APPENDIX F

Traffic Impact Analysis and Parking

KUNZMAN ASSOCIATES, INC.

LUMAR LUNDIN (NEC 10 PEPPER) PROJECT

SHARED PARKING STUDY

February 15, 2018

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

LUMAR LUNDIN (NEC 10 PEPPER) PROJECT

SHARED PARKING STUDY

February 15, 2018

Prepared by:

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JN 7151a

February 15, 2018

Mr. Collin Ramsey, Project Manager
DUDEK & ASSOCIATES, INC.
27372 Calle Arroyo
San Juan Capistrano, CA 92675

Dear Mr. Ramsey:

INTRODUCTION

The firm of Kunzman Associates, Inc. is pleased to provide this shared parking study for the proposed Lumar Lundin (NEC 10 Pepper; DAP-001-450) project located at 1595 West Valley Boulevard in the City of Colton. The purpose of this shared parking study is to determine if the project's proposed 133 on-site parking spaces are sufficient to accommodate the peak parking demand forecast for the proposed retail store, coffee shop, and fast-food restaurant uses. The peak parking demand will be estimated using the Specific Plan parking ratios based on a shared parking concept that multiple land uses may share a joint parking facility when the peak parking demand for each use occurs during different time periods.

For informational purposes, this shared parking study will also show the peak parking demand estimated using the observed parking ratios based on the actual parking surveys conducted at similar coffee shops and fast-food restaurant uses. Since the proposed Lumar Lundin (NEC 10 Pepper) project will likely include a Starbucks coffee shop and other fast-food restaurants, it may be appropriate to utilize the empirical parking data from other Starbucks coffee shops and similar fast-food restaurants to estimate the future parking demand of the proposed project.

This report summarizes our methodology, analysis, and findings. Although this is a technical report, every effort has been made to present the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided within Appendix A.

PROJECT DESCRIPTION

The project site is located at 1595 West Valley Boulevard in the City of Colton. The project location map is shown on Figure 1. The site is currently occupied by an existing used car dealership. The proposed project consists of constructing 2,900 square feet of specialty retail, 2,000 square feet of fast-food restaurant without drive-thru (plus 400 square feet of outdoor dining area), and 8,000 square feet of fast-food restaurant with drive-thru (plus 1,130 square feet of outdoor dining area). The site plan shows Unit A as a 3,000 square foot fast-food restaurant with drive-thru (plus 400 square feet of outdoor dining area), and it is likely that a coffee shop similar to Starbucks will occupy Unit A. The proposed site plan provides a total of 133 on-site parking spaces. The site plan is illustrated on Figure 2.

SPECIFIC PLAN REQUIREMENTS

The project site is part of a Specific Plan that has higher parking requirements than the typical City of Colton Municipal Parking Code requirements. For eating and drinking establishment including fast-food restaurant with drive-thru, the Specific Plan parking requirement is 13 parking spaces per 1,000 square feet. For commercial retail use, the Specific Plan parking requirement is 5 parking spaces per 1,000 square feet.

Table 1 shows Specific Plan requirement calculations for the proposed Lumar Lundin (NEC 10 Pepper) project. As shown in Table 1, the Specific Plan parking requirement will require a total of 165 on-site parking spaces. Since the project is providing 133 on-site parking spaces, there is a parking deficit of 32 spaces based on the Specific Plan requirement that is higher than the typical City of Colton Municipal Parking Code requirements.

SHARED PARKING ANALYSIS

A shared parking analysis may be conducted to reduce the parking requirements based on a concept that multiple land uses may share a joint parking facility when the peak parking demand for each use occurs during different time periods. The shared parking analysis procedures are published in Shared Parking (2005) developed by the Urban Land Institute (ULI). The main concept behind shared parking is that a mix of two or more different land uses may have non-coincidental peak parking demands, resulting in the opportunity for sharing of parking spaces. If the various land uses have peak parking demands at different points in time, or on different days of the week, then the total number of parking spaces required at any point in time may be less than the sum of the peak parking requirements for each land use. The shared parking analysis concept utilizes following time variance factors for each land use to reduce the Specific Plan parking requirement:

- Weekend versus weekday adjustment factors based upon Urban Land Institute data;
- Customer/visitor/guest and employee/resident factors based upon Urban Land Institute data;
- Hourly distribution of parking demand based upon Urban Land Institute data; and
- Monthly adjustment factors to account for variations in parking demand over the year based upon Urban Land Institute data.

Since the Urban Land Institute does not have published data for the proposed coffee shop land use, customized hourly parking distribution data for the coffee shop is determined based on the typical "popular times" for a Starbucks coffee shop that are listed on the Google website. A weekday and a weekend hourly parking distribution percentages are determined based on the typical Friday and Saturday activity levels from 6:00 AM to 12:00 AM. Appendix B includes the estimated Friday and Saturday hourly parking distribution percentages for a Starbucks coffee shop. For all other input factors, the coffee shop utilizes the same Urban Land Institute assumptions as a fast-food restaurant.

The Urban Land Institute shared parking analysis disaggregates the baseline parking requirements into weekday/weekend as well as customer/visitor/guest and employee/resident parking space demands.

Table 2 shows the disaggregated parking rates based on baseline parking code requirements and Urban Land Institute data.

Table 3 summarizes the forecast hourly parking demand by month for the proposed project land uses for both weekdays and weekends. As shown in Table 3, the peak parking demand of 152 parking spaces is forecast to occur in December at 1:00 PM; the weekend peak parking demand of 149 parking spaces is forecast to occur in December at 12:00 Noon. The detailed calculations for each month are included in Appendix C.

Table 4 summarizes the forecast monthly parking demand for the proposed land uses for both weekdays and weekends. As shown in Table 4, there is a projected parking deficit of 19 parking spaces during the weekdays for the peak month of December and a projected parking deficit of 16 parking spaces during the weekends for the peak month of December.

Figure 3 graphically depicts the monthly peak parking demand. Figure 4 shows the hourly variation in parking demand for the peak month of December.

CITY PARKING CODE REQUIREMENTS

The City of Colton has parking rates for fast-food restaurant and retail store uses. The City of Colton Municipal Parking Code requirements are included in Appendix D. For eating and drinking establishments including fast-food restaurants with drive-thru uses, the City parking code requirement is 1 parking space per 100 square feet (or 10 parking spaces per 1,000 square feet). For retail store uses, the City parking code requirement is 1 parking space per 250 square feet (or 4 parking spaces per 1,000 square feet).

Table 5 shows the parking code requirement calculations for the proposed Lumar Lundin (NEC 10 Pepper) project. As shown in Table 5, the typical City parking code will require a total of 127 on-site parking spaces. Since the project is providing 133 on-site parking spaces, there is a parking surplus of 6 parking spaces based on the City parking code requirement.

It may be appropriate that the peak parking demand be estimated using the observed parking ratios based on the actual parking survey conducted at similar coffee shops and fast-food restaurant uses because of the following reasons:

- There are similar coffee shops (Starbucks with drive-thru) and fast-food restaurants (McDonald's with drive-thru) where realistic parking demand could be observed based on the parking survey. The actual parking demand of other Starbucks coffee shop and fast-food restaurant locations are less than the Specific Plan code requirements.
- Since the proposed Lumar Lundin (NEC 10 Pepper) project is will likely to include a Starbucks and other fast-food restaurants, it is appropriate to utilize the empirical parking data from other Starbucks coffee shops and similar fast-food restaurants to estimate the future parking demand of the proposed project.

Therefore, it may be appropriate to utilize the empirical parking data from the existing Starbucks coffee shop and McDonald's fast-food restaurant to estimate the future parking demand of the proposed project.

EXISTING PARKING SURVEYS

Parking surveys for existing Starbuck coffee shops sites and McDonald's fast-food restaurants were conducted during the peak period of a typical weekday for each site. Appendix E contains the parking survey data. Parking observations at Starbucks coffee shops were conducted from 7:00 AM to 9:00 AM at 15-minute intervals because the highest parking demand for a coffee shop will occur during the morning period around the breakfast meal time. Parking observations at McDonald's were conducted from 11:30 AM to 1:00 PM at 15-minute intervals because the highest parking demand for a fast-food restaurant will occur during the noon period around the lunch meal time. Table 6 summarizes the peak parking demand results for the following Starbucks coffee shops and McDonald's fast-food restaurants:

- Starbucks in Compton (2,500 square feet) – 28 parked vehicles
- Starbucks in Irvine (3,100 square feet) – 31 parked vehicles
- Starbucks in Costa Mesa (2,984 square feet) – 33 parked vehicles
- McDonald's in Orange (4,000 square feet) – 25 parked vehicles
- McDonald's in Santa Ana (4,000 square feet) – 28 parked vehicles

PROPOSED PARKING RATIO BASED ON PARKING SURVEYS

Table 6 shows the observed parking ratios that have been calculated based on the existing parking surveys conducted at the similar Starbucks coffee shops and McDonald's fast-food restaurants.

As shown in Table 6, the coffee shops (Starbucks) have an average observed parking ratio of 10.75 parking spaces per 1,000 square feet. In comparison to the Specific Plan parking requirement of 13 parking spaces per 1,000 square feet for eating and drinking establishments, the observed peak parking ratio of 10.75 parking spaces per 1,000 square feet for coffee shops is significantly lower than the Specific Plan parking requirement. It is recommended that a more realistic parking ratio of 11 parking spaces per 1,000 square feet be used to estimate the parking demand for the proposed coffee shop.

As shown in Table 6, the fast-food restaurants with drive-thru (McDonald's) have an average observed parking ratio of 6.63 parking spaces per 1,000 square feet. In comparison to the Specific Plan parking requirement of 13 parking spaces per 1,000 square feet for eating and drinking establishments, the observed peak parking ratio of 6.63 parking spaces per 1,000 square feet for fast-food restaurants is significantly lower than the Specific Plan parking requirement. It is recommended that a more realistic parking ratio of 10 parking spaces per 1,000 square feet be used to estimate the parking demand for the proposed fast-food restaurant with drive-thru.

As for the fast-food restaurant without drive-thru, it is recommended that the typical City parking code requirement of 10 parking spaces per 1,000 square feet be used to estimate the parking demand for the proposed fast-food restaurant without drive-thru.

As for the retail store, it is recommended that the Specific Plan parking requirement of 5 parking spaces per 1,000 square feet be used to estimate the parking demand for the proposed retail store.

Table 7 shows the estimated project parking demand based on the observed peak parking ratios from the actual parking surveys. As shown in Table 7, the estimated project peak parking demand is 133 on-site parking spaces which yields no parking space surplus or deficiency.

CONCLUSIONS

1. The proposed project site plan includes a total of 133 on-site parking spaces.

2. The Specific Plan parking requirement will require a total of 165 parking spaces, which is a parking deficit of 32 parking spaces.

3. The shared parking analysis shows that the peak parking demand of 152 parking spaces is forecast to occur in December at 1:00 PM, which is a parking deficit of 19 parking spaces during the weekdays for the peak month of December.

   The shared parking analysis shows that the weekend peak parking demand of 149 parking spaces is forecast to occur in December at 12:00 Noon, which is a parking deficit of 16 parking spaces during the weekends for the peak month of December.

4. The typical City of Colton Municipal Parking Code will require a total of 127 on-site parking spaces, which is a parking surplus of 6 parking spaces.

5. It may be appropriate that the peak parking demand be estimated using the observed parking ratio based on the actual parking survey conducted at similar coffee shops and fast-food restaurant uses because of the following reasons:

   a. There are similar coffee shops (Starbucks with drive-thru) and fast-food restaurants (McDonald's with drive-thru) where realistic parking demand could be observed based on the parking survey. The actual parking demand of other Starbucks coffee shops and fast-food restaurant locations are less than the Specific Plan code requirement.

   b. Since the proposed Lumar Lundin (NEC 10 Pepper) project will likely include a Starbucks coffee shops and fast-food restaurants that are similar to McDonald's restaurants, it is reasonable to assume that the observed parking ratios from the parking survey will be similar between the proposed uses and other existing similar uses.

6. The coffee shop (Starbucks) has an observed parking ratio of 10.75 parking spaces per 1,000 square feet.

7. In comparison to the Specific Plan parking requirement of 13 parking spaces per 1,000 square feet for eating and drinking establishments, the observed peak parking ratio of 10.75 parking spaces per 1,000 square feet for coffee shops is significantly lower than the Specific Plan parking requirement.

8. The fast-food restaurant with drive-thru (McDonald's) has an observed parking ratio of 6.63 parking spaces per 1,000 square feet.

9. In comparison to the Specific Plan parking requirement of 13 parking spaces per 1,000 square feet for eating and drinking establishments, the observed peak parking ratio of 6.63 parking spaces per 1,000 square feet for fast-food restaurant with drive-thru is significantly lower than the Specific Plan parking requirement.

10. The estimated project parking demand is 133 on-site parking spaces which yields no parking surplus or deficiency based on the observed peak parking ratio from the actual parking surveys.

It has been a pleasure to service your needs on the proposed Lumar Lundin (NEC 10 Pepper) project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 973-8383.

Sincerely,

KUNZMAN ASSOCIATES , INC.

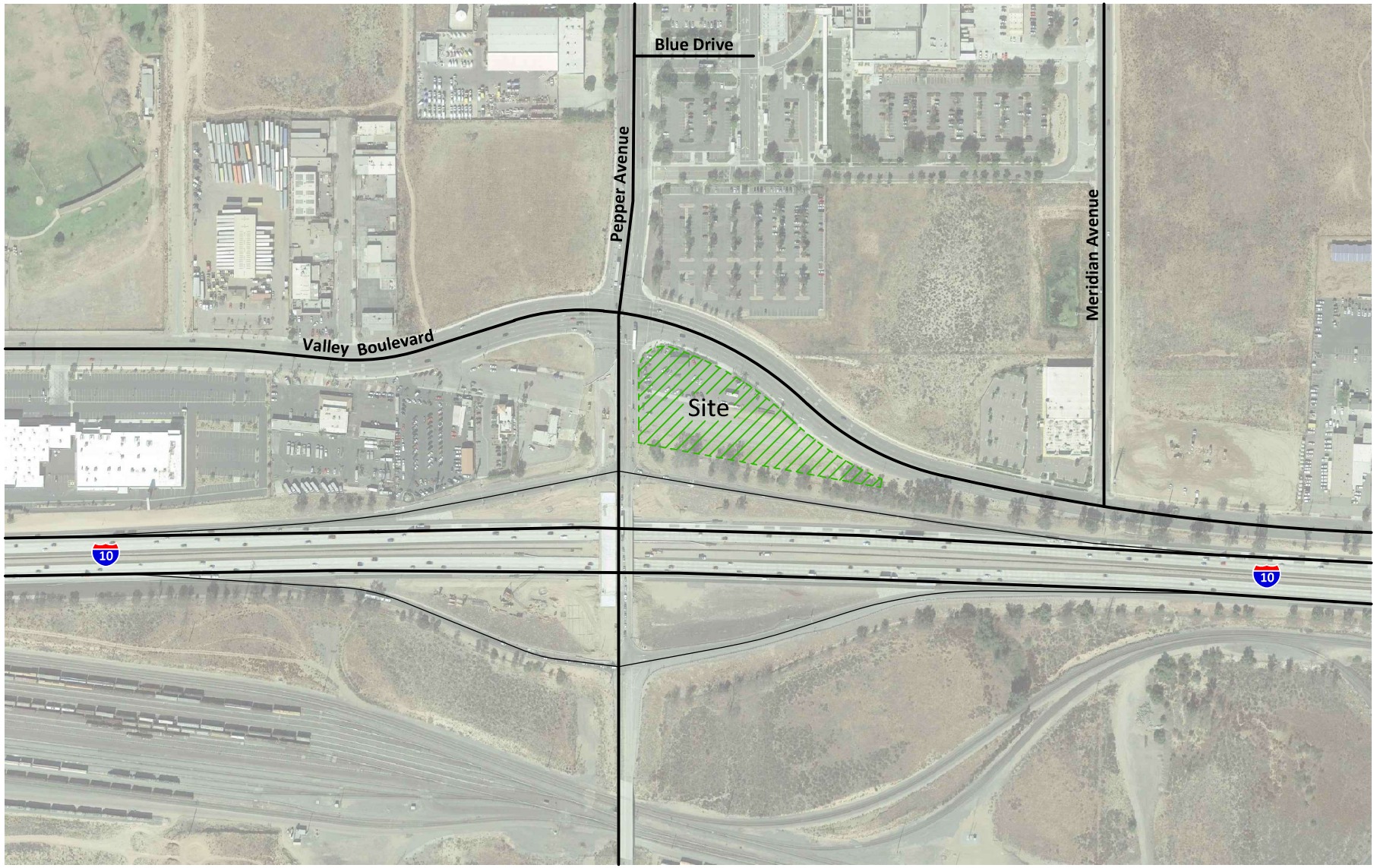
Tom Huang, TE
Senior Associate

KUNZMAN ASSOCIATES , INC.

Carl Ballard, LEED GA
Principal

JN 7151a

Figure 1
Project Location Map

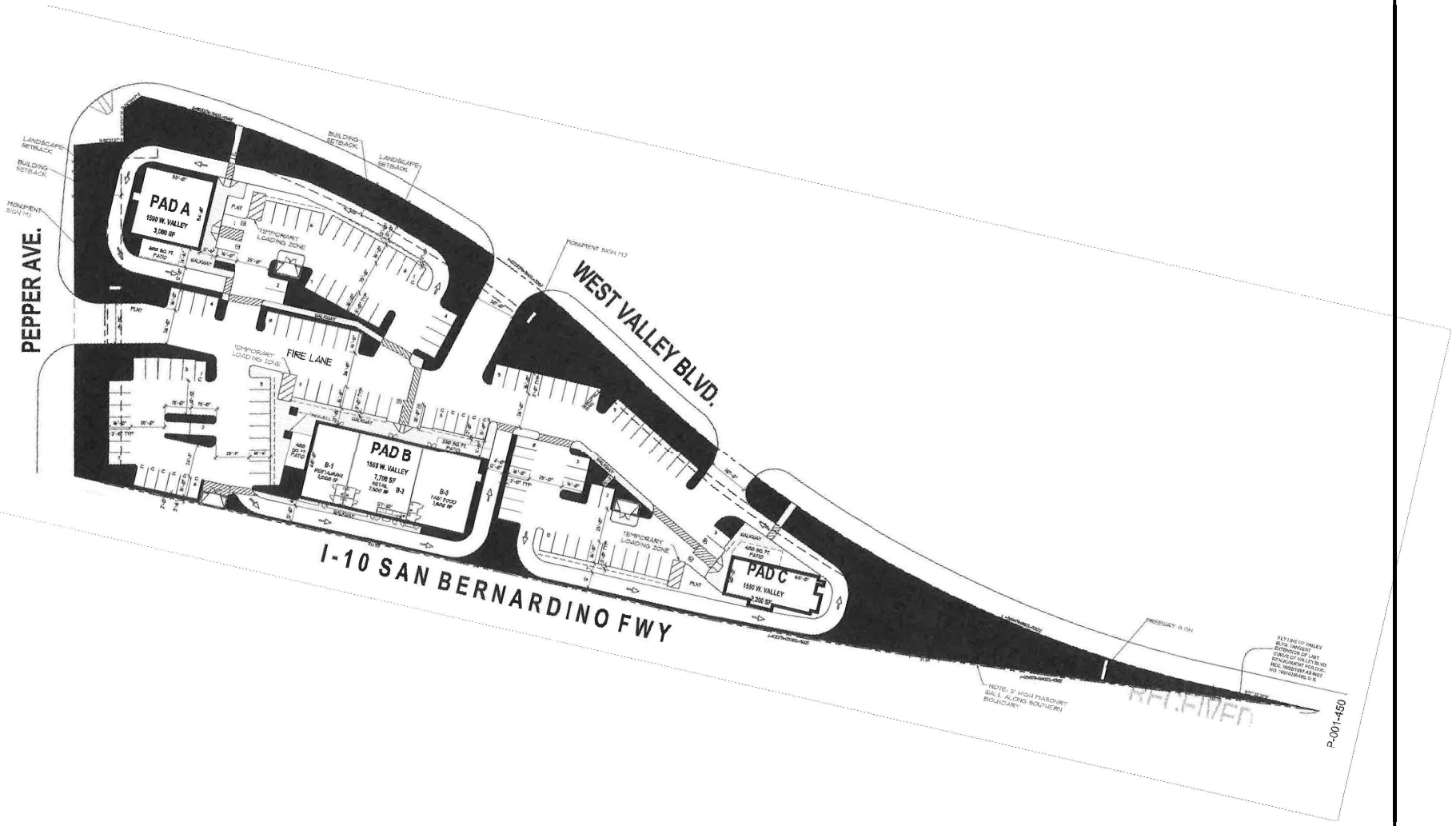


KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 7151

Figure 2
Site Plan



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Figure 3

Monthly Peak Parking Demand

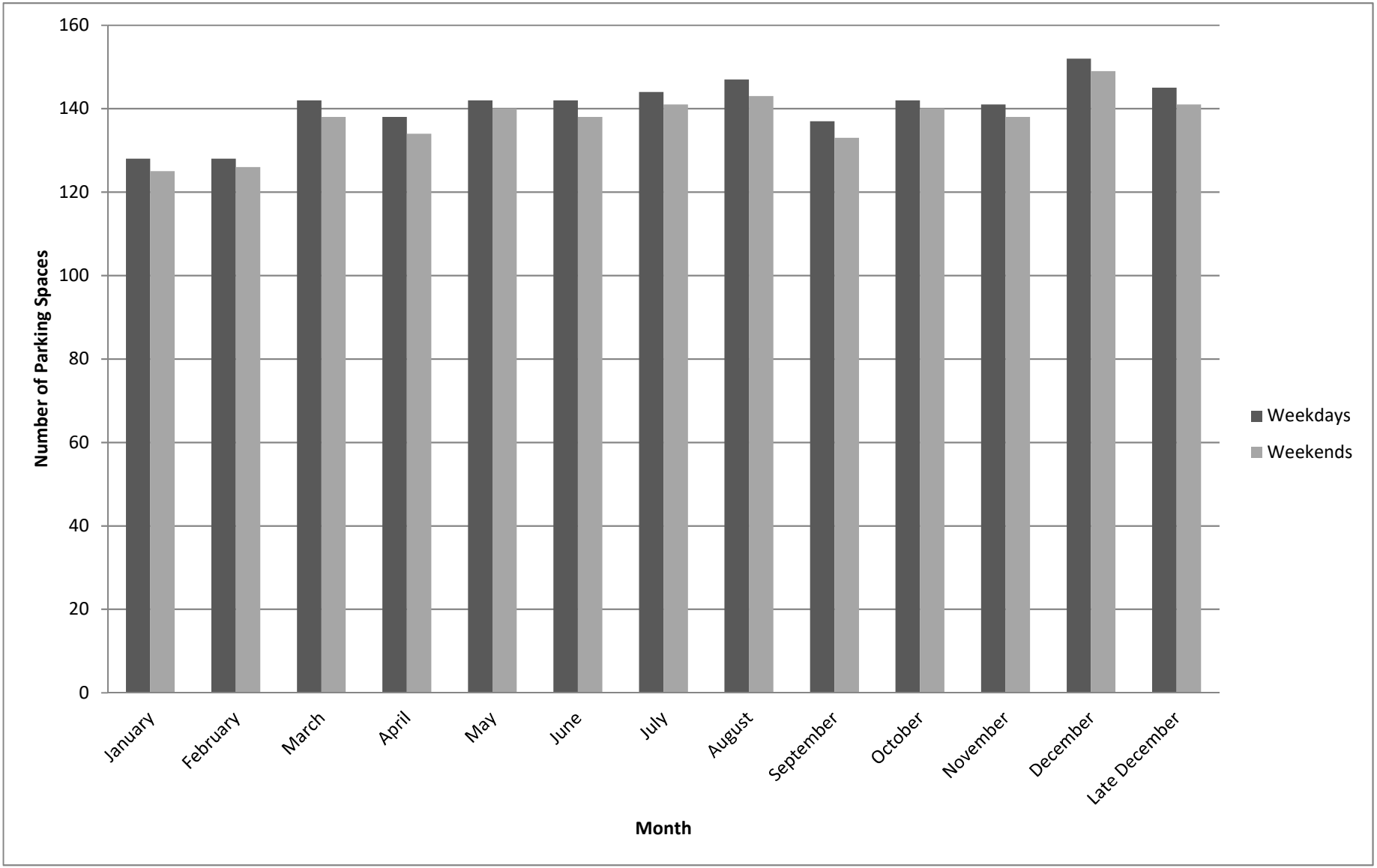


Figure 4

Peak Month Hourly Parking Demand

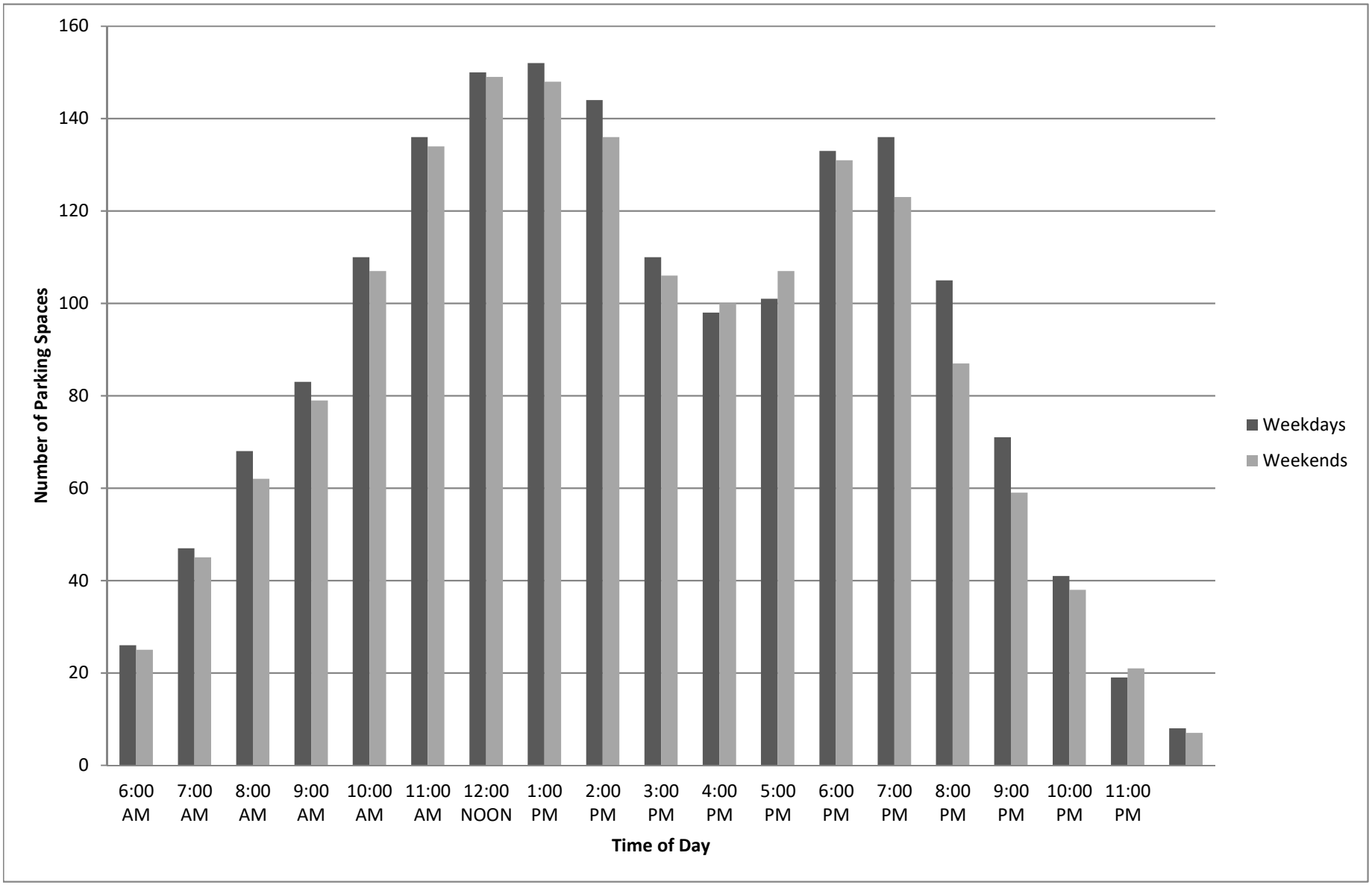


Table 1

Parking Spaces Required Based on Specific Plan Requirements

Unit	Land Use	Quantity	Units[1]	Specific Plan Parking Requirement[2]	Number of Parking Spaces
A	Coffee Shop with Drive-Thru	3,400	SF	13 Parking Space : 1,000 SF	44
B-1	Fast-Food Restaurant without Drive-Thru	2,400	SF	13 Parking Space : 1,000 SF	31
B-2	Retail Store	2,900	SF	5 Parking Space : 1,000 SF	15
B-3	Fast-Food Restaurant with Drive-Thru	3,130	SF	13 Parking Space : 1,000 SF	41
C	Fast-Food Restaurant with Drive-Thru	2,600	SF	13 Parking Space : 1,000 SF	34
Total Project Parking Spaces Required by Specific Plan Requirements					165
Parking Supply Provided by the Project					133
Parking Surplus (+) / Deficit (-) for the Project					-32

[1] SF = Square Feet

[2] Source: Specific Plan parking requirements

Eating and Drinking Establishments, including fast-food restaurant and drive-thru: 13 parking spaces/1,000 square feet

Retail Stores: 5 parking spaces/1,000 square feet

Table 2

Baseline Parking Ratios[1]

Land Use	Quantity	Units[2]	Specific Plan Parking Ratio	Weekday Requirements			Weekend Requirements		
				Customer/ Visitor/Guest	Employee/ Resident	Total	Customer/ Visitor/Guest	Employee/ Resident	Total
Parking Rates:									
Commercial Retail	**2.900**	TSF	**5.00**	3.63	0.88	4.51	4.00	1.00	5.00
Fast-Food Restaurant	**8.130**	TSF	**13.00**	11.05	1.95	13.00	10.40	1.73	12.13
Coffee Shop	**3.400**	TSF	**13.00**	11.05	1.95	13.00	10.40	1.73	12.13
Parking Required:									
Commercial Retail	2.900	TSF	15	11	3	14	12	3	15
Fast-Food Restaurant	8.130	TSF	106	90	16	106	85	14	99
Coffee Shop	3.400	TSF	45	38	7	45	35	6	41
Total	14.430	TSF	166	139	26	165	132	23	155

[1] Source: City of Monterey Park Parking Code and Urban Land Institute, Shared Parking, 2nd Edition, 2005.

[2] TSF = Thousand Square Feet

Table 3 (1 of 5)
Peak Houly Parking Demand

Time of the Day	Weekday								
	January			February			March		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	16	7	23	16	7	23	17	7	24
7:00 AM	30	10	40	31	10	41	34	10	44
8:00 AM	46	13	59	47	13	60	51	13	64
9:00 AM	57	15	72	58	15	73	64	15	79
10:00 AM	74	18	92	75	18	93	84	19	103
11:00 AM	94	21	115	94	21	115	106	22	128
12:00 NOON	105	21	126	106	21	127	118	22	140
1:00 PM	107	21	128	107	21	128	120	22	142
2:00 PM	100	20	120	101	20	121	112	21	133
3:00 PM	73	17	90	74	17	91	83	17	100
4:00 PM	65	15	80	65	15	80	73	16	89
5:00 PM	69	17	86	69	17	86	78	17	95
6:00 PM	92	21	113	93	21	114	104	21	125
7:00 PM	96	21	117	97	21	118	108	21	129
8:00 PM	74	16	90	75	16	91	82	17	99
9:00 PM	47	13	60	48	13	61	54	13	67
10:00 PM	25	10	35	26	10	36	28	10	38
11:00 PM	13	5	18	13	5	18	14	5	19
12:00 MID	4	3	7	4	3	7	4	3	7
Maximum			128			128			142
Time of the Day	Weekend								
	January			February			March		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	16	7	23	16	7	23	17	7	24
7:00 AM	29	9	38	29	9	38	32	9	41
8:00 AM	43	11	54	44	11	55	48	11	59
9:00 AM	54	13	67	54	13	67	59	14	73
10:00 AM	73	17	90	73	17	90	81	18	99
11:00 AM	95	18	113	96	18	114	106	19	125
12:00 NOON	107	18	125	108	18	126	119	19	138
1:00 PM	105	18	123	106	18	124	118	19	137
2:00 PM	96	17	113	97	17	114	107	18	125
3:00 PM	73	14	87	74	14	88	82	15	97
4:00 PM	71	13	84	71	13	84	79	13	92
5:00 PM	74	14	88	75	14	89	83	15	98
6:00 PM	92	18	110	93	18	111	102	19	121
7:00 PM	86	18	104	86	18	104	96	19	115
8:00 PM	60	14	74	61	14	75	67	14	81
9:00 PM	39	10	49	39	10	49	42	11	53
10:00 PM	24	8	32	25	8	33	28	8	36
11:00 PM	12	5	17	12	5	17	13	5	18
12:00 MID	4	3	7	4	3	7	4	3	7
Maximum			125			126			138

Table 3 (2 of 5)
Peak Houly Parking Demand

Time of the Day	Weekday								
	April			May			June		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	17	7	24	17	7	24	17	7	24
7:00 AM	33	10	43	34	10	44	34	10	44
8:00 AM	51	13	64	51	13	64	51	13	64
9:00 AM	62	15	77	64	15	79	64	15	79
10:00 AM	82	19	101	84	19	103	84	19	103
11:00 AM	103	22	125	106	22	128	106	22	128
12:00 NOON	115	22	137	118	22	140	118	22	140
1:00 PM	116	22	138	120	22	142	120	22	142
2:00 PM	109	21	130	112	21	133	112	21	133
3:00 PM	81	17	98	83	17	100	83	17	100
4:00 PM	72	16	88	73	16	89	73	16	89
5:00 PM	75	17	92	78	17	95	78	17	95
6:00 PM	101	21	122	104	21	125	104	21	125
7:00 PM	104	21	125	108	21	129	108	21	129
8:00 PM	81	17	98	82	17	99	82	17	99
9:00 PM	52	13	65	54	13	67	54	13	67
10:00 PM	28	10	38	28	10	38	28	10	38
11:00 PM	13	5	18	14	5	19	14	5	19
12:00 MID	4	3	7	4	3	7	4	3	7
Maximum			138			142			142
Time of the Day	Weekend								
	April			May			June		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	17	7	24	18	7	25	17	7	24
7:00 AM	31	9	40	33	9	42	32	9	41
8:00 AM	47	11	58	49	11	60	48	11	59
9:00 AM	57	14	71	61	14	75	59	14	73
10:00 AM	78	18	96	82	18	100	81	18	99
11:00 AM	102	19	121	108	19	127	106	19	125
12:00 NOON	115	19	134	121	19	140	119	19	138
1:00 PM	114	19	133	120	19	139	118	19	137
2:00 PM	104	18	122	109	18	127	107	18	125
3:00 PM	80	15	95	83	15	98	82	15	97
4:00 PM	77	13	90	80	13	93	79	13	92
5:00 PM	81	15	96	84	15	99	83	15	98
6:00 PM	99	19	118	104	19	123	102	19	121
7:00 PM	93	19	112	98	19	117	96	19	115
8:00 PM	64	14	78	67	14	81	67	14	81
9:00 PM	41	11	52	44	11	55	42	11	53
10:00 PM	28	8	36	28	8	36	28	8	36
11:00 PM	13	5	18	13	5	18	13	5	18
12:00 MID	4	3	7	4	3	7	4	3	7
Maximum			134			140			138

Table 3 (3 of 5)
Peak Houly Parking Demand

Time of the Day	Weekday								
	July			August			September		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	18	7	25	18	7	25	17	7	24
7:00 AM	35	10	45	36	10	46	33	10	43
8:00 AM	53	13	66	54	13	67	50	13	63
9:00 AM	65	15	80	68	15	83	62	15	77
10:00 AM	86	19	105	88	19	107	81	19	100
11:00 AM	108	22	130	111	22	133	102	22	124
12:00 NOON	121	22	143	124	22	146	114	22	136
1:00 PM	122	22	144	125	22	147	115	22	137
2:00 PM	115	21	136	118	21	139	108	21	129
3:00 PM	85	17	102	87	17	104	80	17	97
4:00 PM	75	16	91	77	16	93	71	16	87
5:00 PM	79	17	96	81	17	98	74	17	91
6:00 PM	107	21	128	109	21	130	100	21	121
7:00 PM	110	21	131	113	21	134	104	21	125
8:00 PM	84	17	101	86	17	103	80	17	97
9:00 PM	55	13	68	56	13	69	52	13	65
10:00 PM	30	10	40	30	10	40	27	10	37
11:00 PM	14	5	19	14	5	19	13	5	18
12:00 MID	4	3	7	4	3	7	4	3	7
Maximum			144			147			137
Time of the Day	Weekend								
	July			August			September		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	18	7	25	18	7	25	17	7	24
7:00 AM	33	9	42	34	9	43	31	9	40
8:00 AM	50	11	61	51	11	62	46	11	57
9:00 AM	61	14	75	62	14	76	57	14	71
10:00 AM	83	18	101	84	18	102	77	18	95
11:00 AM	109	19	128	110	19	129	101	19	120
12:00 NOON	122	19	141	124	19	143	114	19	133
1:00 PM	121	19	140	123	19	142	113	19	132
2:00 PM	110	18	128	112	18	130	103	18	121
3:00 PM	84	15	99	85	15	100	79	15	94
4:00 PM	81	13	94	82	13	95	76	13	89
5:00 PM	85	15	100	86	15	101	80	15	95
6:00 PM	105	19	124	106	19	125	98	19	117
7:00 PM	98	19	117	100	19	119	93	19	112
8:00 PM	68	14	82	69	14	83	64	14	78
9:00 PM	44	11	55	44	11	55	41	11	52
10:00 PM	29	8	37	29	8	37	27	8	35
11:00 PM	13	5	18	14	5	19	13	5	18
12:00 MID	4	3	7	4	3	7	4	3	7
Maximum			141			143			133

Table 3 (4 of 5)
Peak Houly Parking Demand

Time of the Day	Weekday								
	October			November			December		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	17	7	24	17	7	24	19	7	26
7:00 AM	34	10	44	33	10	43	37	10	47
8:00 AM	51	13	64	51	13	64	55	13	68
9:00 AM	64	15	79	63	15	78	68	15	83
10:00 AM	84	19	103	82	20	102	90	20	110
11:00 AM	106	22	128	104	23	127	113	23	136
12:00 NOON	118	22	140	117	23	140	127	23	150
1:00 PM	120	22	142	118	23	141	129	23	152
2:00 PM	112	21	133	111	22	133	122	22	144
3:00 PM	83	17	100	82	18	100	92	18	110
4:00 PM	73	16	89	73	17	90	81	17	98
5:00 PM	78	17	95	76	18	94	83	18	101
6:00 PM	104	21	125	102	22	124	111	22	133
7:00 PM	108	21	129	106	22	128	114	22	136
8:00 PM	82	17	99	81	18	99	87	18	105
9:00 PM	54	13	67	52	13	65	58	13	71
10:00 PM	28	10	38	28	10	38	31	10	41
11:00 PM	14	5	19	13	5	18	14	5	19
12:00 MID	4	3	7	4	3	7	5	3	8
Maximum			142			141			152
	Weekend								
Time of the Day	October			November			December		
	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	18	7	25	17	7	24	18	7	25
7:00 AM	33	9	42	32	9	41	36	9	45
8:00 AM	49	11	60	48	11	59	51	11	62
9:00 AM	61	14	75	60	14	74	65	14	79
10:00 AM	82	18	100	80	19	99	88	19	107
11:00 AM	108	19	127	105	20	125	114	20	134
12:00 NOON	121	19	140	118	20	138	129	20	149
1:00 PM	120	19	139	117	20	137	128	20	148
2:00 PM	109	18	127	106	19	125	117	19	136
3:00 PM	83	15	98	81	16	97	90	16	106
4:00 PM	80	13	93	78	14	92	86	14	100
5:00 PM	84	15	99	82	16	98	91	16	107
6:00 PM	104	19	123	101	20	121	111	20	131
7:00 PM	98	19	117	95	19	114	104	19	123
8:00 PM	67	14	81	67	14	81	73	14	87
9:00 PM	44	11	55	43	12	55	47	12	59
10:00 PM	28	8	36	28	8	36	30	8	38
11:00 PM	13	5	18	13	5	18	16	5	21
12:00 MID	4	3	7	4	3	7	4	3	7
Maximum			140			138			149

Table 3 (5 of 5)
Peak Houly Parking Demand

Time of the Day	Weekday Late December Customer/ Visitor	Employee	Total
6:00 AM	17	7	24
7:00 AM	34	10	44
8:00 AM	51	13	64
9:00 AM	64	15	79
10:00 AM	83	20	103
11:00 AM	106	23	129
12:00 NOON	119	23	142
1:00 PM	122	23	145
2:00 PM	114	22	136
3:00 PM	86	18	104
4:00 PM	76	17	93
5:00 PM	79	18	97
6:00 PM	103	22	125
7:00 PM	106	22	128
8:00 PM	80	18	98
9:00 PM	52	13	65
10:00 PM	27	10	37
11:00 PM	13	5	18
12:00 MID	4	3	7
Maximum			145

Time of the Day	Weekend Late December Customer/ Visitor	Employee	Total
6:00 AM	17	7	24
7:00 AM	33	9	42
8:00 AM	48	11	59
9:00 AM	59	14	73
10:00 AM	81	19	100
11:00 AM	107	20	127
12:00 NOON	121	20	141
1:00 PM	121	20	141
2:00 PM	109	19	128
3:00 PM	84	16	100
4:00 PM	81	14	95
5:00 PM	85	16	101
6:00 PM	103	20	123
7:00 PM	96	19	115
8:00 PM	67	14	81
9:00 PM	41	12	53
10:00 PM	27	8	35
11:00 PM	13	5	18
12:00 MID	4	3	7
Maximum			141

Table 4

Monthly Peak Parking Demand

Month	Weekdays	Weekends
January	128	125
February	128	126
March	142 [1]	138 [1]
April	138 [1]	134 [1]
May	142 [1]	140 [1]
June	142 [1]	138 [1]
July	144 [1]	141 [1]
August	147 [1]	143 [1]
September	137 [1]	133
October	142 [1]	140 [1]
November	141 [1]	138 [1]
December	152 [1]	149 [1]
Late December	145 [1]	141 [1]
Peak Parking Demand	152	149
Parking Supply	133	133
Parking Surplus (+) / Deficit (-)	-19	-16

[1] Parking demand exceeds parking supply

Table 5

Parking Spaces Required by Typical City of Colton Municipal Code

Unit	Land Use	Quantity	Units[1]	Typical City Municipal Code Parking Requirement[2]	Number of Parking Spaces
A	Coffee Shop with Drive-Thru	3,400	SF	1 Parking Space : 100 SF	34
B-1	Fast-Food Restaurant without Drive-Thru	2,400	SF	1 Parking Space : 100 SF	24
B-2	Retail Store	2,900	SF	1 Parking Space : 250 SF	12
B-3	Fast-Food Restaurant with Drive-Thru	3,130	SF	1 Parking Space : 100 SF	31
C	Fast-Food Restaurant with Drive-Thru	2,600	SF	1 Parking Space : 100 SF	26
Total Project Parking Spaces Required by Typical City Municipal Code					127
Parking Supply Provided by the Project					133
Parking Surplus (+) / Deficit (-) for the Project					+6

[1] SF = Square Feet

[2] Source: City of Colton Municipal Code, Table18.22.120-1-C-2 Commercial Parking Requirements

Eating and Drinking Establishments, including fast-food restaurant and drive-thru: 1 parking space/100 square feet; minimum 5 parking spaces

Retail Stores: 1 parking space/250 square feet

Table 6

Observed Parking Ratios Based on Parking Survey

Survey Site	Land Use	Peak Parking Demand[1]	Indoor Building / Outdoor Seating Area[2]	Observed Parking Ratio[3]
Starbucks Compton	Coffee Shop with Drive-Thru	28 Parking Spaces	2,500 SF	11.20 Parking Space/1,000 SF
Starbucks Irvine	Coffee Shop with Drive-Thru	31 Parking Spaces	3,100 SF	10.00 Parking Space/1,000 SF
Starbucks Costa Mesa[4]	Coffee Shop with Drive-Thru	33 Parking Spaces	2,984 SF	11.06 Parking Space/1,000 SF
Average Observed Parking Ratio for Coffee Shop with Drive-Thru				**10.75** Parking Space/1,000 SF
MacDonald's Orange	Fast-Food Restaurant with Drive-Thru	25 Parking Spaces	4,000 SF	6.25 Parking Space/1,000 SF
MacDonald's Santa Ana	Fast-Food Restaurant with Drive-Thru	28 Parking Spaces	4,000 SF	7.00 Parking Space/1,000 SF
Average Observed Parking Ratio for Fast-Food Restaurant with Drive-Thru				**6.63** Parking Space/1,000 SF

[1] Peak parking demand based on parking observations during the peak period of the day (see Appendix E).

[2] Estimated indoor building area and outdoor seating area. SF = Square Feet.

[3] Observed parking rates include customers and employees.

[4] Source: Parking Analysis for the Remodel of Tenancy Modification at Orange County Teacher's Credit Unit at 450 E. 17th Street Costa Mesa, Linscott Law & Greenspan, March 1, 2012.

Table 7

Estimated Project Parking Demand Based on Observed Parking Ratios

Unit	Proposed Use	Quantity	Units[1]	Observed Parking Ratio Based on Counts[2]	Number of Parking Spaces
A	Coffee Shop with Drive-Thru	3,400	SF	11 Parking Space : 1,000 SF	37
B-1	Fast-Food Restaurant without Drive-Thru	2,400	SF	10 Parking Space : 1,000 SF	24
B-2	Retail Store	2,900	SF	5 Parking Space : 1,000 SF	15
B-3	Fast-Food Restaurant with Drive-Thru	3,130	SF	10 Parking Space : 1,000 SF	31
C	Fast-Food Restaurant with Drive-Thru	2,600	SF	10 Parking Space : 1,000 SF	26
Total Project Parking Demand Based on Observed Parking Ratios					133
Parking Supply Provided by the Project					133
Parking Surplus (+) / Deficit (-) for the Project					-

[1] SF = Square Feet

[2] "Coffee Shop with Drive-Thru" and "Fast-Food Restaurant with Drive-Thru" are estimated based on observed parking ratio in Table 6.
"Fast-Food Restaurant without Drive-Thru" and "Fast-Food Restaurant with Drive-Thru" are estimated using the typical City Municipal Code parking requirement: 1 parking space/100 sf (10/1000 square feet)

"Retail Store" are estimated using the Specific Plan parking requirement: 5 parking spaces/1,000 square feet

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Coffee Shop Hourly Utilization Percentages

Table E

Starbucks Popular Times Data[1]

13384 Jamboree Rd, Irvine, CA 92602

	Friday		Saturday	
TIME	Activity	Percent Peak	Activity	Percent Peak
6:00 AM	10	37%	12	40%
7:00 AM	19	70%	22	73%
8:00 AM	25	93%	28	93%
9:00 AM	27	100%	30	100%
10:00 AM	24	89%	29	97%
11:00 AM	20	74%	29	97%
12:00 NOON	19	70%	29	97%
1:00 PM	20	74%	27	90%
2:00 PM	21	78%	24	80%
3:00 PM	19	70%	23	77%
4:00 PM	15	56%	24	80%
5:00 PM	14	52%	25	83%
6:00 PM	18	67%	25	83%
7:00 PM	24	89%	23	77%
8:00 PM	25	93%	19	63%
9:00 PM	18	67%	13	43%
10:00 PM	7	26%	8	27%
11:00 PM	3	11%	4	13%
12:00 MID	0	0%	0	0%
MAX	27	100%	30	100%

[1] Estimated popular times data based on Google 2018.

APPENDIX C

Shared Parking Calculations

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: January
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	56%	85%	85%	
Adjusted Peak Parking	6	77	32	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	12	16
7:00 AM	0	8	22	30
8:00 AM	1	15	30	46
9:00 AM	2	23	32	57
10:00 AM	4	42	28	74
11:00 AM	5	65	24	94
12:00 NOON	6	77	22	105
1:00 PM	6	77	24	107
2:00 PM	6	69	25	100
3:00 PM	5	46	22	73
4:00 PM	5	42	18	65
5:00 PM	6	46	17	69
6:00 PM	6	65	21	92
7:00 PM	6	62	28	96
8:00 PM	5	39	30	74
9:00 PM	3	23	21	47
10:00 PM	2	15	8	25
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				107

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: January
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	95%	95%	
Adjusted Peak Parking	2	15	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	11	5	18
11:00 AM	2	15	4	21
12:00 NOON	2	15	4	21
1:00 PM	2	15	4	21
2:00 PM	2	14	4	20
3:00 PM	2	11	4	17
4:00 PM	2	9	4	15
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	9	5	16
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				21

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: February
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	57%	86%	86%	
Adjusted Peak Parking	6	77	33	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	12	16
7:00 AM	0	8	23	31
8:00 AM	1	15	31	47
9:00 AM	2	23	33	58
10:00 AM	4	42	29	75
11:00 AM	5	65	24	94
12:00 NOON	6	77	23	106
1:00 PM	6	77	24	107
2:00 PM	6	69	26	101
3:00 PM	5	46	23	74
4:00 PM	5	42	18	65
5:00 PM	6	46	17	69
6:00 PM	6	65	22	93
7:00 PM	6	62	29	97
8:00 PM	5	39	31	75
9:00 PM	3	23	22	48
10:00 PM	2	15	9	26
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				107

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: February
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	95%	95%	
Adjusted Peak Parking	2	15	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	11	5	18
11:00 AM	2	15	4	21
12:00 NOON	2	15	4	21
1:00 PM	2	15	4	21
2:00 PM	2	14	4	20
3:00 PM	2	11	4	17
4:00 PM	2	9	4	15
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	9	5	16
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				21

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: March
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	64%	95%	95%	
Adjusted Peak Parking	7	86	36	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	9	25	34
8:00 AM	1	17	33	51
9:00 AM	2	26	36	64
10:00 AM	5	47	32	84
11:00 AM	6	73	27	106
12:00 NOON	7	86	25	118
1:00 PM	7	86	27	120
2:00 PM	7	77	28	112
3:00 PM	6	52	25	83
4:00 PM	6	47	20	73
5:00 PM	7	52	19	78
6:00 PM	7	73	24	104
7:00 PM	7	69	32	108
8:00 PM	6	43	33	82
9:00 PM	4	26	24	54
10:00 PM	2	17	9	28
11:00 PM	1	9	4	14
12:00 MID	0	4	0	4
Maximum				120

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: March
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: April
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	63%	92%	92%	
Adjusted Peak Parking	7	83	35	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	25	33
8:00 AM	1	17	33	51
9:00 AM	2	25	35	62
10:00 AM	5	46	31	82
11:00 AM	6	71	26	103
12:00 NOON	7	83	25	115
1:00 PM	7	83	26	116
2:00 PM	7	75	27	109
3:00 PM	6	50	25	81
4:00 PM	6	46	20	72
5:00 PM	7	50	18	75
6:00 PM	7	71	23	101
7:00 PM	7	66	31	104
8:00 PM	6	42	33	81
9:00 PM	4	25	23	52
10:00 PM	2	17	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				116

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: April
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: May
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	66%	96%	96%	
Adjusted Peak Parking	7	86	36	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	9	25	34
8:00 AM	1	17	33	51
9:00 AM	2	26	36	64
10:00 AM	5	47	32	84
11:00 AM	6	73	27	106
12:00 NOON	7	86	25	118
1:00 PM	7	86	27	120
2:00 PM	7	77	28	112
3:00 PM	6	52	25	83
4:00 PM	6	47	20	73
5:00 PM	7	52	19	78
6:00 PM	7	73	24	104
7:00 PM	7	69	32	108
8:00 PM	6	43	33	82
9:00 PM	4	26	24	54
10:00 PM	2	17	9	28
11:00 PM	1	9	4	14
12:00 MID	0	4	0	4
Maximum				120

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: May
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: June
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	67%	95%	95%	
Adjusted Peak Parking	7	86	36	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	9	25	34
8:00 AM	1	17	33	51
9:00 AM	2	26	36	64
10:00 AM	5	47	32	84
11:00 AM	6	73	27	106
12:00 NOON	7	86	25	118
1:00 PM	7	86	27	120
2:00 PM	7	77	28	112
3:00 PM	6	52	25	83
4:00 PM	6	47	20	73
5:00 PM	7	52	19	78
6:00 PM	7	73	24	104
7:00 PM	7	69	32	108
8:00 PM	6	43	33	82
9:00 PM	4	26	24	54
10:00 PM	2	17	9	28
11:00 PM	1	9	4	14
12:00 MID	0	4	0	4
Maximum				120

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: June
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: July
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	64%	98%	98%	
Adjusted Peak Parking	7	88	37	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	14	18
7:00 AM	0	9	26	35
8:00 AM	1	18	34	53
9:00 AM	2	26	37	65
10:00 AM	5	48	33	86
11:00 AM	6	75	27	108
12:00 NOON	7	88	26	121
1:00 PM	7	88	27	122
2:00 PM	7	79	29	115
3:00 PM	6	53	26	85
4:00 PM	6	48	21	75
5:00 PM	7	53	19	79
6:00 PM	7	75	25	107
7:00 PM	7	70	33	110
8:00 PM	6	44	34	84
9:00 PM	4	26	25	55
10:00 PM	2	18	10	30
11:00 PM	1	9	4	14
12:00 MID	0	4	0	4
Maximum				122

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: July
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: August
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	69%	99%	99%	
Adjusted Peak Parking	8	89	38	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	14	18
7:00 AM	0	9	27	36
8:00 AM	1	18	35	54
9:00 AM	3	27	38	68
10:00 AM	5	49	34	88
11:00 AM	7	76	28	111
12:00 NOON	8	89	27	124
1:00 PM	8	89	28	125
2:00 PM	8	80	30	118
3:00 PM	7	53	27	87
4:00 PM	7	49	21	77
5:00 PM	8	53	20	81
6:00 PM	8	76	25	109
7:00 PM	8	71	34	113
8:00 PM	6	45	35	86
9:00 PM	4	27	25	56
10:00 PM	2	18	10	30
11:00 PM	1	9	4	14
12:00 MID	0	4	0	4
Maximum				125

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: August
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: September
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	64%	91%	91%	
Adjusted Peak Parking	7	82	35	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	25	33
8:00 AM	1	16	33	50
9:00 AM	2	25	35	62
10:00 AM	5	45	31	81
11:00 AM	6	70	26	102
12:00 NOON	7	82	25	114
1:00 PM	7	82	26	115
2:00 PM	7	74	27	108
3:00 PM	6	49	25	80
4:00 PM	6	45	20	71
5:00 PM	7	49	18	74
6:00 PM	7	70	23	100
7:00 PM	7	66	31	104
8:00 PM	6	41	33	80
9:00 PM	4	25	23	52
10:00 PM	2	16	9	27
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				115

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: September
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: October
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	66%	96%	96%	
Adjusted Peak Parking	7	86	36	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	9	25	34
8:00 AM	1	17	33	51
9:00 AM	2	26	36	64
10:00 AM	5	47	32	84
11:00 AM	6	73	27	106
12:00 NOON	7	86	25	118
1:00 PM	7	86	27	120
2:00 PM	7	77	28	112
3:00 PM	6	52	25	83
4:00 PM	6	47	20	73
5:00 PM	7	52	19	78
6:00 PM	7	73	24	104
7:00 PM	7	69	32	108
8:00 PM	6	43	33	82
9:00 PM	4	26	24	54
10:00 PM	2	17	9	28
11:00 PM	1	9	4	14
12:00 MID	0	4	0	4
Maximum				120

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: October
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	2	12	5	19
11:00 AM	2	16	4	22
12:00 NOON	2	16	4	22
1:00 PM	2	16	4	22
2:00 PM	2	15	4	21
3:00 PM	2	11	4	17
4:00 PM	2	10	4	16
5:00 PM	2	11	4	17
6:00 PM	2	14	5	21
7:00 PM	2	14	5	21
8:00 PM	2	10	5	17
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				22

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: November
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	72%	93%	93%	
Adjusted Peak Parking	8	84	35	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	65%	55%	89%	
11:00 AM	85%	85%	74%	
12:00 NOON	95%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	95%	90%	78%	
3:00 PM	90%	60%	70%	
4:00 PM	90%	55%	56%	
5:00 PM	95%	60%	52%	
6:00 PM	95%	85%	67%	
7:00 PM	95%	80%	89%	
8:00 PM	80%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	25	33
8:00 AM	1	17	33	51
9:00 AM	3	25	35	63
10:00 AM	5	46	31	82
11:00 AM	7	71	26	104
12:00 NOON	8	84	25	117
1:00 PM	8	84	26	118
2:00 PM	8	76	27	111
3:00 PM	7	50	25	82
4:00 PM	7	46	20	73
5:00 PM	8	50	18	76
6:00 PM	8	71	23	102
7:00 PM	8	67	31	106
8:00 PM	6	42	33	81
9:00 PM	4	25	23	52
10:00 PM	2	17	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				118

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: November
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	90%	100%	100%	
Adjusted Peak Parking	3	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	3	12	5	20
11:00 AM	3	16	4	23
12:00 NOON	3	16	4	23
1:00 PM	3	16	4	23
2:00 PM	3	15	4	22
3:00 PM	3	11	4	18
4:00 PM	3	10	4	17
5:00 PM	3	11	4	18
6:00 PM	3	14	5	22
7:00 PM	3	14	5	22
8:00 PM	3	10	5	18
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				23

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: December
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	100%	100%	100%	
Adjusted Peak Parking	11	90	38	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	15%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	55%	55%	89%	
11:00 AM	75%	85%	74%	
12:00 NOON	90%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	100%	90%	78%	
3:00 PM	100%	60%	70%	
4:00 PM	95%	55%	56%	
5:00 PM	85%	60%	52%	
6:00 PM	80%	85%	67%	
7:00 PM	75%	80%	89%	
8:00 PM	65%	50%	93%	
9:00 PM	50%	30%	67%	
10:00 PM	30%	20%	26%	
11:00 PM	10%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	5	14	19
7:00 AM	1	9	27	37
8:00 AM	2	18	35	55
9:00 AM	3	27	38	68
10:00 AM	6	50	34	90
11:00 AM	8	77	28	113
12:00 NOON	10	90	27	127
1:00 PM	11	90	28	129
2:00 PM	11	81	30	122
3:00 PM	11	54	27	92
4:00 PM	10	50	21	81
5:00 PM	9	54	20	83
6:00 PM	9	77	25	111
7:00 PM	8	72	34	114
8:00 PM	7	45	35	87
9:00 PM	6	27	25	58
10:00 PM	3	18	10	31
11:00 PM	1	9	4	14
12:00 MID	0	5	0	5
Maximum				129

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: December
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	100%	100%	100%	
Adjusted Peak Parking	3	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	3	12	5	20
11:00 AM	3	16	4	23
12:00 NOON	3	16	4	23
1:00 PM	3	16	4	23
2:00 PM	3	15	4	22
3:00 PM	3	11	4	18
4:00 PM	3	10	4	17
5:00 PM	3	11	4	18
6:00 PM	3	14	5	22
7:00 PM	3	14	5	22
8:00 PM	3	10	5	18
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				23

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: Late December
Day of the Week: Weekday
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	11	90	38	139
Monthly Adjustment Factor	80%	95%	95%	
Adjusted Peak Parking	9	86	36	
6:00 AM	1%	5%	37%	
7:00 AM	5%	10%	70%	
8:00 AM	10%	20%	93%	
9:00 AM	20%	30%	100%	
10:00 AM	40%	55%	89%	
11:00 AM	65%	85%	74%	
12:00 NOON	90%	100%	70%	
1:00 PM	100%	100%	74%	
2:00 PM	100%	90%	78%	
3:00 PM	100%	60%	70%	
4:00 PM	95%	55%	56%	
5:00 PM	85%	60%	52%	
6:00 PM	70%	85%	67%	
7:00 PM	55%	80%	89%	
8:00 PM	40%	50%	93%	
9:00 PM	25%	30%	67%	
10:00 PM	15%	20%	26%	
11:00 PM	5%	10%	11%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	9	25	34
8:00 AM	1	17	33	51
9:00 AM	2	26	36	64
10:00 AM	4	47	32	83
11:00 AM	6	73	27	106
12:00 NOON	8	86	25	119
1:00 PM	9	86	27	122
2:00 PM	9	77	28	114
3:00 PM	9	52	25	86
4:00 PM	9	47	20	76
5:00 PM	8	52	19	79
6:00 PM	6	73	24	103
7:00 PM	5	69	32	106
8:00 PM	4	43	33	80
9:00 PM	2	26	24	52
10:00 PM	1	17	9	27
11:00 PM	0	9	4	13
12:00 MID	0	4	0	4
Maximum				122

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: Late December
Day of the Week: Weekday
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	16	7	26
Monthly Adjustment Factor	90%	100%	100%	
Adjusted Peak Parking	3	16	7	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	95%	90%	65%	
7:00 PM	95%	90%	65%	
8:00 PM	90%	60%	65%	
9:00 PM	75%	40%	65%	
10:00 PM	40%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	7	10
8:00 AM	1	5	7	13
9:00 AM	2	6	7	15
10:00 AM	3	12	5	20
11:00 AM	3	16	4	23
12:00 NOON	3	16	4	23
1:00 PM	3	16	4	23
2:00 PM	3	15	4	22
3:00 PM	3	11	4	18
4:00 PM	3	10	4	17
5:00 PM	3	11	4	18
6:00 PM	3	14	5	22
7:00 PM	3	14	5	22
8:00 PM	3	10	5	18
9:00 PM	2	6	5	13
10:00 PM	1	5	4	10
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				23

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: January
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	56%	85%	85%	
Adjusted Peak Parking	7	72	30	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	12	16
7:00 AM	0	7	22	29
8:00 AM	1	14	28	43
9:00 AM	2	22	30	54
10:00 AM	4	40	29	73
11:00 AM	5	61	29	95
12:00 NOON	6	72	29	107
1:00 PM	6	72	27	105
2:00 PM	7	65	24	96
3:00 PM	7	43	23	73
4:00 PM	7	40	24	71
5:00 PM	6	43	25	74
6:00 PM	6	61	25	92
7:00 PM	5	58	23	86
8:00 PM	5	36	19	60
9:00 PM	4	22	13	39
10:00 PM	2	14	8	24
11:00 PM	1	7	4	12
12:00 MID	0	4	0	4
Maximum				107

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: January
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	95%	95%	
Adjusted Peak Parking	2	13	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	5	6	13
10:00 AM	2	10	5	17
11:00 AM	2	13	3	18
12:00 NOON	2	13	3	18
1:00 PM	2	13	3	18
2:00 PM	2	12	3	17
3:00 PM	2	9	3	14
4:00 PM	2	8	3	13
5:00 PM	2	9	3	14
6:00 PM	2	12	4	18
7:00 PM	2	12	4	18
8:00 PM	2	8	4	14
9:00 PM	1	5	4	10
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				18

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: February
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	57%	86%	86%	
Adjusted Peak Parking	7	73	30	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	12	16
7:00 AM	0	7	22	29
8:00 AM	1	15	28	44
9:00 AM	2	22	30	54
10:00 AM	4	40	29	73
11:00 AM	5	62	29	96
12:00 NOON	6	73	29	108
1:00 PM	6	73	27	106
2:00 PM	7	66	24	97
3:00 PM	7	44	23	74
4:00 PM	7	40	24	71
5:00 PM	6	44	25	75
6:00 PM	6	62	25	93
7:00 PM	5	58	23	86
8:00 PM	5	37	19	61
9:00 PM	4	22	13	39
10:00 PM	2	15	8	25
11:00 PM	1	7	4	12
12:00 MID	0	4	0	4
Maximum				108

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: February
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	95%	95%	
Adjusted Peak Parking	2	13	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	5	6	13
10:00 AM	2	10	5	17
11:00 AM	2	13	3	18
12:00 NOON	2	13	3	18
1:00 PM	2	13	3	18
2:00 PM	2	12	3	17
3:00 PM	2	9	3	14
4:00 PM	2	8	3	13
5:00 PM	2	9	3	14
6:00 PM	2	12	4	18
7:00 PM	2	12	4	18
8:00 PM	2	8	4	14
9:00 PM	1	5	4	10
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				18

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: March
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	64%	95%	95%	
Adjusted Peak Parking	8	81	33	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	24	32
8:00 AM	1	16	31	48
9:00 AM	2	24	33	59
10:00 AM	4	45	32	81
11:00 AM	5	69	32	106
12:00 NOON	6	81	32	119
1:00 PM	7	81	30	118
2:00 PM	8	73	26	107
3:00 PM	8	49	25	82
4:00 PM	8	45	26	79
5:00 PM	7	49	27	83
6:00 PM	6	69	27	102
7:00 PM	6	65	25	96
8:00 PM	5	41	21	67
9:00 PM	4	24	14	42
10:00 PM	3	16	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				119

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: March
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: April
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	63%	92%	92%	
Adjusted Peak Parking	8	78	32	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	23	31
8:00 AM	1	16	30	47
9:00 AM	2	23	32	57
10:00 AM	4	43	31	78
11:00 AM	5	66	31	102
12:00 NOON	6	78	31	115
1:00 PM	7	78	29	114
2:00 PM	8	70	26	104
3:00 PM	8	47	25	80
4:00 PM	8	43	26	77
5:00 PM	7	47	27	81
6:00 PM	6	66	27	99
7:00 PM	6	62	25	93
8:00 PM	5	39	20	64
9:00 PM	4	23	14	41
10:00 PM	3	16	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				115

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: April
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: May
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	66%	96%	96%	
Adjusted Peak Parking	8	82	34	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	14	18
7:00 AM	0	8	25	33
8:00 AM	1	16	32	49
9:00 AM	2	25	34	61
10:00 AM	4	45	33	82
11:00 AM	5	70	33	108
12:00 NOON	6	82	33	121
1:00 PM	7	82	31	120
2:00 PM	8	74	27	109
3:00 PM	8	49	26	83
4:00 PM	8	45	27	80
5:00 PM	7	49	28	84
6:00 PM	6	70	28	104
7:00 PM	6	66	26	98
8:00 PM	5	41	21	67
9:00 PM	4	25	15	44
10:00 PM	3	16	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				121

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: May
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: June
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	67%	95%	95%	
Adjusted Peak Parking	8	81	33	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	24	32
8:00 AM	1	16	31	48
9:00 AM	2	24	33	59
10:00 AM	4	45	32	81
11:00 AM	5	69	32	106
12:00 NOON	6	81	32	119
1:00 PM	7	81	30	118
2:00 PM	8	73	26	107
3:00 PM	8	49	25	82
4:00 PM	8	45	26	79
5:00 PM	7	49	27	83
6:00 PM	6	69	27	102
7:00 PM	6	65	25	96
8:00 PM	5	41	21	67
9:00 PM	4	24	14	42
10:00 PM	3	16	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				119

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: June
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: July
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	64%	98%	98%	
Adjusted Peak Parking	8	83	34	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	14	18
7:00 AM	0	8	25	33
8:00 AM	1	17	32	50
9:00 AM	2	25	34	61
10:00 AM	4	46	33	83
11:00 AM	5	71	33	109
12:00 NOON	6	83	33	122
1:00 PM	7	83	31	121
2:00 PM	8	75	27	110
3:00 PM	8	50	26	84
4:00 PM	8	46	27	81
5:00 PM	7	50	28	85
6:00 PM	6	71	28	105
7:00 PM	6	66	26	98
8:00 PM	5	42	21	68
9:00 PM	4	25	15	44
10:00 PM	3	17	9	29
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				122

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: July
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: August
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	69%	99%	99%	
Adjusted Peak Parking	8	84	35	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	14	18
7:00 AM	0	8	26	34
8:00 AM	1	17	33	51
9:00 AM	2	25	35	62
10:00 AM	4	46	34	84
11:00 AM	5	71	34	110
12:00 NOON	6	84	34	124
1:00 PM	7	84	32	123
2:00 PM	8	76	28	112
3:00 PM	8	50	27	85
4:00 PM	8	46	28	82
5:00 PM	7	50	29	86
6:00 PM	6	71	29	106
7:00 PM	6	67	27	100
8:00 PM	5	42	22	69
9:00 PM	4	25	15	44
10:00 PM	3	17	9	29
11:00 PM	1	8	5	14
12:00 MID	0	4	0	4
Maximum				124

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: August
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: September
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	64%	91%	91%	
Adjusted Peak Parking	8	77	32	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	23	31
8:00 AM	1	15	30	46
9:00 AM	2	23	32	57
10:00 AM	4	42	31	77
11:00 AM	5	65	31	101
12:00 NOON	6	77	31	114
1:00 PM	7	77	29	113
2:00 PM	8	69	26	103
3:00 PM	8	46	25	79
4:00 PM	8	42	26	76
5:00 PM	7	46	27	80
6:00 PM	6	65	27	98
7:00 PM	6	62	25	93
8:00 PM	5	39	20	64
9:00 PM	4	23	14	41
10:00 PM	3	15	9	27
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				114

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: September
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: October
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	66%	96%	96%	
Adjusted Peak Parking	8	82	34	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	14	18
7:00 AM	0	8	25	33
8:00 AM	1	16	32	49
9:00 AM	2	25	34	61
10:00 AM	4	45	33	82
11:00 AM	5	70	33	108
12:00 NOON	6	82	33	121
1:00 PM	7	82	31	120
2:00 PM	8	74	27	109
3:00 PM	8	49	26	83
4:00 PM	8	45	27	80
5:00 PM	7	49	28	84
6:00 PM	6	70	28	104
7:00 PM	6	66	26	98
8:00 PM	5	41	21	67
9:00 PM	4	25	15	44
10:00 PM	3	16	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				121

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: October
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	80%	100%	100%	
Adjusted Peak Parking	2	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	2	11	5	18
11:00 AM	2	14	3	19
12:00 NOON	2	14	3	19
1:00 PM	2	14	3	19
2:00 PM	2	13	3	18
3:00 PM	2	10	3	15
4:00 PM	2	8	3	13
5:00 PM	2	10	3	15
6:00 PM	2	13	4	19
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	1	6	4	11
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				19

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: November
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	72%	93%	93%	
Adjusted Peak Parking	9	79	33	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	30%	30%	100%	
10:00 AM	50%	55%	97%	
11:00 AM	65%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	90%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	0	8	24	32
8:00 AM	1	16	31	48
9:00 AM	3	24	33	60
10:00 AM	5	43	32	80
11:00 AM	6	67	32	105
12:00 NOON	7	79	32	118
1:00 PM	8	79	30	117
2:00 PM	9	71	26	106
3:00 PM	9	47	25	81
4:00 PM	9	43	26	78
5:00 PM	8	47	27	82
6:00 PM	7	67	27	101
7:00 PM	7	63	25	95
8:00 PM	6	40	21	67
9:00 PM	5	24	14	43
10:00 PM	3	16	9	28
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				118

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: November
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	90%	100%	100%	
Adjusted Peak Parking	3	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	3	11	5	19
11:00 AM	3	14	3	20
12:00 NOON	3	14	3	20
1:00 PM	3	14	3	20
2:00 PM	3	13	3	19
3:00 PM	3	10	3	16
4:00 PM	3	8	3	14
5:00 PM	3	10	3	16
6:00 PM	3	13	4	20
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	2	6	4	12
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				20

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: December
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	100%	100%	100%	
Adjusted Peak Parking	12	85	35	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	35%	30%	100%	
10:00 AM	60%	55%	97%	
11:00 AM	70%	85%	97%	
12:00 NOON	85%	100%	97%	
1:00 PM	95%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	90%	60%	83%	
6:00 PM	80%	85%	83%	
7:00 PM	75%	80%	77%	
8:00 PM	65%	50%	63%	
9:00 PM	50%	30%	43%	
10:00 PM	35%	20%	27%	
11:00 PM	15%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	14	18
7:00 AM	1	9	26	36
8:00 AM	1	17	33	51
9:00 AM	4	26	35	65
10:00 AM	7	47	34	88
11:00 AM	8	72	34	114
12:00 NOON	10	85	34	129
1:00 PM	11	85	32	128
2:00 PM	12	77	28	117
3:00 PM	12	51	27	90
4:00 PM	11	47	28	86
5:00 PM	11	51	29	91
6:00 PM	10	72	29	111
7:00 PM	9	68	27	104
8:00 PM	8	43	22	73
9:00 PM	6	26	15	47
10:00 PM	4	17	9	30
11:00 PM	2	9	5	16
12:00 MID	0	4	0	4
Maximum				129

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: December
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	100%	100%	100%	
Adjusted Peak Parking	3	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	3	11	5	19
11:00 AM	3	14	3	20
12:00 NOON	3	14	3	20
1:00 PM	3	14	3	20
2:00 PM	3	13	3	19
3:00 PM	3	10	3	16
4:00 PM	3	8	3	14
5:00 PM	3	10	3	16
6:00 PM	3	13	4	20
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	2	6	4	12
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				20

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: Late December
Day of the Week: Weekend
Parking Rates Used: City of Colton

Customer/Visitor/Guest				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	12	85	35	132
Monthly Adjustment Factor	80%	95%	95%	
Adjusted Peak Parking	10	81	33	
6:00 AM	1%	5%	40%	
7:00 AM	5%	10%	73%	
8:00 AM	10%	20%	93%	
9:00 AM	20%	30%	100%	
10:00 AM	40%	55%	97%	
11:00 AM	60%	85%	97%	
12:00 NOON	80%	100%	97%	
1:00 PM	95%	100%	90%	
2:00 PM	100%	90%	80%	
3:00 PM	100%	60%	77%	
4:00 PM	95%	55%	80%	
5:00 PM	85%	60%	83%	
6:00 PM	70%	85%	83%	
7:00 PM	60%	80%	77%	
8:00 PM	50%	50%	63%	
9:00 PM	30%	30%	43%	
10:00 PM	20%	20%	27%	
11:00 PM	10%	10%	13%	
12:00 MID	0%	5%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	4	13	17
7:00 AM	1	8	24	33
8:00 AM	1	16	31	48
9:00 AM	2	24	33	59
10:00 AM	4	45	32	81
11:00 AM	6	69	32	107
12:00 NOON	8	81	32	121
1:00 PM	10	81	30	121
2:00 PM	10	73	26	109
3:00 PM	10	49	25	84
4:00 PM	10	45	26	81
5:00 PM	9	49	27	85
6:00 PM	7	69	27	103
7:00 PM	6	65	25	96
8:00 PM	5	41	21	67
9:00 PM	3	24	14	41
10:00 PM	2	16	9	27
11:00 PM	1	8	4	13
12:00 MID	0	4	0	4
Maximum				121

Project Name: Lumar Lundin Project
Job Number: 7151
Month of the Year: Late December
Day of the Week: Weekend
Parking Rates Used: City of Colton

Employee/Resident				
Parking Distribution				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
Peak Parking	3	14	6	23
Monthly Adjustment Factor	90%	100%	100%	
Adjusted Peak Parking	3	14	6	
6:00 AM	10%	15%	75%	
7:00 AM	15%	20%	100%	
8:00 AM	40%	30%	100%	
9:00 AM	75%	40%	100%	
10:00 AM	85%	75%	75%	
11:00 AM	95%	100%	55%	
12:00 NOON	100%	100%	55%	
1:00 PM	100%	100%	55%	
2:00 PM	100%	95%	55%	
3:00 PM	100%	70%	55%	
4:00 PM	100%	60%	55%	
5:00 PM	95%	70%	55%	
6:00 PM	85%	90%	65%	
7:00 PM	80%	90%	65%	
8:00 PM	75%	60%	65%	
9:00 PM	65%	40%	65%	
10:00 PM	45%	30%	50%	
11:00 PM	15%	20%	30%	
12:00 MID	0%	20%	0%	
Parking Demand: Number of Spaces				
Time of the Day	Commercial Retail	Fast-Food Restaurant	Coffee Shop	Total
6:00 AM	0	2	5	7
7:00 AM	0	3	6	9
8:00 AM	1	4	6	11
9:00 AM	2	6	6	14
10:00 AM	3	11	5	19
11:00 AM	3	14	3	20
12:00 NOON	3	14	3	20
1:00 PM	3	14	3	20
2:00 PM	3	13	3	19
3:00 PM	3	10	3	16
4:00 PM	3	8	3	14
5:00 PM	3	10	3	16
6:00 PM	3	13	4	20
7:00 PM	2	13	4	19
8:00 PM	2	8	4	14
9:00 PM	2	6	4	12
10:00 PM	1	4	3	8
11:00 PM	0	3	2	5
12:00 MID	0	3	0	3
Maximum				20

APPENDIX D

City of Colton Municipal Parking Code

18.22.120 - Parking requirements.

A. Specific Requirements.

1. The following number of parking spaces shall be required to serve the uses or buildings listed, as established in Table 18.22.080-1 (C-2 Zone Parking Requirements). All uses must provide the sum of the requirements for each individual use.
2. "Square feet" means "gross square feet" and refers to the sum gross square feet of the floor area of a building and its accessory buildings unless otherwise specified.
3. The General Parking Requirements in Subsection 18.18.120 B. shall be met.
4. When the calculation of the required number of off-street parking spaces results in a fraction of a space, the total number of spaces shall be rounded up to the nearest whole number.

Table 18.22.120-1—C-2 Commercial Zone Parking Requirements

Land Use	Spaces Required (based upon gross floor area)
Commercial Land Uses	**Spaces Required**
Shopping Centers:	
- Less than 25,000 sf	Sum of individual uses per this table
- 25,001 to 599,000 sf	5/1,000 sf
- 599,001 to 1,000,000 sf	5.5/1,000 sf or a parking study may be provided
- 1,000,001 sf or greater	Parking study required
- Eating and Drinking Establishments (if over 15% of Gross Leasable Area)	+1/100 sf additional applied to floor area of food service use or parking study may be provided
- Cinemas/Movie Theaters	+3/100 seats or parking study may be provided

- Offices (if over 10% of Gross Leasable Area)	Parking study required
Commercial Land Uses:	
Amusement Arcade	1 space/250 sf
Animal Grooming	1 space/250 sf
Automobile Sales and Rentals	1 space/600 sf
Automobile Repair and Service	1 space/600 sf
Bowling Alleys	3 spaces/alley, plus 50% of regular parking requirements for all other uses associated with alley, such as an arcade or bar.
Business Support Services	1 space/250 sf
Child Care Facilities/Family Day Care—Large	1 space/staff member, plus 1 space/each 20 children. A circular driveway at least 20 feet in width shall be provided for the safe off-street loading and unloading of children.
Convenience Sales and Services	1 space/250 sf
Eating and Drinking Establishments, including fast food and drive-through	1 space/100 sf; minimum 5 spaces
Financial Institutions	1 space/200 sf
Fortunetelling	1 space/250 sf
Funeral Services	1/35 sf of assembly room floor area
Gas Station and Service Station	3 spaces/1,000 sf, plus 2/service bay

Hotels and Motels	1 space/room + 2 spaces for managers
Instructional and Research Services	1 space/250 sf
Light Laundry Services	1 space/250 sf
Medical Offices	1 space/200 sf
Movie Theaters	1 space/250 sf, plus 1/100 seats
Office Uses and retail stores	Office—1 space/250 sf Office Supply Retail handling only durable or bulky merchandise—1/600 sf
Personal Services	1 space/250 sf
Places of Assembly	1 space/each 5 seats in principal assembly room, counting 20 inches of seating space on a bench as one seat. In cases where temporary or movable seats are provided, one space shall be provided for every 40 square feet of area within the assembly room.
Repair Services	1 space/250 sf
Retail Stores	1 space/250 sf
Therapeutic Services	1 space/250 sf
Institutional:	
Universities/Colleges	1 space per employee on the maximum shift; plus 1 space for every 2 students based on enrollment capacity

Vocational/Trade Schools	1 space for each employee on the maximum shift; plus 1 space for every 3 students over the age of 16

B. General Requirements. The general requirements for off-street parking shall be as outlined in Chapter 18.36 of this Code.

(Ord. 0-15-07 § 3, 2007: Ord. 0-24-04 § 2 (part), 2004; Ord. 0-14-92 § 1 (Exh. A) (part), 1992)

(Ord. No. O-05-13, § 2(Exh. A(11)), 10-10-2013)

APPENDIX E

Parking Observation Data

Table A
Starbucks With Drive-Thru Weekday Parking Survey
13384 Jamboree Rd, Irvine, CA 92602
December 15, 2017

Time	Parking	Queue
7:00 AM - 7:15 AM	26	10
7:15 AM - 7:30 AM	30	12
7:30 AM - 7:45 AM	29	15
7:45 AM - 8:00 AM	29	18
8:00 AM - 8:15 AM	30	18
8:15 AM - 8:30 AM	30	18
8:30 AM - 8:45 AM	28	17
8:45 AM - 9:00 AM	31	11

Table B
Starbucks With Drive-Thru Weekday Parking Survey
1759 Alameda St E #101, Compton, CA 90220
December 15, 2017

Time	Parking	Queue
7:00 AM - 7:15 AM	17	15
7:15 AM - 7:30 AM	13	12
7:30 AM - 7:45 AM	23	14
7:45 AM - 8:00 AM	10	11
8:00 AM - 8:15 AM	13	13
8:15 AM - 8:30 AM	16	21
8:30 AM - 8:45 AM	28	17
8:45 AM - 9:00 AM	15	14

Table C
McDonald's With Drive-Thru Weekday Parking Survey
1011 17th St, Santa Ana, CA 92706
December 15, 2017

Time	Parking	Queue
11:15 AM - 11:30 AM	21	1
11:30 AM - 11:45 AM	24	6
11:45 AM - 12:00 NOON	25	9
12:00 NOON - 12:15 PM	26	6
12:15 PM - 12:30 PM	28	10
12:30 PM - 12:45 PM	25	7
12:45 PM - 1:00 PM	24	7
1:00 PM - 1:15 PM	18	9
1:15 PM - 1:45 PM	18	5

Table D
McDonald's With Drive-Thru Weekday Parking Survey
1839 W Chapman Ave, Orange, CA 92868
December 15, 2017

Time	Parking	Queue
11:15 AM - 11:30 AM	15	5
11:30 AM - 11:45 AM	19	9
11:45 AM - 12:00 NOON	22	12
12:00 NOON - 12:15 PM	25	9
12:15 PM - 12:30 PM	24	0
12:30 PM - 12:45 PM	20	7
12:45 PM - 1:00 PM	17	4
1:00 PM - 1:15 PM	16	4
1:15 PM - 1:45 PM	12	3

KUNZMAN ASSOCIATES, INC.

LUMAR LUNDIN (NEC 10 PEPPER) PROJECT

TRAFFIC IMPACT ANALYSIS

February 22, 2018

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

LUMAR LUNDIN (NEC 10 PEPPER) PROJECT

TRAFFIC IMPACT ANALYSIS

February 22, 2018

Prepared by:

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EXECUTIVE SUMMARY

The purpose of this report is to provide an assessment of potential traffic impacts resulting from redevelopment of the proposed Lumar Lundin (NEC 10 Pepper) project and to identify the traffic mitigation measures necessary to maintain the established level of service standard for the elements of the impacted roadway system. The traffic issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act.

The City of Colton is the lead agency responsible for preparation of the traffic impact analysis, in accordance with California Environmental Quality Act authorizing legislation. This report analyzes traffic impacts for the Existing Plus Project, the anticipated opening date with full occupancy of the development in Year 2019, at which time it will be generating trips at its full potential, and for Horizon Year (2040) conditions.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

A. Project Description

The project site (1595 West Valley Boulevard) is located within the southeast corner of the Pepper Avenue and Valley Boulevard intersection in the City of Colton.

The site is currently occupied by an existing car dealership. The project site is proposed to consist of redeveloping the site by constructing 2,900 square feet of specialty retail, 2,000 square feet of fast-food restaurant without drive-thru (plus 400 square feet of outdoor dining area), and 8,000 square feet of fast-food restaurant with drive-thru (plus 1,130 square feet of outdoor dining area). The site plan shows that Unit A is proposed as a 3,000 square foot fast-food restaurant with drive-thru (plus 400 square feet of outdoor dining area), and it is likely that a coffee shop (similar to Starbucks Coffee) may occupy Unit A. The project site is proposed to provide a total of 133 on-site parking spaces.

Two project access driveways are proposed to be provided on Valley Boulevard and one access driveway is proposed to be provided on Pepper Avenue. The Project West Driveway on Valley Boulevard is proposed to be restricted to right turns in/out and left turns in only access. Northbound left turn movements should be restricted at the proposed Project West Driveway on Valley Boulevard (Intersection #6) because it may interfere with the existing westbound left turn lane on Valley Boulevard at Pepper Avenue (Intersection #2) due to its close proximity. It should be noted that the northbound left turn movement will be allowed at the proposed Project East Driveway on Valley Boulevard (Intersection #7). The Project East Driveway on Valley Boulevard is proposed to be stop-controlled full access. The Project Driveway on Pepper Avenue is proposed to be restricted to right turns in/out only access.

For purposes of this traffic impact analysis, the proposed project is assumed to be fully operational by Year 2019.

B. Traffic Conditions

Existing Traffic Conditions. The study intersections currently operate at Level of Service D or better during the peak hours for Existing traffic conditions (see Table 1), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

A traffic signal appears to currently warranted at the following study area intersection for Existing traffic conditions (see Appendix F):

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8

Project Trips. The proposed project is forecast to generate a total of approximately 2,733 net daily trips, 220 net trips of which will occur during the morning peak hour and 196 net trips of which will occur during the evening peak hour (see Table 2). Since the project site is currently occupied by an existing car dealership, the existing trip credit for the existing land use is estimated based on existing intersection turning movement counts collected at the existing driveway on Valley Boulevard which included 2 trips during the morning peak hour and 7 trips during the evening peak hour. For a conservative analysis, the existing trip credit for the project are only considered at the project driveways but not at the off-site intersection analysis locations.

Existing Plus Project Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Project traffic conditions, except at the intersection of Meridian Avenue and Valley Boulevard (#8).

The proposed project is forecast to result in no significant impacts at the study intersections for Existing Plus Project traffic conditions (see Table 4), with the following recommended traffic signal improvement:

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8
- New traffic signal

Opening Year Without Project Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Opening Year Without Project traffic conditions (see Table 5), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

Opening Year With Project Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Opening Year With Project traffic conditions, except at the intersection of Meridian Avenue and Valley Boulevard (#8).

The proposed project is forecast to result in no significant impacts at the study intersections for Opening Year With Project traffic conditions (see Table 6), with the following recommended traffic signal improvements:

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8
- New traffic signal

Horizon Year 2040 Without Project Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Horizon Year 2040 Without Project traffic conditions (see Table 5), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

Horizon Year 2040 With Project Traffic Conditions. The study intersections are projected to operate at Level of Service D or better during the peak hours for Horizon Year 2040 With Project traffic conditions (see Table 8), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

The proposed project is forecast to result in no significant impacts at the study intersections for Horizon Year 2040 With Project traffic conditions (see Table 6), with the following recommended traffic signal improvement:

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8
- New traffic signal

C. Traffic Impact and Mitigation

Off-site intersection improvements were identified to address significant traffic impacts at the study intersections for the scenarios analyzed.

For Existing Plus Project traffic conditions, the following traffic signal improvement is recommended:

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8
- New traffic signal

D. On-Site/Access Recommendations

Site-specific circulation and access recommendations are depicted on Figure 32.

The Project West Driveway on Valley Boulevard will be a stop-controlled access and it will be restricted to right turns in/out and left turns in only access. Install signage and pavement delineators to restrict northbound left turns from the Project West Driveway at Valley Boulevard. Northbound left turn movements should be restricted at the Project West Driveway on Valley Boulevard (Intersection #6) because it may interfere with the existing westbound left turn lane on Valley Boulevard at Pepper Avenue (Intersection #2) due to its

close proximity. It should be noted that the northbound left turn movement will be allowed at the Project East Driveway on Valley Boulevard (Intersection #7).

The Project East Driveway on Valley Boulevard will be a stop-controlled full access.

The Project Driveway on Pepper Avenue will be a stop-controlled access and it will be restricted to right turns in/right turns out only access.

Valley Boulevard along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the City of Colton Public Works Department.

Pepper Avenue along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the City of Colton Public Works Department.

The proposed project driveways should be constructed in conformance with City of Colton standards, including provisions for sight distance requirements and truck turning radii, or as otherwise approved by the City of Colton Public Works Department.

All on-site and site-adjacent improvements, including traffic signing/striping and project driveways, should be constructed as approved by the City of Colton Public Works Department.

On-site parking should be provided to the satisfaction of City of Colton Planning Department.

As is the case for any roadway design, the City of Colton should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

I. INTRODUCTION

This section introduces the project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

A. Purpose and Objectives

The purpose of this report is to provide an assessment of the traffic impacts resulting from redevelopment of the proposed Lumar Lundin (NEC 10 Pepper) project. The study objectives include (1) documentation of existing traffic conditions in the project vicinity; (2) evaluation of project and cumulative traffic impacts; (3) evaluation of the Horizon Year 2040 conditions; and (4) identification of on-site and off-site improvements needed to mitigate potential impacts to the transportation system. This report analyzes traffic impacts for the anticipated opening date with occupancy of the development in Opening Year (2019) and Horizon Year (2040), at which time it will be generating trips at its full potential.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

B. Project Description

The project site (1595 West Valley Boulevard) is located within the southeast corner of the Pepper Avenue and Valley Boulevard intersection in the City of Colton. The site is currently occupied by an existing car dealership. The project site is proposed to consist of redeveloping the site by constructing 2,900 square feet of specialty retail, 2,000 square feet of fast-food restaurant without drive-thru (plus 400 square feet of outdoor dining area), and 8,000 square feet of fast-food restaurant with drive-thru (plus 1,130 square feet of outdoor dining area). The site plan shows that Unit A is a 3,000 square foot fast-food restaurant with drive-thru (plus 400 square feet of outdoor dining area), and it is likely that a coffee shop (similar to Starbucks Coffee) may occupy Unit A. The project site is proposed to provide a total of 133 on-site parking spaces.

Two project access driveways are proposed to be provided on Valley Boulevard and one access driveway is proposed to be provided on Pepper Avenue. The Project West Driveway on Valley Boulevard is proposed to be restricted to right turns in/out and left turns in only access. Northbound left turn movements should be restricted at the proposed Project West Driveway on Valley Boulevard (Intersection #6) because it may interfere with the existing westbound left turn lane on Valley Boulevard at Pepper Avenue (Intersection #2) due to its close proximity. It should be noted that the northbound left turn movement will be allowed at the proposed Project East Driveway on Valley Boulevard (Intersection #7). The Project East Driveway on Valley Boulevard is proposed to be stop-controlled full access. The Project Driveway on Pepper Avenue is proposed to be restricted to right turns in/out only access.

For purposes of this traffic impact analysis, the proposed project is assumed to be fully operational by Year 2019.

C. Study Area

Based on the approved scoping agreement (see Appendix B) with City of Colton, the study area consists of the following eight (8) study intersections:

Study Intersections	Jurisdiction
Pepper Avenue (NS) at:	
Blue Drive (EW) – #1[1]	City of Colton
Valley Boulevard (EW) – #2	City of Colton
Project Driveway (EW) – #3	City of Colton
I-10 Westbound Ramps (EW) – #4	California Department of Transportation
I-10 Eastbound Ramps (EW) – #5	California Department of Transportation
Project West Driveway (NS) at:	
Valley Boulevard (EW) – #6	City of Colton
Project East Driveway (NS) at:	
Valley Boulevard (EW) – #7	City of Colton
Meridian Avenue (NS) at:	
Valley Boulevard (EW) – #8	City of Colton

D. Analysis Scenarios

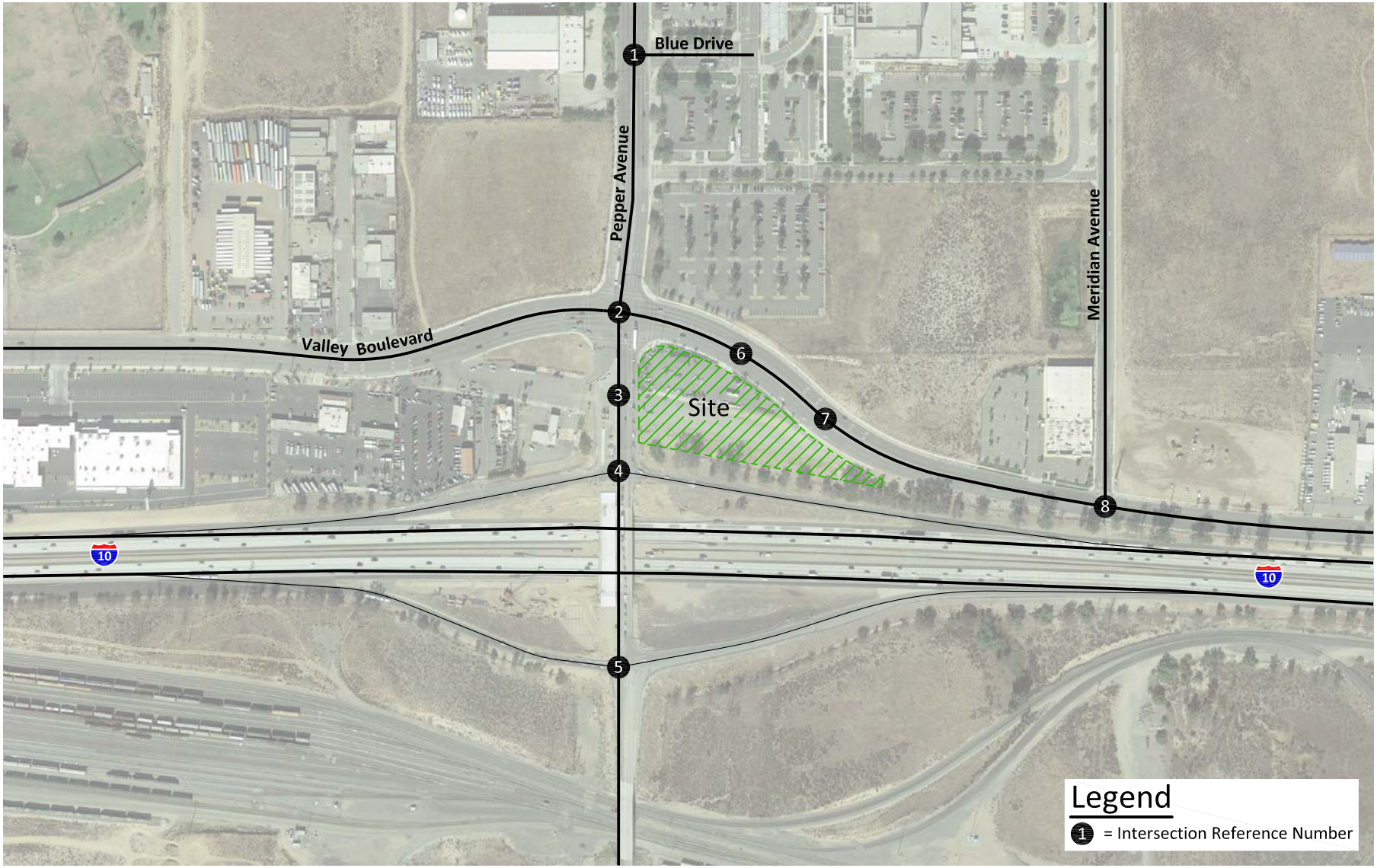
The following six (6) scenarios are analyzed:

1. Existing Conditions,
2. Existing Plus Project Conditions[2],
3. Opening Year (2019) Without Project Conditions,
4. Opening Year (2019) With Project Conditions,
5. Horizon Year (2040) Without Project Conditions, and
6. Horizon Year (2040) With Project Conditions.

