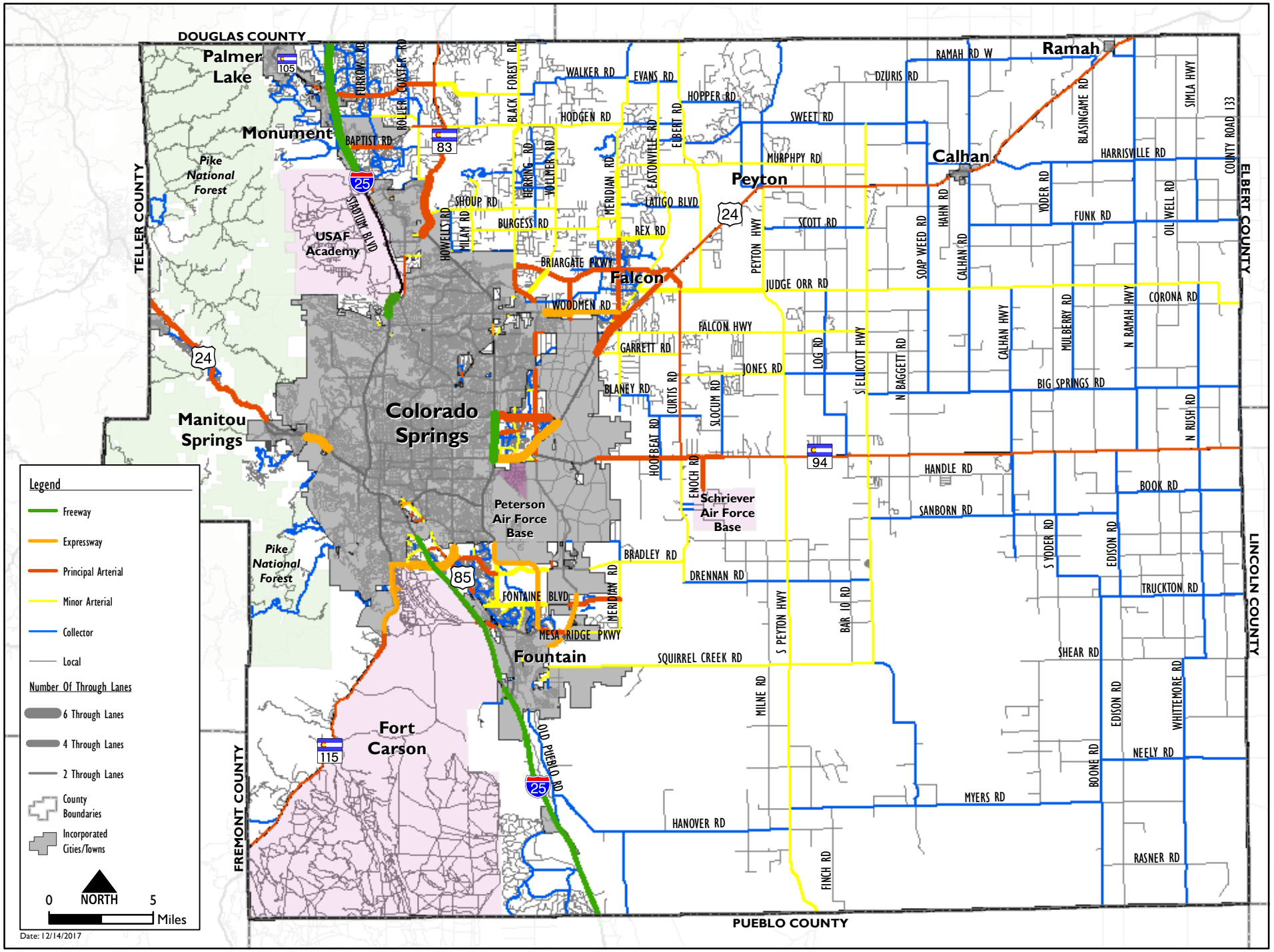
No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%	2 CONDITIONS 80%
✓6,400	X 1,920
X9,600	✓960

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Map 14: 2040 Functional Classification