[1] (NS) North-South roadway; (EW) = East-West roadway

[2] The existing plus project conditions has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time.

Figure 1
Project Location Map

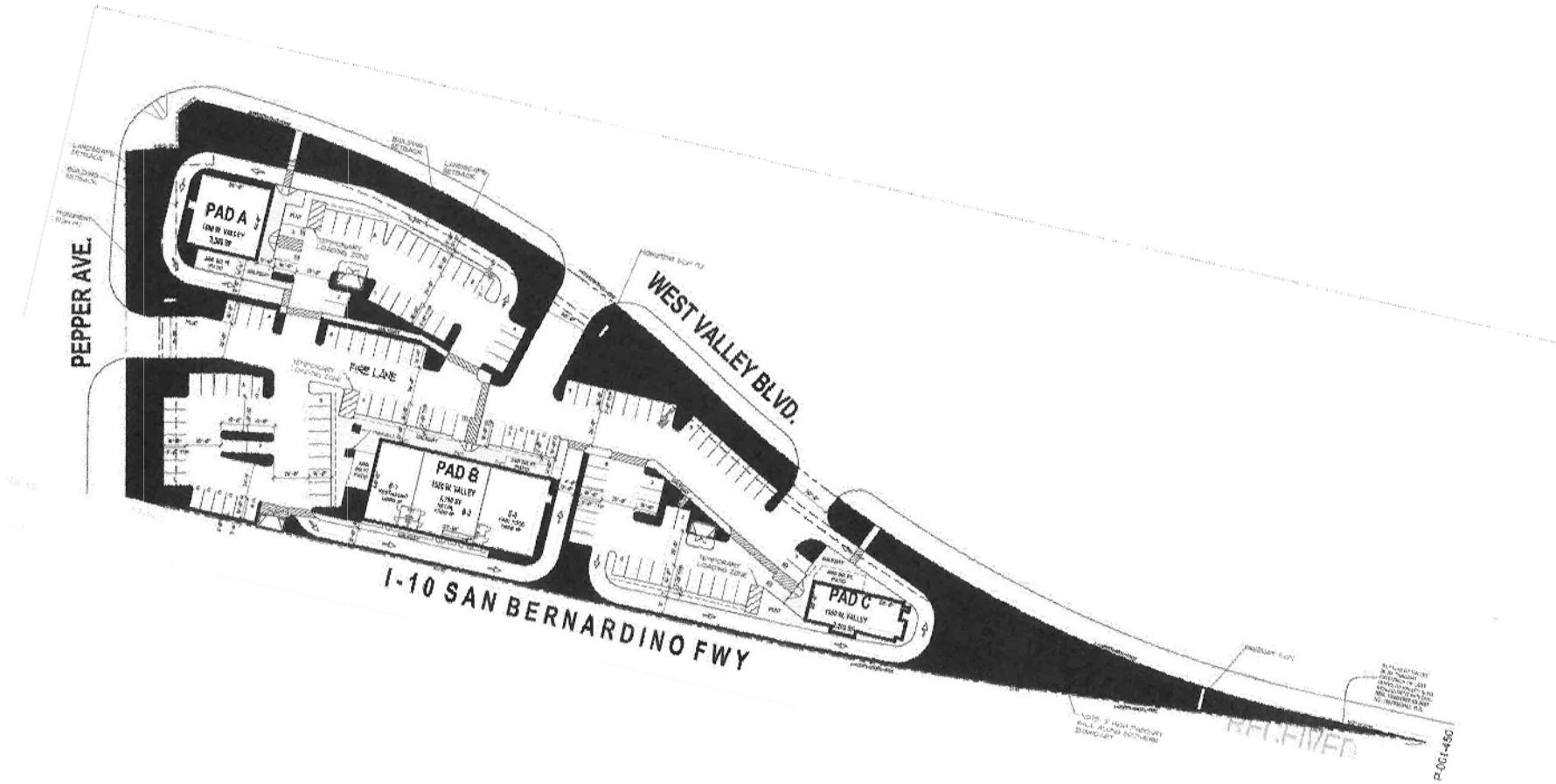


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Figure 2
Site Plan



II. METHODOLOGY

A. Highway Capacity Manual Delay Methodology

The technique used to assess the performance of an un-signalized study intersection is known as the intersection delay method based on the procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition). The methodology compares the volume of traffic using the intersection to the capacity of the intersection to calculate the delay associated with the traffic control at the intersection. The intersection delay is then correlated to a performance measure known as Level of Service based on the following thresholds:

Level of Service	Un-signalized Intersection Control Delay (Seconds/Vehicle)
A	≤ 10.0
B	> 10.0 to ≤ 15.0
C	> 15.0 to ≤ 25.0
D	> 25.0 to ≤ 35.0
E	> 35.0 to ≤ 50.0
F	> 50.0

Source: Highway Capacity Manual 2010 (Transportation Research Board, 2010).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure).

The Level of Service analysis for signalized intersections has been performed using optimized signal timing. This analysis has included an assumed lost time of two seconds per phase. Traffic signal timing optimization has considered pedestrian safety and signal coordination requirements. Appropriate time for pedestrian crossings has also been considered in the signalized intersection analysis. The following formula has been used to calculate the pedestrian minimum times for all Highway Capacity Manual runs:

(Curb to curb distance) / (3.5 feet/second) + 7 seconds.

Saturation flow rates of 1,800 vehicles per hour of green for through and right turn lanes and 1,700 vehicles per lane for single left turn lanes, 1,600 vehicles per lane for dual left turn lanes and 1,500 vehicles per lane for triple left turn lanes have been assumed for the capacity analysis.

The peak hour traffic volumes have been adjusted to peak 15 minute volumes for analysis purposes using the existing observed peak 15 minute to peak hour factors for all scenarios analyzed. Where feasible improvements in accordance with the local jurisdiction's General Plan and which result in acceptable operations cannot be identified, the Year 2040 peak hour factor has been adjusted upwards to 0.95. This is to account for the effects of congestion on

peak spreading. Peak spreading refers to the tendency of traffic to spread more evenly across time as congestion increases.

B. Thresholds of Significance

The following definitions of deficiencies and significant impacts have been developed in accordance with the City of Colton requirements.

1. Definition of Deficiency

The definition of an intersection deficiency has been obtained from the City of Colton General Plan. The General Plan states that peak hour intersection operations of Level of Service D or better are generally acceptable. Therefore, any intersection operating at Level of Service E to F will be considered deficient.

2. Definition of Significant Impact

The identification of significant impacts is a requirement of the California Environmental Quality Act. The City of Colton General Plan and Circulation Element have been adopted in accordance with California Environmental Quality Act requirements, and any roadway improvements within the City of Colton that are consistent with these documents are not considered a significant impact, so long as the project contributes its "fair share" funding for improvements.

A traffic impact is considered significant if the project both: (i) contributes measurable traffic to and (ii) substantially and adversely changes the Level of Service at any off-site location projected to experience deficient operations under foreseeable cumulative conditions, where feasible improvements consistent with the City of Colton General Plan cannot be constructed.

III. EXISTING CONDITIONS

A. Existing Roadway Facilities

Figure 3 identifies the Existing number of through lanes, intersection traffic controls, and intersection geometry based on a field survey of the study area.

Regional access to the project site is provided by the I-10 Freeway. Local north-south circulation is provided by Pepper Avenue and Meridian Avenue. Local east-west circulation is provided by Valley Boulevard.

B. Existing Traffic Volumes

Existing peak hour traffic volumes are based upon morning peak period and evening peak period intersection turning movement counts obtained by Kunzman Associates, Inc. in September/November 2017 during typical weekday conditions. The morning peak period was counted between 7:00 AM and 9:00 AM and the evening peak period was counted between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15-minute periods with the highest total volume when all movements are added together. Thus, the weekday evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest combined volume. Intersection turning movement count worksheets are included in Appendix C.

The Existing average daily traffic volumes were obtained from the 2016 Traffic Volumes on California State Highways by the California Department of Transportation and factored from peak hour counts using the following formula for each intersection leg:

PM Peak Hour (Approach + Exit Volume) x 11.5 = Daily Leg Volume.

The factor is estimated based on a comparison of the existing peak hour intersection turning movement counts with the average daily traffic volume data obtained from the California Department of Transportation. This is a conservative estimate and may over-estimate the average daily traffic volumes.

Figure 4 depicts the average daily traffic volumes for Existing traffic conditions. Figure 5 and Figure 6 show the morning peak hour and evening peak hour intersection turning movement volumes for Existing traffic conditions, respectively.

C. Existing Intersection Level of Service

The morning and evening peak hour Levels of Service for Existing traffic conditions have been calculated and are shown in Table 1. Existing Level of Service calculation worksheets are provided in Appendix D. The study intersections currently operate at Level of Service D or better during the peak hours for Existing traffic conditions (see Table 1), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

D. Traffic Signal Warrant Analysis

The unsignalized intersection has been evaluated for a traffic signal using the California Department of Transportation Warrant 3 Peak Hour traffic signal warrant analysis, as specified in the California Manual of Uniform Traffic Control Devices (2014 Update).

A traffic signal appears to currently be warranted at the following study area intersection for Existing traffic conditions (see Appendix F):

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8

D. General Plan Context

The City of Colton General Plan Circulation Element is shown on Figure 7. Existing and future roadways are included in the Circulation Element of the General Plan and are graphically depicted on Figure 7. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Colton General Plan roadway cross-sections are shown on Figure 8.

E. Transit Service

Figure 9 shows Existing public transit facilities and routes in the project vicinity. As shown on Figure 9, the study area is currently served by the Omnitrans transit agency Routes 1, 19, 22, and 290 along Pepper Avenue and Valley Boulevard.

F. Bicycle & Pedestrian Facilities

Existing pedestrian facilities adjacent to the project site are shown on Figure 10. The City of Colton bike paths are illustrated on Figure 11.

Table 1

Existing Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
1 Pepper Avenue (NS) at: Blue Drive (EW)	TS	0	2	1	1	2	0	0	0	0	1	0	1	6.6 - A	8.8 - A
2 Pepper Avenue (NS) at: Valley Boulevard (EW)	TS	1	3	1	2	3	1	2	2	1	2	1.5	0.5	22.5 - C	22.9 - C
3 Pepper Avenue (NS) at: Project Driveway (EW)	CSS	0	2.5	0.5	0	2	0	0	0	0	0	0	1	0.0 - A	0.0 - A
4 Pepper Avenue (NS) at: I-10 Westbound Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	0	<1>	1	22.4 - C	13.6 - B
5 Pepper Avenue (NS) at: I-10 Eastbound Ramps (EW)	TS	0	1	1	2	1	0	1	<1>	0	0	0	0	24.3 - C	23.5 - C
6 Project West Driveway (NS) at: Valley Boulevard (EW)	CSS	0	0	1	0	0	0	0	2.5	0.5	1	2	0	0.0 - A	0.0 - A
7 Project East Driveway (NS) at: Valley Boulevard (EW)	CSS	0.5	0	0.5	0	0	0	0	2.5	0.5	1	2	0	16.0 - C	17.4 - C
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	CSS	0	0	0	1	0	1	1	2	0	0	1.5	0.5	45.9 - E	55.4 - F

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane

[2] TS = Traffic Signal; CSS = Cross Street Stop

Figure 3
Existing Through Travel Lanes and Intersection Controls

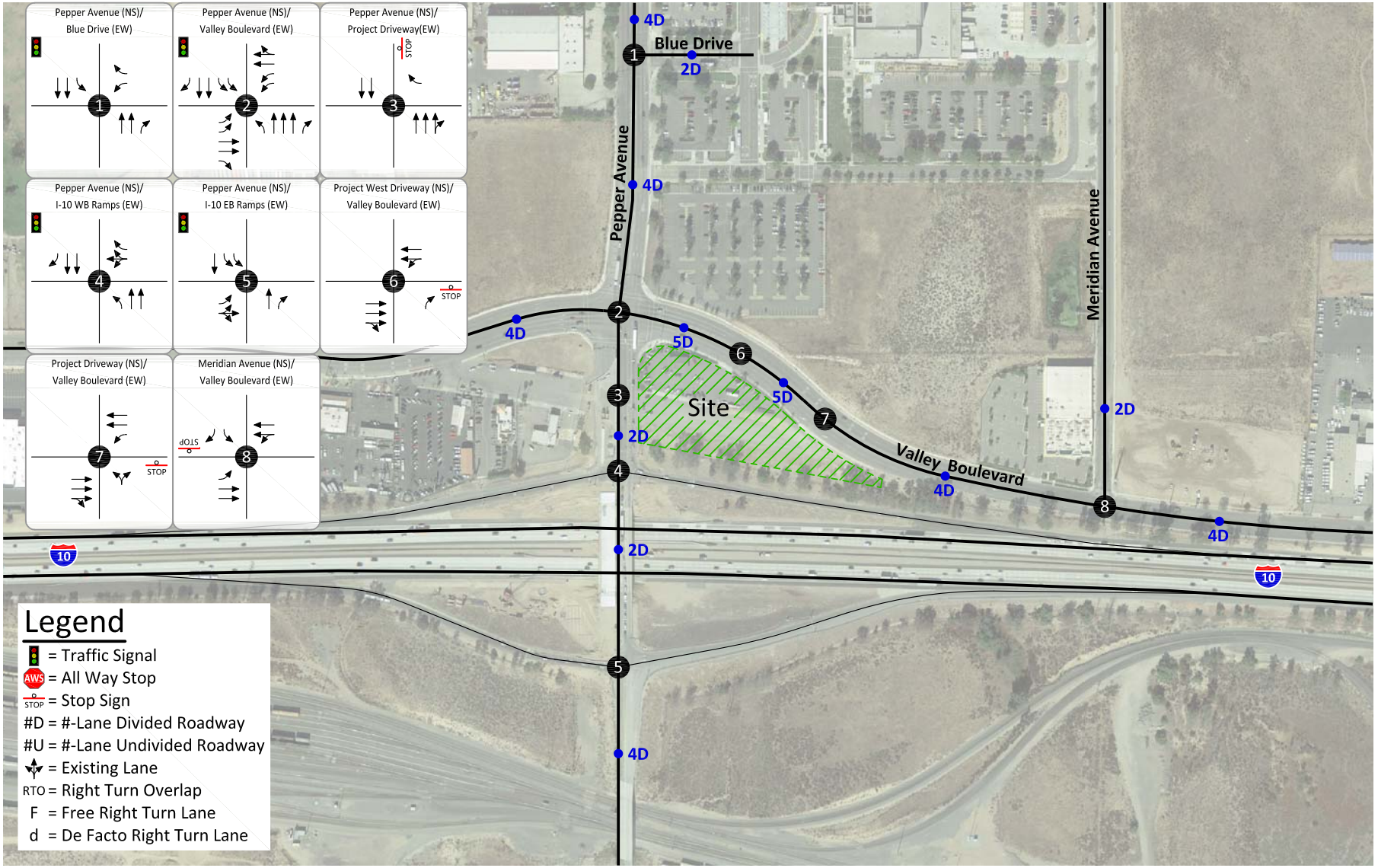


Figure 4
Existing Average Daily Traffic Volumes

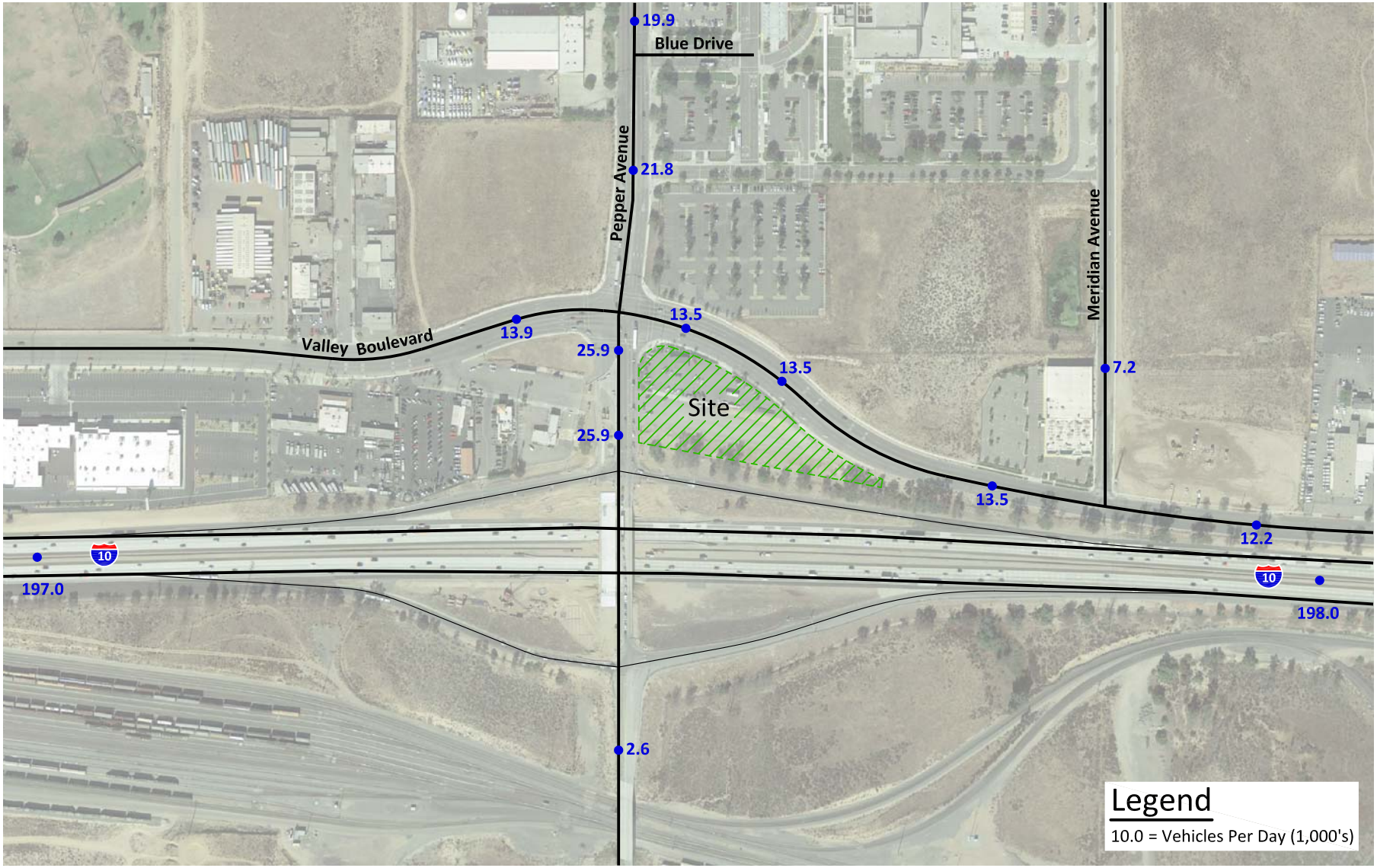
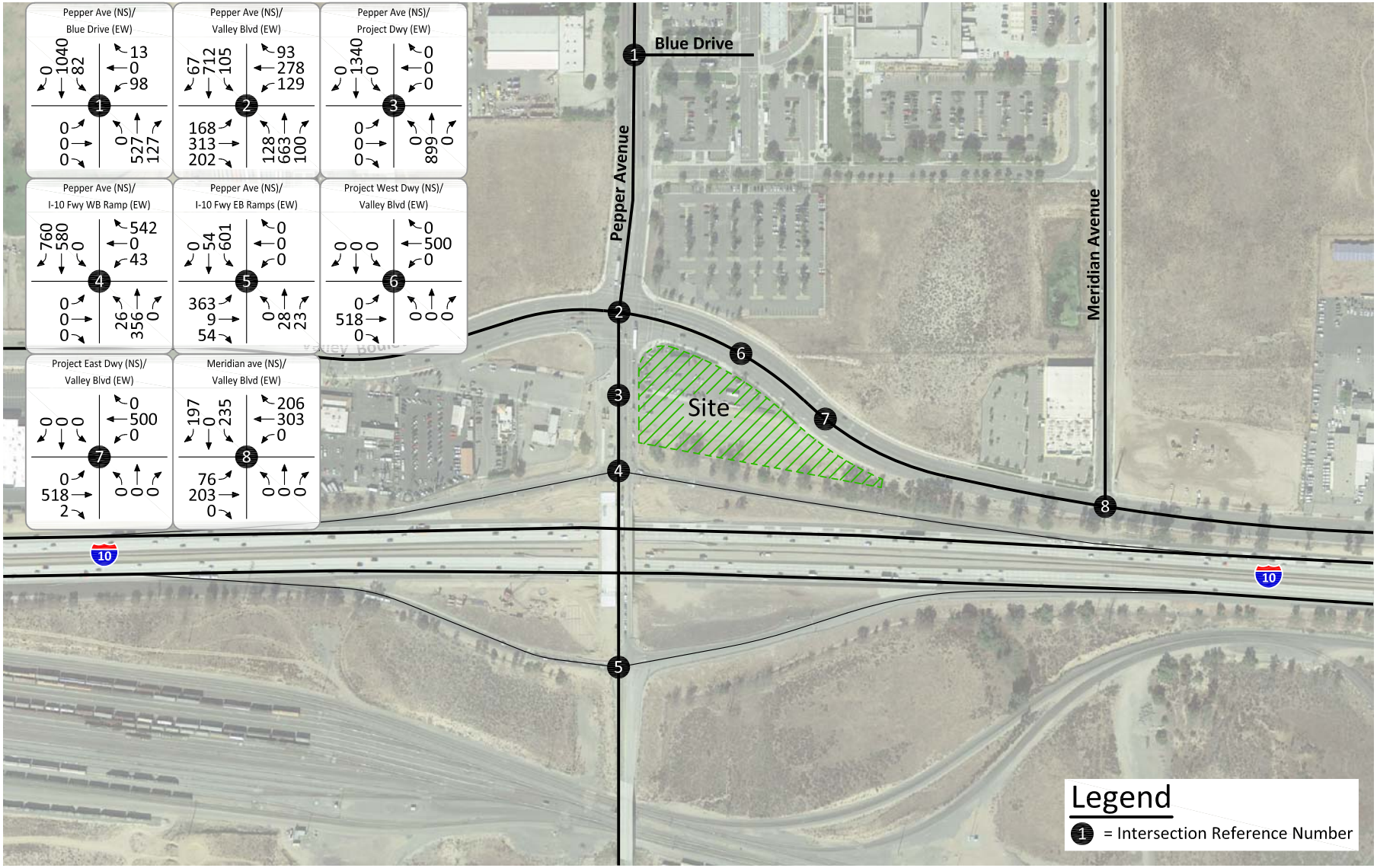


Figure 5
Existing Morning Peak Hour Intersection Turning Movement Volumes

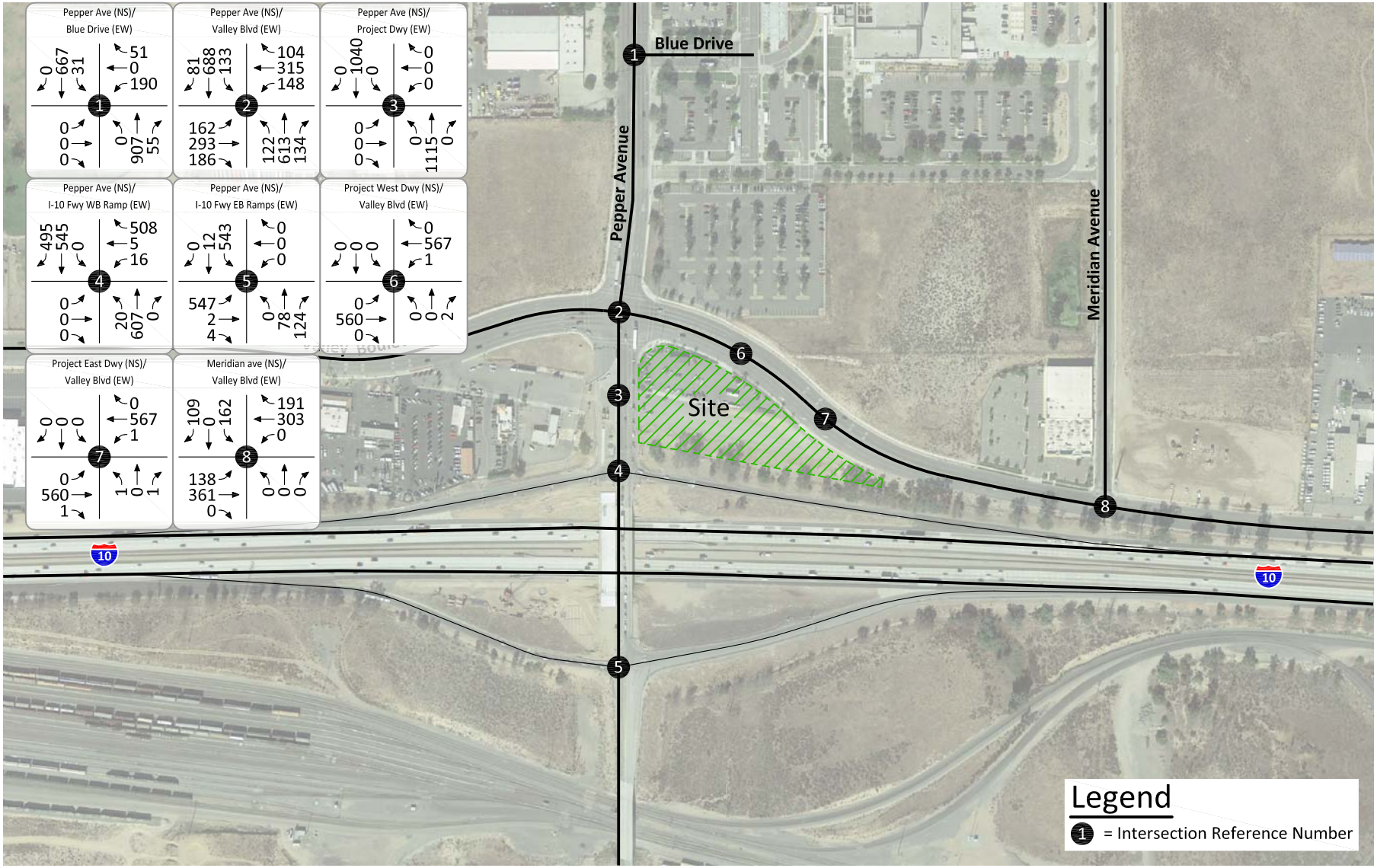


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Figure 6
Existing Evening Peak Hour Intersection Turning Movement Volumes

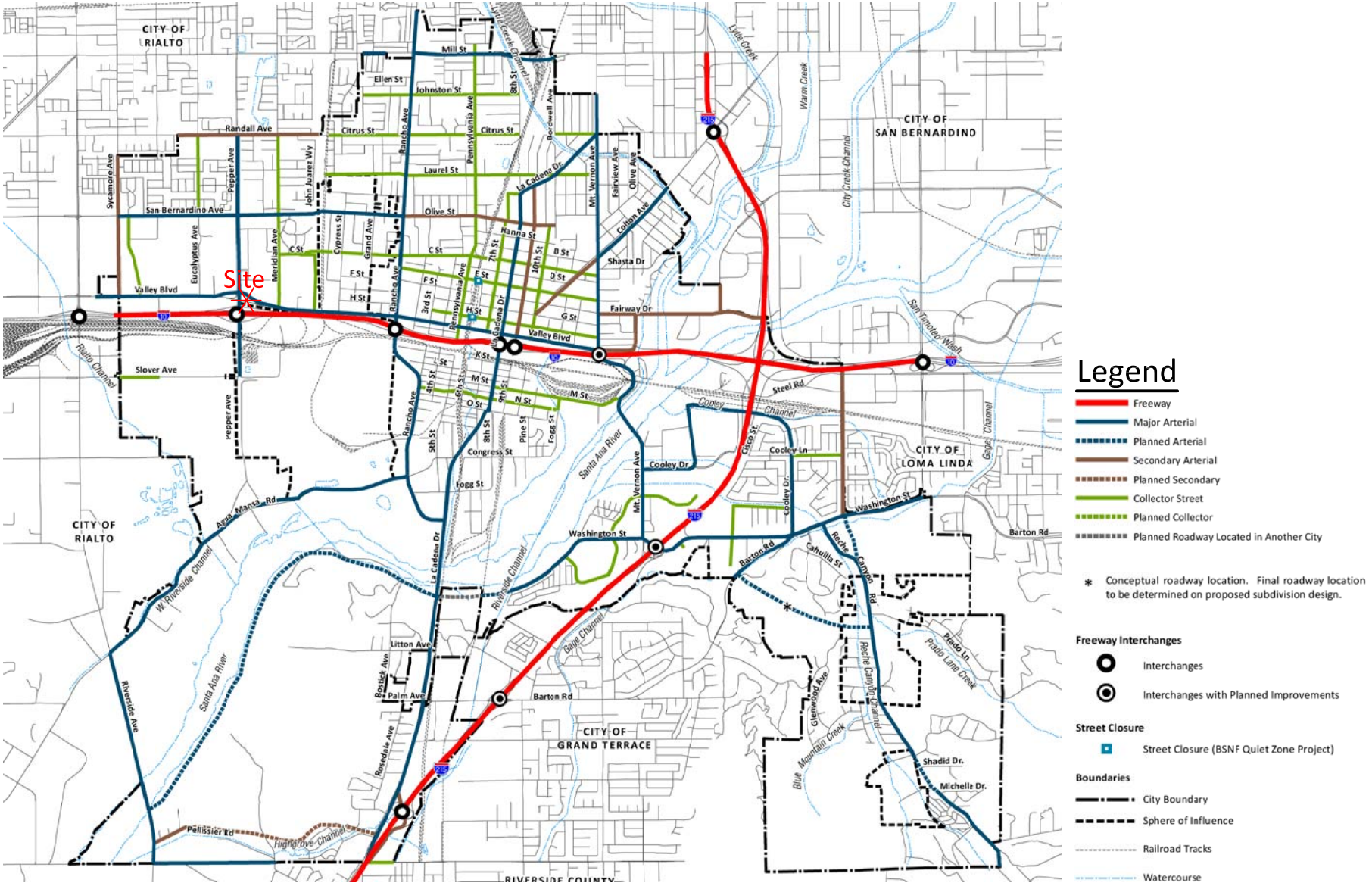


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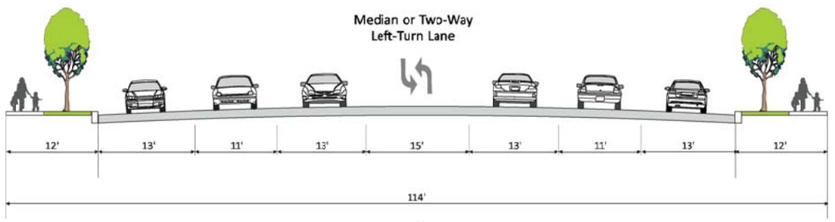
Figure 7
City of Colton General Plan Circulation Element



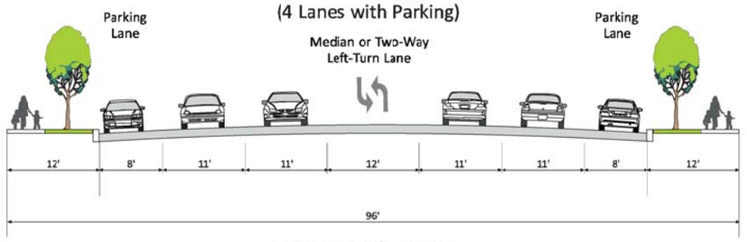
Source: City of Colton

Figure 8
City of Colton General Plan Roadway Cross-Sections

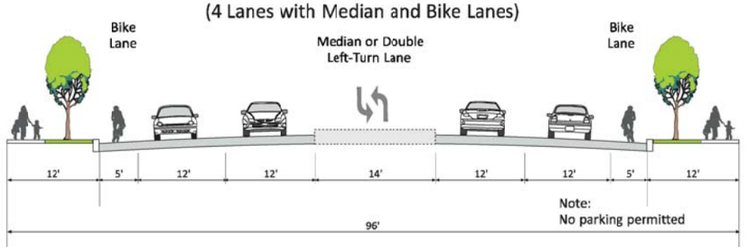
Major Arterial - Six-Lane



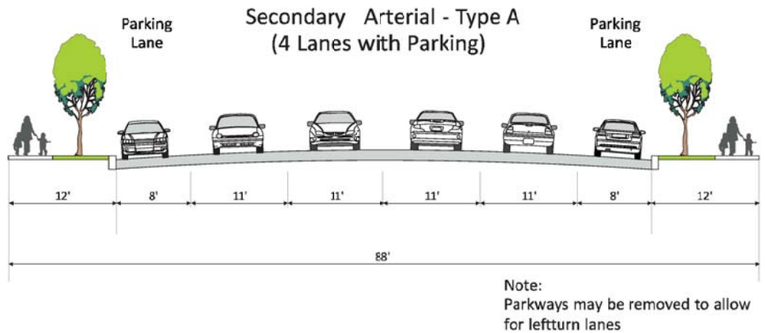
MajorArterial - Type A
(4 Lanes with Parking)



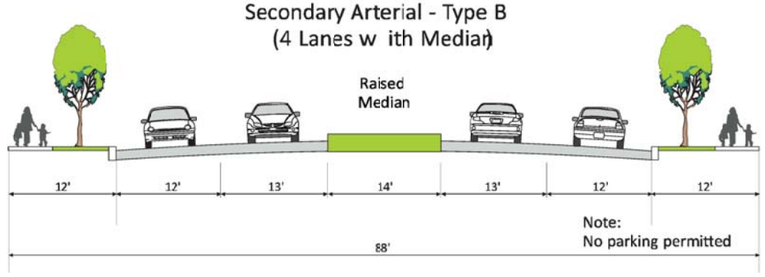
Major Arterial - Type B
(4 Lanes with Median and Bike Lanes)



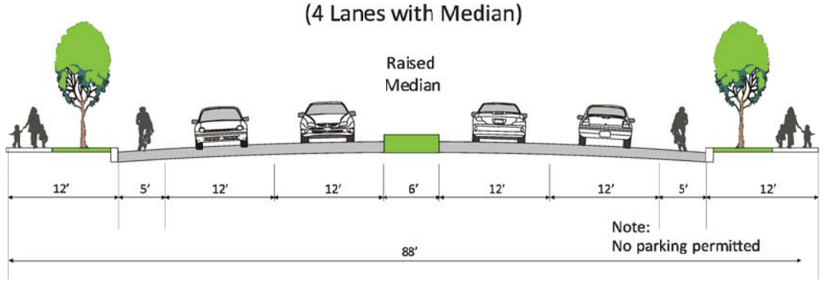
Secondary Arterial - Type A
(4 Lanes with Parking)



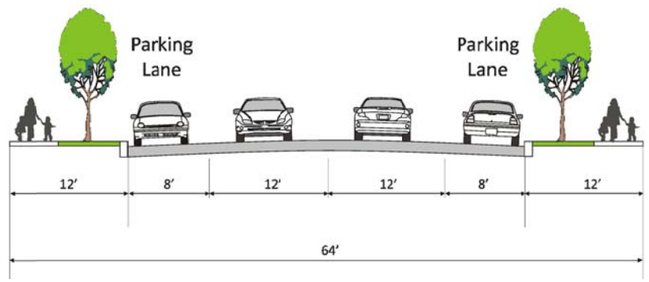
Secondary Arterial - Type B
(4 Lanes w ith Median)



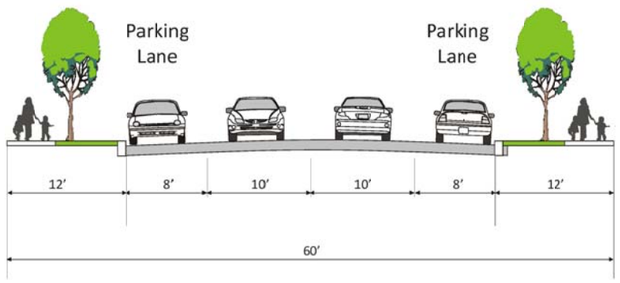
Secondary Arterial with Bike Lane - Type C
(4 Lanes with Median)



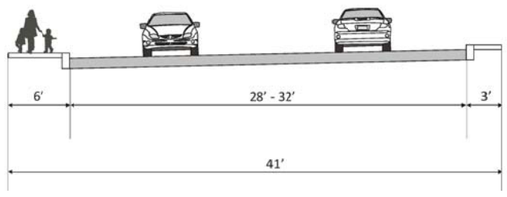
Collector Street
(2 Lanes with Parking)



Local Street
(2 Lanes with Parking)

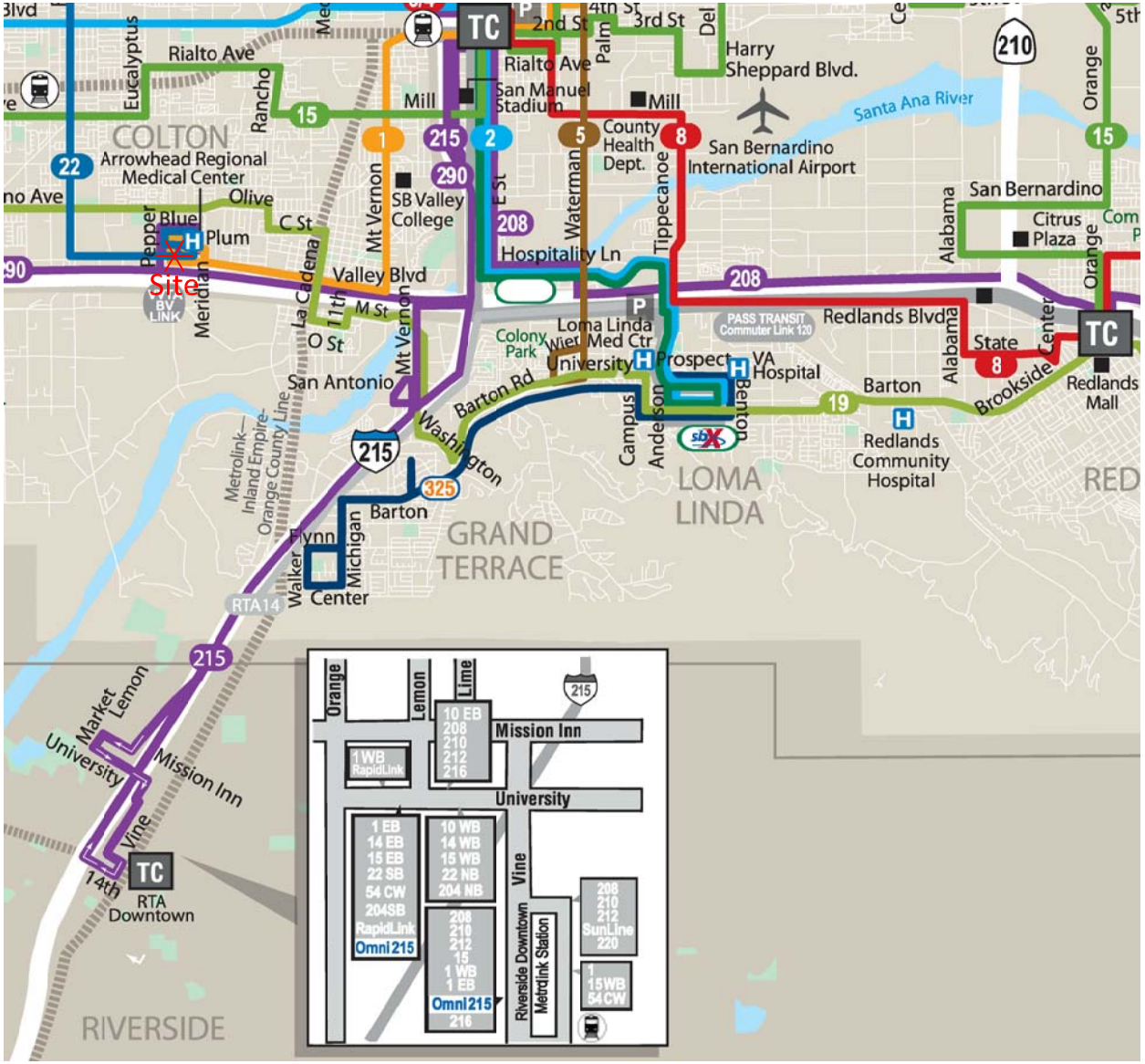


Hillside Local Street
(2 Lanes)



Source: City of Colton

Figure 9
Existing Transit Routes



Omnitrans Routes

Route	Route Name
sbX	Palm/Kendall - CSUSB - VA Hospital
1	ARMC – San Bernardino Del Rosa
2	Cal St – E St – Loma Linda
3/4	Baseline – Highland – San Bdno
5	South Waterman – Del Rosa – Cal State
7	N San Bdno – Sierra Way – San Bdno
8	San Bdno – Mentone – Crafton Hills College
10	Fontana – Baseline – San Bernardino
11	San Bernardino – Muscoy – Cal State
14	Fontana – Foothill – San Bernardino
15	Fontana – San Bernardino/Highland – Redlands
19	Fontana – Colton – Redlands - Yucaipa
20	Fontana – Metrolink – Via Hemlock – Kaiser
22	North Rialto – Riverside Ave – ARMC
29	Bloomington – Valley Blvd – Kaiser
61	Fontana – Ontario Mills – ONT Airport - Pomona
66	Fontana – Foothill Blvd – Montclair
67	Chaffey College – Baseline – Fontana
80	ONT Airport - Vineyard Ave. – Chaffey College
81	Chino - Haven – Chaffey College
82	Rancho Cucamonga – Fontana – Sierra Lakes
83	Chino – Euclid Ave. – Upland
84	Chino - Mountain Ave. - Upland
85	Chino - Montclair - Chaffey College
86	S. Ontario - Campus Ave. - San Antonio Hospital
88	Chino Hills - Ramona Ave. - Montclair
208	Yucaipa - Redlands - San Bernardino
215	Riverside - San Bernardino
290	San Bernardino - ARMC - Ontario Mills - Montclair
308/309/310	OmniGo Yucaipa
325	OmniGo Grand Terrace
365	OmniGo Chino/Chino Hills

Routes and schedules are subject to change without notice.

Source: Omnitrans

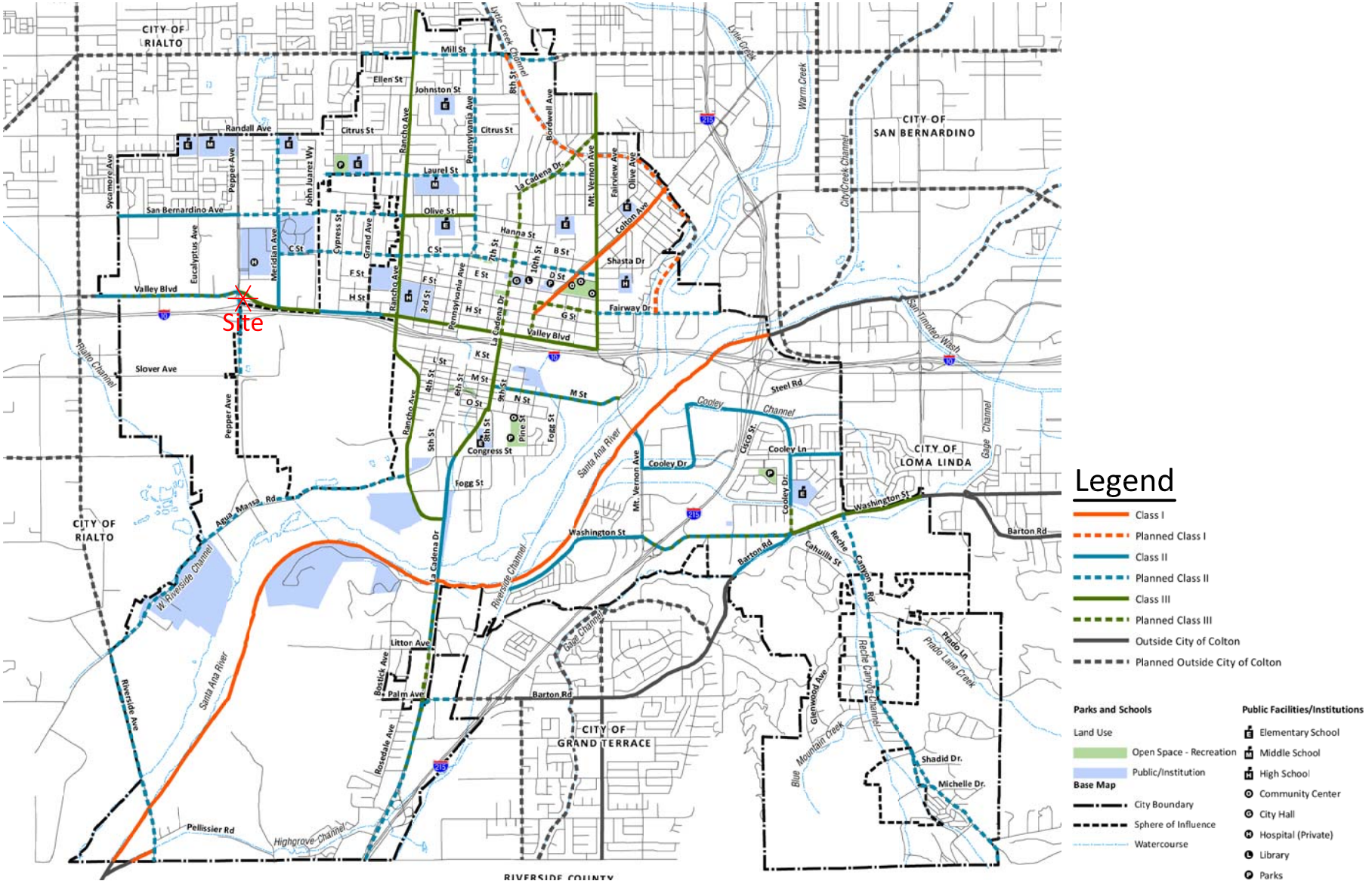
Figure 10
Existing Pedestrian Facilities



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Figure 11
City of Colton General Plan Bike Routes



Source: City of Colton

IV. PROJECT TRIPS

A. Project Description

The site is currently occupied by an existing car dealership. The project site is proposed to consist of redeveloping the site by constructing 2,900 square feet of specialty retail, 2,000 square feet of fast-food restaurant without drive-thru (plus 400 square feet of outdoor dining area), and 8,000 square feet of fast-food restaurant with drive-thru (plus 1,130 square feet of outdoor dining area). The site plan shows that Unit A is a 3,000 square foot fast-food restaurant with drive-thru (plus 400 square feet of outdoor dining area), and it is likely that a coffee shop (similar to Starbucks Coffee) may occupy Unit A. The project site is proposed to provide a total of 133 on-site parking spaces.

Two project access driveways are proposed to be provided on Valley Boulevard and one access driveway is proposed to be provided on Pepper Avenue. The Project West Driveway on Valley Boulevard is proposed to be restricted to right turns in/out and left turns in only access. Northbound left turn movements should be restricted at the proposed Project West Driveway on Valley Boulevard (Intersection #6) because it may interfere with the existing westbound left turn lane on Valley Boulevard at Pepper Avenue (Intersection #2) due to its close proximity. It should be noted that the northbound left turn movement will be allowed at the proposed Project East Driveway on Valley Boulevard (Intersection #7). The Project East Driveway on Valley Boulevard is proposed to be stop-controlled full access. The Project Driveway on Pepper Avenue is proposed to be restricted to right turns in/out only access.

B. Trip Generation

The trips generated by the project are determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are predicated on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and life styles remain similar to what are known today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily traffic, morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land use. By multiplying the trip generation rates by the land use quantity, the traffic volumes are determined. Table 2 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017, and the San Diego Association of Governments, Brief Guide of Vehicular Traffic Generation Rates for the San Diego Area, April 2002.

It should be noted that for high-turnover (sit-down) restaurant, fast-food restaurant, commercial retail, a portion of the trips would come from pass-by trips from adjacent roadways, trips that are currently on the roadway system. In order to analyze pass-by trips, the traffic volumes from the project have been reduced as a result of pass-by trips (see Table 2) based upon the Institute of Transportation Engineers, Trip Generation Handbook, 2017.

As shown in Table 2, the proposed project is forecast to generate a total of approximately 2,733 net daily trips, 220 net trips of which will occur during the morning peak hour and 196 net trips of which will occur during the evening peak hour. Since the project site is currently occupied by an existing car dealership, the existing trip credit for the existing land use is estimated based on existing intersection turning movement counts collected at the existing driveway on Valley Boulevard which included 2 trips during the morning peak hour and 7 trips during the evening peak hour. For a conservative analysis, the existing trip credit for the project are only considered at the project driveways but not at the off-site intersection analysis locations.

C. Trip Distribution

Figure 12 and Figure 13 show the forecast directional outbound and inbound distributions of the project generated trips. The project trip distribution patterns are based on review of existing traffic data, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

D. Trip Assignment

Based on the identified trip generation and distributions, project average daily traffic volumes have been calculated and shown on Figure 14. Morning and evening peak hour intersection turning movement volumes expected from the project are shown on Figure 15 and Figure 16, respectively.

Table 2

Project Trip Generation

Trip Generation Rates										
Project				Morning Peak			Afternoon Peak			Daily
No.	Land Use	Code[1]	Unit[2]	In%	Out%	Total	In%	Out%	Total	
1	Fast-Food Restaurant without Drive-Thru Window	ITE 933	TSF	60%	40%	**25.10**	50%	50%	**28.34**	**346.23**
2	Fast-Food Restaurant with Drive-Thru Window	ITE 934	TSF	51%	49%	**40.19**	52%	48%	**32.67**	**470.95**
3	Specialty Retail	SANDAG	TSF	60%	40%	**1.20**	50%	50%	**3.60**	**40.00**

Trip Generation									
Project			Morning Peak			Afternoon Peak			Daily
No.	Land Use	Quantity[2]	In	Out	Total	In	Out	Total	
A	Fast-Food Restaurant without Drive-Thru Window	2.400 TSF	36	24	60	34	34	68	831
	Pass-By Trips[3]	49%	-18	-12	-30	-17	-17	-34	-407
	Subtotal Net Trips		**18**	**12**	**30**	**17**	**17**	**34**	**424**
B	Fast-Food Restaurant with Drive-Thru Window	9.130 TSF	187	180	367	155	143	298	4,300
	Pass-By Trips[3]	49%	-92	-88	-180	-76	-70	-146	-2,107
	Subtotal Net Trips		**95**	**92**	**187**	**79**	**73**	**152**	**2,193**
C	Specialty Retail	2.900 TSF	2	1	3	5	5	10	116
Total Trips without Adjustment		14.430 TSF	225	205	430	194	182	376	5,247
Total Pass-By Trip Reduction			-110	-100	-210	-93	-87	-180	-2,514
Total Net Trips with Pass-By Trip Reduction			**115**	**105**	**220**	**101**	**95**	**196**	**2,733**

[1] Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017.

San Diego Association of Governments, Brief Guide of Vehicular Traffic Generation Rates for the San Diego Area April 2002.

[2] TSF = Thousand Square Feet

[3] AM Pass-By Trips: ITE, Trip Generation Handbook, 3rd Edition, 2017, Table E.31 Pass-By and Non Pass-By Trips Weekday, AM Peak Period Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 49%.

PM Pass-By Trips: ITE, Trip Generation Handbook, 3rd Edition, 2017, Table E.32 Pass-By and Non Pass-By Trips Weekday, PM Peak Period Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 50%.

Figure 12
Project Outbound Trip Distribution

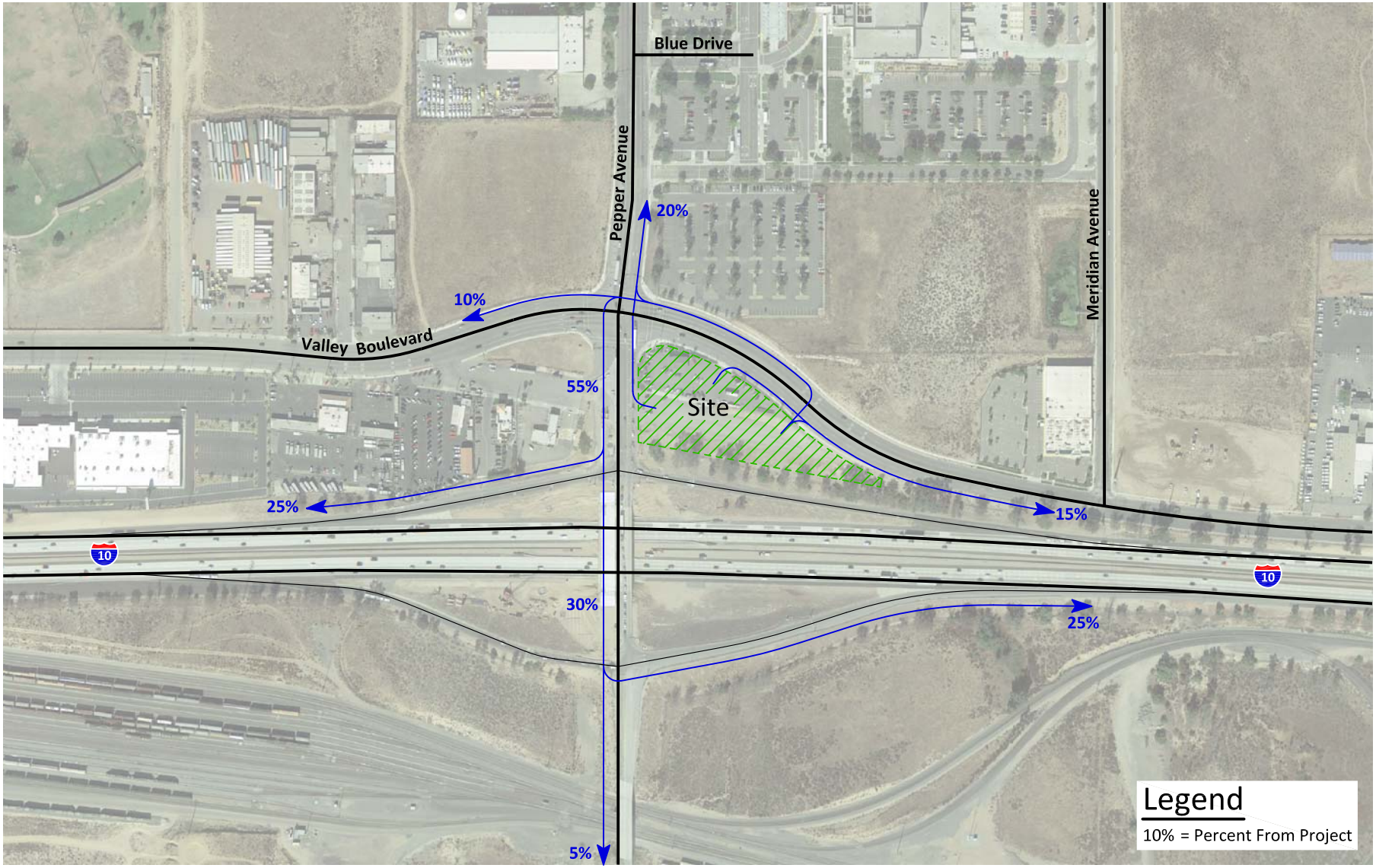


Figure 13
Project Inbound Trip Distribution

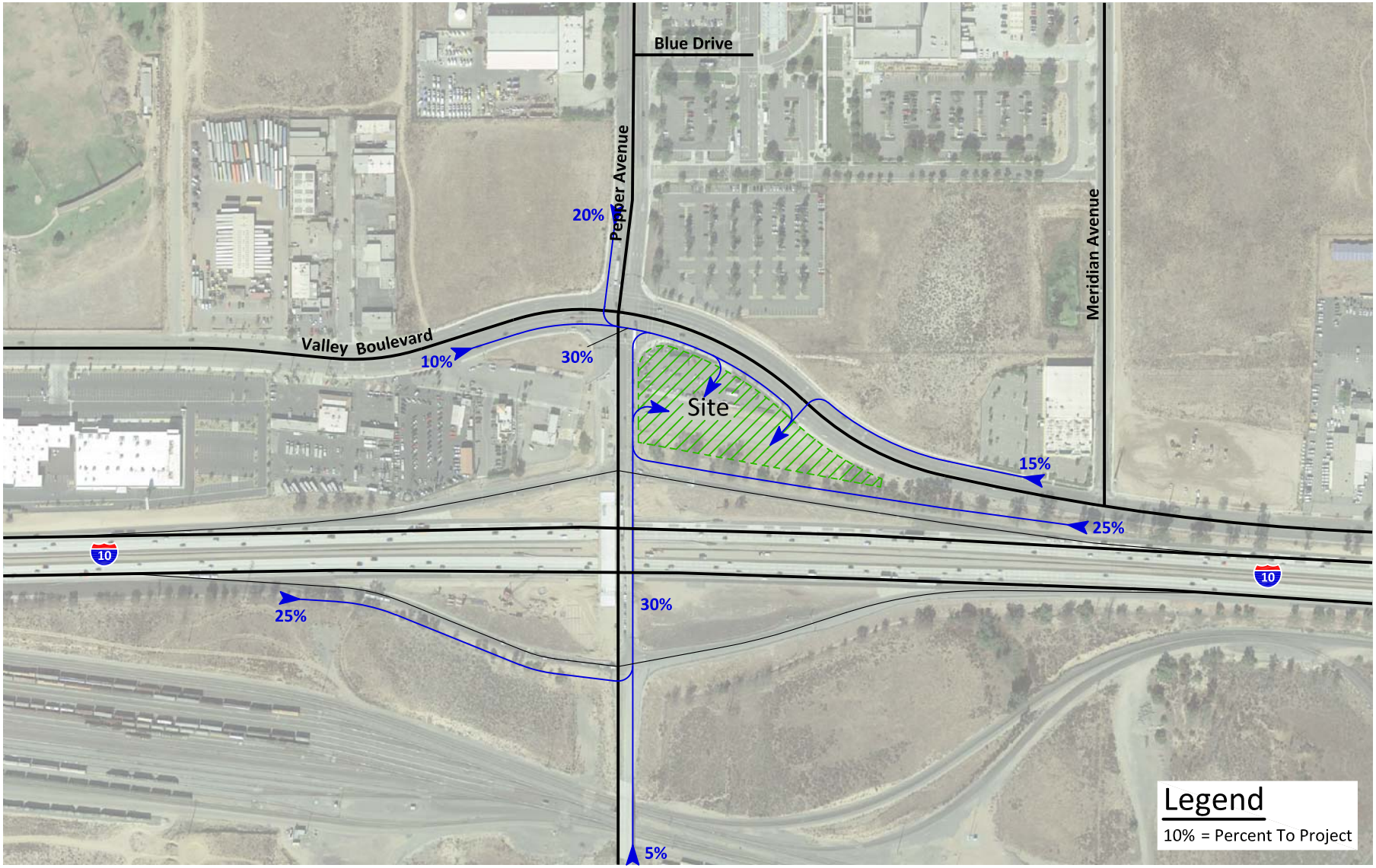
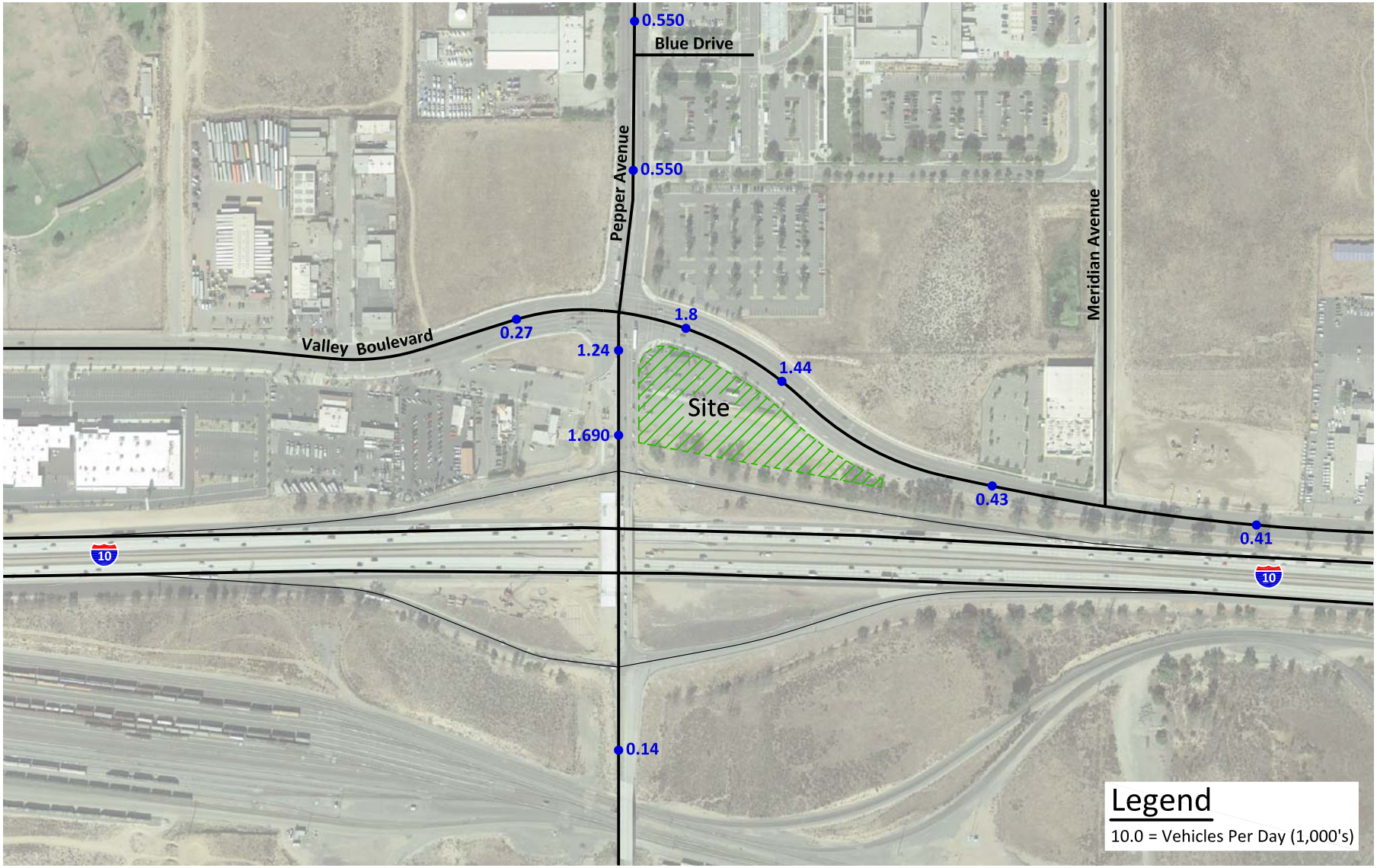


Figure 14
Project Average Daily Traffic Volumes

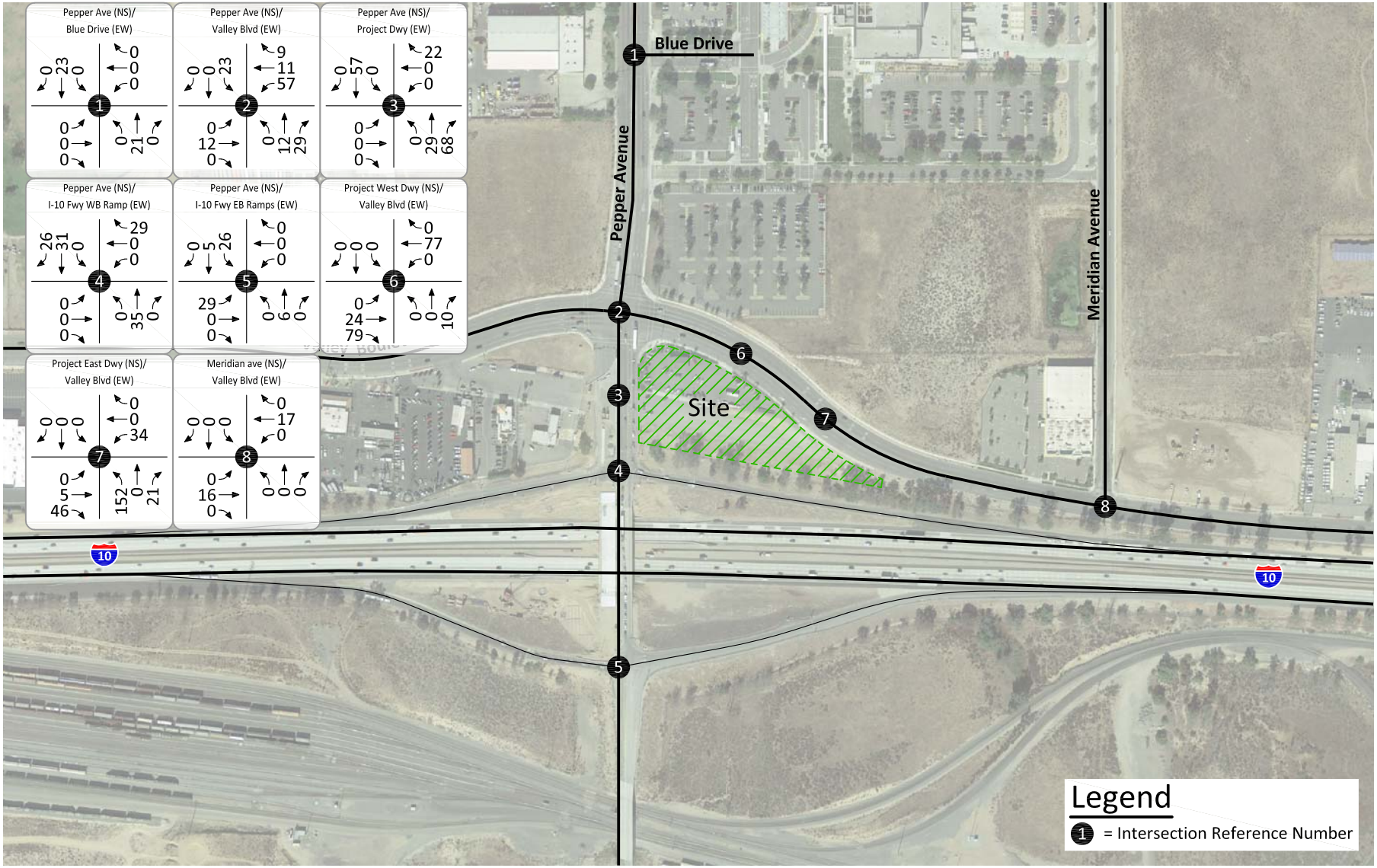


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Figure 15
Project Morning Peak Hour Intersection Turning Movement Volumes

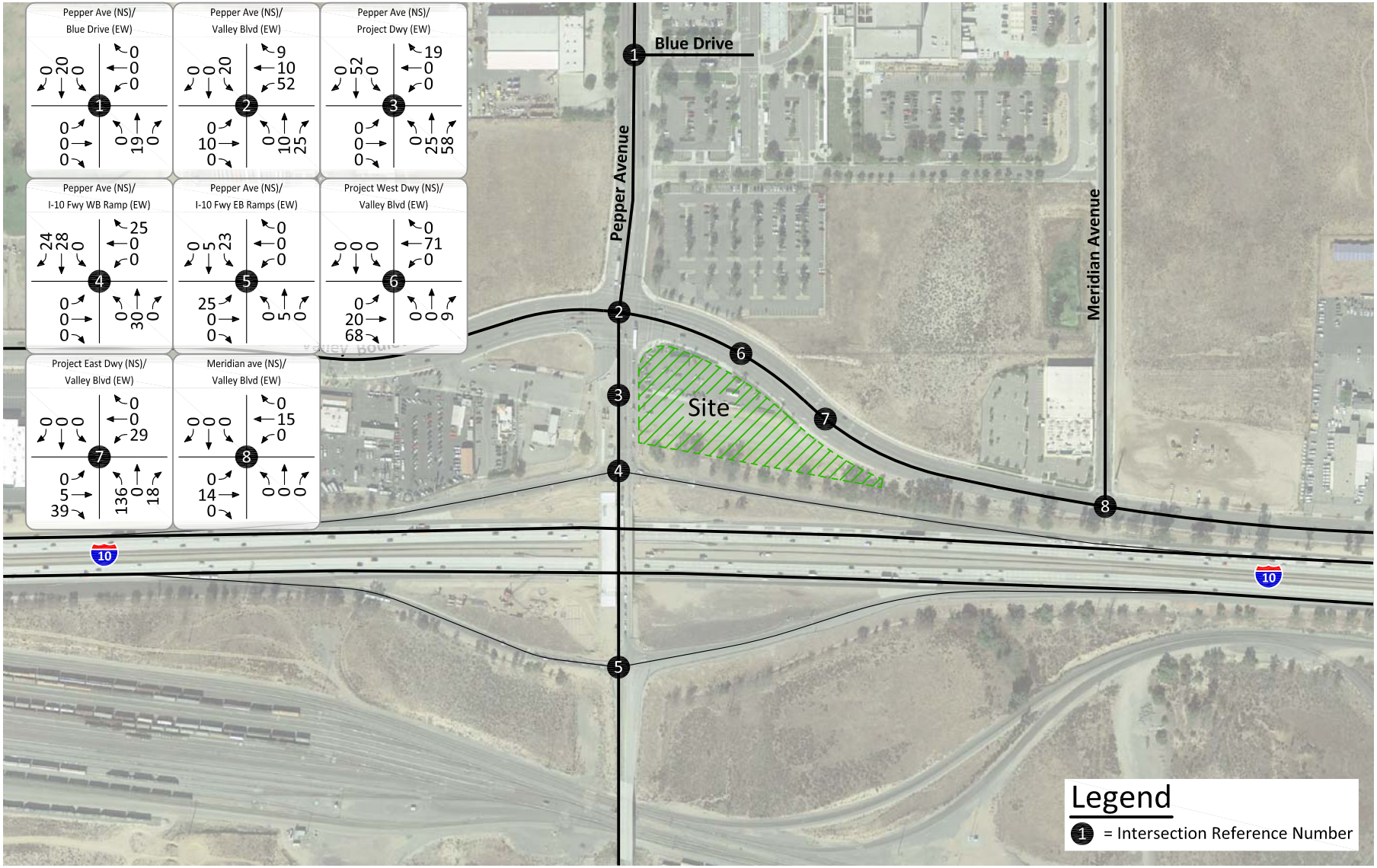


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Figure 16
Project Evening Peak Hour Intersection Turning Movement Volumes



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V. TRAFFIC FORECASTS

A. Method of Projection

The average daily traffic volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model (SBTAM) Year 2012 and Year 2040 average daily traffic volume forecasts (see Appendix E). This difference defines the growth in traffic over the 28 year period. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between Year 2017 and Year 2040. For this purpose, linear growth between the Year 2012 base condition and the forecast Year 2040 condition was assumed. Since the increment between Year 2017 and Year 2040 is 23 years of the 28 year time frame, a factor of 0.82 (i.e., 23/28) was used.

The Year 2040 without project daily and peak hour directional roadway segment volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model traffic model Year 2012 and Year 2040 peak hour volumes. The traffic model forecasting calculation worksheets are shown in Appendix E. Current peak hour intersection approach/departure data is a necessary input to this approach. The existing traffic count data serves as both the starting point for the refinement process, and also provides important insight into current travel patterns and the relationship between peak hour and daily traffic conditions. The initial turning movement proportions are estimated based upon the relationship of each approach leg's forecast traffic volume to the other legs forecast volumes at the intersection. The initial estimate of turning movement proportions is then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program Report 255. A linear programming algorithm is used to calculate individual turning movements that match the known directional roadway segment volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

Project traffic volumes were then added to the Year 2040 San Bernardino Transportation Analysis Model volumes. Quality control checks and forecast adjustments were performed as necessary to ensure that all future traffic volume forecasts reflect a minimum of 10% growth over existing traffic volumes. The result of this traffic forecasting procedure is a series of traffic volumes suitable for traffic operations analysis.

To account for ambient growth on roadways for Opening Year (2019) conditions, existing traffic volumes were increased by 1.0 percent (1.0%) per year over a two year period, which is a total of 2.0%. In addition, City of Colton staff provided a list of other developments in the study area. Table 3 shows the daily and peak hour vehicle trips generated by the surrounding other development in the study area. Those trips which are expected to travel through the study area intersections were added to Opening Year (2019).

B. Traffic Volumes for Analysis

1. Existing Plus Project Traffic Volumes

The traffic volumes for Existing Plus Project conditions have been derived by adding the project generated trips to existing traffic volumes.

Existing Plus Project average daily traffic volumes are shown on Figure 17. Existing Plus Project morning and evening peak hour intersection turning movement volumes are shown on Figure 18 and Figure 19, respectively.

2. Opening Year (2019) Without Project Traffic Volumes

Opening Year Without Project average daily traffic volumes are shown on Figure 20. Opening Year Without Project morning and evening peak hour intersection turning movement volumes are shown on Figure 21 and Figure 22, respectively.

3. Opening Year (2019) With Project Traffic Volumes

To assess Opening Year With Project traffic conditions, the project generated trips are added to Opening Year Without Project traffic volumes.

Opening Year With Project average daily traffic volumes are shown on Figure 23. Opening Year With Project morning and evening peak hour intersection turning movement volumes are shown on Figure 24 and Figure 25, respectively.

4. Horizon Year (2040) Without Project Traffic Volumes

Horizon Year 2040 Without Project average daily traffic volumes are shown on Figure 26. Horizon Year 2040 Without Project morning and evening peak hour intersection turning movement volumes are shown on Figure 27 and Figure 28, respectively.

5. Horizon Year (2040) With Project Traffic Volumes

To assess Horizon Year 2040 With Project traffic conditions, the project generated trips are added to Horizon Year 2040 Without Project traffic volumes.

Horizon Year 2040 With Project average daily traffic volumes are shown on Figure 29. Horizon Year 2040 With Project morning and evening peak hour intersection turning movement volumes are shown on Figure 30 and Figure 31, respectively.

Table 3

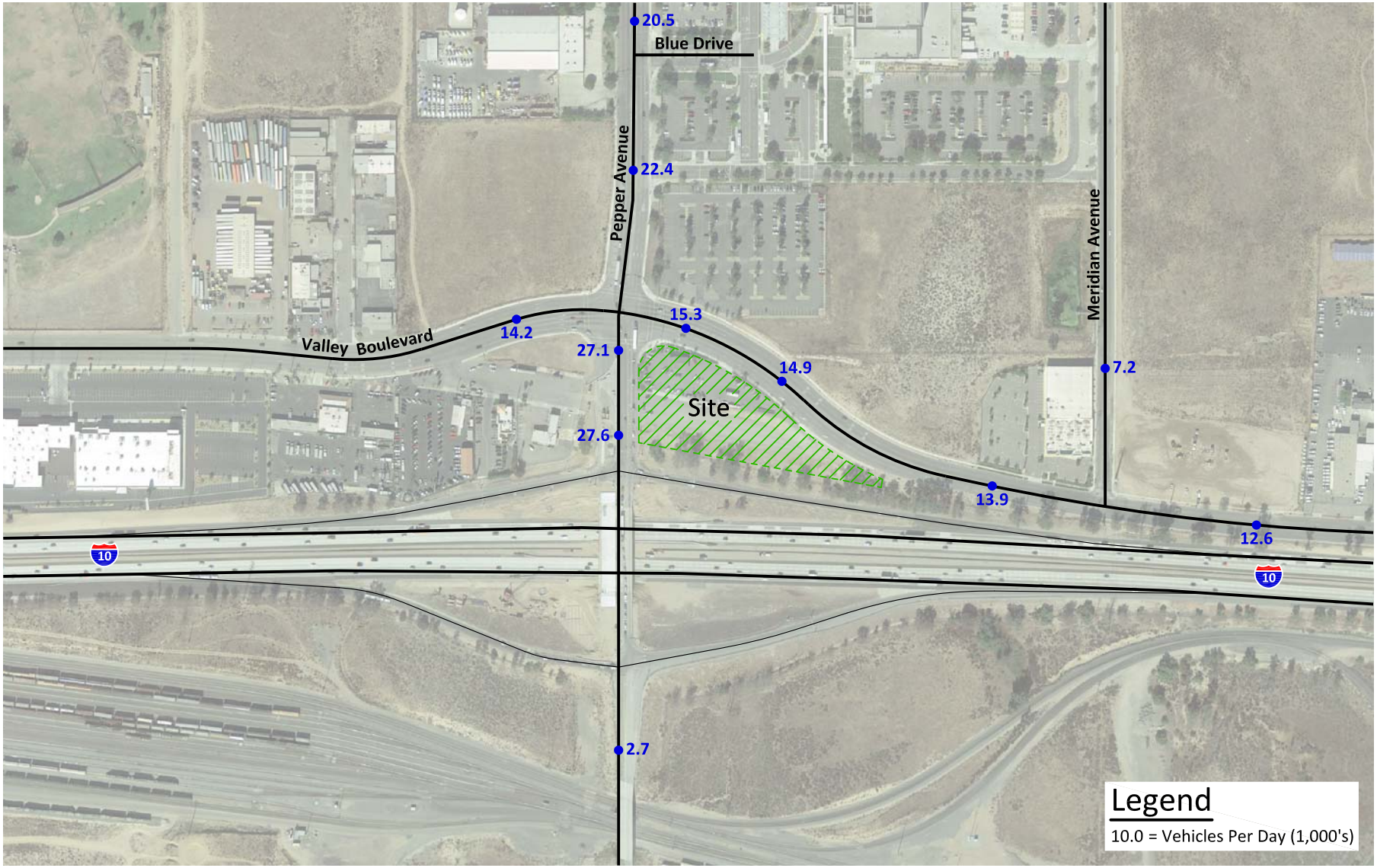
Other Development Trip Generation

ID	Other Development Name	Quantity	Units[1]	Trips Generated							
					Morning Peak Hour			Evening Peak Hour			
				Source[2]	Inbound	Outbound	Total	Inbound	Outbound	Total	Daily
City of Colton											
COL1	CUSM (300 N. Pepper Av.)	150.000	ST	ITE 540	14	3	17	9	8	17	173
COL2	1601 W. Valley Blvd.	NA	Rooms	ITE 310	-	-	-	-	-	-	-
		NA	FP	ITE 190	-	-	-	-	-	-	-
COL3	1600 Agua Mansa Road	805.500	TSF	ITE 150	105	32	137	40	113	153	1,402
COL4	Cal-Med Surgery Center (1281 W. C St.)	5.600	TSF	ITE 720	12	4	16	5	14	19	195
COL5	Valley Orange Ent. (1600 W. Valley Blvd.)	8	FP	ITE 945	41	41	82	56	56	112	1,376
COL6	Diesel Injection (1610 Fairway Dr.)	1.350	TSF	ITE 942	2	1	3	2	2	4	32
COL7	New Juan Colorado Family Restaurant (195 W. Valley Bl.)	NA	TSF	ITE 932	-	-	-	-	-	-	-
COL8	1175 S. Mt. Vernon Av.	104.000	TSF	ITE 710	104	17	121	19	101	120	1,013
COL9	495 W. Valley Bl.	NA	Seats	ITE 560	-	-	-	-	-	-	-
COL11	839 Fairway Dr.	103	Beds	ITE 254	12	8	20	10	17	27	268
COL12	1601 Fairway Dr.	178.980	TSF	ITE 130	57	15	72	14	58	72	603
COL13	1550 E. Washington St.	120	Seats	ITE 560	1	0	1	1	3	4	53
COL14	1559 Steel Rd.	60.000	TSF	ITE 130	19	5	24	5	19	24	202
COL15	1603 Steel Rd.	159.271	TSF	ITE 130	51	13	64	13	51	64	537
COL16	785 E. M Street	20.600	TSF	ITE 110	13	1	14	2	11	13	102
COL17	Colton Iron Metal (790 E. M St.)	156.816	TSF	ITE 110	97	13	110	13	86	99	778
COL18	644-660 Laurel Lane	7	DU	ITE 210	1	4	5	4	3	7	66
COL19	1200 Jefferson Ln.	NA	TSF	ITE 710	-	-	-	-	-	-	-
COL20	602 Agua Mansa Rd.	19.919	TSF		63	16	47	97	64	33	1,125
COL21	1395 Washington St.	NA	TSF	ITE 848	-	-	-	-	-	-	-
COL22	Single-Family Detached Residential	20	DU	ITE 210	4	11	15	12	8	20	189
COL23	University/College	240	ST		32	9	41	13	28	41	410
	Medical/Dental Office	20	TSF		38	10	48	20	51	71	723
COL25	Mixed Use	-			142	120	262	127	118	245	6,585
County of Riverside											
RIVCO1	TR28957	36	DU	ITE 210	7	20	27	22	14	36	340
RIVCO2	TR32989	29	DU	ITE 210	6	15	21	18	11	29	274
RIVCO3	TR32291	69	DU	ITE 210	13	38	51	43	25	68	651
RIVCO4	CUP03718	19.988	TSF	ITE 110	12	2	14	2	11	13	99
RIVCO5	PP24798	2.400	TSF	ITE 820	1	1	2	4	5	9	91
		3.405	TSF	ITE 710	3	1	4	1	3	4	33
		2.961	TSF	ITE 820	2	1	3	5	6	11	112
RIVCO6	PP25482	2.632	TSF	ITE 710	3	0	3	0	3	3	26
RIVCO7	Trucks Sales Facility (PP25505)	1.952	TSF	ITE 710	2	0	2	0	2	2	19
		6.000	TSF	ITE 151	0	1	1	0	1	1	9
RIVCO8	TR36668 (Bixby Highgrove)	201	DU	ITE 210	38	111	149	125	74	199	1,897
City of Grand Terrace											
GT1	SA-14-03	1	DU	ITE 210	0	1	1	1	0	1	9
GT2	TT18071 (Karger Pico Tract)	18	DU	ITE 210	3	10	13	11	7	18	170
GT3	SA 13-05	1	DU	ITE 210	0	1	1	1	0	1	9
GT4	Site and Architectural Review 12-04	12	DU	ITE 220	1	5	6	4	3	7	88
GT5	Grand Terrace Town Square Master Plan	209.611	TSF	ITE 820	122	75	197	384	415	799	7,913
	SA-07-07	65.730	TSF	ITE 820	38	24	62	120	130	250	2,481
GT6	SA 14-05; SA 14-07	1	DU	ITE 210	0	1	1	1	0	1	9
	SA 14-06	1	DU	ITE 210	0	1	1	1	0	1	9
GT7	Barton Plaza Commercial Center (Phase 2)	16.251	TSF	ITE 710	16	3	19	3	16	19	158
GT8	SA 15-01	1.800	TSF	ITE 710	2	0	2	0	2	2	18
GT9	SA 15-06 ACUP15-07 E15-08	2.870	TSF	ITE 720	6	2	8	3	7	10	100
GT10	SA 15-07 E15-09	1.800	TSF	ITE 820	1	1	2	3	4	7	68
GT11	SA 15-04 E15-07	8.800	TSF	ITE 710	9	1	10	2	8	10	86
GT12	SA 15-05; ACUP15-06; V15-02	1	TSF	ITE 710	1	1	2	0	2	2	14
GT13	TTM 15-01; SA 15-03; E15-05	12	DU	ITE 210	2	7	9	7	5	12	113
GT14	SA05-19-A1; E15-06	35	DU	ITE 220	4	12	16	12	8	20	256
City of Riverside											
R31	R31 P15-0812	61	DU	ITE 220	7	21	28	21	13	34	447
R35	P13-0956; P13;0959; P13-0960; P13-0963; P13-0964 P13-0965; P13-0966	1461.449	TSF	ITE 130	468	117	585	117	468	585	4,925
R38	R38 P14-1033; P14-1034	308.000	TSF	ITE 150	40	12	52	15	44	59	536
Total Other Development Trips Generated					**1,615**	**808**	**2,391**	**1,388**	**2,098**	**3,358**	**36,792**

[1] DU = Dwelling Units; TSF = Thousand Square Feet, ST= Students, FP= Fuel Pumps

[2] ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; 110,130,150,151,210,220,254,310,540,560,710,720,820,848,850,932,934,942,945= Land Use Code

Figure 17
Existing Plus Project Average Daily Traffic Volumes

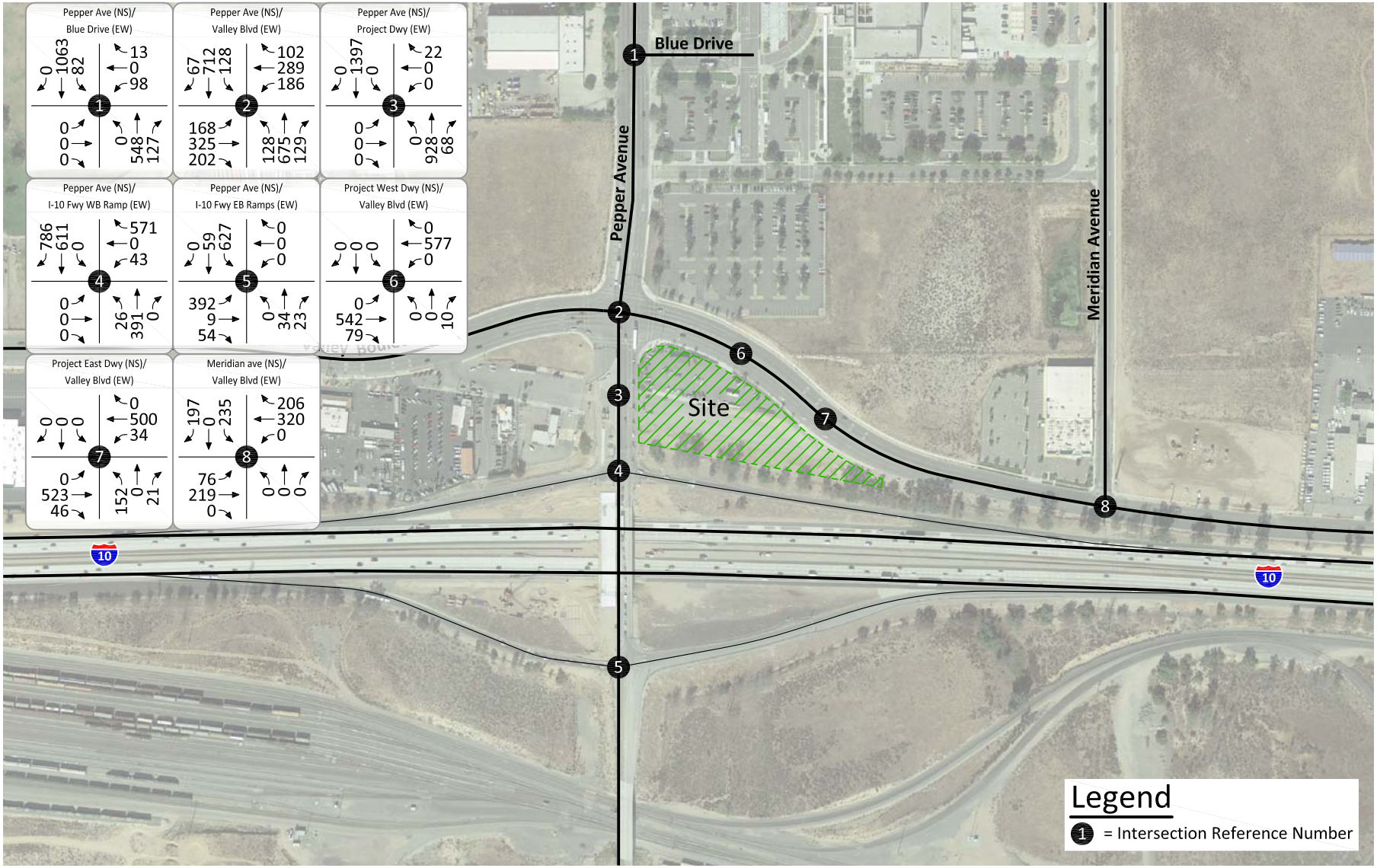


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Figure 18
Existing Plus Project
Morning Peak Hour Intersection Turning Movement Volumes

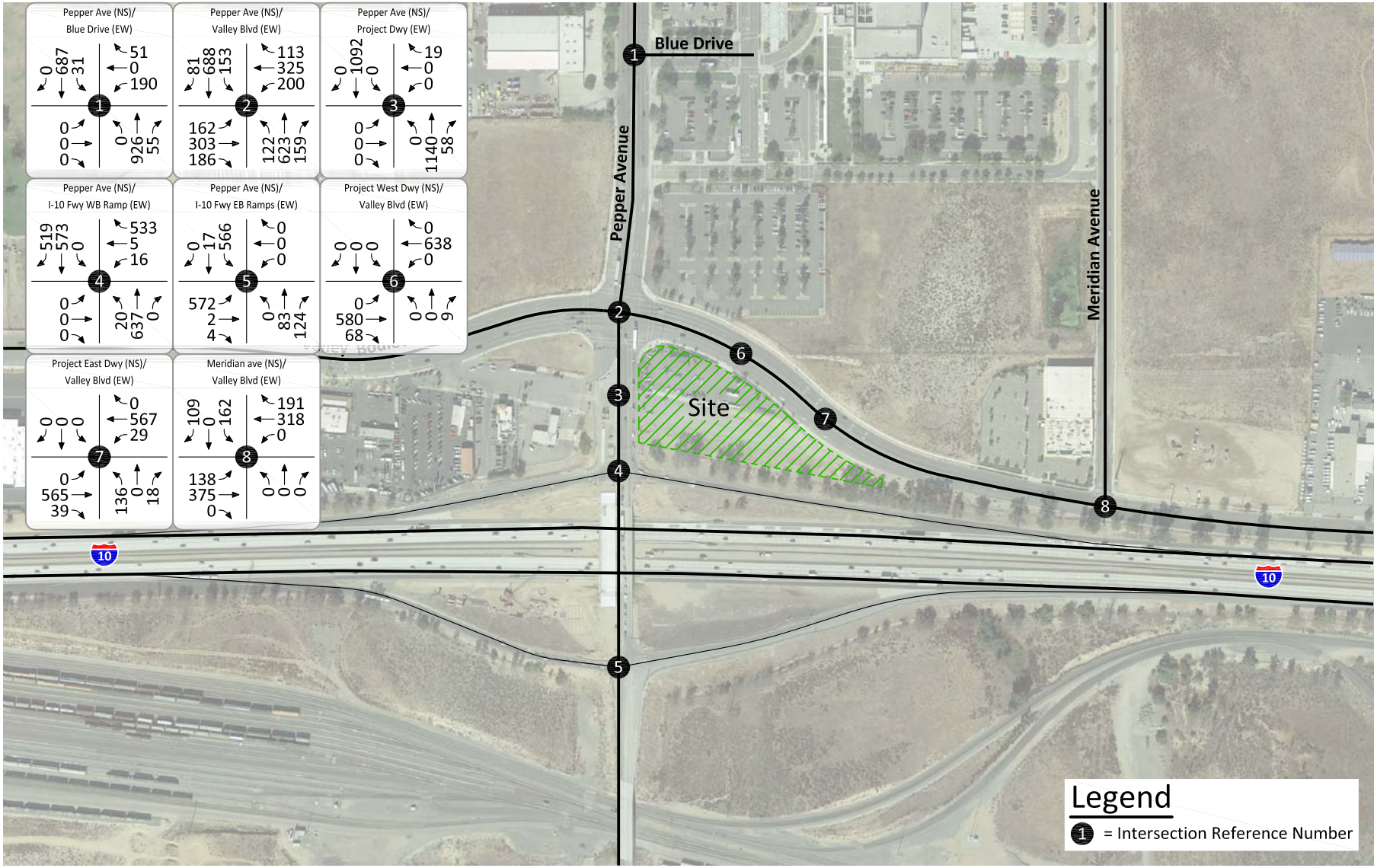


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Figure 19
Existing Plus Project
Evening Peak Hour Intersection Turning Movement Volumes



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Figure 20
Opening Year (2019) Without Project Average Daily Traffic Volumes