Monument
Baptist Road
Hodgen Road
North Gate Blvd
Shoup Rd
Latigo
Rex Rd
Stapleton Road
Briargate Pkwy
Research Pkwy
Woodmen Road
Dublin Blvd
Falcon Hwy
Garrett Rd
Stetson Hills Blvd
Barnes Rd
Garden of the Gods Rd
Austin Bluffs Pkwy
N Carefree Cir
Carefree Cir
Fillmore St
Constitution Ave
Palmer Park Blvd
Uintah St
Platte Ave
Pikes Peak Ave
Lake Ave
Hancock Expy
Drennan Rd
Bradley Road
Bradley Rd
Fontaine Blvd
Mesa Ridge Pkwy
C and S Road
Squirrel Creek
Fountain
Manitou Springs
US Air Force Academy
Fort Carson
Peterson AFB
COS Airport
Pike and San Isabel National Forests
Black Forest Road
Vollmer Road
Meridian Road
Eastonville Rd
Milam Rd
Voyager Pkwy
Academy Blvd
Union Blvd
Peterson Rd
Markshieffel Rd
Blaney Rd
Centennial Blvd
31st St
Colorado Ave
Nevada Ave
Wahsatch Ave
8th St
Circle Dr
Venetucci Blvd
B St
Link Road
Curtis Road
Banning Lewis Pkwy
25
24
21
94
115
85-87

COLORADO SPRINGS
OLYMPIC CITY USA

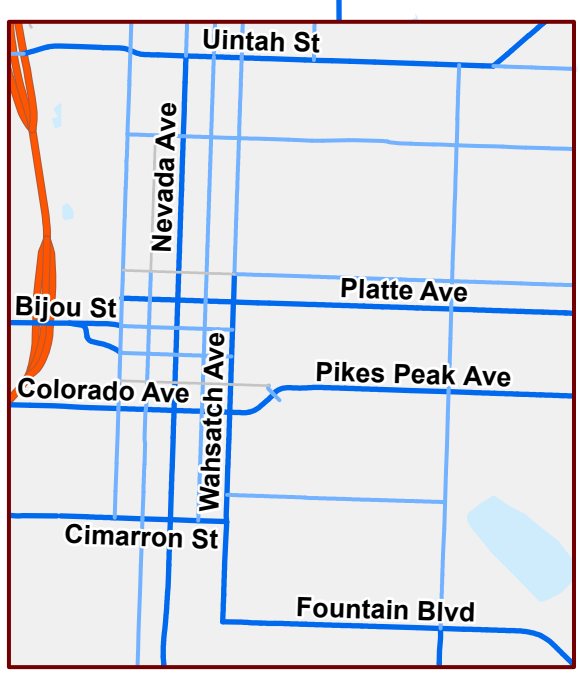
Major Thoroughfare Plan

Ordinance No. TBD

- Freeway
- Expressway
- Principal Arterial
- Minor Arterial
- * Collector

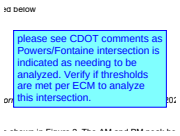
* Some Collectors (not all) are shown for clarity

0 1.25 2.5 5 Miles



V_2 Traffic Impact Study.pdf Markup Summary

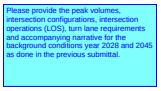
Daniel Torres (14)



Subject: Text Box
Page Label: 8
Author: Daniel Torres
Date: 3/18/2024 4:29:48 PM
Status:
Color:
Layer:
Space:

please see CDOT comments as Powers/Fontaine intersection is indicated as needing to be analyzed. Verify if thresholds are met per ECM to analyze this intersection.

Subject: Highlight
Page Label: 9
Author: Daniel Torres
Date: 3/18/2024 3:40:59 PM
Status:
Color:
Layer:
Space:

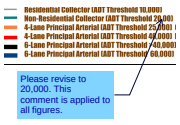


Subject: Text Box
Page Label: 28
Author: Daniel Torres
Date: 3/18/2024 3:52:09 PM
Status:
Color:
Layer:
Space:

Please provide the peak volumes, intersection configurations, intersection operations (LOS), turn lane requirements and accompanying narrative for the background conditions year 2028 and 2045 as done in the previous submittal.

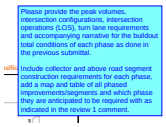
Subject: Callout
Page Label: 29
Author: Daniel Torres
Date: 3/18/2024 11:11:57 AM
Status:
Color:
Layer:
Space:

Please indicate whether from EPC, MTCP or COS MTP. This comment is applied to all figures.



Subject: Callout
Page Label: 29
Author: Daniel Torres
Date: 3/18/2024 3:52:33 PM
Status:
Color:
Layer:
Space:

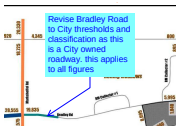
Please revise to 20,000. This comment is applied to all figures.