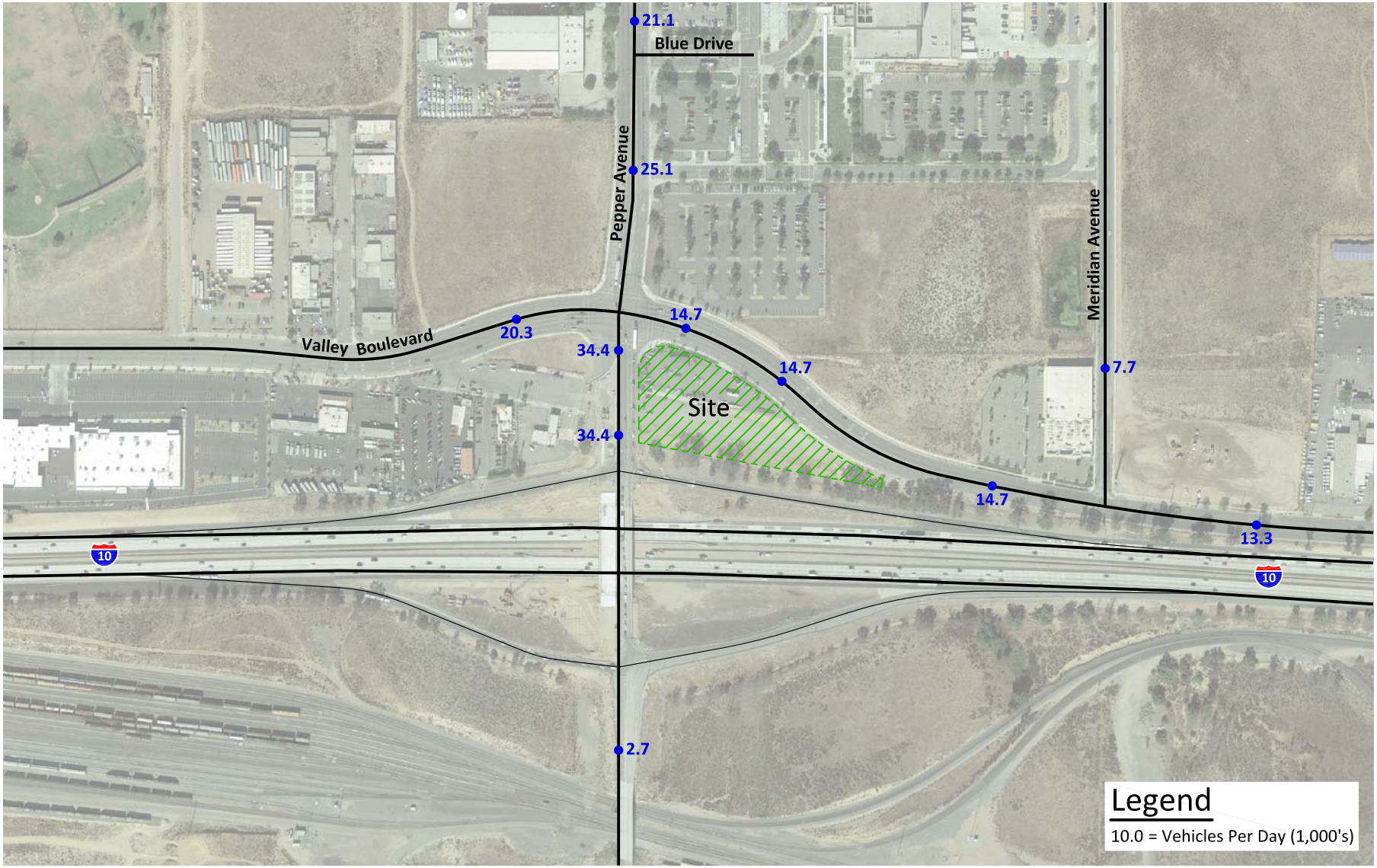
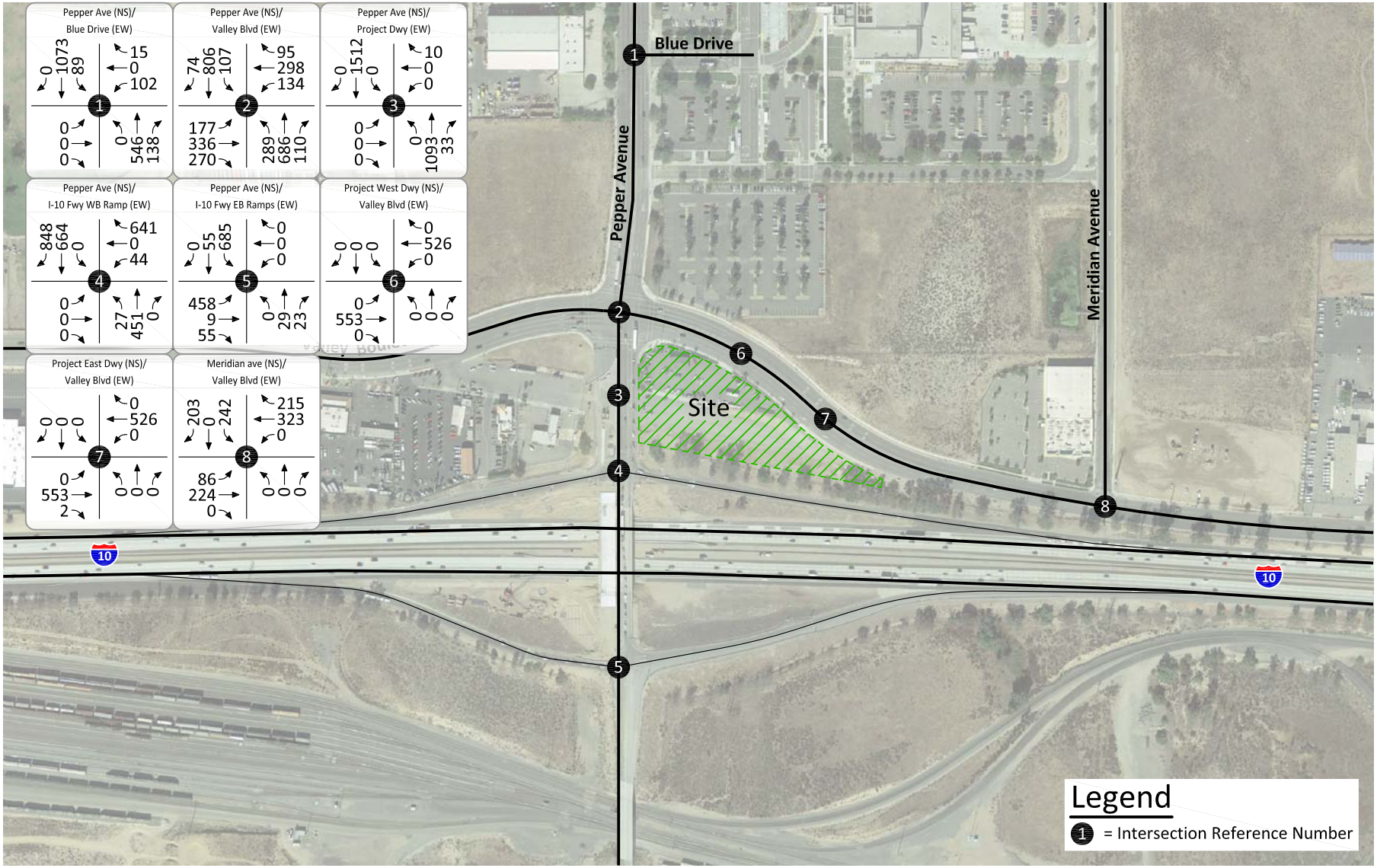


Figure 21
Opening Year (2019) Without Project
Morning Peak Hour Intersection Turning Movement Volumes

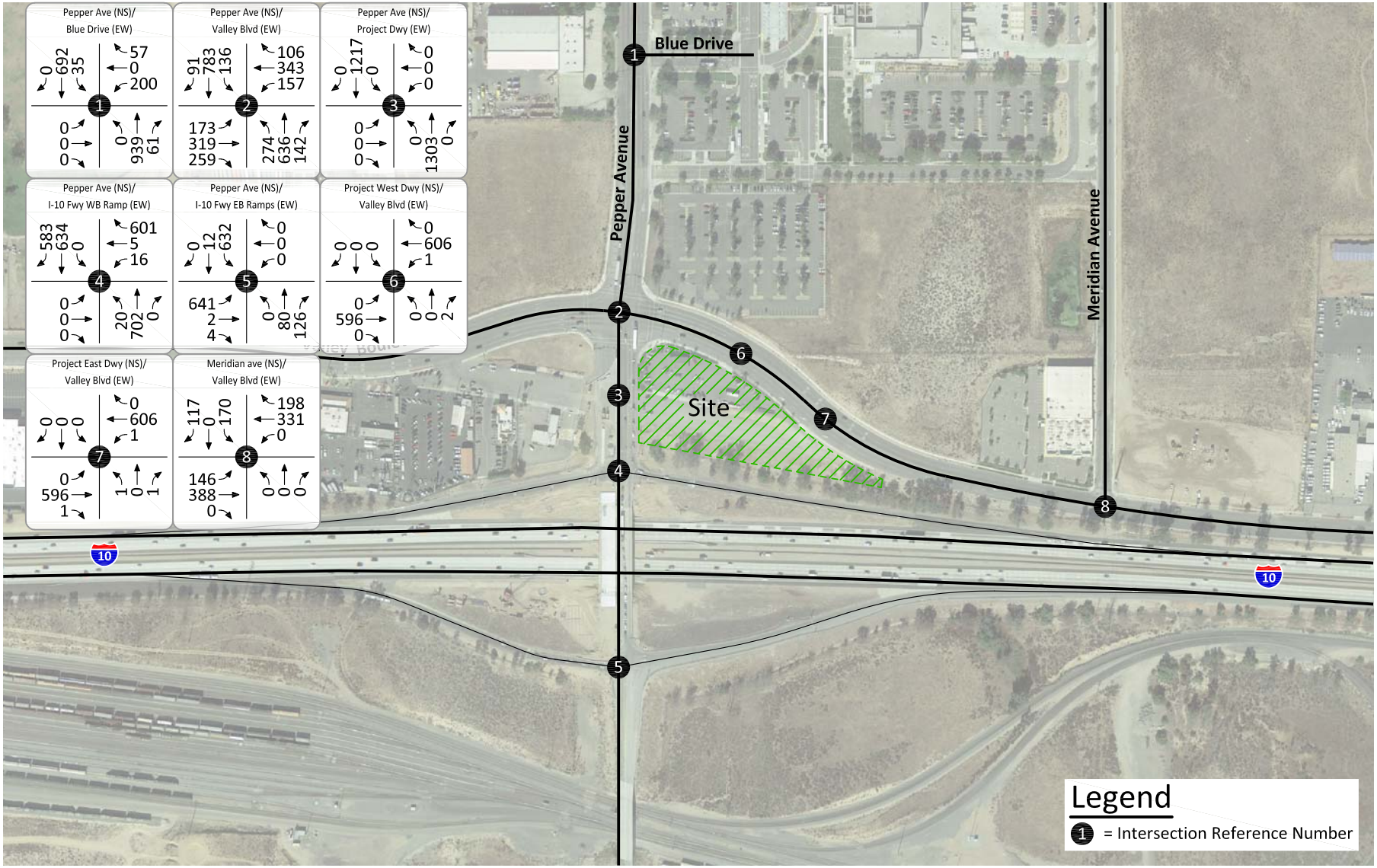


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Figure 22
Opening Year (2019) Without Project
Evening Peak Hour Intersection Turning Movement Volumes

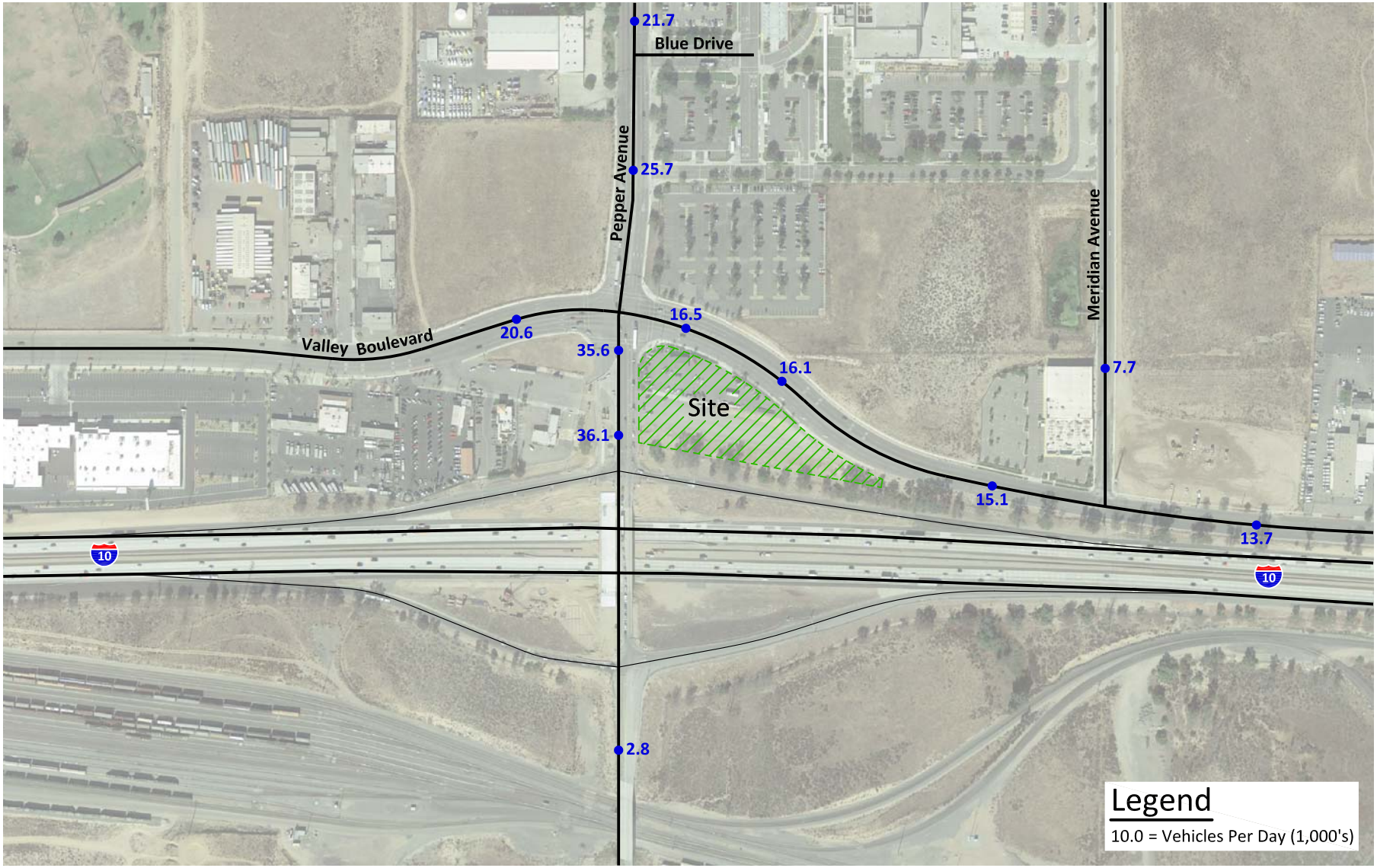


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Figure 23
Opening Year (2019) With Project Average Daily Traffic Volumes

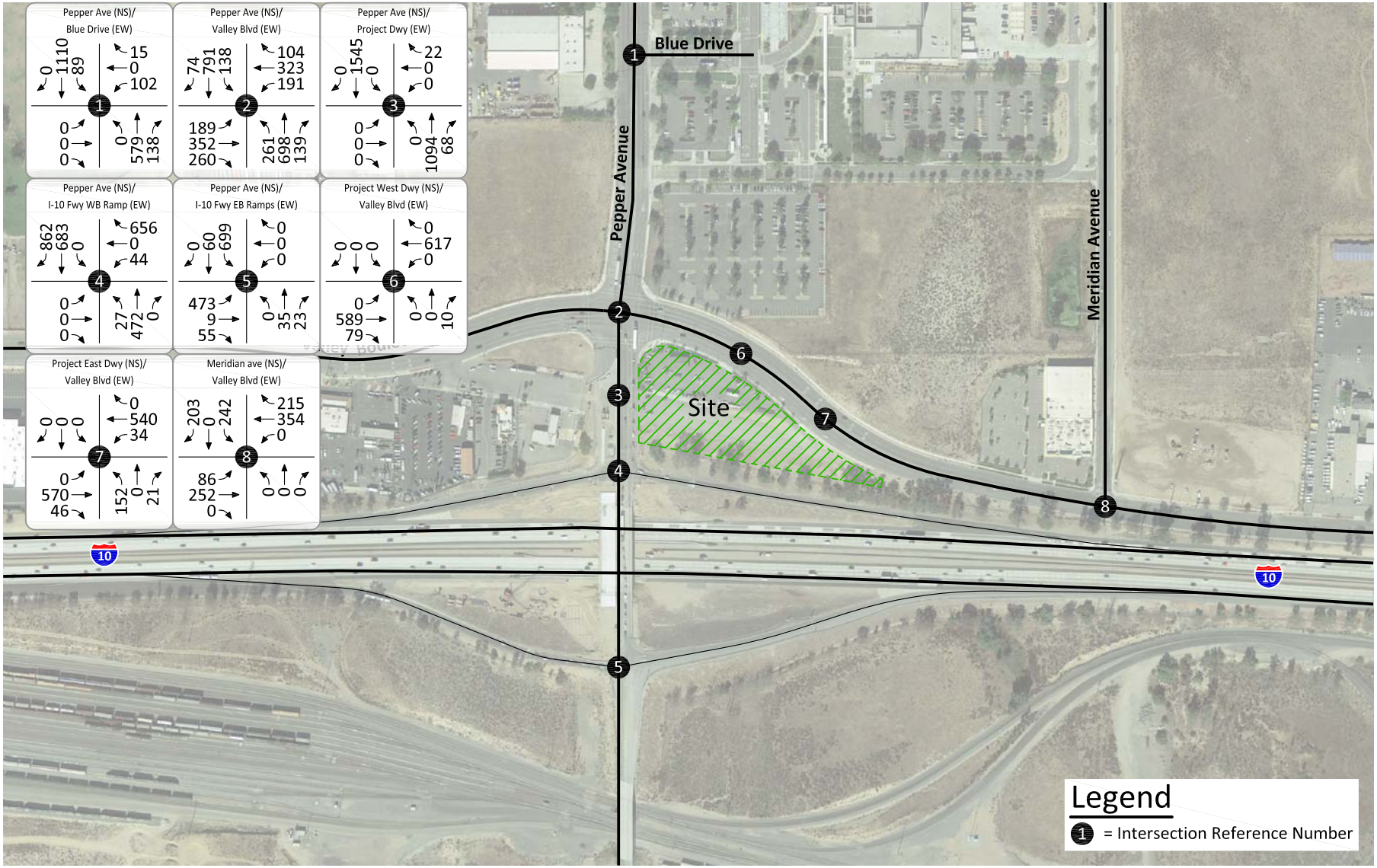


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Figure 24
Opening Year (2019) With Project
Morning Peak Hour Intersection Turning Movement Volumes



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Figure 25
Opening Year (2019) With Project
Evening Peak Hour Intersection Turning Movement Volumes

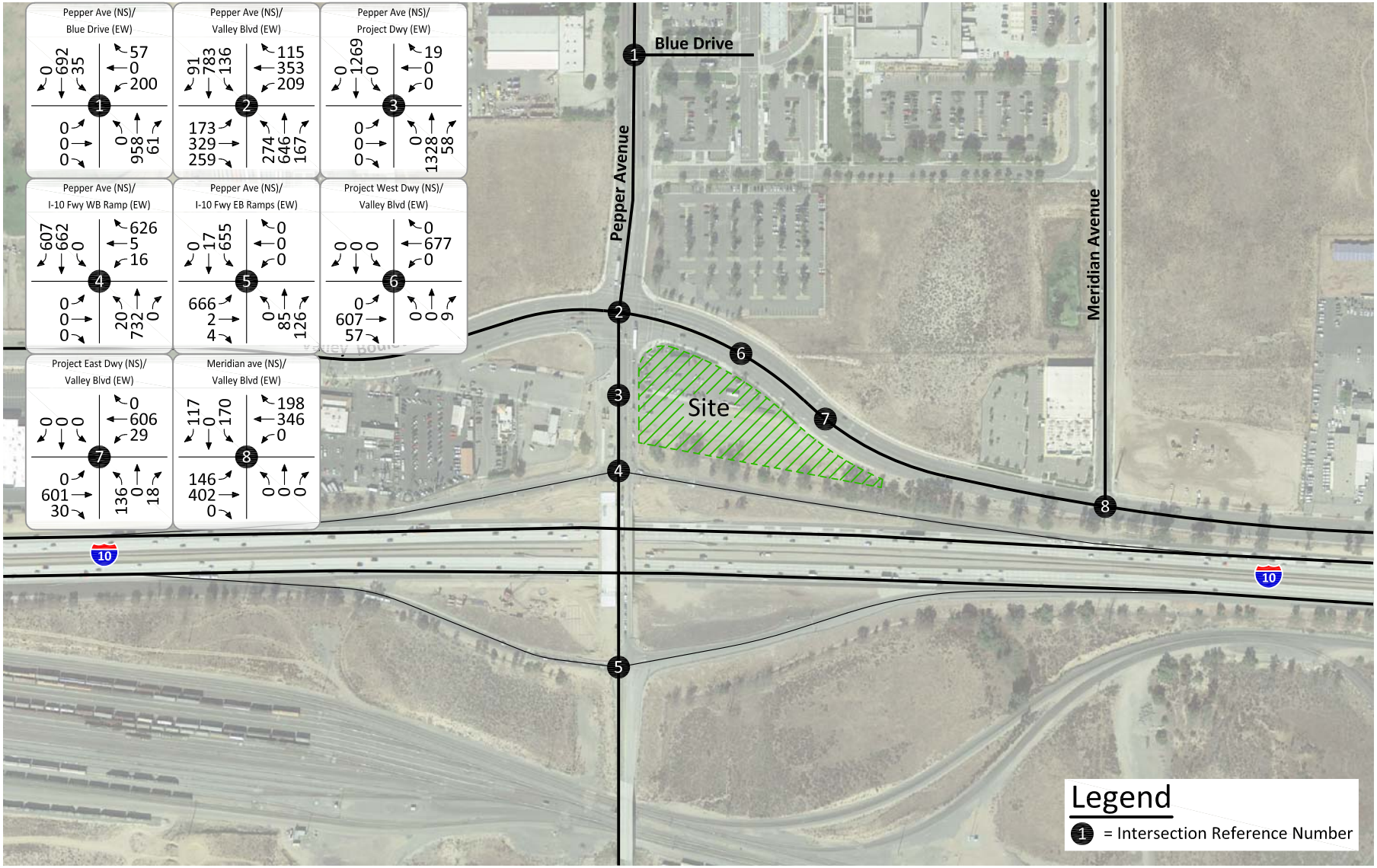
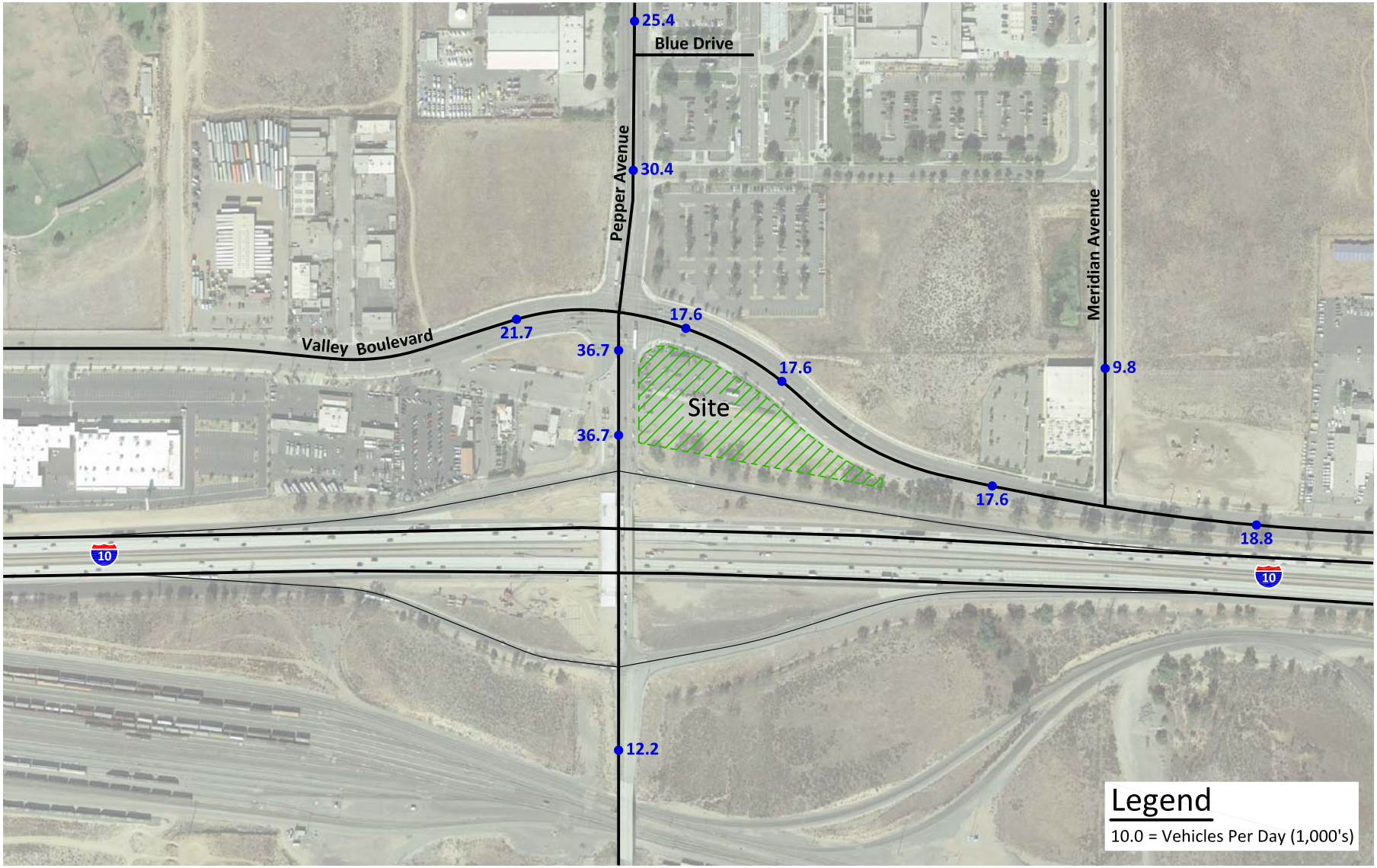


Figure 26
Horizon Year 2040 Without Project Average Daily Traffic Volumes

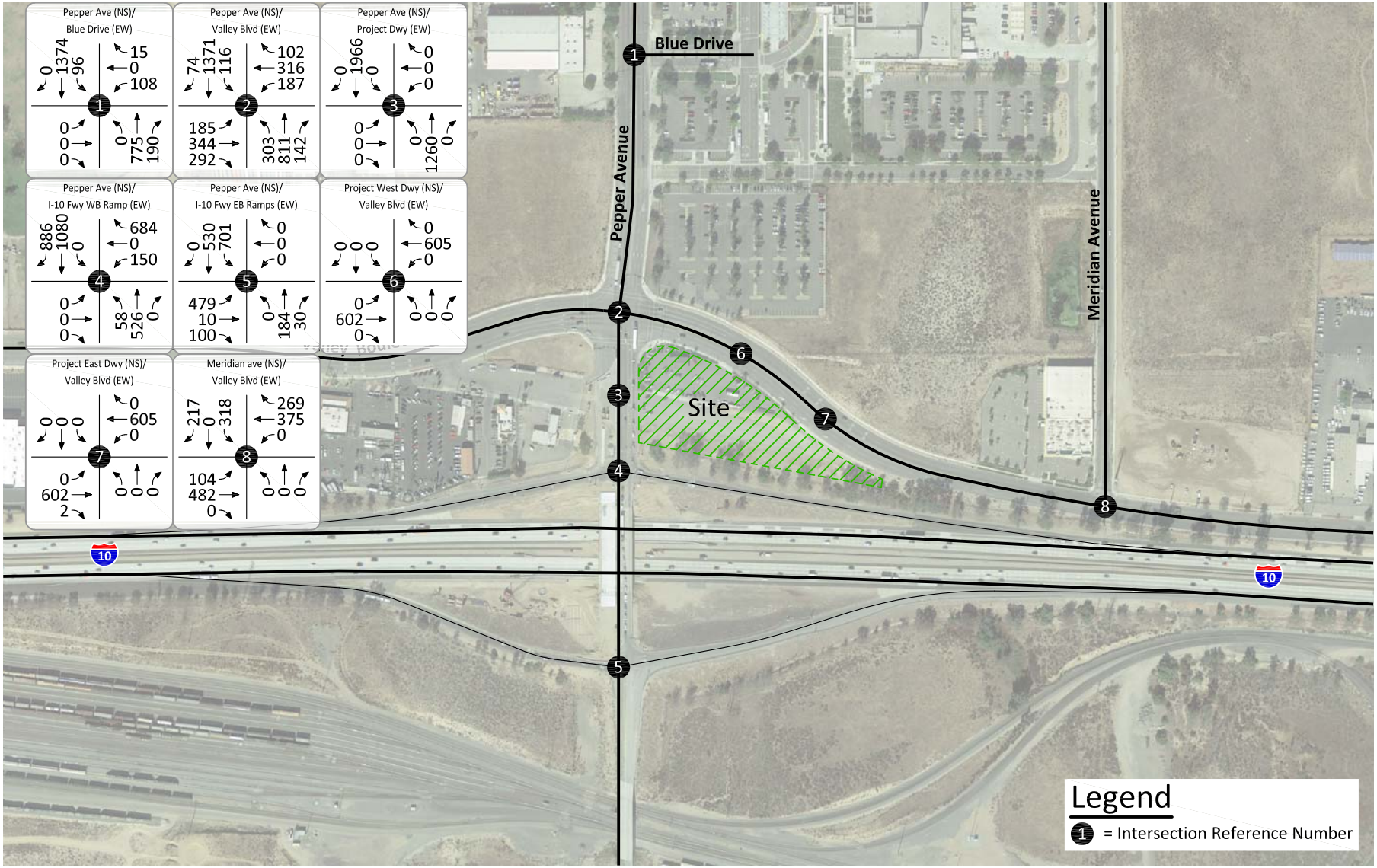


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Figure 27
Horizon Year 2040 Without Project
Morning Peak Hour Intersection Turning Movement Volumes

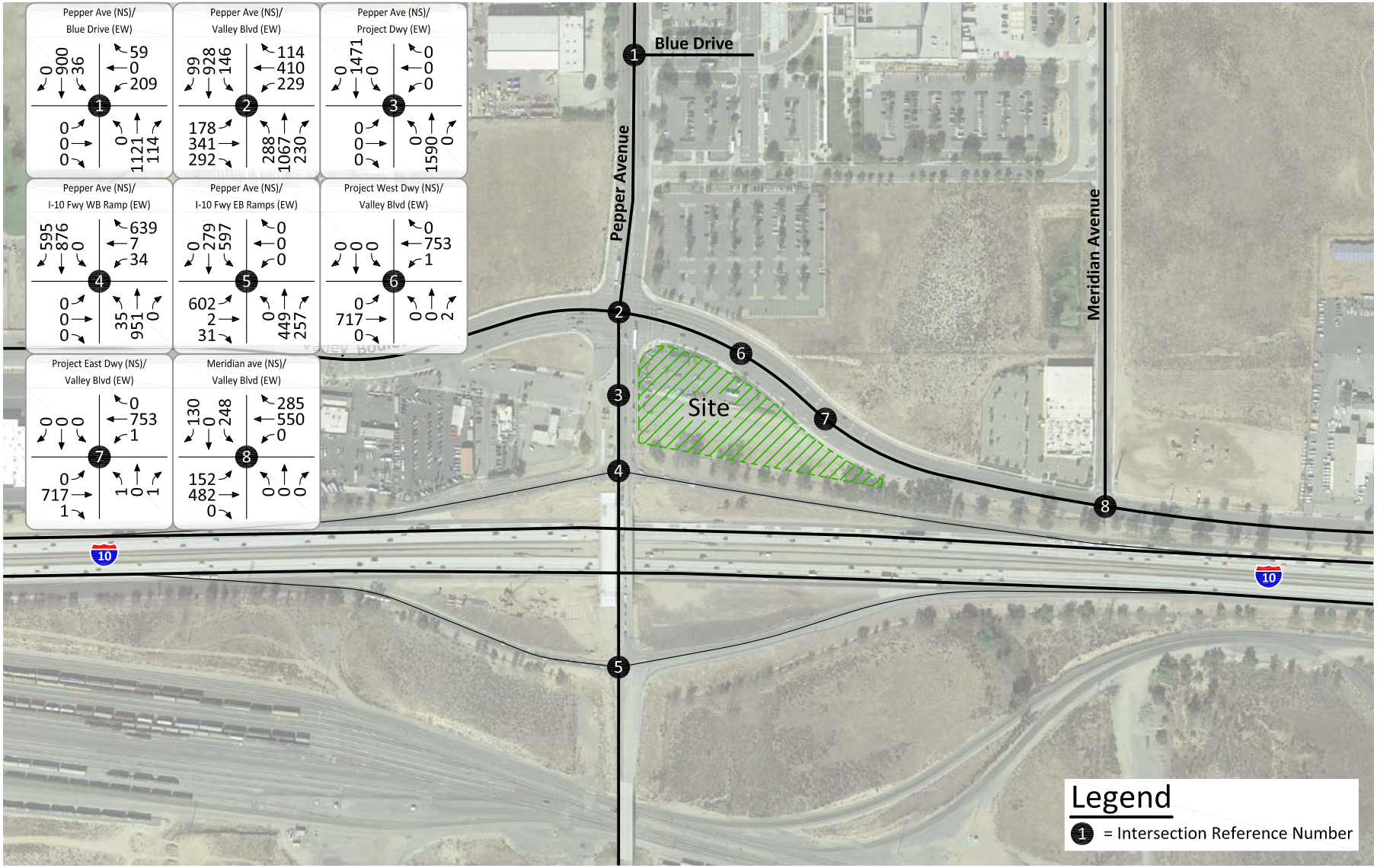


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Figure 28
Horizon Year 2040 Without Project
Evening Peak Hour Intersection Turning Movement Volumes



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Figure 29
Horizon Year 2040 With Project Average Daily Traffic Volumes

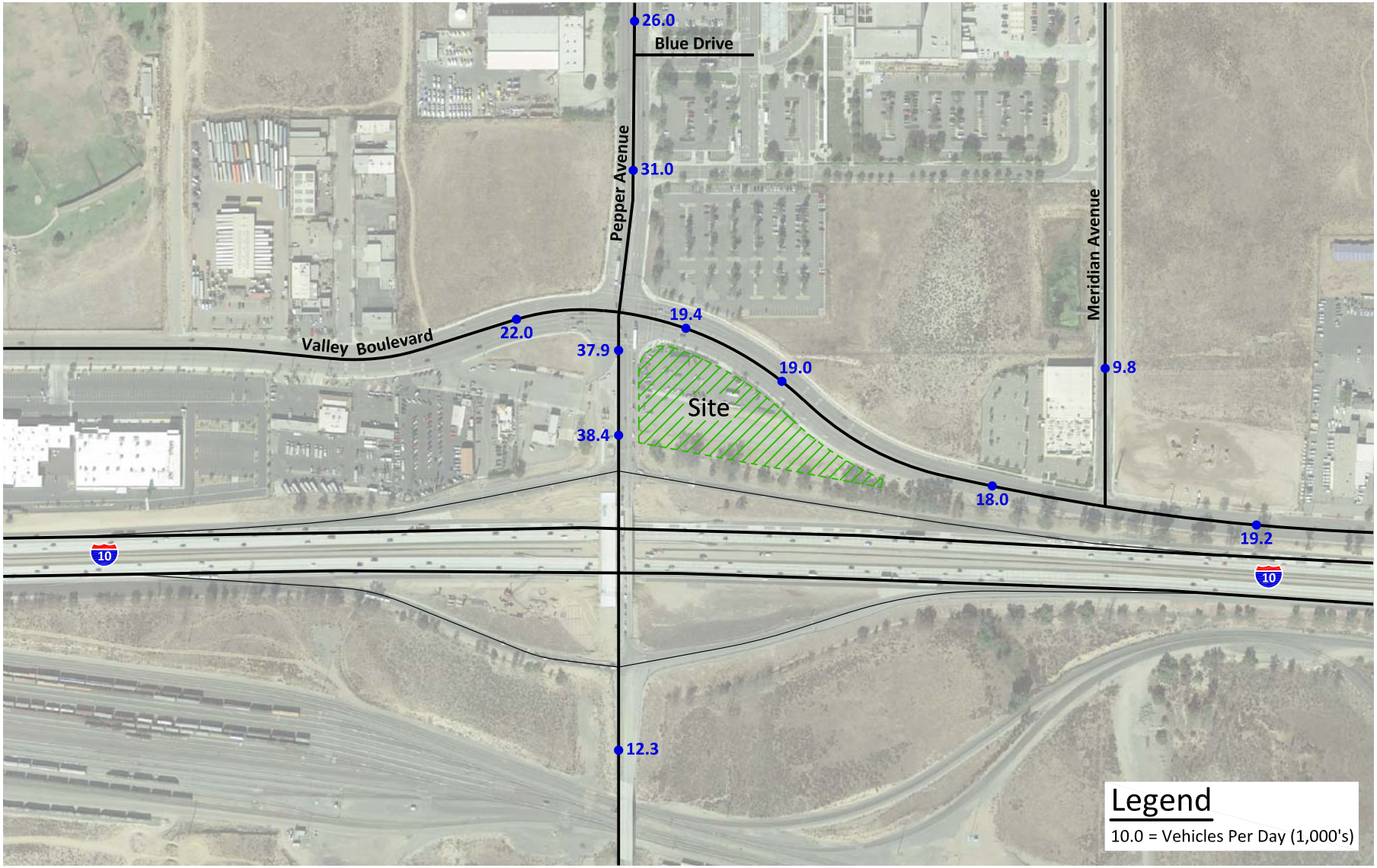
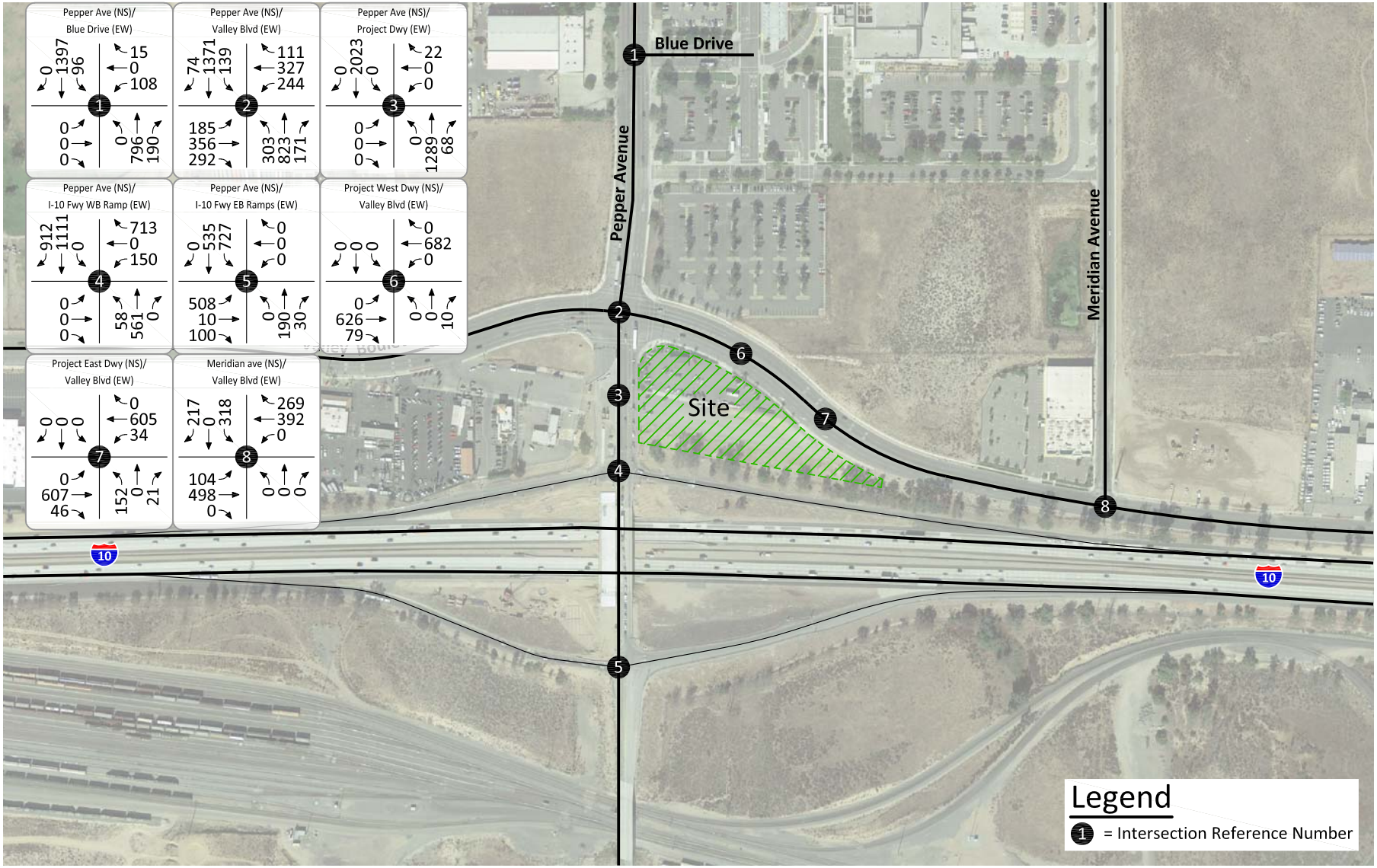


Figure 30
Horizon Year 2040 With Project
Morning Peak Hour Intersection Turning Movement Volumes

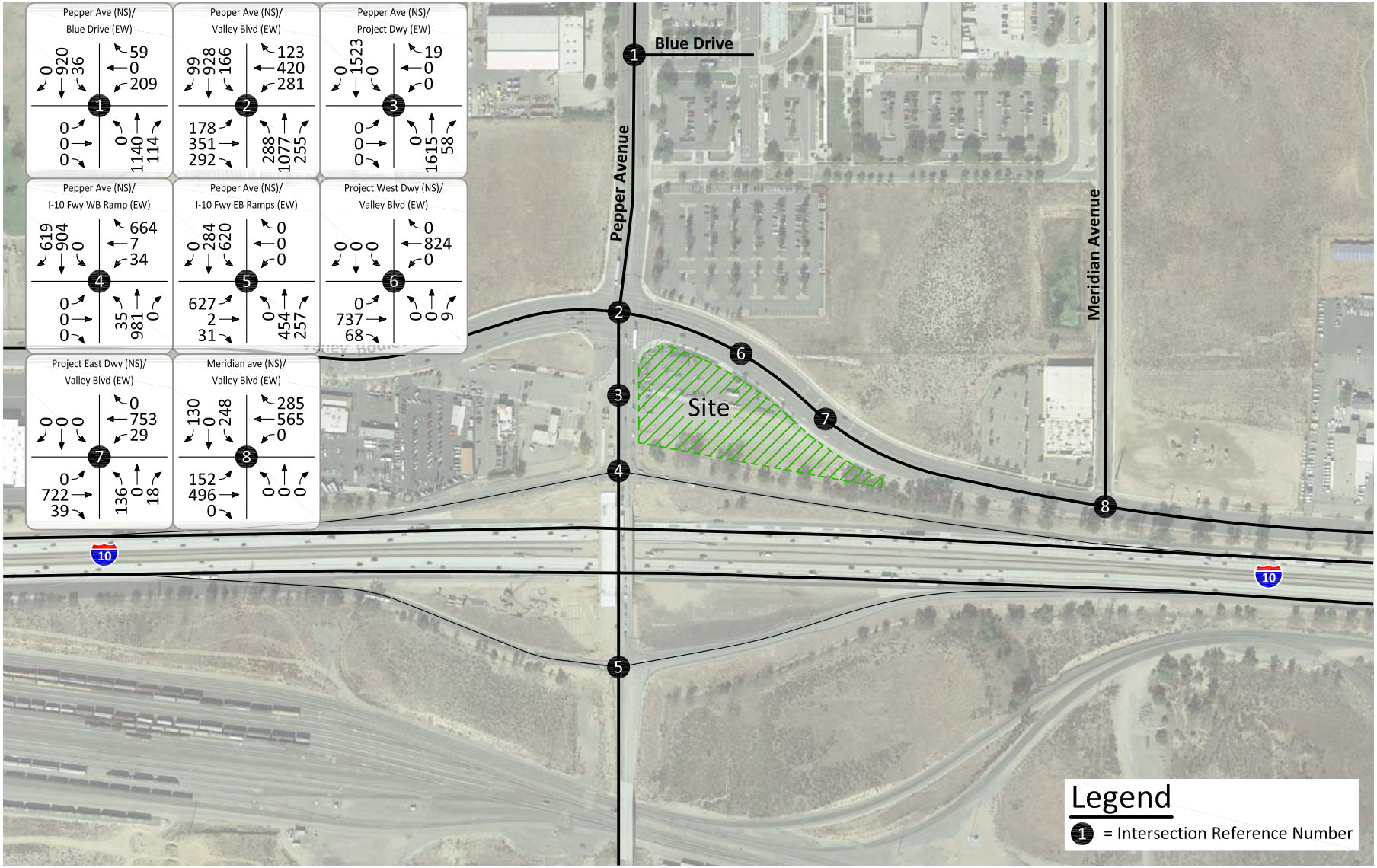


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Figure 31
Horizon Year 2040 With Project
Evening Peak Hour Intersection Turning Movement Volumes



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VI. TRAFFIC IMPACT ANALYSIS

This section contains an evaluation of the project impact on the study area roadway facilities and identifies the improvements necessary to mitigate the project impact, if any. Level of Service calculation worksheets for the future scenarios presented in this section are contained in Appendix D.

A. Existing Plus Project

The Existing Plus Project Levels of Service for the study intersections are shown in Table 4. Table 4 shows the intersection delay and Level of Service values at the study intersections with existing geometry.

As shown in Table 4, the study intersections are projected to operate at Level of Service D or better during the peak hours for Existing Plus Project traffic conditions, except at the intersection of Meridian Avenue and Valley Boulevard (#8).

As also shown in Table 4, the proposed project is forecast to result in no significant impacts at the study intersections for Existing Plus Project traffic conditions, with the following recommended traffic signal improvements:

Meridian Avenue (NS) at:

Valley Boulevard (EW) – #8

- New traffic signal

B. Opening Year (2019) Without Project

The Opening Year (2019) Without Project Levels of Service for the study intersections are shown in Table 5. Table 5 shows the intersection delay and Level of Service values at the study intersections with existing geometry.

As shown in Table 5, the study intersections are projected to operate at Level of Service D or better during the peak hours for Opening Year (2019) Without Project traffic conditions), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

C. Opening Year (2019) With Project

The Opening Year (2019) With Project Levels of Service for the study intersections are shown in Table 6. Table 6 shows the intersection delay and Level of Service values at the study intersections with existing geometry.

As shown in Table 6, the study intersections are projected to operate at Level of Service D or better during the peak hours for Opening Year (2019) With Project traffic conditions), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

As also shown in Table 6, the proposed project is forecast to result in no significant impacts at the study intersections for Opening Year (2019) With Project traffic conditions, with the following recommended traffic signal improvements:

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8
- New traffic signal

D. Horizon Year (2040) Without Project

The Horizon Year (2040) Without Project Levels of Service for the study intersections are shown in Table 7. Table 7 shows the intersection delay and Level of Service values at the study intersections with existing geometry.

As shown in Table 7, the study intersections are projected to operate at Level of Service D or better during the peak hours for Horizon Year (2040) Without Project traffic conditions), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

E. Horizon Year (2040) With Project

The Horizon Year (2040) With Project Levels of Service for the study intersections are shown in Table 8. Table 8 shows the intersection delay and Level of Service values at the study intersections with existing geometry.

As shown in Table 8, the study intersections are projected to operate at Level of Service D or better during the peak hours for Horizon Year (2040) With Project traffic conditions), except at the intersection of Meridian Avenue and Valley Boulevard (#8).

As also shown in Table 8, the proposed project is forecast to result in no significant impacts at the study intersections for Horizon Year (2040) With Project traffic conditions, with the following recommended traffic signal improvements:

Meridian Avenue (NS) at:
Valley Boulevard (EW) – #8
- New traffic signal

Table 4

Existing Plus Project Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service				Project Change		Project Impact
		Northbound			Southbound			Eastbound			Westbound			Without Project		With Project				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening	Morning	Evening	AM	PM	
1 Pepper Avenue (NS) at: Blue Drive (EW)	TS	0	2	1	1	2	0	0	0	0	1	0	1	6.6 - A	8.8 - A	6.6 - A	8.8 - A	0.0	0.0	No
2 Pepper Avenue (NS) at: Valley Boulevard (EW)	TS	1	3	1	2	3	1	2	2	1	2	1.5	0.5	22.5 - C	22.9 - C	22.9 - C	23.3 - C	0.4	0.4	No
3 Pepper Avenue (NS) at: Project Driveway (EW)	CSS	0	2.5	0.5	0	2	0	0	0	0	0	0	1	0.0 - A	0.0 - A	12.4 - B	13.7 - B	12.4	13.7	No
4 Pepper Avenue (NS) at: I-10 Westbound Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	0	<1>	1	22.4 - C	13.6 - B	25.0 - C	13.8 - B	2.6	0.2	No
5 Pepper Avenue (NS) at: I-10 Eastbound Ramps (EW)	TS	0	1	1	2	1	0	1	<1>	0	0	0	0	24.3 - C	23.5 - C	24.3 - C	23.5 - C	0.0	0.0	No
6 Project West Driveway (NS) at: Valley Boulevard (EW)	CSS	0	0	1	0	0	0	0	2.5	0.5	1	2	0	0.0 - A	0.0 - A	10.4 - B	10.5 - B	10.4	10.5	No
7 Project East Driveway (NS) at: Valley Boulevard (EW)	CSS	0.5	0	0.5	0	0	0	0	2.5	0.5	1	2	0	16.0 - C	17.4 - C	27.8 - D	28.8 - D	11.8	11.4	No
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	CSS	0	0	0	1	0	1	1	2	0	0	1.5	0.5	45.9 - E	55.4 - F	51.6 - F	60.9 - F	5.7	5.5	Yes
- New Traffic Signal	**TS**	0	0	0	1	0	1	1	2	0	0	1.5	0.5			12.0 - B	8.4 - A	-33.9	-47.0	No

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane

[2] TS = Traffic Signal; CSS = Cross Street Stop

Table 5

Opening Year 2019 Without Project Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
1 Pepper Avenue (NS) at: Blue Drive (EW)	TS	0	2	1	1	2	0	0	0	0	1	0	1	6.8 - A	9.2 - A
2 Pepper Avenue (NS) at: Valley Boulevard (EW)	TS	1	3	1	2	3	1	2	2	1	2	1.5	0.5	25.7 - C	24.9 - C
3 Pepper Avenue (NS) at: Project Driveway (EW)	CSS	0	2.5	0.5	0	2	0	0	0	0	0	0	1	0.0 - A	0.0 - A
4 Pepper Avenue (NS) at: I-10 Westbound Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	0	<1>	1	33.1 - C	15.7 - B
5 Pepper Avenue (NS) at: I-10 Eastbound Ramps (EW)	TS	0	1	1	2	1	0	1	<1>	0	0	0	0	25.2 - C	24.0 - C
6 Project West Driveway (NS) at: Valley Boulevard (EW)	CSS	0	0	1	0	0	0	0	2.5	0.5	1	2	0	0.0 - A	0.0 - A
7 Project East Driveway (NS) at: Valley Boulevard (EW)	CSS	0.5	0	0.5	0	0	0	0	2.5	0.5	1	2	0	16.9 - C	18.6 - C
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	CSS	0	0	0	1	0	1	1	2	0	0	1.5	0.5	67.1 - F	80.9 - F

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane

[2] TS = Traffic Signal; CSS = Cross Street Stop

Table 6

Opening Year 2019 With Project Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service				Project Change		Project Impact
		Northbound			Southbound			Eastbound			Westbound			Without Project		With Project				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening	Morning	Evening	AM	PM	
1 Pepper Avenue (NS) at: Blue Drive (EW)	TS	0	2	1	1	2	0	0	0	0	1	0	1	6.8 - A	9.2 - A	6.8 - A	9.3 - A	0.0	0.1	No
2 Pepper Avenue (NS) at: Valley Boulevard (EW)	TS	1	3	1	2	3	1	2	2	1	2	1.5	0.5	25.7 - C	24.9 - C	28.1 - C	25.6 - C	2.4	0.7	No
3 Pepper Avenue (NS) at: Project Driveway (EW)	CSS	0	2.5	0.5	0	2	0	0	0	0	0	0	1	0.0 - A	0.0 - A	13.5 - B	15.1 - C	13.5	15.1	No
4 Pepper Avenue (NS) at: I-10 Westbound Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	0	<1>	1	33.1 - C	15.7 - B	35.0 - C	16.7 - B	1.9	1.0	No
5 Pepper Avenue (NS) at: I-10 Eastbound Ramps (EW)	TS	0	1	1	2	1	0	1	<1>	0	0	0	0	25.2 - C	24.0 - C	25.3 - C	26.0 - C	0.1	2.0	No
6 Project West Driveway (NS) at: Valley Boulevard (EW)	CSS	0	0	1	0	0	0	0	2.5	0.5	1	2	0	0.0 - A	0.0 - A	10.6 - B	10.5 - B	10.6	10.5	No
7 Project East Driveway (NS) at: Valley Boulevard (EW)	CSS	0.5	0	0.5	0	0	0	0	2.5	0.5	1	2	0	16.9 - C	18.6 - C	31.0 - D	30.8 - D	14.1	12.2	No
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	CSS	0	0	0	1	0	1	1	2	0	0	1.5	0.5	67.1 - F	80.9 - F	85.9 - F	89.9 - F	18.8	9.0	Yes
- New Traffic Signal	**TS**	0	0	0	1	0	1	1	2	0	0	1.5	0.5			12.2 - B	8.5 - A	-54.9	-72.4	No

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane; **TS** = Improvement

[2] TS = Traffic Signal; CSS = Cross Street Stop

Table 7

Horizon Year 2040 Without Project Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
1 Pepper Avenue (NS) at: Blue Drive (EW)	TS	0	2	1	1	2	0	0	0	0	1	0	1	7.1 - A	9.4 - A
2 Pepper Avenue (NS) at: Valley Boulevard (EW)	TS	1	3	1	2	3	1	2	2	1	2	1.5	0.5	33.9 - C	27.0 - C
3 Pepper Avenue (NS) at: Project Driveway (EW)	CSS	0	2.5	0.5	0	2	0	0	0	0	0	0	1	0.0 - A	0.0 - A
4 Pepper Avenue (NS) at: I-10 Westbound Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	0	<1>	1	49.8 - D	17.7 - B
5 Pepper Avenue (NS) at: I-10 Eastbound Ramps (EW)	TS	0	1	1	2	1	0	1	<1>	0	0	0	0	28.7 - C	24.8 - C
6 Project West Driveway (NS) at: Valley Boulevard (EW)	CSS	0	0	1	0	0	0	0	2.5	0.5	1	2	0	0.0 - A	0.0 - A
7 Project East Driveway (NS) at: Valley Boulevard (EW)	CSS	0.5	0	0.5	0	0	0	0	2.5	0.5	1	2	0	18.6 - C	23.3 - C
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	CSS	0	0	0	1	0	1	1	2	0	0	1.5	0.5	428.9 - F	676.9 - F

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane

[2] TS = Traffic Signal; CSS = Cross Street Stop

Table 8

Horizon Year 2040 With Project Intersection Delay and Levels of Service

Intersection	Traffic Control[2]	Intersection Approach Lanes[1]												Peak Hour Delay - Level of Service				Project Change		Project Impact
		Northbound			Southbound			Eastbound			Westbound			Without Project		With Project				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening	Morning	Evening	AM	PM	
1 Pepper Avenue (NS) at: Blue Drive (EW)	TS	0	2	1	1	2	0	0	0	0	1	0	1	7.1 - A	9.4 - A	7.1 - A	9.5 - A	0.0	0.1	No
2 Pepper Avenue (NS) at: Valley Boulevard (EW)	TS	1	3	1	2	3	1	2	2	1	2	1.5	0.5	33.9 - C	27.0 - C	34.3 - C	27.6 - C	0.4	0.6	No
3 Pepper Avenue (NS) at: Project Driveway (EW)	CSS	0	2.5	0.5	0	2	0	0	0	0	0	0	1	0.0 - A	0.0 - A	15.0 - B	17.8 - C	15.0	17.8	No
4 Pepper Avenue (NS) at: I-10 Westbound Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	0	<1>	1	49.8 - D	17.7 - B	52.7 - D	19.3 - B	2.9	1.6	No
5 Pepper Avenue (NS) at: I-10 Eastbound Ramps (EW)	TS	0	1	1	2	1	0	1	<1>	0	0	0	0	28.7 - C	24.8 - C	30.6 - C	27.2 - C	1.9	2.4	No
6 Project West Driveway (NS) at: Valley Boulevard (EW)	CSS	0	0	1	0	0	0	0	2.5	0.5	1	2	0	0.0 - A	0.0 - A	10.7 - B	11.2 - B	10.7	11.2	No
7 Project East Driveway (NS) at: Valley Boulevard (EW)	CSS	0.5	0	0.5	0	0	0	0	2.5	0.5	1	2	0	18.6 - C	23.3 - C	33.2 - D	35.0 - D	14.6	11.7	No
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	CSS	0	0	0	1	0	1	1	2	0	0	1.5	0.5	428.9 - F	676.9 - F	465.9 - F	720.5 - F	37.0	43.6	Yes
- New Traffic Signal	**TS**	0	0	0	1	0	1	1	2	0	0	1.5	0.5			12.4 - B	9.8 - A	-416.5	-667.1	No

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes (de facto right turn lane). L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane; **TS** = Improvement

[2] TS = Traffic Signal; CSS = Cross Street Stop

VII. MITIGATION MEASURES

A. Required Improvements and Costs

Improvements that will eliminate all anticipated roadway operational deficiencies throughout the study area have been identified for Year 2040 traffic conditions. The improvements were determined through the operations analysis of Section VI.

Intersection improvements which are included within the San Bernardino Associated Governments Nexus Fee Program (see Appendix G) are noted as such in Table 9. The approximate costs for the Year 2040 improvements have generally been estimated using cost guidelines in the Congestion Management Program Handbook (see Appendix H). A unit cost of $400,000 for installation of a traffic signal has been substituted for the somewhat lower value cited in the Congestion Management Program materials.

The needed intersection improvements and resulting costs are summarized in Table 9 for the study area intersections. The total cost of needed and unfunded intersection improvements for the existing roadway network is $400,000.

B. Project Fair Share/Development Impact Fees

The project fair share contributions have also been calculated for Year 2040 improvement locations. The project share of cost has been based on the proportion of project peak hour traffic contributed to the improvement location relative to the total new peak hour Year 2040 traffic volume.

Table 10 presents a summary of improvement cost and project cost shares at the Year 2040 intersection improvement locations. The intersection fair share cost calculations are typically based on the higher of the morning and evening peak hour traffic volumes. As shown in Table 10, the project's fair share of identified intersection costs is $22,837.

The dollar figures are rough order of magnitude estimates only. They are intended only for the discussion purposes of this traffic impact analysis, and do not imply any legal responsibility or formula for contributions or mitigation.

As mitigation for the potential traffic impacts, the proposed project shall contribute through an adopted traffic impact fee program in addition to any fair share contributions shown within the traffic study which is not covered within this fee program.

C. On-Site/Access Recommendations

Site-specific circulation and access recommendations are depicted on Figure 32.

The Project West Driveway on Valley Boulevard will be a stop-controlled access and it will be restricted to right turns in/out and left turns in only access. Install signage and pavement delineators to restrict northbound left turns from the Project West Driveway at Valley Boulevard. Northbound left turn movements should be restricted at the Project West

Driveway on Valley Boulevard (Intersection #6) because it may interfere with the existing westbound left turn lane on Valley Boulevard at Pepper Avenue (Intersection #2) due to its close proximity. It should be noted that the northbound left turn movement will be allowed at the Project East Driveway on Valley Boulevard (Intersection #7).

Project East Driveway on Valley Boulevard will be a stop-controlled full access.

The Project Driveway on Pepper Avenue will be a stop-controlled access and it will be restricted to right turns in/out only access.

Valley Boulevard along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the City of Colton Public Works Department.

Pepper Avenue along the project boundary should be constructed at the ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise approved by the City of Colton Public Works Department.

The proposed project driveways should be constructed in conformance with City of Colton standards, including provisions for sight distance requirements and truck turning radii, or as otherwise approved by the City of Colton Public Works Department.

All on-site and site-adjacent improvements, including traffic signing/striping and project driveways, should be constructed as approved by the City of Colton Public Works Department.

On-site parking should be provided to the satisfaction of City of Colton Planning Department.

As is the case for any roadway design, the City of Colton should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Table 9

Summary of Intersection Improvements and Costs

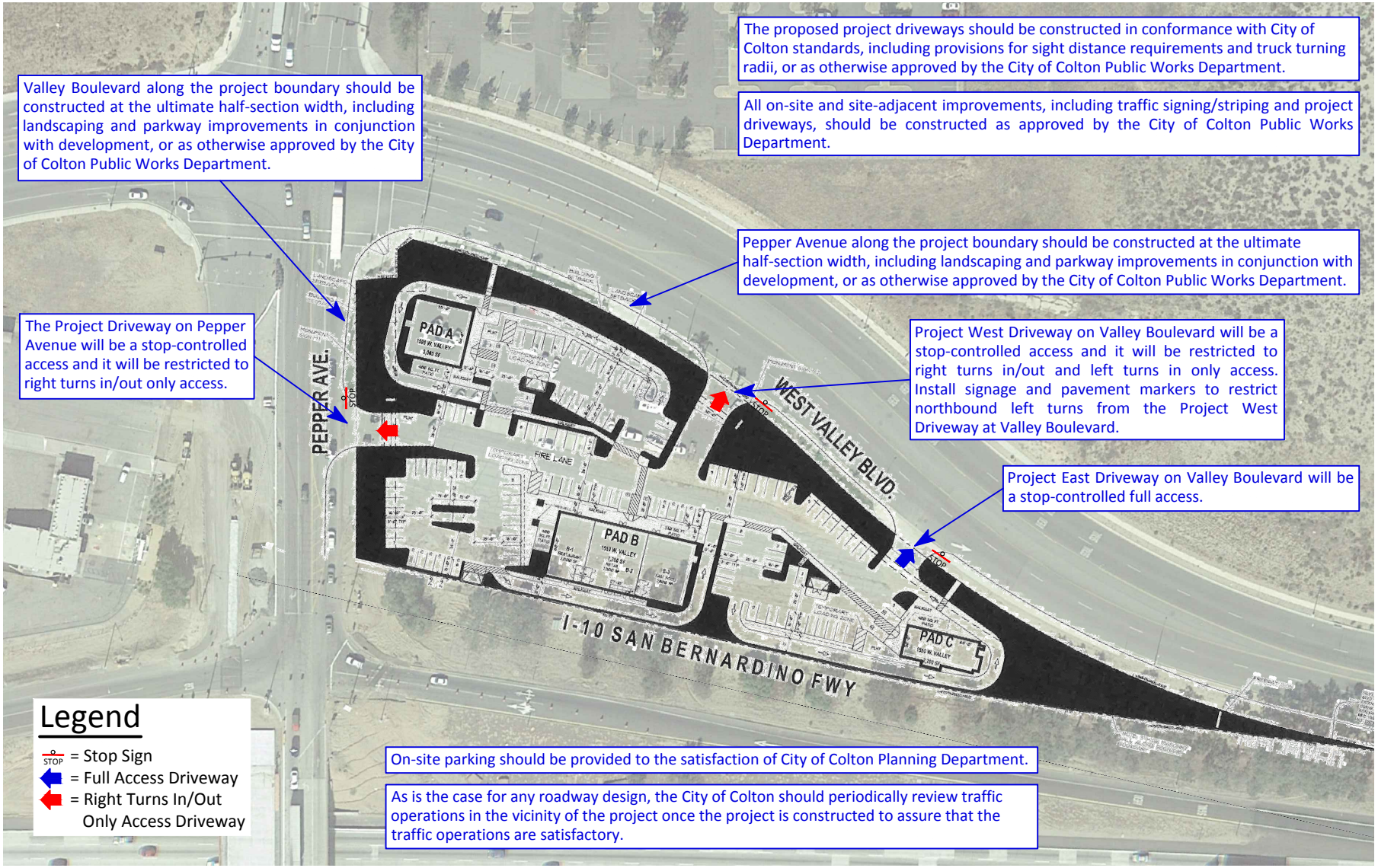
Intersection	Jurisdiction	Improvements	Funding	Cost
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	Colton	Install new traffic signal	Fair Share	$ 400,000

Table 10

Project Fair Share Intersection Traffic Contribution

Intersection	Jurisdiction	Total Cost	Peak Hour	Existing Traffic	2040 With Project Traffic	Project Traffic	Total New Traffic	Project % of New Traffic	Project Fair Share Cost
8 Meridian Avenue (NS) at: Valley Boulevard (EW)	Colton	$ 400,000	Morning	1,220	1,798	33	578	5.7%	$ 22,837
			Evening	1,264	1,876	29	612	4.7%	

Figure 32
Circulation Recommendations



APPENDICES

Appendix A – Glossary of Transportation Terms

Appendix B – Traffic Study Scoping Agreement

Appendix C – Intersection Turning Movement Count Worksheets

Appendix D – Explanation and Calculation of Intersection Delay

Appendix E – Traffic Model Forecasting Worksheets

Appendix F – Traffic Signal Warrant Analysis Worksheets

Appendix G – San Bernardino Associated Governments Development Mitigation Nexus Fee Program

Appendix H – Preliminary Construction Cost Estimates for Congestion Management Program

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Traffic Study Scoping Agreement

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This form acknowledges the City of Colton Engineering Division requirements for traffic impact analysis of the following project. The analysis must comply with SANBAG CMP TIA Guidelines, as applicable.

Case No. PRE-000-052; DAP-001-450
Related Cases:

APN(S): 0254-191-09 & 11

Project Name: Lumar Lundin Project
Project Address: Southeast corner of Pepper Avenue & Valley Boulevard; see attached Figure 1

Project Description: 2,900 square feet of specialty retail, 2,000 square feet of fast-food restaurant without drive-thru (plus 400 square feet of outdoor dining area), and 8,000 square feet of fast-food restaurant with drive-thru (plus 1,130 square feet of outdoor dining area); see attached Figure 2
Project Size: 2.96 acres

	Traffic Consultant	Developer
Name:	Tom Huang	Lundin Development Co.
	Kunzman Associates, Inc.	Marinita Development Co.
Address:	1111 Town & Country Rd, Ste 34	3835 Birch Street
	Orange, CA 92868	Newport Beach, CA 92660
Telephone:	(714) 973-8383	(949) 756-8677
e-mail:	tom@traffic-engineer.com	

A. Technical Methodology

Technical methodology to comply with SANBAG CMP guidelines. However, mitigation on nonstate facilities to maintain LOS D threshold.

Traffic count data must be current or within previous 12 months. Provide traffic count dates.

Intersection counts were conducted in April and September 2017.

B. Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition, 2017. San Diego Association of Governments (SANDAG), Brief Guide of Vehicular Traffic Generation Rates for the San Diego Area, April 2002

Current GP Land Use: _____ Proposed Land Use: __ _____

Current Zoning: _____ Proposed Zoning: _____

	Current Trip Generation (To be determined with count)			Proposed Trip Generation (See attached Table 1)		
	In	Out	Total	In	Out	Total
AM Trips:	0	0	0	115	105	220
PM Trips:	0	0	0	101	95	196

Internal Trip Allowance: No

Pass-By Trip Allowance: Yes (49% for fast-food restaurant)

Traffic impact study to quantify change in project trip generation in comparison with pre-existing uses on project site when fully occupied.

C. Trip Geographic Distribution: To be submitted for approval by city staff. Cite source.

See attached Figures 3 and 4 for the detailed trip distribution assignment.

D. Scenario Analysis

Project year of completion: 2019

Phase Year(s) N/A

Annual Ambient Growth rate: 1.0%

City staff to provide cumulative background projects list.

Scenarios:

Existing Conditions
Year of project completion: 1) No Project; 2) With Project.
Twenty-year forecast: 1) No Project; 2) With Project.

E. Preliminary Study Intersections: (See SANBAG CMP guidelines or comments from other agencies.); See attached Figure 1

1. Pepper Ave. /Blue Dr.
2. Pepper Ave/Valley Blvd.
3. Pepper Ave./Project Dwy.
4. Pepper Ave./I-10 Fwy. WB Ramps
5. Pepper Ave./I-10 Fwy. EB Ramps
6. Project West Dwy./Valley Blvd.
7. Project East Dwy./Valley Blvd.
8. Meridian Ave./Valley Blvd.

Intersection counts were conducted in April and September 2017.

F. Preliminary Study Roadway Segments: (See SANBAG CMP guidelines or comments from other agencies.)

1. Pepper Ave, south of Valley Blvd.
2. Valley Blvd., east of Pepper Ave.

G. Freeways - See SANBAG CMP guidelines.

H. Other Jurisdictional Impacts
Is this project within a one-mile radius of City or County boundaries? ☒ Yes ☐ No

If so, name of City Jurisdiction: County of San Bernardino and City of Rialto

I. Site Plan (see attached Figure 2)

J. Specific issues to be addressed in the Study
Left turn out on Project West Dwy. / Valley Blvd.

Recommended by:

Tom Huang — 11/10/17
Consultant's Representative — Date

Approved Scoping Agreement:

City of Colton — Date
Engineering Division

JN 7151

Table 1
Project Trip Generation

Trip Rates										
Project				Morning Peak			Afternoon Peak			Daily
No.	Land Use	Code[1]	Unit[2]	In%	Out%	Total	In%	Out%	Total	
1	Fast Food Restaurant without Drive-Thru Window	ITE 933	TSF	60%	40%	**25.10**	50%	50%	**28.34**	**346.23**
2	Fast Food Restaurant with Drive-Thru Window	ITE 934	TSF	51%	49%	**40.19**	52%	48%	**32.67**	**470.95**
3	Specialty Retail	SANDAG	TSF	60%	40%	**1.20**	50%	50%	**3.60**	**40.00**

Trip Generation									
Project			Morning Peak			Afternoon Peak			Daily
No.	Land Use	Quantity[2]	In	Out	Total	In	Out	Total	
A	Fast Food Restaurant without Drive-Thru Window	2.400 TSF	36	24	60	34	34	68	831
	Pass-By Trips[3]	49%	-18	-12	-30	-17	-17	-34	-407
	Subtotal Net Trips		**18**	**12**	**30**	**17**	**17**	**34**	**424**
B	Fast Food Restaurant with Drive-Thru Window	9.130 TSF	187	180	367	155	143	298	4,300
	Pass-By Trips[3]	49%	-92	-88	-180	-76	-70	-146	-2,107
	Subtotal Net Trips		**95**	**92**	**187**	**79**	**73**	**152**	**2,193**
C	Specialty Retail	2.900 TSF	2	1	3	5	5	10	116
Total Trips without Adjustment		14.430 TSF	225	205	430	194	182	376	5,247
Total Net Trips with Pass-By Trip Reduction			**115**	**105**	**220**	**101**	**95**	**196**	**2,733**

[1] Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition, 2017.

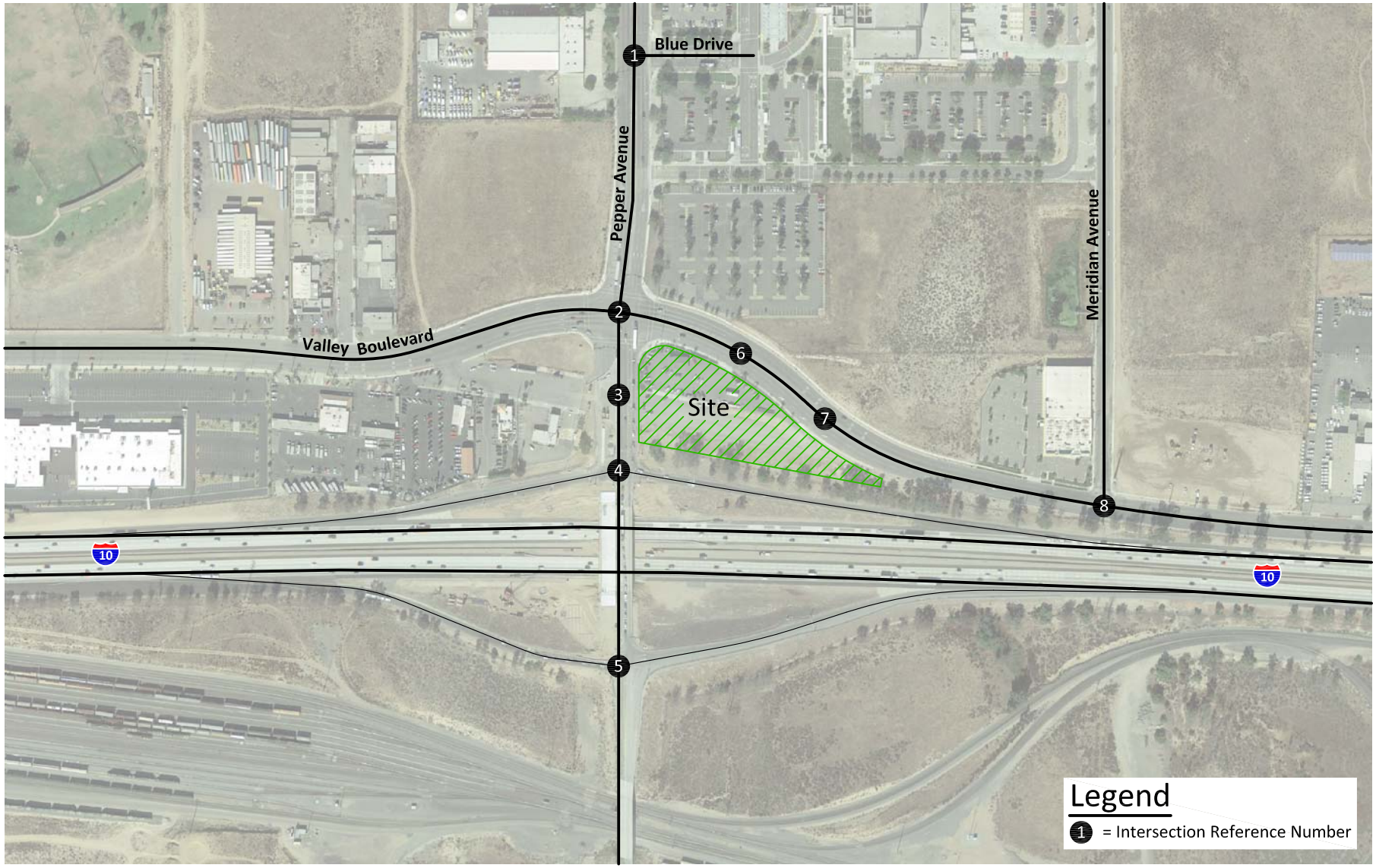
San Diego Association of Governments (SANDAG), Brief Guide of Vehicular Traffic Generation Rates for the San Diego Area, April 2002.

[2] TSF = Thousand Square Feet

[3] AM Pass-By Trips: ITE, Trip Generation Handbook, 3rd Edition, 2017, Table E.31 Pass-By and Non Pass-By Trips Weekday, AM Peak Period Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 49%.

PM Pass-By Trips: ITE, Trip Generation Handbook, 3rd Edition, 2017, Table E.32 Pass-By and Non Pass-By Trips Weekday, PM Peak Period Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 50%.

Figure 1
Project Location Map

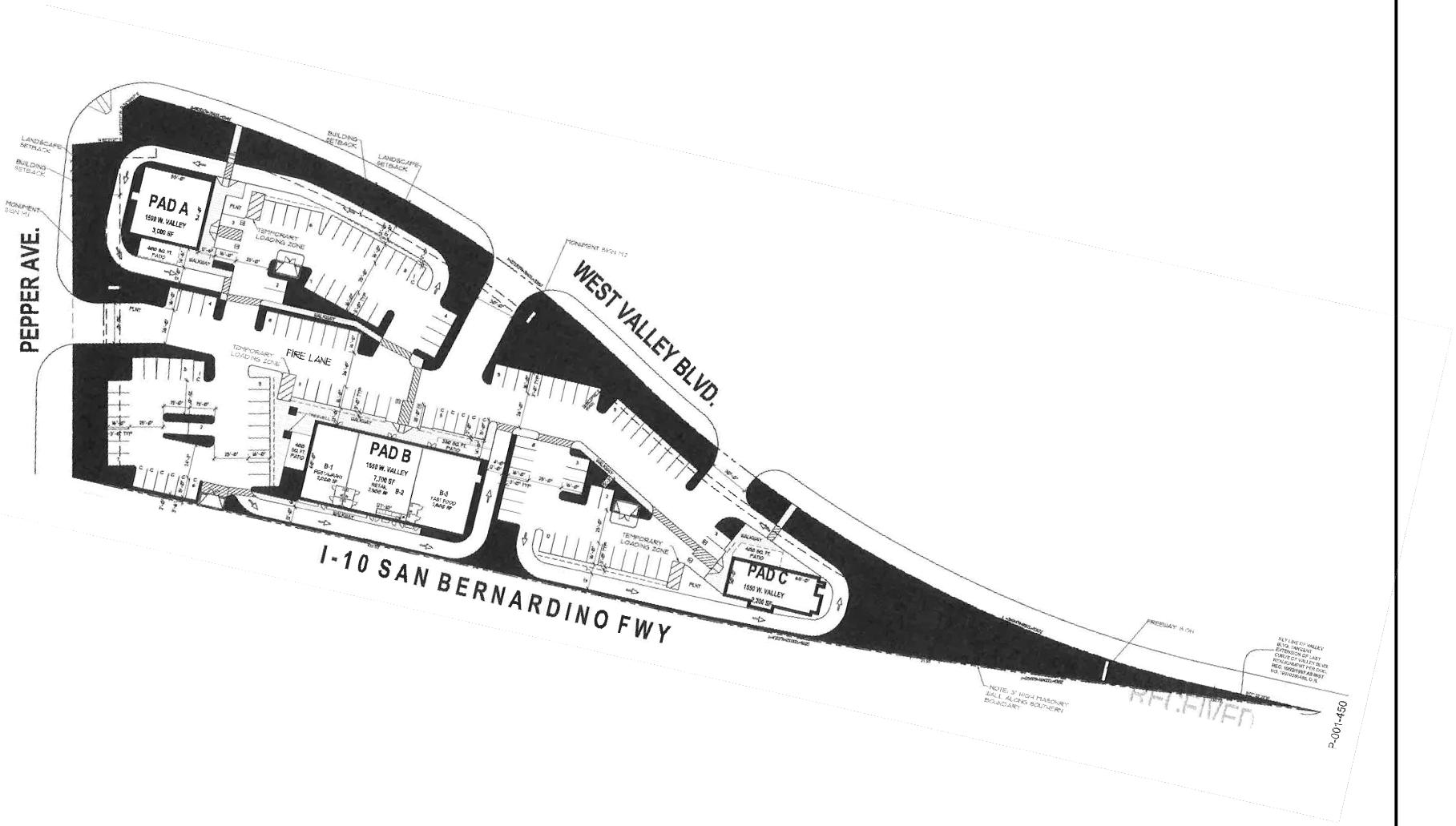


KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 7151

Figure 2
Site Plan

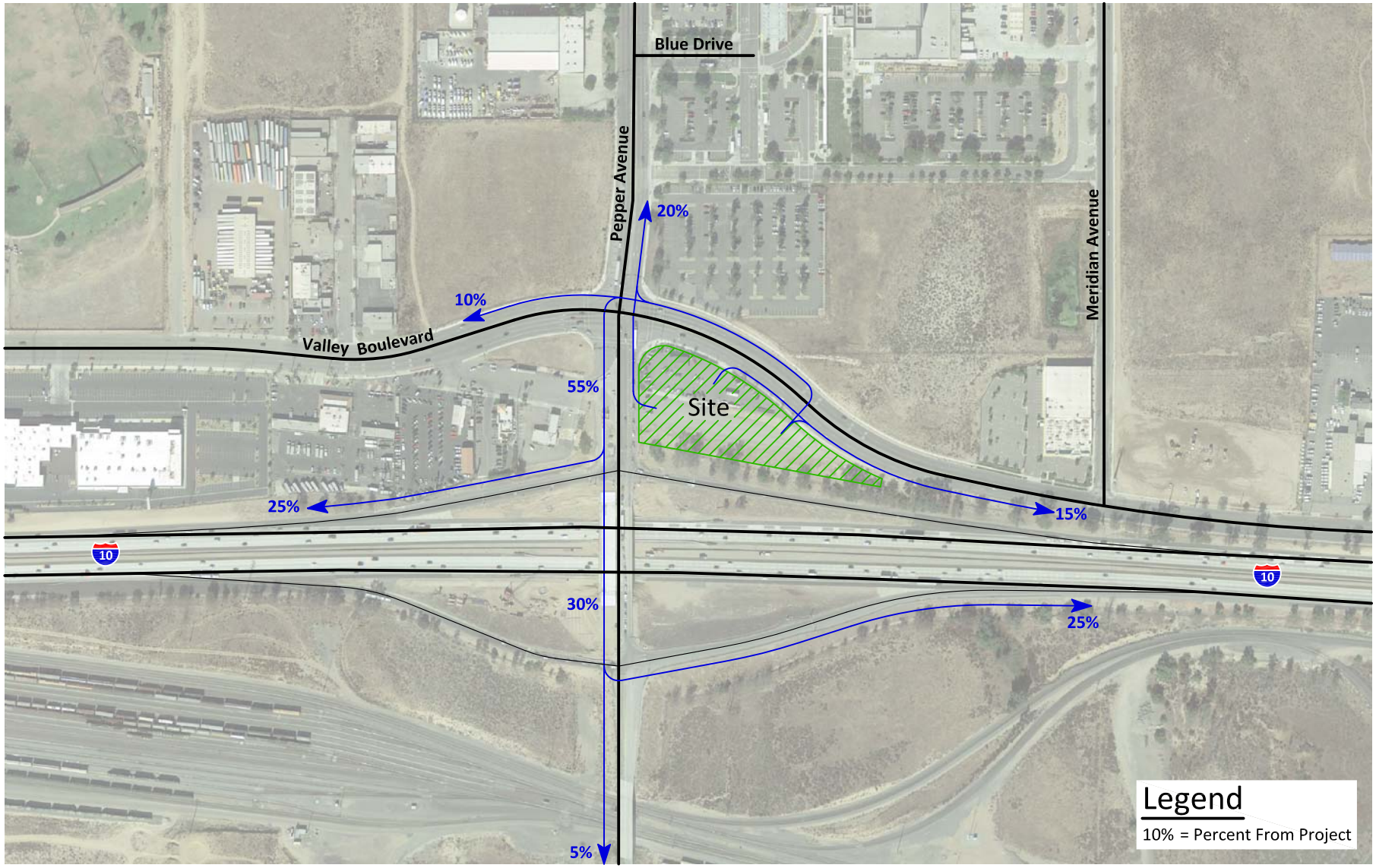


KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 7151

Figure 3
Project Outbound Trip Distribution

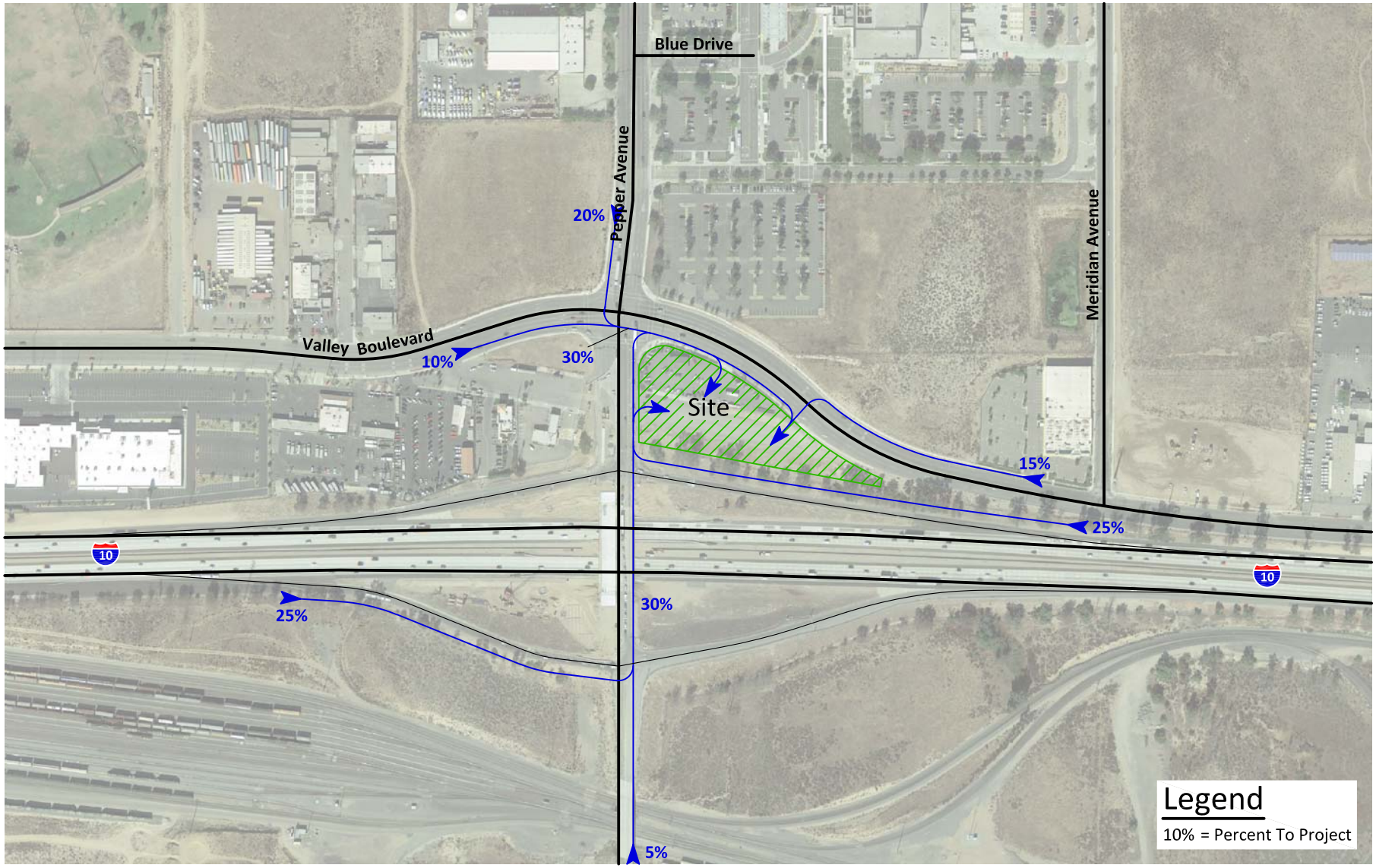


KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 7151

Figure 4
Project Inbound Trip Distribution

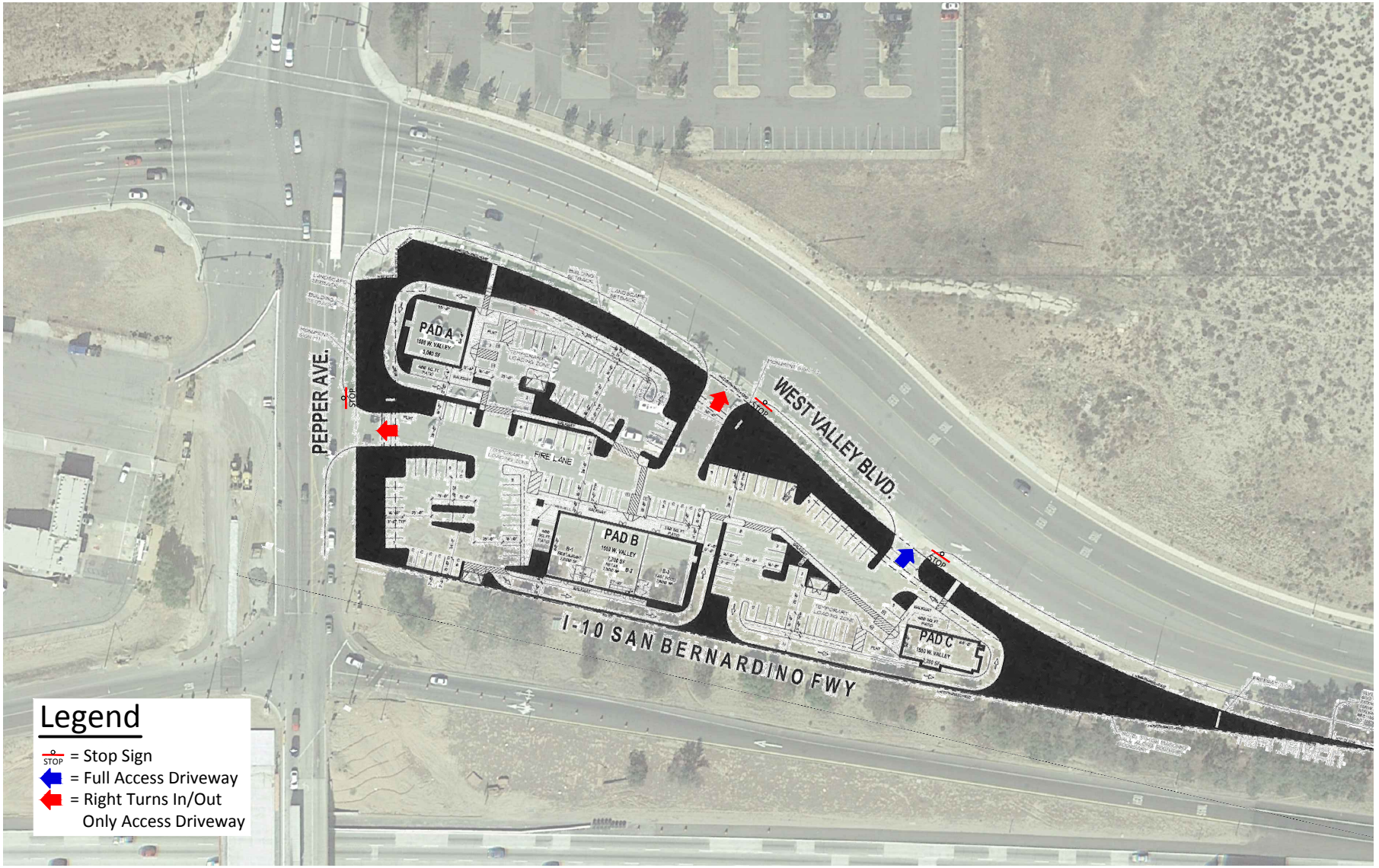


KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 7151

Figure 5
Circulation Recommendations



KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 7151

APPENDIX C

Intersection Turning Movement Count Worksheets

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

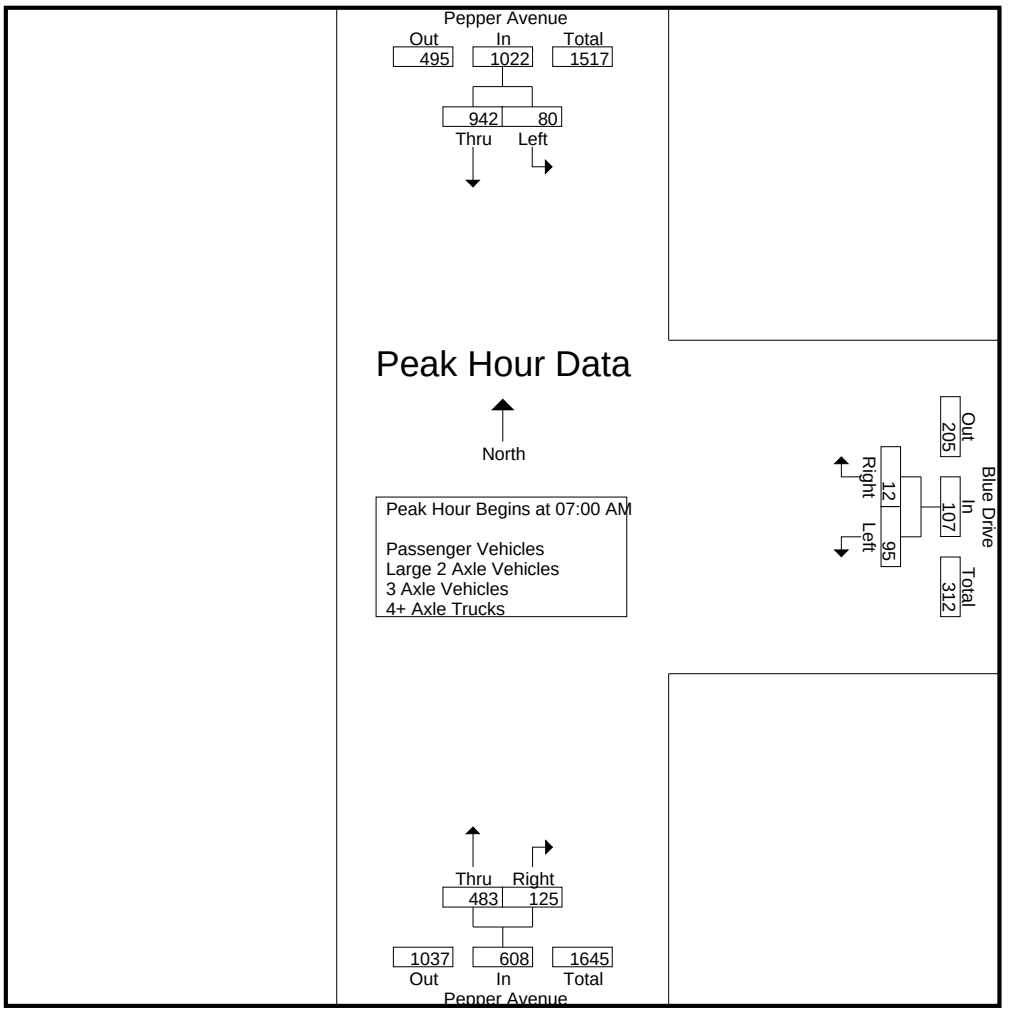
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	14	242	256	18	2	20	131	41	172	448
07:15 AM	18	254	272	21	2	23	111	31	142	437
07:30 AM	19	237	256	32	4	36	139	28	167	459
07:45 AM	29	209	238	24	4	28	102	25	127	393
Total	80	942	1022	95	12	107	483	125	608	1737
08:00 AM	23	197	220	20	6	26	144	36	180	426
08:15 AM	29	190	219	18	6	24	95	28	123	366
08:30 AM	31	139	170	19	8	27	108	42	150	347
08:45 AM	19	150	169	16	3	19	116	41	157	345
Total	102	676	778	73	23	96	463	147	610	1484
Grand Total	182	1618	1800	168	35	203	946	272	1218	3221
Apprch %	10.1	89.9		82.8	17.2		77.7	22.3		
Total %	5.7	50.2	55.9	5.2	1.1	6.3	29.4	8.4	37.8	
Passenger Vehicles	176	1491	1667	158	32	190	857	264	1121	2978
% Passenger Vehicles	96.7	92.2	92.6	94	91.4	93.6	90.6	97.1	92	92.5
Large 2 Axle Vehicles	6	37	43	10	3	13	28	8	36	92
% Large 2 Axle Vehicles	3.3	2.3	2.4	6	8.6	6.4	3	2.9	3	2.9
3 Axle Vehicles	0	25	25	0	0	0	20	0	20	45
% 3 Axle Vehicles	0	1.5	1.4	0	0	0	2.1	0	1.6	1.4
4+ Axle Trucks	0	65	65	0	0	0	41	0	41	106
% 4+ Axle Trucks	0	4	3.6	0	0	0	4.3	0	3.4	3.3

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	14	242	256	18	2	20	131	**41**	**172**	448
07:15 AM	18	**254**	**272**	21	2	23	111	31	142	437
07:30 AM	19	237	256	**32**	**4**	**36**	**139**	28	167	**459**
07:45 AM	**29**	209	238	24	4	28	102	25	127	393
Total Volume	80	942	1022	95	12	107	483	125	608	1737
% App. Total	7.8	92.2		88.8	11.2		79.4	20.6		
PHF	.690	.927	.939	.742	.750	.743	.869	.762	.884	.946

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			07:15 AM		
+0 mins.	14	242	256	**32**	4	**36**	111	31	142
+15 mins.	18	**254**	**272**	24	4	28	139	28	167
+30 mins.	19	237	256	20	**6**	26	102	25	127
+45 mins.	**29**	209	238	18	6	24	**144**	**36**	**180**
Total Volume	80	942	1022	94	20	114	496	120	616
% App. Total	7.8	92.2		82.5	17.5		80.5	19.5	
PHF	.690	.927	.939	.734	.833	.792	.861	.833	.856

Counts Unlimited
PO Box 1178
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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

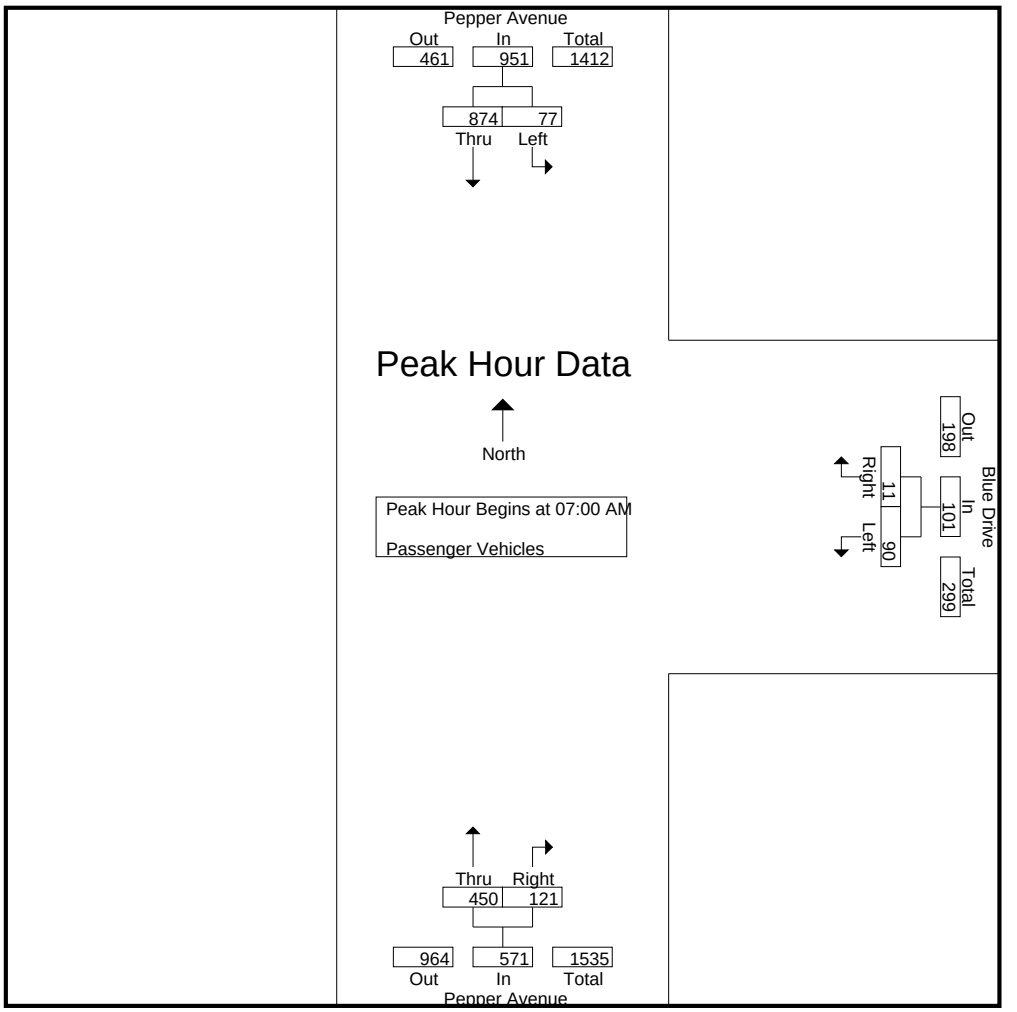
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	13	226	239	16	2	18	120	40	160	417
07:15 AM	18	241	259	20	2	22	100	30	130	411
07:30 AM	18	215	233	31	3	34	134	27	161	428
07:45 AM	28	192	220	23	4	27	96	24	120	367
Total	77	874	951	90	11	101	450	121	571	1623
08:00 AM	22	180	202	19	5	24	134	35	169	395
08:15 AM	29	177	206	17	6	23	81	27	108	337
08:30 AM	30	125	155	17	8	25	92	41	133	313
08:45 AM	18	135	153	15	2	17	100	40	140	310
Total	99	617	716	68	21	89	407	143	550	1355
Grand Total	176	1491	1667	158	32	190	857	264	1121	2978
Apprch %	10.6	89.4		83.2	16.8		76.4	23.6		
Total %	5.9	50.1	56	5.3	1.1	6.4	28.8	8.9	37.6	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	13	226	239	16	2	18	120	**40**	160	417
07:15 AM	18	**241**	**259**	20	2	22	100	30	130	411
07:30 AM	18	215	233	**31**	3	**34**	**134**	27	**161**	**428**
07:45 AM	**28**	192	220	23	**4**	27	96	24	120	367
Total Volume	77	874	951	90	11	101	450	121	571	1623
% App. Total	8.1	91.9		89.1	10.9		78.8	21.2		
PHF	.688	.907	.918	.726	.688	.743	.840	.756	.887	.948

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	13	226	239	16	2	18	120	**40**	160
+15 mins.	18	**241**	**259**	20	2	22	100	30	130
+30 mins.	18	215	233	**31**	3	**34**	**134**	27	**161**
+45 mins.	**28**	192	220	23	**4**	27	96	24	120
Total Volume	77	874	951	90	11	101	450	121	571
% App. Total	8.1	91.9		89.1	10.9		78.8	21.2	
PHF	.688	.907	.918	.726	.688	.743	.840	.756	.887

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

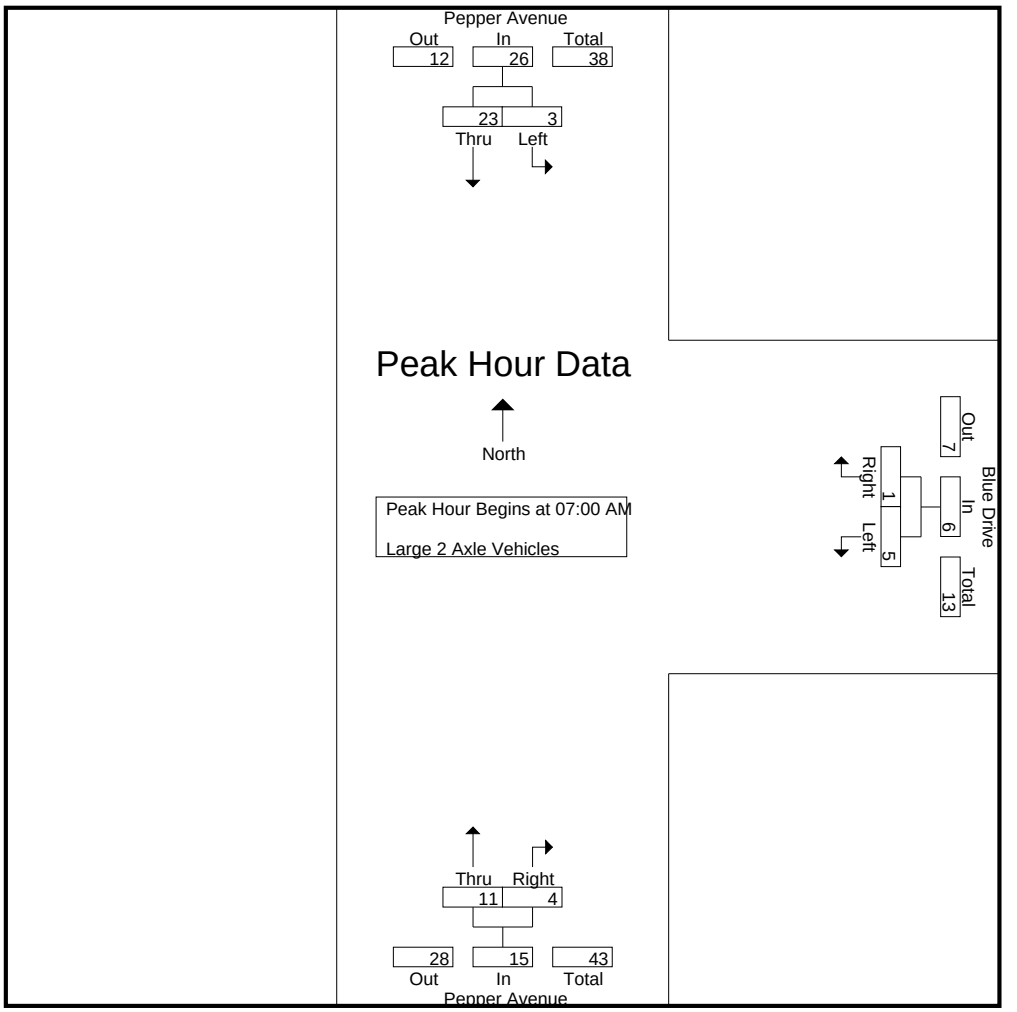
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	7	8	2	0	2	3	1	4	14
07:15 AM	0	4	4	1	0	1	4	1	5	10
07:30 AM	1	4	5	1	1	2	2	1	3	10
07:45 AM	1	8	9	1	0	1	2	1	3	13
Total	3	23	26	5	1	6	11	4	15	47
08:00 AM	1	4	5	1	1	2	3	1	4	11
08:15 AM	0	5	5	1	0	1	5	1	6	12
08:30 AM	1	2	3	2	0	2	4	1	5	10
08:45 AM	1	3	4	1	1	2	5	1	6	12
Total	3	14	17	5	2	7	17	4	21	45
Grand Total	6	37	43	10	3	13	28	8	36	92
Apprch %	14	86		76.9	23.1		77.8	22.2		
Total %	6.5	40.2	46.7	10.9	3.3	14.1	30.4	8.7	39.1	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**1**	7	8	**2**	0	**2**	3	**1**	4	**14**
07:15 AM	0	4	4	1	0	1	**4**	1	**5**	10
07:30 AM	1	4	5	1	**1**	2	2	1	3	10
07:45 AM	1	**8**	**9**	1	0	1	2	1	3	13
Total Volume	3	23	26	5	1	6	11	4	15	47
% App. Total	11.5	88.5		83.3	16.7		73.3	26.7		
PHF	.750	.719	.722	.625	.250	.750	.688	1.00	.750	.839

Counts Unlimited
PO Box 1178
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City of Colton
N/S: Pepper Avenue
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File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**1**	7	8	**2**	0	**2**	3	**1**	4
+15 mins.	0	4	4	1	0	1	**4**	1	**5**
+30 mins.	1	4	5	1	**1**	2	2	1	3
+45 mins.	1	**8**	**9**	1	0	1	2	1	3
Total Volume	3	23	26	5	1	6	11	4	15
% App. Total	11.5	88.5		83.3	16.7		73.3	26.7	
PHF	.750	.719	.722	.625	.250	.750	.688	1.000	.750

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

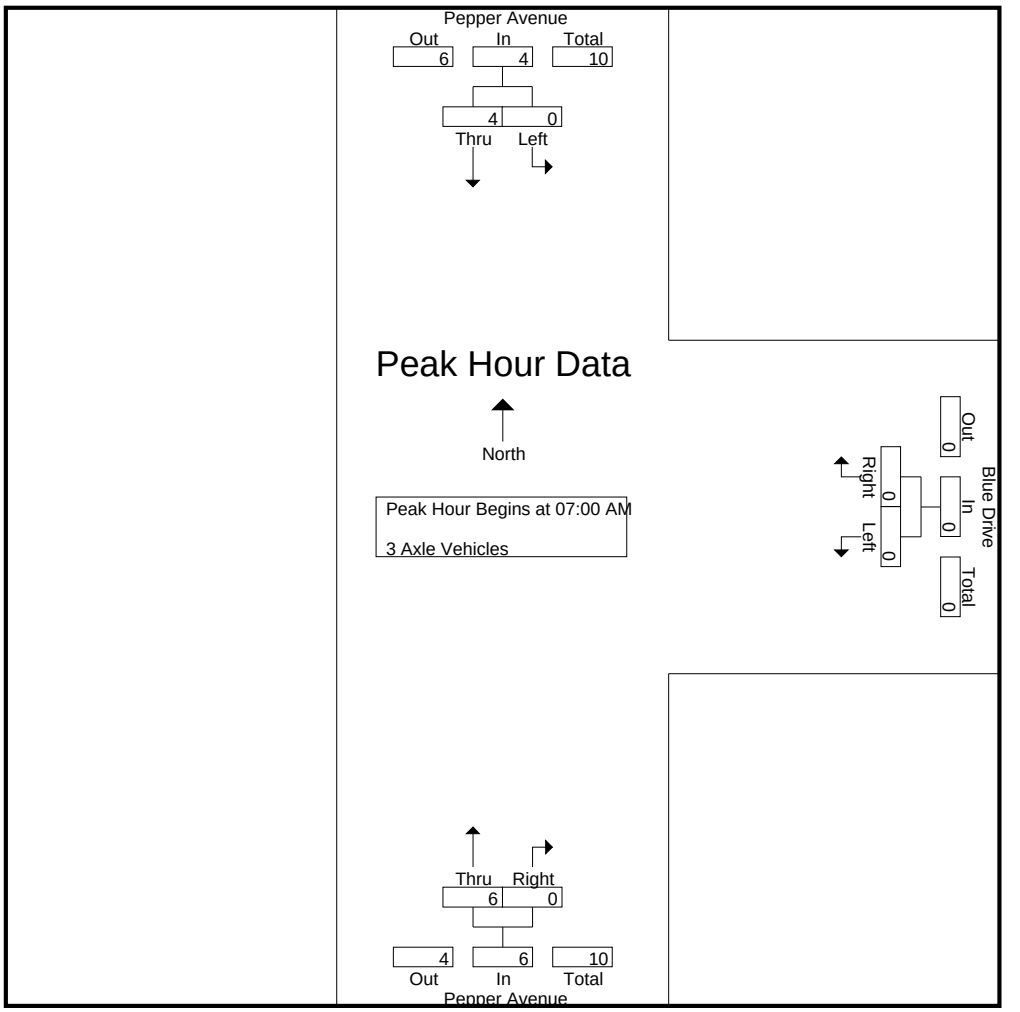
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	2	0	2	3
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	2	2	0	0	0	1	0	1	3
07:45 AM	0	1	1	0	0	0	2	0	2	3
Total	0	4	4	0	0	0	6	0	6	10
08:00 AM	0	8	8	0	0	0	0	0	0	8
08:15 AM	0	6	6	0	0	0	3	0	3	9
08:30 AM	0	3	3	0	0	0	6	0	6	9
08:45 AM	0	4	4	0	0	0	5	0	5	9
Total	0	21	21	0	0	0	14	0	14	35
Grand Total	0	25	25	0	0	0	20	0	20	45
Apprch %	0	100		0	0		100	0		
Total %	0	55.6	55.6	0	0	0	44.4	0	44.4	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	0	0	0	**2**	0	**2**	**3**
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	**2**	**2**	0	0	0	1	0	1	3
07:45 AM	0	1	1	0	0	0	2	0	2	3
Total Volume	0	4	4	0	0	0	6	0	6	10
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.750	.000	.750	.833

Counts Unlimited
PO Box 1178
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City of Colton
N/S: Pepper Avenue
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Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	1	1	0	0	0	**2**	0	**2**
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	**2**	**2**	0	0	0	1	0	1
+45 mins.	0	1	1	0	0	0	2	0	2
Total Volume	0	4	4	0	0	0	6	0	6
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.750	.000	.750

Counts Unlimited
PO Box 1178
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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

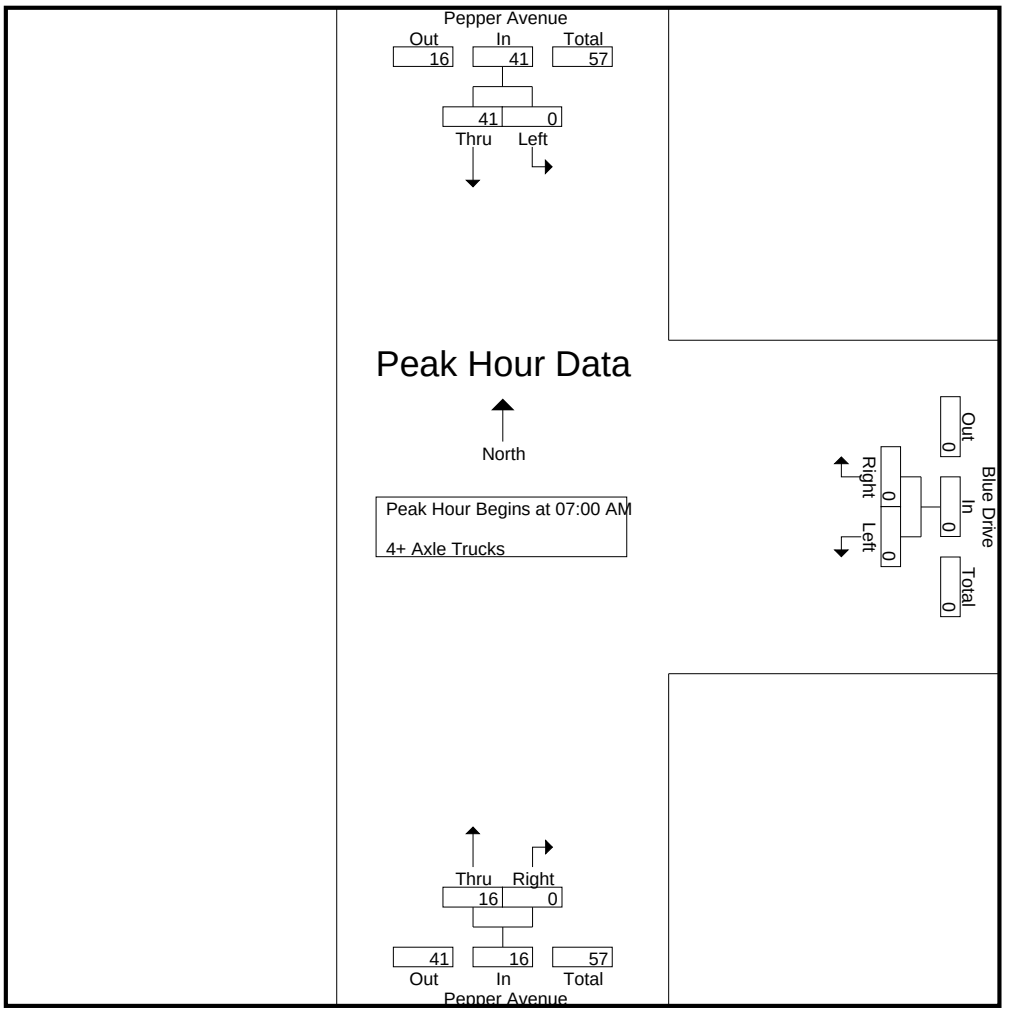
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	8	8	0	0	0	6	0	6	14
07:15 AM	0	9	9	0	0	0	6	0	6	15
07:30 AM	0	16	16	0	0	0	2	0	2	18
07:45 AM	0	8	8	0	0	0	2	0	2	10
Total	0	41	41	0	0	0	16	0	16	57
08:00 AM	0	5	5	0	0	0	7	0	7	12
08:15 AM	0	2	2	0	0	0	6	0	6	8
08:30 AM	0	9	9	0	0	0	6	0	6	15
08:45 AM	0	8	8	0	0	0	6	0	6	14
Total	0	24	24	0	0	0	25	0	25	49
Grand Total	0	65	65	0	0	0	41	0	41	106
Apprch %	0	100		0	0		100	0		
Total %	0	61.3	61.3	0	0	0	38.7	0	38.7	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	8	8	0	0	0	**6**	0	**6**	14
07:15 AM	0	9	9	0	0	0	6	0	6	15
07:30 AM	0	**16**	**16**	0	0	0	2	0	2	**18**
07:45 AM	0	8	8	0	0	0	2	0	2	10
Total Volume	0	41	41	0	0	0	16	0	16	57
% App. Total	0	100		0	0		100	0		
PHF	.000	.641	.641	.000	.000	.000	.667	.000	.667	.792

Counts Unlimited
PO Box 1178
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City of Colton
N/S: Pepper Avenue
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File Name : 01_COL_Pepper_Blue AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	8	8	0	0	0	**6**	0	**6**
+15 mins.	0	9	9	0	0	0	6	0	6
+30 mins.	0	**16**	**16**	0	0	0	2	0	2
+45 mins.	0	8	8	0	0	0	2	0	2
Total Volume	0	41	41	0	0	0	16	0	16
% App. Total	0	100		0	0		100	0	
PHF	.000	.641	.641	.000	.000	.000	.667	.000	.667

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
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File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
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Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

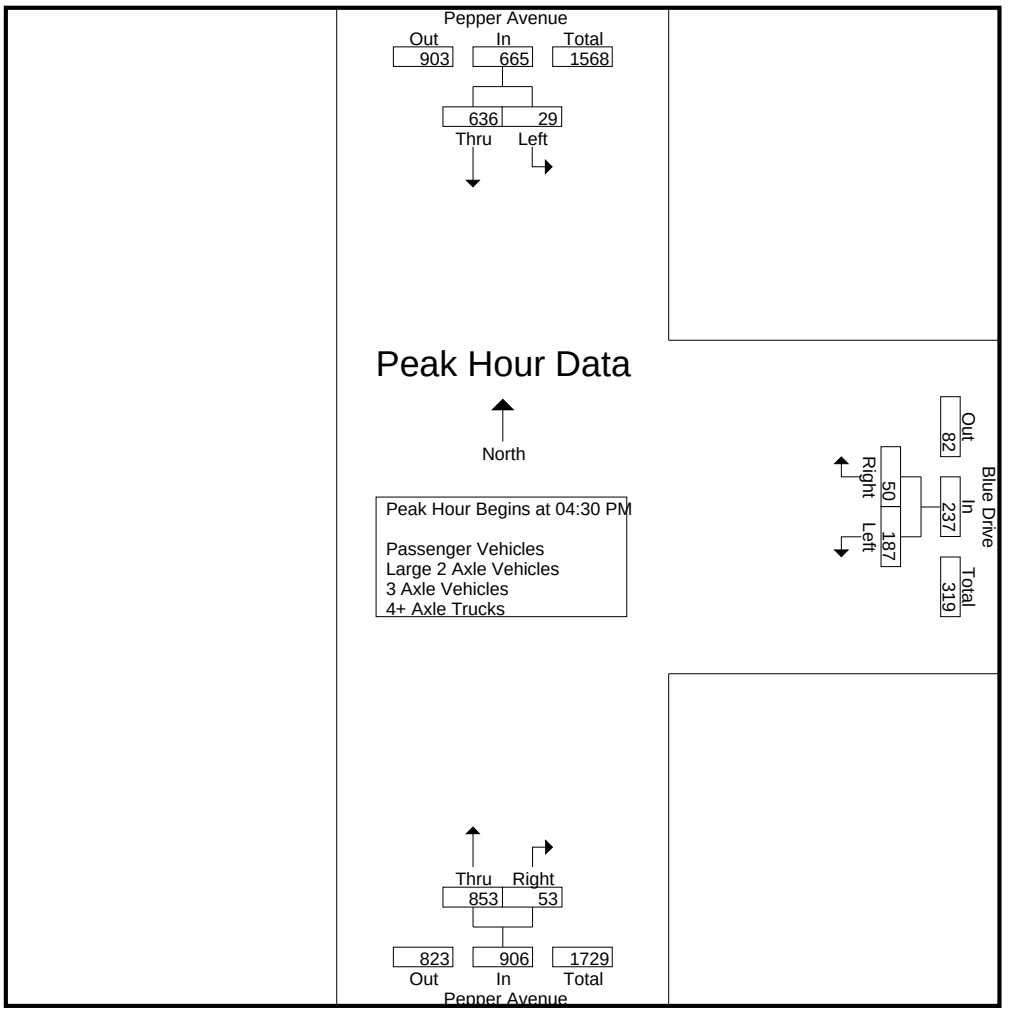
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	11	178	189	56	14	70	188	13	201	460
04:15 PM	8	154	162	33	13	46	170	15	185	393
04:30 PM	14	154	168	49	16	65	208	12	220	453
04:45 PM	6	157	163	41	14	55	237	12	249	467
Total	39	643	682	179	57	236	803	52	855	1773
05:00 PM	6	176	182	57	12	69	200	10	210	461
05:15 PM	3	149	152	40	8	48	208	19	227	427
05:30 PM	8	134	142	34	8	42	205	12	217	401
05:45 PM	3	144	147	30	8	38	209	18	227	412
Total	20	603	623	161	36	197	822	59	881	1701
Grand Total	59	1246	1305	340	93	433	1625	111	1736	3474
Apprch %	4.5	95.5		78.5	21.5		93.6	6.4		
Total %	1.7	35.9	37.6	9.8	2.7	12.5	46.8	3.2	50	
Passenger Vehicles	54	1189	1243	331	89	420	1546	103	1649	3312
% Passenger Vehicles	91.5	95.4	95.2	97.4	95.7	97	95.1	92.8	95	95.3
Large 2 Axle Vehicles	5	13	18	9	4	13	18	8	26	57
% Large 2 Axle Vehicles	8.5	1	1.4	2.6	4.3	3	1.1	7.2	1.5	1.6
3 Axle Vehicles	0	25	25	0	0	0	11	0	11	36
% 3 Axle Vehicles	0	2	1.9	0	0	0	0.7	0	0.6	1
4+ Axle Trucks	0	19	19	0	0	0	50	0	50	69
% 4+ Axle Trucks	0	1.5	1.5	0	0	0	3.1	0	2.9	2

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**14**	154	168	49	**16**	65	208	12	220	453
04:45 PM	6	157	163	41	14	55	**237**	12	**249**	**467**
05:00 PM	6	**176**	**182**	**57**	12	**69**	200	10	210	461
05:15 PM	3	149	152	40	8	48	208	**19**	227	427
Total Volume	29	636	665	187	50	237	853	53	906	1808
% App. Total	4.4	95.6		78.9	21.1		94.2	5.8		
PHF	.518	.903	.913	.820	.781	.859	.900	.697	.910	.968

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:30 PM			04:30 PM		
+0 mins.	11	**178**	**189**	49	**16**	65	208	12	220
+15 mins.	8	154	162	41	14	55	**237**	12	**249**
+30 mins.	**14**	154	168	**57**	12	**69**	200	10	210
+45 mins.	6	157	163	40	8	48	208	**19**	227
Total Volume	39	643	682	187	50	237	853	53	906
% App. Total	5.7	94.3		78.9	21.1		94.2	5.8	
PHF	.696	.903	.902	.820	.781	.859	.900	.697	.910

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

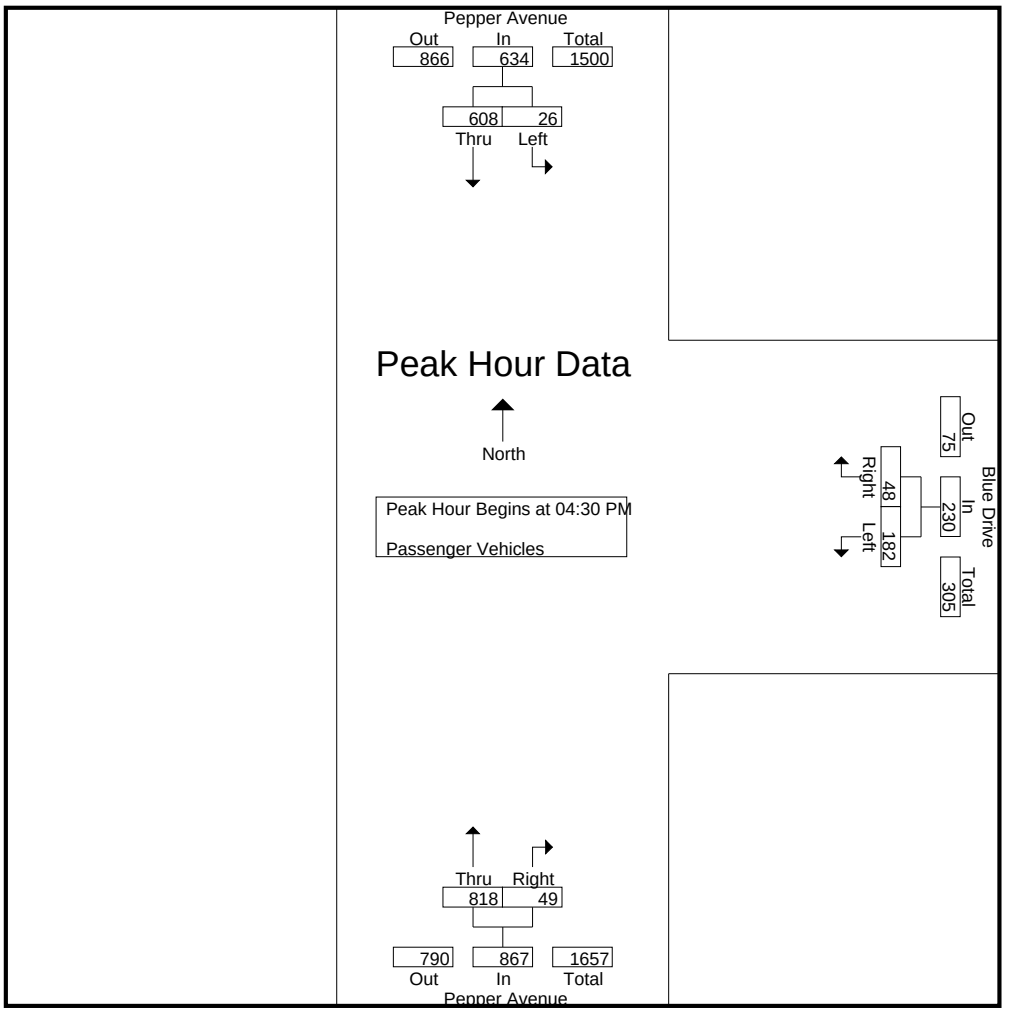
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	10	167	177	55	13	68	176	13	189	434
04:15 PM	8	147	155	32	13	45	159	13	172	372
04:30 PM	12	145	157	48	15	63	202	12	214	434
04:45 PM	6	148	154	39	14	53	228	10	238	445
Total	36	607	643	174	55	229	765	48	813	1685
05:00 PM	5	169	174	56	11	67	190	9	199	440
05:15 PM	3	146	149	39	8	47	198	18	216	412
05:30 PM	7	129	136	32	7	39	193	11	204	379
05:45 PM	3	138	141	30	8	38	200	17	217	396
Total	18	582	600	157	34	191	781	55	836	1627
Grand Total	54	1189	1243	331	89	420	1546	103	1649	3312
Apprch %	4.3	95.7		78.8	21.2		93.8	6.2		
Total %	1.6	35.9	37.5	10	2.7	12.7	46.7	3.1	49.8	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**12**	145	157	48	**15**	63	202	12	214	434
04:45 PM	6	148	154	39	14	53	**228**	10	**238**	**445**
05:00 PM	5	**169**	**174**	**56**	11	**67**	190	9	199	440
05:15 PM	3	146	149	39	8	47	198	**18**	216	412
Total Volume	26	608	634	182	48	230	818	49	867	1731
% App. Total	4.1	95.9		79.1	20.9		94.3	5.7		
PHF	.542	.899	.911	.813	.800	.858	.897	.681	.911	.972

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**12**	145	157	48	**15**	63	202	12	214
+15 mins.	6	148	154	39	14	53	**228**	10	**238**
+30 mins.	5	**169**	**174**	**56**	11	**67**	190	9	199
+45 mins.	3	146	149	39	8	47	198	**18**	216
Total Volume	26	608	634	182	48	230	818	49	867
% App. Total	4.1	95.9		79.1	20.9		94.3	5.7	
PHF	.542	.899	.911	.813	.800	.858	.897	.681	.911

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

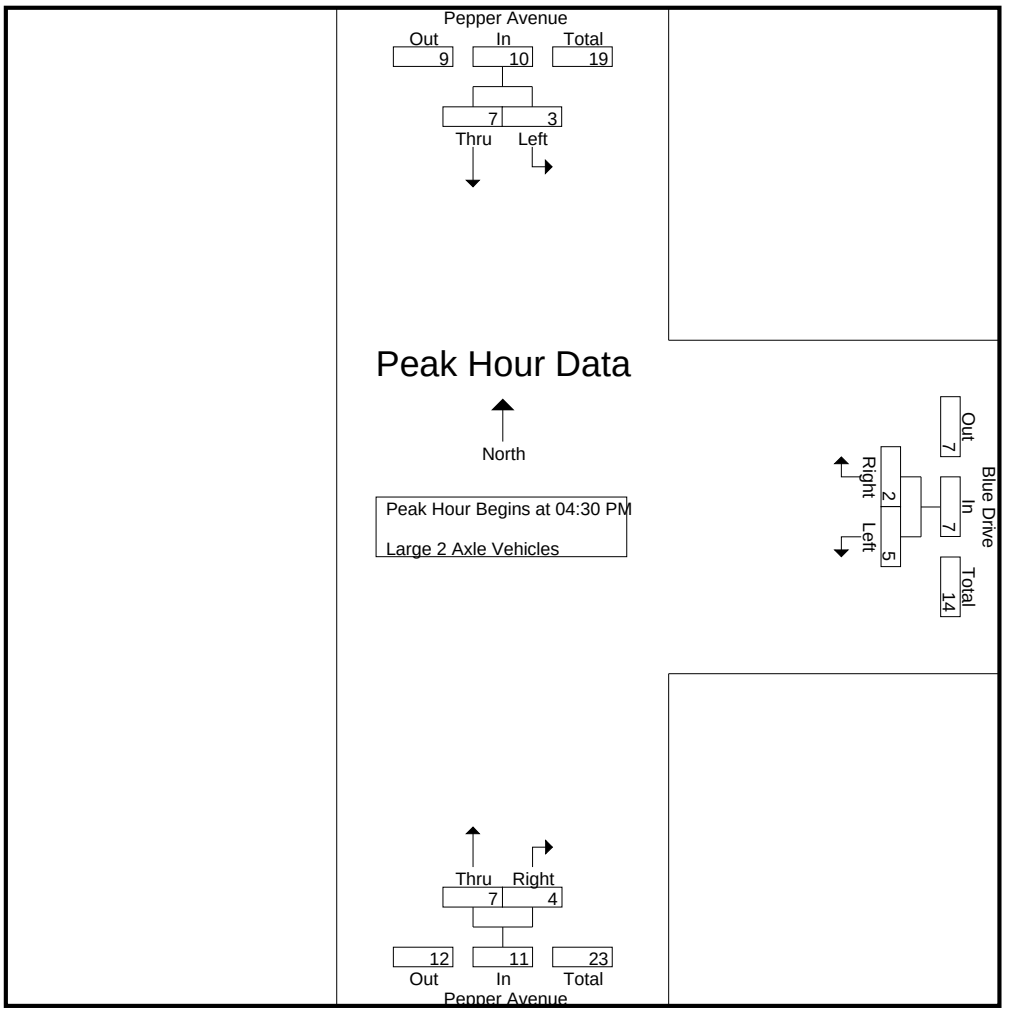
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	1	4	5	1	1	2	4	0	4	11
04:15 PM	0	0	0	1	0	1	2	2	4	5
04:30 PM	2	3	5	1	1	2	3	0	3	10
04:45 PM	0	2	2	2	0	2	2	2	4	8
Total	3	9	12	5	2	7	11	4	15	34
05:00 PM	1	1	2	1	1	2	1	1	2	6
05:15 PM	0	1	1	1	0	1	1	1	2	4
05:30 PM	1	1	2	2	1	3	3	1	4	9
05:45 PM	0	1	1	0	0	0	2	1	3	4
Total	2	4	6	4	2	6	7	4	11	23
Grand Total	5	13	18	9	4	13	18	8	26	57
Apprch %	27.8	72.2		69.2	30.8		69.2	30.8		
Total %	8.8	22.8	31.6	15.8	7	22.8	31.6	14	45.6	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**2**	**3**	**5**	1	**1**	**2**	**3**	0	3	**10**
04:45 PM	0	2	2	**2**	0	2	2	**2**	**4**	8
05:00 PM	1	1	2	1	1	2	1	1	2	6
05:15 PM	0	1	1	1	0	1	1	1	2	4
Total Volume	3	7	10	5	2	7	7	4	11	28
% App. Total	30	70		71.4	28.6		63.6	36.4		
PHF	.375	.583	.500	.625	.500	.875	.583	.500	.688	.700

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**2**	**3**	**5**	1	**1**	**2**	**3**	0	3
+15 mins.	0	2	2	**2**	0	2	2	**2**	**4**
+30 mins.	1	1	2	1	1	2	1	1	2
+45 mins.	0	1	1	1	0	1	1	1	2
Total Volume	3	7	10	5	2	7	7	4	11
% App. Total	30	70		71.4	28.6		63.6	36.4	
PHF	.375	.583	.500	.625	.500	.875	.583	.500	.688

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

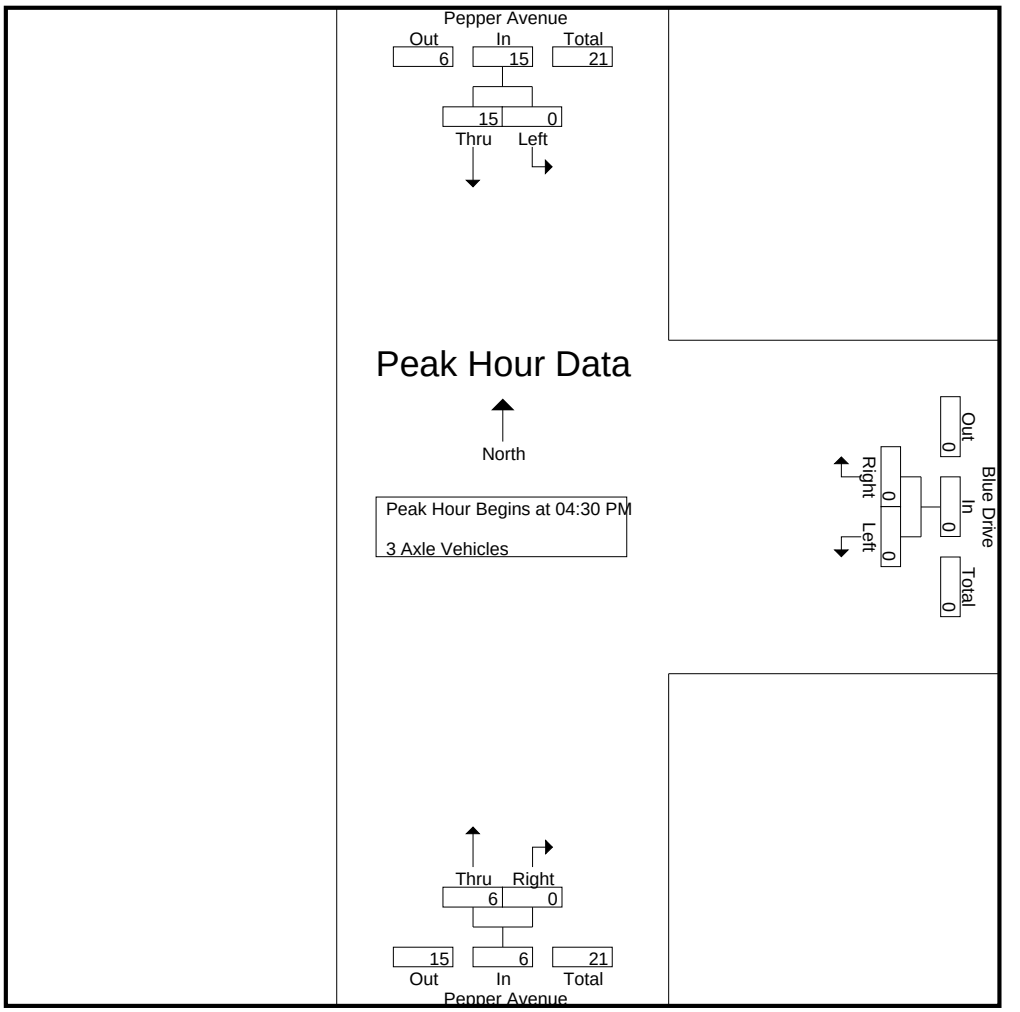
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	3	3	0	0	0	1	0	1	4
04:15 PM	0	4	4	0	0	0	2	0	2	6
04:30 PM	0	4	4	0	0	0	0	0	0	4
04:45 PM	0	7	7	0	0	0	3	0	3	10
Total	0	18	18	0	0	0	6	0	6	24
05:00 PM	0	4	4	0	0	0	2	0	2	6
05:15 PM	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	2	2	0	0	0	1	0	1	3
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	7	7	0	0	0	5	0	5	12
Grand Total	0	25	25	0	0	0	11	0	11	36
Apprch %	0	100		0	0		100	0		
Total %	0	69.4	69.4	0	0	0	30.6	0	30.6	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	4	4	0	0	0	0	0	0	4
04:45 PM	0	**7**	**7**	0	0	0	**3**	0	**3**	**10**
05:00 PM	0	4	4	0	0	0	2	0	2	6
05:15 PM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	15	15	0	0	0	6	0	6	21
% App. Total	0	100		0	0		100	0		
PHF	.000	.536	.536	.000	.000	.000	.500	.000	.500	.525

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	4	4	0	0	0	0	0	0
+15 mins.	0	**7**	**7**	0	0	0	**3**	0	**3**
+30 mins.	0	4	4	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	0	15	15	0	0	0	6	0	6
% App. Total	0	100		0	0		100	0	
PHF	.000	.536	.536	.000	.000	.000	.500	.000	.500

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

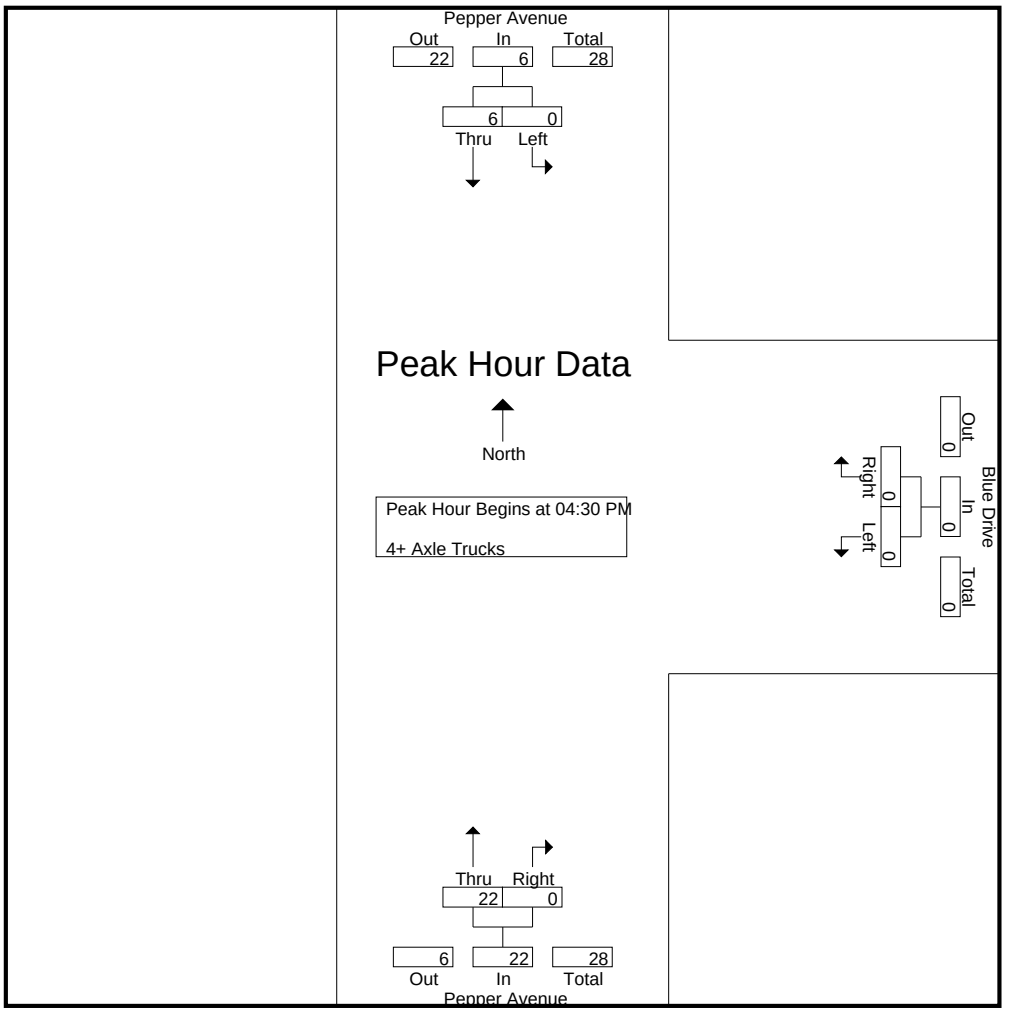
	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	4	4	0	0	0	7	0	7	11
04:15 PM	0	3	3	0	0	0	7	0	7	10
04:30 PM	0	2	2	0	0	0	3	0	3	5
04:45 PM	0	0	0	0	0	0	4	0	4	4
Total	0	9	9	0	0	0	21	0	21	30
05:00 PM	0	2	2	0	0	0	7	0	7	9
05:15 PM	0	2	2	0	0	0	8	0	8	10
05:30 PM	0	2	2	0	0	0	8	0	8	10
05:45 PM	0	4	4	0	0	0	6	0	6	10
Total	0	10	10	0	0	0	29	0	29	39
Grand Total	0	19	19	0	0	0	50	0	50	69
Apprch %	0	100		0	0		100	0		
Total %	0	27.5	27.5	0	0	0	72.5	0	72.5	

	Pepper Avenue Southbound			Blue Drive Westbound			Pepper Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**2**	**2**	0	0	0	3	0	3	5
04:45 PM	0	0	0	0	0	0	4	0	4	4
05:00 PM	0	2	2	0	0	0	7	0	7	9
05:15 PM	0	2	2	0	0	0	**8**	0	**8**	**10**
Total Volume	0	6	6	0	0	0	22	0	22	28
% App. Total	0	100		0	0		100	0		
PHF	.000	.750	.750	.000	.000	.000	.688	.000	.688	.700

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City of Colton
N/S: Pepper Avenue
E/W: Blue Drive
Weather: Clear

File Name : 01_COL_Pepper_Blue PM
Site Code : 07517586
Start Date : 9/13/2017



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	**2**	**2**	0	0	0	3	0	3
+15 mins.	0	0	0	0	0	0	4	0	4
+30 mins.	0	2	2	0	0	0	7	0	7
+45 mins.	0	2	2	0	0	0	**8**	0	**8**
Total Volume	0	6	6	0	0	0	22	0	22
% App. Total	0	100		0	0		100	0	
PHF	.000	.750	.750	.000	.000	.000	.688	.000	.688

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

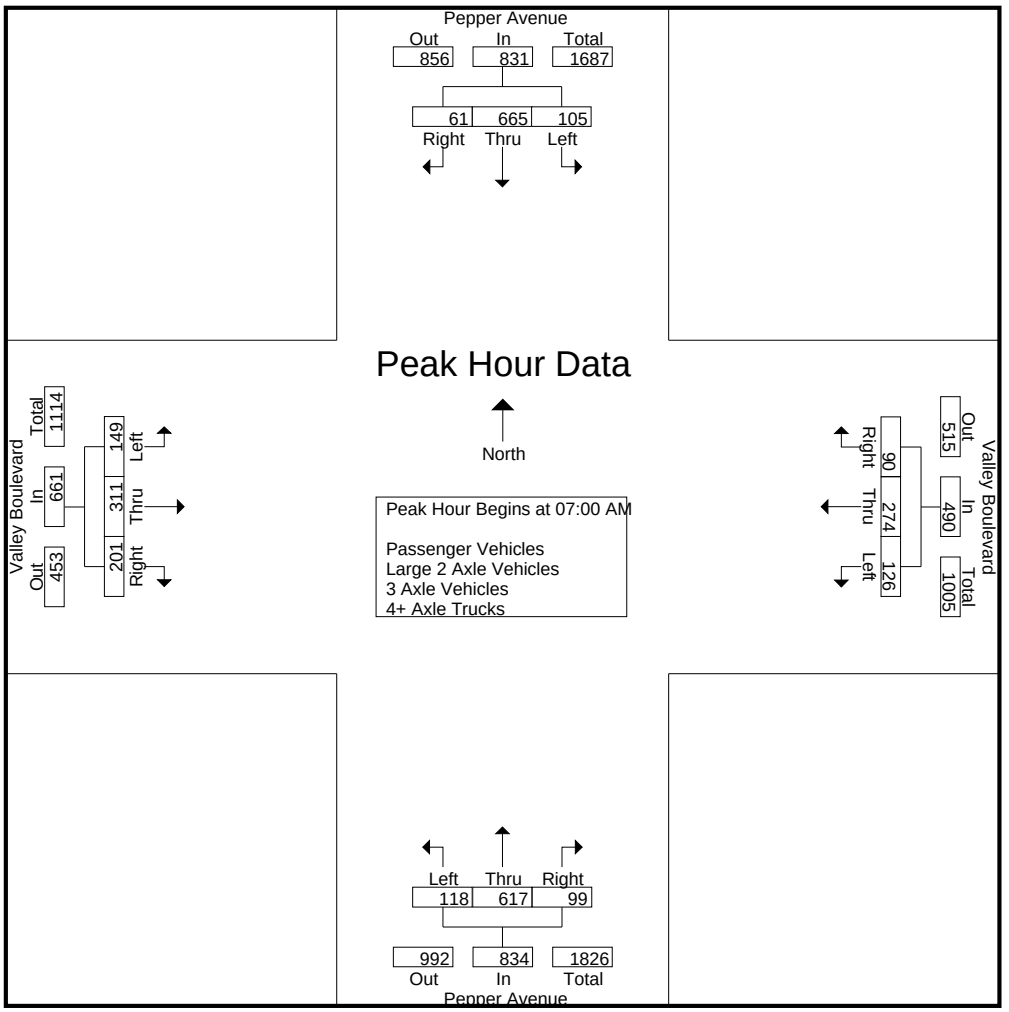
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	40	180	13	233	51	79	23	153	21	131	30	182	32	67	67	166	734
07:15 AM	24	173	19	216	29	73	18	120	31	136	34	201	31	69	38	138	675
07:30 AM	24	148	20	192	20	70	23	113	35	155	21	211	45	85	53	183	699
07:45 AM	17	164	9	190	26	52	26	104	31	195	14	240	41	90	43	174	708
Total	105	665	61	831	126	274	90	490	118	617	99	834	149	311	201	661	2816
08:00 AM	14	175	19	208	44	48	18	110	22	127	13	162	17	30	35	82	562
08:15 AM	22	143	21	186	24	51	24	99	38	157	27	222	33	73	50	156	663
08:30 AM	13	134	22	169	22	37	20	79	19	173	32	224	29	61	37	127	599
08:45 AM	9	142	21	172	18	53	15	86	24	143	16	183	18	26	28	72	513
Total	58	594	83	735	108	189	77	374	103	600	88	791	97	190	150	437	2337
Grand Total	163	1259	144	1566	234	463	167	864	221	1217	187	1625	246	501	351	1098	5153
Apprch %	10.4	80.4	9.2		27.1	53.6	19.3		13.6	74.9	11.5		22.4	45.6	32		
Total %	3.2	24.4	2.8	30.4	4.5	9	3.2	16.8	4.3	23.6	3.6	31.5	4.8	9.7	6.8	21.3	
Passenger Vehicles	162	1188	126	1476	230	450	157	837	205	1127	182	1514	224	493	335	1052	4879
% Passenger Vehicles	99.4	94.4	87.5	94.3	98.3	97.2	94	96.9	92.8	92.6	97.3	93.2	91.1	98.4	95.4	95.8	94.7
Large 2 Axle Vehicles	1	24	9	34	2	6	10	18	5	23	5	33	7	7	11	25	110
% Large 2 Axle Vehicles	0.6	1.9	6.2	2.2	0.9	1.3	6	2.1	2.3	1.9	2.7	2	2.8	1.4	3.1	2.3	2.1
3 Axle Vehicles	0	12	2	14	0	3	0	3	3	30	0	33	4	0	1	5	55
% 3 Axle Vehicles	0	1	1.4	0.9	0	0.6	0	0.3	1.4	2.5	0	2	1.6	0	0.3	0.5	1.1
4+ Axle Trucks	0	35	7	42	2	4	0	6	8	37	0	45	11	1	4	16	109
% 4+ Axle Trucks	0	2.8	4.9	2.7	0.9	0.9	0	0.7	3.6	3	0	2.8	4.5	0.2	1.1	1.5	2.1

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**40**	**180**	13	**233**	**51**	**79**	23	**153**	21	131	30	182	32	67	**67**	166	**734**
07:15 AM	24	173	19	216	29	73	18	120	31	136	**34**	201	31	69	38	138	675
07:30 AM	24	148	**20**	192	20	70	23	113	**35**	155	21	211	**45**	85	53	**183**	699
07:45 AM	17	164	9	190	26	52	**26**	104	31	**195**	14	**240**	41	**90**	43	174	708
Total Volume	105	665	61	831	126	274	90	490	118	617	99	834	149	311	201	661	2816
% App. Total	12.6	80	7.3		25.7	55.9	18.4		14.1	74	11.9		22.5	47	30.4		
PHF	.656	.924	.763	.892	.618	.867	.865	.801	.843	.791	.728	.869	.828	.864	.750	.903	.959

Counts Unlimited
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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:45 AM				07:00 AM			
+0 mins.	**40**	**180**	13	**233**	**51**	**79**	23	**153**	31	**195**	14	**240**	32	67	**67**	166
+15 mins.	24	173	19	216	29	73	18	120	22	127	13	162	31	69	38	138
+30 mins.	24	148	**20**	192	20	70	23	113	**38**	157	27	222	**45**	85	53	**183**
+45 mins.	17	164	9	190	26	52	**26**	104	19	173	**32**	224	41	**90**	43	174
Total Volume	105	665	61	831	126	274	90	490	110	652	86	848	149	311	201	661
% App. Total	12.6	80	7.3		25.7	55.9	18.4		13	76.9	10.1		22.5	47	30.4	
PHF	.656	.924	.763	.892	.618	.867	.865	.801	.724	.836	.672	.883	.828	.864	.750	.903

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- Passenger Vehicles

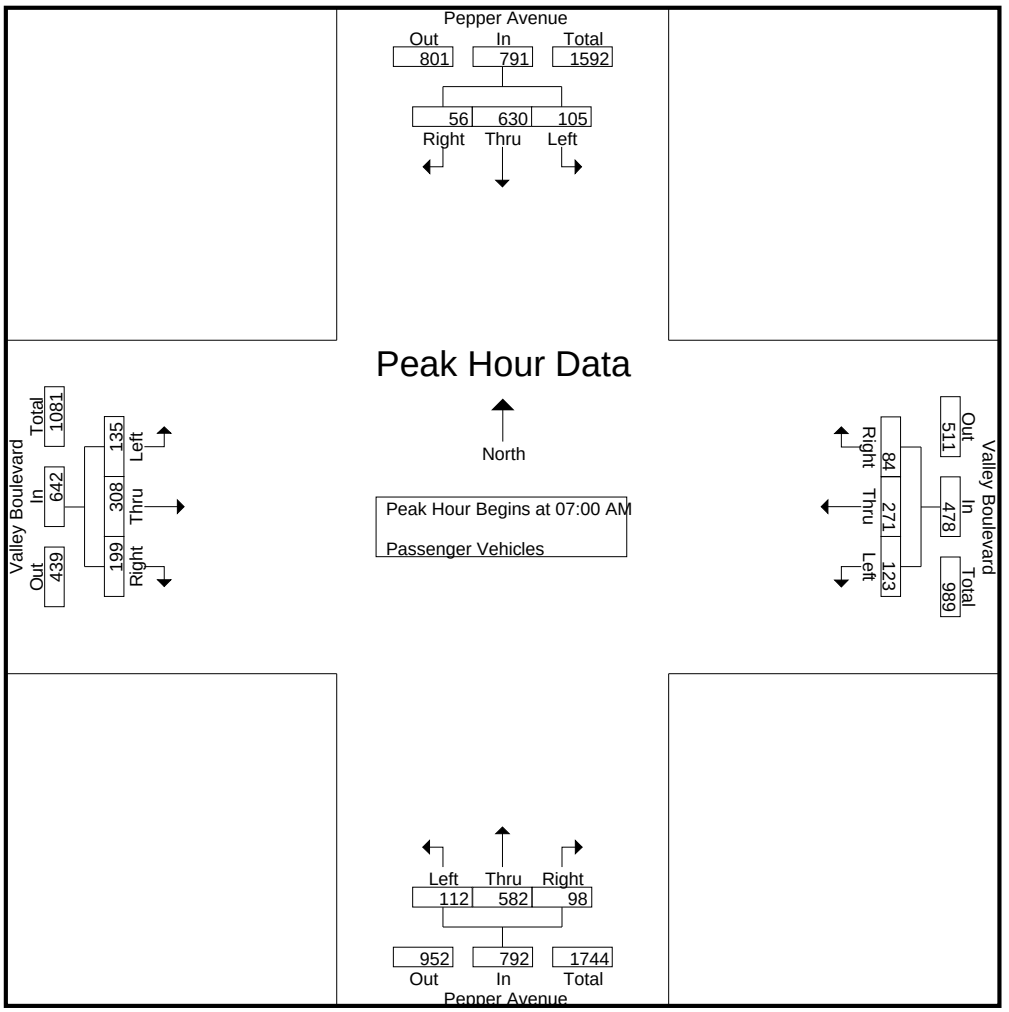
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	40	173	11	224	50	78	23	151	20	124	30	174	30	67	67	164	713
07:15 AM	24	165	19	208	29	71	15	115	30	124	34	188	28	68	38	134	645
07:30 AM	24	138	18	180	19	70	22	111	33	144	21	198	38	84	51	173	662
07:45 AM	17	154	8	179	25	52	24	101	29	190	13	232	39	89	43	171	683
Total	105	630	56	791	123	271	84	478	112	582	98	792	135	308	199	642	2703
08:00 AM	14	168	14	196	44	45	17	106	21	117	12	150	15	27	29	71	523
08:15 AM	21	131	20	172	23	48	23	94	35	142	25	202	31	71	48	150	618
08:30 AM	13	128	20	161	22	35	19	76	17	164	32	213	28	61	32	121	571
08:45 AM	9	131	16	156	18	51	14	83	20	122	15	157	15	26	27	68	464
Total	57	558	70	685	107	179	73	359	93	545	84	722	89	185	136	410	2176
Grand Total	162	1188	126	1476	230	450	157	837	205	1127	182	1514	224	493	335	1052	4879
Apprch %	11	80.5	8.5		27.5	53.8	18.8		13.5	74.4	12		21.3	46.9	31.8		
Total %	3.3	24.3	2.6	30.3	4.7	9.2	3.2	17.2	4.2	23.1	3.7	31	4.6	10.1	6.9	21.6	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**40**	**173**	11	**224**	**50**	**78**	23	**151**	20	124	30	174	30	67	**67**	164	**713**
07:15 AM	24	165	**19**	208	29	71	15	115	30	124	**34**	188	28	68	38	134	645
07:30 AM	24	138	18	180	19	70	22	111	**33**	144	21	198	38	84	51	**173**	662
07:45 AM	17	154	8	179	25	52	**24**	101	29	**190**	13	**232**	**39**	**89**	43	171	683
Total Volume	105	630	56	791	123	271	84	478	112	582	98	792	135	308	199	642	2703
% App. Total	13.3	79.6	7.1		25.7	56.7	17.6		14.1	73.5	12.4		21	48	31		
PHF	.656	.910	.737	.883	.615	.869	.875	.791	.848	.766	.721	.853	.865	.865	.743	.928	.948

Counts Unlimited
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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**40**	**173**	11	**224**	**50**	**78**	23	**151**	20	124	30	174	30	67	**67**	164
+15 mins.	24	165	**19**	208	29	71	15	115	30	124	**34**	188	28	68	38	134
+30 mins.	24	138	18	180	19	70	22	111	**33**	144	21	198	38	84	51	**173**
+45 mins.	17	154	8	179	25	52	**24**	101	29	**190**	13	**232**	**39**	**89**	43	171
Total Volume	105	630	56	791	123	271	84	478	112	582	98	792	135	308	199	642
% App. Total	13.3	79.6	7.1		25.7	56.7	17.6		14.1	73.5	12.4		21	48	31	
PHF	.656	.910	.737	.883	.615	.869	.875	.791	.848	.766	.721	.853	.865	.865	.743	.928

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

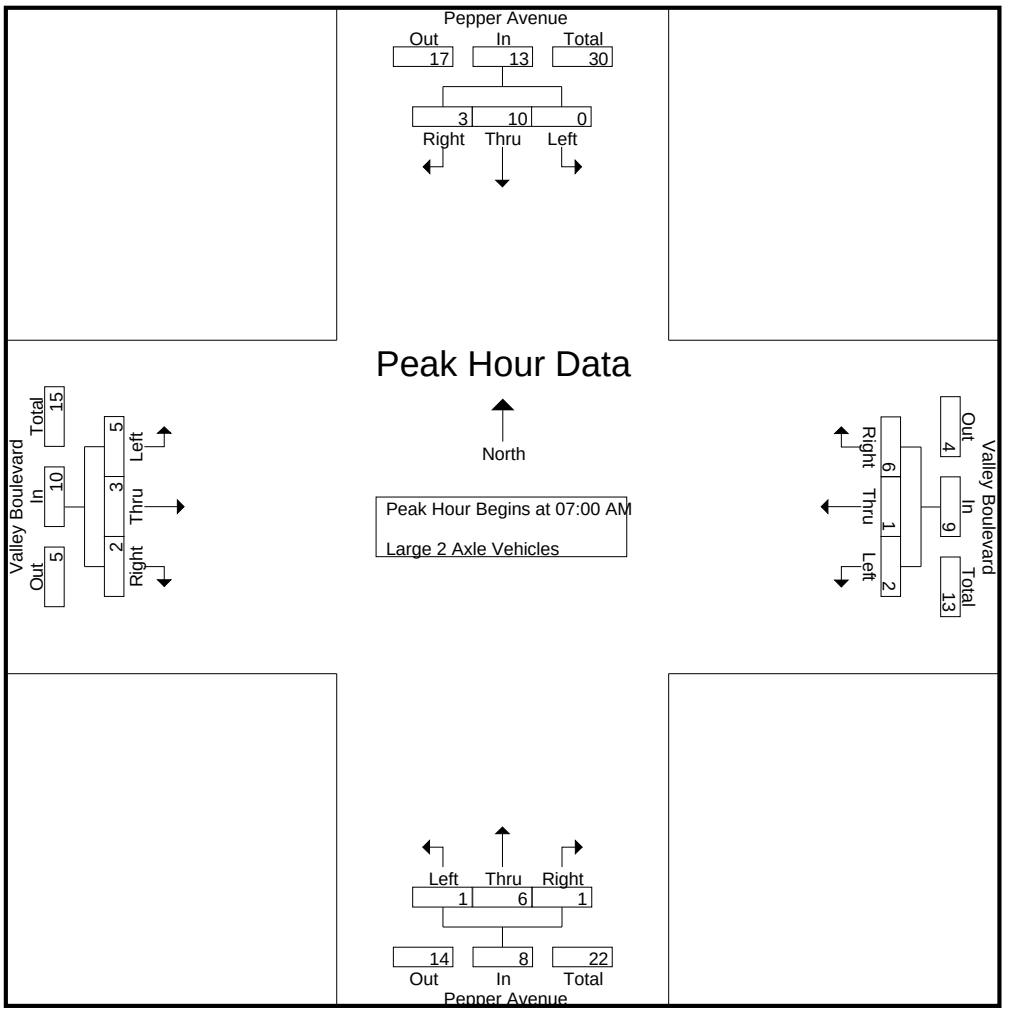
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	1	3	1	0	0	1	0	3	0	3	1	0	0	1	8
07:15 AM	0	3	0	3	0	1	3	4	1	0	0	1	1	1	0	2	10
07:30 AM	0	2	2	4	0	0	1	1	0	2	0	2	3	1	2	6	13
07:45 AM	0	3	0	3	1	0	2	3	0	1	1	2	0	1	0	1	9
Total	0	10	3	13	2	1	6	9	1	6	1	8	5	3	2	10	40
08:00 AM	0	1	3	4	0	2	1	3	1	5	1	7	1	3	5	9	23
08:15 AM	1	5	1	7	0	1	1	2	1	5	2	8	1	1	2	4	21
08:30 AM	0	2	1	3	0	0	1	1	0	1	0	1	0	0	2	2	7
08:45 AM	0	6	1	7	0	2	1	3	2	6	1	9	0	0	0	0	19
Total	1	14	6	21	0	5	4	9	4	17	4	25	2	4	9	15	70
Grand Total	1	24	9	34	2	6	10	18	5	23	5	33	7	7	11	25	110
Apprch %	2.9	70.6	26.5		11.1	33.3	55.6		15.2	69.7	15.2		28	28	44		
Total %	0.9	21.8	8.2	30.9	1.8	5.5	9.1	16.4	4.5	20.9	4.5	30	6.4	6.4	10	22.7	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	2	1	3	**1**	0	0	1	0	**3**	0	**3**	1	0	0	1	8
07:15 AM	0	**3**	0	3	0	**1**	**3**	**4**	**1**	0	0	1	1	**1**	0	2	10
07:30 AM	0	2	**2**	**4**	0	0	1	1	0	2	0	2	**3**	1	**2**	**6**	**13**
07:45 AM	0	3	0	3	1	0	2	3	0	1	**1**	2	0	1	0	1	9
Total Volume	0	10	3	13	2	1	6	9	1	6	1	8	5	3	2	10	40
% App. Total	0	76.9	23.1		22.2	11.1	66.7		12.5	75	12.5		50	30	20		
PHF	.000	.833	.375	.813	.500	.250	.500	.563	.250	.500	.250	.667	.417	.750	.250	.417	.769

Counts Unlimited
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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	2	1	3	**1**	0	0	1	0	**3**	0	**3**	1	0	0	1
+15 mins.	0	**3**	0	3	0	**1**	**3**	**4**	**1**	0	0	1	1	**1**	0	2
+30 mins.	0	2	**2**	**4**	0	0	1	1	0	2	0	2	**3**	1	**2**	**6**
+45 mins.	0	3	0	3	1	0	2	3	0	1	**1**	2	0	1	0	1
Total Volume	0	10	3	13	2	1	6	9	1	6	1	8	5	3	2	10
% App. Total	0	76.9	23.1		22.2	11.1	66.7		12.5	75	12.5		50	30	20	
PHF	.000	.833	.375	.813	.500	.250	.500	.563	.250	.500	.250	.667	.417	.750	.250	.417

Counts Unlimited
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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

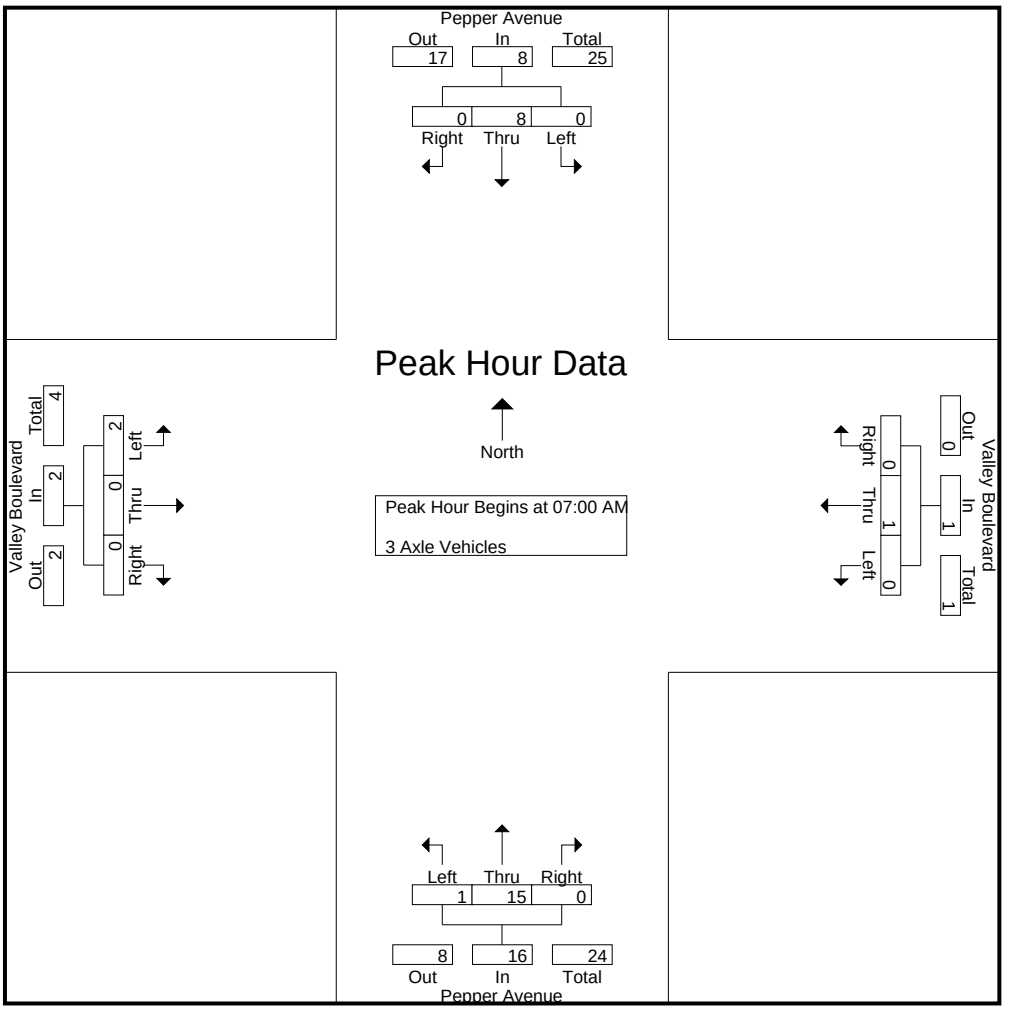
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	0	2	0	1	0	1	0	3	0	3	0	0	0	0	6
07:15 AM	0	1	0	1	0	0	0	0	0	4	0	4	2	0	0	2	7
07:30 AM	0	3	0	3	0	0	0	0	1	4	0	5	0	0	0	0	8
07:45 AM	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
Total	0	8	0	8	0	1	0	1	1	15	0	16	2	0	0	2	27
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	2	0	2	0	1	0	1	0	4	0	4	0	0	0	0	7
08:30 AM	0	2	0	2	0	1	0	1	1	4	0	5	1	0	1	2	10
08:45 AM	0	0	2	2	0	0	0	0	1	5	0	6	1	0	0	1	9
Total	0	4	2	6	0	2	0	2	2	15	0	17	2	0	1	3	28
Grand Total	0	12	2	14	0	3	0	3	3	30	0	33	4	0	1	5	55
Apprch %	0	85.7	14.3		0	100	0		9.1	90.9	0		80	0	20		
Total %	0	21.8	3.6	25.5	0	5.5	0	5.5	5.5	54.5	0	60	7.3	0	1.8	9.1	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	2	0	2	0	**1**	0	**1**	0	3	0	3	0	0	0	0	6
07:15 AM	0	1	0	1	0	0	0	0	0	**4**	0	4	**2**	0	0	**2**	7
07:30 AM	0	**3**	0	**3**	0	0	0	0	**1**	4	0	**5**	0	0	0	0	**8**
07:45 AM	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
Total Volume	0	8	0	8	0	1	0	1	1	15	0	16	2	0	0	2	27
% App. Total	0	100	0		0	100	0		6.2	93.8	0		100	0	0		
PHF	.000	.667	.000	.667	.000	.250	.000	.250	.250	.938	.000	.800	.250	.000	.000	.250	.844

Counts Unlimited
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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	2	0	2	0	**1**	0	**1**	0	3	0	3	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	**4**	0	4	**2**	0	0	**2**
+30 mins.	0	**3**	0	**3**	0	0	0	0	**1**	4	0	**5**	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0
Total Volume	0	8	0	8	0	1	0	1	1	15	0	16	2	0	0	2
% App. Total	0	100	0		0	100	0		6.2	93.8	0		100	0	0	
PHF	.000	.667	.000	.667	.000	.250	.000	.250	.250	.938	.000	.800	.250	.000	.000	.250

Counts Unlimited
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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

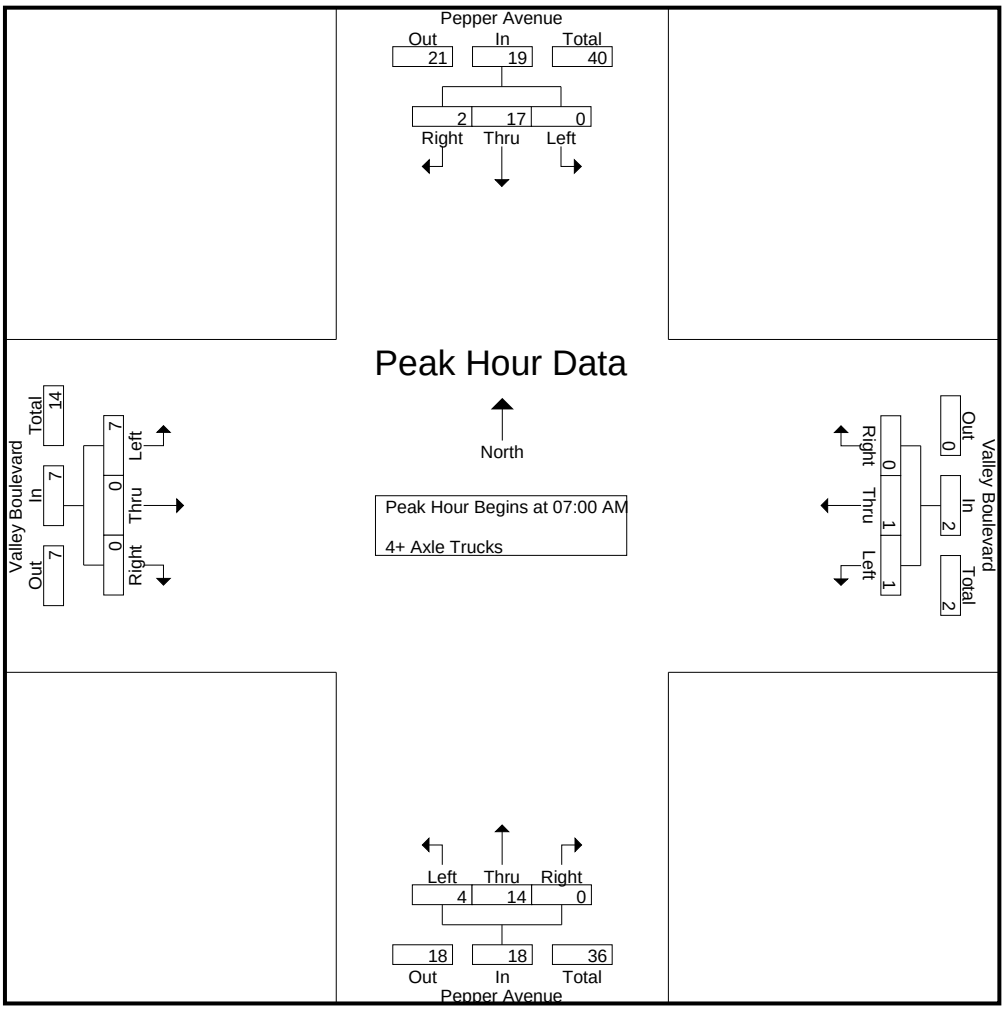
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	1	4	0	0	0	0	1	1	0	2	1	0	0	1	7
07:15 AM	0	4	0	4	0	1	0	1	0	8	0	8	0	0	0	0	13
07:30 AM	0	5	0	5	1	0	0	1	1	5	0	6	4	0	0	4	16
07:45 AM	0	5	1	6	0	0	0	0	2	0	0	2	2	0	0	2	10
Total	0	17	2	19	1	1	0	2	4	14	0	18	7	0	0	7	46
08:00 AM	0	6	2	8	0	1	0	1	0	3	0	3	1	0	1	2	14
08:15 AM	0	5	0	5	1	1	0	2	2	6	0	8	1	1	0	2	17
08:30 AM	0	2	1	3	0	1	0	1	1	4	0	5	0	0	2	2	11
08:45 AM	0	5	2	7	0	0	0	0	1	10	0	11	2	0	1	3	21
Total	0	18	5	23	1	3	0	4	4	23	0	27	4	1	4	9	63
Grand Total	0	35	7	42	2	4	0	6	8	37	0	45	11	1	4	16	109
Apprch %	0	83.3	16.7		33.3	66.7	0		17.8	82.2	0		68.8	6.2	25		
Total %	0	32.1	6.4	38.5	1.8	3.7	0	5.5	7.3	33.9	0	41.3	10.1	0.9	3.7	14.7	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	3	**1**	4	0	0	0	0	1	1	0	2	1	0	0	1	7
07:15 AM	0	4	0	4	0	**1**	0	**1**	0	**8**	0	**8**	0	0	0	0	13
07:30 AM	0	**5**	0	5	**1**	0	0	1	1	5	0	6	**4**	0	0	**4**	**16**
07:45 AM	0	5	1	**6**	0	0	0	0	**2**	0	0	2	2	0	0	2	10
Total Volume	0	17	2	19	1	1	0	2	4	14	0	18	7	0	0	7	46
% App. Total	0	89.5	10.5		50	50	0		22.2	77.8	0		100	0	0		
PHF	.000	.850	.500	.792	.250	.250	.000	.500	.500	.438	.000	.563	.438	.000	.000	.438	.719

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAAM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	3	**1**	4	0	0	0	0	1	1	0	2	1	0	0	1
+15 mins.	0	4	0	4	0	**1**	0	**1**	0	**8**	0	**8**	0	0	0	0
+30 mins.	0	**5**	0	5	**1**	0	0	1	1	5	0	6	**4**	0	0	**4**
+45 mins.	0	5	1	**6**	0	0	0	0	**2**	0	0	2	2	0	0	2
Total Volume	0	17	2	19	1	1	0	2	4	14	0	18	7	0	0	7
% App. Total	0	89.5	10.5		50	50	0		22.2	77.8	0		100	0	0	
PHF	.000	.850	.500	.792	.250	.250	.000	.500	.500	.438	.000	.563	.438	.000	.000	.438

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

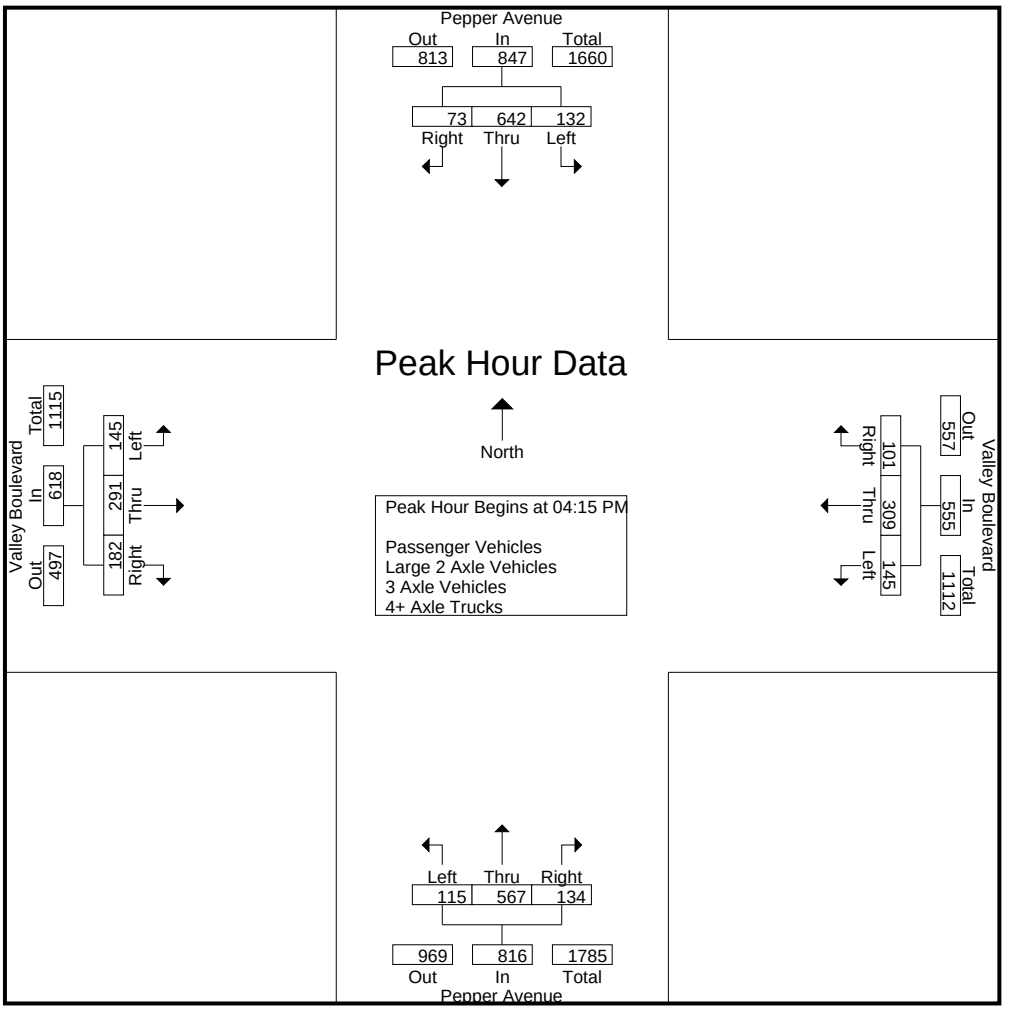
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	36	160	11	207	46	83	32	161	23	130	30	183	39	60	31	130	681
04:15 PM	44	168	15	227	55	88	36	179	26	135	39	200	36	72	23	131	737
04:30 PM	40	171	18	229	41	76	23	140	24	137	31	192	29	66	70	165	726
04:45 PM	23	158	19	200	29	72	20	121	31	138	42	211	30	68	37	135	667
Total	143	657	63	863	171	319	111	601	104	540	142	786	134	266	161	561	2811
05:00 PM	25	145	21	191	20	73	22	115	34	157	22	213	50	85	52	187	706
05:15 PM	19	147	9	175	29	53	30	112	32	187	15	234	39	91	41	171	692
05:30 PM	22	147	22	191	25	49	24	98	38	158	33	229	32	71	50	153	671
05:45 PM	14	129	20	163	21	38	20	79	19	171	33	223	27	60	33	120	585
Total	80	568	72	720	95	213	96	404	123	673	103	899	148	307	176	631	2654
Grand Total	223	1225	135	1583	266	532	207	1005	227	1213	245	1685	282	573	337	1192	5465
Apprch %	14.1	77.4	8.5		26.5	52.9	20.6		13.5	72	14.5		23.7	48.1	28.3		
Total %	4.1	22.4	2.5	29	4.9	9.7	3.8	18.4	4.2	22.2	4.5	30.8	5.2	10.5	6.2	21.8	
Passenger Vehicles	220	1167	121	1508	260	522	197	979	211	1157	242	1610	255	563	325	1143	5240
% Passenger Vehicles	98.7	95.3	89.6	95.3	97.7	98.1	95.2	97.4	93	95.4	98.8	95.5	90.4	98.3	96.4	95.9	95.9
Large 2 Axle Vehicles	3	15	6	24	3	6	10	19	6	13	3	22	9	5	8	22	87
% Large 2 Axle Vehicles	1.3	1.2	4.4	1.5	1.1	1.1	4.8	1.9	2.6	1.1	1.2	1.3	3.2	0.9	2.4	1.8	1.6
3 Axle Vehicles	0	4	3	7	0	0	0	0	0	10	0	10	4	1	1	6	23
% 3 Axle Vehicles	0	0.3	2.2	0.4	0	0	0	0	0	0.8	0	0.6	1.4	0.2	0.3	0.5	0.4
4+ Axle Trucks	0	39	5	44	3	4	0	7	10	33	0	43	14	4	3	21	115
% 4+ Axle Trucks	0	3.2	3.7	2.8	1.1	0.8	0	0.7	4.4	2.7	0	2.6	5	0.7	0.9	1.8	2.1

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**44**	168	15	227	**55**	**88**	**36**	**179**	26	135	39	200	36	72	23	131	**737**
04:30 PM	40	**171**	18	**229**	41	76	23	140	24	137	31	192	29	66	**70**	165	726
04:45 PM	23	158	19	200	29	72	20	121	31	138	**42**	211	30	68	37	135	667
05:00 PM	25	145	**21**	191	20	73	22	115	**34**	**157**	22	**213**	**50**	**85**	52	**187**	706
Total Volume	132	642	73	847	145	309	101	555	115	567	134	816	145	291	182	618	2836
% App. Total	15.6	75.8	8.6		26.1	55.7	18.2		14.1	69.5	16.4		23.5	47.1	29.4		
PHF	.750	.939	.869	.925	.659	.878	.701	.775	.846	.903	.798	.958	.725	.856	.650	.826	.962

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				05:00 PM				04:30 PM			
+0 mins.	36	160	11	207	46	83	32	161	34	157	22	213	29	66	**70**	165
+15 mins.	**44**	168	15	227	**55**	**88**	**36**	**179**	32	**187**	15	**234**	30	68	37	135
+30 mins.	40	**171**	18	**229**	41	76	23	140	**38**	158	**33**	229	**50**	85	52	**187**
+45 mins.	23	158	**19**	200	29	72	20	121	19	171	33	223	39	**91**	41	171
Total Volume	143	657	63	863	171	319	111	601	123	673	103	899	148	310	200	658
% App. Total	16.6	76.1	7.3		28.5	53.1	18.5		13.7	74.9	11.5		22.5	47.1	30.4	
PHF	.813	.961	.829	.942	.777	.906	.771	.839	.809	.900	.780	.960	.740	.852	.714	.880

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- Passenger Vehicles

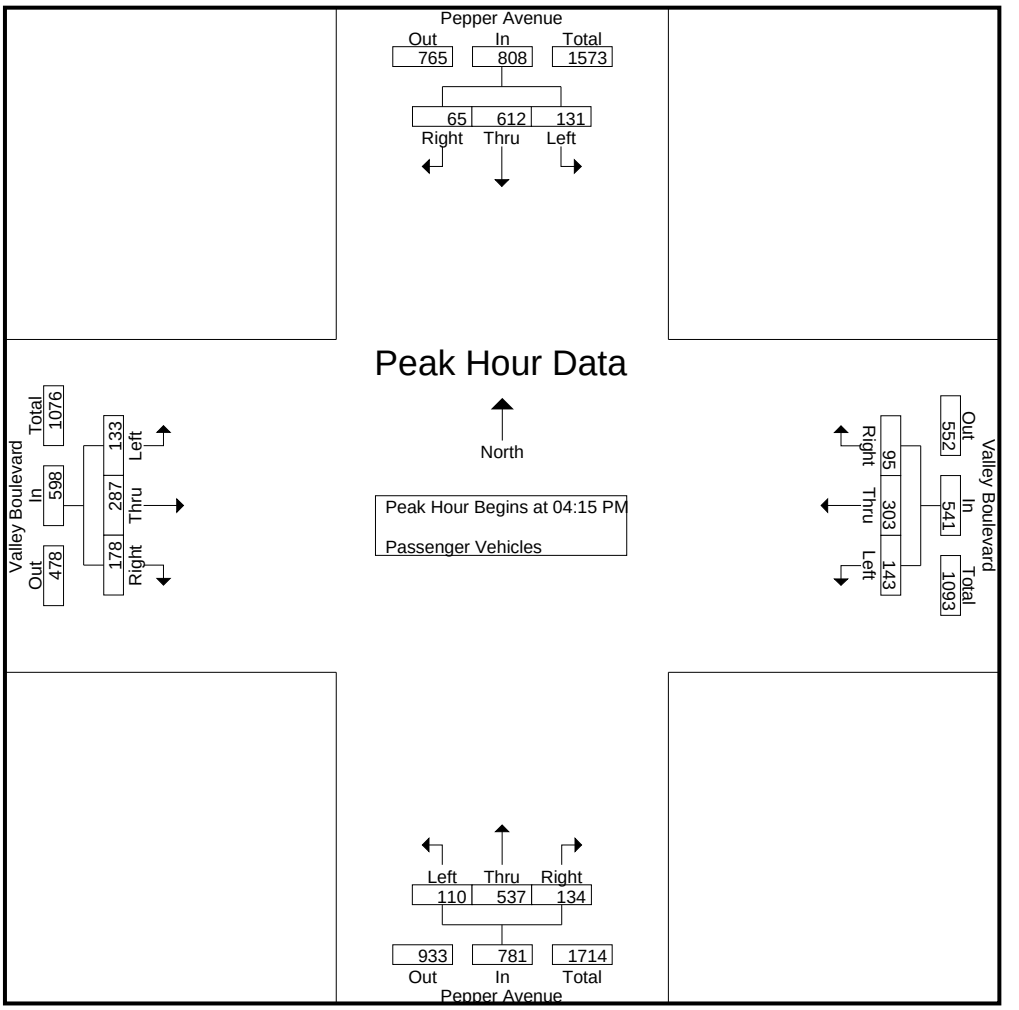
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	34	152	10	196	44	82	32	158	19	124	29	172	30	57	29	116	642
04:15 PM	44	158	12	214	55	85	34	174	24	127	39	190	34	69	23	126	704
04:30 PM	40	166	16	222	40	76	23	139	23	131	31	185	27	66	69	162	708
04:45 PM	23	149	18	190	29	69	17	115	30	129	42	201	30	68	37	135	641
Total	141	625	56	822	168	312	106	586	96	511	141	748	121	260	158	539	2695
05:00 PM	24	139	19	182	19	73	21	113	33	150	22	205	42	84	49	175	675
05:15 PM	19	140	8	167	28	53	28	109	29	186	14	229	35	89	41	165	670
05:30 PM	22	138	20	180	24	47	23	94	35	145	32	212	30	70	48	148	634
05:45 PM	14	125	18	157	21	37	19	77	18	165	33	216	27	60	29	116	566
Total	79	542	65	686	92	210	91	393	115	646	101	862	134	303	167	604	2545
Grand Total	220	1167	121	1508	260	522	197	979	211	1157	242	1610	255	563	325	1143	5240
Apprch %	14.6	77.4	8		26.6	53.3	20.1		13.1	71.9	15		22.3	49.3	28.4		
Total %	4.2	22.3	2.3	28.8	5	10	3.8	18.7	4	22.1	4.6	30.7	4.9	10.7	6.2	21.8	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**44**	158	12	214	**55**	**85**	**34**	**174**	24	127	39	190	34	69	23	126	704
04:30 PM	40	**166**	16	**222**	40	76	23	139	23	131	31	185	27	66	**69**	162	**708**
04:45 PM	23	149	18	190	29	69	17	115	30	129	**42**	201	30	68	37	135	641
05:00 PM	24	139	**19**	182	19	73	21	113	**33**	**150**	22	**205**	**42**	**84**	49	**175**	675
Total Volume	131	612	65	808	143	303	95	541	110	537	134	781	133	287	178	598	2728
% App. Total	16.2	75.7	8		26.4	56	17.6		14.1	68.8	17.2		22.2	48	29.8		
PHF	.744	.922	.855	.910	.650	.891	.699	.777	.833	.895	.798	.952	.792	.854	.645	.854	.963