Subject: Text Box
Page Label: 30
Author: Daniel Torres
Date: 3/18/2024 4:36:08 PM
Status:
Color:
Layer:
Space:

Please provide the peak volumes, intersection configurations, intersection operations (LOS), turn lane requirements and accompanying narrative for the buildout total conditions of each phase as done in the previous submittal.

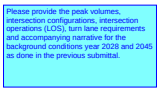
Include collector and above road segment construction requirements for each phase, add a map and table of all phased improvements/segments and which phase they are anticipated to be required with as indicated in the review 1 comment.



Subject: Callout
Page Label: 30
Author: Daniel Torres
Date: 3/18/2024 4:38:03 PM
Status:
Color:
Layer:
Space:

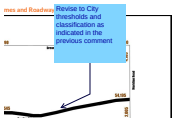
Revise Bradley Road to City thresholds and classification as this is a City owned roadway. this applies to all figures

---



Subject: Text Box
Page Label: 34
Author: Daniel Torres
Date: 3/18/2024 4:38:24 PM
Status:
Color:
Layer:
Space:

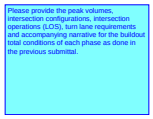
Please provide the peak volumes, intersection configurations, intersection operations (LOS), turn lane requirements and accompanying narrative for the background conditions year 2028 and 2045 as done in the previous submittal.



Subject: Callout
Page Label: 35
Author: Daniel Torres
Date: 3/18/2024 4:40:11 PM
Status:
Color:
Layer:
Space:

Revise to City thresholds and classification as indicated in the previous comment

---



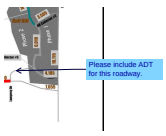
Subject: Text Box
Page Label: 36
Author: Daniel Torres
Date: 3/18/2024 4:40:20 PM
Status:
Color:
Layer:
Space:

Please provide the peak volumes, intersection configurations, intersection operations (LOS), turn lane requirements and accompanying narrative for the buildout total conditions of each phase as done in the previous submittal.

Subject: Callout
Page Label: 37
Author: Daniel Torres
Date: 3/18/2024 4:40:59 PM
Status:
Color:
Layer:
Space:

Revise to City thresholds and classification as indicated in the previous comment for Bradley Road

---

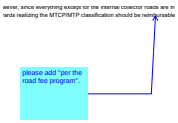


Subject: Callout
Page Label: 37
Author: Daniel Torres
Date: 3/18/2024 2:19:24 PM
Status:
Color:
Layer:
Space:

Please include ADT for this roadway.

Subject: Callout
Page Label: 38
Author: Daniel Torres
Date: 3/18/2024 2:56:38 PM
Status:
Color:
Layer:
Space:

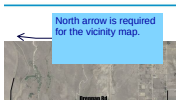
? use latest national MUTCD 11 edition, December 2023



Subject: Callout
Page Label: 39
Author: Daniel Torres
Date: 3/18/2024 4:12:53 PM
Status:
Color:
Layer:
Space:

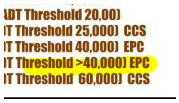
please add "per the road fee program".

HaoVo (16)



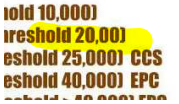
Subject: Callout
Page Label: 9
Author: HaoVo
Date: 3/18/2024 11:10:43 AM
Status:
Color:
Layer:
Space:

North arrow is required for the vicinity map.



Subject: Highlight
Page Label: 29
Author: HaoVo
Date: 3/11/2024 10:56:49 AM
Status:
Color:
Layer:
Space:

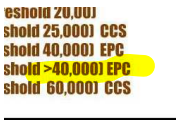
Subject: Highlight
Page Label: 29
Author: HaoVo
Date: 3/11/2024 11:00:18 AM
Status:
Color:
Layer:
Space:



Subject: Highlight
Page Label: 30
Author: HaoVo
Date: 3/11/2024 11:00:30 AM
Status:
Color:
Layer:
Space:

Subject: Highlight
Page Label: 30
Author: HaoVo
Date: 3/11/2024 11:00:32 AM
Status:
Color:
Layer:
Space:

Subject: Highlight
Page Label: 31
Author: HaoVo
Date: 3/11/2024 11:06:24 AM
Status:
Color:
Layer:
Space:



Subject: Highlight
Page Label: 31
Author: HaoVo
Date: 3/11/2024 11:06:26 AM
Status:
Color:
Layer:
Space:

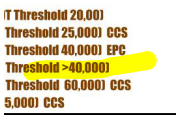
Subject: Highlight
Page Label: 32
Author: HaoVo
Date: 3/11/2024 10:56:29 AM
Status:
Color:
Layer:
Space:

Subject: Highlight
Page Label: 32
Author: HaoVo
Date: 3/11/2024 11:07:24 AM
Status:
Color:
Layer:
Space:

Subject: Highlight
Page Label: 33
Author: HaoVo
Date: 3/11/2024 10:43:52 AM
Status:
Color:
Layer:
Space:

Subject: Highlight
Page Label: 33
Author: HaoVo
Date: 3/11/2024 11:07:38 AM
Status:
Color:
Layer:
Space:

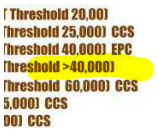
Subject: Highlight
Page Label: 35
Author: HaoVo
Date: 3/11/2024 11:17:11 AM
Status:
Color:
Layer:
Space:



Subject: Highlight
Page Label: 35
Author: HaoVo
Date: 3/11/2024 11:17:12 AM
Status:
Color:
Layer:
Space:

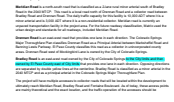
Subject: Highlight
Page Label: 35
Author: HaoVo
Date: 3/11/2024 11:48:28 AM
Status:
Color:
Layer:
Space:

Subject: Highlight
Page Label: 37
Author: HaoVo
Date: 3/11/2024 11:17:25 AM
Status:
Color:
Layer:
Space:



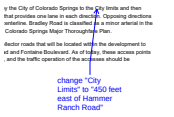
Subject: Highlight
Page Label: 37
Author: HaoVo
Date: 3/11/2024 11:17:27 AM
Status:
Color:
Layer:
Space:

Jeff Rice - EPC Engineering Review (11)



Subject:
Page Label: 7
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 8:53:32 AM
Status:
Color:
Layer:
Space:

to the City limits and then
owned by El Paso County east of City limits



Subject: Callout
Page Label: 7
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 8:55:30 AM
Status:
Color:
Layer:
Space:

change "City Limits" to "450 feet east of Hammer Ranch Road"

Subject: Re: Text Box
Page Label: 8
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 9:13:45 AM
Status:
Color:
Layer:
Space:

Hao: The counts are okay based on an email from October, as long as the City is ok with this

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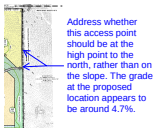
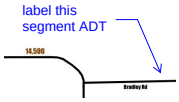
Subject: Re: Text Box
Page Label: 9
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 10:28:56 AM
Status:
Color:
Layer:
Space:

They added a little on bottom of pg 11 / 16



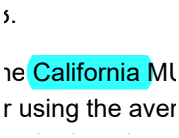
Subject: Callout
Page Label: 10
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 9:30:15 AM
Status:
Color:
Layer:
Space:

Address whether this access point should be at the high point to the north, rather than on the slope. The grade at the proposed location appears to be around 4.7%.



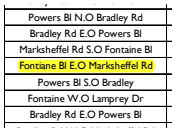
Subject: Callout
Page Label: 13
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 9:39:57 AM
Status:
Color:
Layer:
Space:

label this segment ADT



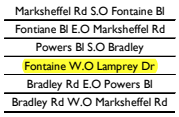
Subject:
Page Label: 38
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 12:34:36 PM
Status:
Color:
Layer:
Space:

California



Subject:
Page Label: 39
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 12:39:10 PM
Status:
Color:
Layer:
Space:

Fontiane Bl E.O Marksheffel Rd

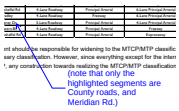


Subject:
Page Label: 39
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 12:39:17 PM
Status:
Color:
Layer:
Space:

Fontaine W.O Lamprey Dr

Subject: Callout
Page Label: 39
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 12:40:32 PM
Status:
Color:
Layer:
Space:

Add Meridian Road segments



Subject: Callout
Page Label: 39
Author: Jeff Rice - EPC Engineering Review
Date: 3/18/2024 4:15:06 PM
Status:
Color:
Layer:
Space:

(note that only the highlighted segments are County roads, and Meridian Rd.)

Navid.Shafieirad (1)

Subject: Count Measurement
Page Label: 171
Author: Navid.Shafieirad
Date: 2/6/2024 2:45:42 PM
Status:
Color:
Layer:
Space:

1