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	**44**	158	12	214	**55**	**85**	**34**	**174**	24	127	39	190	34	69	23	126
+15 mins.	40	**166**	16	**222**	40	76	23	139	23	131	31	185	27	66	**69**	162
+30 mins.	23	149	18	190	29	69	17	115	30	129	**42**	201	30	68	37	135
+45 mins.	24	139	**19**	182	19	73	21	113	**33**	**150**	22	**205**	**42**	**84**	49	**175**
Total Volume	131	612	65	808	143	303	95	541	110	537	134	781	133	287	178	598
% App. Total	16.2	75.7	8		26.4	56	17.6		14.1	68.8	17.2		22.2	48	29.8	
PHF	.744	.922	.855	.910	.650	.891	.699	.777	.833	.895	.798	.952	.792	.854	.645	.854

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

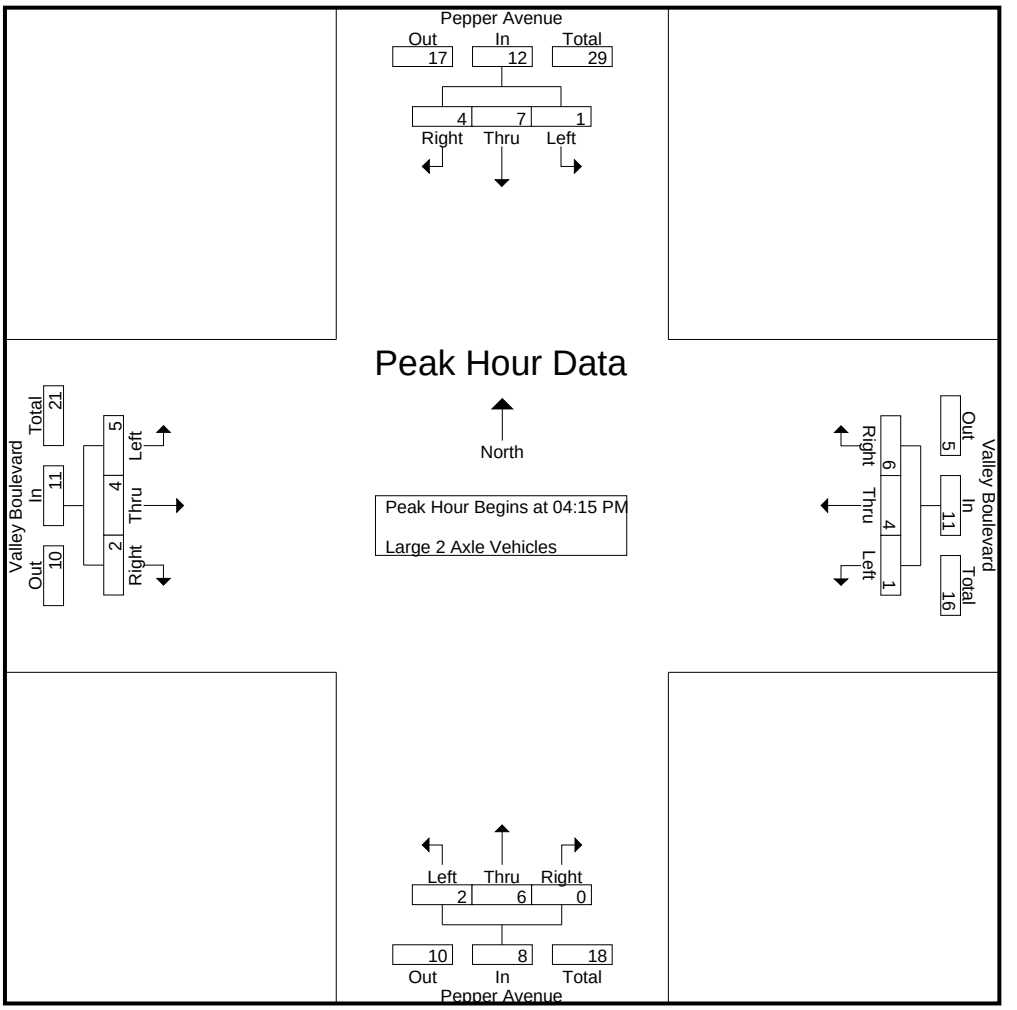
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	0	0	2	1	1	0	2	2	0	1	3	1	0	2	3	10
04:15 PM	0	1	2	3	0	2	2	4	1	1	0	2	0	3	0	3	12
04:30 PM	0	2	1	3	1	0	0	1	0	3	0	3	1	0	0	1	8
04:45 PM	0	3	0	3	0	2	3	5	1	0	0	1	0	0	0	0	9
Total	2	6	3	11	2	5	5	12	4	4	1	9	2	3	2	7	39
05:00 PM	1	1	1	3	0	0	1	1	0	2	0	2	4	1	2	7	13
05:15 PM	0	2	0	2	1	0	2	3	1	1	1	3	1	1	0	2	10
05:30 PM	0	4	1	5	0	1	1	2	1	6	1	8	2	0	2	4	19
05:45 PM	0	2	1	3	0	0	1	1	0	0	0	0	0	0	2	2	6
Total	1	9	3	13	1	1	5	7	2	9	2	13	7	2	6	15	48
Grand Total	3	15	6	24	3	6	10	19	6	13	3	22	9	5	8	22	87
Apprch %	12.5	62.5	25		15.8	31.6	52.6		27.3	59.1	13.6		40.9	22.7	36.4		
Total %	3.4	17.2	6.9	27.6	3.4	6.9	11.5	21.8	6.9	14.9	3.4	25.3	10.3	5.7	9.2	25.3	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	1	**2**	**3**	0	**2**	2	4	**1**	1	0	2	0	**3**	0	3	12
04:30 PM	0	2	1	3	**1**	0	0	1	0	**3**	0	**3**	1	0	0	1	8
04:45 PM	0	**3**	0	3	0	2	**3**	**5**	1	0	0	1	0	0	0	0	9
05:00 PM	**1**	1	1	3	0	0	1	1	0	2	0	2	**4**	1	**2**	**7**	**13**
Total Volume	1	7	4	12	1	4	6	11	2	6	0	8	5	4	2	11	42
% App. Total	8.3	58.3	33.3		9.1	36.4	54.5		25	75	0		45.5	36.4	18.2		
PHF	.250	.583	.500	1.00	.250	.500	.500	.550	.500	.500	.000	.667	.313	.333	.250	.393	.808

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	1	**2**	**3**	0	**2**	2	4	**1**	1	0	2	0	**3**	0	3
+15 mins.	0	2	1	3	**1**	0	0	1	0	**3**	0	**3**	1	0	0	1
+30 mins.	0	**3**	0	3	0	2	**3**	**5**	1	0	0	1	0	0	0	0
+45 mins.	**1**	1	1	3	0	0	1	1	0	2	0	2	**4**	1	**2**	**7**
Total Volume	1	7	4	12	1	4	6	11	2	6	0	8	5	4	2	11
% App. Total	8.3	58.3	33.3		9.1	36.4	54.5		25	75	0		45.5	36.4	18.2	
PHF	.250	.583	.500	1.000	.250	.500	.500	.550	.500	.500	.000	.667	.313	.333	.250	.393

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

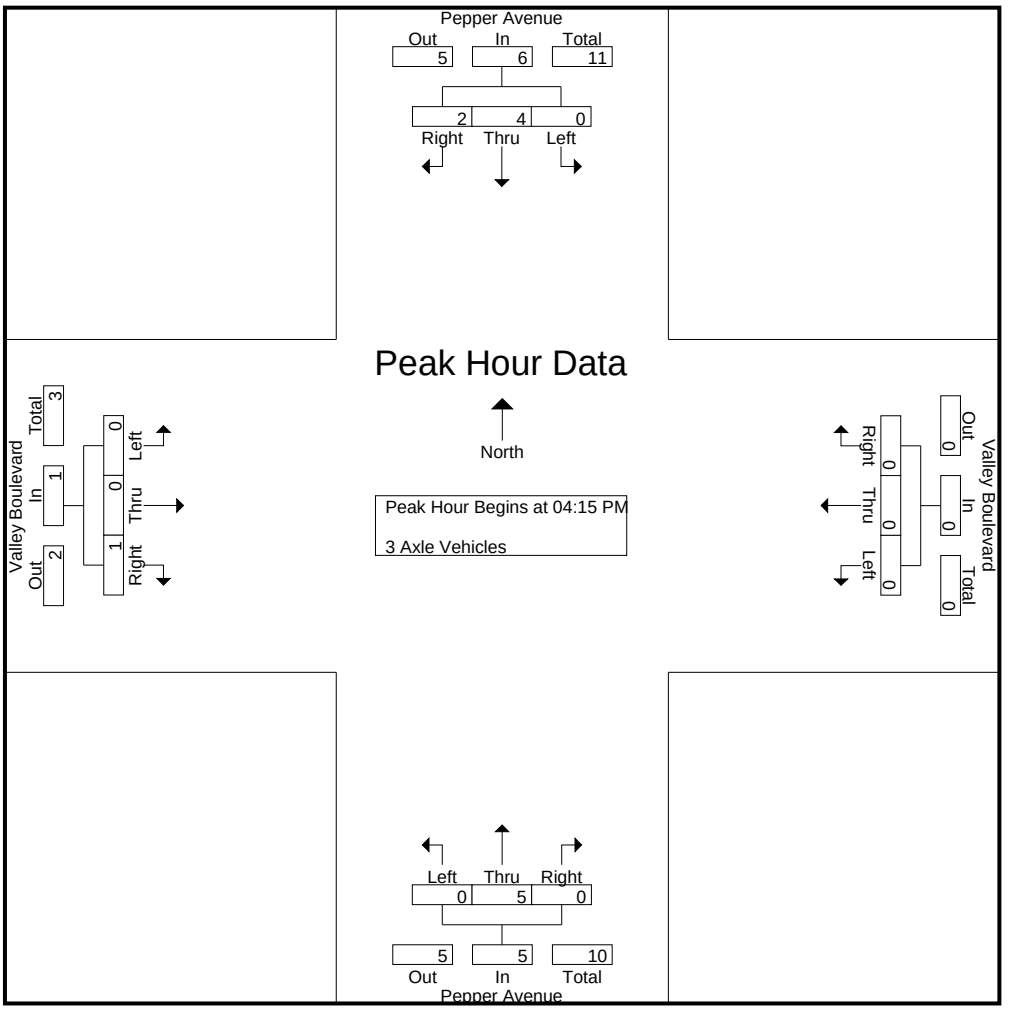
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	3	0	0	3	5
04:15 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
04:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	3
04:45 PM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Total	0	4	1	5	0	0	0	0	0	6	0	6	3	0	1	4	15
05:00 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
05:30 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	0	2	2	0	0	0	0	0	4	0	4	1	1	0	2	8
Grand Total	0	4	3	7	0	0	0	0	0	10	0	10	4	1	1	6	23
Apprch %	0	57.1	42.9		0	0	0		0	100	0		66.7	16.7	16.7		
Total %	0	17.4	13	30.4	0	0	0	0	0	43.5	0	43.5	17.4	4.3	4.3	26.1	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**3**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0	**4**
04:30 PM	0	0	0	0	0	0	0	0	0	**2**	0	**2**	0	0	**1**	**1**	3
04:45 PM	0	1	**1**	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:00 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	4	2	6	0	0	0	0	0	5	0	5	0	0	1	1	12
% App. Total	0	66.7	33.3		0	0	0		0	100	0		0	0	100		
PHF	.000	.333	.500	.500	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.250	.250	.750

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**3**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**2**	0	**2**	0	0	**1**	**1**
+30 mins.	0	1	**1**	2	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	4	2	6	0	0	0	0	0	5	0	5	0	0	1	1
% App. Total	0	66.7	33.3		0	0	0		0	100	0		0	0	100	
PHF	.000	.333	.500	.500	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.250	.250

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

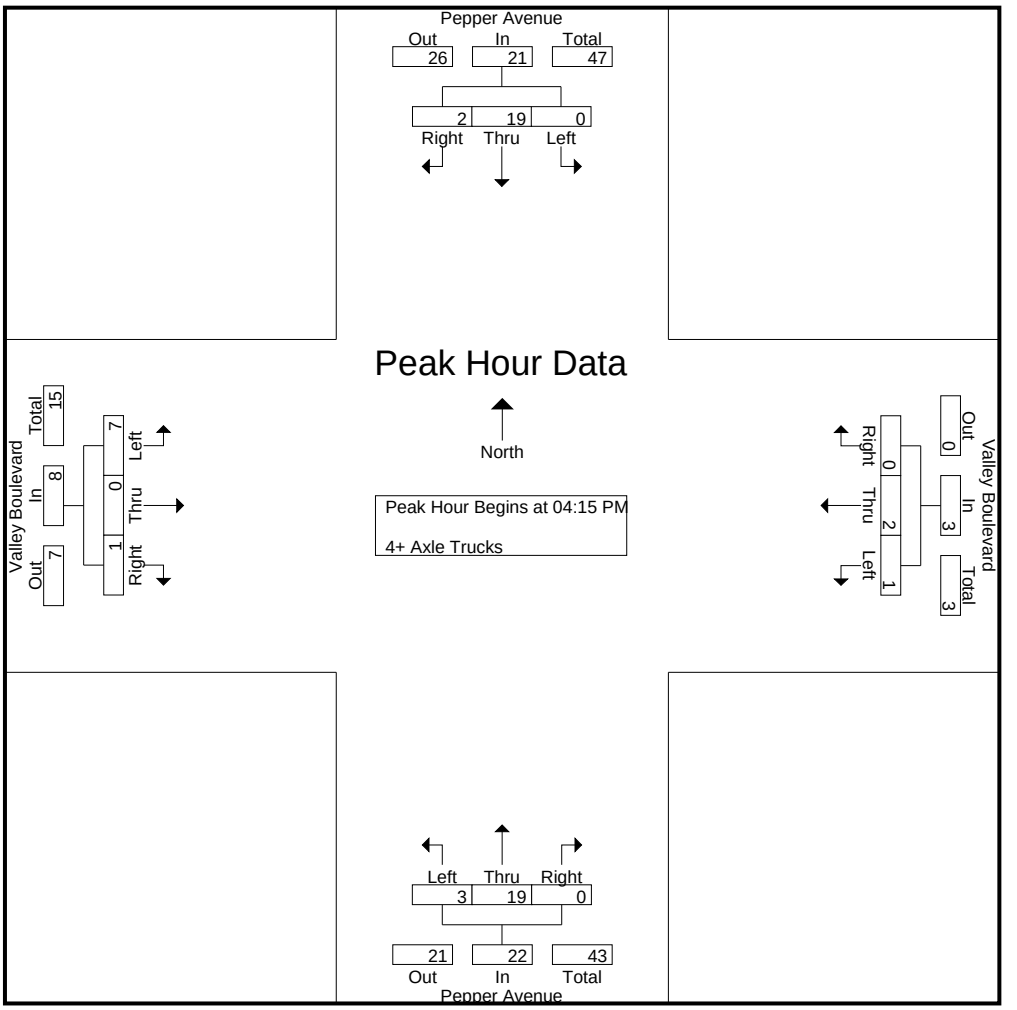
	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	8	1	9	1	0	0	1	2	4	0	6	5	3	0	8	24
04:15 PM	0	6	1	7	0	1	0	1	1	6	0	7	2	0	0	2	17
04:30 PM	0	3	1	4	0	0	0	0	1	1	0	2	1	0	0	1	7
04:45 PM	0	5	0	5	0	1	0	1	0	8	0	8	0	0	0	0	14
Total	0	22	3	25	1	2	0	3	4	19	0	23	8	3	0	11	62
05:00 PM	0	5	0	5	1	0	0	1	1	4	0	5	4	0	1	5	16
05:15 PM	0	5	1	6	0	0	0	0	2	0	0	2	2	0	0	2	10
05:30 PM	0	5	0	5	1	1	0	2	2	6	0	8	0	1	0	1	16
05:45 PM	0	2	1	3	0	1	0	1	1	4	0	5	0	0	2	2	11
Total	0	17	2	19	2	2	0	4	6	14	0	20	6	1	3	10	53
Grand Total	0	39	5	44	3	4	0	7	10	33	0	43	14	4	3	21	115
Apprch %	0	88.6	11.4		42.9	57.1	0		23.3	76.7	0		66.7	19	14.3		
Total %	0	33.9	4.3	38.3	2.6	3.5	0	6.1	8.7	28.7	0	37.4	12.2	3.5	2.6	18.3	

	Pepper Avenue Southbound				Valley Boulevard Westbound				Pepper Avenue Northbound				Valley Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**6**	**1**	**7**	0	**1**	0	**1**	**1**	6	0	7	2	0	0	2	**17**
04:30 PM	0	3	1	4	0	0	0	0	1	1	0	2	1	0	0	1	7
04:45 PM	0	5	0	5	0	1	0	1	0	**8**	0	**8**	0	0	0	0	14
05:00 PM	0	5	0	5	**1**	0	0	1	1	4	0	5	**4**	0	**1**	**5**	16
Total Volume	0	19	2	21	1	2	0	3	3	19	0	22	7	0	1	8	54
% App. Total	0	90.5	9.5		33.3	66.7	0		13.6	86.4	0		87.5	0	12.5		
PHF	.000	.792	.500	.750	.250	.500	.000	.750	.750	.594	.000	.688	.438	.000	.250	.400	.794

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City of Rialto
N/S: Pepper Avenue
E/W: Valley Boulevard
Weather: Clear

File Name : 08_RLTPEVAPM
Site Code : 05717210
Start Date : 4/4/2017
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**6**	**1**	**7**	0	**1**	0	**1**	**1**	6	0	7	2	0	0	2
+15 mins.	0	3	1	4	0	0	0	0	1	1	0	2	1	0	0	1
+30 mins.	0	5	0	5	0	1	0	1	0	**8**	0	**8**	0	0	0	0
+45 mins.	0	5	0	5	**1**	0	0	1	1	4	0	5	**4**	0	**1**	**5**
Total Volume	0	19	2	21	1	2	0	3	3	19	0	22	7	0	1	8
% App. Total	0	90.5	9.5		33.3	66.7	0		13.6	86.4	0		87.5	0	12.5	
PHF	.000	.792	.500	.750	.250	.500	.000	.750	.750	.594	.000	.688	.438	.000	.250	.400

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

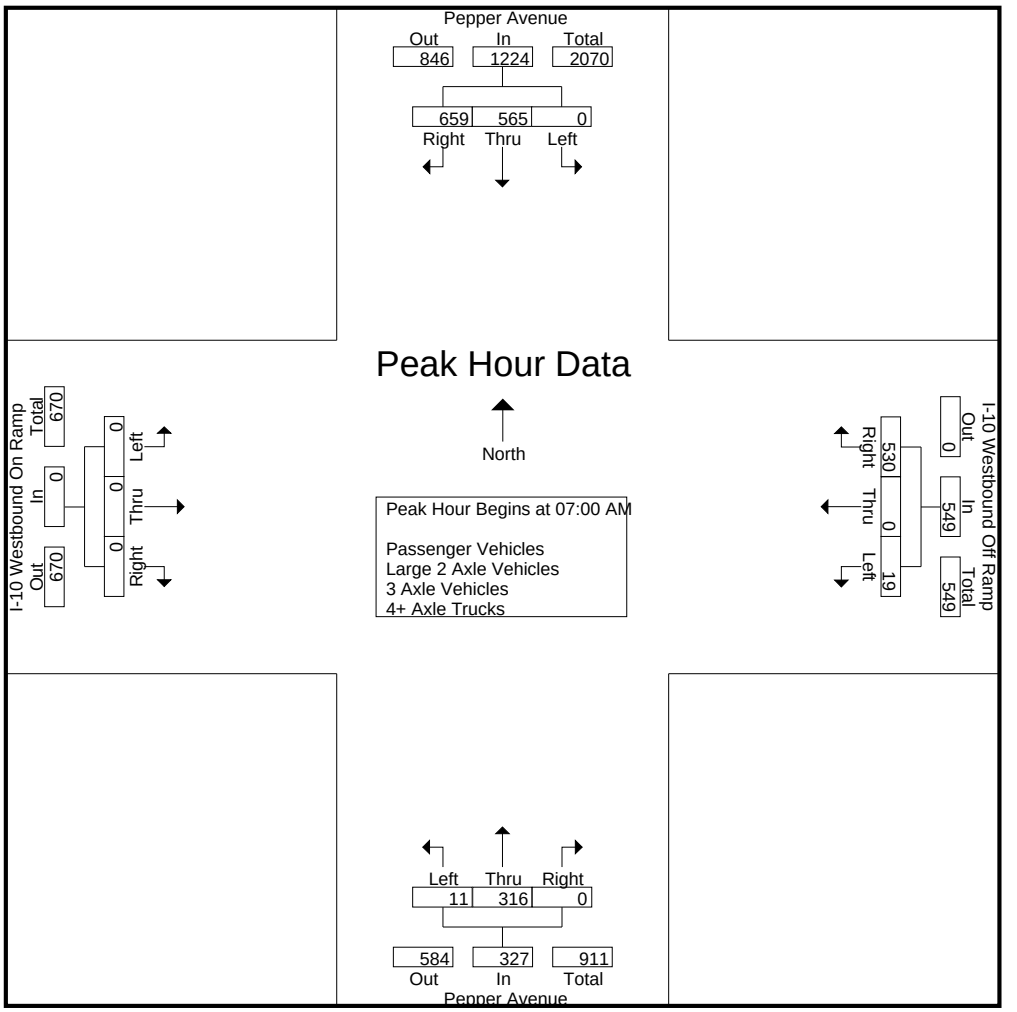
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	116	178	294	2	0	138	140	3	88	0	91	0	0	0	0	525
07:15 AM	0	141	196	337	2	0	144	146	2	70	0	72	0	0	0	0	555
07:30 AM	0	157	163	320	8	0	129	137	3	79	0	82	0	0	0	0	539
07:45 AM	0	151	122	273	7	0	119	126	3	79	0	82	0	0	0	0	481
Total	0	565	659	1224	19	0	530	549	11	316	0	327	0	0	0	0	2100
08:00 AM	0	113	133	246	6	0	115	121	6	81	0	87	0	0	0	0	454
08:15 AM	0	109	130	239	6	1	105	112	4	68	0	72	0	0	0	0	423
08:30 AM	0	81	121	202	5	1	127	133	4	76	0	80	0	0	0	0	415
08:45 AM	0	97	103	200	5	0	111	116	5	84	0	89	0	0	0	0	405
Total	0	400	487	887	22	2	458	482	19	309	0	328	0	0	0	0	1697
Grand Total	0	965	1146	2111	41	2	988	1031	30	625	0	655	0	0	0	0	3797
Apprch %	0	45.7	54.3		4	0.2	95.8		4.6	95.4	0		0	0	0		
Total %	0	25.4	30.2	55.6	1.1	0.1	26	27.2	0.8	16.5	0	17.3	0	0	0	0	
Passenger Vehicles	0	924	1030	1954	10	1	956	967	5	552	0	557	0	0	0	0	3478
% Passenger Vehicles	0	95.8	89.9	92.6	24.4	50	96.8	93.8	16.7	88.3	0	85	0	0	0	0	91.6
Large 2 Axle Vehicles	0	32	31	63	3	1	20	24	1	22	0	23	0	0	0	0	110
% Large 2 Axle Vehicles	0	3.3	2.7	3	7.3	50	2	2.3	3.3	3.5	0	3.5	0	0	0	0	2.9
3 Axle Vehicles	0	5	19	24	5	0	5	10	2	13	0	15	0	0	0	0	49
% 3 Axle Vehicles	0	0.5	1.7	1.1	12.2	0	0.5	1	6.7	2.1	0	2.3	0	0	0	0	1.3
4+ Axle Trucks	0	4	66	70	23	0	7	30	22	38	0	60	0	0	0	0	160
% 4+ Axle Trucks	0	0.4	5.8	3.3	56.1	0	0.7	2.9	73.3	6.1	0	9.2	0	0	0	0	4.2

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	116	178	294	2	0	138	140	**3**	**88**	0	**91**	0	0	0	0	525
07:15 AM	0	141	**196**	**337**	2	0	**144**	**146**	2	70	0	72	0	0	0	0	**555**
07:30 AM	0	**157**	163	320	**8**	0	129	137	3	79	0	82	0	0	0	0	539
07:45 AM	0	151	122	273	7	0	119	126	3	79	0	82	0	0	0	0	481
Total Volume	0	565	659	1224	19	0	530	549	11	316	0	327	0	0	0	0	2100
% App. Total	0	46.2	53.8		3.5	0	96.5		3.4	96.6	0		0	0	0		
PHF	.000	.900	.841	.908	.594	.000	.920	.940	.917	.898	.000	.898	.000	.000	.000	.000	.946

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	0	116	178	294	2	0	138	140	**6**	81	0	87	0	0	0	0
+15 mins.	0	141	**196**	**337**	2	0	**144**	**146**	4	68	0	72	0	0	0	0
+30 mins.	0	**157**	163	320	**8**	0	129	137	4	76	0	80	0	0	0	0
+45 mins.	0	151	122	273	7	0	119	126	5	**84**	0	**89**	0	0	0	0
Total Volume	0	565	659	1224	19	0	530	549	19	309	0	328	0	0	0	0
% App. Total	0	46.2	53.8		3.5	0	96.5		5.8	94.2	0		0	0	0	
PHF	.000	.900	.841	.908	.594	.000	.920	.940	.792	.920	.000	.921	.000	.000	.000	.000

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

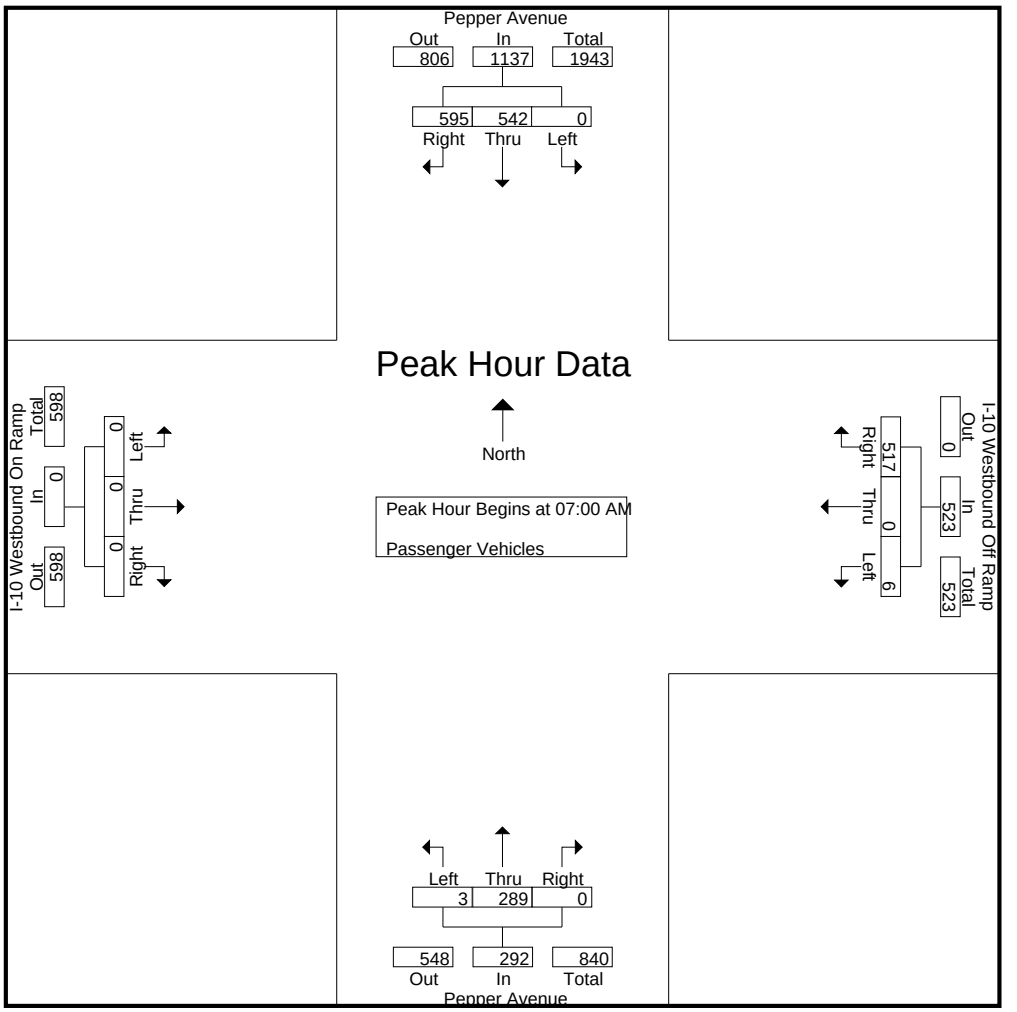
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	109	167	276	0	0	135	135	1	78	0	79	0	0	0	0	490
07:15 AM	0	138	178	316	0	0	139	139	1	61	0	62	0	0	0	0	517
07:30 AM	0	154	144	298	3	0	127	130	1	77	0	78	0	0	0	0	506
07:45 AM	0	141	106	247	3	0	116	119	0	73	0	73	0	0	0	0	439
Total	0	542	595	1137	6	0	517	523	3	289	0	292	0	0	0	0	1952
08:00 AM	0	111	119	230	2	0	111	113	0	69	0	69	0	0	0	0	412
08:15 AM	0	100	122	222	1	1	102	104	1	56	0	57	0	0	0	0	383
08:30 AM	0	76	106	182	0	0	120	120	1	66	0	67	0	0	0	0	369
08:45 AM	0	95	88	183	1	0	106	107	0	72	0	72	0	0	0	0	362
Total	0	382	435	817	4	1	439	444	2	263	0	265	0	0	0	0	1526
Grand Total	0	924	1030	1954	10	1	956	967	5	552	0	557	0	0	0	0	3478
Apprch %	0	47.3	52.7		1	0.1	98.9		0.9	99.1	0		0	0	0		
Total %	0	26.6	29.6	56.2	0.3	0	27.5	27.8	0.1	15.9	0	16	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	109	167	276	0	0	135	135	**1**	**78**	0	**79**	0	0	0	0	490
07:15 AM	0	138	**178**	**316**	0	0	**139**	**139**	1	61	0	62	0	0	0	0	**517**
07:30 AM	0	**154**	144	298	**3**	0	127	130	1	77	0	78	0	0	0	0	506
07:45 AM	0	141	106	247	3	0	116	119	0	73	0	73	0	0	0	0	439
Total Volume	0	542	595	1137	6	0	517	523	3	289	0	292	0	0	0	0	1952
% App. Total	0	47.7	52.3		1.1	0	98.9		1	99	0		0	0	0		
PHF	.000	.880	.836	.900	.500	.000	.930	.941	.750	.926	.000	.924	.000	.000	.000	.000	.944

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	109	167	276	0	0	135	135	**1**	**78**	0	**79**	0	0	0	0
+15 mins.	0	138	**178**	**316**	0	0	**139**	**139**	1	61	0	62	0	0	0	0
+30 mins.	0	**154**	144	298	**3**	0	127	130	1	77	0	78	0	0	0	0
+45 mins.	0	141	106	247	3	0	116	119	0	73	0	73	0	0	0	0
Total Volume	0	542	595	1137	6	0	517	523	3	289	0	292	0	0	0	0
% App. Total	0	47.7	52.3		1.1	0	98.9		1	99	0		0	0	0	
PHF	.000	.880	.836	.900	.500	.000	.930	.941	.750	.926	.000	.924	.000	.000	.000	.000

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

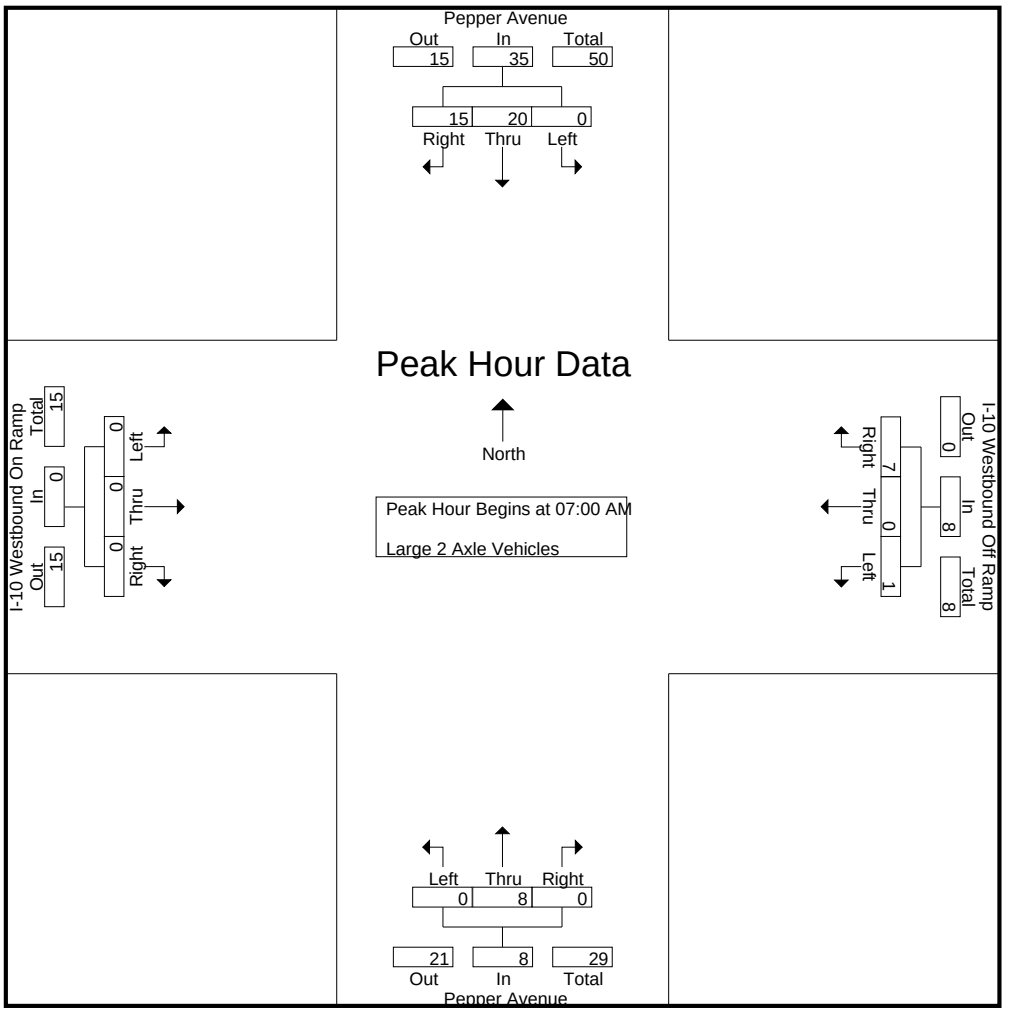
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	7	3	10	0	0	1	1	0	4	0	4	0	0	0	0	15
07:15 AM	0	3	6	9	0	0	4	4	0	3	0	3	0	0	0	0	16
07:30 AM	0	2	3	5	0	0	1	1	0	0	0	0	0	0	0	0	6
07:45 AM	0	8	3	11	1	0	1	2	0	1	0	1	0	0	0	0	14
Total	0	20	15	35	1	0	7	8	0	8	0	8	0	0	0	0	51
08:00 AM	0	2	6	8	0	0	4	4	0	6	0	6	0	0	0	0	18
08:15 AM	0	5	2	7	0	0	3	3	0	3	0	3	0	0	0	0	13
08:30 AM	0	4	4	8	1	1	3	5	0	3	0	3	0	0	0	0	16
08:45 AM	0	1	4	5	1	0	3	4	1	2	0	3	0	0	0	0	12
Total	0	12	16	28	2	1	13	16	1	14	0	15	0	0	0	0	59
Grand Total	0	32	31	63	3	1	20	24	1	22	0	23	0	0	0	0	110
Apprch %	0	50.8	49.2		12.5	4.2	83.3		4.3	95.7	0		0	0	0		
Total %	0	29.1	28.2	57.3	2.7	0.9	18.2	21.8	0.9	20	0	20.9	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	7	3	10	0	0	1	1	0	**4**	0	**4**	0	0	0	0	15
07:15 AM	0	3	**6**	9	0	0	**4**	**4**	0	3	0	3	0	0	0	0	**16**
07:30 AM	0	2	3	5	0	0	1	1	0	0	0	0	0	0	0	0	6
07:45 AM	0	**8**	3	**11**	**1**	0	1	2	0	1	0	1	0	0	0	0	14
Total Volume	0	20	15	35	1	0	7	8	0	8	0	8	0	0	0	0	51
% App. Total	0	57.1	42.9		12.5	0	87.5		0	100	0		0	0	0		
PHF	.000	.625	.625	.795	.250	.000	.438	.500	.000	.500	.000	.500	.000	.000	.000	.000	.797

Counts Unlimited
PO Box 1178
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	7	3	10	0	0	1	1	0	**4**	0	**4**	0	0	0	0
+15 mins.	0	3	**6**	9	0	0	**4**	**4**	0	3	0	3	0	0	0	0
+30 mins.	0	2	3	5	0	0	1	1	0	0	0	0	0	0	0	0
+45 mins.	0	**8**	3	**11**	**1**	0	1	2	0	1	0	1	0	0	0	0
Total Volume	0	20	15	35	1	0	7	8	0	8	0	8	0	0	0	0
% App. Total	0	57.1	42.9		12.5	0	87.5		0	100	0		0	0	0	
PHF	.000	.625	.625	.795	.250	.000	.438	.500	.000	.500	.000	.500	.000	.000	.000	.000

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

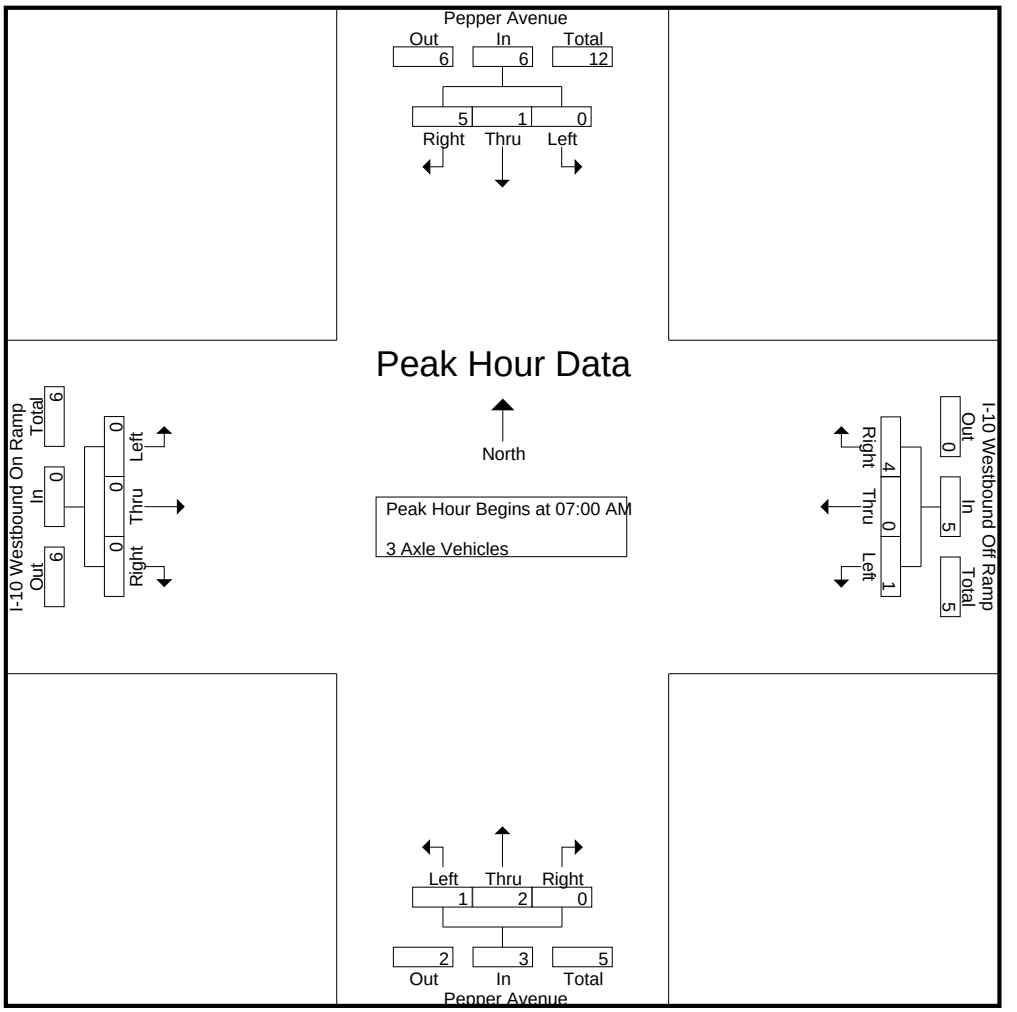
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	1	1	1	0	2	0	0	0	0	3
07:15 AM	0	0	2	2	0	0	1	1	0	0	0	0	0	0	0	0	3
07:30 AM	0	1	1	2	0	0	1	1	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	2	2	1	0	1	2	0	1	0	1	0	0	0	0	5
Total	0	1	5	6	1	0	4	5	1	2	0	3	0	0	0	0	14
08:00 AM	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	5
08:15 AM	0	4	3	7	1	0	0	1	0	3	0	3	0	0	0	0	11
08:30 AM	0	0	2	2	1	0	1	2	0	3	0	3	0	0	0	0	7
08:45 AM	0	0	4	4	2	0	0	2	1	5	0	6	0	0	0	0	12
Total	0	4	14	18	4	0	1	5	1	11	0	12	0	0	0	0	35
Grand Total	0	5	19	24	5	0	5	10	2	13	0	15	0	0	0	0	49
Apprch %	0	20.8	79.2		50	0	50		13.3	86.7	0		0	0	0		
Total %	0	10.2	38.8	49	10.2	0	10.2	20.4	4.1	26.5	0	30.6	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	**1**	1	**1**	**1**	0	**2**	0	0	0	0	3
07:15 AM	0	0	**2**	**2**	0	0	1	1	0	0	0	0	0	0	0	0	3
07:30 AM	0	**1**	1	2	0	0	1	1	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	2	2	**1**	0	1	**2**	0	1	0	1	0	0	0	0	**5**
Total Volume	0	1	5	6	1	0	4	5	1	2	0	3	0	0	0	0	14
% App. Total	0	16.7	83.3		20	0	80		33.3	66.7	0		0	0	0		
PHF	.000	.250	.625	.750	.250	.000	1.00	.625	.250	.500	.000	.375	.000	.000	.000	.000	.700

Counts Unlimited
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(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	**1**	1	**1**	**1**	0	**2**	0	0	0	0
+15 mins.	0	0	**2**	**2**	0	0	1	1	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	1	2	0	0	1	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	2	2	**1**	0	1	**2**	0	1	0	1	0	0	0	0
Total Volume	0	1	5	6	1	0	4	5	1	2	0	3	0	0	0	0
% App. Total	0	16.7	83.3		20	0	80		33.3	66.7	0		0	0	0	
PHF	.000	.250	.625	.750	.250	.000	1.000	.625	.250	.500	.000	.375	.000	.000	.000	.000

Counts Unlimited
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Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

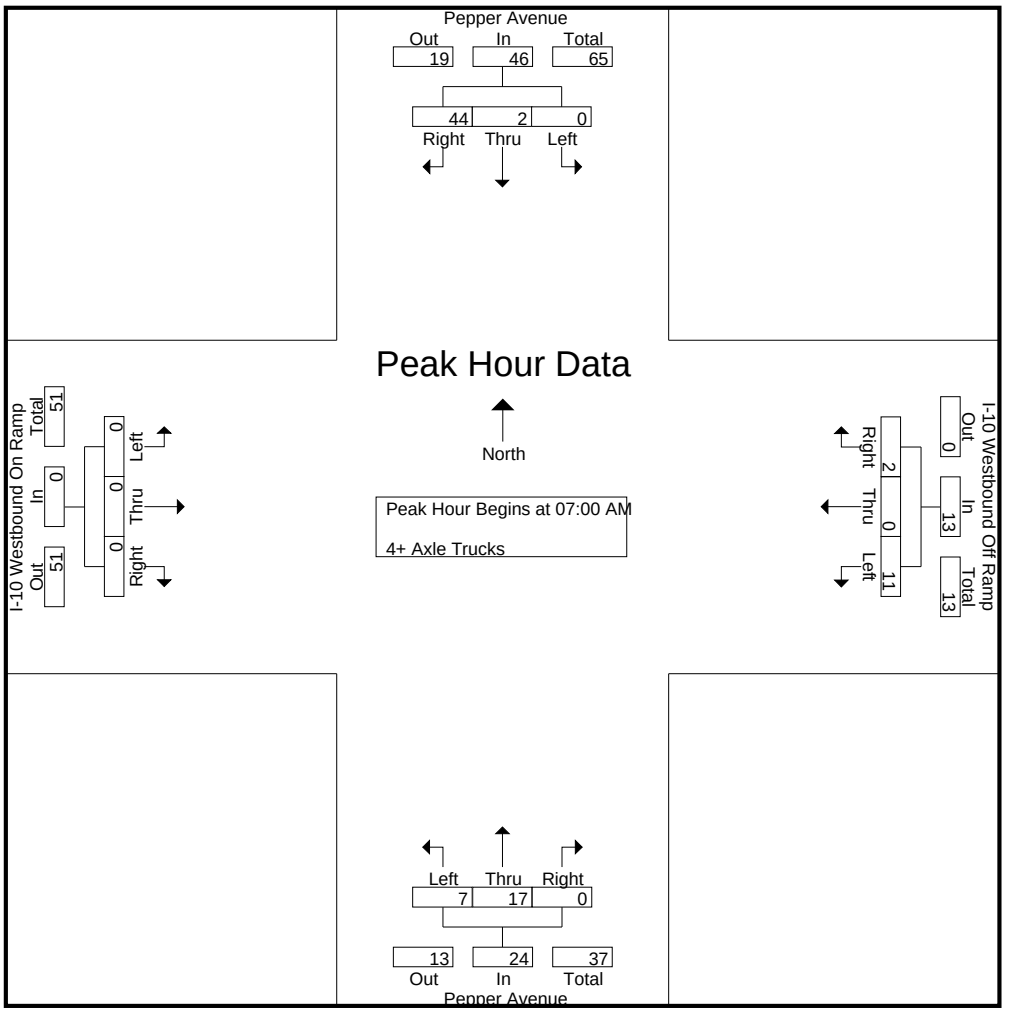
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	8	8	2	0	1	3	1	5	0	6	0	0	0	0	17
07:15 AM	0	0	10	10	2	0	0	2	1	6	0	7	0	0	0	0	19
07:30 AM	0	0	15	15	5	0	0	5	2	2	0	4	0	0	0	0	24
07:45 AM	0	2	11	13	2	0	1	3	3	4	0	7	0	0	0	0	23
Total	0	2	44	46	11	0	2	13	7	17	0	24	0	0	0	0	83
08:00 AM	0	0	3	3	4	0	0	4	6	6	0	12	0	0	0	0	19
08:15 AM	0	0	3	3	4	0	0	4	3	6	0	9	0	0	0	0	16
08:30 AM	0	1	9	10	3	0	3	6	3	4	0	7	0	0	0	0	23
08:45 AM	0	1	7	8	1	0	2	3	3	5	0	8	0	0	0	0	19
Total	0	2	22	24	12	0	5	17	15	21	0	36	0	0	0	0	77
Grand Total	0	4	66	70	23	0	7	30	22	38	0	60	0	0	0	0	160
Apprch %	0	5.7	94.3		76.7	0	23.3		36.7	63.3	0		0	0	0		
Total %	0	2.5	41.2	43.8	14.4	0	4.4	18.8	13.8	23.8	0	37.5	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	8	8	2	0	**1**	3	1	5	0	6	0	0	0	0	17
07:15 AM	0	0	10	10	2	0	0	2	1	**6**	0	**7**	0	0	0	0	19
07:30 AM	0	0	**15**	**15**	**5**	0	0	**5**	2	2	0	4	0	0	0	0	**24**
07:45 AM	0	**2**	11	13	2	0	1	3	**3**	4	0	7	0	0	0	0	23
Total Volume	0	2	44	46	11	0	2	13	7	17	0	24	0	0	0	0	83
% App. Total	0	4.3	95.7		84.6	0	15.4		29.2	70.8	0		0	0	0		
PHF	.000	.250	.733	.767	.550	.000	.500	.650	.583	.708	.000	.857	.000	.000	.000	.000	.865

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	8	8	2	0	**1**	3	1	5	0	6	0	0	0	0
+15 mins.	0	0	10	10	2	0	0	2	1	**6**	0	**7**	0	0	0	0
+30 mins.	0	0	**15**	**15**	**5**	0	0	**5**	2	2	0	4	0	0	0	0
+45 mins.	0	**2**	11	13	2	0	1	3	**3**	4	0	7	0	0	0	0
Total Volume	0	2	44	46	11	0	2	13	7	17	0	24	0	0	0	0
% App. Total	0	4.3	95.7		84.6	0	15.4		29.2	70.8	0		0	0	0	
PHF	.000	.250	.733	.767	.550	.000	.500	.650	.583	.708	.000	.857	.000	.000	.000	.000

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City of Colton
N/S: Pepper Avenue
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File Name : 02_COL_Pepper_10W PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

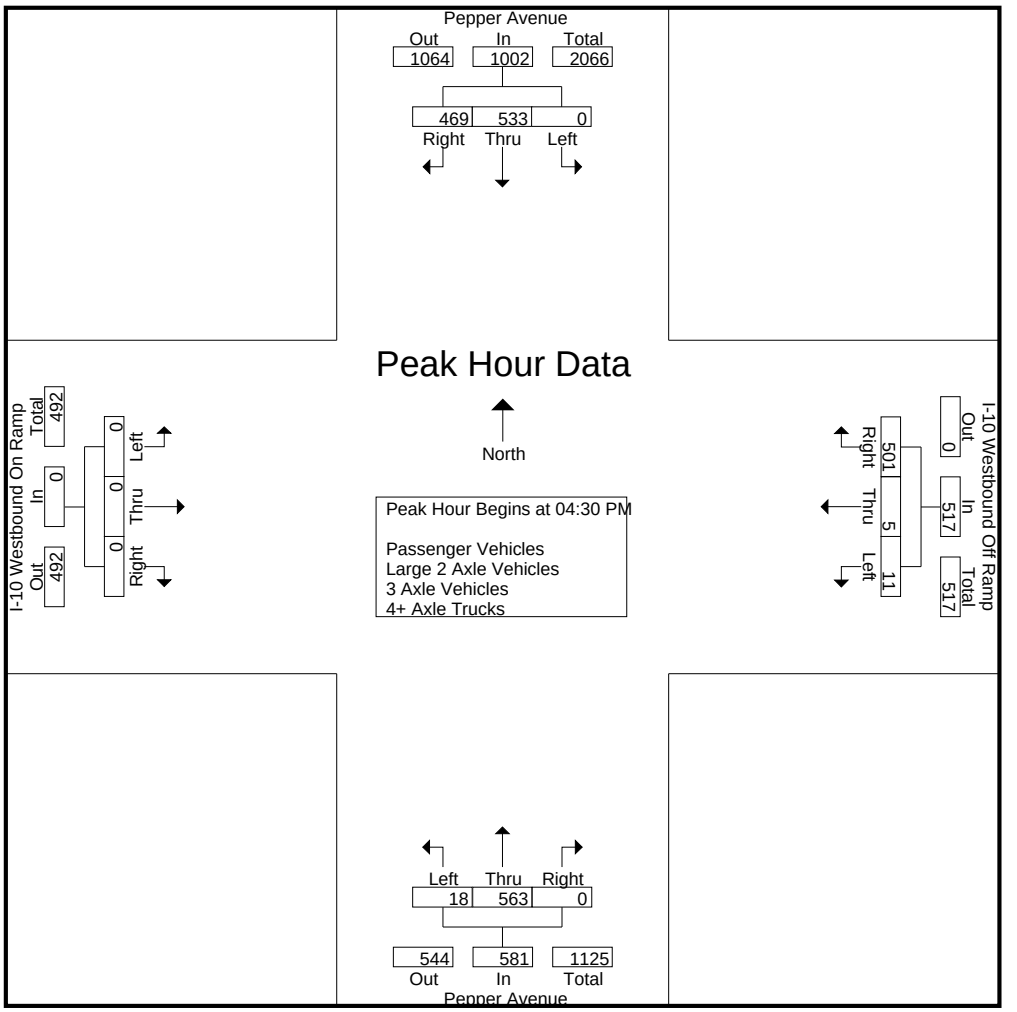
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	121	118	239	2	1	106	109	3	120	0	123	0	0	0	0	471
04:15 PM	0	123	101	224	3	1	107	111	1	121	0	122	0	0	0	0	457
04:30 PM	0	161	123	284	1	2	123	126	4	152	0	156	0	0	0	0	566
04:45 PM	0	106	93	199	2	1	128	131	6	137	0	143	0	0	0	0	473
Total	0	511	435	946	8	5	464	477	14	530	0	544	0	0	0	0	1967
05:00 PM	0	136	146	282	5	0	119	124	3	129	0	132	0	0	0	0	538
05:15 PM	0	130	107	237	3	2	131	136	5	145	0	150	0	0	0	0	523
05:30 PM	0	123	93	216	4	0	131	135	2	121	0	123	0	0	0	0	474
05:45 PM	0	113	91	204	3	1	114	118	1	119	0	120	0	0	0	0	442
Total	0	502	437	939	15	3	495	513	11	514	0	525	0	0	0	0	1977
Grand Total	0	1013	872	1885	23	8	959	990	25	1044	0	1069	0	0	0	0	3944
Apprch %	0	53.7	46.3		2.3	0.8	96.9		2.3	97.7	0		0	0	0		
Total %	0	25.7	22.1	47.8	0.6	0.2	24.3	25.1	0.6	26.5	0	27.1	0	0	0	0	
Passenger Vehicles	0	995	826	1821	19	7	932	958	21	977	0	998	0	0	0	0	3777
% Passenger Vehicles	0	98.2	94.7	96.6	82.6	87.5	97.2	96.8	84	93.6	0	93.4	0	0	0	0	95.8
Large 2 Axle Vehicles	0	10	8	18	2	0	16	18	3	14	0	17	0	0	0	0	53
% Large 2 Axle Vehicles	0	1	0.9	1	8.7	0	1.7	1.8	12	1.3	0	1.6	0	0	0	0	1.3
3 Axle Vehicles	0	3	20	23	0	1	2	3	0	7	0	7	0	0	0	0	33
% 3 Axle Vehicles	0	0.3	2.3	1.2	0	12.5	0.2	0.3	0	0.7	0	0.7	0	0	0	0	0.8
4+ Axle Trucks	0	5	18	23	2	0	9	11	1	46	0	47	0	0	0	0	81
% 4+ Axle Trucks	0	0.5	2.1	1.2	8.7	0	0.9	1.1	4	4.4	0	4.4	0	0	0	0	2.1

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**161**	123	**284**	1	**2**	123	126	4	**152**	0	**156**	0	0	0	0	**566**
04:45 PM	0	106	93	199	2	1	128	131	**6**	137	0	143	0	0	0	0	473
05:00 PM	0	136	**146**	282	**5**	0	119	124	3	129	0	132	0	0	0	0	538
05:15 PM	0	130	107	237	3	2	**131**	**136**	5	145	0	150	0	0	0	0	523
Total Volume	0	533	469	1002	11	5	501	517	18	563	0	581	0	0	0	0	2100
% App. Total	0	53.2	46.8		2.1	1	96.9		3.1	96.9	0		0	0	0		
PHF	.000	.828	.803	.882	.550	.625	.956	.950	.750	.926	.000	.931	.000	.000	.000	.000	.928

Counts Unlimited
PO Box 1178
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W PM
Site Code : 07517586
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:30 PM				04:00 PM			
+0 mins.	0	**161**	123	**284**	2	1	128	131	4	**152**	0	**156**	0	0	0	0
+15 mins.	0	106	93	199	**5**	0	119	124	**6**	137	0	143	0	0	0	0
+30 mins.	0	136	**146**	282	3	**2**	**131**	**136**	3	129	0	132	0	0	0	0
+45 mins.	0	130	107	237	4	0	131	135	5	145	0	150	0	0	0	0
Total Volume	0	533	469	1002	14	3	509	526	18	563	0	581	0	0	0	0
% App. Total	0	53.2	46.8		2.7	0.6	96.8		3.1	96.9	0		0	0	0	
PHF	.000	.828	.803	.882	.700	.375	.971	.967	.750	.926	.000	.931	.000	.000	.000	.000

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File Name : 02_COL_Pepper_10W PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

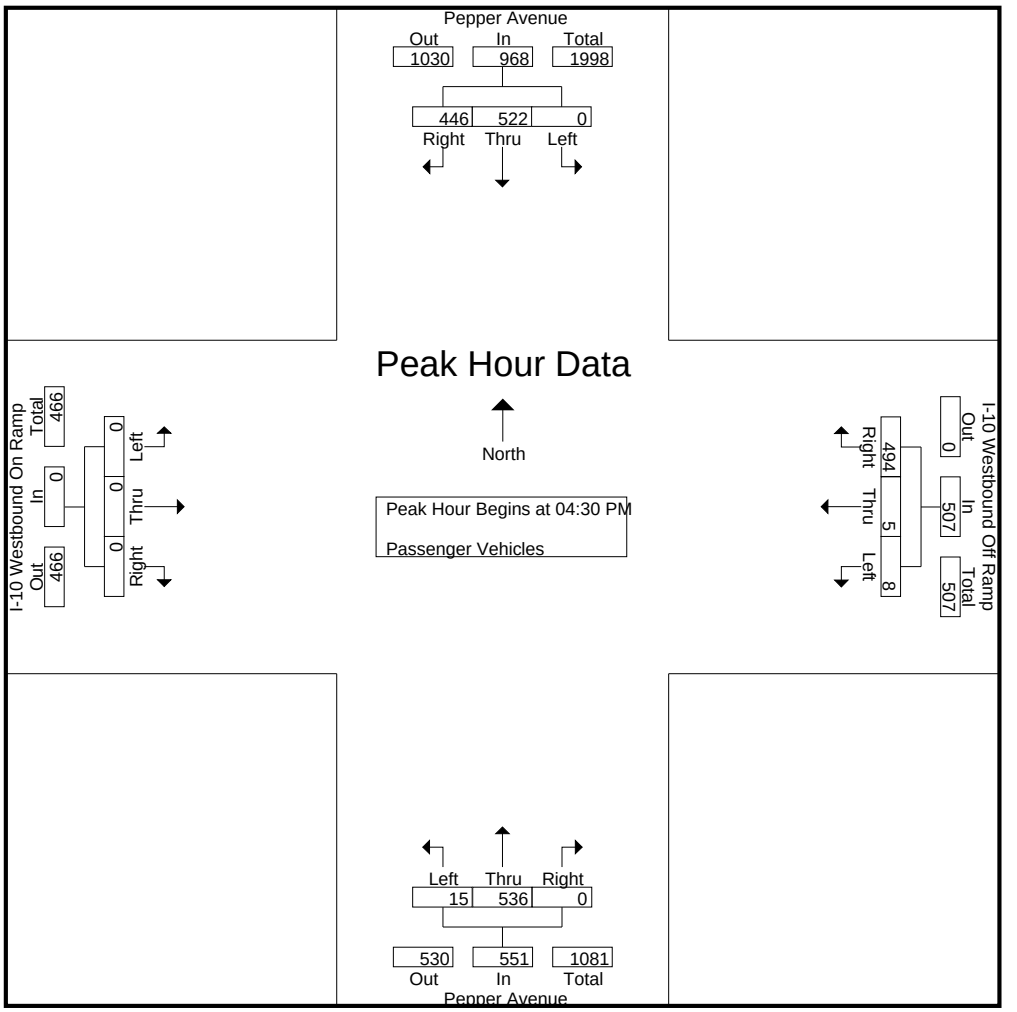
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	119	107	226	2	1	97	100	2	108	0	110	0	0	0	0	436
04:15 PM	0	121	97	218	3	0	101	104	1	114	0	115	0	0	0	0	437
04:30 PM	0	158	116	274	1	2	120	123	4	149	0	153	0	0	0	0	550
04:45 PM	0	105	85	190	1	1	126	128	5	127	0	132	0	0	0	0	450
Total	0	503	405	908	7	4	444	455	12	498	0	510	0	0	0	0	1873
05:00 PM	0	132	141	273	3	0	119	122	3	123	0	126	0	0	0	0	521
05:15 PM	0	127	104	231	3	2	129	134	3	137	0	140	0	0	0	0	505
05:30 PM	0	121	90	211	4	0	129	133	2	111	0	113	0	0	0	0	457
05:45 PM	0	112	86	198	2	1	111	114	1	108	0	109	0	0	0	0	421
Total	0	492	421	913	12	3	488	503	9	479	0	488	0	0	0	0	1904
Grand Total	0	995	826	1821	19	7	932	958	21	977	0	998	0	0	0	0	3777
Apprch %	0	54.6	45.4		2	0.7	97.3		2.1	97.9	0		0	0	0		
Total %	0	26.3	21.9	48.2	0.5	0.2	24.7	25.4	0.6	25.9	0	26.4	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**158**	116	**274**	1	**2**	120	123	4	**149**	0	**153**	0	0	0	0	**550**
04:45 PM	0	105	85	190	1	1	126	128	**5**	127	0	132	0	0	0	0	450
05:00 PM	0	132	**141**	273	**3**	0	119	122	3	123	0	126	0	0	0	0	521
05:15 PM	0	127	104	231	3	2	**129**	**134**	3	137	0	140	0	0	0	0	505
Total Volume	0	522	446	968	8	5	494	507	15	536	0	551	0	0	0	0	2026
% App. Total	0	53.9	46.1		1.6	1	97.4		2.7	97.3	0		0	0	0		
PHF	.000	.826	.791	.883	.667	.625	.957	.946	.750	.899	.000	.900	.000	.000	.000	.000	.921

Counts Unlimited
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City of Colton
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Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	**158**	116	**274**	1	**2**	120	123	4	**149**	0	**153**	0	0	0	0
+15 mins.	0	105	85	190	1	1	126	128	**5**	127	0	132	0	0	0	0
+30 mins.	0	132	**141**	273	**3**	0	119	122	3	123	0	126	0	0	0	0
+45 mins.	0	127	104	231	3	2	**129**	**134**	3	137	0	140	0	0	0	0
Total Volume	0	522	446	968	8	5	494	507	15	536	0	551	0	0	0	0
% App. Total	0	53.9	46.1		1.6	1	97.4		2.7	97.3	0		0	0	0	
PHF	.000	.826	.791	.883	.667	.625	.957	.946	.750	.899	.000	.900	.000	.000	.000	.000

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Groups Printed- Large 2 Axle Vehicles

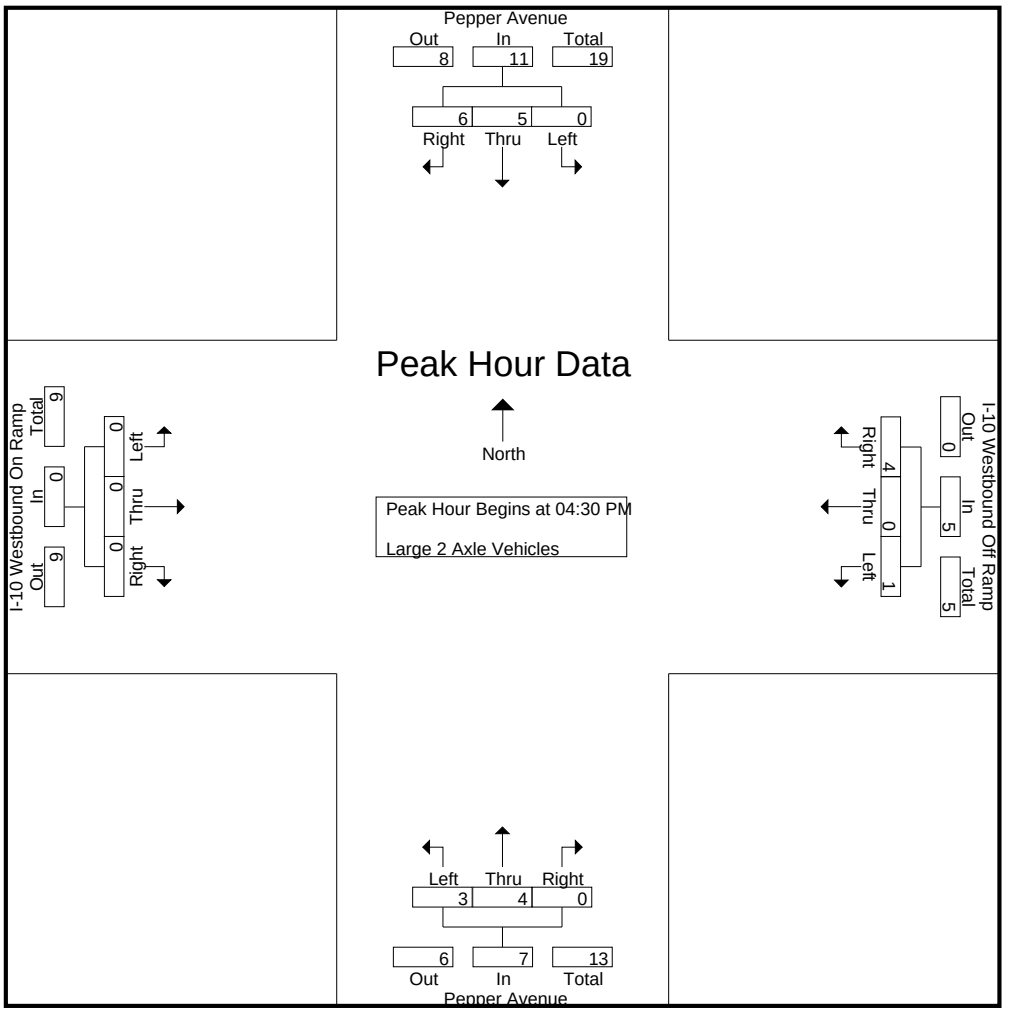
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	2	3	0	0	6	6	0	3	0	3	0	0	0	0	12
04:15 PM	0	1	0	1	0	0	3	3	0	0	0	0	0	0	0	0	4
04:30 PM	0	1	2	3	0	0	3	3	0	0	0	0	0	0	0	0	6
04:45 PM	0	0	3	3	1	0	1	2	1	3	0	4	0	0	0	0	9
Total	0	3	7	10	1	0	13	14	1	6	0	7	0	0	0	0	31
05:00 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	1	1	2	0	0	0	0	2	1	0	3	0	0	0	0	5
05:30 PM	0	2	0	2	0	0	2	2	0	3	0	3	0	0	0	0	7
05:45 PM	0	1	0	1	1	0	1	2	0	4	0	4	0	0	0	0	7
Total	0	7	1	8	1	0	3	4	2	8	0	10	0	0	0	0	22
Grand Total	0	10	8	18	2	0	16	18	3	14	0	17	0	0	0	0	53
Apprch %	0	55.6	44.4		11.1	0	88.9		17.6	82.4	0		0	0	0		
Total %	0	18.9	15.1	34	3.8	0	30.2	34	5.7	26.4	0	32.1	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	2	**3**	0	0	**3**	**3**	0	0	0	0	0	0	0	0	6
04:45 PM	0	0	**3**	3	**1**	0	1	2	1	**3**	0	**4**	0	0	0	0	**9**
05:00 PM	0	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	1	1	2	0	0	0	0	**2**	1	0	3	0	0	0	0	5
Total Volume	0	5	6	11	1	0	4	5	3	4	0	7	0	0	0	0	23
% App. Total	0	45.5	54.5		20	0	80		42.9	57.1	0		0	0	0		
PHF	.000	.417	.500	.917	.250	.000	.333	.417	.375	.333	.000	.438	.000	.000	.000	.000	.639

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	1	2	**3**	0	0	**3**	**3**	0	0	0	0	0	0	0	0
+15 mins.	0	0	**3**	3	**1**	0	1	2	1	**3**	0	**4**	0	0	0	0
+30 mins.	0	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	1	2	0	0	0	0	**2**	1	0	3	0	0	0	0
Total Volume	0	5	6	11	1	0	4	5	3	4	0	7	0	0	0	0
% App. Total	0	45.5	54.5		20	0	80		42.9	57.1	0		0	0	0	
PHF	.000	.417	.500	.917	.250	.000	.333	.417	.375	.333	.000	.438	.000	.000	.000	.000

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E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

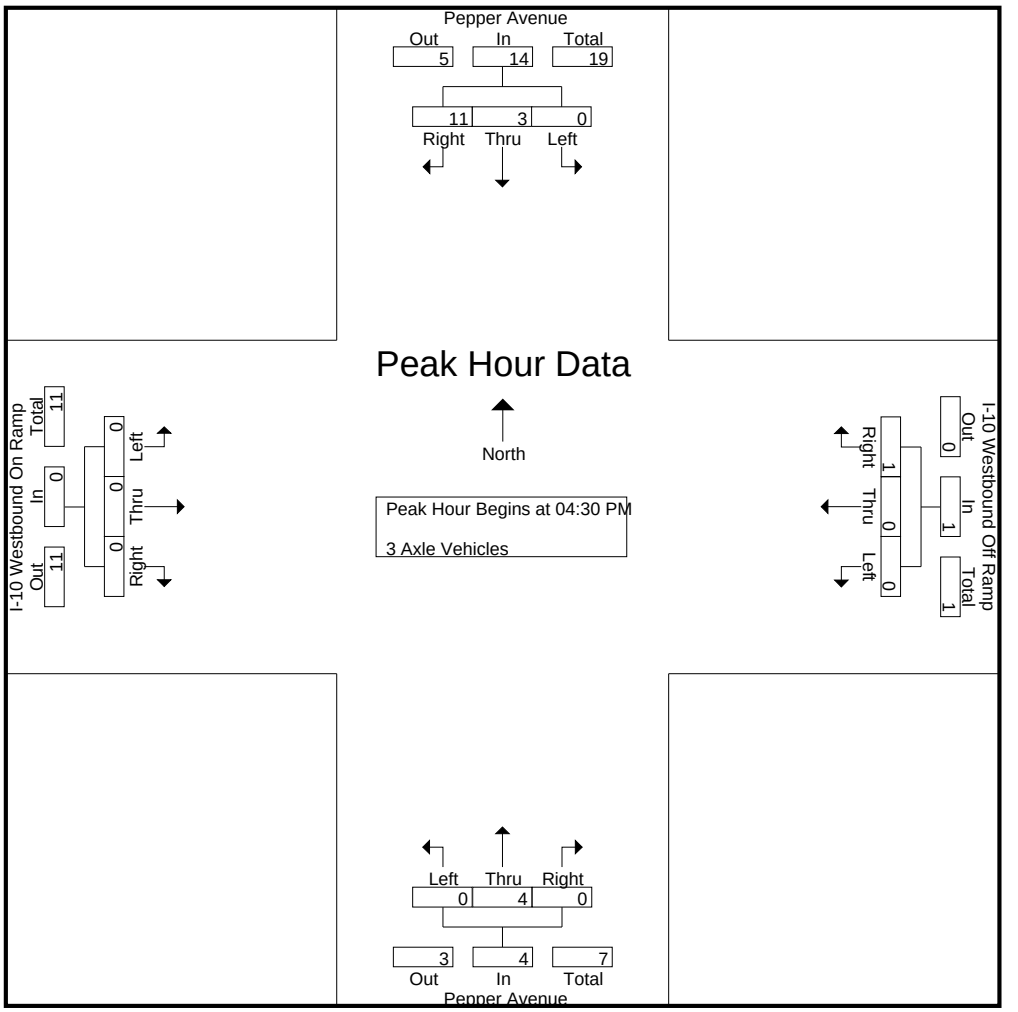
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	4	4	0	0	1	1	0	1	0	1	0	0	0	0	6
04:15 PM	0	0	3	3	0	1	0	1	0	1	0	1	0	0	0	0	5
04:30 PM	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	5
04:45 PM	0	0	5	5	0	0	1	1	0	2	0	2	0	0	0	0	8
Total	0	2	15	17	0	1	2	3	0	4	0	4	0	0	0	0	24
05:00 PM	0	0	3	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	1	5	6	0	0	0	0	0	3	0	3	0	0	0	0	9
Grand Total	0	3	20	23	0	1	2	3	0	7	0	7	0	0	0	0	33
Apprch %	0	13	87		0	33.3	66.7		0	100	0		0	0	0		
Total %	0	9.1	60.6	69.7	0	3	6.1	9.1	0	21.2	0	21.2	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**2**	3	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5
04:45 PM	0	0	**5**	5	0	0	**1**	**1**	0	**2**	0	**2**	0	0	0	0	**8**
05:00 PM	0	0	3	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	3	11	14	0	0	1	1	0	4	0	4	0	0	0	0	19
% App. Total	0	21.4	78.6		0	0	100		0	100	0		0	0	0		
PHF	.000	.375	.550	.700	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.594

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	**2**	3	**5**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	**5**	5	0	0	**1**	**1**	0	**2**	0	**2**	0	0	0	0
+30 mins.	0	0	3	3	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	3	11	14	0	0	1	1	0	4	0	4	0	0	0	0
% App. Total	0	21.4	78.6		0	0	100		0	100	0		0	0	0	
PHF	.000	.375	.550	.700	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

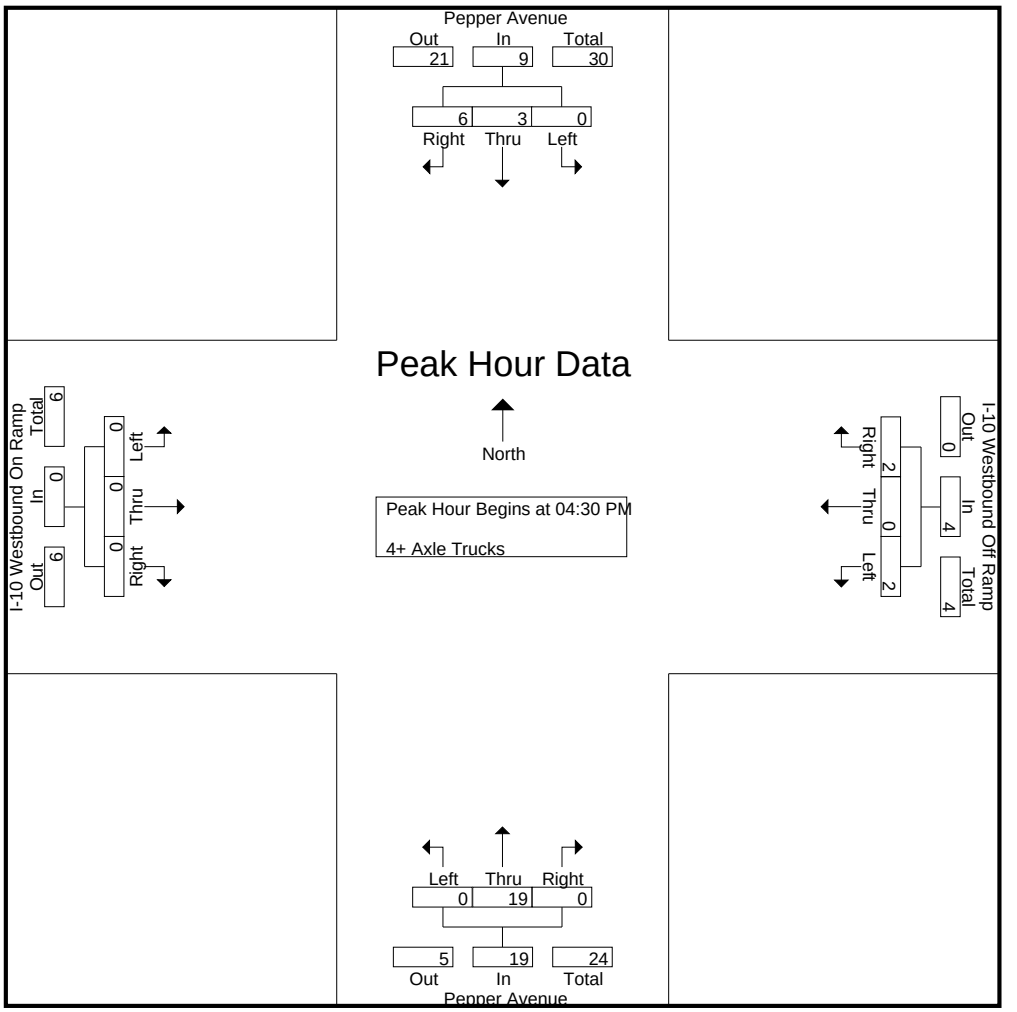
	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	5	6	0	0	2	2	1	8	0	9	0	0	0	0	17
04:15 PM	0	1	1	2	0	0	3	3	0	6	0	6	0	0	0	0	11
04:30 PM	0	0	2	2	0	0	0	0	0	3	0	3	0	0	0	0	5
04:45 PM	0	1	0	1	0	0	0	0	0	5	0	5	0	0	0	0	6
Total	0	3	8	11	0	0	5	5	1	22	0	23	0	0	0	0	39
05:00 PM	0	1	2	3	2	0	0	2	0	5	0	5	0	0	0	0	10
05:15 PM	0	1	2	3	0	0	2	2	0	6	0	6	0	0	0	0	11
05:30 PM	0	0	2	2	0	0	0	0	0	7	0	7	0	0	0	0	9
05:45 PM	0	0	4	4	0	0	2	2	0	6	0	6	0	0	0	0	12
Total	0	2	10	12	2	0	4	6	0	24	0	24	0	0	0	0	42
Grand Total	0	5	18	23	2	0	9	11	1	46	0	47	0	0	0	0	81
Apprch %	0	21.7	78.3		18.2	0	81.8		2.1	97.9	0		0	0	0		
Total %	0	6.2	22.2	28.4	2.5	0	11.1	13.6	1.2	56.8	0	58	0	0	0	0	

	Pepper Avenue Southbound				I-10 Westbound Off Ramp Westbound				Pepper Avenue Northbound				I-10 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	**2**	2	0	0	0	0	0	3	0	3	0	0	0	0	5
04:45 PM	0	**1**	0	1	0	0	0	0	0	5	0	5	0	0	0	0	6
05:00 PM	0	1	2	**3**	**2**	0	0	**2**	0	5	0	5	0	0	0	0	10
05:15 PM	0	1	2	3	0	0	**2**	2	0	**6**	0	**6**	0	0	0	0	**11**
Total Volume	0	3	6	9	2	0	2	4	0	19	0	19	0	0	0	0	32
% App. Total	0	33.3	66.7		50	0	50		0	100	0		0	0	0		
PHF	.000	.750	.750	.750	.250	.000	.250	.500	.000	.792	.000	.792	.000	.000	.000	.000	.727

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Westbound Ramps
Weather: Clear

File Name : 02_COL_Pepper_10W PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	**2**	2	0	0	0	0	0	3	0	3	0	0	0	0
+15 mins.	0	**1**	0	1	0	0	0	0	0	5	0	5	0	0	0	0
+30 mins.	0	1	2	**3**	**2**	0	0	**2**	0	5	0	5	0	0	0	0
+45 mins.	0	1	2	3	0	0	**2**	2	0	**6**	0	**6**	0	0	0	0
Total Volume	0	3	6	9	2	0	2	4	0	19	0	19	0	0	0	0
% App. Total	0	33.3	66.7		50	0	50		0	100	0		0	0	0	
PHF	.000	.750	.750	.750	.250	.000	.250	.500	.000	.792	.000	.792	.000	.000	.000	.000

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

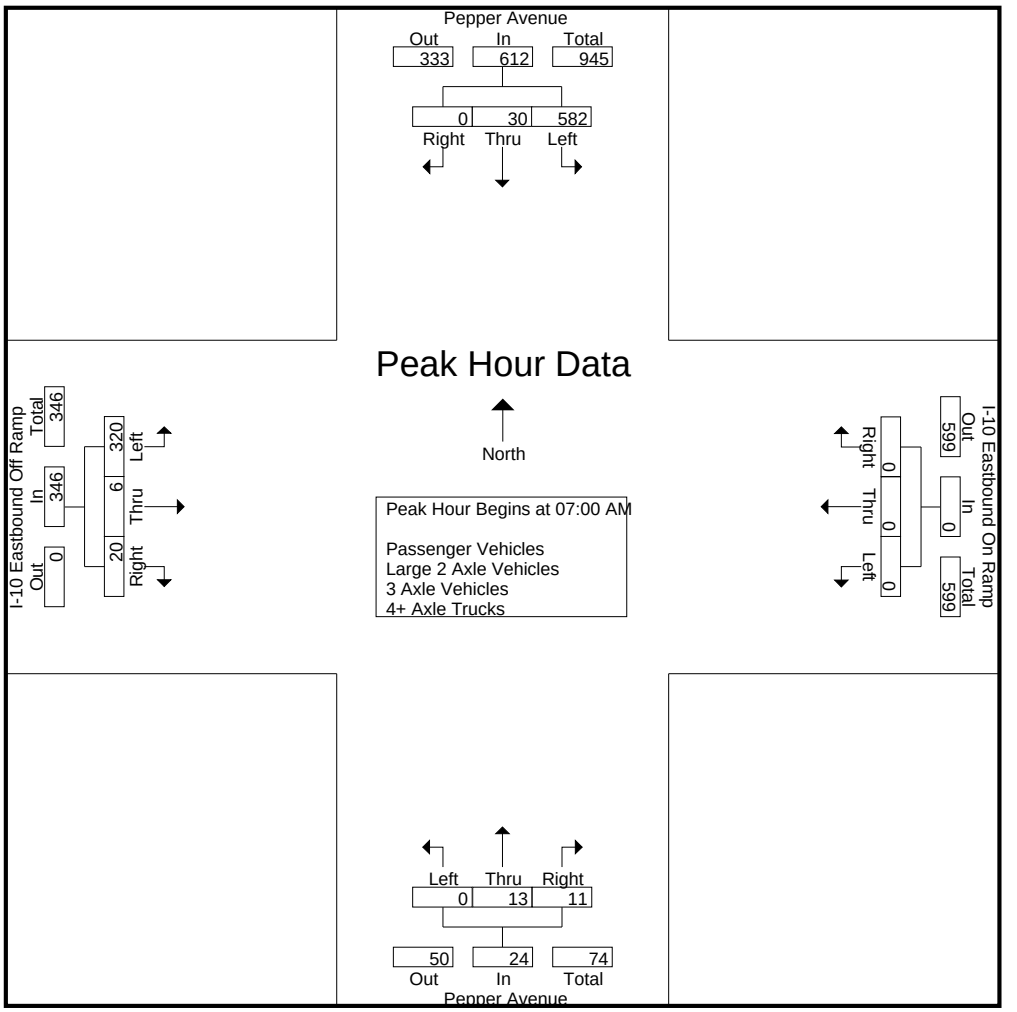
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	114	4	0	118	0	0	0	0	0	4	4	8	95	2	6	103	229
07:15 AM	143	6	0	149	0	0	0	0	0	2	0	2	71	0	4	75	226
07:30 AM	165	9	0	174	0	0	0	0	0	3	4	7	75	2	8	85	266
07:45 AM	160	11	0	171	0	0	0	0	0	4	3	7	79	2	2	83	261
Total	582	30	0	612	0	0	0	0	0	13	11	24	320	6	20	346	982
08:00 AM	110	7	0	117	0	0	0	0	0	8	5	13	89	0	1	90	220
08:15 AM	101	7	0	108	0	0	0	0	0	3	4	7	67	1	1	69	184
08:30 AM	89	9	0	98	0	0	0	0	0	4	4	8	86	1	3	90	196
08:45 AM	111	6	0	117	0	0	0	0	0	6	5	11	85	0	2	87	215
Total	411	29	0	440	0	0	0	0	0	21	18	39	327	2	7	336	815
Grand Total	993	59	0	1052	0	0	0	0	0	34	29	63	647	8	27	682	1797
Apprch %	94.4	5.6	0		0	0	0		0	54	46		94.9	1.2	4		
Total %	55.3	3.3	0	58.5	0	0	0	0	0	1.9	1.6	3.5	36	0.4	1.5	38	
Passenger Vehicles	945	25	0	970	0	0	0	0	0	10	8	18	568	5	2	575	1563
% Passenger Vehicles	95.2	42.4	0	92.2	0	0	0	0	0	29.4	27.6	28.6	87.8	62.5	7.4	84.3	87
Large 2 Axle Vehicles	35	6	0	41	0	0	0	0	0	2	2	4	22	2	2	26	71
% Large 2 Axle Vehicles	3.5	10.2	0	3.9	0	0	0	0	0	5.9	6.9	6.3	3.4	25	7.4	3.8	4
3 Axle Vehicles	7	5	0	12	0	0	0	0	0	2	3	5	14	0	4	18	35
% 3 Axle Vehicles	0.7	8.5	0	1.1	0	0	0	0	0	5.9	10.3	7.9	2.2	0	14.8	2.6	1.9
4+ Axle Trucks	6	23	0	29	0	0	0	0	0	20	16	36	43	1	19	63	128
% 4+ Axle Trucks	0.6	39	0	2.8	0	0	0	0	0	58.8	55.2	57.1	6.6	12.5	70.4	9.2	7.1

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	114	4	0	118	0	0	0	0	0	**4**	**4**	**8**	**95**	**2**	6	**103**	229
07:15 AM	143	6	0	149	0	0	0	0	0	2	0	2	71	0	4	75	226
07:30 AM	**165**	9	0	**174**	0	0	0	0	0	3	4	7	75	2	**8**	85	**266**
07:45 AM	160	**11**	0	171	0	0	0	0	0	4	3	7	79	2	2	83	261
Total Volume	582	30	0	612	0	0	0	0	0	13	11	24	320	6	20	346	982
% App. Total	95.1	4.9	0		0	0	0		0	54.2	45.8		92.5	1.7	5.8		
PHF	.882	.682	.000	.879	.000	.000	.000	.000	.000	.813	.688	.750	.842	.750	.625	.840	.923

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	114	4	0	118	0	0	0	0	0	**8**	**5**	**13**	**95**	**2**	6	**103**
+15 mins.	143	6	0	149	0	0	0	0	0	3	4	7	71	0	4	75
+30 mins.	**165**	9	0	**174**	0	0	0	0	0	4	4	8	75	2	**8**	85
+45 mins.	160	**11**	0	171	0	0	0	0	0	6	5	11	79	2	2	83
Total Volume	582	30	0	612	0	0	0	0	0	21	18	39	320	6	20	346
% App. Total	95.1	4.9	0		0	0	0		0	53.8	46.2		92.5	1.7	5.8	
PHF	.882	.682	.000	.879	.000	.000	.000	.000	.000	.656	.900	.750	.842	.750	.625	.840

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

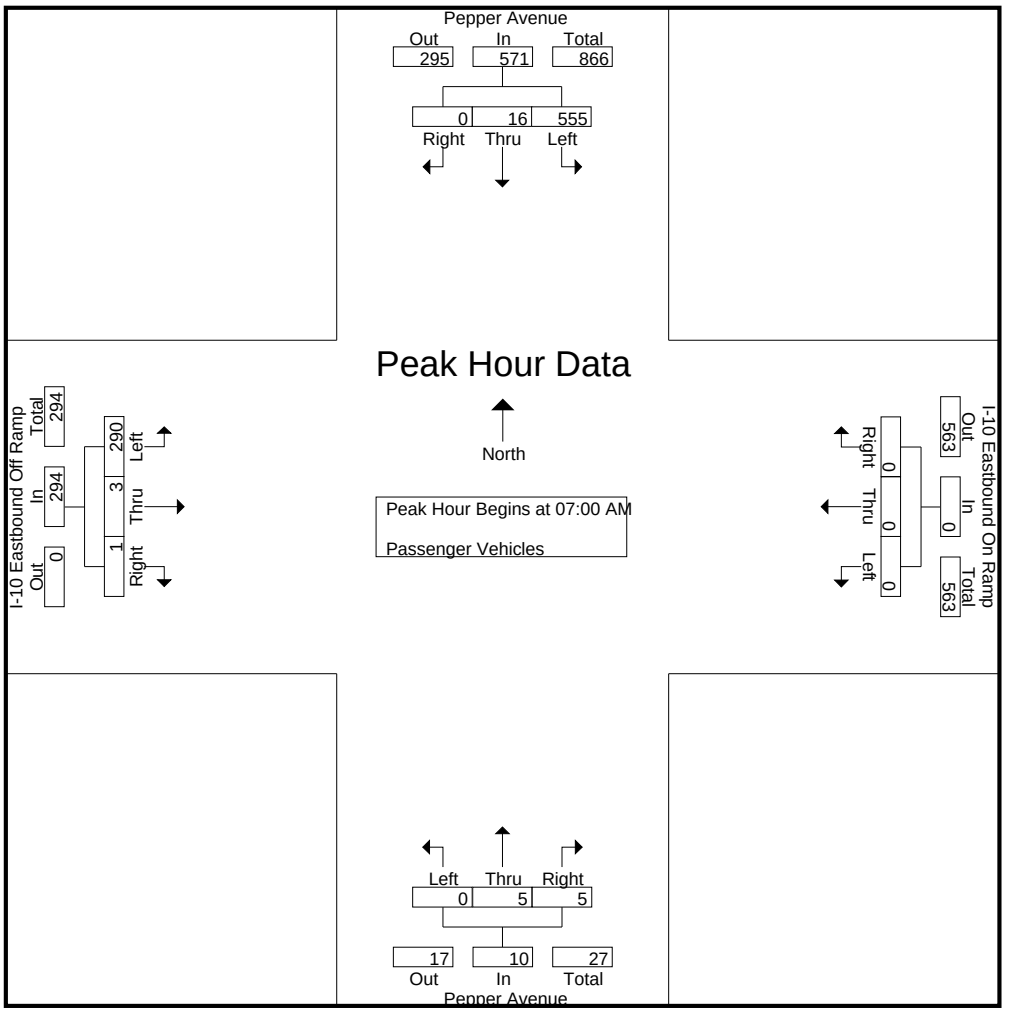
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	105	2	0	107	0	0	0	0	0	2	2	4	83	1	1	85	196
07:15 AM	139	4	0	143	0	0	0	0	0	1	0	1	63	0	0	63	207
07:30 AM	160	5	0	165	0	0	0	0	0	1	2	3	71	1	0	72	240
07:45 AM	151	5	0	156	0	0	0	0	0	1	1	2	73	1	0	74	232
Total	555	16	0	571	0	0	0	0	0	5	5	10	290	3	1	294	875
08:00 AM	107	4	0	111	0	0	0	0	0	1	0	1	77	0	0	77	189
08:15 AM	92	1	0	93	0	0	0	0	0	0	2	2	54	1	0	55	150
08:30 AM	84	2	0	86	0	0	0	0	0	1	1	2	75	1	1	77	165
08:45 AM	107	2	0	109	0	0	0	0	0	3	0	3	72	0	0	72	184
Total	390	9	0	399	0	0	0	0	0	5	3	8	278	2	1	281	688
Grand Total	945	25	0	970	0	0	0	0	0	10	8	18	568	5	2	575	1563
Apprch %	97.4	2.6	0		0	0	0		0	55.6	44.4		98.8	0.9	0.3		
Total %	60.5	1.6	0	62.1	0	0	0	0	0	0.6	0.5	1.2	36.3	0.3	0.1	36.8	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	105	2	0	107	0	0	0	0	0	**2**	**2**	**4**	**83**	**1**	**1**	**85**	196
07:15 AM	139	4	0	143	0	0	0	0	0	1	0	1	63	0	0	63	207
07:30 AM	**160**	**5**	0	**165**	0	0	0	0	0	1	2	3	71	1	0	72	**240**
07:45 AM	151	5	0	156	0	0	0	0	0	1	1	2	73	1	0	74	232
Total Volume	555	16	0	571	0	0	0	0	0	5	5	10	290	3	1	294	875
% App. Total	97.2	2.8	0		0	0	0		0	50	50		98.6	1	0.3		
PHF	.867	.800	.000	.865	.000	.000	.000	.000	.000	.625	.625	.625	.873	.750	.250	.865	.911

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	105	2	0	107	0	0	0	0	0	**2**	**2**	**4**	**83**	**1**	**1**	**85**
+15 mins.	139	4	0	143	0	0	0	0	0	1	0	1	63	0	0	63
+30 mins.	**160**	**5**	0	**165**	0	0	0	0	0	1	2	3	71	1	0	72
+45 mins.	151	5	0	156	0	0	0	0	0	1	1	2	73	1	0	74
Total Volume	555	16	0	571	0	0	0	0	0	5	5	10	290	3	1	294
% App. Total	97.2	2.8	0		0	0	0		0	50	50		98.6	1	0.3	
PHF	.867	.800	.000	.865	.000	.000	.000	.000	.000	.625	.625	.625	.873	.750	.250	.865

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

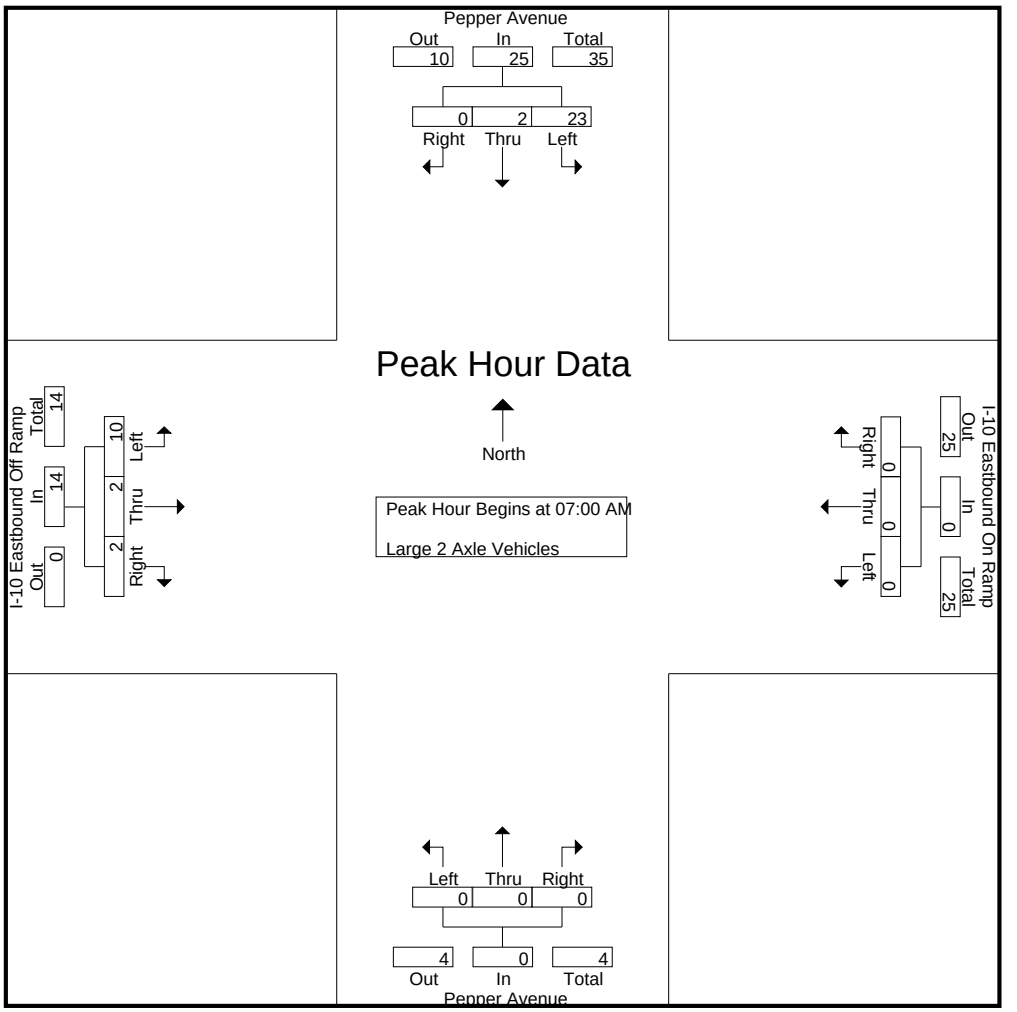
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	0	0	8	0	0	0	0	0	0	0	0	5	1	2	8	16
07:15 AM	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	6
07:30 AM	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	6
07:45 AM	7	2	0	9	0	0	0	0	0	0	0	0	1	1	0	2	11
Total	23	2	0	25	0	0	0	0	0	0	0	0	10	2	2	14	39
08:00 AM	3	1	0	4	0	0	0	0	0	1	2	3	6	0	0	6	13
08:15 AM	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
08:30 AM	3	1	0	4	0	0	0	0	0	0	0	0	2	0	0	2	6
08:45 AM	2	2	0	4	0	0	0	0	0	1	0	1	1	0	0	1	6
Total	12	4	0	16	0	0	0	0	0	2	2	4	12	0	0	12	32
Grand Total	35	6	0	41	0	0	0	0	0	2	2	4	22	2	2	26	71
Apprch %	85.4	14.6	0		0	0	0		0	50	50		84.6	7.7	7.7		
Total %	49.3	8.5	0	57.7	0	0	0	0	0	2.8	2.8	5.6	31	2.8	2.8	36.6	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**8**	0	0	8	0	0	0	0	0	0	0	0	**5**	**1**	**2**	**8**	**16**
07:15 AM	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	6
07:30 AM	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	6
07:45 AM	7	**2**	0	**9**	0	0	0	0	0	0	0	0	1	1	0	2	11
Total Volume	23	2	0	25	0	0	0	0	0	0	0	0	10	2	2	14	39
% App. Total	92	8	0		0	0	0		0	0	0		71.4	14.3	14.3		
PHF	.719	.250	.000	.694	.000	.000	.000	.000	.000	.000	.000	.000	.500	.500	.250	.438	.609

Counts Unlimited
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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**8**	0	0	8	0	0	0	0	0	0	0	0	**5**	**1**	**2**	**8**
+15 mins.	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2
+30 mins.	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2
+45 mins.	7	**2**	0	**9**	0	0	0	0	0	0	0	0	1	1	0	2
Total Volume	23	2	0	25	0	0	0	0	0	0	0	0	10	2	2	14
% App. Total	92	8	0		0	0	0		0	0	0		71.4	14.3	14.3	
PHF	.719	.250	.000	.694	.000	.000	.000	.000	.000	.000	.000	.000	.500	.500	.250	.438

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

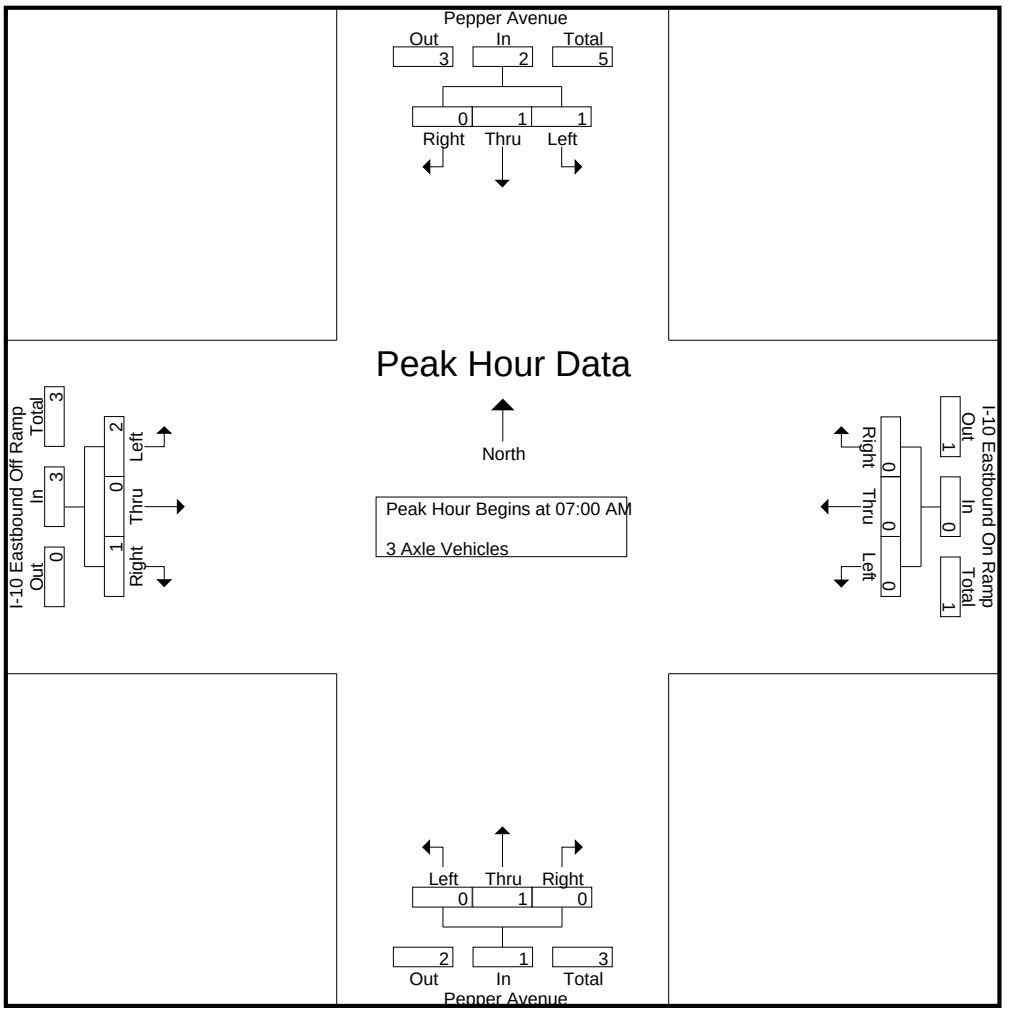
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	2	3
Total	1	1	0	2	0	0	0	0	0	1	0	1	2	0	1	3	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	4	2	0	6	0	0	0	0	0	0	2	2	3	0	1	4	12
08:30 AM	1	1	0	2	0	0	0	0	0	0	0	0	4	0	1	5	7
08:45 AM	1	1	0	2	0	0	0	0	0	1	1	2	5	0	1	6	10
Total	6	4	0	10	0	0	0	0	0	1	3	4	12	0	3	15	29
Grand Total	7	5	0	12	0	0	0	0	0	2	3	5	14	0	4	18	35
Apprch %	58.3	41.7	0		0	0	0		0	40	60		77.8	0	22.2		
Total %	20	14.3	0	34.3	0	0	0	0	0	5.7	8.6	14.3	40	0	11.4	51.4	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**	0	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	**1**	0	1	0	0	0	0	0	0	0	0	1	0	**1**	**2**	**3**
Total Volume	1	1	0	2	0	0	0	0	0	1	0	1	2	0	1	3	6
% App. Total	50	50	0		0	0	0		0	100	0		66.7	0	33.3		
PHF	.250	.250	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250	.500	.000	.250	.375	.500

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	**1**	0	1	0	0	0	0	0	0	0	0	1	0	**1**	**2**
Total Volume	1	1	0	2	0	0	0	0	0	1	0	1	2	0	1	3
% App. Total	50	50	0		0	0	0		0	100	0		66.7	0	33.3	
PHF	.250	.250	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250	.500	.000	.250	.375

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

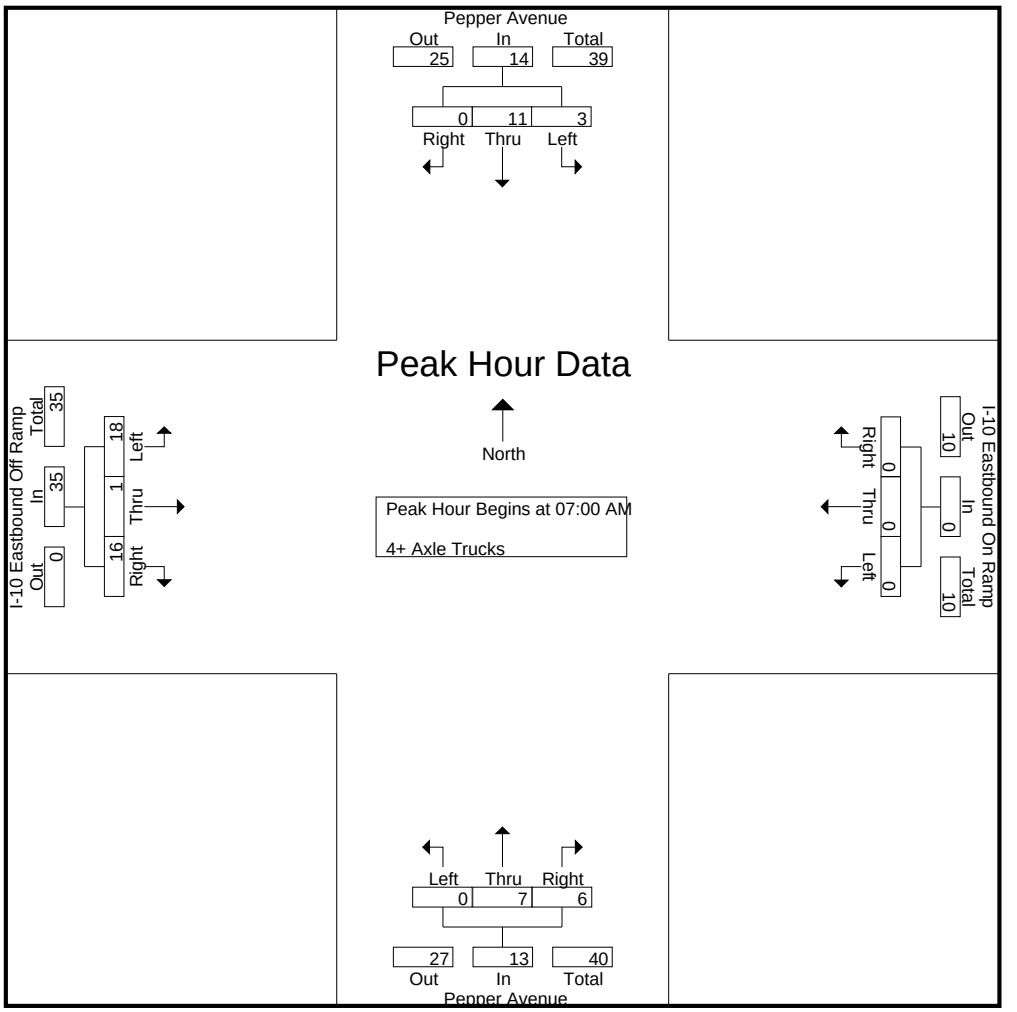
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	2	0	3	0	0	0	0	0	1	2	3	6	0	3	9	15
07:15 AM	0	2	0	2	0	0	0	0	0	1	0	1	6	0	4	10	13
07:30 AM	0	4	0	4	0	0	0	0	0	2	2	4	2	1	8	11	19
07:45 AM	2	3	0	5	0	0	0	0	0	3	2	5	4	0	1	5	15
Total	3	11	0	14	0	0	0	0	0	7	6	13	18	1	16	35	62
08:00 AM	0	2	0	2	0	0	0	0	0	6	3	9	6	0	1	7	18
08:15 AM	1	4	0	5	0	0	0	0	0	3	0	3	7	0	0	7	15
08:30 AM	1	5	0	6	0	0	0	0	0	3	3	6	5	0	1	6	18
08:45 AM	1	1	0	2	0	0	0	0	0	1	4	5	7	0	1	8	15
Total	3	12	0	15	0	0	0	0	0	13	10	23	25	0	3	28	66
Grand Total	6	23	0	29	0	0	0	0	0	20	16	36	43	1	19	63	128
Apprch %	20.7	79.3	0		0	0	0		0	55.6	44.4		68.3	1.6	30.2		
Total %	4.7	18	0	22.7	0	0	0	0	0	15.6	12.5	28.1	33.6	0.8	14.8	49.2	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	2	0	3	0	0	0	0	0	1	**2**	3	**6**	0	3	9	15
07:15 AM	0	2	0	2	0	0	0	0	0	1	0	1	6	0	4	10	13
07:30 AM	0	**4**	0	4	0	0	0	0	0	2	2	4	2	**1**	**8**	**11**	**19**
07:45 AM	**2**	3	0	**5**	0	0	0	0	0	**3**	2	**5**	4	0	1	5	15
Total Volume	3	11	0	14	0	0	0	0	0	7	6	13	18	1	16	35	62
% App. Total	21.4	78.6	0		0	0	0		0	53.8	46.2		51.4	2.9	45.7		
PHF	.375	.688	.000	.700	.000	.000	.000	.000	.000	.583	.750	.650	.750	.250	.500	.795	.816

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	1	2	0	3	0	0	0	0	0	1	**2**	3	**6**	0	3	9
+15 mins.	0	2	0	2	0	0	0	0	0	1	0	1	6	0	4	10
+30 mins.	0	**4**	0	4	0	0	0	0	0	2	2	4	2	**1**	**8**	**11**
+45 mins.	**2**	3	0	**5**	0	0	0	0	0	**3**	2	**5**	4	0	1	5
Total Volume	3	11	0	14	0	0	0	0	0	7	6	13	18	1	16	35
% App. Total	21.4	78.6	0		0	0	0		0	53.8	46.2		51.4	2.9	45.7	
PHF	.375	.688	.000	.700	.000	.000	.000	.000	.000	.583	.750	.650	.750	.250	.500	.795

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

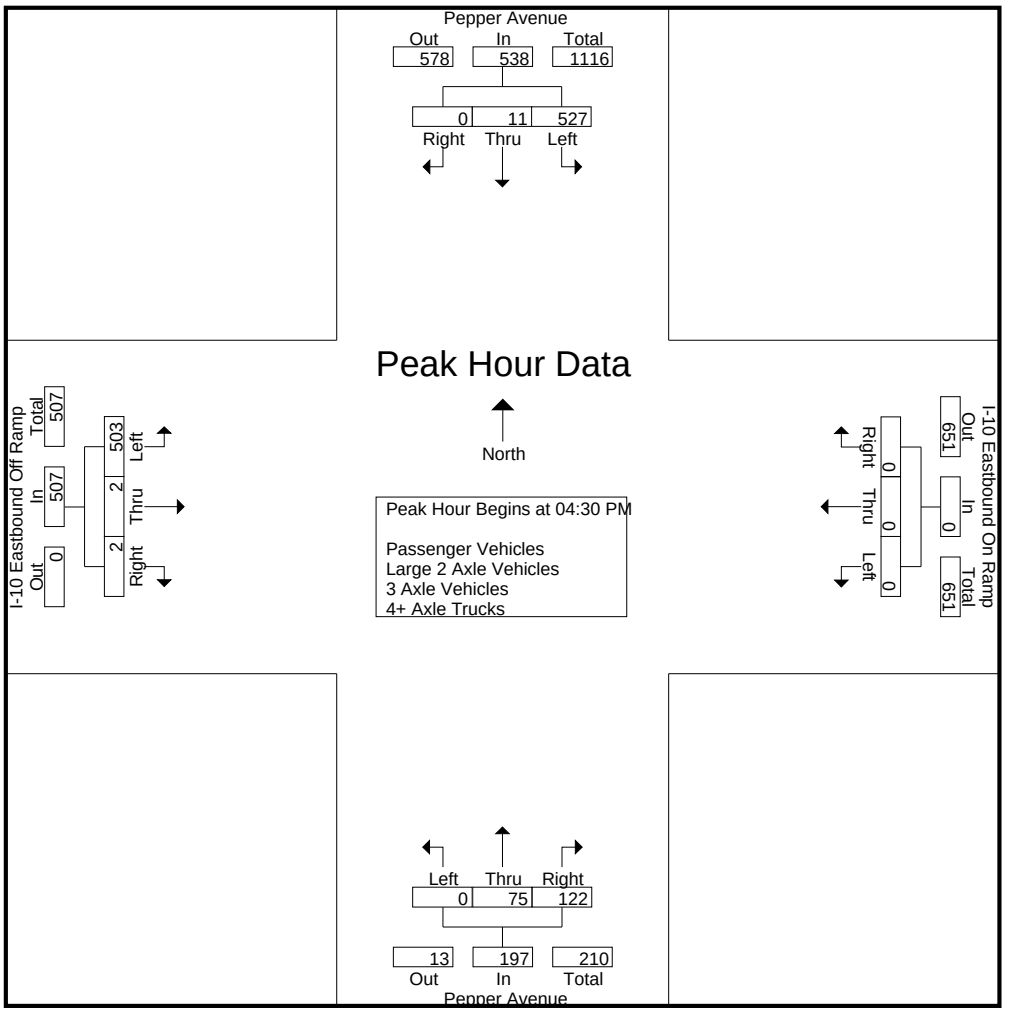
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	115	3	0	118	0	0	0	0	0	9	10	19	119	1	2	122	259
04:15 PM	128	6	0	134	0	0	0	0	0	5	17	22	117	1	1	119	275
04:30 PM	150	5	0	155	0	0	0	0	0	22	39	61	130	2	0	132	348
04:45 PM	118	1	0	119	0	0	0	0	0	18	34	52	121	0	0	121	292
Total	511	15	0	526	0	0	0	0	0	54	100	154	487	4	3	494	1174
05:00 PM	127	5	0	132	0	0	0	0	0	13	26	39	129	0	1	130	301
05:15 PM	132	0	0	132	0	0	0	0	0	22	23	45	123	0	1	124	301
05:30 PM	113	8	0	121	0	0	0	0	0	15	15	30	114	1	0	115	266
05:45 PM	121	3	0	124	0	0	0	0	0	5	8	13	112	1	1	114	251
Total	493	16	0	509	0	0	0	0	0	55	72	127	478	2	3	483	1119
Grand Total	1004	31	0	1035	0	0	0	0	0	109	172	281	965	6	6	977	2293
Apprch %	97	3	0		0	0	0		0	38.8	61.2		98.8	0.6	0.6		
Total %	43.8	1.4	0	45.1	0	0	0	0	0	4.8	7.5	12.3	42.1	0.3	0.3	42.6	
Passenger Vehicles	979	29	0	1008	0	0	0	0	0	102	167	269	900	5	3	908	2185
% Passenger Vehicles	97.5	93.5	0	97.4	0	0	0	0	0	93.6	97.1	95.7	93.3	83.3	50	92.9	95.3
Large 2 Axle Vehicles	15	2	0	17	0	0	0	0	0	6	3	9	13	1	0	14	40
% Large 2 Axle Vehicles	1.5	6.5	0	1.6	0	0	0	0	0	5.5	1.7	3.2	1.3	16.7	0	1.4	1.7
3 Axle Vehicles	3	0	0	3	0	0	0	0	0	0	1	1	7	0	0	7	11
% 3 Axle Vehicles	0.3	0	0	0.3	0	0	0	0	0	0	0.6	0.4	0.7	0	0	0.7	0.5
4+ Axle Trucks	7	0	0	7	0	0	0	0	0	1	1	2	45	0	3	48	57
% 4+ Axle Trucks	0.7	0	0	0.7	0	0	0	0	0	0.9	0.6	0.7	4.7	0	50	4.9	2.5

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**150**	**5**	0	**155**	0	0	0	0	0	**22**	**39**	**61**	**130**	**2**	0	**132**	**348**
04:45 PM	118	1	0	119	0	0	0	0	0	18	34	52	121	0	0	121	292
05:00 PM	127	5	0	132	0	0	0	0	0	13	26	39	129	0	**1**	130	301
05:15 PM	132	0	0	132	0	0	0	0	0	22	23	45	123	0	1	124	301
Total Volume	527	11	0	538	0	0	0	0	0	75	122	197	503	2	2	507	1242
% App. Total	98	2	0		0	0	0		0	38.1	61.9		99.2	0.4	0.4		
PHF	.878	.550	.000	.868	.000	.000	.000	.000	.000	.852	.782	.807	.967	.250	.500	.960	.892

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:30 PM				04:30 PM			
+0 mins.	128	**6**	0	134	0	0	0	0	0	**22**	**39**	**61**	**130**	**2**	0	**132**
+15 mins.	**150**	5	0	**155**	0	0	0	0	0	18	34	52	121	0	0	121
+30 mins.	118	1	0	119	0	0	0	0	0	13	26	39	129	0	**1**	130
+45 mins.	127	5	0	132	0	0	0	0	0	22	23	45	123	0	1	124
Total Volume	523	17	0	540	0	0	0	0	0	75	122	197	503	2	2	507
% App. Total	96.9	3.1	0		0	0	0		0	38.1	61.9		99.2	0.4	0.4	
PHF	.872	.708	.000	.871	.000	.000	.000	.000	.000	.852	.782	.807	.967	.250	.500	.960

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City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

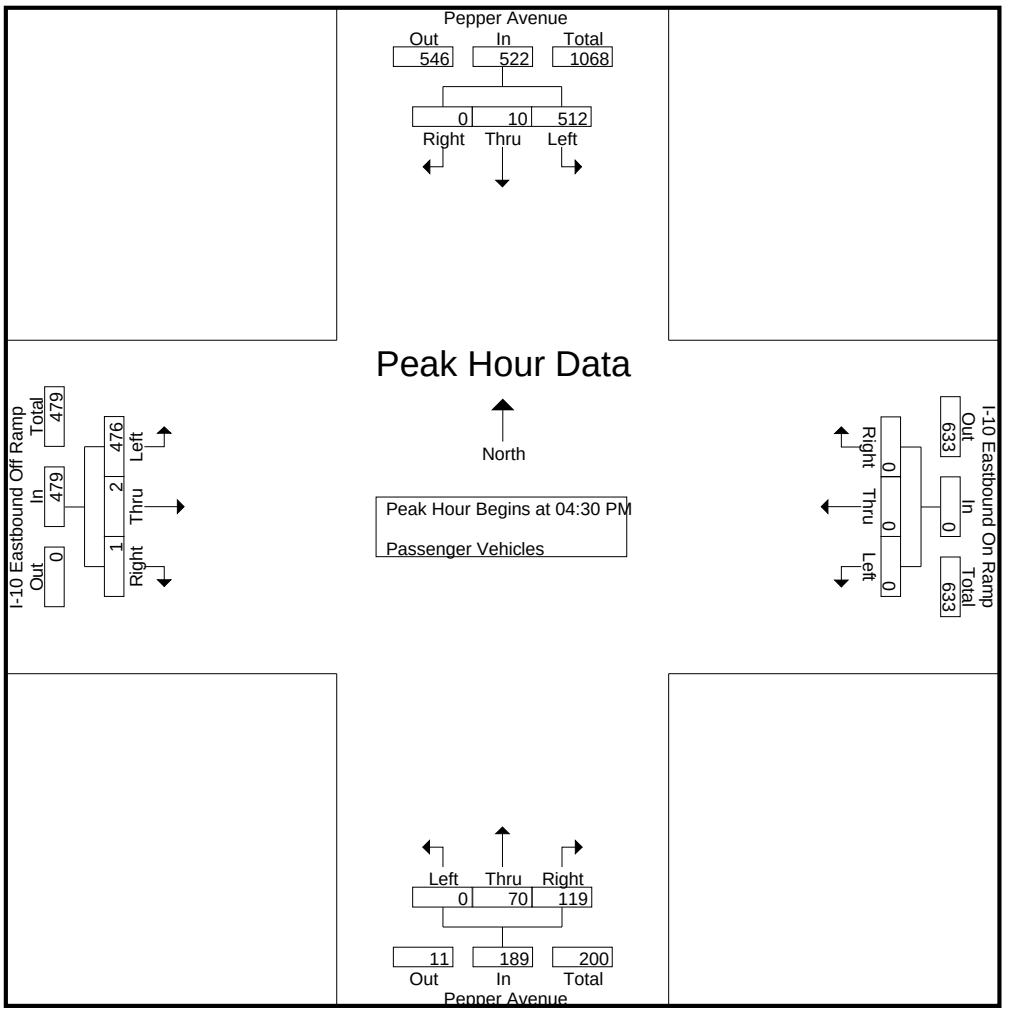
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	111	3	0	114	0	0	0	0	0	8	10	18	108	1	1	110	242
04:15 PM	126	6	0	132	0	0	0	0	0	5	16	21	110	1	1	112	265
04:30 PM	146	5	0	151	0	0	0	0	0	22	38	60	127	2	0	129	340
04:45 PM	115	1	0	116	0	0	0	0	0	16	33	49	114	0	0	114	279
Total	498	15	0	513	0	0	0	0	0	51	97	148	459	4	2	465	1126
05:00 PM	122	4	0	126	0	0	0	0	0	12	26	38	120	0	0	120	284
05:15 PM	129	0	0	129	0	0	0	0	0	20	22	42	115	0	1	116	287
05:30 PM	110	7	0	117	0	0	0	0	0	15	14	29	104	1	0	105	251
05:45 PM	120	3	0	123	0	0	0	0	0	4	8	12	102	0	0	102	237
Total	481	14	0	495	0	0	0	0	0	51	70	121	441	1	1	443	1059
Grand Total	979	29	0	1008	0	0	0	0	0	102	167	269	900	5	3	908	2185
Apprch %	97.1	2.9	0		0	0	0		0	37.9	62.1		99.1	0.6	0.3		
Total %	44.8	1.3	0	46.1	0	0	0	0	0	4.7	7.6	12.3	41.2	0.2	0.1	41.6	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**146**	**5**	0	**151**	0	0	0	0	0	**22**	**38**	**60**	**127**	**2**	0	**129**	**340**
04:45 PM	115	1	0	116	0	0	0	0	0	16	33	49	114	0	0	114	279
05:00 PM	122	4	0	126	0	0	0	0	0	12	26	38	120	0	0	120	284
05:15 PM	129	0	0	129	0	0	0	0	0	20	22	42	115	0	**1**	116	287
Total Volume	512	10	0	522	0	0	0	0	0	70	119	189	476	2	1	479	1190
% App. Total	98.1	1.9	0		0	0	0		0	37	63		99.4	0.4	0.2		
PHF	.877	.500	.000	.864	.000	.000	.000	.000	.000	.795	.783	.788	.937	.250	.250	.928	.875

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**146**	**5**	0	**151**	0	0	0	0	0	**22**	**38**	**60**	**127**	**2**	0	**129**
+15 mins.	115	1	0	116	0	0	0	0	0	16	33	49	114	0	0	114
+30 mins.	122	4	0	126	0	0	0	0	0	12	26	38	120	0	0	120
+45 mins.	129	0	0	129	0	0	0	0	0	20	22	42	115	0	**1**	116
Total Volume	512	10	0	522	0	0	0	0	0	70	119	189	476	2	1	479
% App. Total	98.1	1.9	0		0	0	0		0	37	63		99.4	0.4	0.2	
PHF	.877	.500	.000	.864	.000	.000	.000	.000	.000	.795	.783	.788	.937	.250	.250	.928

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

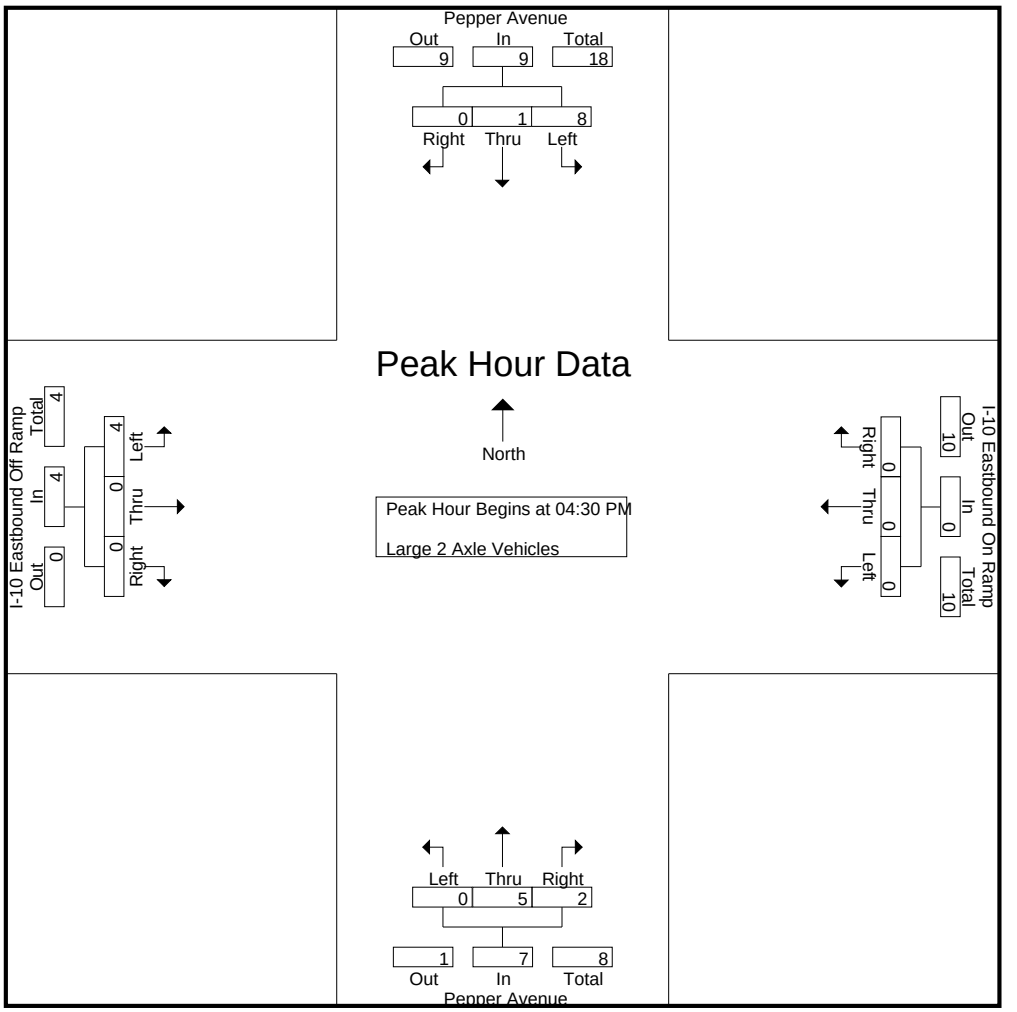
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	5
04:15 PM	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
04:30 PM	2	0	0	2	0	0	0	0	0	0	1	1	0	0	0	0	3
04:45 PM	2	0	0	2	0	0	0	0	0	2	0	2	3	0	0	3	7
Total	8	0	0	8	0	0	0	0	0	2	2	4	5	0	0	5	17
05:00 PM	2	1	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:15 PM	2	0	0	2	0	0	0	0	0	2	1	3	1	0	0	1	6
05:30 PM	2	1	0	3	0	0	0	0	0	0	0	0	3	0	0	3	6
05:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	4	1	0	5	7
Total	7	2	0	9	0	0	0	0	0	4	1	5	8	1	0	9	23
Grand Total	15	2	0	17	0	0	0	0	0	6	3	9	13	1	0	14	40
Apprch %	88.2	11.8	0		0	0	0		0	66.7	33.3		92.9	7.1	0		
Total %	37.5	5	0	42.5	0	0	0	0	0	15	7.5	22.5	32.5	2.5	0	35	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**2**	0	0	2	0	0	0	0	0	0	**1**	1	0	0	0	0	3
04:45 PM	2	0	0	2	0	0	0	0	0	**2**	0	2	**3**	0	0	**3**	**7**
05:00 PM	2	**1**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0	4
05:15 PM	2	0	0	2	0	0	0	0	0	2	1	**3**	1	0	0	1	6
Total Volume	8	1	0	9	0	0	0	0	0	5	2	7	4	0	0	4	20
% App. Total	88.9	11.1	0		0	0	0		0	71.4	28.6		100	0	0		
PHF	1.00	.250	.000	.750	.000	.000	.000	.000	.000	.625	.500	.583	.333	.000	.000	.333	.714

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**2**	0	0	2	0	0	0	0	0	0	**1**	1	0	0	0	0
+15 mins.	2	0	0	2	0	0	0	0	0	**2**	0	2	**3**	0	0	**3**
+30 mins.	2	**1**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	2	0	0	2	0	0	0	0	0	2	1	**3**	1	0	0	1
Total Volume	8	1	0	9	0	0	0	0	0	5	2	7	4	0	0	4
% App. Total	88.9	11.1	0		0	0	0		0	71.4	28.6		100	0	0	
PHF	1.000	.250	.000	.750	.000	.000	.000	.000	.000	.625	.500	.583	.333	.000	.000	.333

Counts Unlimited
PO Box 1178
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(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

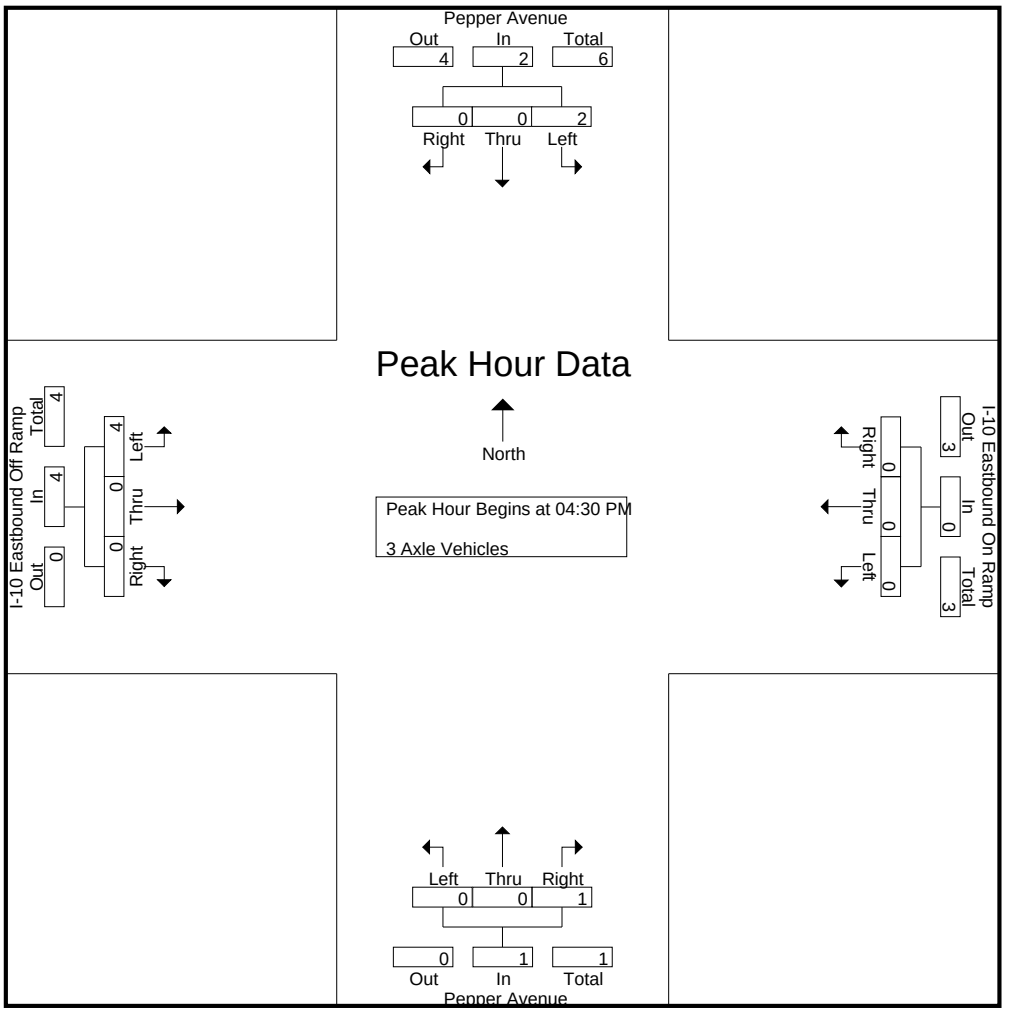
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
Total	2	0	0	2	0	0	0	0	0	0	1	1	3	0	0	3	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	4	5
Grand Total	3	0	0	3	0	0	0	0	0	0	1	1	7	0	0	7	11
Apprch %	100	0	0		0	0	0		0	0	100		100	0	0		
Total %	27.3	0	0	27.3	0	0	0	0	0	0	9.1	9.1	63.6	0	0	63.6	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1	0	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	0	**2**	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	2	0	0	2	0	0	0	0	0	0	1	1	4	0	0	4	7
% App. Total	100	0	0		0	0	0		0	0	100		100	0	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	.500	.000	.000	.500	.875

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	0	**2**
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total Volume	2	0	0	2	0	0	0	0	0	0	1	1	4	0	0	4
% App. Total	100	0	0		0	0	0		0	0	100		100	0	0	
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	.500	.000	.000	.500

Counts Unlimited
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(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

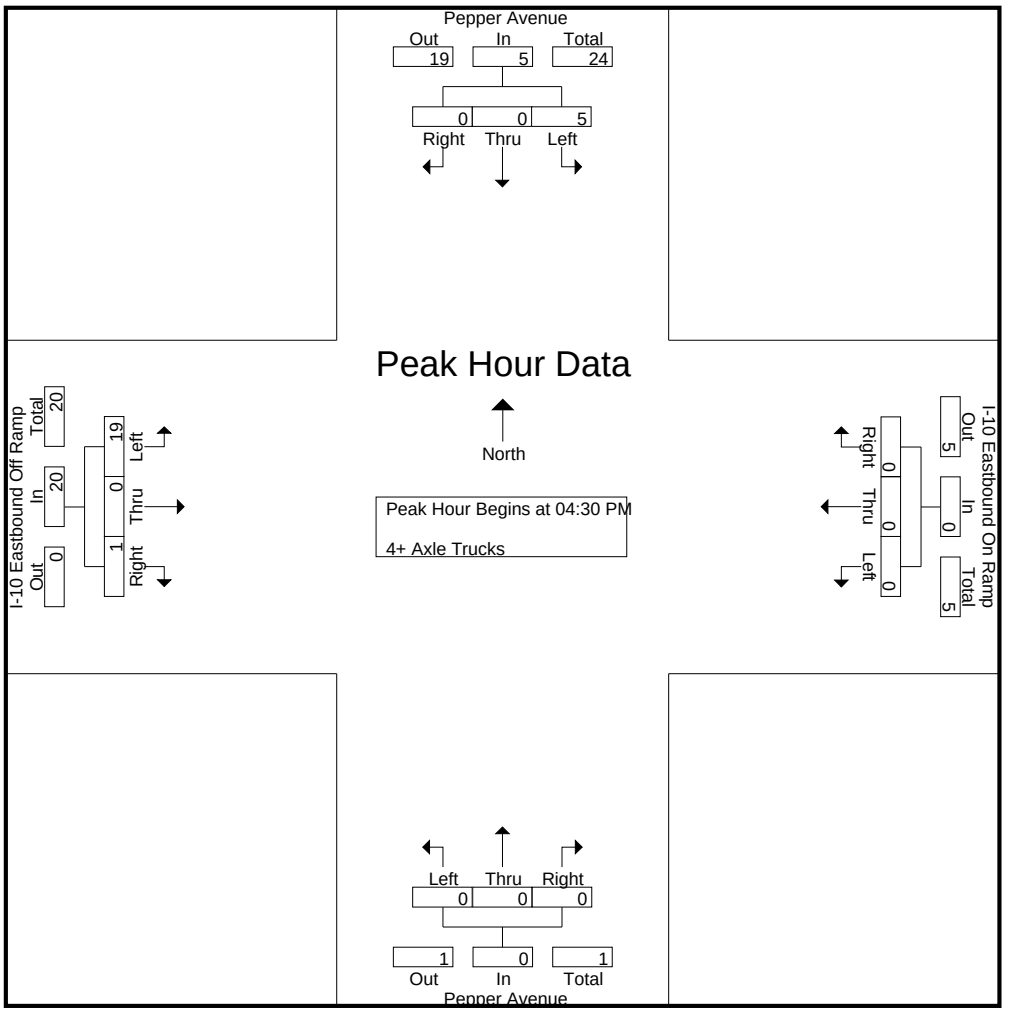
	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	0	0	0	0	0	1	0	1	8	0	1	9	11
04:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6	7
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
04:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
Total	3	0	0	3	0	0	0	0	0	1	0	1	20	0	1	21	25
05:00 PM	3	0	0	3	0	0	0	0	0	0	0	0	7	0	1	8	11
05:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6	7
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	7	0	0	7	8
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	1	6	6
Total	4	0	0	4	0	0	0	0	0	0	1	1	25	0	2	27	32
Grand Total	7	0	0	7	0	0	0	0	0	1	1	2	45	0	3	48	57
Apprch %	100	0	0		0	0	0		0	50	50		93.8	0	6.2		
Total %	12.3	0	0	12.3	0	0	0	0	0	1.8	1.8	3.5	78.9	0	5.3	84.2	

	Pepper Avenue Southbound				I-10 Eastbound On Ramp Westbound				Pepper Avenue Northbound				I-10 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
04:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	4
05:00 PM	**3**	0	0	**3**	0	0	0	0	0	0	0	0	**7**	0	**1**	**8**	**11**
05:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6	7
Total Volume	5	0	0	5	0	0	0	0	0	0	0	0	19	0	1	20	25
% App. Total	100	0	0		0	0	0		0	0	0		95	0	5		
PHF	.417	.000	.000	.417	.000	.000	.000	.000	.000	.000	.000	.000	.679	.000	.250	.625	.568

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Pepper Avenue
E/W: I-10 Eastbound Ramps
Weather: Clear

File Name : 03_COL_Pepper_10E PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
+15 mins.	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3
+30 mins.	**3**	0	0	**3**	0	0	0	0	0	0	0	0	**7**	0	**1**	**8**
+45 mins.	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6
Total Volume	5	0	0	5	0	0	0	0	0	0	0	0	19	0	1	20
% App. Total	100	0	0		0	0	0		0	0	0		95	0	5	
PHF	.417	.000	.000	.417	.000	.000	.000	.000	.000	.000	.000	.000	.679	.000	.250	.625

Counts Unlimited
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951-268-6268

City of Colton
N/S: West Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 01_COLWDWVAAM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 1

Groups Printed- Total Volume

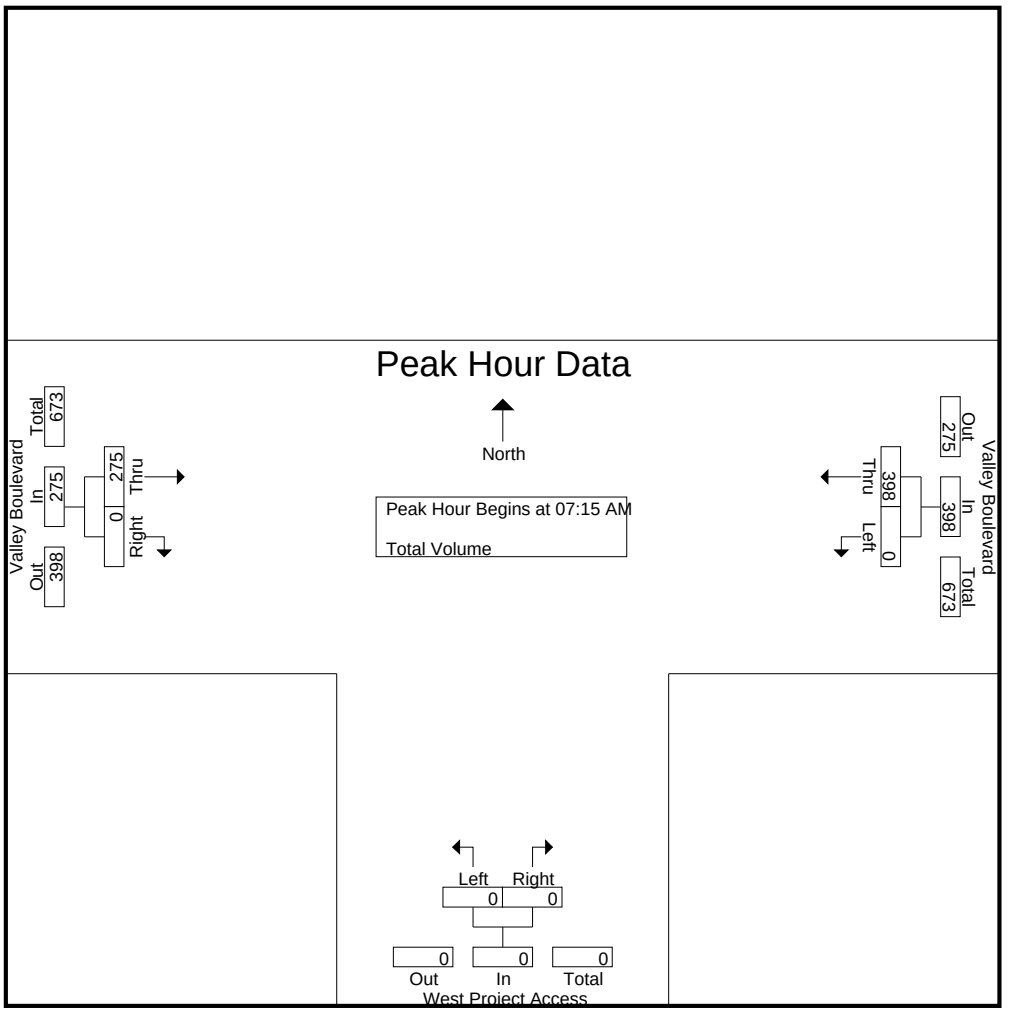
	Valley Boulevard Westbound			West Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	98	98	0	0	0	49	0	49	147
07:15 AM	0	123	123	0	0	0	66	0	66	189
07:30 AM	0	98	98	0	0	0	65	0	65	163
07:45 AM	0	87	87	0	0	0	78	0	78	165
Total	0	406	406	0	0	0	258	0	258	664
08:00 AM	0	90	90	0	0	0	66	0	66	156
08:15 AM	0	62	62	0	0	0	63	0	63	125
08:30 AM	0	79	79	0	0	0	65	0	65	144
08:45 AM	0	67	67	0	0	0	44	0	44	111
Total	0	298	298	0	0	0	238	0	238	536
Grand Total	0	704	704	0	0	0	496	0	496	1200
Apprch %	0	100		0	0		100	0		
Total %	0	58.7	58.7	0	0	0	41.3	0	41.3	

	Valley Boulevard Westbound			West Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	**123**	**123**	0	0	0	66	0	66	**189**
07:30 AM	0	98	98	0	0	0	65	0	65	163
07:45 AM	0	87	87	0	0	0	**78**	0	**78**	165
08:00 AM	0	90	90	0	0	0	66	0	66	156
Total Volume	0	398	398	0	0	0	275	0	275	673
% App. Total	0	100		0	0		100	0		
PHF	.000	.809	.809	.000	.000	.000	.881	.000	.881	.890

Counts Unlimited
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951-268-6268

City of Colton
N/S: West Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 01_COLWDWVAAM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	0	98	98	0	0	0	66	0	66
+15 mins.	0	**123**	**123**	0	0	0	65	0	65
+30 mins.	0	98	98	0	0	0	**78**	0	**78**
+45 mins.	0	87	87	0	0	0	66	0	66
Total Volume	0	406	406	0	0	0	275	0	275
% App. Total	0	100		0	0		100	0	
PHF	.000	.825	.825	.000	.000	.000	.881	.000	.881

Counts Unlimited
PO Box 1178
Corona, CA 92878
951-268-6268

City of Colton
N/S: West Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 01_COLWDWVAPM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 1

Groups Printed- Total Volume

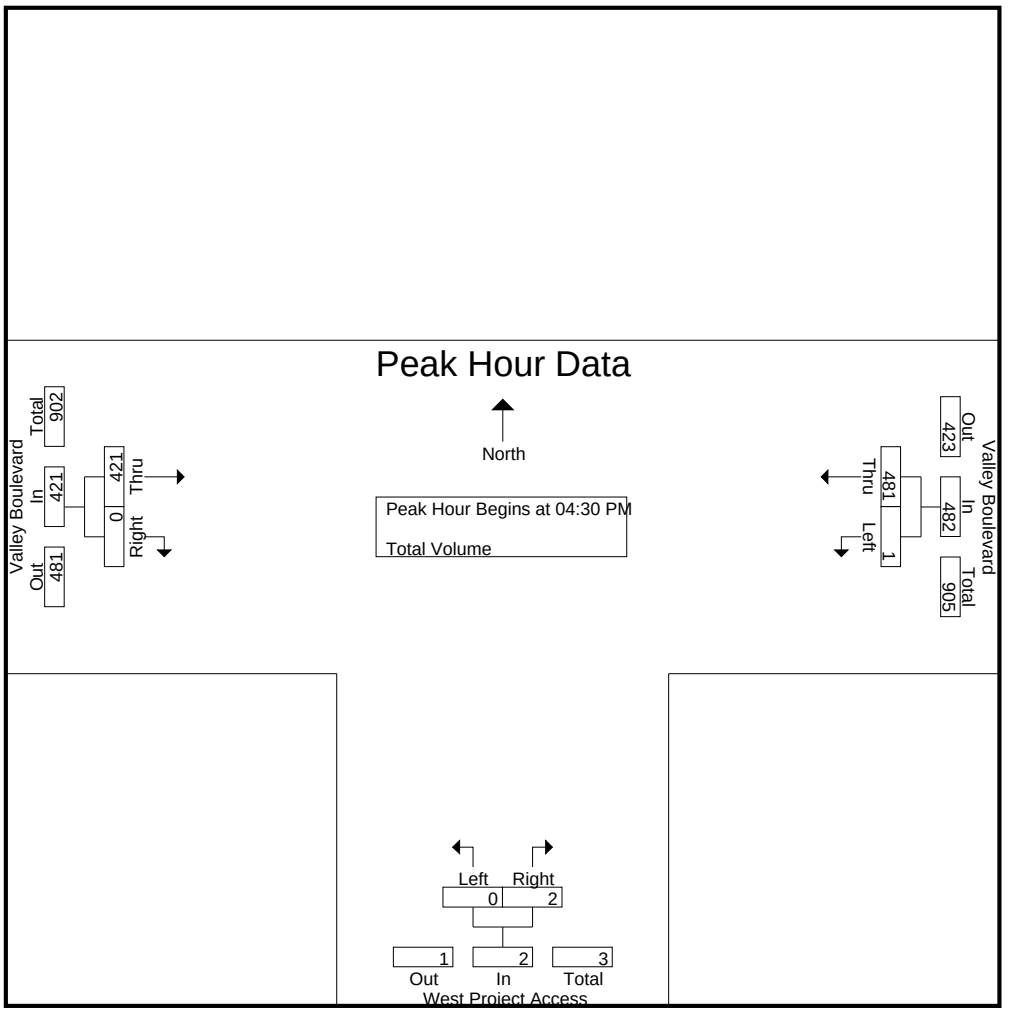
	Valley Boulevard Westbound			West Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	71	71	0	0	0	98	2	100	171
04:15 PM	0	75	75	1	0	1	91	0	91	167
04:30 PM	0	135	135	0	1	1	107	0	107	243
04:45 PM	1	109	110	0	0	0	89	0	89	199
Total	1	390	391	1	1	2	385	2	387	780
05:00 PM	0	124	124	0	0	0	123	0	123	247
05:15 PM	0	113	113	0	1	1	102	0	102	216
05:30 PM	0	112	112	0	0	0	99	0	99	211
05:45 PM	0	89	89	0	0	0	88	0	88	177
Total	0	438	438	0	1	1	412	0	412	851
Grand Total	1	828	829	1	2	3	797	2	799	1631
Apprch %	0.1	99.9		33.3	66.7		99.7	0.3		
Total %	0.1	50.8	50.8	0.1	0.1	0.2	48.9	0.1	49	

	Valley Boulevard Westbound			West Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**135**	**135**	0	**1**	**1**	107	0	107	243
04:45 PM	**1**	109	110	0	0	0	89	0	89	199
05:00 PM	0	124	124	0	0	0	**123**	0	**123**	**247**
05:15 PM	0	113	113	0	1	1	102	0	102	216
Total Volume	1	481	482	0	2	2	421	0	421	905
% App. Total	0.2	99.8		0	100		100	0		
PHF	.250	.891	.893	.000	.500	.500	.856	.000	.856	.916

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City of Colton
N/S: West Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 01_COLWDWVAPM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:00 PM			04:30 PM		
+0 mins.	0	**135**	**135**	0	0	0	107	0	107
+15 mins.	**1**	109	110	**1**	0	**1**	89	0	89
+30 mins.	0	124	124	0	**1**	1	**123**	0	**123**
+45 mins.	0	113	113	0	0	0	102	0	102
Total Volume	1	481	482	1	1	2	421	0	421
% App. Total	0.2	99.8		50	50		100	0	
PHF	.250	.891	.893	.250	.250	.500	.856	.000	.856

Counts Unlimited
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951-268-6268

City of Colton
N/S: East Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 02_COLEDWVAAM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 1

Groups Printed- Total Volume

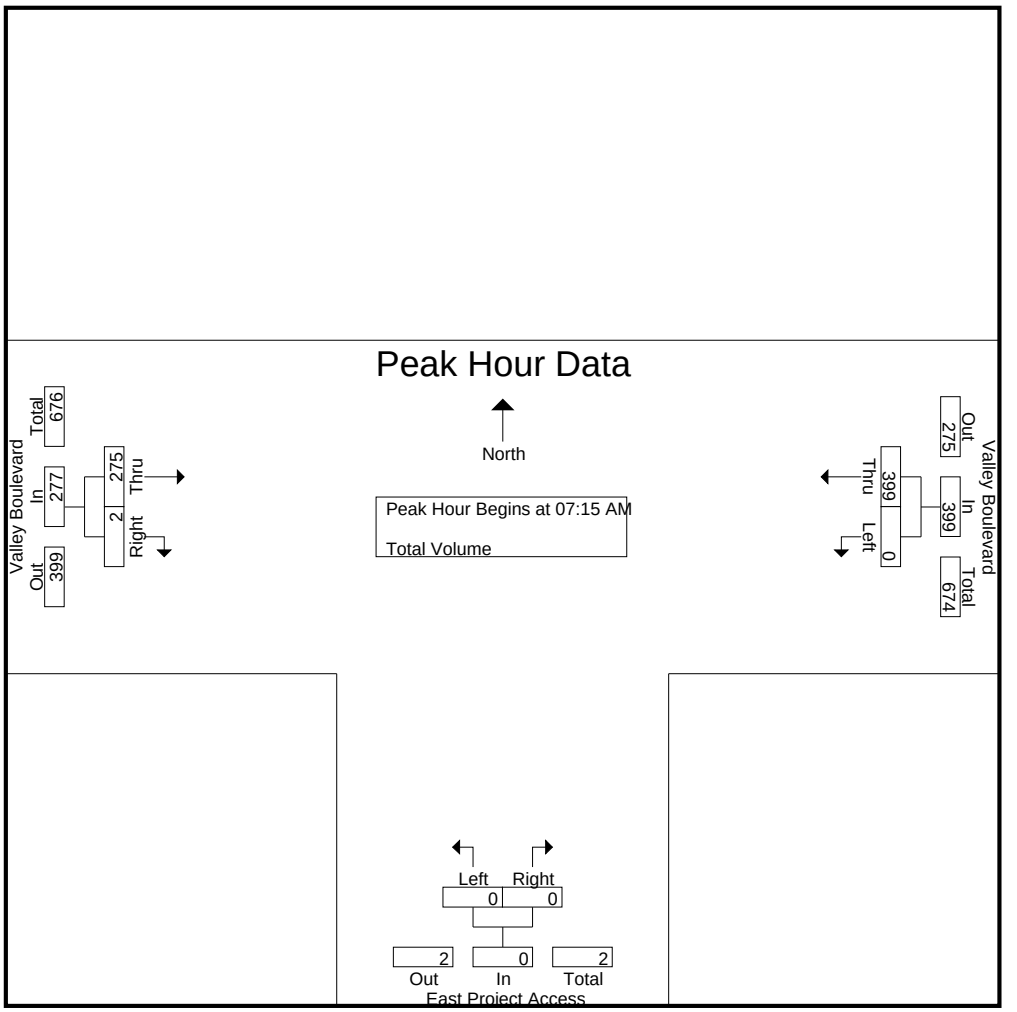
	Valley Boulevard Westbound			East Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	95	95	0	0	0	50	0	50	145
07:15 AM	0	125	125	0	0	0	66	0	66	191
07:30 AM	0	98	98	0	0	0	64	1	65	163
07:45 AM	0	88	88	0	0	0	78	1	79	167
Total	0	406	406	0	0	0	258	2	260	666
08:00 AM	0	88	88	0	0	0	67	0	67	155
08:15 AM	0	63	63	0	0	0	63	0	63	126
08:30 AM	0	77	77	2	0	2	60	2	62	141
08:45 AM	0	67	67	1	1	2	45	1	46	115
Total	0	295	295	3	1	4	235	3	238	537
Grand Total	0	701	701	3	1	4	493	5	498	1203
Apprch %	0	100		75	25		99	1		
Total %	0	58.3	58.3	0.2	0.1	0.3	41	0.4	41.4	

	Valley Boulevard Westbound			East Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	**125**	**125**	0	0	0	66	0	66	**191**
07:30 AM	0	98	98	0	0	0	64	**1**	65	163
07:45 AM	0	88	88	0	0	0	**78**	1	**79**	167
08:00 AM	0	88	88	0	0	0	67	0	67	155
Total Volume	0	399	399	0	0	0	275	2	277	676
% App. Total	0	100		0	0		99.3	0.7		
PHF	.000	.798	.798	.000	.000	.000	.881	.500	.877	.885

Counts Unlimited
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City of Colton
N/S: East Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 02_COLEDWVAAM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			08:00 AM			07:15 AM		
+0 mins.	0	95	95	0	0	0	66	0	66
+15 mins.	0	**125**	**125**	0	0	0	64	**1**	65
+30 mins.	0	98	98	**2**	0	**2**	**78**	1	**79**
+45 mins.	0	88	88	1	**1**	2	67	0	67
Total Volume	0	406	406	3	1	4	275	2	277
% App. Total	0	100		75	25		99.3	0.7	
PHF	.000	.812	.812	.375	.250	.500	.881	.500	.877

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City of Colton
N/S: East Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 02_COLEDWVAPM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 1

Groups Printed- Total Volume

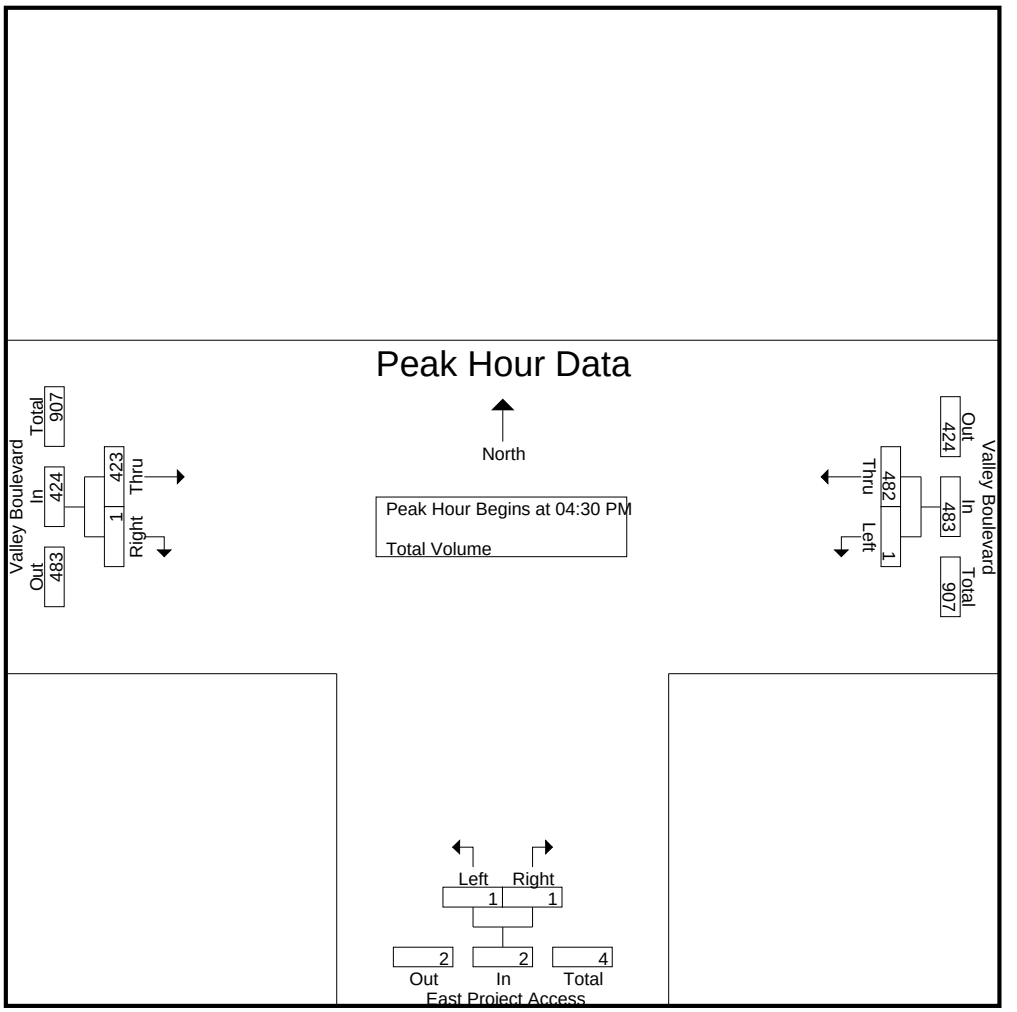
	Valley Boulevard Westbound			East Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	70	70	0	0	0	99	0	99	169
04:15 PM	0	74	74	0	0	0	90	1	91	165
04:30 PM	0	136	136	1	0	1	109	0	109	246
04:45 PM	0	110	110	0	0	0	86	0	86	196
Total	0	390	390	1	0	1	384	1	385	776
05:00 PM	0	124	124	0	0	0	126	0	126	250
05:15 PM	1	112	113	0	1	1	102	1	103	217
05:30 PM	0	115	115	0	0	0	100	0	100	215
05:45 PM	0	86	86	0	0	0	89	0	89	175
Total	1	437	438	0	1	1	417	1	418	857
Grand Total	1	827	828	1	1	2	801	2	803	1633
Apprch %	0.1	99.9		50	50		99.8	0.2		
Total %	0.1	50.6	50.7	0.1	0.1	0.1	49.1	0.1	49.2	

	Valley Boulevard Westbound			East Project Access Northbound			Valley Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**136**	**136**	**1**	0	**1**	109	0	109	246
04:45 PM	0	110	110	0	0	0	86	0	86	196
05:00 PM	0	124	124	0	0	0	**126**	0	**126**	**250**
05:15 PM	**1**	112	113	0	**1**	1	102	**1**	103	217
Total Volume	1	482	483	1	1	2	423	1	424	909
% App. Total	0.2	99.8		50	50		99.8	0.2		
PHF	.250	.886	.888	.250	.250	.500	.839	.250	.841	.909

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City of Colton
N/S: East Project Access
E/W: Valley Boulevard
Weather: Clear

File Name : 02_COLEDWVAPM
Site Code : 07517774
Start Date : 11/14/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	**136**	**136**	**1**	0	**1**	109	0	109
+15 mins.	0	110	110	0	0	0	86	0	86
+30 mins.	0	124	124	0	0	0	**126**	0	**126**
+45 mins.	**1**	112	113	0	**1**	1	102	**1**	103
Total Volume	1	482	483	1	1	2	423	1	424
% App. Total	0.2	99.8		50	50		99.8	0.2	
PHF	.250	.886	.888	.250	.250	.500	.839	.250	.841

Counts Unlimited
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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

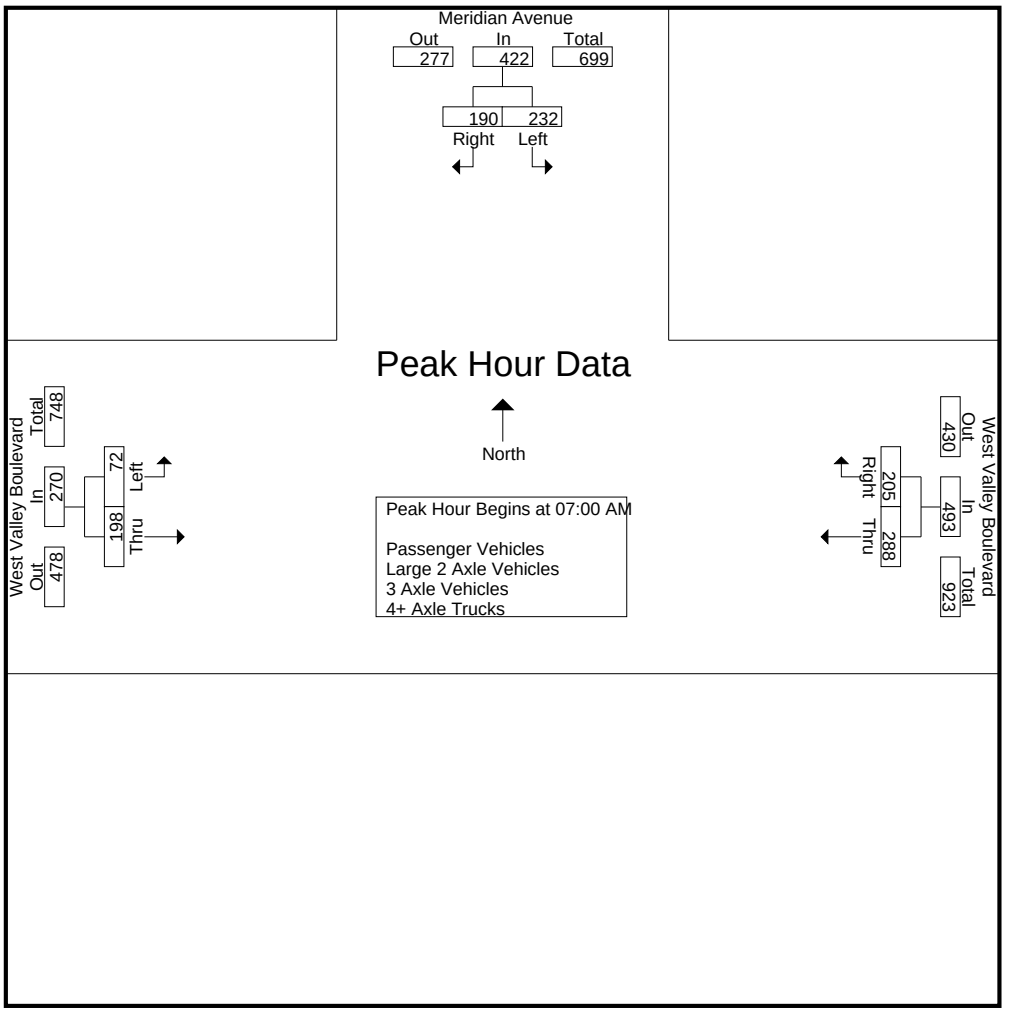
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	42	55	97	78	65	143	11	48	59	299
07:15 AM	65	54	119	82	48	130	28	51	79	328
07:30 AM	74	42	116	63	51	114	16	49	65	295
07:45 AM	51	39	90	65	41	106	17	50	67	263
Total	232	190	422	288	205	493	72	198	270	1185
08:00 AM	37	39	76	42	27	69	13	48	61	206
08:15 AM	35	28	63	78	27	105	14	37	51	219
08:30 AM	33	24	57	52	19	71	15	34	49	177
08:45 AM	33	27	60	57	32	89	15	39	54	203
Total	138	118	256	229	105	334	57	158	215	805
Grand Total	370	308	678	517	310	827	129	356	485	1990
Apprch %	54.6	45.4		62.5	37.5		26.6	73.4		
Total %	18.6	15.5	34.1	26	15.6	41.6	6.5	17.9	24.4	
Passenger Vehicles	356	299	655	486	307	793	119	338	457	1905
% Passenger Vehicles	96.2	97.1	96.6	94	99	95.9	92.2	94.9	94.2	95.7
Large 2 Axle Vehicles	13	3	16	24	3	27	6	13	19	62
% Large 2 Axle Vehicles	3.5	1	2.4	4.6	1	3.3	4.7	3.7	3.9	3.1
3 Axle Vehicles	1	3	4	3	0	3	1	3	4	11
% 3 Axle Vehicles	0.3	1	0.6	0.6	0	0.4	0.8	0.8	0.8	0.6
4+ Axle Trucks	0	3	3	4	0	4	3	2	5	12
% 4+ Axle Trucks	0	1	0.4	0.8	0	0.5	2.3	0.6	1	0.6

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	42	**55**	97	78	**65**	**143**	11	48	59	299
07:15 AM	65	54	**119**	**82**	48	130	**28**	**51**	**79**	**328**
07:30 AM	**74**	42	116	63	51	114	16	49	65	295
07:45 AM	51	39	90	65	41	106	17	50	67	263
Total Volume	232	190	422	288	205	493	72	198	270	1185
% App. Total	55	45		58.4	41.6		26.7	73.3		
PHF	.784	.864	.887	.878	.788	.862	.643	.971	.854	.903

Counts Unlimited
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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	42	**55**	97	78	**65**	**143**	**28**	**51**	**79**
+15 mins.	65	54	**119**	**82**	48	130	16	49	65
+30 mins.	**74**	42	116	63	51	114	17	50	67
+45 mins.	51	39	90	65	41	106	13	48	61
Total Volume	232	190	422	288	205	493	74	198	272
% App. Total	55	45		58.4	41.6		27.2	72.8	
PHF	.784	.864	.887	.878	.788	.862	.661	.971	.861

Counts Unlimited
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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

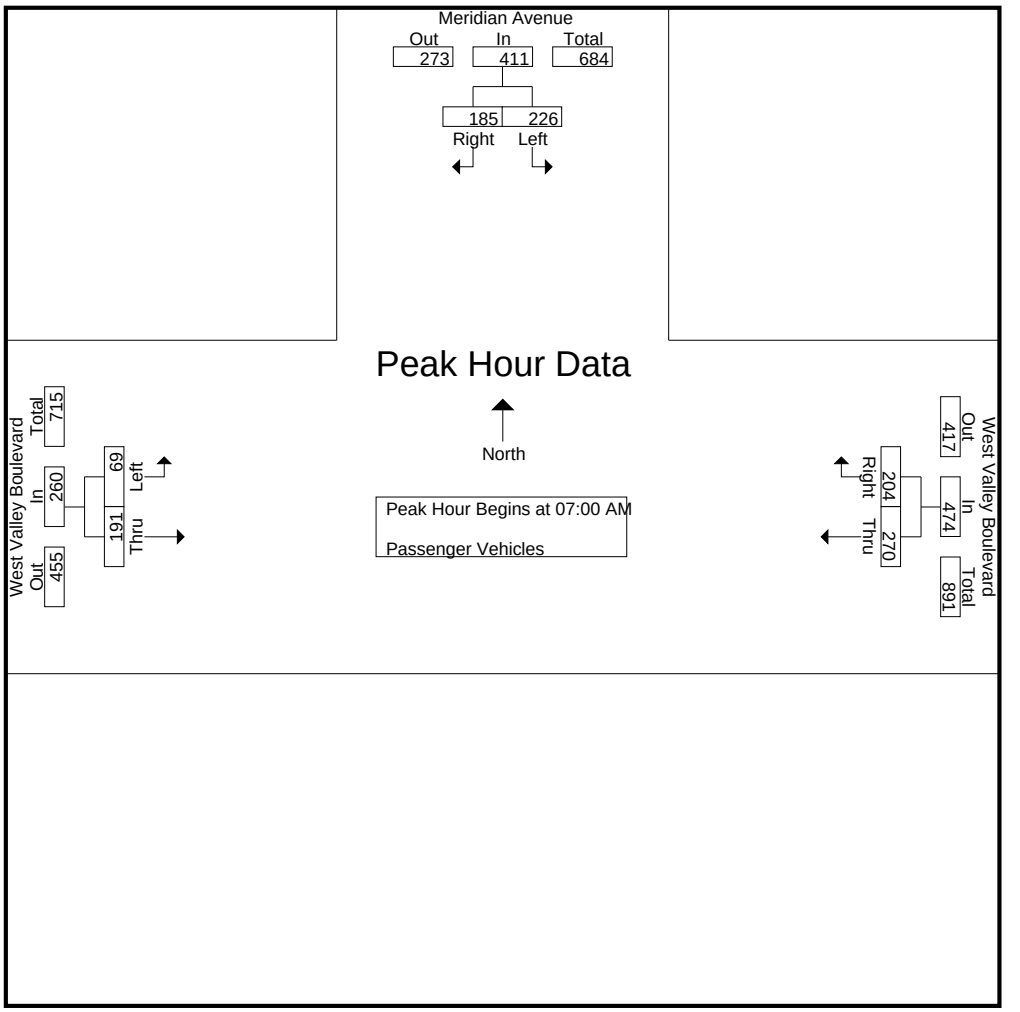
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	41	54	95	74	65	139	11	47	58	292
07:15 AM	64	52	116	76	48	124	26	49	75	315
07:30 AM	72	41	113	61	51	112	15	47	62	287
07:45 AM	49	38	87	59	40	99	17	48	65	251
Total	226	185	411	270	204	474	69	191	260	1145
08:00 AM	35	38	73	39	27	66	9	42	51	190
08:15 AM	33	28	61	76	27	103	12	34	46	210
08:30 AM	30	23	53	47	19	66	14	32	46	165
08:45 AM	32	25	57	54	30	84	15	39	54	195
Total	130	114	244	216	103	319	50	147	197	760
Grand Total	356	299	655	486	307	793	119	338	457	1905
Apprch %	54.4	45.6		61.3	38.7		26	74		
Total %	18.7	15.7	34.4	25.5	16.1	41.6	6.2	17.7	24	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	41	**54**	95	74	**65**	**139**	11	47	58	292
07:15 AM	64	52	**116**	**76**	48	124	**26**	**49**	**75**	**315**
07:30 AM	**72**	41	113	61	51	112	15	47	62	287
07:45 AM	49	38	87	59	40	99	17	48	65	251
Total Volume	226	185	411	270	204	474	69	191	260	1145
% App. Total	55	45		57	43		26.5	73.5		
PHF	.785	.856	.886	.888	.785	.853	.663	.974	.867	.909

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	41	**54**	95	74	**65**	**139**	11	47	58
+15 mins.	64	52	**116**	**76**	48	124	**26**	**49**	**75**
+30 mins.	**72**	41	113	61	51	112	15	47	62
+45 mins.	49	38	87	59	40	99	17	48	65
Total Volume	226	185	411	270	204	474	69	191	260
% App. Total	55	45		57	43		26.5	73.5	
PHF	.785	.856	.886	.888	.785	.853	.663	.974	.867

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

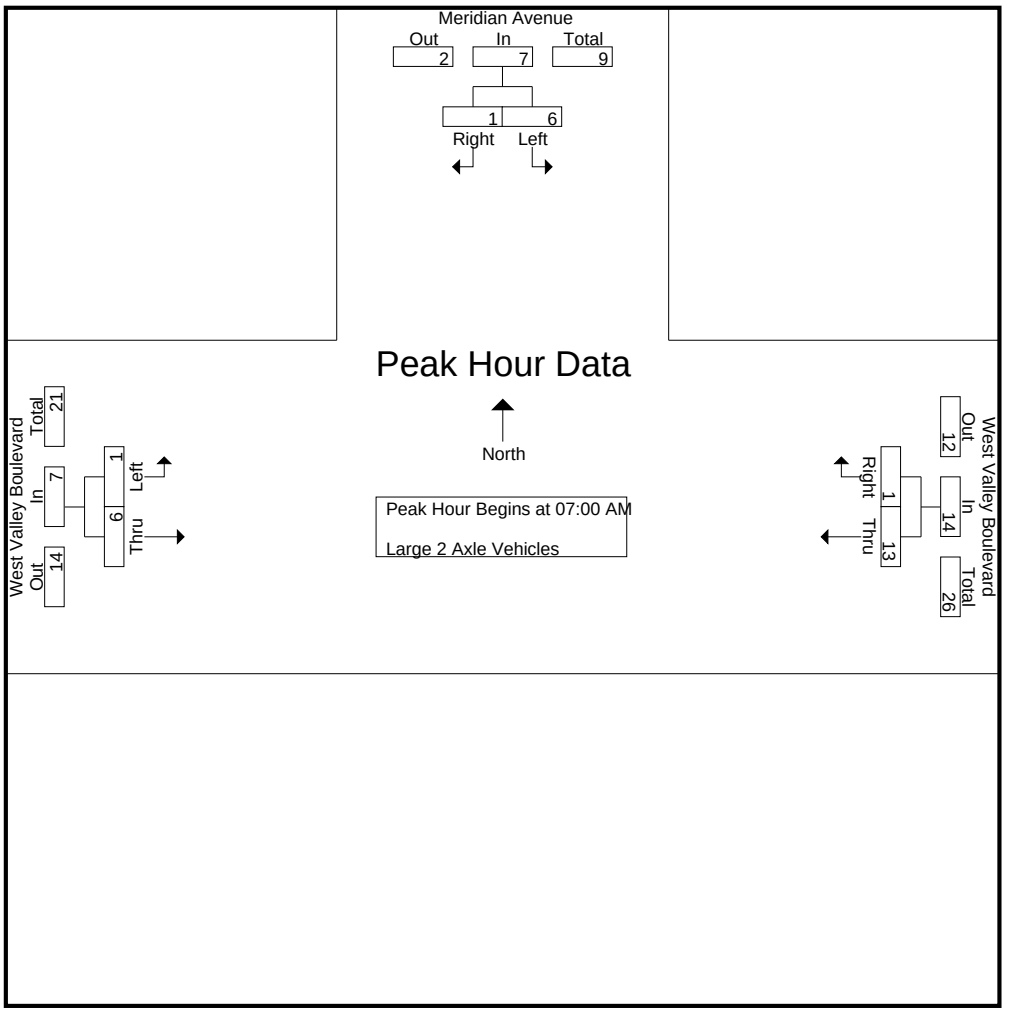
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	1	0	1	3	0	3	0	1	1	5
07:15 AM	1	1	2	5	0	5	1	2	3	10
07:30 AM	2	0	2	1	0	1	0	1	1	4
07:45 AM	2	0	2	4	1	5	0	2	2	9
Total	6	1	7	13	1	14	1	6	7	28
08:00 AM	1	1	2	3	0	3	4	4	8	13
08:15 AM	2	0	2	2	0	2	1	3	4	8
08:30 AM	3	0	3	3	0	3	0	0	0	6
08:45 AM	1	1	2	3	2	5	0	0	0	7
Total	7	2	9	11	2	13	5	7	12	34
Grand Total	13	3	16	24	3	27	6	13	19	62
Apprch %	81.2	18.8		88.9	11.1		31.6	68.4		
Total %	21	4.8	25.8	38.7	4.8	43.5	9.7	21	30.6	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	0	1	3	0	3	0	1	1	5
07:15 AM	1	**1**	**2**	**5**	0	**5**	**1**	**2**	**3**	**10**
07:30 AM	**2**	0	2	1	0	1	0	1	1	4
07:45 AM	2	0	2	4	**1**	5	0	2	2	9
Total Volume	6	1	7	13	1	14	1	6	7	28
% App. Total	85.7	14.3		92.9	7.1		14.3	85.7		
PHF	.750	.250	.875	.650	.250	.700	.250	.750	.583	.700

Counts Unlimited
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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	0	1	3	0	3	0	1	1
+15 mins.	1	**1**	**2**	**5**	0	**5**	**1**	**2**	**3**
+30 mins.	**2**	0	2	1	0	1	0	1	1
+45 mins.	2	0	2	4	**1**	5	0	2	2
Total Volume	6	1	7	13	1	14	1	6	7
% App. Total	85.7	14.3		92.9	7.1		14.3	85.7	
PHF	.750	.250	.875	.650	.250	.700	.250	.750	.583

Counts Unlimited
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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

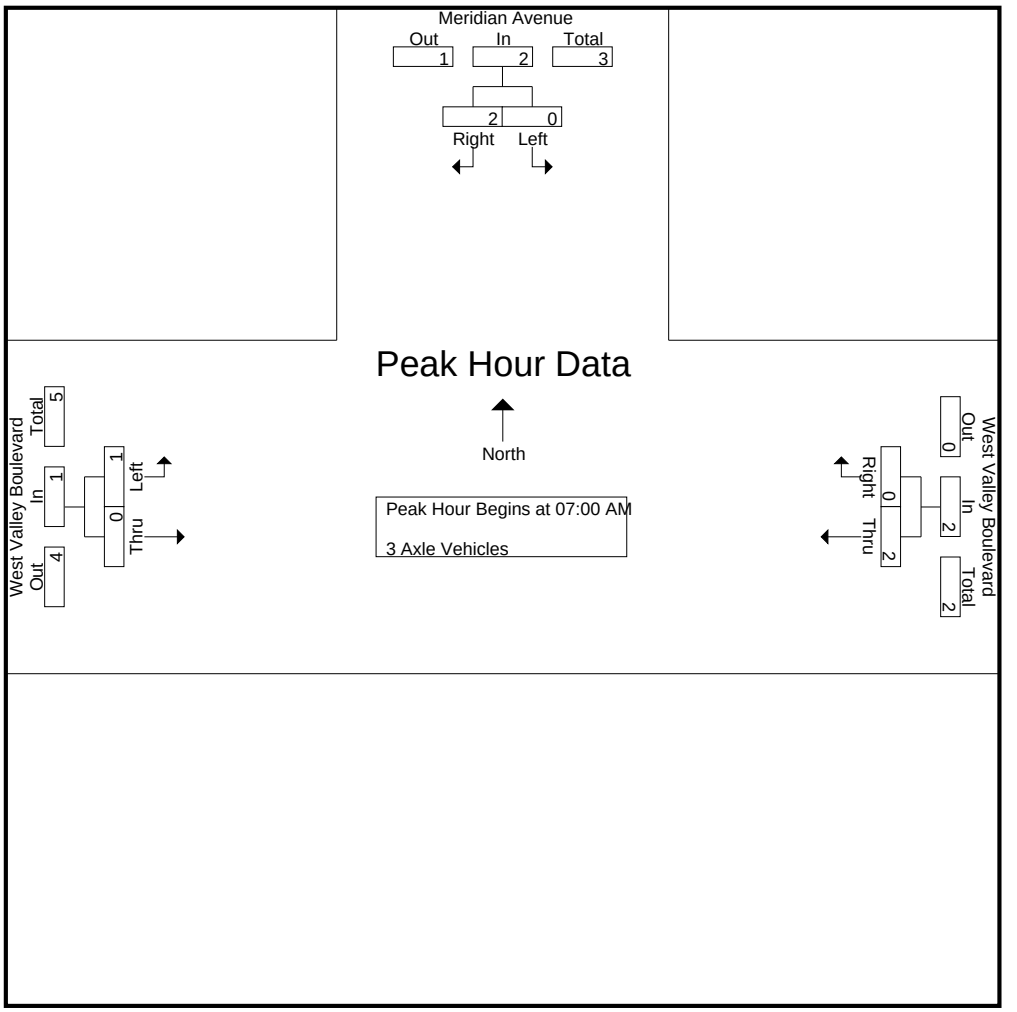
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	1	1	0	1	1	0	1	3
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	2	2	2	0	2	1	0	1	5
08:00 AM	1	0	1	0	0	0	0	2	2	3
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	1	0	1	0	1	1	3
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	1	2	1	0	1	0	3	3	6
Grand Total	1	3	4	3	0	3	1	3	4	11
Apprch %	25	75		100	0		25	75		
Total %	9.1	27.3	36.4	27.3	0	27.3	9.1	27.3	36.4	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	**1**	**1**	**1**	0	**1**	**1**	0	**1**	**3**
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	2	2	2	0	2	1	0	1	5
% App. Total	0	100		100	0		100	0		
PHF	.000	.500	.500	.500	.000	.500	.250	.000	.250	.417

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	**1**	**1**	0	**1**	**1**	0	**1**
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	0	0	0	1	0	1	0	0	0
Total Volume	0	2	2	2	0	2	1	0	1
% App. Total	0	100		100	0		100	0	
PHF	.000	.500	.500	.500	.000	.500	.250	.000	.250

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

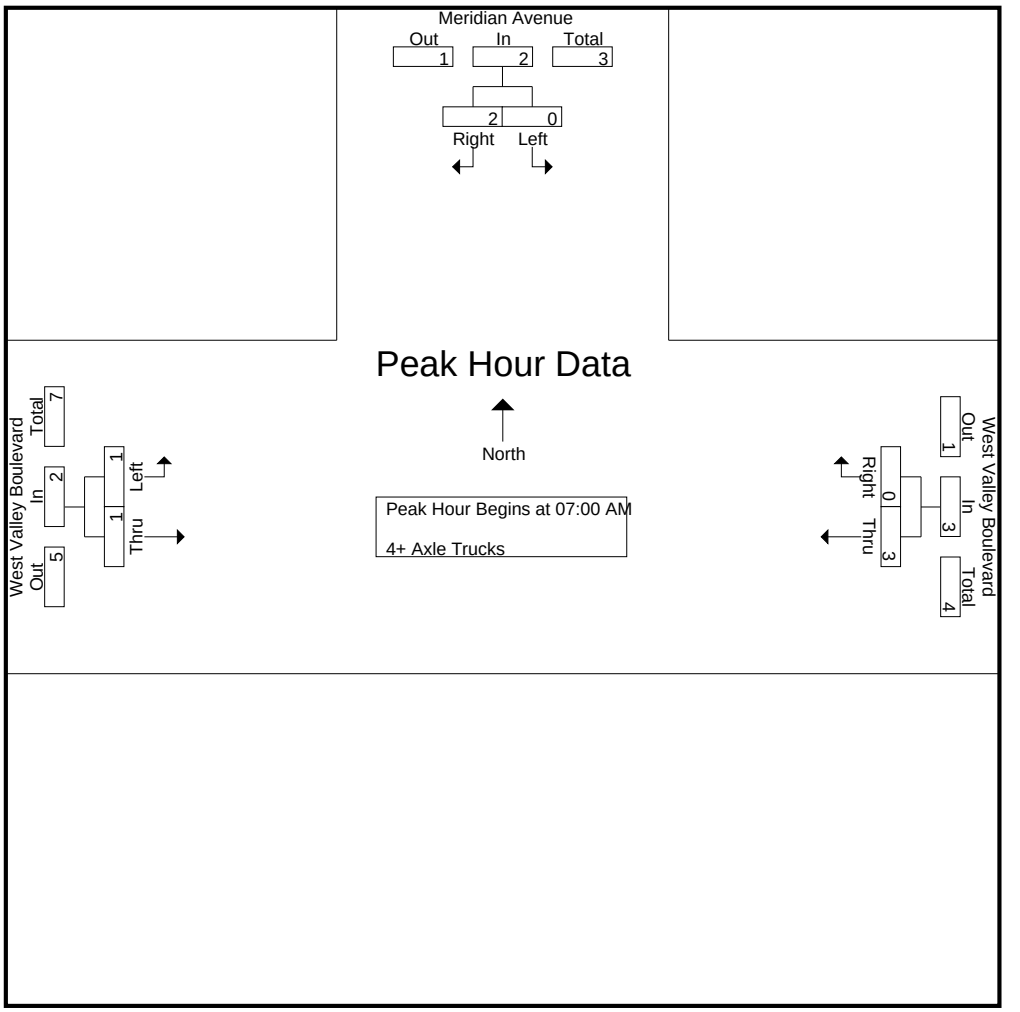
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	1	1	1	0	1	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	1	1	1	2	3
07:45 AM	0	1	1	1	0	1	0	0	0	2
Total	0	2	2	3	0	3	1	1	2	7
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	0	0	1	0	1	1	1	2	3
08:45 AM	0	1	1	0	0	0	0	0	0	1
Total	0	1	1	1	0	1	2	1	3	5
Grand Total	0	3	3	4	0	4	3	2	5	12
Apprch %	0	100		100	0		60	40		
Total %	0	25	25	33.3	0	33.3	25	16.7	41.7	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**1**	**1**	**1**	0	**1**	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	1	**1**	**1**	**2**	**3**
07:45 AM	0	1	1	1	0	1	0	0	0	2
Total Volume	0	2	2	3	0	3	1	1	2	7
% App. Total	0	100		100	0		50	50		
PHF	.000	.500	.500	.750	.000	.750	.250	.250	.250	.583

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley AM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	**1**	**1**	**1**	0	**1**	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	1	0	1	**1**	**1**	**2**
+45 mins.	0	1	1	1	0	1	0	0	0
Total Volume	0	2	2	3	0	3	1	1	2
% App. Total	0	100		100	0		50	50	
PHF	.000	.500	.500	.750	.000	.750	.250	.250	.250

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

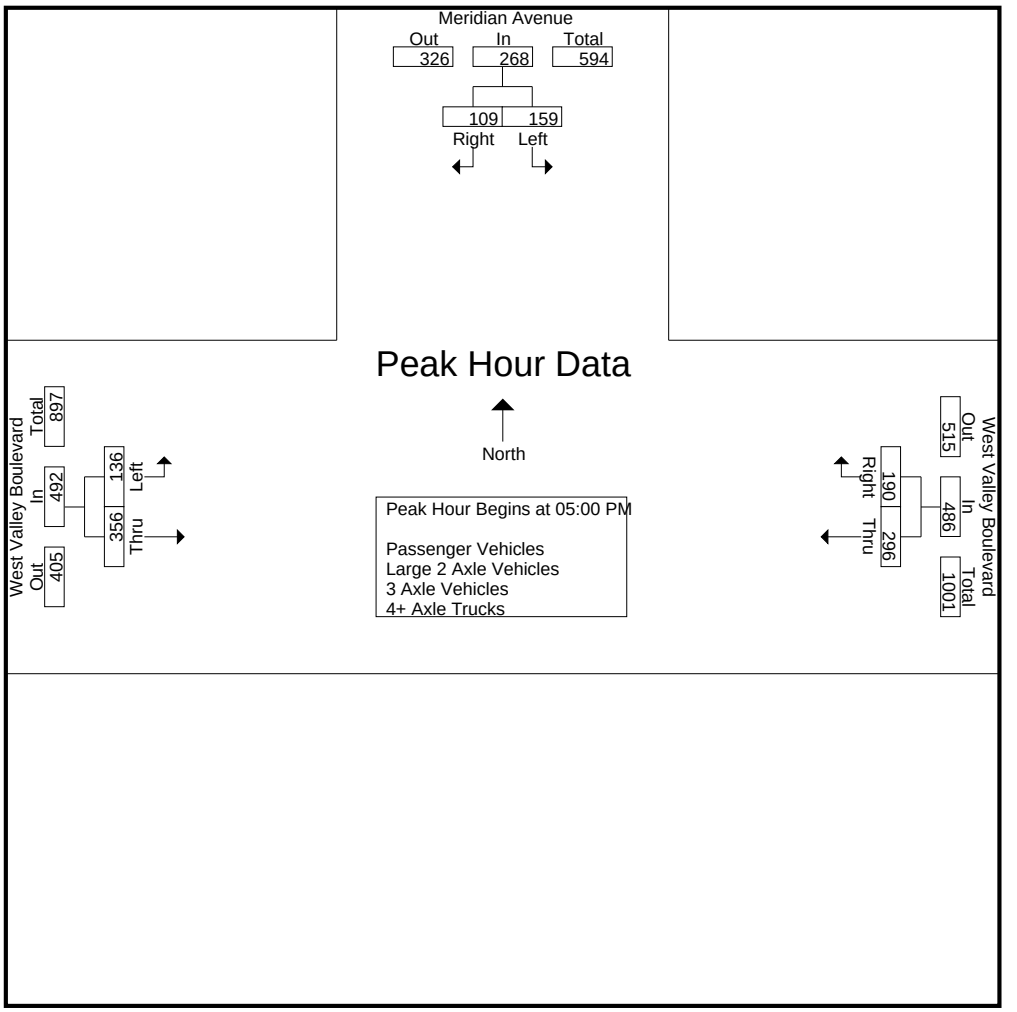
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	62	28	90	49	33	82	31	113	144	316
04:15 PM	47	27	74	53	37	90	35	82	117	281
04:30 PM	65	32	97	48	35	83	34	99	133	313
04:45 PM	51	22	73	53	25	78	35	70	105	256
Total	225	109	334	203	130	333	135	364	499	1166
05:00 PM	47	28	75	59	50	109	33	94	127	311
05:15 PM	42	34	76	87	43	130	36	94	130	336
05:30 PM	33	25	58	81	43	124	33	84	117	299
05:45 PM	37	22	59	69	54	123	34	84	118	300
Total	159	109	268	296	190	486	136	356	492	1246
Grand Total	384	218	602	499	320	819	271	720	991	2412
Apprch %	63.8	36.2		60.9	39.1		27.3	72.7		
Total %	15.9	9	25	20.7	13.3	34	11.2	29.9	41.1	
Passenger Vehicles	371	216	587	484	316	800	264	709	973	2360
% Passenger Vehicles	96.6	99.1	97.5	97	98.8	97.7	97.4	98.5	98.2	97.8
Large 2 Axle Vehicles	13	2	15	12	4	16	7	8	15	46
% Large 2 Axle Vehicles	3.4	0.9	2.5	2.4	1.2	2	2.6	1.1	1.5	1.9
3 Axle Vehicles	0	0	0	0	0	0	0	2	2	2
% 3 Axle Vehicles	0	0	0	0	0	0	0	0.3	0.2	0.1
4+ Axle Trucks	0	0	0	3	0	3	0	1	1	4
% 4+ Axle Trucks	0	0	0	0.6	0	0.4	0	0.1	0.1	0.2

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**47**	28	75	59	50	109	33	**94**	127	311
05:15 PM	42	**34**	**76**	**87**	43	**130**	**36**	94	**130**	**336**
05:30 PM	33	25	58	81	43	124	33	84	117	299
05:45 PM	37	22	59	69	**54**	123	34	84	118	300
Total Volume	159	109	268	296	190	486	136	356	492	1246
% App. Total	59.3	40.7		60.9	39.1		27.6	72.4		
PHF	.846	.801	.882	.851	.880	.935	.944	.947	.946	.927

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			04:00 PM		
+0 mins.	62	28	90	59	50	109	31	**113**	**144**
+15 mins.	47	27	74	**87**	43	**130**	**35**	82	117
+30 mins.	**65**	**32**	**97**	81	43	124	34	99	133
+45 mins.	51	22	73	69	**54**	123	35	70	105
Total Volume	225	109	334	296	190	486	135	364	499
% App. Total	67.4	32.6		60.9	39.1		27.1	72.9	
PHF	.865	.852	.861	.851	.880	.935	.964	.805	.866

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Passenger Vehicles

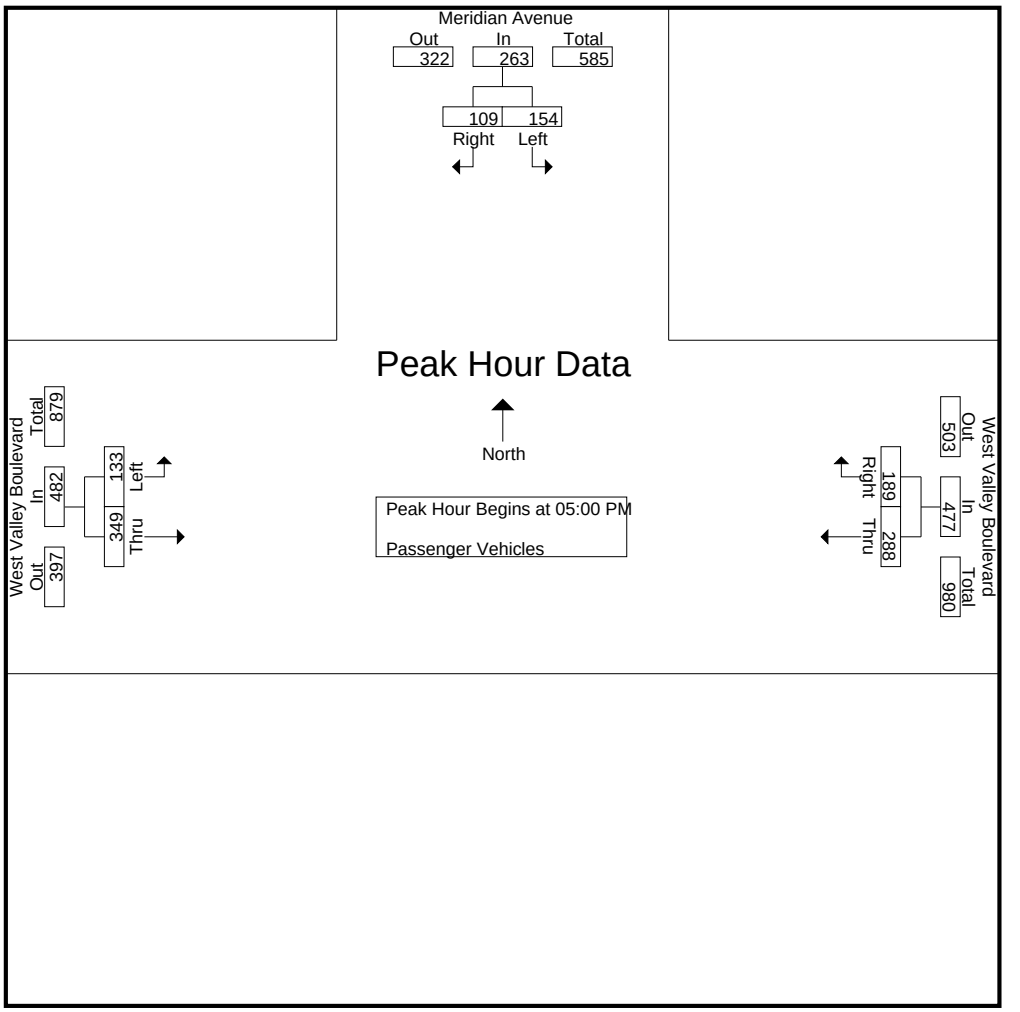
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	60	26	86	48	33	81	30	111	141	308
04:15 PM	44	27	71	51	36	87	35	81	116	274
04:30 PM	63	32	95	47	33	80	33	98	131	306
04:45 PM	50	22	72	50	25	75	33	70	103	250
Total	217	107	324	196	127	323	131	360	491	1138
05:00 PM	45	28	73	57	50	107	32	92	124	304
05:15 PM	42	34	76	86	43	129	36	91	127	332
05:30 PM	31	25	56	78	43	121	32	83	115	292
05:45 PM	36	22	58	67	53	120	33	83	116	294
Total	154	109	263	288	189	477	133	349	482	1222
Grand Total	371	216	587	484	316	800	264	709	973	2360
Apprch %	63.2	36.8		60.5	39.5		27.1	72.9		
Total %	15.7	9.2	24.9	20.5	13.4	33.9	11.2	30	41.2	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**45**	28	73	57	50	107	32	**92**	124	304
05:15 PM	42	**34**	**76**	**86**	43	**129**	**36**	91	**127**	**332**
05:30 PM	31	25	56	78	43	121	32	83	115	292
05:45 PM	36	22	58	67	**53**	120	33	83	116	294
Total Volume	154	109	263	288	189	477	133	349	482	1222
% App. Total	58.6	41.4		60.4	39.6		27.6	72.4		
PHF	.856	.801	.865	.837	.892	.924	.924	.948	.949	.920

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	**45**	28	73	57	50	107	32	**92**	124
+15 mins.	42	**34**	**76**	**86**	43	**129**	**36**	91	**127**
+30 mins.	31	25	56	78	43	121	32	83	115
+45 mins.	36	22	58	67	**53**	120	33	83	116
Total Volume	154	109	263	288	189	477	133	349	482
% App. Total	58.6	41.4		60.4	39.6		27.6	72.4	
PHF	.856	.801	.865	.837	.892	.924	.924	.948	.949

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- Large 2 Axle Vehicles

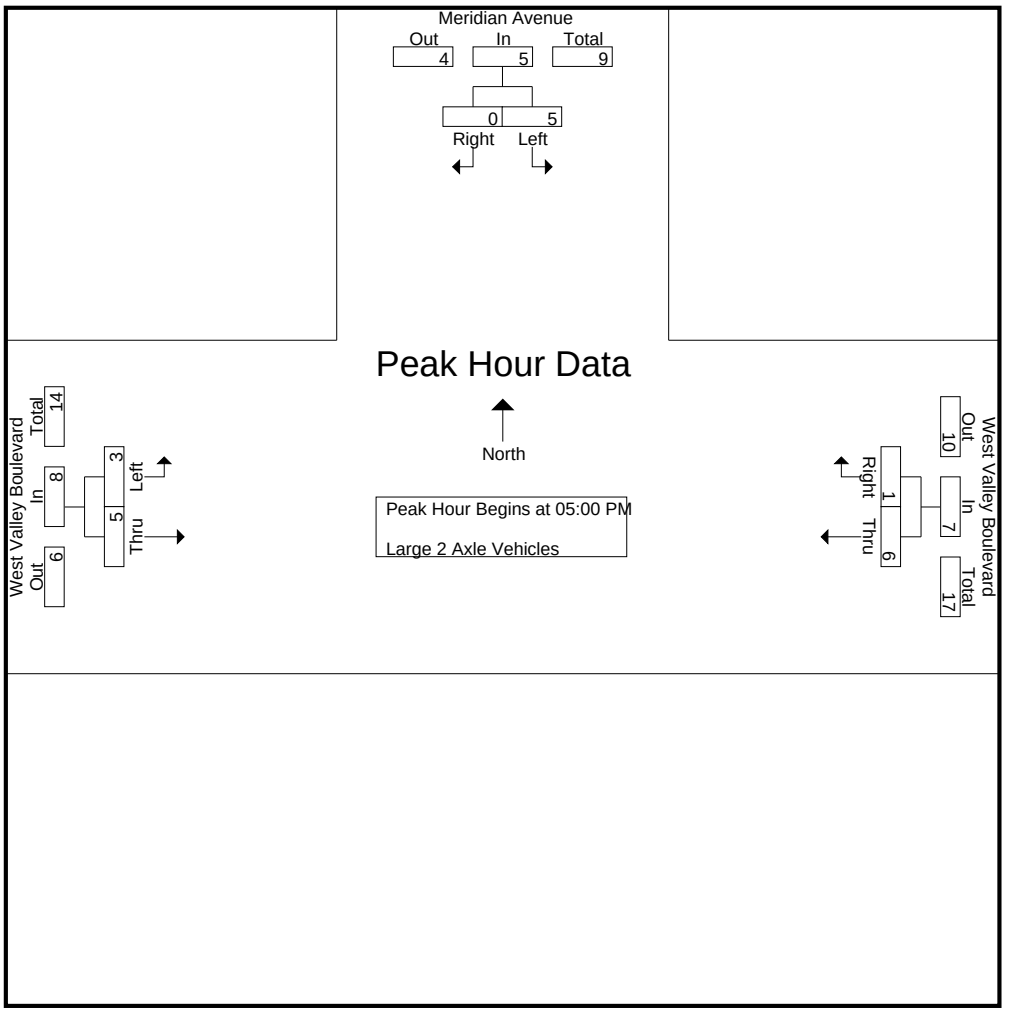
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	2	2	4	1	0	1	1	1	2	7
04:15 PM	3	0	3	1	1	2	0	1	1	6
04:30 PM	2	0	2	1	2	3	1	1	2	7
04:45 PM	1	0	1	3	0	3	2	0	2	6
Total	8	2	10	6	3	9	4	3	7	26
05:00 PM	2	0	2	1	0	1	1	2	3	6
05:15 PM	0	0	0	1	0	1	0	2	2	3
05:30 PM	2	0	2	2	0	2	1	1	2	6
05:45 PM	1	0	1	2	1	3	1	0	1	5
Total	5	0	5	6	1	7	3	5	8	20
Grand Total	13	2	15	12	4	16	7	8	15	46
Apprch %	86.7	13.3		75	25		46.7	53.3		
Total %	28.3	4.3	32.6	26.1	8.7	34.8	15.2	17.4	32.6	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**2**	0	**2**	1	0	1	**1**	**2**	**3**	**6**
05:15 PM	0	0	0	1	0	1	0	2	2	3
05:30 PM	2	0	2	**2**	0	2	1	1	2	6
05:45 PM	1	0	1	2	**1**	**3**	1	0	1	5
Total Volume	5	0	5	6	1	7	3	5	8	20
% App. Total	100	0		85.7	14.3		37.5	62.5		
PHF	.625	.000	.625	.750	.250	.583	.750	.625	.667	.833

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	**2**	0	**2**	1	0	1	**1**	**2**	**3**
+15 mins.	0	0	0	1	0	1	0	2	2
+30 mins.	2	0	2	**2**	0	2	1	1	2
+45 mins.	1	0	1	2	**1**	**3**	1	0	1
Total Volume	5	0	5	6	1	7	3	5	8
% App. Total	100	0		85.7	14.3		37.5	62.5	
PHF	.625	.000	.625	.750	.250	.583	.750	.625	.667

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 3 Axle Vehicles

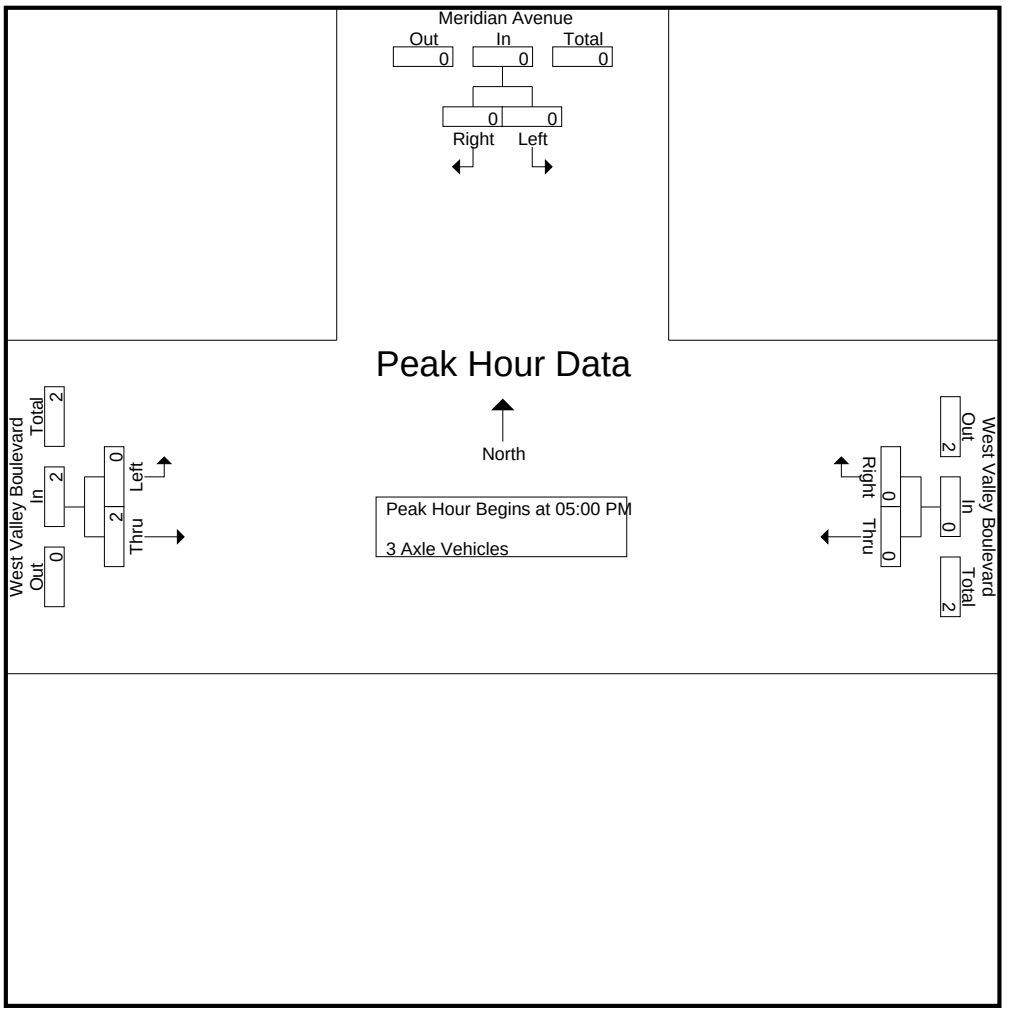
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	2	2	2
Grand Total	0	0	0	0	0	0	0	2	2	2
Apprch %	0	0		0	0		0	100		
Total %	0	0	0	0	0	0	0	100	100	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	**1**	**1**	**1**
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	2	2	2
% App. Total	0	0		0	0		0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.500	.500

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	**1**	**1**
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	2	2
% App. Total	0	0		0	0		0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.500

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City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 1

Groups Printed- 4+ Axle Trucks

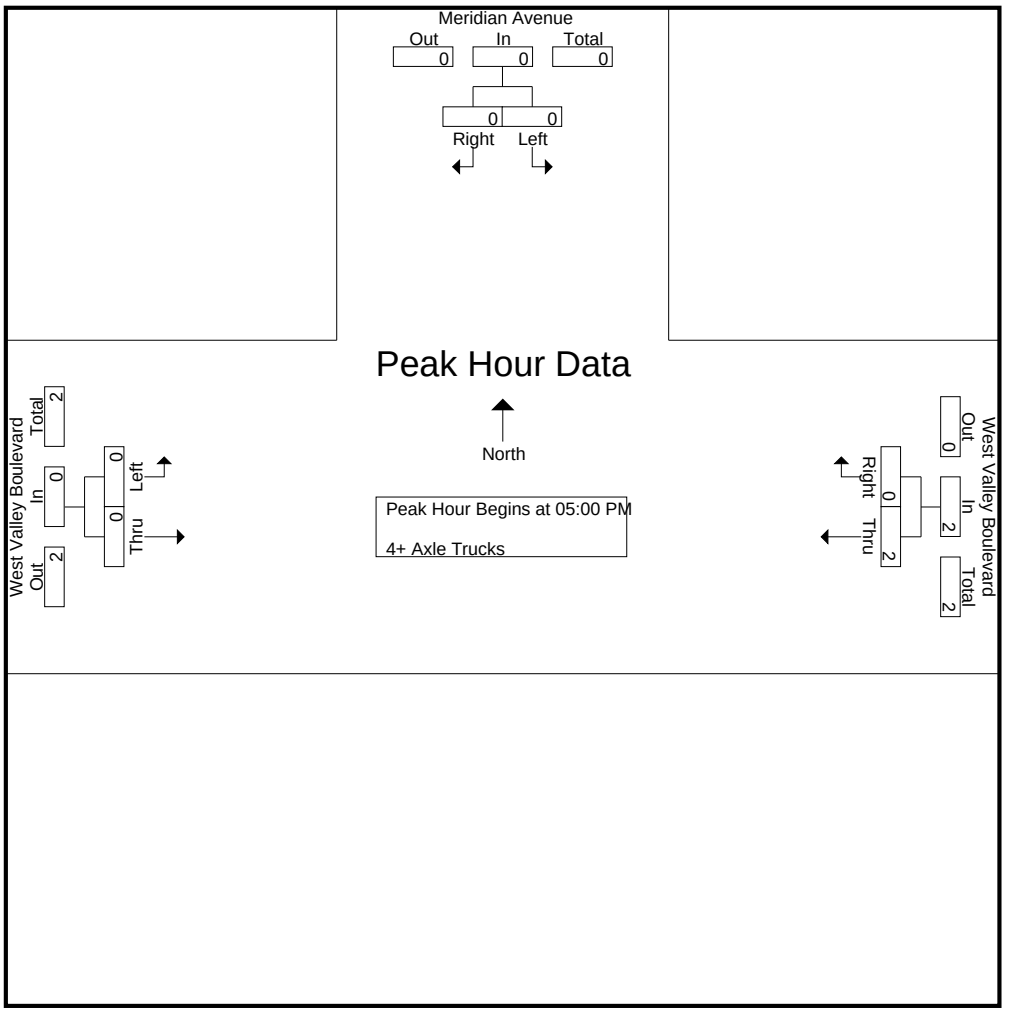
	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	1	0	1	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	1	0	1	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	2	0	0	0	2
Grand Total	0	0	0	3	0	3	0	1	1	4
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	75	0	75	0	25	25	

	Meridian Avenue Southbound			West Valley Boulevard Westbound			West Valley Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	**1**	0	**1**	0	0	0	**1**
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	2	0	2	0	0	0	2
% App. Total	0	0		100	0		0	0		
PHF	.000	.000	.000	.500	.000	.500	.000	.000	.000	.500

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Colton
N/S: Meridian Avenue
E/W: West Valley Boulevard
Weather: Clear

File Name : 04_COL_Meridian_Valley PM
Site Code : 07517586
Start Date : 9/13/2017
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	**1**	0	**1**	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	1	0	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	2	0	2	0	0	0
% App. Total	0	0		100	0		0	0	
PHF	.000	.000	.000	.500	.000	.500	.000	.000	.000

APPENDIX D

Explanation and Calculation of Intersection Delay

EXPLANATION AND CALCULATION OF INTERSECTION LEVEL OF SERVICE USING DELAY METHODOLOGY

The levels of service at the unsignalized and signalized intersections are calculated using the delay methodology in the Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. If there are two northbound left turn lanes, then the lane group serving the northbound left turn movement has two lanes. Similarly, there may be three lanes in the lane group serving the northbound through movement, one lane in the lane group serving the northbound right turn movement, and so forth. It is also possible for one lane to serve two lane groups. A shared lane might result in there being 1.5 lanes in the northbound left turn lane group and 2.5 lanes in the northbound through lane group.

For each lane group, there is a capacity. That capacity is calculated by multiplying the number of lanes in the lane group times a theoretical maximum lane capacity per lane time's 12 adjustment factors.

Each of the 12 adjustment factors has a value of approximately 1.00. A value less than 1.00 is generally assigned when a less than desirable condition occurs.

The 12 adjustment factors are as follows:

1. Peak hour factor (to account for peaking within the peak hour)
2. Lane utilization factor (to account for not all lanes loading equally)
3. Lane width
4. Percent of heavy trucks
5. Approach grade
6. Parking
7. Bus stops at intersections
8. Area type (CBD or other)
9. Right turns
10. Left turns
11. Pedestrian activity
12. Signal progression

The maximum theoretical lane capacity and the 12 adjustment factors for it are all unknowns for which approximate estimates have been recommended in the Highway Capacity Manual. For the most part, the recommended values are not based on statistical analysis but rather on educated estimates. However, it is possible to use the delay method and get reasonable results as will be discussed below.

Once the lane group volume is known and the lane group capacity is known, a volume to capacity ratio can be calculated for the lane group.

With a volume to capacity ratio calculated, average delay per vehicle in a lane group can be estimated. The average delay per vehicle in a lane group is calculated using a complex formula provided by the Highway Capacity Manual, which can be simplified and described as follows:

Delay per vehicle in a lane group is a function of the following:

1. Cycle length
2. Amount of red time faced by a lane group
3. Amount of yellow time for that lane group
4. The volume to capacity ratio of the lane group

The average delay per vehicle for each lane group is calculated, and eventually an overall average delay for all vehicles entering the intersection is calculated. This average delay per vehicle is then used to judge Level of Service. The Level of Services are defined in the table that follows this discussion.

Experience has shown that when a maximum lane capacity of 1,900 vehicles per hour is used (as recommended in the Highway Capacity Manual), little or no yellow time penalty is used, and none of the 12 penalty factors are applied, calculated delay is realistic. The delay calculation for instance assumes that yellow time is totally unused. Yet experience shows that most of the yellow time is used.

An idiosyncrasy of the delay methodology is that it is possible to add traffic to an intersection and reduce the average total delay per vehicle. If the average total delay is 30 seconds per vehicle for all vehicles traveling through an intersection, and traffic is added to a movement that has an average total delay of 15 seconds per vehicle, then the overall average total delay is reduced.

The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases rapidly as the unused capacity approaches zero.

Because delay is not linearly related to volumes, the delay does not reflect how close an intersection is to overloading. If an intersection is operating at Level of Service C and has an average total delay of 18 seconds per vehicle, you know very little as to what percent the traffic can increase before Level of Service E is reached.

LEVEL OF SERVICE DESCRIPTION[1]

Level of Service	Description	Average Total Delay per Vehicle (Seconds)	
		Signalized	Unsignalized
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00	10.01 to 15.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00	15.01 to 25.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00	25.01 to 35.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00	35.01 to 50.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up	50.01 and up

[1] Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2010.

Existing

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	527	127	82	1040	98	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0
Total Hourly Volume [veh/h]	527	127	82	1040	98	13
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	139	34	22	275	26	3
Total Analysis Volume [veh/h]	557	134	87	1099	104	14
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	21	0	18	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	37	37	5	46	6	6
g / C, Green / Cycle	0.61	0.61	0.09	0.77	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09	0.05	0.32	0.06	0.01
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2080	929	157	2621	175	156
d1, Uniform Delay [s]	5.55	5.09	26.16	2.45	25.81	24.47
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.33	3.06	0.49	3.19	0.24
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.14	0.56	0.42	0.59	0.09
d, Delay for Lane Group [s/veh]	5.86	5.42	29.22	2.94	29.00	24.72
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	1.30	0.62	1.26	1.01	1.50	0.18
50th-Percentile Queue Length [ft]	32.62	15.50	31.50	25.31	37.41	4.54
95th-Percentile Queue Length [veh]	2.35	1.12	2.27	1.82	2.69	0.33
95th-Percentile Queue Length [ft]	58.71	27.90	56.70	45.56	67.34	8.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.86	5.42	29.22	2.94	29.00	24.72
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	5.78		4.87		28.49	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.58					
Intersection LOS	A					
Intersection V/C	0.477					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.620	2.028
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.702	5.111	4.132
Bicycle LOS	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	22.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	663	100	105	712	67	168	313	202	129	278	93
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	663	100	105	712	67	168	313	202	129	278	93
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	33	173	26	27	186	17	44	82	53	34	72	24
Total Analysis Volume [veh/h]	133	691	104	109	742	70	175	326	211	135	290	97
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	22	0	16	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	7	29	29	6	28	28	7	12	12	7	12	12
g / C, Green / Cycle	0.10	0.42	0.42	0.09	0.41	0.41	0.10	0.17	0.17	0.09	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.08	0.14	0.07	0.03	0.15	0.05	0.05	0.10	0.14	0.04	0.11	0.11
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1649
c, Capacity [veh/h]	172	2038	636	298	1985	619	326	593	265	313	305	279
d1, Uniform Delay [s]	30.82	13.97	12.87	30.10	14.67	13.04	30.18	26.55	27.87	30.04	27.28	27.34
k, delay calibration	0.11	0.50	0.50	0.11	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]	7.17	0.45	0.55	0.75	0.54	0.37	1.38	0.80	5.46	0.94	2.41	2.77
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	0.77	0.34	0.16	0.37	0.37	0.11	0.54	0.55	0.80	0.43	0.66	0.67
d, Delay for Lane Group [s/veh]	37.99	14.42	13.43	30.85	15.21	13.41	31.55	27.35	33.33	30.98	29.69	30.11
Lane Group LOS	D	B	B	C	B	B	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	2.46	2.36	1.04	0.87	2.63	0.70	1.42	2.45	3.64	1.08	3.20	3.02
50th-Percentile Queue Length [ft]	61.42	58.95	26.09	21.72	65.74	17.51	35.50	61.23	90.99	27.00	80.03	75.43
95th-Percentile Queue Length [veh]	4.42	4.24	1.88	1.56	4.73	1.26	2.56	4.41	6.55	1.94	5.76	5.43
95th-Percentile Queue Length [ft]	110.56	106.12	46.96	39.09	118.33	31.52	63.90	110.21	163.78	48.61	144.06	135.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.99	14.42	13.43	30.85	15.21	13.41	31.55	27.35	33.33	30.98	29.82	30.11
Movement LOS	D	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.68			16.92			30.16			30.17		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.45											
Intersection LOS	C											
Intersection V/C	0.528											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	2.957	3.039	2.748	2.728
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	514	486	486	486
d_b, Bicycle Delay [s]	19.31	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.070	2.066	2.147	1.990
Bicycle LOS	B	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 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.872

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	26	356	0	0	580	760	0	0	0	43	0	542
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	356	0	0	580	760	0	0	0	43	0	542
Peak Hour Factor	0.9460	0.9460	1.0000	1.0000	0.9460	0.9460	1.0000	1.0000	1.0000	0.9460	0.9460	0.9460
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]	7	94	0	0	153	201	0	0	0	11	0	143
Total Analysis Volume [veh/h]	27	376	0	0	613	803	0	0	0	45	0	573
Presence of On-Street Parking	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]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	57	0	0	46	0	0	0	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	80	80	80	80		80	80
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	3	54	47	47		18	18
g / C, Green / Cycle	0.04	0.68	0.59	0.59		0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.11	0.18	0.52		0.20	0.20
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1554	1530
c, Capacity [veh/h]	70	2315	2003	894		349	344
d1, Uniform Delay [s]	37.42	4.74	8.42	14.54		30.10	30.11
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.42	0.15	0.40	13.64		7.95	8.14
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.16	0.31	0.90		0.89	0.89
d, Delay for Lane Group [s/veh]	40.84	4.89	8.81	28.18		38.05	38.25
Lane Group LOS	D	A	A	C		D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.57	0.96	2.47	14.09		6.36	6.29
50th-Percentile Queue Length [ft]	14.32	24.04	61.82	352.15		159.04	157.19
95th-Percentile Queue Length [veh]	1.03	1.73	4.45	20.24		10.50	10.40
95th-Percentile Queue Length [ft]	25.78	43.28	111.28	506.03		262.45	260.00

Movement, Approach, & Intersection Results

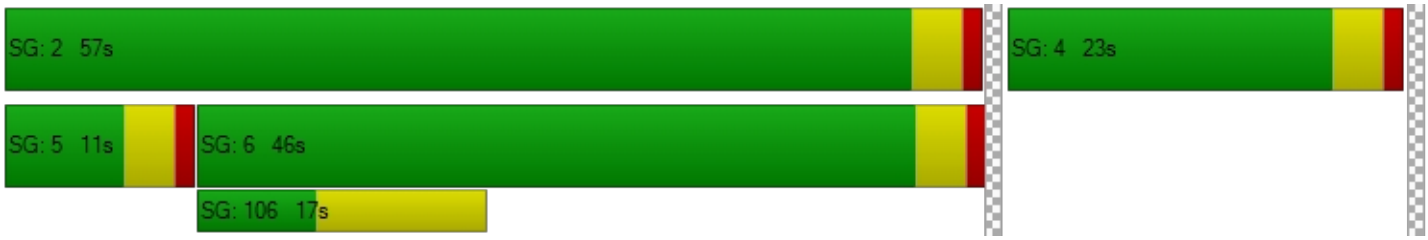
d_M, Delay for Movement [s/veh]	40.84	4.89	0.00	0.00	8.81	28.18	0.00	0.00	0.00	38.05	38.05	38.16
Movement LOS	D	A			A	C				D	D	D
d_A, Approach Delay [s/veh]	7.30			19.80			0.00			38.15		
Approach LOS	A			B			A			D		
d_I, Intersection Delay [s/veh]	22.38											
Intersection LOS	C											
Intersection V/C	0.872											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	29.76	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.226	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1325	1050	0	475
d_b, Bicycle Delay [s]	4.56	9.03	40.00	23.26
l_b,int, Bicycle LOS Score for Intersection	1.892	2.728	4.132	2.579
Bicycle LOS	A	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	28	23	601	54	0	363	9	54	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	28	23	601	54	0	363	9	54	0	0	0
Peak Hour Factor	1.0000	0.9230	0.9230	0.9230	0.9230	1.0000	0.9230	0.9230	0.9230	1.0000	1.0000	1.0000
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]	0	8	6	163	15	0	98	2	15	0	0	0
Total Analysis Volume [veh/h]	0	30	25	651	59	0	393	10	59	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	18	29	0	0	31	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	14	41	11	11	
g / C, Green / Cycle	0.39	0.39	0.23	0.69	0.18	0.18	
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.20	0.03	0.14	0.14	
s, saturation flow rate [veh/h]	1800	1530	3329	1800	1714	1666	
c, Capacity [veh/h]	706	600	754	1233	312	303	
d1, Uniform Delay [s]	11.31	11.31	22.37	3.09	23.31	23.31	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.11	0.13	3.10	0.07	3.64	3.74	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.04	0.04	0.86	0.05	0.75	0.75	
d, Delay for Lane Group [s/veh]	11.42	11.44	25.47	3.16	26.95	27.05	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	0.24	0.21	4.39	0.17	3.24	3.16	
50th-Percentile Queue Length [ft]	6.08	5.15	109.64	4.23	81.03	78.96	
95th-Percentile Queue Length [veh]	0.44	0.37	7.82	0.30	5.83	5.69	
95th-Percentile Queue Length [ft]	10.94	9.26	195.50	7.62	145.85	142.13	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	11.42	11.44	25.47	3.16	0.00	26.99	27.05	27.05	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	11.43			23.61			27.00			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	24.34											
Intersection LOS	C											
Intersection V/C	0.436											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.918	0.000
Crosswalk LOS	F	F	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	233	833	900	0
d_b, Bicycle Delay [s]	23.41	10.21	9.08	30.00
l_b,int, Bicycle LOS Score for Intersection	1.650	2.731	2.322	4.132
Bicycle LOS	A	B	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	518	2	0	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	0	0	518	2	0	500
Peak Hour Factor	1.0000	1.0000	0.9590	0.9590	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	135	1	0	130
Total Analysis Volume [veh/h]	0	0	540	2	0	521
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	16.05	9.91	0.00	0.00	8.47	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.98		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	45.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	235	197	76	203	303	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	235	197	76	203	303	206
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	55	21	56	84	57
Total Analysis Volume [veh/h]	260	218	84	225	336	228
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.78	0.30	0.08	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	45.93	12.14	8.86	0.00	0.00	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh]	6.36	1.27	0.27	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	159.09	31.86	6.73	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	30.52		2.41		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	11.35					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	907	55	31	667	190	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0
Total Hourly Volume [veh/h]	907	55	31	667	190	51
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	234	14	8	172	49	13
Total Analysis Volume [veh/h]	937	57	32	689	196	53
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	12	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	3	43	9	9
g / C, Green / Cycle	0.60	0.60	0.05	0.72	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.27	0.04	0.02	0.20	0.11	0.03
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2059	919	87	2460	256	228
d1, Uniform Delay [s]	6.60	4.98	27.63	3.00	24.59	22.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.73	0.13	2.61	0.28	4.77	0.51
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.06	0.37	0.28	0.77	0.23
d, Delay for Lane Group [s/veh]	7.32	5.11	30.24	3.28	29.36	23.07
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.63	0.25	0.49	0.88	2.85	0.65
50th-Percentile Queue Length [ft]	65.63	6.37	12.15	21.97	71.16	16.37
95th-Percentile Queue Length [veh]	4.73	0.46	0.87	1.58	5.12	1.18
95th-Percentile Queue Length [ft]	118.14	11.47	21.87	39.55	128.09	29.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.32	5.11	30.24	3.28	29.36	23.07
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	7.20		4.48		28.02	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.84					
Intersection LOS	A					
Intersection V/C	0.508					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.611	2.028
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.952	4.727	4.132
Bicycle LOS	E	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	122	613	134	133	688	81	162	293	186	148	315	104
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	613	134	133	688	81	162	293	186	148	315	104
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	32	159	35	35	179	21	42	76	48	38	82	27
Total Analysis Volume [veh/h]	127	637	139	138	715	84	168	305	193	154	327	108
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	22	0	16	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	7	30	30	7	29	29	7	11	11	7	11	11
g / C, Green / Cycle	0.10	0.42	0.42	0.09	0.42	0.42	0.10	0.16	0.16	0.10	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.09	0.04	0.15	0.05	0.05	0.09	0.13	0.05	0.13	0.13
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1650
c, Capacity [veh/h]	165	2057	642	315	2048	639	324	555	248	320	289	265
d1, Uniform Delay [s]	30.98	13.60	13.02	30.05	13.94	12.60	30.14	27.09	28.24	30.08	28.29	28.34
k, delay calibration	0.11	0.50	0.50	0.11	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]	7.33	0.39	0.77	0.96	0.47	0.43	1.28	0.85	5.26	1.12	4.54	5.22
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	0.77	0.31	0.22	0.44	0.35	0.13	0.52	0.55	0.78	0.48	0.78	0.79
d, Delay for Lane Group [s/veh]	38.32	13.99	13.79	31.01	14.41	13.02	31.42	27.94	33.50	31.20	32.82	33.55
Lane Group LOS	D	B	B	C	B	B	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	2.36	2.12	1.42	1.11	2.44	0.82	1.36	2.32	3.33	1.24	3.84	3.62
50th-Percentile Queue Length [ft]	58.96	53.12	35.56	27.63	61.01	20.61	33.98	57.92	83.30	30.98	95.96	90.40
95th-Percentile Queue Length [veh]	4.24	3.82	2.56	1.99	4.39	1.48	2.45	4.17	6.00	2.23	6.91	6.51
95th-Percentile Queue Length [ft]	106.12	95.61	64.00	49.73	109.82	37.10	61.16	104.26	149.95	55.76	172.73	162.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.32	13.99	13.79	31.01	14.41	13.02	31.42	27.94	33.50	31.20	33.05	33.55
Movement LOS	D	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.38			16.73			30.43			32.66		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.90											
Intersection LOS	C											
Intersection V/C	0.515											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	2.951	3.036	2.748	2.743
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	514	486	486	486
d_b, Bicycle Delay [s]	19.31	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.056	2.075	2.109	2.046
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.683

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	20	607	0	0	545	495	0	0	0	16	5	508
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	607	0	0	545	495	0	0	0	16	5	508
Peak Hour Factor	0.9280	0.9280	1.0000	1.0000	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280
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]	5	164	0	0	147	133	0	0	0	4	1	137
Total Analysis Volume [veh/h]	22	654	0	0	587	533	0	0	0	17	5	547
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	14	43	0	0	29	0	0	0	0	0	17	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	2	39	33	33		13	13
g / C, Green / Cycle	0.04	0.65	0.55	0.55		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.19	0.17	0.35		0.19	0.19
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1544	1530
c, Capacity [veh/h]	65	2236	1878	838		331	328
d1, Uniform Delay [s]	28.20	4.49	7.42	9.44		22.77	22.77
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.00	0.33	0.44	3.67		6.64	6.71
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.29	0.31	0.64		0.86	0.86
d, Delay for Lane Group [s/veh]	31.20	4.82	7.86	13.11		29.41	29.48
Lane Group LOS	C	A	A	B		C	C
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.35	1.28	1.76	4.65		4.20	4.17
50th-Percentile Queue Length [ft]	8.71	31.97	43.90	116.18		105.00	104.23
95th-Percentile Queue Length [veh]	0.63	2.30	3.16	8.18		7.56	7.50
95th-Percentile Queue Length [ft]	15.67	57.54	79.01	204.56		189.01	187.61

Movement, Approach, & Intersection Results

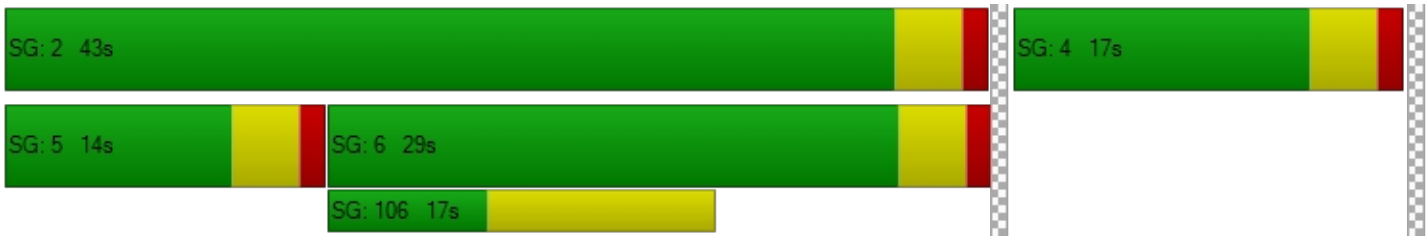
d_M, Delay for Movement [s/veh]	31.20	4.82	0.00	0.00	7.86	13.11	0.00	0.00	0.00	29.41	29.41	29.44
Movement LOS	C	A			A	B				C	C	C
d_A, Approach Delay [s/veh]	5.68			10.36			0.00			29.44		
Approach LOS	A			B			A			C		
d_I, Intersection Delay [s/veh]	13.61											
Intersection LOS	B											
Intersection V/C	0.683											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.947	0.000
Crosswalk LOS	F	F	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1300	833	0	433
d_b, Bicycle Delay [s]	3.68	10.21	30.00	18.41
I_b,int, Bicycle LOS Score for Intersection	2.117	2.484	4.132	2.498
Bicycle LOS	B	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	78	124	543	12	0	547	2	4	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	78	124	543	12	0	547	2	4	0	0	0
Peak Hour Factor	1.0000	0.8920	0.8920	0.8920	0.8920	1.0000	0.8920	0.8920	0.8920	1.0000	1.0000	1.0000
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]	0	22	35	152	3	0	153	1	1	0	0	0
Total Analysis Volume [veh/h]	0	87	139	609	13	0	613	2	4	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	18	29	0	0	31	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	21	21	13	38	14	14	
g / C, Green / Cycle	0.36	0.36	0.22	0.64	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.18	0.01	0.18	0.18	
s, saturation flow rate [veh/h]	1800	1530	3329	1800	1714	1712	
c, Capacity [veh/h]	640	544	721	1149	392	391	
d1, Uniform Delay [s]	13.14	13.75	22.59	3.96	21.85	21.85	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.44	1.13	2.81	0.02	3.61	3.61	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.14	0.26	0.84	0.01	0.79	0.79	
d, Delay for Lane Group [s/veh]	13.58	14.89	25.40	3.98	25.46	25.46	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	0.80	1.37	4.08	0.05	4.17	4.17	
50th-Percentile Queue Length [ft]	19.91	34.30	102.08	1.17	104.35	104.24	
95th-Percentile Queue Length [veh]	1.43	2.47	7.35	0.08	7.51	7.51	
95th-Percentile Queue Length [ft]	35.84	61.73	183.75	2.11	187.82	187.64	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.58	14.89	25.40	3.98	0.00	25.46	25.46	25.46	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	14.38			24.95			25.46			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	23.54											
Intersection LOS	C											
Intersection V/C	0.568											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.994	0.000
Crosswalk LOS	F	F	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	233	833	900	0
d_b, Bicycle Delay [s]	23.41	10.21	9.08	30.00
l_b,int, Bicycle LOS Score for Intersection	1.933	2.586	2.581	4.132
Bicycle LOS	A	B	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	1	1	560	1	1	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	1	560	1	1	567
Peak Hour Factor	1.0000	1.0000	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	146	0	0	147
Total Analysis Volume [veh/h]	1	1	582	1	1	589
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	17.43	10.11	0.00	0.00	8.60	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.37	0.37	0.00	0.00	0.07	0.00
d_A, Approach Delay [s/veh]	13.77		0.00		0.01	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	55.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.748

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	162	109	138	361	303	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	162	109	138	361	303	191
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	29	37	97	82	52
Total Analysis Volume [veh/h]	175	118	149	389	327	206
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.75	0.16	0.14	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	55.37	10.81	9.02	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	5.22	0.57	0.50	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	130.46	14.18	12.42	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	37.42		2.50		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	9.02					
Intersection LOS	F					

Existing Plus Project

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.486

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	527	127	82	1040	98	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	0	0	23	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	0	0	0	0	0
Total Hourly Volume [veh/h]	548	127	82	1063	98	13
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	145	34	22	281	26	3
Total Analysis Volume [veh/h]	579	134	87	1124	104	14
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	22	0	17	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	37	37	5	46	6	6
g / C, Green / Cycle	0.61	0.61	0.09	0.77	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.17	0.09	0.05	0.33	0.06	0.01
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2080	929	157	2621	175	156
d1, Uniform Delay [s]	5.59	5.09	26.16	2.48	25.81	24.47
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.33	3.06	0.51	3.19	0.24
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.14	0.56	0.43	0.59	0.09
d, Delay for Lane Group [s/veh]	5.92	5.42	29.22	2.99	29.00	24.72
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	1.37	0.62	1.26	1.05	1.50	0.18
50th-Percentile Queue Length [ft]	34.18	15.50	31.50	26.19	37.41	4.54
95th-Percentile Queue Length [veh]	2.46	1.12	2.27	1.89	2.69	0.33
95th-Percentile Queue Length [ft]	61.53	27.90	56.70	47.15	67.34	8.18

Movement, Approach, & Intersection Results

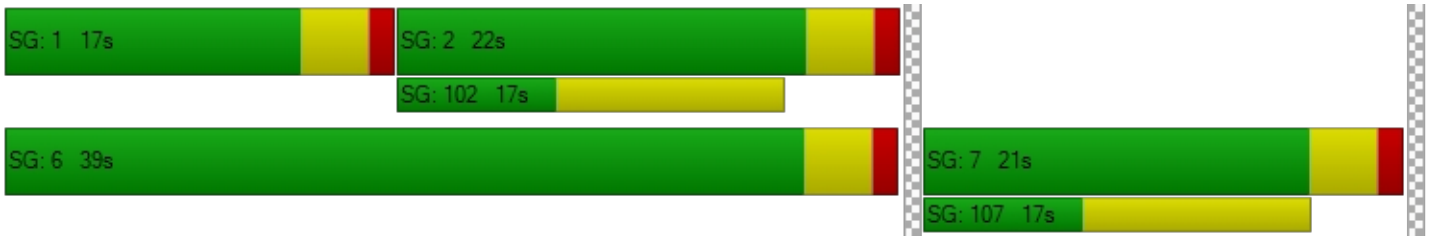
d_M, Delay for Movement [s/veh]	5.92	5.42	29.22	2.99	29.00	24.72
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	5.83		4.87		28.49	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.57					
Intersection LOS	A					
Intersection V/C	0.486					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.629	2.028
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.721	5.131	4.132
Bicycle LOS	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	663	100	105	712	67	168	313	202	129	278	93
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	29	23	0	0	0	12	0	57	11	9
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	675	129	128	712	67	168	325	202	186	289	102
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	33	176	34	33	186	17	44	85	53	48	75	27
Total Analysis Volume [veh/h]	133	704	135	133	742	70	175	339	211	194	301	106
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	22	0	16	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	7	29	29	7	28	28	7	12	12	7	12	12
g / C, Green / Cycle	0.10	0.41	0.41	0.09	0.40	0.40	0.10	0.17	0.17	0.10	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.08	0.14	0.09	0.04	0.15	0.05	0.05	0.10	0.14	0.06	0.12	0.12
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1643
c, Capacity [veh/h]	172	1994	622	313	1962	612	326	592	264	329	313	286
d1, Uniform Delay [s]	30.82	14.44	13.56	30.04	14.89	13.25	30.18	26.67	27.88	30.29	27.17	27.22
k, delay calibration	0.11	0.50	0.50	0.11	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]	7.17	0.49	0.80	0.92	0.56	0.38	1.38	0.87	5.47	1.68	2.55	2.90
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	0.77	0.35	0.22	0.43	0.38	0.11	0.54	0.57	0.80	0.59	0.68	0.68
d, Delay for Lane Group [s/veh]	37.99	14.93	14.36	30.96	15.45	13.62	31.55	27.55	33.35	31.98	29.72	30.11
Lane Group LOS	D	B	B	C	B	B	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	2.46	2.46	1.42	1.06	2.66	0.71	1.42	2.56	3.64	1.59	3.39	3.16
50th-Percentile Queue Length [ft]	61.42	61.55	35.49	26.59	66.45	17.70	35.50	64.03	91.02	39.73	84.70	79.06
95th-Percentile Queue Length [veh]	4.42	4.43	2.56	1.91	4.78	1.27	2.56	4.61	6.55	2.86	6.10	5.69
95th-Percentile Queue Length [ft]	110.56	110.79	63.88	47.87	119.61	31.86	63.90	115.25	163.83	71.51	152.45	142.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.99	14.93	14.36	30.96	15.45	13.62	31.55	27.55	33.35	31.98	29.84	30.11
Movement LOS	D	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	18.01			17.50			30.20			30.58		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.91											
Intersection LOS	C											
Intersection V/C	0.551											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	2.970	3.044	2.751	2.748
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	514	486	486	486
d_b, Bicycle Delay [s]	19.31	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.094	2.079	2.158	2.055
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Pepper Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name						
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	899	0	0	1340	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	29	35	0	57	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	33	0	0	0	10
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]	928	68	0	1397	0	22
Peak Hour Factor	0.9590	1.0000	1.0000	0.9590	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]	242	17	0	364	0	6
Total Analysis Volume [veh/h]	968	68	0	1457	0	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane	No	No	No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No	No	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	0.01	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.41
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.14
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	3.39
d_A, Approach Delay [s/veh]	0.00		0.00		12.41	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	25.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.905

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	26	356	0	0	580	760	0	0	0	43	0	542
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	0	31	26	0	0	0	0	0	29
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	391	0	0	611	786	0	0	0	43	0	571
Peak Hour Factor	0.9460	0.9460	1.0000	1.0000	0.9460	0.9460	1.0000	1.0000	1.0000	0.9460	0.9460	0.9460
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]	7	103	0	0	161	208	0	0	0	11	0	151
Total Analysis Volume [veh/h]	27	413	0	0	646	831	0	0	0	45	0	604
Presence of On-Street Parking	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]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	57	0	0	46	0	0	0	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	80	80	80	80		80	80
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	3	53	46	46		19	19
g / C, Green / Cycle	0.04	0.67	0.58	0.58		0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.19	0.54		0.21	0.21
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1553	1530
c, Capacity [veh/h]	70	2287	1976	882		361	356
d1, Uniform Delay [s]	37.42	5.04	8.85	15.72		29.86	29.87
k, delay calibration	0.11	0.50	0.50	0.50		0.13	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.42	0.17	0.44	19.15		9.84	10.11
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.18	0.33	0.94		0.90	0.91
d, Delay for Lane Group [s/veh]	40.84	5.21	9.29	34.87		39.69	39.97
Lane Group LOS	D	A	A	C		D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.57	1.11	2.71	16.53		6.86	6.79
50th-Percentile Queue Length [ft]	14.32	27.82	67.81	413.32		171.39	169.78
95th-Percentile Queue Length [veh]	1.03	2.00	4.88	23.20		11.15	11.07
95th-Percentile Queue Length [ft]	25.78	50.07	122.06	580.02		278.74	276.63

Movement, Approach, & Intersection Results

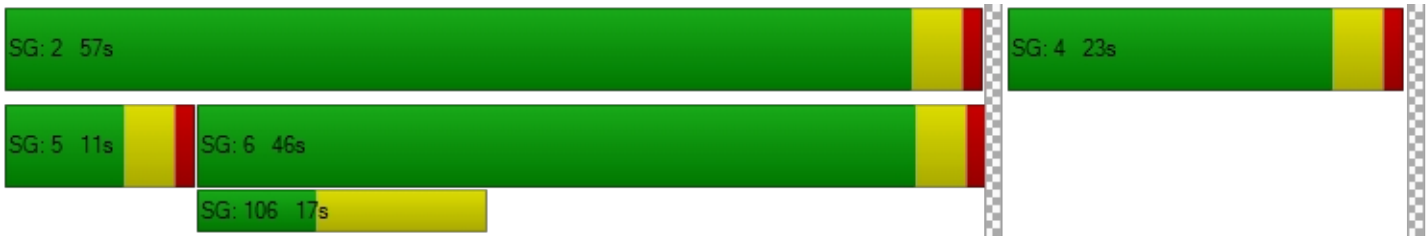
d_M, Delay for Movement [s/veh]	40.84	5.21	0.00	0.00	9.29	34.87	0.00	0.00	0.00	39.69	39.69	39.84
Movement LOS	D	A			A	C				D	D	D
d_A, Approach Delay [s/veh]	7.40			23.68			0.00			39.83		
Approach LOS	A			C			A			D		
d_I, Intersection Delay [s/veh]	24.97											
Intersection LOS	C											
Intersection V/C	0.905											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	29.76	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.253	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1325	1050	0	475
d_b, Bicycle Delay [s]	4.56	9.03	40.00	23.26
l_b,int, Bicycle LOS Score for Intersection	1.923	2.778	4.132	2.630
Bicycle LOS	A	C	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	28	23	601	54	0	363	9	54	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	26	5	0	29	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	34	23	627	59	0	392	9	54	0	0	0
Peak Hour Factor	1.0000	0.9230	0.9230	0.9230	0.9230	1.0000	0.9230	0.9230	0.9230	1.0000	1.0000	1.0000
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]	0	9	6	170	16	0	106	2	15	0	0	0
Total Analysis Volume [veh/h]	0	37	25	679	64	0	425	10	59	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	18	29	0	0	31	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	23	23	14	41	11	11	
g / C, Green / Cycle	0.38	0.38	0.23	0.68	0.19	0.19	
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.20	0.04	0.15	0.15	
s, saturation flow rate [veh/h]	1800	1530	3329	1800	1714	1669	
c, Capacity [veh/h]	677	575	774	1215	329	320	
d1, Uniform Delay [s]	11.96	11.91	22.26	3.29	23.00	23.00	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.15	0.14	3.38	0.08	3.63	3.73	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.05	0.04	0.88	0.05	0.76	0.76	
d, Delay for Lane Group [s/veh]	12.11	12.05	25.64	3.38	26.63	26.72	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	0.31	0.21	4.60	0.20	3.44	3.36	
50th-Percentile Queue Length [ft]	7.82	5.34	115.00	4.89	86.08	84.02	
95th-Percentile Queue Length [veh]	0.56	0.38	8.12	0.35	6.20	6.05	
95th-Percentile Queue Length [ft]	14.07	9.61	202.94	8.80	154.95	151.23	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.11	12.05	25.64	3.38	0.00	26.67	26.72	26.72	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	12.09			23.72			26.68			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	24.29											
Intersection LOS	C											
Intersection V/C	0.463											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.933	0.000
Crosswalk LOS	F	F	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	233	833	900	0
d_b, Bicycle Delay [s]	23.41	10.21	9.08	30.00
l_b,int, Bicycle LOS Score for Intersection	1.662	2.786	2.375	4.132
Bicycle LOS	A	C	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 6: Project West Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	518	0	0	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	24	40	0	77
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	5	0	39	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]	0	10	542	79	0	577
Peak Hour Factor	1.0000	1.0000	0.9590	1.0000	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	141	20	0	150
Total Analysis Volume [veh/h]	0	10	565	79	0	602
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	10.38	0.00	0.00	8.79	0.00
Movement LOS		B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.12	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.38		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	518	0	0	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	11	5	24	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	75	10	0	22	17	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]	152	21	523	46	34	500
Peak Hour Factor	1.0000	1.0000	0.9590	1.0000	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	5	136	12	9	130
Total Analysis Volume [veh/h]	152	21	545	46	34	521
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.49	0.03	0.01	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	27.76	21.24	0.00	0.00	8.75	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh]	2.84	2.84	0.00	0.00	0.11	0.00
95th-Percentile Queue Length [ft]	71.12	71.12	0.00	0.00	2.65	0.00
d_A, Approach Delay [s/veh]	26.97		0.00		0.54	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.76					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	51.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	235	197	76	203	303	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	17	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]	235	197	76	219	320	206
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	55	21	61	89	57
Total Analysis Volume [veh/h]	260	218	84	243	354	228
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.82	0.31	0.08	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	51.58	12.28	8.92	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	6.88	1.30	0.27	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	171.94	32.45	6.84	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	33.65		2.29		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	12.14					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	235	197	76	203	303	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	17	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	0	0	0	0	0
Total Hourly Volume [veh/h]	235	197	76	219	320	206
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	55	21	61	89	57
Total Analysis Volume [veh/h]	260	218	84	243	354	228
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	7	0	0	7	7	0
Maximum Green [s]	30	0	0	30	30	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]	39	0	0	21	21	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	40	40	40	40
g / C, Green / Cycle	0.20	0.20	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.15	0.14	0.10	0.07	0.16	0.18
s, saturation flow rate [veh/h]	1714	1530	846	3427	1800	1581
c, Capacity [veh/h]	341	304	582	2290	1203	1057
d1, Uniform Delay [s]	22.75	22.50	6.87	3.56	3.95	4.06
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.55	3.16	0.52	0.09	0.48	0.65
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.72	0.14	0.11	0.24	0.28
d, Delay for Lane Group [s/veh]	26.30	25.66	7.39	3.66	4.43	4.70
Lane Group LOS	C	C	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	3.42	2.82	0.52	0.37	1.07	1.13
50th-Percentile Queue Length [ft]	85.40	70.53	13.00	9.36	26.85	28.24
95th-Percentile Queue Length [veh]	6.15	5.08	0.94	0.67	1.93	2.03
95th-Percentile Queue Length [ft]	153.73	126.96	23.40	16.84	48.34	50.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.30	25.66	7.39	3.66	4.48	4.70
Movement LOS	C	C	A	A	A	A
d_A, Approach Delay [s/veh]	26.01		4.62		4.57	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	11.97					
Intersection LOS	B					
Intersection V/C	0.387					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
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]	20.01	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.379	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.402	4.613
Bicycle LOS	D	E	E

Sequence

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



Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	907	55	31	667	190	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	0	0	20	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	0	0	0	0	0
Total Hourly Volume [veh/h]	926	55	31	687	190	51
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	239	14	8	177	49	13
Total Analysis Volume [veh/h]	957	57	32	710	196	53
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	12	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	3	43	9	9
g / C, Green / Cycle	0.60	0.60	0.05	0.72	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.28	0.04	0.02	0.21	0.11	0.03
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2059	919	87	2460	256	228
d1, Uniform Delay [s]	6.65	4.98	27.63	3.02	24.59	22.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.76	0.13	2.61	0.30	4.77	0.51
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.06	0.37	0.29	0.77	0.23
d, Delay for Lane Group [s/veh]	7.41	5.11	30.24	3.32	29.36	23.07
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.71	0.25	0.49	0.91	2.85	0.65
50th-Percentile Queue Length [ft]	67.63	6.37	12.15	22.83	71.16	16.37
95th-Percentile Queue Length [veh]	4.87	0.46	0.87	1.64	5.12	1.18
95th-Percentile Queue Length [ft]	121.73	11.47	21.87	41.09	128.09	29.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.41	5.11	30.24	3.32	29.36	23.07
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	7.28		4.48		28.02	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.82					
Intersection LOS	A					
Intersection V/C	0.515					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.619	2.028
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.969	4.745	4.132
Bicycle LOS	E	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.529

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	122	613	134	133	688	81	162	293	186	148	315	104
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	25	20	0	0	0	10	0	52	10	9
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	623	159	153	688	81	162	303	186	200	325	113
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	32	162	41	40	179	21	42	79	48	52	84	29
Total Analysis Volume [veh/h]	127	648	165	159	715	84	168	315	193	208	338	117
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	15	24	0	12	21	0	12	21	0	13	22	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	7	29	29	7	29	29	7	12	12	7	12	12
g / C, Green / Cycle	0.09	0.41	0.41	0.10	0.41	0.41	0.10	0.17	0.17	0.10	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.11	0.05	0.15	0.05	0.05	0.09	0.13	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1644
c, Capacity [veh/h]	164	2010	627	322	2014	628	324	570	254	331	303	277
d1, Uniform Delay [s]	31.01	14.09	13.71	30.10	14.28	12.91	30.14	26.89	27.95	30.39	27.99	28.02
k, delay calibration	0.11	0.50	0.50	0.11	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]	7.48	0.43	1.02	1.17	0.49	0.44	1.28	0.84	4.62	1.97	4.41	4.99
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	0.77	0.32	0.26	0.49	0.36	0.13	0.52	0.55	0.76	0.63	0.78	0.79
d, Delay for Lane Group [s/veh]	38.49	14.52	14.73	31.27	14.77	13.35	31.42	27.73	32.56	32.36	32.39	33.01
Lane Group LOS	D	B	B	C	B	B	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	2.36	2.22	1.77	1.28	2.48	0.84	1.36	2.39	3.28	1.72	4.00	3.74
50th-Percentile Queue Length [ft]	59.11	55.40	44.14	32.04	62.00	20.95	33.98	59.63	81.97	42.94	100.12	93.43
95th-Percentile Queue Length [veh]	4.26	3.99	3.18	2.31	4.46	1.51	2.45	4.29	5.90	3.09	7.21	6.73
95th-Percentile Queue Length [ft]	106.41	99.72	79.46	57.68	111.60	37.70	61.16	107.34	147.55	77.30	180.22	168.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.49	14.52	14.73	31.27	14.77	13.35	31.42	27.73	32.56	32.36	32.58	33.01
Movement LOS	D	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.79			17.39			30.03			32.59		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	23.26											
Intersection LOS	C											
Intersection V/C	0.529											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	2.962	3.040	2.751	2.761
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	486	486	514
d_b, Bicycle Delay [s]	17.86	20.06	20.06	19.31
l_b,int, Bicycle LOS Score for Intersection	2.077	2.087	2.117	2.107
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Pepper Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name						
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	1115	0	0	1040	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	30	0	52	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	28	0	0	0	9
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]	1140	58	0	1092	0	19
Peak Hour Factor	0.9620	1.0000	1.0000	0.9620	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]	296	15	0	284	0	5
Total Analysis Volume [veh/h]	1185	58	0	1135	0	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane	No	No	No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No	No	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	0.01	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.66
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.14
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	3.42
d_A, Approach Delay [s/veh]	0.00		0.00		13.66	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	20	607	0	0	545	495	0	0	0	16	5	508
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	0	0	28	24	0	0	0	0	0	25
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	637	0	0	573	519	0	0	0	16	5	533
Peak Hour Factor	0.9280	0.9280	1.0000	1.0000	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280
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]	5	172	0	0	154	140	0	0	0	4	1	144
Total Analysis Volume [veh/h]	22	686	0	0	617	559	0	0	0	17	5	574
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	12	33	0	0	21	0	0	0	0	0	27	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	2	38	31	31		14	14
g / C, Green / Cycle	0.04	0.63	0.52	0.52		0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.01	0.20	0.18	0.37		0.19	0.19
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1543	1530
c, Capacity [veh/h]	65	2147	1789	798		371	368
d1, Uniform Delay [s]	28.20	5.25	8.39	10.84		21.52	21.52
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.00	0.39	0.53	5.07		4.15	4.19
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.32	0.34	0.70		0.81	0.81
d, Delay for Lane Group [s/veh]	31.20	5.64	8.92	15.91		25.67	25.72
Lane Group LOS	C	A	A	B		C	C
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.35	1.55	2.04	5.59		4.07	4.04
50th-Percentile Queue Length [ft]	8.71	38.73	50.95	139.71		101.69	100.96
95th-Percentile Queue Length [veh]	0.63	2.79	3.67	9.47		7.32	7.27
95th-Percentile Queue Length [ft]	15.67	69.71	91.71	236.63		183.04	181.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.20	5.64	0.00	0.00	8.92	15.91	0.00	0.00	0.00	25.67	25.67	25.70
Movement LOS	C	A			A	B				C	C	C
d_A, Approach Delay [s/veh]	6.44			12.24			0.00			25.69		
Approach LOS	A			B			A			C		
d_I, Intersection Delay [s/veh]	13.82											
Intersection LOS	B											
Intersection V/C	0.715											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.972	0.000
Crosswalk LOS	F	F	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	967	567	0	767
d_b, Bicycle Delay [s]	8.01	15.41	30.00	11.41
I_b,int, Bicycle LOS Score for Intersection	2.144	2.530	4.132	2.543
Bicycle LOS	B	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	78	124	543	12	0	547	2	4	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	23	5	0	25	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	83	124	566	17	0	572	2	4	0	0	0
Peak Hour Factor	1.0000	0.8920	0.8920	0.8920	0.8920	1.0000	0.8920	0.8920	0.8920	1.0000	1.0000	1.0000
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]	0	23	35	159	5	0	160	1	1	0	0	0
Total Analysis Volume [veh/h]	0	93	139	635	19	0	641	2	4	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	19	30	0	0	30	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	20	20	14	38	14	14	
g / C, Green / Cycle	0.33	0.33	0.24	0.63	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.20	0.01	0.19	0.19	
s, saturation flow rate [veh/h]	1800	1530	3123	1800	1714	1712	
c, Capacity [veh/h]	590	502	737	1135	406	405	
d1, Uniform Delay [s]	14.33	14.95	22.04	4.16	21.60	21.61	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.57	1.37	3.13	0.03	3.63	3.64	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.16	0.28	0.86	0.02	0.80	0.80	
d, Delay for Lane Group [s/veh]	14.90	16.32	25.18	4.18	25.24	25.24	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	0.91	1.46	4.26	0.07	4.35	4.34	
50th-Percentile Queue Length [ft]	22.71	36.54	106.45	1.78	108.68	108.58	
95th-Percentile Queue Length [veh]	1.64	2.63	7.64	0.13	7.77	7.76	
95th-Percentile Queue Length [ft]	40.88	65.77	191.06	3.21	194.16	194.03	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	14.90	16.32	25.18	4.18	0.00	25.24	25.24	25.24	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	15.75			24.57			25.24			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	23.52											
Intersection LOS	C											
Intersection V/C	0.604											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.008	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	233	867	867	0
d_b, Bicycle Delay [s]	23.41	9.63	9.63	30.00
l_b,int, Bicycle LOS Score for Intersection	1.942	2.639	2.627	4.132
Bicycle LOS	A	B	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 6: Project West Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	560	0	0	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	20	35	0	71
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	4	0	33	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]	0	9	580	68	0	638
Peak Hour Factor	1.0000	1.0000	0.9620	1.0000	1.0000	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	151	17	0	166
Total Analysis Volume [veh/h]	0	9	603	68	0	663
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	10.48	0.00	0.00	8.88	0.00
Movement LOS		B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.03	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.48		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	28.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	560	0	0	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	71	9	5	20	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	65	9	0	19	14	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]	136	18	565	39	29	567
Peak Hour Factor	1.0000	1.0000	0.9620	1.0000	1.0000	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	5	147	10	7	147
Total Analysis Volume [veh/h]	136	18	587	39	29	589
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.47	0.03	0.01	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	28.77	21.43	0.00	0.00	8.84	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh]	2.65	2.65	0.00	0.00	0.09	0.00
95th-Percentile Queue Length [ft]	66.17	66.17	0.00	0.00	2.32	0.00
d_A, Approach Delay [s/veh]	27.91		0.00		0.42	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.26					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	60.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	162	109	138	361	303	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	15	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]	162	109	138	375	318	191
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	29	37	101	86	52
Total Analysis Volume [veh/h]	175	118	149	405	343	206
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.78	0.16	0.14	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	60.86	10.89	9.08	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	5.55	0.57	0.50	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	138.74	14.37	12.62	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	40.73		2.44		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	9.52					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

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):	0.317

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	162	109	138	361	303	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	15	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	0	0	0	0	0
Total Hourly Volume [veh/h]	162	109	138	375	318	191
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	29	37	101	86	52
Total Analysis Volume [veh/h]	175	118	149	405	343	206
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	7	0	0	7	7	0
Maximum Green [s]	30	0	0	30	30	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]	39	0	0	21	21	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	9	43	43	43	43
g / C, Green / Cycle	0.14	0.14	0.72	0.72	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.10	0.08	0.17	0.12	0.15	0.17
s, saturation flow rate [veh/h]	1714	1530	872	3427	1800	1589
c, Capacity [veh/h]	245	219	663	2481	1303	1150
d1, Uniform Delay [s]	24.56	23.90	5.16	2.60	2.70	2.77
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.84	2.06	0.79	0.14	0.37	0.49
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.54	0.22	0.16	0.21	0.24
d, Delay for Lane Group [s/veh]	28.40	25.96	5.95	2.74	3.07	3.26
Lane Group LOS	C	C	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	2.40	1.53	0.76	0.44	0.69	0.72
50th-Percentile Queue Length [ft]	59.98	38.19	18.88	11.03	17.17	18.08
95th-Percentile Queue Length [veh]	4.32	2.75	1.36	0.79	1.24	1.30
95th-Percentile Queue Length [ft]	107.96	68.74	33.98	19.85	30.90	32.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.40	25.96	5.95	2.74	3.11	3.26
Movement LOS	C	C	A	A	A	A
d_A, Approach Delay [s/veh]	27.42		3.60		3.17	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	8.43					
Intersection LOS	A					
Intersection V/C	0.317					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
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]	20.01	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.410	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.589	4.585
Bicycle LOS	D	E	E

Sequence

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



Opening Year 2019 Without Project

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	527	127	82	1040	98	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	5	12	2	2
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	0	0	0	0	0
Total Hourly Volume [veh/h]	546	138	89	1073	102	15
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	36	24	284	27	4
Total Analysis Volume [veh/h]	577	146	94	1134	108	16
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	21	0	18	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	6	46	6	6
g / C, Green / Cycle	0.60	0.60	0.09	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.17	0.10	0.05	0.33	0.06	0.01
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2065	922	162	2616	178	159
d1, Uniform Delay [s]	5.71	5.25	26.11	2.52	25.79	24.42
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.37	3.28	0.53	3.32	0.27
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.16	0.58	0.43	0.61	0.10
d, Delay for Lane Group [s/veh]	6.05	5.62	29.39	3.04	29.12	24.70
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	1.39	0.70	1.37	1.08	1.56	0.21
50th-Percentile Queue Length [ft]	34.72	17.38	34.14	27.11	38.94	5.19
95th-Percentile Queue Length [veh]	2.50	1.25	2.46	1.95	2.80	0.37
95th-Percentile Queue Length [ft]	62.49	31.28	61.44	48.80	70.09	9.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.05	5.62	29.39	3.04	29.12	24.70
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	5.97		5.06		28.55	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.78					
Intersection LOS	A					
Intersection V/C	0.492					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.632	2.036
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.729	5.146	4.132
Bicycle LOS	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	663	100	105	712	67	168	313	202	129	278	93
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	158	10	8	0	80	6	6	17	64	2	14	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	289	686	110	107	806	74	177	336	270	134	298	95
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	75	179	29	28	210	19	46	88	70	35	78	25
Total Analysis Volume [veh/h]	301	715	115	112	840	77	185	350	282	140	311	99
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	23	0	15	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	13	26	26	6	19	19	7	15	15	7	15	15
g / C, Green / Cycle	0.19	0.37	0.37	0.09	0.28	0.28	0.10	0.21	0.21	0.09	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.18	0.15	0.08	0.03	0.17	0.05	0.06	0.10	0.18	0.04	0.12	0.12
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1654
c, Capacity [veh/h]	319	1834	572	300	1365	426	328	731	326	316	377	347
d1, Uniform Delay [s]	28.24	16.11	14.88	30.09	22.08	19.27	30.24	24.22	26.66	30.05	24.88	24.93
k, delay calibration	0.11	0.50	0.50	0.11	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]	13.43	0.63	0.79	0.77	2.09	0.93	1.53	0.49	6.84	0.98	1.31	1.48
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	0.94	0.39	0.20	0.37	0.62	0.18	0.56	0.48	0.86	0.44	0.56	0.57
d, Delay for Lane Group [s/veh]	41.67	16.74	15.67	30.86	24.17	20.20	31.76	24.71	33.50	31.03	26.19	26.41
Lane Group LOS	D	B	B	C	C	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	5.93	2.70	1.28	0.89	4.04	1.02	1.51	2.47	4.91	1.12	3.14	2.95
50th-Percentile Queue Length [ft]	148.18	67.60	32.08	22.32	101.09	25.43	37.71	61.78	122.87	28.04	78.55	73.80
95th-Percentile Queue Length [veh]	9.92	4.87	2.31	1.61	7.28	1.83	2.71	4.45	8.55	2.02	5.66	5.31
95th-Percentile Queue Length [ft]	247.99	121.67	57.74	40.17	181.96	45.77	67.87	111.20	213.76	50.47	141.39	132.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.67	16.74	15.67	30.86	24.17	20.20	31.76	24.71	33.50	31.03	26.26	26.41
Movement LOS	D	B	B	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	23.27			24.60			29.34			27.50		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.72											
Intersection LOS	C											
Intersection V/C	0.743											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	3.003	3.055	2.790	2.737
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	543	486	486	486
d_b, Bicycle Delay [s]	18.58	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.182	2.126	2.234	2.013
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.923

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	26	356	0	0	580	760	0	0	0	43	0	542
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	88	0	0	72	73	0	0	0	0	0	88
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	451	0	0	664	848	0	0	0	44	0	641
Peak Hour Factor	0.9460	0.9460	1.0000	1.0000	0.9460	0.9460	1.0000	1.0000	1.0000	0.9460	0.9460	0.9460
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]	7	119	0	0	175	224	0	0	0	12	0	169
Total Analysis Volume [veh/h]	29	477	0	0	702	896	0	0	0	47	0	678
Presence of On-Street Parking	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]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	66	0	0	55	0	0	0	0	0	64	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	130	130	130	130		130	130
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	5	88	80	80		34	34
g / C, Green / Cycle	0.04	0.68	0.61	0.61		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.02	0.14	0.20	0.59		0.23	0.24
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1552	1530
c, Capacity [veh/h]	61	2327	2099	937		402	397
d1, Uniform Delay [s]	61.44	7.77	12.26	23.53		46.56	46.60
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	5.62	0.20	0.43	20.50		7.83	8.11
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.20	0.33	0.96		0.91	0.91
d, Delay for Lane Group [s/veh]	67.06	7.97	12.69	44.03		54.39	54.71
Lane Group LOS	E	A	B	D		D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	1.04	2.48	5.02	29.33		12.23	12.14
50th-Percentile Queue Length [ft]	25.94	61.96	125.59	733.30		305.79	303.42
95th-Percentile Queue Length [veh]	1.87	4.46	8.70	38.21		17.97	17.85
95th-Percentile Queue Length [ft]	46.69	111.52	217.49	955.35		449.18	446.26

Movement, Approach, & Intersection Results

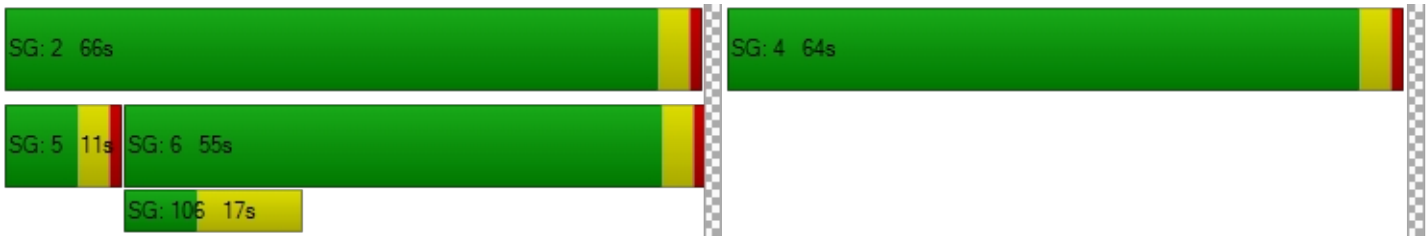
d_M, Delay for Movement [s/veh]	67.06	7.97	0.00	0.00	12.69	44.03	0.00	0.00	0.00	54.39	54.39	54.56
Movement LOS	E	A			B	D				D	D	D
d_A, Approach Delay [s/veh]	11.36			30.26			0.00			54.55		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	33.10											
Intersection LOS	C											
Intersection V/C	0.923											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	54.47	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.343	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	954	785	0	923
d_b, Bicycle Delay [s]	17.78	24.00	65.00	18.85
l_b,int, Bicycle LOS Score for Intersection	1.977	2.878	4.132	2.756
Bicycle LOS	A	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	28	23	601	54	0	363	9	54	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
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	72	0	0	88	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	29	23	685	55	0	458	9	55	0	0	0
Peak Hour Factor	1.0000	0.9230	0.9230	0.9230	0.9230	1.0000	0.9230	0.9230	0.9230	1.0000	1.0000	1.0000
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]	0	8	6	186	15	0	124	2	15	0	0	0
Total Analysis Volume [veh/h]	0	31	25	742	60	0	496	10	60	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	19	30	0	0	30	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	20	20	15	39	13	13	
g / C, Green / Cycle	0.34	0.34	0.25	0.65	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.23	0.03	0.17	0.17	
s, saturation flow rate [veh/h]	1800	1530	3206	1800	1714	1674	
c, Capacity [veh/h]	605	514	802	1175	367	358	
d1, Uniform Delay [s]	13.49	13.47	22.00	3.75	22.31	22.31	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.16	0.18	5.16	0.08	3.63	3.72	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.05	0.05	0.92	0.05	0.78	0.78	
d, Delay for Lane Group [s/veh]	13.65	13.65	27.16	3.83	25.94	26.04	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	0.29	0.23	5.22	0.21	3.89	3.81	
50th-Percentile Queue Length [ft]	7.13	5.84	130.61	5.17	97.30	95.30	
95th-Percentile Queue Length [veh]	0.51	0.42	8.97	0.37	7.01	6.86	
95th-Percentile Queue Length [ft]	12.83	10.51	224.32	9.30	175.13	171.54	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.65	13.65	27.16	3.83	0.00	25.98	26.04	26.04	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	13.65			25.42			25.99			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	25.18											
Intersection LOS	C											
Intersection V/C	0.520											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.968	0.000
Crosswalk LOS	F	F	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	233	867	867	0
d_b, Bicycle Delay [s]	23.41	9.63	9.63	30.00
l_b,int, Bicycle LOS Score for Intersection	1.652	2.883	2.494	4.132
Bicycle LOS	A	C	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	518	2	0	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.02	1.00	1.00	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	25	0	0	16
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]	0	0	553	2	0	526
Peak Hour Factor	1.0000	1.0000	0.9590	0.9590	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	144	1	0	137
Total Analysis Volume [veh/h]	0	0	577	2	0	548
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	16.90	10.05	0.00	0.00	8.58	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.47		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	67.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	235	197	76	203	303	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	8	17	14	5
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]	242	203	86	224	323	215
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	56	24	62	89	60
Total Analysis Volume [veh/h]	268	225	95	248	358	238
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.90	0.32	0.10	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	67.09	12.49	9.02	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	8.27	1.38	0.32	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	206.63	34.42	7.94	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	42.17		2.50		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	15.12					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	907	55	31	667	190	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	5	3	12	6	5
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	0	0	0	0	0
Total Hourly Volume [veh/h]	939	61	35	692	200	57
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	243	16	9	179	52	15
Total Analysis Volume [veh/h]	970	63	36	715	207	59
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	12	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	3	43	9	9
g / C, Green / Cycle	0.59	0.59	0.05	0.71	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.28	0.04	0.02	0.21	0.12	0.04
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2020	902	94	2436	268	239
d1, Uniform Delay [s]	7.07	5.29	27.44	3.18	24.36	22.28
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.82	0.15	2.53	0.31	4.74	0.53
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.07	0.38	0.29	0.77	0.25
d, Delay for Lane Group [s/veh]	7.89	5.44	29.97	3.48	29.10	22.81
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.89	0.30	0.54	0.98	2.99	0.72
50th-Percentile Queue Length [ft]	72.36	7.41	13.52	24.38	74.81	18.09
95th-Percentile Queue Length [veh]	5.21	0.53	0.97	1.76	5.39	1.30
95th-Percentile Queue Length [ft]	130.26	13.34	24.34	43.88	134.66	32.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.89	5.44	29.97	3.48	29.10	22.81
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	7.74		4.75		27.71	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.24					
Intersection LOS	A					
Intersection V/C	0.531					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.624	2.036
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.985	4.752	4.132
Bicycle LOS	E	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.697

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	122	613	134	133	688	81	162	293	186	148	315	104
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	150	11	5	0	81	8	8	20	69	6	22	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	636	142	136	783	91	173	319	259	157	343	106
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	71	165	37	35	203	24	45	83	67	41	89	28
Total Analysis Volume [veh/h]	285	661	148	141	814	95	180	332	269	163	357	110
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	22	0	16	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	12	26	26	7	21	21	7	14	14	7	14	14
g / C, Green / Cycle	0.17	0.37	0.37	0.09	0.30	0.30	0.10	0.21	0.21	0.10	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.15	0.13	0.10	0.04	0.17	0.06	0.05	0.10	0.18	0.05	0.13	0.14
s, saturation flow rate [veh/h]	1936	4993	1530	3329	4903	1530	3329	3427	1530	3329	1800	1657
c, Capacity [veh/h]	337	1870	573	316	1448	452	327	705	315	323	368	339
d1, Uniform Delay [s]	28.10	15.84	15.21	30.05	20.91	18.59	30.21	24.54	26.89	30.12	25.67	25.71
k, delay calibration	0.11	0.50	0.50	0.11	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]	5.84	0.53	1.09	0.99	1.58	1.06	1.45	0.49	6.59	1.22	2.00	2.23
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	0.85	0.35	0.26	0.45	0.56	0.21	0.55	0.47	0.85	0.50	0.66	0.66
d, Delay for Lane Group [s/veh]	33.94	16.36	16.30	31.04	22.49	19.65	31.66	25.03	33.48	31.34	27.67	27.94
Lane Group LOS	C	B	B	C	C	B	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	4.97	2.45	1.70	1.13	3.74	1.23	1.46	2.36	4.68	1.32	3.73	3.49
50th-Percentile Queue Length [ft]	124.14	61.30	42.42	28.25	93.41	30.75	36.60	58.98	117.01	32.90	93.15	87.24
95th-Percentile Queue Length [veh]	8.62	4.41	3.05	2.03	6.73	2.21	2.64	4.25	8.23	2.37	6.71	6.28
95th-Percentile Queue Length [ft]	215.51	110.33	76.35	50.85	168.14	55.34	65.88	106.17	205.71	59.22	167.68	157.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.94	16.36	16.30	31.04	22.49	19.65	31.66	25.03	33.48	31.34	27.76	27.94
Movement LOS	C	B	B	C	C	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	20.93			23.38			29.46			28.72		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.91											
Intersection LOS	C											
Intersection V/C	0.697											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	2.997	3.052	2.792	2.754
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	514	486	486	486
d_b, Bicycle Delay [s]	19.31	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.161	2.137	2.204	2.079
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.802

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	20	607	0	0	545	495	0	0	0	16	5	508
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	83	0	0	78	78	0	0	0	0	0	83
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	702	0	0	634	583	0	0	0	16	5	601
Peak Hour Factor	0.9280	0.9280	1.0000	1.0000	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280
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]	5	189	0	0	171	157	0	0	0	4	1	162
Total Analysis Volume [veh/h]	22	756	0	0	683	628	0	0	0	17	5	648
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	39	0	0	28	0	0	0	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	2	37	31	31		15	15
g / C, Green / Cycle	0.04	0.61	0.51	0.51		0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.01	0.22	0.20	0.41		0.22	0.22
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1542	1530
c, Capacity [veh/h]	65	2101	1743	778		392	389
d1, Uniform Delay [s]	28.20	5.78	9.07	12.33		21.41	21.42
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.00	0.48	0.66	8.79		5.54	5.62
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.36	0.39	0.81		0.86	0.86
d, Delay for Lane Group [s/veh]	31.20	6.26	9.74	21.12		26.96	27.03
Lane Group LOS	C	A	A	C		C	C
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.35	1.87	2.42	7.54		4.72	4.70
50th-Percentile Queue Length [ft]	8.71	46.70	60.43	188.41		118.03	117.44
95th-Percentile Queue Length [veh]	0.63	3.36	4.35	12.04		8.28	8.25
95th-Percentile Queue Length [ft]	15.67	84.07	108.78	300.97		207.11	206.30

Movement, Approach, & Intersection Results

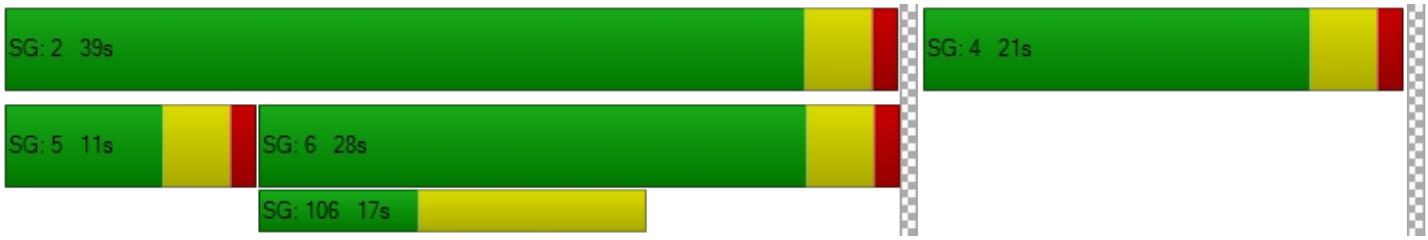
d_M, Delay for Movement [s/veh]	31.20	6.26	0.00	0.00	9.74	21.12	0.00	0.00	0.00	26.96	26.96	27.00
Movement LOS	C	A			A	C				C	C	C
d_A, Approach Delay [s/veh]	6.96			15.19			0.00			26.99		
Approach LOS	A			B			A			C		
d_I, Intersection Delay [s/veh]	15.74											
Intersection LOS	B											
Intersection V/C	0.802											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.039	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1167	800	0	567
d_b, Bicycle Delay [s]	5.21	10.80	30.00	15.41
l_b,int, Bicycle LOS Score for Intersection	2.201	2.641	4.132	2.665
Bicycle LOS	B	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.681

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	78	124	543	12	0	547	2	4	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
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	78	0	0	83	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	80	126	632	12	0	641	2	4	0	0	0
Peak Hour Factor	1.0000	0.8920	0.8920	0.8920	0.8920	1.0000	0.8920	0.8920	0.8920	1.0000	1.0000	1.0000
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]	0	22	35	177	3	0	180	1	1	0	0	0
Total Analysis Volume [veh/h]	0	90	141	709	13	0	719	2	4	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	20	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	17	17	16	37	16	16	
g / C, Green / Cycle	0.27	0.27	0.27	0.61	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.24	0.01	0.21	0.21	
s, saturation flow rate [veh/h]	1800	1530	2942	1800	1714	1712	
c, Capacity [veh/h]	493	419	785	1093	445	445	
d1, Uniform Delay [s]	16.69	17.46	21.30	4.67	20.91	20.91	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.81	2.16	4.21	0.02	3.68	3.69	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.18	0.34	0.90	0.01	0.81	0.81	
d, Delay for Lane Group [s/veh]	17.50	19.62	25.51	4.69	24.59	24.60	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	0.98	1.68	4.83	0.05	4.82	4.82	
50th-Percentile Queue Length [ft]	24.62	42.09	120.69	1.35	120.46	120.39	
95th-Percentile Queue Length [veh]	1.77	3.03	8.43	0.10	8.42	8.41	
95th-Percentile Queue Length [ft]	44.32	75.76	210.78	2.43	210.46	210.36	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	17.50	19.62	25.51	4.69	0.00	24.60	24.60	24.60	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	18.79			25.14			24.60			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	24.03											
Intersection LOS	C											
Intersection V/C	0.681											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.046	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	233	900	833	0
d_b, Bicycle Delay [s]	23.41	9.08	10.21	30.00
l_b,int, Bicycle LOS Score for Intersection	1.941	2.751	2.756	4.132
Bicycle LOS	A	C	C	D

Sequence

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



Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	1	1	560	1	1	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.02	1.00	1.00	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	25	0	0	28
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	1	596	1	1	606
Peak Hour Factor	1.0000	1.0000	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	155	0	0	157
Total Analysis Volume [veh/h]	1	1	620	1	1	630
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	18.56	10.26	0.00	0.00	8.72	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.39	0.39	0.00	0.00	0.08	0.00
d_A, Approach Delay [s/veh]	14.41		0.00		0.01	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	80.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	162	109	138	361	303	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	6	5	20	22	3
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]	170	117	146	388	331	198
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	32	39	105	89	53
Total Analysis Volume [veh/h]	183	126	157	419	357	214
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.87	0.18	0.16	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	80.88	11.08	9.21	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	6.80	0.63	0.55	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	170.00	15.84	13.71	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	52.42		2.51		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	12.12					
Intersection LOS	F					

Opening Year 2019 With Project

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	527	127	82	1040	98	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	41	8	5	49	2	2
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	0	0	0	0	0
Total Hourly Volume [veh/h]	579	138	89	1110	102	15
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	153	36	24	293	27	4
Total Analysis Volume [veh/h]	612	146	94	1173	108	16
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	22	0	17	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	6	46	6	6
g / C, Green / Cycle	0.60	0.60	0.09	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.18	0.10	0.05	0.34	0.06	0.01
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2065	922	162	2616	178	159
d1, Uniform Delay [s]	5.79	5.25	26.11	2.56	25.79	24.42
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.37	3.28	0.56	3.32	0.27
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.16	0.58	0.45	0.61	0.10
d, Delay for Lane Group [s/veh]	6.15	5.62	29.39	3.12	29.12	24.70
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	1.49	0.70	1.37	1.14	1.56	0.21
50th-Percentile Queue Length [ft]	37.31	17.38	34.14	28.57	38.94	5.19
95th-Percentile Queue Length [veh]	2.69	1.25	2.46	2.06	2.80	0.37
95th-Percentile Queue Length [ft]	67.16	31.28	61.44	51.43	70.09	9.34

Movement, Approach, & Intersection Results

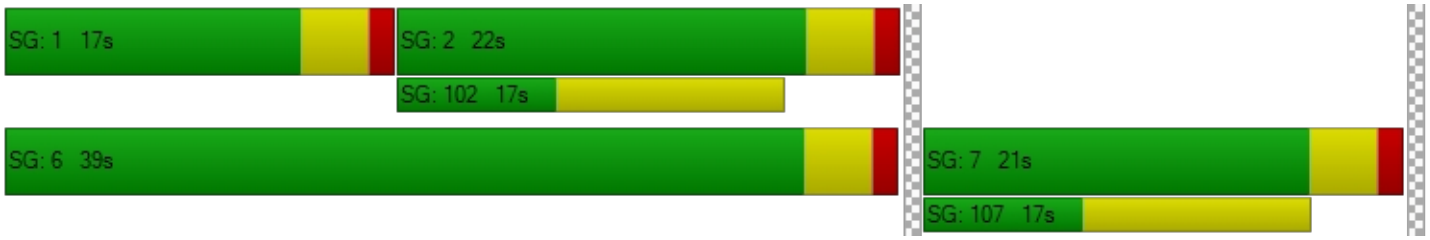
d_M, Delay for Movement [s/veh]	6.15	5.62	29.39	3.12	29.12	24.70
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	6.05		5.07		28.55	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.77					
Intersection LOS	A					
Intersection V/C	0.506					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.647	2.036
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.758	5.178	4.132
Bicycle LOS	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.705

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	663	100	105	712	67	168	313	202	129	278	93
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	130	22	37	31	65	6	18	33	54	59	39	9
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	261	698	139	138	791	74	189	352	260	191	323	104
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	68	182	36	36	206	19	49	92	68	50	84	27
Total Analysis Volume [veh/h]	272	728	145	144	825	77	197	367	271	199	337	108
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]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	22	0	16	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
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]	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]	13	34	34	7	28	28	7	16	16	7	16	16
g / C, Green / Cycle	0.16	0.43	0.43	0.08	0.35	0.35	0.09	0.20	0.20	0.09	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.16	0.15	0.09	0.04	0.17	0.05	0.06	0.11	0.18	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1653
c, Capacity [veh/h]	279	2107	658	281	1724	538	289	682	305	289	358	329
d1, Uniform Delay [s]	33.38	15.29	14.39	35.09	20.25	17.73	35.50	28.78	31.23	35.52	29.47	29.52
k, delay calibration	0.11	0.50	0.50	0.11	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]	19.79	0.45	0.77	1.44	0.95	0.56	2.81	0.66	8.76	2.90	1.94	2.17
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	0.98	0.35	0.22	0.51	0.48	0.14	0.68	0.54	0.89	0.69	0.64	0.65
d, Delay for Lane Group [s/veh]	53.17	15.74	15.16	36.53	21.20	18.29	38.31	29.44	39.99	38.41	31.42	31.68
Lane Group LOS	D	B	B	D	C	B	D	C	D	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	6.62	2.88	1.71	1.37	3.97	1.02	1.94	3.13	5.65	1.96	4.14	3.86
50th-Percentile Queue Length [ft]	165.52	72.09	42.81	34.29	99.31	25.50	48.44	78.14	141.24	49.01	103.54	96.58
95th-Percentile Queue Length [veh]	10.84	5.19	3.08	2.47	7.15	1.84	3.49	5.63	9.55	3.53	7.45	6.95
95th-Percentile Queue Length [ft]	271.02	129.76	77.07	61.73	178.75	45.91	87.19	140.65	238.70	88.22	186.37	173.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.17	15.74	15.16	36.53	21.20	18.29	38.31	29.44	39.99	38.41	31.50	31.68
Movement LOS	D	B	B	D	C	B	D	C	D	D	C	C
d_A, Approach Delay [s/veh]	24.56			23.10			34.96			33.67		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.11											
Intersection LOS	C											
Intersection V/C	0.705											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	29.76	29.76	29.76	29.76
l_p,int, Pedestrian LOS Score for Intersection	3.016	3.068	2.799	2.768
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	450	425	425	425
d_b, Bicycle Delay [s]	24.03	24.81	24.81	24.81
l_b,int, Bicycle LOS Score for Intersection	2.189	2.135	2.248	2.091
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Pepper Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name						
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	899	0	0	1340	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.00	1.00	1.02	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	177	35	0	178	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	33	0	0	0	10
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]	1094	68	0	1545	0	22
Peak Hour Factor	0.9590	1.0000	1.0000	0.9590	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]	285	17	0	403	0	6
Total Analysis Volume [veh/h]	1141	68	0	1611	0	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane	No	No	No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No	No	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	0.02	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.49
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.16
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	3.88
d_A, Approach Delay [s/veh]	0.00		0.00		13.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	35.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.940

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	26	356	0	0	580	760	0	0	0	43	0	542
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	109	0	0	91	87	0	0	0	0	0	103
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	472	0	0	683	862	0	0	0	44	0	656
Peak Hour Factor	0.9460	0.9460	1.0000	1.0000	0.9460	0.9460	1.0000	1.0000	1.0000	0.9460	0.9460	0.9460
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]	7	125	0	0	180	228	0	0	0	12	0	173
Total Analysis Volume [veh/h]	29	499	0	0	722	911	0	0	0	47	0	693
Presence of On-Street Parking	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]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	67	0	0	56	0	0	0	0	0	63	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	130	130	130	130		130	130
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	5	88	79	79		34	34
g / C, Green / Cycle	0.04	0.67	0.61	0.61		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.02	0.15	0.21	0.60		0.24	0.24
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1551	1530
c, Capacity [veh/h]	61	2310	2082	930		410	405
d1, Uniform Delay [s]	61.44	8.08	12.67	24.73		46.22	46.27
k, delay calibration	0.11	0.50	0.50	0.50		0.12	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	5.62	0.21	0.46	25.09		8.28	8.68
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.22	0.35	0.98		0.91	0.91
d, Delay for Lane Group [s/veh]	67.06	8.30	13.13	49.82		54.50	54.95
Lane Group LOS	E	A	B	D		D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	1.04	2.67	5.29	31.88		12.52	12.44
50th-Percentile Queue Length [ft]	25.94	66.66	132.28	796.89		312.91	311.03
95th-Percentile Queue Length [veh]	1.87	4.80	9.06	41.13		18.32	18.23
95th-Percentile Queue Length [ft]	46.69	119.98	226.59	1028.37		457.96	455.65

Movement, Approach, & Intersection Results

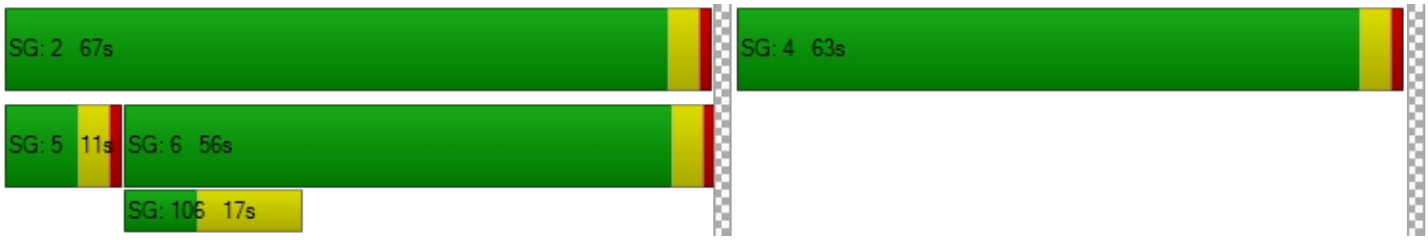
d_M, Delay for Movement [s/veh]	67.06	8.30	0.00	0.00	13.13	49.82	0.00	0.00	0.00	54.50	54.50	54.74
Movement LOS	E	A			B	D				D	D	D
d_A, Approach Delay [s/veh]	11.52			33.60			0.00			54.72		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	34.97											
Intersection LOS	C											
Intersection V/C	0.940											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	54.47	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.358	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	969	800	0	908
d_b, Bicycle Delay [s]	17.27	23.40	65.00	19.39
l_b,int, Bicycle LOS Score for Intersection	1.995	2.907	4.132	2.781
Bicycle LOS	A	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	25.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	28	23	601	54	0	363	9	54	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	86	5	0	103	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	35	23	699	60	0	473	9	55	0	0	0
Peak Hour Factor	1.0000	0.9230	0.9230	0.9230	0.9230	1.0000	0.9230	0.9230	0.9230	1.0000	1.0000	1.0000
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]	0	9	6	189	16	0	128	2	15	0	0	0
Total Analysis Volume [veh/h]	0	38	25	757	65	0	512	10	60	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	20	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	19	19	16	39	13	13	
g / C, Green / Cycle	0.32	0.32	0.27	0.65	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.25	0.04	0.17	0.17	
s, saturation flow rate [veh/h]	1800	1530	3022	1800	1714	1675	
c, Capacity [veh/h]	567	482	806	1167	375	366	
d1, Uniform Delay [s]	14.42	14.35	21.57	3.86	22.17	22.18	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.23	0.20	6.06	0.09	3.66	3.75	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.07	0.05	0.94	0.06	0.79	0.79	
d, Delay for Lane Group [s/veh]	14.64	14.55	27.63	3.95	25.83	25.93	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	0.37	0.24	5.40	0.23	3.99	3.92	
50th-Percentile Queue Length [ft]	9.18	6.11	135.05	5.75	99.84	97.89	
95th-Percentile Queue Length [veh]	0.66	0.44	9.21	0.41	7.19	7.05	
95th-Percentile Queue Length [ft]	16.52	10.99	230.34	10.35	179.71	176.20	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	14.64	14.55	27.63	3.95	0.00	25.87	25.93	25.93	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	14.61			25.76			25.88			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	25.33											
Intersection LOS	C											
Intersection V/C	0.554											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.976	0.000
Crosswalk LOS	F	F	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	233	900	833	0
d_b, Bicycle Delay [s]	23.41	9.08	10.21	30.00
l_b,int, Bicycle LOS Score for Intersection	1.664	2.916	2.520	4.132
Bicycle LOS	A	C	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 6: Project West Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	518	0	0	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.02	1.00	1.00	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	61	40	0	107
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	5	0	39	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]	0	10	589	79	0	617
Peak Hour Factor	1.0000	1.0000	0.9590	1.0000	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	154	20	0	161
Total Analysis Volume [veh/h]	0	10	614	79	0	643
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	10.58	0.00	0.00	8.95	0.00
Movement LOS		B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.16	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.58		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	518	0	0	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.02	1.00	1.00	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	11	42	24	17	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	75	10	0	22	17	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]	152	21	570	46	34	540
Peak Hour Factor	1.0000	1.0000	0.9590	1.0000	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	5	149	12	9	141
Total Analysis Volume [veh/h]	152	21	594	46	34	563
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.52	0.03	0.01	0.00	0.04	0.01
d_M, Delay for Movement [s/veh]	30.98	23.83	0.00	0.00	8.91	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh]	3.17	3.17	0.00	0.00	0.11	0.00
95th-Percentile Queue Length [ft]	79.27	79.27	0.00	0.00	2.77	0.00
d_A, Approach Delay [s/veh]	30.11		0.00		0.51	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.91					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	85.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.966

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	235	197	76	203	303	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	8	45	45	5
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]	242	203	86	252	354	215
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	56	24	70	98	60
Total Analysis Volume [veh/h]	268	225	95	279	392	238
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.97	0.33	0.10	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	85.91	12.78	9.15	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	9.46	1.43	0.33	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	236.45	35.67	8.19	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	52.53		2.32		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	17.88					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	235	197	76	203	303	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	8	45	45	5
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	0	0	0	0	0
Total Hourly Volume [veh/h]	242	203	86	252	354	215
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	56	24	70	98	60
Total Analysis Volume [veh/h]	268	225	95	279	392	238
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	7	0	0	7	7	0
Maximum Green [s]	30	0	0	30	30	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]	39	0	0	21	21	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	14	38	38	38	38
g / C, Green / Cycle	0.23	0.23	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.17	0.18	0.12	0.08	0.18	0.20
s, saturation flow rate [veh/h]	1568	1234	809	3427	1800	1588
c, Capacity [veh/h]	357	281	528	2190	1150	1015
d1, Uniform Delay [s]	21.61	21.92	8.36	4.26	4.75	4.89
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.17	5.23	0.75	0.12	0.59	0.80
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.80	0.18	0.13	0.27	0.31
d, Delay for Lane Group [s/veh]	24.79	27.14	9.11	4.38	5.34	5.68
Lane Group LOS	C	C	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh]	3.41	3.04	0.69	0.51	1.38	1.45
50th-Percentile Queue Length [ft]	85.13	75.97	17.19	12.77	34.53	36.30
95th-Percentile Queue Length [veh]	6.13	5.47	1.24	0.92	2.49	2.61
95th-Percentile Queue Length [ft]	153.24	136.75	30.95	22.99	62.15	65.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.79	27.14	9.11	4.38	5.41	5.68
Movement LOS	C	C	A	A	A	A
d_A, Approach Delay [s/veh]	25.86		5.58		5.51	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	12.23					
Intersection LOS	B					
Intersection V/C	0.381					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
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]	20.01	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.411	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.441	4.652
Bicycle LOS	D	E	E

Sequence

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



Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	907	55	31	667	190	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	5	3	12	6	5
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	0	0	0	0	0
Total Hourly Volume [veh/h]	958	61	35	692	200	57
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	247	16	9	179	52	15
Total Analysis Volume [veh/h]	990	63	36	715	207	59
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	12	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	3	43	9	9
g / C, Green / Cycle	0.59	0.59	0.05	0.71	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.29	0.04	0.02	0.21	0.12	0.04
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2020	902	94	2436	268	239
d1, Uniform Delay [s]	7.13	5.29	27.44	3.18	24.36	22.28
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	0.15	2.53	0.31	4.74	0.53
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.07	0.38	0.29	0.77	0.25
d, Delay for Lane Group [s/veh]	7.98	5.44	29.97	3.48	29.10	22.81
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.98	0.30	0.54	0.98	2.99	0.72
50th-Percentile Queue Length [ft]	74.53	7.41	13.52	24.38	74.81	18.09
95th-Percentile Queue Length [veh]	5.37	0.53	0.97	1.76	5.39	1.30
95th-Percentile Queue Length [ft]	134.15	13.34	24.34	43.88	134.66	32.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.98	5.44	29.97	3.48	29.10	22.81
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	7.83		4.75		27.71	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.27					
Intersection LOS	A					
Intersection V/C	0.538					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.628	2.036
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	5.001	4.752	4.132
Bicycle LOS	F	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	122	613	134	133	688	81	162	293	186	148	315	104
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	150	21	30	0	81	8	8	30	69	58	32	9
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	646	167	136	783	91	173	329	259	209	353	115
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	71	168	43	35	203	24	45	85	67	54	92	30
Total Analysis Volume [veh/h]	285	672	174	141	814	95	180	342	269	217	367	120
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	22	0	16	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	13	26	26	7	20	20	7	14	14	7	15	15
g / C, Green / Cycle	0.19	0.37	0.37	0.09	0.28	0.28	0.10	0.21	0.21	0.10	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.17	0.14	0.11	0.04	0.17	0.06	0.05	0.10	0.18	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1650
c, Capacity [veh/h]	319	1825	570	316	1379	430	327	704	314	332	373	342
d1, Uniform Delay [s]	27.92	16.04	15.62	30.05	21.76	19.35	30.21	24.63	26.90	30.47	25.71	25.74
k, delay calibration	0.11	0.50	0.50	0.11	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]	8.70	0.57	1.38	0.99	1.86	1.18	1.45	0.52	6.64	2.19	2.18	2.43
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	0.89	0.37	0.31	0.45	0.59	0.22	0.55	0.49	0.86	0.65	0.68	0.68
d, Delay for Lane Group [s/veh]	36.61	16.61	17.00	31.04	23.63	20.53	31.66	25.15	33.55	32.66	27.89	28.16
Lane Group LOS	D	B	B	C	C	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	5.21	2.52	2.05	1.13	3.86	1.27	1.46	2.44	4.69	1.80	3.92	3.65
50th-Percentile Queue Length [ft]	130.14	63.06	51.34	28.25	96.46	31.71	36.60	61.01	117.14	45.08	98.12	91.18
95th-Percentile Queue Length [veh]	8.95	4.54	3.70	2.03	6.94	2.28	2.64	4.39	8.24	3.25	7.06	6.56
95th-Percentile Queue Length [ft]	223.68	113.51	92.41	50.85	173.62	57.08	65.88	109.81	205.89	81.14	176.62	164.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.61	16.61	17.00	31.04	23.63	20.53	31.66	25.15	33.55	32.66	27.98	28.16
Movement LOS	D	B	B	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	21.71			24.34			29.49			29.45		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.62											
Intersection LOS	C											
Intersection V/C	0.743											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	3.008	3.054	2.794	2.770
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	514	486	486	486
d_b, Bicycle Delay [s]	19.31	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.182	2.137	2.212	2.140
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Pepper Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name						
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	1115	0	0	1040	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.00	1.00	1.02	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	191	30	0	208	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	28	0	0	0	9
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]	1328	58	0	1269	0	19
Peak Hour Factor	0.9620	1.0000	1.0000	0.9620	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]	345	15	0	330	0	5
Total Analysis Volume [veh/h]	1380	58	0	1319	0	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane	No	No	No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No	No	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	0.01	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	15.10
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.16
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	3.98
d_A, Approach Delay [s/veh]	0.00		0.00		15.10	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	20	607	0	0	545	495	0	0	0	16	5	508
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	113	0	0	106	102	0	0	0	0	0	108
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	732	0	0	662	607	0	0	0	16	5	626
Peak Hour Factor	0.9280	0.9280	1.0000	1.0000	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280
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]	5	197	0	0	178	164	0	0	0	4	1	169
Total Analysis Volume [veh/h]	22	789	0	0	713	654	0	0	0	17	5	675
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	40	0	0	29	0	0	0	0	0	20	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	2	37	30	30		15	15
g / C, Green / Cycle	0.04	0.61	0.51	0.51		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.21	0.43		0.23	0.23
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1541	1530
c, Capacity [veh/h]	65	2088	1730	772		397	394
d1, Uniform Delay [s]	28.20	5.96	9.32	12.89		21.44	21.44
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.00	0.52	0.73	11.10		6.42	6.52
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.38	0.41	0.85		0.88	0.88
d, Delay for Lane Group [s/veh]	31.20	6.49	10.04	23.99		27.85	27.96
Lane Group LOS	C	A	B	C		C	C
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.35	2.01	2.59	8.50		5.01	4.99
50th-Percentile Queue Length [ft]	8.71	50.26	64.64	212.46		125.27	124.78
95th-Percentile Queue Length [veh]	0.63	3.62	4.65	13.28		8.68	8.65
95th-Percentile Queue Length [ft]	15.67	90.46	116.35	331.99		217.04	216.37

Movement, Approach, & Intersection Results

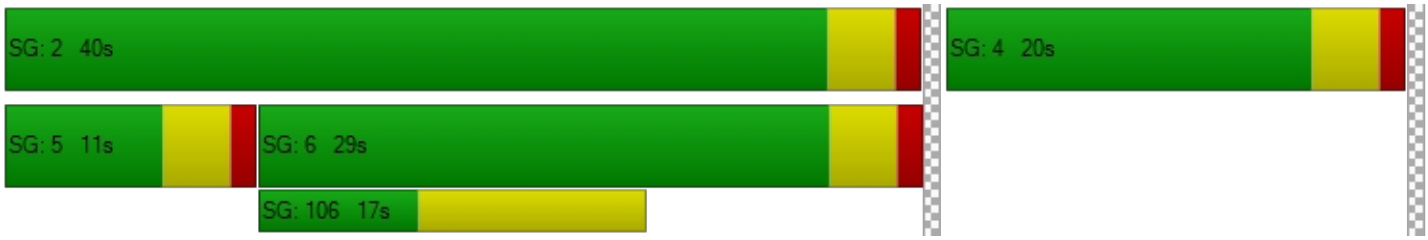
d_M, Delay for Movement [s/veh]	31.20	6.49	0.00	0.00	10.04	23.99	0.00	0.00	0.00	27.85	27.85	27.91
Movement LOS	C	A			B	C				C	C	C
d_A, Approach Delay [s/veh]	7.16			16.71			0.00			27.91		
Approach LOS	A			B			A			C		
d_I, Intersection Delay [s/veh]	16.73											
Intersection LOS	B											
Intersection V/C	0.834											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.065	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	833	0	533
d_b, Bicycle Delay [s]	4.80	10.21	30.00	16.13
l_b,int, Bicycle LOS Score for Intersection	2.229	2.687	4.132	2.710
Bicycle LOS	B	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	78	124	543	12	0	547	2	4	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.02	1.02	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	101	5	0	108	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	85	126	655	17	0	666	2	4	0	0	0
Peak Hour Factor	1.0000	0.8920	0.8920	0.8920	0.8920	1.0000	0.8920	0.8920	0.8920	1.0000	1.0000	1.0000
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]	0	24	35	184	5	0	187	1	1	0	0	0
Total Analysis Volume [veh/h]	0	95	141	734	19	0	747	2	4	0	0	0
Presence of On-Street Parking	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]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	20	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	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	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	25	25	15	44	18	18	
g / C, Green / Cycle	0.36	0.36	0.21	0.63	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.18	0.01	0.16	0.22	
s, saturation flow rate [veh/h]	1800	2544	3987	1800	2365	1713	
c, Capacity [veh/h]	640	905	854	1128	613	444	
d1, Uniform Delay [s]	15.36	15.41	26.54	4.93	22.90	24.67	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.49	0.37	2.68	0.03	1.01	4.60	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.15	0.16	0.86	0.02	0.61	0.85	
d, Delay for Lane Group [s/veh]	15.85	15.77	29.22	4.96	23.90	29.27	
Lane Group LOS	B	B	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	1.05	1.53	5.91	0.09	5.34	6.14	
50th-Percentile Queue Length [ft]	26.33	38.26	147.63	2.31	133.61	153.42	
95th-Percentile Queue Length [veh]	1.90	2.75	9.89	0.17	9.14	10.20	
95th-Percentile Queue Length [ft]	47.40	68.87	247.26	4.16	228.40	254.99	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.85	15.77	29.22	4.96	0.00	26.57	29.27	29.27	0.00	0.00	0.00
Movement LOS		B	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	15.81			28.61			26.59			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	26.00											
Intersection LOS	C											
Intersection V/C	0.554											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	24.86	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.068	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	200	771	714	0
d_b, Bicycle Delay [s]	28.35	13.21	14.46	35.00
I_b,int, Bicycle LOS Score for Intersection	1.949	2.802	2.802	4.132
Bicycle LOS	A	C	C	D

Sequence

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



Intersection Level Of Service Report
Intersection 6: Project West Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	560	0	0	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.02	1.00	1.00	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	36	24	0	99
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	4	0	33	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]	0	9	607	57	0	677
Peak Hour Factor	1.0000	1.0000	0.9620	1.0000	1.0000	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	158	14	0	176
Total Analysis Volume [veh/h]	0	9	631	57	0	704
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	10.55	0.00	0.00	8.93	0.00
Movement LOS		B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.04	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.55		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	560	0	0	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.02	1.00	1.00	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	71	9	30	11	15	28
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	65	9	0	19	14	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]	136	18	601	30	29	606
Peak Hour Factor	1.0000	1.0000	0.9620	1.0000	1.0000	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	5	156	8	7	157
Total Analysis Volume [veh/h]	136	18	625	30	29	630
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.50	0.03	0.01	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	30.84	23.03	0.00	0.00	8.94	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh]	2.84	2.84	0.00	0.00	0.10	0.00
95th-Percentile Queue Length [ft]	70.90	70.90	0.00	0.00	2.38	0.00
d_A, Approach Delay [s/veh]	29.92		0.00		0.39	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.32					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	89.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	162	109	138	361	303	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	6	5	34	37	3
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]	170	117	146	402	346	198
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	32	39	108	93	53
Total Analysis Volume [veh/h]	183	126	157	434	373	214
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.91	0.18	0.16	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	89.91	11.17	9.28	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	7.20	0.64	0.56	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	179.98	16.07	13.93	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	57.80		2.47		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	12.99					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.338

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	162	109	138	361	303	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	6	5	34	37	3
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	0	0	0	0	0
Total Hourly Volume [veh/h]	170	117	146	402	346	198
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	32	39	108	93	53
Total Analysis Volume [veh/h]	183	126	157	434	373	214
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	7	0	0	7	7	0
Maximum Green [s]	30	0	0	30	30	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]	39	0	0	21	21	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	9	43	43	43	43
g / C, Green / Cycle	0.15	0.15	0.72	0.72	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.11	0.08	0.19	0.13	0.16	0.18
s, saturation flow rate [veh/h]	1714	1530	842	3427	1800	1595
c, Capacity [veh/h]	254	227	635	2463	1293	1146
d1, Uniform Delay [s]	24.39	23.74	5.57	2.72	2.84	2.91
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.82	2.12	0.93	0.16	0.41	0.54
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.56	0.25	0.18	0.23	0.26
d, Delay for Lane Group [s/veh]	28.22	25.87	6.50	2.88	3.25	3.45
Lane Group LOS	C	C	A	A	A	A
Critical Lane Group	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	2.50	1.63	0.85	0.50	0.78	0.82
50th-Percentile Queue Length [ft]	62.47	40.69	21.37	12.49	19.41	20.44
95th-Percentile Queue Length [veh]	4.50	2.93	1.54	0.90	1.40	1.47
95th-Percentile Queue Length [ft]	112.45	73.24	38.47	22.48	34.93	36.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.22	25.87	6.50	2.88	3.29	3.45
Movement LOS	C	C	A	A	A	A
d_A, Approach Delay [s/veh]	27.26		3.84		3.35	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	8.51					
Intersection LOS	A					
Intersection V/C	0.338					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
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]	20.01	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.436	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.620	4.617
Bicycle LOS	D	E	E

Sequence

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



Horizon Year 2040 Without Project

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.613

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	775	190	96	1374	108	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0
Total Hourly Volume [veh/h]	775	190	96	1374	108	15
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	205	50	25	363	29	4
Total Analysis Volume [veh/h]	819	201	101	1452	114	16
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	16	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	6	46	6	6
g / C, Green / Cycle	0.60	0.60	0.10	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.24	0.13	0.06	0.42	0.07	0.01
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2051	916	166	2611	180	161
d1, Uniform Delay [s]	6.37	5.58	26.07	2.96	25.81	24.35
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.58	0.55	3.55	0.86	3.64	0.27
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.22	0.61	0.56	0.63	0.10
d, Delay for Lane Group [s/veh]	6.95	6.13	29.62	3.82	29.45	24.61
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	2.21	1.02	1.47	1.67	1.66	0.21
50th-Percentile Queue Length [ft]	55.15	25.44	36.84	41.73	41.39	5.18
95th-Percentile Queue Length [veh]	3.97	1.83	2.65	3.00	2.98	0.37
95th-Percentile Queue Length [ft]	99.26	45.80	66.31	75.11	74.51	9.32

Movement, Approach, & Intersection Results

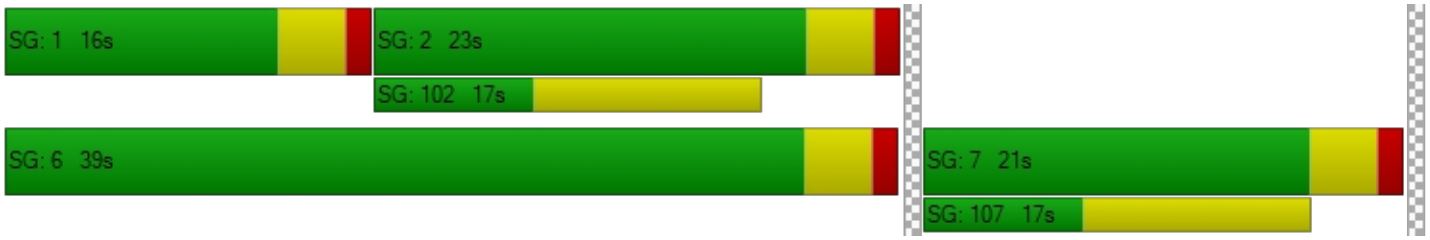
d_M, Delay for Movement [s/veh]	6.95	6.13	29.62	3.82	29.45	24.61
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	6.79		5.50		28.86	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.11					
Intersection LOS	A					
Intersection V/C	0.613					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.743	2.058
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.974	5.414	4.132
Bicycle LOS	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.917

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	303	811	142	116	1371	74	185	344	292	187	316	102
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	303	811	142	116	1371	74	185	344	292	187	316	102
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	79	211	37	30	357	19	48	90	76	49	82	27
Total Analysis Volume [veh/h]	316	846	148	121	1430	77	193	359	304	195	330	106
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]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	20	25	0	23	28	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
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]	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]	16	34	34	7	24	24	7	17	17	7	17	17
g / C, Green / Cycle	0.20	0.42	0.42	0.08	0.30	0.30	0.09	0.21	0.21	0.09	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.10	0.04	0.29	0.05	0.06	0.10	0.20	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1653
c, Capacity [veh/h]	343	2061	643	272	1481	462	288	725	324	288	381	350
d1, Uniform Delay [s]	31.39	16.25	14.89	35.01	27.52	20.53	35.45	27.78	31.04	35.47	28.44	28.49
k, delay calibration	0.11	0.50	0.50	0.11	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]	10.32	0.61	0.83	1.14	16.54	0.78	2.70	0.52	12.66	2.78	1.48	1.65
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	0.92	0.41	0.23	0.44	0.97	0.17	0.67	0.50	0.94	0.68	0.59	0.60
d, Delay for Lane Group [s/veh]	41.71	16.86	15.72	36.15	44.06	21.31	38.16	28.31	43.70	38.25	29.92	30.14
Lane Group LOS	D	B	B	D	D	C	D	C	D	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	6.75	3.53	1.79	1.14	10.78	1.13	1.89	2.98	6.68	1.92	3.94	3.67
50th-Percentile Queue Length [ft]	168.84	88.26	44.77	28.59	269.50	28.14	47.32	74.59	167.11	47.89	98.45	91.83
95th-Percentile Queue Length [veh]	11.02	6.35	3.22	2.06	16.16	2.03	3.41	5.37	10.92	3.45	7.09	6.61
95th-Percentile Queue Length [ft]	275.39	158.87	80.59	51.46	404.12	50.65	85.18	134.27	273.12	86.20	177.22	165.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.71	16.86	15.72	36.15	44.06	21.31	38.16	28.31	43.70	38.25	29.99	30.14
Movement LOS	D	B	B	D	D	C	D	C	D	D	C	C
d_A, Approach Delay [s/veh]	22.72			42.40			36.00			32.57		
Approach LOS	C			D			D			C		
d_I, Intersection Delay [s/veh]	33.93											
Intersection LOS	C											
Intersection V/C	0.917											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	29.76	29.76	29.76	29.76
l_p,int, Pedestrian LOS Score for Intersection	3.114	3.143	2.807	2.763
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	525	600	425	425
d_b, Bicycle Delay [s]	21.76	19.60	24.81	24.81
l_b,int, Bicycle LOS Score for Intersection	2.280	2.455	2.266	2.080
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	49.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.029

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	58	526	0	0	1080	886	0	0	0	150	0	684
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	526	0	0	1080	886	0	0	0	150	0	684
Peak Hour Factor	0.9460	0.9460	1.0000	1.0000	0.9460	0.9460	1.0000	1.0000	1.0000	0.9460	0.9460	0.9460
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]	15	139	0	0	285	234	0	0	0	40	0	181
Total Analysis Volume [veh/h]	61	556	0	0	1142	937	0	0	0	159	0	723
Presence of On-Street Parking	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]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	88	0	0	77	0	0	0	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	130	130	130	130		130	130
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	6	84	74	74		38	38
g / C, Green / Cycle	0.05	0.65	0.57	0.57		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.16	0.33	0.61		0.28	0.29
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1591	1530
c, Capacity [veh/h]	83	2215	1943	867		465	447
d1, Uniform Delay [s]	60.96	9.70	18.27	28.13		45.15	45.59
k, delay calibration	0.11	0.50	0.50	0.50		0.43	0.44
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	11.67	0.27	1.31	54.58		29.03	35.39
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.25	0.59	1.08		0.96	0.98
d, Delay for Lane Group [s/veh]	72.62	9.97	19.58	82.71		74.18	80.98
Lane Group LOS	E	A	B	F		E	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	2.26	3.36	11.26	38.66		17.72	18.29
50th-Percentile Queue Length [ft]	56.51	84.10	281.54	966.60		442.88	457.32
95th-Percentile Queue Length [veh]	4.07	6.06	16.77	52.07		24.62	25.31
95th-Percentile Queue Length [ft]	101.72	151.38	419.13	1301.82		615.44	632.67

Movement, Approach, & Intersection Results

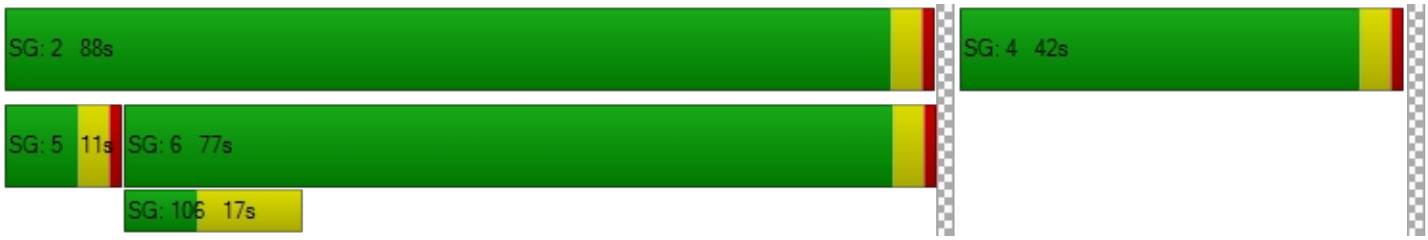
d_M, Delay for Movement [s/veh]	72.62	9.97	0.00	0.00	19.58	82.71	0.00	0.00	0.00	74.18	74.18	78.30
Movement LOS	E	A			B	F				E	E	E
d_A, Approach Delay [s/veh]	16.16			48.03			0.00			77.56		
Approach LOS	B			D			A			E		
d_I, Intersection Delay [s/veh]	49.81											
Intersection LOS	D											
Intersection V/C	1.029											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	54.47	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.414	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1292	1123	0	585
d_b, Bicycle Delay [s]	8.14	12.50	65.00	32.55
l_b,int, Bicycle LOS Score for Intersection	2.069	3.275	4.132	3.015
Bicycle LOS	B	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.644

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	184	30	701	530	0	479	10	100	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	184	30	701	530	0	479	10	100	0	0	0
Peak Hour Factor	1.0000	0.9230	0.9230	0.9230	0.9230	1.0000	0.9230	0.9230	0.9230	1.0000	1.0000	1.0000
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]	0	50	8	190	144	0	130	3	27	0	0	0
Total Analysis Volume [veh/h]	0	199	33	759	574	0	519	11	108	0	0	0
Presence of On-Street Parking	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]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	20	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	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	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	26	26	16	46	16	16	
g / C, Green / Cycle	0.37	0.37	0.23	0.66	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.02	0.23	0.32	0.19	0.19	
s, saturation flow rate [veh/h]	1800	1530	3256	1800	1714	1649	
c, Capacity [veh/h]	667	567	745	1182	393	378	
d1, Uniform Delay [s]	15.62	14.20	27.04	6.08	25.68	25.70	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.14	0.20	20.09	1.43	4.42	4.67	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.30	0.06	1.02	0.49	0.83	0.83	
d, Delay for Lane Group [s/veh]	16.77	14.40	47.12	7.51	30.10	30.37	
Lane Group LOS	B	B	F	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	2.31	0.35	7.94	3.67	5.34	5.18	
50th-Percentile Queue Length [ft]	57.63	8.66	198.52	91.65	133.46	129.52	
95th-Percentile Queue Length [veh]	4.15	0.62	12.68	6.60	9.13	8.91	
95th-Percentile Queue Length [ft]	103.74	15.59	317.01	164.98	228.19	222.84	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.77	14.40	47.12	7.51	0.00	30.20	30.37	30.37	0.00	0.00	0.00
Movement LOS		B	B	F	A		C	C	C			
d_A, Approach Delay [s/veh]	16.43			30.06			30.23			0.00		
Approach LOS	B			C			C			A		
d_I, Intersection Delay [s/veh]	28.68											
Intersection LOS	C											
Intersection V/C	0.644											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	24.86	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.012	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	200	771	714	0
d_b, Bicycle Delay [s]	28.35	13.21	14.46	35.00
l_b,int, Bicycle LOS Score for Intersection	1.942	3.759	2.612	4.132
Bicycle LOS	A	D	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	602	2	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	0	0	602	2	0	605
Peak Hour Factor	1.0000	1.0000	0.9590	0.9590	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	157	1	0	158
Total Analysis Volume [veh/h]	0	0	628	2	0	631
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	18.63	10.24	0.00	0.00	8.74	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.44		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	428.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.817

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	318	217	104	482	375	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	318	217	104	482	375	269
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	60	29	133	104	74
Total Analysis Volume [veh/h]	352	240	115	534	415	298
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.82	0.37	0.13	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	428.86	13.83	9.61	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	25.06	1.72	0.44	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	626.40	42.91	10.99	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	260.61		1.70		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	79.52					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1121	114	36	900	209	59
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0
Total Hourly Volume [veh/h]	1121	114	36	900	209	59
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	290	29	9	232	54	15
Total Analysis Volume [veh/h]	1158	118	37	930	216	61
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	12	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	3	42	10	10
g / C, Green / Cycle	0.58	0.58	0.05	0.71	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.34	0.08	0.02	0.27	0.13	0.04
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	1998	892	96	2418	277	247
d1, Uniform Delay [s]	7.90	5.67	27.40	3.58	24.19	22.02
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.23	0.31	2.52	0.46	4.74	0.51
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.13	0.39	0.38	0.78	0.25
d, Delay for Lane Group [s/veh]	9.14	5.98	29.91	4.05	28.94	22.54
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.88	0.59	0.55	1.45	3.11	0.74
50th-Percentile Queue Length [ft]	97.05	14.84	13.86	36.13	77.85	18.55
95th-Percentile Queue Length [veh]	6.99	1.07	1.00	2.60	5.61	1.34
95th-Percentile Queue Length [ft]	174.69	26.72	24.95	65.03	140.13	33.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.14	5.98	29.91	4.05	28.94	22.54
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	8.84		5.04		27.53	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.44					
Intersection LOS	A					
Intersection V/C	0.607					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.704	2.058
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	5.185	4.930	4.132
Bicycle LOS	F	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	288	1067	230	146	928	99	178	341	292	229	410	114
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	288	1067	230	146	928	99	178	341	292	229	410	114
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	75	277	60	38	241	26	46	89	76	60	107	30
Total Analysis Volume [veh/h]	299	1109	239	152	965	103	185	354	304	238	426	119
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	27	0	11	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	13	25	25	7	18	18	7	16	16	7	16	16
g / C, Green / Cycle	0.19	0.35	0.35	0.10	0.26	0.26	0.10	0.23	0.23	0.10	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.16	0.05	0.20	0.07	0.06	0.10	0.20	0.07	0.16	0.16
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1667
c, Capacity [veh/h]	319	1727	539	318	1284	401	326	770	344	331	407	377
d1, Uniform Delay [s]	28.15	19.01	17.44	30.06	23.78	20.48	30.22	23.51	26.31	30.62	24.90	24.91
k, delay calibration	0.11	0.50	0.50	0.11	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]	12.75	1.85	2.63	1.12	4.09	1.55	1.56	0.43	7.59	2.92	2.13	2.32
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	0.94	0.64	0.44	0.48	0.75	0.26	0.57	0.46	0.88	0.72	0.69	0.70
d, Delay for Lane Group [s/veh]	40.90	20.86	20.07	31.18	27.87	22.03	31.77	23.94	33.90	33.54	27.03	27.23
Lane Group LOS	D	C	C	C	C	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	5.82	4.94	3.15	1.22	5.09	1.44	1.51	2.45	5.35	2.01	4.32	4.03
50th-Percentile Queue Length [ft]	145.58	123.62	78.77	30.55	127.25	36.04	37.70	61.31	133.73	50.29	107.91	100.73
95th-Percentile Queue Length [veh]	9.78	8.59	5.67	2.20	8.79	2.60	2.71	4.41	9.14	3.62	7.72	7.25
95th-Percentile Queue Length [ft]	244.52	214.79	141.78	54.99	219.76	64.88	67.87	110.35	228.56	90.51	193.10	181.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.90	20.86	20.07	31.18	27.87	22.03	31.77	23.94	33.90	33.54	27.10	27.23
Movement LOS	D	C	C	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	24.38			27.79			29.25			29.08		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.04											
Intersection LOS	C											
Intersection V/C	0.831											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	3.096	3.121	2.813	2.793
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	657	486	486	486
d_b, Bicycle Delay [s]	15.78	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.465	2.231	2.255	2.206
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	17.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	35	951	0	0	876	595	0	0	0	34	7	639
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	951	0	0	876	595	0	0	0	34	7	639
Peak Hour Factor	0.9280	0.9280	1.0000	1.0000	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280
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	256	0	0	236	160	0	0	0	9	2	172
Total Analysis Volume [veh/h]	38	1025	0	0	944	641	0	0	0	37	8	689
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	40	0	0	29	0	0	0	0	0	20	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	3	36	29	29		16	16
g / C, Green / Cycle	0.06	0.60	0.48	0.48		0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.02	0.30	0.28	0.42		0.24	0.24
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1552	1530
c, Capacity [veh/h]	98	2060	1637	731		413	407
d1, Uniform Delay [s]	27.35	6.83	11.33	14.13		21.27	21.29
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.50	0.86	1.49	14.03		6.97	7.23
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.50	0.58	0.88		0.89	0.90
d, Delay for Lane Group [s/veh]	29.86	7.69	12.81	28.15		28.24	28.52
Lane Group LOS	C	A	B	C		C	C
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.57	3.00	4.12	9.26		5.34	5.31
50th-Percentile Queue Length [ft]	14.21	75.02	103.09	231.45		133.44	132.79
95th-Percentile Queue Length [veh]	1.02	5.40	7.42	14.25		9.13	9.09
95th-Percentile Queue Length [ft]	25.57	135.03	185.57	356.21		228.17	227.28

Movement, Approach, & Intersection Results

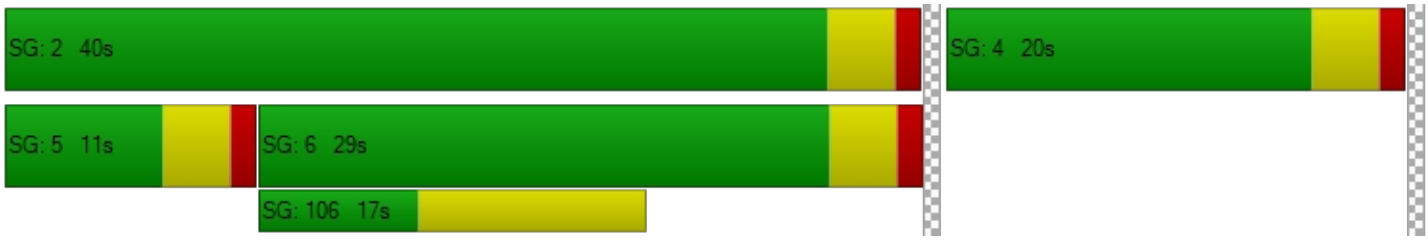
d_M, Delay for Movement [s/veh]	29.86	7.69	0.00	0.00	12.81	28.15	0.00	0.00	0.00	28.24	28.24	28.39
Movement LOS	C	A			B	C				C	C	C
d_A, Approach Delay [s/veh]	8.48			19.02			0.00			28.38		
Approach LOS	A			B			A			C		
d_I, Intersection Delay [s/veh]	17.74											
Intersection LOS	B											
Intersection V/C	0.849											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.071	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	833	0	533
d_b, Bicycle Delay [s]	4.80	10.21	30.00	16.13
l_b,int, Bicycle LOS Score for Intersection	2.437	2.867	4.132	2.771
Bicycle LOS	B	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	449	257	597	279	0	602	2	31	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	449	257	597	279	0	602	2	31	0	0	0
Peak Hour Factor	1.0000	0.8920	0.8920	0.8920	0.8920	1.0000	0.8920	0.8920	0.8920	1.0000	1.0000	1.0000
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]	0	126	72	167	78	0	169	1	9	0	0	0
Total Analysis Volume [veh/h]	0	503	288	669	313	0	675	2	35	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	25	0	17	42	0	0	18	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	21	21	13	38	14	14	
g / C, Green / Cycle	0.35	0.35	0.22	0.63	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.19	0.20	0.17	0.21	0.21	
s, saturation flow rate [veh/h]	1800	1530	3329	1800	1714	1695	
c, Capacity [veh/h]	629	534	725	1140	401	397	
d1, Uniform Delay [s]	17.73	15.74	23.10	4.91	22.36	22.37	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	10.28	3.87	5.55	0.60	6.94	7.13	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.80	0.54	0.92	0.27	0.89	0.89	
d, Delay for Lane Group [s/veh]	28.01	19.60	28.66	5.51	29.30	29.51	
Lane Group LOS	C	B	C	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	7.37	3.41	4.83	1.42	5.26	5.23	
50th-Percentile Queue Length [ft]	184.25	85.17	120.70	35.45	131.44	130.80	
95th-Percentile Queue Length [veh]	11.82	6.13	8.43	2.55	9.02	8.98	
95th-Percentile Queue Length [ft]	295.56	153.30	210.79	63.82	225.45	224.58	

Movement, Approach, & Intersection Results

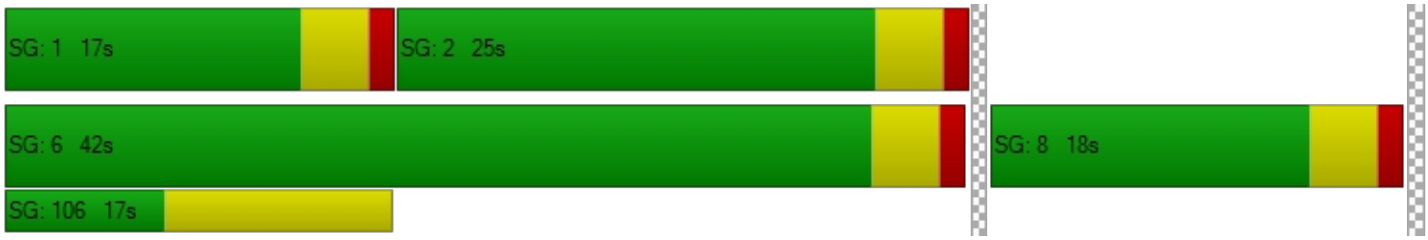
d_M, Delay for Movement [s/veh]	0.00	28.01	19.60	28.66	5.51	0.00	29.39	29.51	29.51	0.00	0.00	0.00
Movement LOS		C	B	C	A		C	C	C			
d_A, Approach Delay [s/veh]	24.95			21.28			29.40			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	24.77											
Intersection LOS	C											
Intersection V/C	0.861											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.039	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	700	1267	467	0
d_b, Bicycle Delay [s]	12.68	4.03	17.63	30.00
l_b,int, Bicycle LOS Score for Intersection	2.865	3.180	2.734	4.132
Bicycle LOS	C	C	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	23.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	1	1	717	1	1	753
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	1	717	1	1	753
Peak Hour Factor	1.0000	1.0000	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	186	0	0	196
Total Analysis Volume [veh/h]	1	1	745	1	1	783
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	23.30	10.79	0.00	0.00	9.14	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.50	0.50	0.00	0.00	0.09	0.00
d_A, Approach Delay [s/veh]	17.04		0.00		0.01	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	676.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.312

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	248	130	152	482	550	285
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	248	130	152	482	550	285
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	35	41	130	148	77
Total Analysis Volume [veh/h]	268	140	164	520	593	307
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	2.31	0.25	0.21	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	676.90	13.52	11.00	0.00	0.00	0.00
Movement LOS	F	B	B	A	A	A
95th-Percentile Queue Length [veh]	23.32	0.98	0.81	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	583.01	24.43	20.30	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	449.27		2.64		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	92.93					
Intersection LOS	F					

Horizon Year 2040 With Project

Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.622

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	775	190	96	1374	108	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	0	0	23	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	0	0	0	0	0
Total Hourly Volume [veh/h]	796	190	96	1397	108	15
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	210	50	25	369	29	4
Total Analysis Volume [veh/h]	841	201	101	1477	114	16
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	16	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	6	46	6	6
g / C, Green / Cycle	0.60	0.60	0.10	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.25	0.13	0.06	0.43	0.07	0.01
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	2051	916	166	2611	180	161
d1, Uniform Delay [s]	6.43	5.58	26.07	3.00	25.81	24.35
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.61	0.55	3.55	0.89	3.64	0.27
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.22	0.61	0.57	0.63	0.10
d, Delay for Lane Group [s/veh]	7.03	6.13	29.62	3.89	29.45	24.61
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	2.29	1.02	1.47	1.72	1.66	0.21
50th-Percentile Queue Length [ft]	57.15	25.44	36.84	43.06	41.39	5.18
95th-Percentile Queue Length [veh]	4.11	1.83	2.65	3.10	2.98	0.37
95th-Percentile Queue Length [ft]	102.87	45.80	66.31	77.51	74.51	9.32

Movement, Approach, & Intersection Results

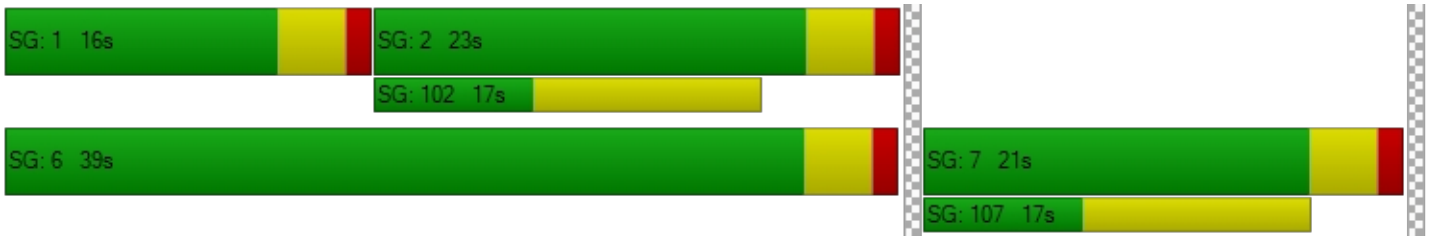
d_M, Delay for Movement [s/veh]	7.03	6.13	29.62	3.89	29.45	24.61
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	6.86		5.54		28.86	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.14					
Intersection LOS	A					
Intersection V/C	0.622					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.752	2.058
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.992	5.434	4.132
Bicycle LOS	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.939

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	303	811	142	116	1371	74	185	344	292	187	316	102
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	29	23	0	0	0	12	0	57	11	9
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	303	823	171	139	1371	74	185	356	292	244	327	111
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
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]	79	215	45	36	357	19	48	93	76	64	85	29
Total Analysis Volume [veh/h]	316	858	178	145	1430	77	193	371	304	254	341	116
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]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	20	26	0	22	28	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
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]	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]	16	33	33	7	24	24	7	17	17	7	17	17
g / C, Green / Cycle	0.20	0.42	0.42	0.08	0.30	0.30	0.09	0.21	0.21	0.09	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.12	0.04	0.29	0.05	0.06	0.11	0.20	0.08	0.13	0.13
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1646
c, Capacity [veh/h]	343	2048	639	280	1480	462	288	722	322	292	381	349
d1, Uniform Delay [s]	31.39	16.44	15.35	35.09	27.53	20.53	35.45	27.97	31.12	36.06	28.65	28.68
k, delay calibration	0.11	0.50	0.50	0.11	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]	10.32	0.63	1.08	1.48	16.59	0.78	2.70	0.57	13.28	7.91	1.68	1.87
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	0.92	0.42	0.28	0.52	0.97	0.17	0.67	0.51	0.94	0.87	0.62	0.63
d, Delay for Lane Group [s/veh]	41.71	17.07	16.43	36.57	44.12	21.31	38.16	28.53	44.40	43.97	30.33	30.54
Lane Group LOS	D	B	B	D	D	C	D	C	D	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	6.75	3.61	2.22	1.38	10.79	1.13	1.89	3.10	6.74	2.71	4.19	3.87
50th-Percentile Queue Length [ft]	168.84	90.31	55.55	34.55	269.68	28.14	47.32	77.57	168.57	67.81	104.66	96.82
95th-Percentile Queue Length [veh]	11.02	6.50	4.00	2.49	16.17	2.03	3.41	5.59	11.00	4.88	7.54	6.97
95th-Percentile Queue Length [ft]	275.39	162.56	99.98	62.19	404.34	50.65	85.18	139.63	275.04	122.05	188.38	174.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.71	17.07	16.43	36.57	44.12	21.31	38.16	28.53	44.40	43.97	30.40	30.54
Movement LOS	D	B	B	D	D	C	D	C	D	D	C	C
d_A, Approach Delay [s/veh]	22.75			42.39			36.23			35.27		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	34.33											
Intersection LOS	C											
Intersection V/C	0.939											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	29.76	29.76	29.76	29.76
l_p,int, Pedestrian LOS Score for Intersection	3.126	3.148	2.810	2.783
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	600	425	425
d_b, Bicycle Delay [s]	21.03	19.60	24.81	24.81
l_b,int, Bicycle LOS Score for Intersection	2.303	2.468	2.276	2.146
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Pepper Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name						
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	1260	0	0	1966	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	29	35	0	57	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	33	0	0	0	10
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]	1289	68	0	2023	0	22
Peak Hour Factor	0.9590	1.0000	1.0000	0.9590	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]	336	17	0	527	0	6
Total Analysis Volume [veh/h]	1344	68	0	2109	0	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane	No	No	No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No	No	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	0.02	0.00	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	14.97
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.18
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	4.55
d_A, Approach Delay [s/veh]	0.00		0.00		14.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	52.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.046

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	58	526	0	0	1080	886	0	0	0	150	0	684
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	0	31	26	0	0	0	0	0	29
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	561	0	0	1111	912	0	0	0	150	0	713
Peak Hour Factor	0.9460	0.9460	1.0000	1.0000	0.9460	0.9460	1.0000	1.0000	1.0000	0.9460	0.9460	0.9460
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]	15	148	0	0	294	241	0	0	0	40	0	188
Total Analysis Volume [veh/h]	61	593	0	0	1174	964	0	0	0	159	0	754
Presence of On-Street Parking	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]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	88	0	0	77	0	0	0	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	130	130	130	130		130	130
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	6	84	74	74		38	38
g / C, Green / Cycle	0.05	0.65	0.57	0.57		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.17	0.34	0.63		0.28	0.28
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1620	1603
c, Capacity [veh/h]	83	2215	1943	868		473	468
d1, Uniform Delay [s]	60.96	9.82	18.52	28.12		45.41	45.42
k, delay calibration	0.11	0.50	0.50	0.50		0.44	0.44
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	11.67	0.30	1.40	65.82		31.86	32.23
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.27	0.60	1.11		0.97	0.97
d, Delay for Lane Group [s/veh]	72.62	10.12	19.92	93.94		77.27	77.65
Lane Group LOS	E	B	B	F		E	E
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	2.26	3.64	11.75	41.38		18.69	18.56
50th-Percentile Queue Length [ft]	56.51	90.88	293.76	1034.44		467.28	463.97
95th-Percentile Queue Length [veh]	4.07	6.54	17.37	56.55		25.78	25.62
95th-Percentile Queue Length [ft]	101.72	163.59	434.30	1413.79		644.54	640.60

Movement, Approach, & Intersection Results

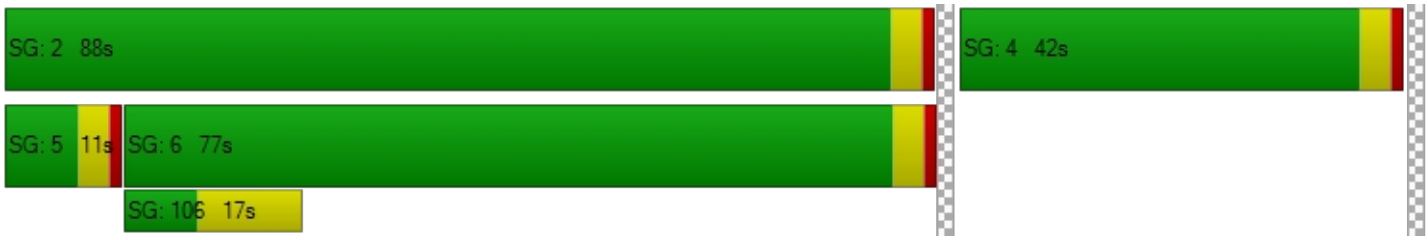
d_M, Delay for Movement [s/veh]	72.62	10.12	0.00	0.00	19.92	93.94	0.00	0.00	0.00	77.27	77.27	77.50
Movement LOS	E	B			B	F				E	E	E
d_A, Approach Delay [s/veh]	15.95			53.30			0.00			77.46		
Approach LOS	B			D			A			E		
d_I, Intersection Delay [s/veh]	52.66											
Intersection LOS	D											
Intersection V/C	1.046											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	54.47	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.440	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1292	1123	0	585
d_b, Bicycle Delay [s]	8.14	12.50	65.00	32.55
I_b,int, Bicycle LOS Score for Intersection	2.099	3.323	4.132	3.066
Bicycle LOS	B	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	184	30	701	530	0	479	10	100	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	26	5	0	29	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	190	30	727	535	0	508	10	100	0	0	0
Peak Hour Factor	1.0000	0.9230	0.9230	0.9230	0.9230	1.0000	0.9230	0.9230	0.9230	1.0000	1.0000	1.0000
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]	0	51	8	197	145	0	138	3	27	0	0	0
Total Analysis Volume [veh/h]	0	206	33	788	580	0	550	11	108	0	0	0
Presence of On-Street Parking	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]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	20	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	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	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	25	25	16	45	17	17	
g / C, Green / Cycle	0.36	0.36	0.23	0.65	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.02	0.24	0.32	0.20	0.20	
s, saturation flow rate [veh/h]	1800	1530	3329	1800	1714	1652	
c, Capacity [veh/h]	650	553	762	1165	409	394	
d1, Uniform Delay [s]	16.16	14.62	27.04	6.44	25.35	25.38	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.28	0.21	24.81	1.52	4.41	4.69	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.32	0.06	1.03	0.50	0.83	0.83	
d, Delay for Lane Group [s/veh]	17.43	14.83	51.84	7.96	29.75	30.06	
Lane Group LOS	B	B	F	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	2.45	0.35	8.62	3.89	5.56	5.42	
50th-Percentile Queue Length [ft]	61.23	8.83	215.48	97.30	139.10	135.54	
95th-Percentile Queue Length [veh]	4.41	0.64	13.67	7.01	9.43	9.24	
95th-Percentile Queue Length [ft]	110.21	15.90	341.71	175.14	235.81	231.01	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	17.43	14.83	51.84	7.96	0.00	29.87	30.06	30.06	0.00	0.00	0.00
Movement LOS		B	B	F	A		C	C	C			
d_A, Approach Delay [s/veh]		17.07			33.24			29.91			0.00	
Approach LOS		B			C			C			A	
d_I, Intersection Delay [s/veh]	30.56											
Intersection LOS	C											
Intersection V/C	0.664											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	24.86	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.027	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	200	771	714	0
d_b, Bicycle Delay [s]	28.35	13.21	14.46	35.00
I_b,int, Bicycle LOS Score for Intersection	1.954	3.817	2.663	4.132
Bicycle LOS	A	D	B	D

Sequence

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



Intersection Level Of Service Report
Intersection 6: Project West Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	602	0	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	24	40	0	77
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	5	0	39	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]	0	10	626	79	0	682
Peak Hour Factor	1.0000	1.0000	0.9590	1.0000	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	163	20	0	178
Total Analysis Volume [veh/h]	0	10	653	79	0	711
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	10.74	0.00	0.00	9.08	0.00
Movement LOS		B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.20	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.74		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	33.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	602	0	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	11	5	24	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	75	10	0	22	17	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]	152	21	607	46	34	605
Peak Hour Factor	1.0000	1.0000	0.9590	1.0000	1.0000	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	5	158	12	9	158
Total Analysis Volume [veh/h]	152	21	633	46	34	631
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.55	0.03	0.01	0.00	0.04	0.01
d_M, Delay for Movement [s/veh]	33.16	25.66	0.00	0.00	9.05	0.00
Movement LOS	D	D	A	A	A	A
95th-Percentile Queue Length [veh]	3.38	3.38	0.00	0.00	0.11	0.00
95th-Percentile Queue Length [ft]	84.53	84.53	0.00	0.00	2.87	0.00
d_A, Approach Delay [s/veh]	32.25		0.00		0.46	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.88					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	465.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.898

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	318	217	104	482	375	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	17	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]	318	217	104	498	392	269
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	60	29	138	109	74
Total Analysis Volume [veh/h]	352	240	115	551	434	298
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.90	0.38	0.13	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	465.89	14.03	9.69	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh]	25.91	1.75	0.45	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	647.71	43.82	11.20	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	282.70		1.67		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	84.66					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.556

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	318	217	104	482	375	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	17	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	0	0	0	0	0
Total Hourly Volume [veh/h]	318	217	104	498	392	269
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	60	29	138	109	74
Total Analysis Volume [veh/h]	352	240	115	551	434	298
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	7	0	0	7	7	0
Maximum Green [s]	30	0	0	30	30	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]	39	0	0	21	21	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.21	0.19	0.16	0.18	0.20	0.27
s, saturation flow rate [veh/h]	1641	1285	736	2985	1800	1367
c, Capacity [veh/h]	429	336	426	1807	1090	828
d1, Uniform Delay [s]	20.87	20.16	12.13	5.74	5.87	6.39
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.95	2.83	1.55	0.44	0.83	1.71
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.71	0.27	0.30	0.34	0.44
d, Delay for Lane Group [s/veh]	24.82	22.99	13.69	6.18	6.71	8.10
Lane Group LOS	C	C	B	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	4.50	2.92	1.12	1.36	1.95	2.24
50th-Percentile Queue Length [ft]	112.55	72.99	27.92	33.88	48.65	55.92
95th-Percentile Queue Length [veh]	7.98	5.26	2.01	2.44	3.50	4.03
95th-Percentile Queue Length [ft]	199.55	131.38	50.25	60.99	87.57	100.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.82	22.99	13.69	6.18	6.93	8.10
Movement LOS	C	C	B	A	A	A
d_A, Approach Delay [s/veh]	24.08		7.47		7.40	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	12.39					
Intersection LOS	B					
Intersection V/C	0.556					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
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]	20.01	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.517	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.682	4.736
Bicycle LOS	D	E	E

Sequence

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



Intersection Level Of Service Report
Intersection 1: Pepper Ave (NS) at Blue Drive (EW)

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.614

Intersection Setup

Name						
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 Pocket	0	1	1	0	0	1
Pocket Length [ft]	100.00	50.00	185.00	100.00	100.00	120.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1121	114	36	900	209	59
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	0	0	20	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	0	0	0	0	0
Total Hourly Volume [veh/h]	1140	114	36	920	209	59
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	294	29	9	238	54	15
Total Analysis Volume [veh/h]	1178	118	37	950	216	61
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	7	0	7	7	7	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	27	0	12	39	21	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	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
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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	3	42	10	10
g / C, Green / Cycle	0.58	0.58	0.05	0.71	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.34	0.08	0.02	0.28	0.13	0.04
s, saturation flow rate [veh/h]	3427	1530	1714	3427	1714	1530
c, Capacity [veh/h]	1998	892	96	2418	277	247
d1, Uniform Delay [s]	7.97	5.67	27.40	3.61	24.19	22.02
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.29	0.31	2.52	0.48	4.74	0.51
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.13	0.39	0.39	0.78	0.25
d, Delay for Lane Group [s/veh]	9.26	5.98	29.91	4.09	28.94	22.54
Lane Group LOS	A	A	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.99	0.59	0.55	1.49	3.11	0.74
50th-Percentile Queue Length [ft]	99.73	14.84	13.86	37.23	77.85	18.55
95th-Percentile Queue Length [veh]	7.18	1.07	1.00	2.68	5.61	1.34
95th-Percentile Queue Length [ft]	179.52	26.72	24.95	67.01	140.13	33.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.26	5.98	29.91	4.09	28.94	22.54
Movement LOS	A	A	C	A	C	C
d_A, Approach Delay [s/veh]	8.96		5.06		27.53	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.47					
Intersection LOS	A					
Intersection V/C	0.614					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0
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]	0.00	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.711	2.058
Crosswalk LOS	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
l_b,int, Bicycle LOS Score for Intersection	5.202	4.947	4.132
Bicycle LOS	F	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: Pepper Ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

Intersection Setup

Name												
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 Pocket	1	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	100.00	100.00	100.00	270.00	100.00	290.00	225.00	100.00	320.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	288	1067	230	146	928	99	178	341	292	229	410	114
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	25	20	0	0	0	10	0	52	10	9
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	288	1077	255	166	928	99	178	351	292	281	420	123
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	75	280	66	43	241	26	46	91	76	73	109	32
Total Analysis Volume [veh/h]	299	1120	265	173	965	103	185	365	304	292	437	128
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	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]	17	23	0	15	21	0	11	21	0	11	21	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	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
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]	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]	13	24	24	7	18	18	7	16	16	7	16	16
g / C, Green / Cycle	0.19	0.35	0.35	0.10	0.26	0.26	0.10	0.23	0.23	0.10	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.17	0.05	0.20	0.07	0.06	0.11	0.20	0.09	0.16	0.16
s, saturation flow rate [veh/h]	1714	4903	1530	3329	4903	1530	3329	3427	1530	3329	1800	1662
c, Capacity [veh/h]	319	1715	535	323	1280	399	326	769	343	334	409	377
d1, Uniform Delay [s]	28.15	19.22	17.93	30.15	23.84	20.53	30.22	23.60	26.32	31.10	25.03	25.04
k, delay calibration	0.11	0.50	0.50	0.11	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]	12.75	1.95	3.25	1.37	4.15	1.56	1.56	0.46	7.60	7.12	2.38	2.59
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	0.94	0.65	0.50	0.53	0.75	0.26	0.57	0.47	0.89	0.87	0.72	0.72
d, Delay for Lane Group [s/veh]	40.90	21.17	21.19	31.52	27.99	22.09	31.77	24.06	33.92	38.22	27.41	27.62
Lane Group LOS	D	C	C	C	C	C	C	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	5.82	5.04	3.62	1.40	5.10	1.44	1.51	2.54	5.35	2.67	4.53	4.21
50th-Percentile Queue Length [ft]	145.58	126.07	90.47	35.06	127.57	36.11	37.70	63.47	133.77	66.79	113.25	105.21
95th-Percentile Queue Length [veh]	9.78	8.73	6.51	2.52	8.81	2.60	2.71	4.57	9.14	4.81	8.02	7.57
95th-Percentile Queue Length [ft]	244.52	218.14	162.85	63.10	220.18	64.99	67.87	114.25	228.62	120.21	200.52	189.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.90	21.17	21.19	31.52	27.99	22.09	31.77	24.06	33.92	38.22	27.48	27.62
Movement LOS	D	C	C	C	C	C	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	24.67			27.99			29.24			31.16		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.60											
Intersection LOS	C											
Intersection V/C	0.852											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	24.86	24.86	24.86	24.86
l_p,int, Pedestrian LOS Score for Intersection	3.107	3.125	2.816	2.811
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	543	486	486	486
d_b, Bicycle Delay [s]	18.58	20.06	20.06	20.06
l_b,int, Bicycle LOS Score for Intersection	2.486	2.242	2.264	2.267
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Pepper Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.063

Intersection Setup

Name						
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	1590	0	0	1471	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	30	0	52	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	28	0	0	0	9
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]	1615	58	0	1523	0	19
Peak Hour Factor	0.9620	1.0000	1.0000	0.9620	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]	420	15	0	396	0	5
Total Analysis Volume [veh/h]	1679	58	0	1583	0	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.02	0.00	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	17.84
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.20
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	5.05
d_A, Approach Delay [s/veh]	0.00		0.00		17.84	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Pepper Ave (NS) at I-10 Fwy WB Ramp (EW)

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

Intersection Setup

Name												
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 Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	185.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	35	951	0	0	876	595	0	0	0	34	7	639
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	0	0	28	24	0	0	0	0	0	25
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	981	0	0	904	619	0	0	0	34	7	664
Peak Hour Factor	0.9280	0.9280	1.0000	1.0000	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280
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	264	0	0	244	167	0	0	0	9	2	179
Total Analysis Volume [veh/h]	38	1057	0	0	974	667	0	0	0	37	8	716
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	11	40	0	0	29	0	0	0	0	0	20	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	3	36	29	29		16	16
g / C, Green / Cycle	0.06	0.60	0.48	0.48		0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.28	0.44		0.25	0.25
s, saturation flow rate [veh/h]	1714	3427	3427	1530		1551	1530
c, Capacity [veh/h]	98	2057	1634	729		414	408
d1, Uniform Delay [s]	27.35	6.95	11.51	14.61		21.46	21.49
k, delay calibration	0.11	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.50	0.92	1.61	18.00		9.02	9.44
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.51	0.60	0.91		0.92	0.93
d, Delay for Lane Group [s/veh]	29.86	7.87	13.12	32.61		30.48	30.93
Lane Group LOS	C	A	B	C		C	C
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh]	0.57	3.16	4.34	10.55		5.78	5.78
50th-Percentile Queue Length [ft]	14.21	78.99	108.39	263.67		144.59	144.43
95th-Percentile Queue Length [veh]	1.02	5.69	7.75	15.87		9.73	9.72
95th-Percentile Queue Length [ft]	25.57	142.18	193.77	396.82		243.19	242.98

Movement, Approach, & Intersection Results

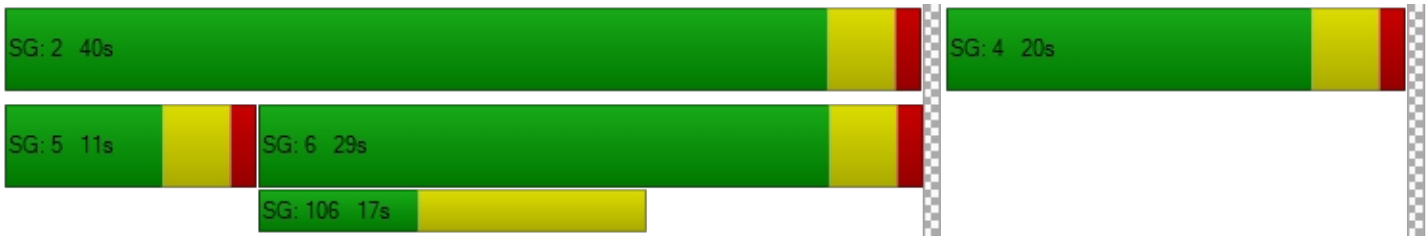
d_M, Delay for Movement [s/veh]	29.86	7.87	0.00	0.00	13.12	32.61	0.00	0.00	0.00	30.48	30.48	30.72
Movement LOS	C	A			B	C				C	C	C
d_A, Approach Delay [s/veh]	8.64			21.04			0.00			30.70		
Approach LOS	A			C			A			C		
d_I, Intersection Delay [s/veh]	19.26											
Intersection LOS	B											
Intersection V/C	0.882											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.096	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	833	0	533
d_b, Bicycle Delay [s]	4.80	10.21	30.00	16.13
l_b,int, Bicycle LOS Score for Intersection	2.463	2.913	4.132	2.815
Bicycle LOS	B	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave (NS) at I-10 Fwy EB Ramps (EW)

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.903

Intersection Setup

Name												
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			Yes			No	

Volumes

Name												
Base Volume Input [veh/h]	0	449	257	597	279	0	602	2	31	0	0	0
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 [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	23	5	0	25	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	454	257	620	284	0	627	2	31	0	0	0
Peak Hour Factor	1.0000	0.8920	0.8920	0.8920	0.8920	1.0000	0.8920	0.8920	0.8920	1.0000	1.0000	1.0000
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]	0	127	72	174	80	0	176	1	9	0	0	0
Total Analysis Volume [veh/h]	0	509	288	695	318	0	703	2	35	0	0	0
Presence of On-Street Parking	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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	24	0	18	42	0	0	18	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	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]	7
Pedestrian Clearance [s]	10

Lane Group Calculations

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	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	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	20	20	14	38	14	14	
g / C, Green / Cycle	0.33	0.33	0.23	0.63	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.19	0.22	0.18	0.22	0.22	
s, saturation flow rate [veh/h]	1800	1530	3123	1800	1714	1695	
c, Capacity [veh/h]	599	509	731	1140	401	397	
d1, Uniform Delay [s]	18.72	16.54	22.76	4.93	22.59	22.61	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	14.06	4.50	7.61	0.61	9.41	9.74	
d3, Initial Queue Delay [s]	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	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.85	0.57	0.95	0.28	0.93	0.93	
d, Delay for Lane Group [s/veh]	32.78	21.04	30.37	5.54	32.00	32.35	
Lane Group LOS	C	C	C	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh]	8.20	3.57	5.21	1.45	5.76	5.75	
50th-Percentile Queue Length [ft]	205.07	89.19	130.19	36.15	143.88	143.64	
95th-Percentile Queue Length [veh]	12.90	6.42	8.95	2.60	9.69	9.68	
95th-Percentile Queue Length [ft]	322.49	160.53	223.75	65.08	242.24	241.92	

Movement, Approach, & Intersection Results

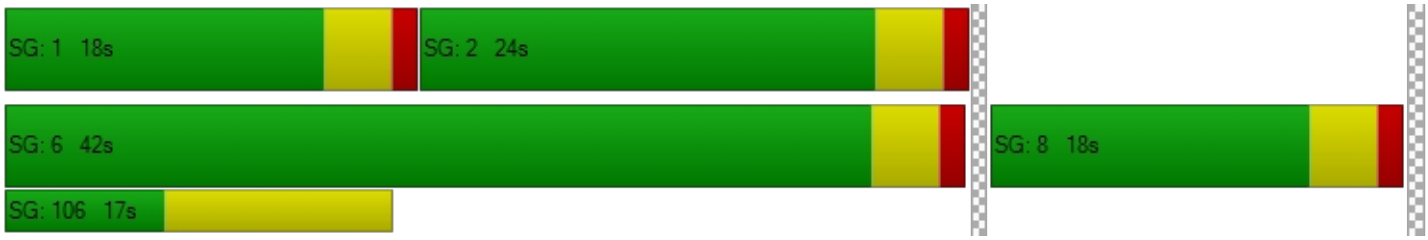
d_M, Delay for Movement [s/veh]	0.00	32.78	21.04	30.37	5.54	0.00	32.16	32.35	32.35	0.00	0.00	0.00
Movement LOS		C	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]	28.54			22.57			32.17			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	27.22											
Intersection LOS	C											
Intersection V/C	0.903											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	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	20.01	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.053	0.000
Crosswalk LOS	F	F	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	1267	467	0
d_b, Bicycle Delay [s]	13.33	4.03	17.63	30.00
l_b,int, Bicycle LOS Score for Intersection	2.875	3.231	2.781	4.132
Bicycle LOS	C	C	C	D

Sequence

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



Intersection Level Of Service Report
Intersection 6: Project West Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	717	0	0	753
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	20	35	0	71
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	4	0	33	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]	0	9	737	68	0	824
Peak Hour Factor	1.0000	1.0000	0.9620	1.0000	1.0000	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	192	17	0	214
Total Analysis Volume [veh/h]	0	9	766	68	0	857
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	11.19	0.00	0.00	9.46	0.00
Movement LOS		B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.16	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.19		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Project East Dwy (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	35.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	717	0	0	753
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	71	9	5	20	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	65	9	0	19	14	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]	136	18	722	39	29	753
Peak Hour Factor	1.0000	1.0000	0.9620	1.0000	1.0000	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	5	188	10	7	196
Total Analysis Volume [veh/h]	136	18	751	39	29	783
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.54	0.03	0.01	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	34.99	26.73	0.00	0.00	9.44	0.00
Movement LOS	D	D	A	A	A	A
95th-Percentile Queue Length [veh]	3.20	3.20	0.00	0.00	0.11	0.00
95th-Percentile Queue Length [ft]	80.00	80.00	0.00	0.00	2.68	0.00
d_A, Approach Delay [s/veh]	34.03		0.00		0.34	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.14					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	720.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.404

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	248	130	152	482	550	285
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	15	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]	248	130	152	496	565	285
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	35	41	134	152	77
Total Analysis Volume [veh/h]	268	140	164	535	609	307
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	2.40	0.25	0.22	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	720.46	13.65	11.11	0.00	0.00	0.00
Movement LOS	F	B	B	A	A	A
95th-Percentile Queue Length [veh]	23.79	0.99	0.83	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	594.79	24.81	20.66	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	477.93		2.61		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	97.29					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Meridian ave (NS) at Valley Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name						
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 Pocket	1	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	248	130	152	482	550	285
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	15	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	0	0	0	0	0
Total Hourly Volume [veh/h]	248	130	152	496	565	285
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	35	41	134	152	77
Total Analysis Volume [veh/h]	268	140	164	535	609	307
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
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	7	0	0	7	7	0
Maximum Green [s]	30	0	0	30	30	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]	39	0	0	21	21	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	10	10	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	L	R	L	C	C	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	40	40	40	40
g / C, Green / Cycle	0.20	0.20	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09	0.26	0.16	0.25	0.28
s, saturation flow rate [veh/h]	1714	1530	619	3427	1800	1610
c, Capacity [veh/h]	343	306	420	2285	1200	1073
d1, Uniform Delay [s]	22.80	21.17	10.89	3.96	4.48	4.67
k, delay calibration	0.11	0.11	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.89	1.06	2.73	0.24	0.92	1.24
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.46	0.39	0.23	0.38	0.43
d, Delay for Lane Group [s/veh]	26.69	22.23	13.61	4.20	5.40	5.91
Lane Group LOS	C	C	B	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	3.56	1.64	1.59	0.92	1.94	2.07
50th-Percentile Queue Length [ft]	88.89	40.89	39.79	22.97	48.51	51.80
95th-Percentile Queue Length [veh]	6.40	2.94	2.86	1.65	3.49	3.73
95th-Percentile Queue Length [ft]	160.01	73.60	71.62	41.35	87.32	93.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.69	22.23	13.61	4.20	5.53	5.91
Movement LOS	C	C	B	A	A	A
d_A, Approach Delay [s/veh]	25.16		6.41		5.65	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	9.85					
Intersection LOS	A					
Intersection V/C	0.509					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
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]	20.01	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.532	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
I_b,int, Bicycle LOS Score for Intersection	4.132	4.709	4.888
Bicycle LOS	D	E	E

Sequence

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



APPENDIX E

Traffic Model Forecasting Worksheets

PEPPER AVE (NS) / BLUE DR (EW) - #1

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**527**	IN ...	**750**	BOUND	THRU	**907**	IN ...	**1,180**
	RIGHT	**127**	OUT ...	**1,380**		RIGHT	**55**	OUT ...	**950**
SOUTH	LEFT	**82**	NORTH LEG		SOUTH	LEFT	**31**	NORTH LEG	
BOUND	THRU	**1,040**	IN ...	**1,360**	BOUND	THRU	**667**	IN ...	**790**
	RIGHT	**0**	OUT ...	**640**		RIGHT	**0**	OUT ...	**1,180**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
WEST	LEFT	**98**	EAST LEG		WEST	LEFT	**190**	EAST LEG	
BOUND	THRU	**0**	IN ...	**120**	BOUND	THRU	**0**	IN ...	**260**
	RIGHT	**13**	OUT ...	**230**		RIGHT	**51**	OUT ...	**100**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG
BOUND	THRU	**527**	**625**	RATIO -	BOUND	THRU	**907**	**1,121**	RATIO -
	RIGHT	**127**	**140**	ADT 0		RIGHT	**55**	**64**	ADT 0
SOUTH	LEFT	**82**	**96**	SOUTH LEG	SOUTH	LEFT	**31**	**36**	SOUTH LEG
BOUND	THRU	**1,040**	**1,274**	RATIO -	BOUND	THRU	**667**	**750**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG
BOUND	THRU	**0**	**0**	RATIO -	BOUND	THRU	**0**	**0**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0
WEST	LEFT	**98**	**108**	WEST LEG	WEST	LEFT	**190**	**209**	WEST LEG
BOUND	THRU	**0**	**0**	RATIO -	BOUND	THRU	**0**	**0**	RATIO -
	RIGHT	**13**	**15**	ADT 0		RIGHT	**51**	**59**	ADT 0

PEPPER AVE (NS) / VALLEY BLVD (EW) - #2

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**128**	SOUTH LEG		NORTH	LEFT	**122**	SOUTH LEG	
BOUND	THRU	**663**	IN ...	**1,150**	BOUND	THRU	**613**	IN ...	**1,340**
	RIGHT	**100**	OUT ...	**1,450**		RIGHT	**134**	OUT ...	**1,350**
SOUTH	LEFT	**105**	NORTH LEG		SOUTH	LEFT	**133**	NORTH LEG	
BOUND	THRU	**712**	IN ...	**1,130**	BOUND	THRU	**688**	IN ...	**1,030**
	RIGHT	**67**	OUT ...	**1,040**		RIGHT	**81**	OUT ...	**1,120**
EAST	LEFT	**168**	WEST LEG		EAST	LEFT	**162**	WEST LEG	
BOUND	THRU	**313**	IN ...	**750**	BOUND	THRU	**293**	IN ...	**790**
	RIGHT	**202**	OUT ...	**590**		RIGHT	**186**	OUT ...	**730**
WEST	LEFT	**129**	EAST LEG		WEST	LEFT	**148**	EAST LEG	
BOUND	THRU	**278**	IN ...	**580**	BOUND	THRU	**315**	IN ...	**740**
	RIGHT	**93**	OUT ...	**560**		RIGHT	**104**	OUT ...	**690**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**128**	**203**	NORTH LEG	NORTH	LEFT	**122**	**238**	NORTH LEG
BOUND	THRU	**663**	**811**	RATIO -	BOUND	THRU	**613**	**867**	RATIO -
	RIGHT	**100**	**142**	ADT 0		RIGHT	**134**	**230**	ADT 0
SOUTH	LEFT	**105**	**116**	SOUTH LEG	SOUTH	LEFT	**133**	**146**	SOUTH LEG
BOUND	THRU	**712**	**971**	RATIO -	BOUND	THRU	**688**	**828**	RATIO -
	RIGHT	**67**	**74**	ADT 0		RIGHT	**81**	**89**	ADT 0
EAST	LEFT	**168**	**185**	EAST LEG	EAST	LEFT	**162**	**178**	EAST LEG
BOUND	THRU	**313**	**344**	RATIO -	BOUND	THRU	**293**	**341**	RATIO -
	RIGHT	**202**	**292**	ADT 0		RIGHT	**186**	**292**	ADT 0
WEST	LEFT	**129**	**187**	WEST LEG	WEST	LEFT	**148**	**229**	WEST LEG
BOUND	THRU	**278**	**316**	RATIO -	BOUND	THRU	**315**	**410**	RATIO -
	RIGHT	**93**	**102**	ADT 0		RIGHT	**104**	**114**	ADT 0

PEPPER AVE (NS) / I-10 FREEWAY WB RAMPS (EW) - #4

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**26**	SOUTH LEG		NORTH	LEFT	**20**	SOUTH LEG	
BOUND	THRU	**356**	IN ...	**540**	BOUND	THRU	**607**	IN ...	**1,000**
	RIGHT	**0**	OUT ...	**1,160**		RIGHT	**0**	OUT ...	**910**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**580**	IN ...	**1,750**	BOUND	THRU	**545**	IN ...	**1,370**
	RIGHT	**760**	OUT ...	**1,160**		RIGHT	**495**	OUT ...	**1,590**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**860**		RIGHT	**0**	OUT ...	**570**
WEST	LEFT	**43**	EAST LEG		WEST	LEFT	**16**	EAST LEG	
BOUND	THRU	**0**	IN ...	**840**	BOUND	THRU	**5**	IN ...	**690**
	RIGHT	**542**	OUT ...	**0**		RIGHT	**508**	OUT ...	**0**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**26**	**58**	NORTH LEG	NORTH	LEFT	**20**	**35**	NORTH LEG
BOUND	THRU	**356**	**476**	RATIO -	BOUND	THRU	**607**	**951**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0
SOUTH	LEFT	**0**	**0**	SOUTH LEG	SOUTH	LEFT	**0**	**0**	SOUTH LEG
BOUND	THRU	**580**	**1,010**	RATIO -	BOUND	THRU	**545**	**876**	RATIO -
	RIGHT	**760**	**836**	ADT 0		RIGHT	**495**	**545**	ADT 0
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG
BOUND	THRU	**0**	**0**	RATIO -	BOUND	THRU	**0**	**0**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0
WEST	LEFT	**43**	**150**	WEST LEG	WEST	LEFT	**16**	**34**	WEST LEG
BOUND	THRU	**0**	**0**	RATIO -	BOUND	THRU	**5**	**7**	RATIO -
	RIGHT	**542**	**684**	ADT 0		RIGHT	**508**	**639**	ADT 0

PEPPER AVE (NS) / I-10 FREEWAY EB RAMPS (EW) - #5

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**28**	IN ...	**210**	BOUND	THRU	**78**	IN ...	**730**
	RIGHT	**23**	OUT ...	**630**		RIGHT	**124**	OUT ...	**310**
SOUTH	LEFT	**601**	NORTH LEG		SOUTH	LEFT	**543**	NORTH LEG	
BOUND	THRU	**54**	IN ...	**1,200**	BOUND	THRU	**12**	IN ...	**910**
	RIGHT	**0**	OUT ...	**550**		RIGHT	**0**	OUT ...	**1,000**
EAST	LEFT	**363**	WEST LEG		EAST	LEFT	**547**	WEST LEG	
BOUND	THRU	**9**	IN ...	**460**	BOUND	THRU	**2**	IN ...	**600**
	RIGHT	**54**	OUT ...	**0**		RIGHT	**4**	OUT ...	**0**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**680**		RIGHT	**0**	OUT ...	**850**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG
BOUND	THRU	**28**	**184**	RATIO -	BOUND	THRU	**78**	**449**	RATIO -
	RIGHT	**23**	**30**	ADT 0		RIGHT	**124**	**257**	ADT 0
SOUTH	LEFT	**601**	**661**	SOUTH LEG	SOUTH	LEFT	**543**	**597**	SOUTH LEG
BOUND	THRU	**54**	**530**	RATIO -	BOUND	THRU	**12**	**279**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0
EAST	LEFT	**363**	**399**	EAST LEG	EAST	LEFT	**547**	**602**	EAST LEG
BOUND	THRU	**9**	**10**	RATIO -	BOUND	THRU	**2**	**2**	RATIO -
	RIGHT	**54**	**100**	ADT 0		RIGHT	**4**	**31**	ADT 0
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**0**	**0**	WEST LEG
BOUND	THRU	**0**	**0**	RATIO -	BOUND	THRU	**0**	**0**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0

MERIDIAN AVE (NS) / VALLEY BLVD (EW) - #8

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
SOUTH	LEFT	**235**	NORTH LEG		SOUTH	LEFT	**162**	NORTH LEG	
BOUND	THRU	**0**	IN ...	**520**	BOUND	THRU	**0**	IN ...	**380**
	RIGHT	**197**	OUT ...	**340**		RIGHT	**109**	OUT ...	**430**
EAST	LEFT	**76**	WEST LEG		EAST	LEFT	**138**	WEST LEG	
BOUND	THRU	**203**	IN ...	**300**	BOUND	THRU	**361**	IN ...	**630**
	RIGHT	**0**	OUT ...	**580**		RIGHT	**0**	OUT ...	**580**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**303**	IN ...	**640**	BOUND	THRU	**303**	IN ...	**740**
	RIGHT	**206**	OUT ...	**550**		RIGHT	**191**	OUT ...	**730**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG
BOUND	THRU	**0**	**0**	RATIO -	BOUND	THRU	**0**	**0**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0
SOUTH	LEFT	**235**	**318**	SOUTH LEG	SOUTH	LEFT	**162**	**248**	SOUTH LEG
BOUND	THRU	**0**	**0**	RATIO -	BOUND	THRU	**0**	**0**	RATIO -
	RIGHT	**197**	**217**	ADT 0		RIGHT	**109**	**130**	ADT 0
EAST	LEFT	**76**	**84**	EAST LEG	EAST	LEFT	**138**	**152**	EAST LEG
BOUND	THRU	**203**	**232**	RATIO -	BOUND	THRU	**361**	**482**	RATIO -
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**0**	**0**	WEST LEG
BOUND	THRU	**303**	**375**	RATIO -	BOUND	THRU	**303**	**450**	RATIO -
	RIGHT	**206**	**269**	ADT 0		RIGHT	**191**	**285**	ADT 0

Forecasted Intersection Traffic Volumes
2040nP

Pepper Avenue (NS) @ Blue Drive (EW)

Adj.		⇩	**936**	10.7%	PM		150			PM	10.7%	**1,180**	⇧	DATE		
	Flow	⇩	***1,470***	11.5%	AM		100			AM	11.5%	***790***	⇧	Flow		
⇦	⇦	Origin	ADT	19,700	PM	0	750	36		PM	19,700	ADT	Origin	⇦	⇦	
0	***0***	ADT			AM	0	1,274	96		AM			ADT	***123***	**268**	
#DIV/0!	#DIV/0!	0			PM	0	900	36		PM			3,700	11.1%	11.3%	
PM	AM	PM	AM	PM	AM	0	1,374	96		AM	PM	AM	PM	AM	PM	
						⇦	⇩	⇨								
		0	0	0	0	⇧		SB	⇧	15	59	15	59			
		0	0	0	0	⇨	EB	1	WB	⇦ 0	0	0	0			
		0	0	0	0	⇩		NB	⇩	108	209	108	209			
						⇦	⇧	⇨								
PM	AM	PM	AM	PM	AM	0	775	190		AM	PM	AM	PM	AM	PM	
#DIV/0!	#DIV/0!	0			PM	0	1,121	114		PM			3,700	11.1%	11.3%	
0	***0***	ADT			AM	0	625	140		AM			ADT	***286***	**150**	
⇨	⇨	Origin	ADT	21,400	PM	0	1,121	64		PM	21,400	ADT	Origin	⇨	⇨	
	Flow	⇩	***1,482***	11.4%	AM		150	50		AM	11.4%	***965***	⇧	Flow		
Adj.		⇩	**1,109**	11.0%	PM			50		PM	11.0%	**1,235**	⇧		Adj.	

Forecasted Intersection Traffic Volumes
2040nP

Pepper Avenue (NS) @ Valley Boulevard (EW)

Adj.		⇩	**1,173**	11.4%	PM		10	100			PM	11.4%	**1,359**	⇧	DATE	
	Flow	⇩	***1,561***	12.0%	AM			400			AM	12.0%	***1,098***	⇧	Flow	
⇦	⇦	Origin	ADT	22,200	PM		89	828	146		PM	22,200	ADT	Origin	⇦	⇦
797	***693***	ADT			AM		74	971	116		AM			ADT	***605***	**753**
10.4%	9.8%	15,500			PM		99	928	146		PM			14,700	8.2%	10.0%
PM	AM	PM	AM	PM	AM		74	1,371	116		AM	PM	AM	PM	AM	PM
							⇦	⇩	⇨							
		178	185	178	185	⇧		SB		⇧	102	114	102	114		
		341	344	341	344	⇨	EB	**2**	WB	⇦	316	410	316	410		
		292	292	292	292	⇩		NB		⇩	187	229	187	229		
							⇦	⇧	⇨							
PM	AM	PM	AM	PM	AM		303	811	142		AM	PM	AM	PM	AM	PM
10.4%	9.8%	15,500			PM		288	1,067	230		PM			14,700	8.2%	10.0%
811	***821***	ADT			AM		203	811	142		AM			ADT	***602***	**717**
⇨	⇨	Origin	ADT	26,800	PM		238	867	230		PM	26,800	ADT	Origin	⇨	⇨
	Flow	⇩	***1,850***	11.6%	AM		100				AM	11.6%	***1,256***	⇧	Flow	
Adj.		⇩	**1,449**	11.3%	PM		50	200			PM	11.3%	**1,585**	⇧		Adj.

Forecasted Intersection Traffic Volumes
2040nP

Pepper Avenue (NS) @ Project Driveway (EW)

Adj.		⇩	**1,471**	10.2%	PM			50			PM	10.2%	**1,590**	⇧	DATE	
	Flow	⇩	***1,966***	10.7%	AM			120			AM	10.7%	***1,260***	⇧	Flow	
⇦	⇦	Origin	ADT	30,100	PM		0	1,421	0		PM	30,100	ADT	Origin	⇦	⇦
0	***0***	ADT			AM		0	1,846	0		AM			ADT	***0***	**0**
#DIV/0!	#DIV/0!	0			PM		0	1,471	0		PM			0	#DIV/0!	#DIV/0!
PM	AM	PM	AM	PM	AM		0	1,966	0		AM	PM	AM	PM	AM	PM
							⇦	⇩	⇨							
		0	0	0	0	⇧		SB		⇧	0	0	0	0		
		0	0	0	0	⇨	EB	3	WB	⇦	0	0	0	0		
		0	0	0	0	⇩		NB		⇩	0	0	0	0		
							⇦	⇧	⇨							
PM	AM	PM	AM	PM	AM		0	1,260	0		AM	PM	AM	PM	AM	PM
#DIV/0!	#DIV/0!	0			PM		0	1,590	0		PM			0	#DIV/0!	#DIV/0!
0	***0***	ADT			AM		0	1,160	0		AM			ADT	***0***	**0**
⇨	⇨	Origin	ADT	30,100	PM		0	1,590	0		PM	30,100	ADT	Origin	⇨	⇨
	Flow	⇩	***1,966***	10.7%	AM			100			AM	10.7%	***1,260***	⇧	Flow	
Adj.		⇩	**1,471**	10.2%	PM						PM	10.2%	**1,590**	⇧		Adj.

Forecasted Intersection Traffic Volumes
2040nP

Pepper Avenue (NS) @ I-10 Westbound Ramps (EW)

Adj.		⇩	**1,471**	10.2%	PM		50				PM	10.2%	**1,590**	⇧	DATE	
	Flow	⇩	***1,966***	10.6%	AM		50	70			AM	10.6%	***1,210***	⇧	Flow	
⇦	⇦	Origin	ADT	30,100	PM		545	876	0		PM	30,100	ADT	Origin	⇦	⇦
637	***944***	ADT			AM		836	1,010	0		AM			ADT	***834***	**680**
10.8%	16.0%	5,900			PM		595	876	0		PM			6,800	12.3%	10.0%
PM	AM	PM	AM	PM	AM		886	1,080	0		AM	PM	AM	PM	AM	PM
							⇦	⇩	⇨							
		0	0	0	0	⇧		SB		⇧	684	639	684	639		
		0	0	0	0	⇨	EB	**4**	WB	⇦	0	7	0	7		
		0	0	0	0	⇩		NB		⇩	150	34	150	34		
							⇦	⇧	⇨							
PM	AM	PM	AM	PM	AM		58	526	0		AM	PM	AM	PM	AM	PM
10.8%	16.0%	5,900			PM		35	951	0		PM			6,800	12.3%	10.0%
0	***0***	ADT			AM		58	476	0		AM			ADT	***0***	**0**
⇨	⇨	Origin	ADT	19,000	PM		35	951	0		PM	19,000	ADT	Origin	⇨	⇨
	Flow	⇩	***1,230***	9.5%	AM			50			AM	9.5%	***584***	⇧	Flow	
Adj.		⇩	**910**	10.0%	PM						PM	10.0%	**986**	⇧		Adj.

Forecasted Intersection Traffic Volumes
2040nP

Pepper Avenue (NS) @ I-10 Eastbound Ramps (EW)

Adj.		⇩	**876**	10.0%	PM					PM	10.0%	**1,051**	⇧	DATE		
	Flow	⇩	***1,231***	9.8%	AM			40		AM	9.8%	***663***	⇧	Flow		
⇦	⇦	Origin	ADT	19,300	PM		0	279	597	PM	19,300	ADT	Origin	⇦	⇦	
0	***0***	ADT			AM		0	530	661	AM			ADT	***0***	**0**	
9.9%	9.2%	6,400			PM		0	279	597	PM			8,600	8.6%	10.0%	
PM	AM	PM	AM	PM	AM		0	530	701	AM	PM	AM	PM	AM	PM	
							⇦	⇩	⇨							
	80	602	399	602	479	⇧		SB		⇧	0	0	0	0		
		2	10	2	10	⇨	EB	5	WB	⇦	0	0	0	0		
		31	100	31	100	⇩		NB		⇩	0	0	0	0		
							⇦	⇧	⇨							
PM	AM	PM	AM	PM	AM		0	184	30	AM	PM	AM	PM	AM	PM	
9.9%	9.2%	6,400			PM		0	449	257	PM			8,600	8.6%	10.0%	
635	***589***	ADT			AM		0	184	30	AM			ADT	***741***	**856**	
⇨	⇨	Origin	ADT	10,200	PM		0	449	257	PM	10,200	ADT	Origin	⇨	⇨	
	Flow	⇩	***630***	8.3%	AM					AM	8.3%	***214***	⇧	Flow		
Adj.		⇩	**310**	10.0%	PM					PM	10.0%	**706**	⇧		Adj.	

Forecasted Intersection Traffic Volumes
2040nP

Meridian Avenue (NS) @ Valley Boulevard (EW)

Adj.		⇩	**378**	9.9%	PM					PM	9.9%	**437**	⇧	DATE		
	Flow	⇩	***535***	11.1%	AM					AM	11.1%	***373***	⇧	Flow		
⇦	⇦	Origin	ADT	8,200	PM		130	0	248	PM	8,200	ADT	Origin	⇦	⇦	
680	***592***	ADT			AM		217	0	318	AM			ADT	***644***	**835**	
10.9%	9.7%	12,100			PM		130	0	248	PM			14,700	9.8%	10.6%	
PM	AM	PM	AM	PM	AM		217	0	318	AM	PM	AM	PM	AM	PM	
							⇦	⇩	⇨							
	20	152	84	152	104	⇧		SB		⇧	269	285	269	285		
	250	482	232	482	482	⇨	EB	**8**	WB	⇦	375	550	375	450		100
		0	0	0	0	⇩		NB		⇩	0	0	0	0		
							⇦	⇧	⇨							
PM	AM	PM	AM	PM	AM		0	0	0		AM	PM	AM	PM	AM	PM
10.9%	9.7%	12,100			PM		0	0	0		PM			14,700	9.8%	10.6%
634	***586***	ADT			AM		0	0	0		AM			ADT	***800***	**730**
⇨	⇨	Origin	ADT	0	PM		0	0	0		PM	0	ADT	Origin	⇨	⇨
	Flow	⇩	***0***	#DIV/0!	AM						AM	#DIV/0!	***0***	⇧	Flow	
Adj.		⇩	**0**	#DIV/0!	PM						PM	#DIV/0!	**0**	⇧		Adj.

APPENDIX F

Traffic Signal Warrant Analysis Worksheets

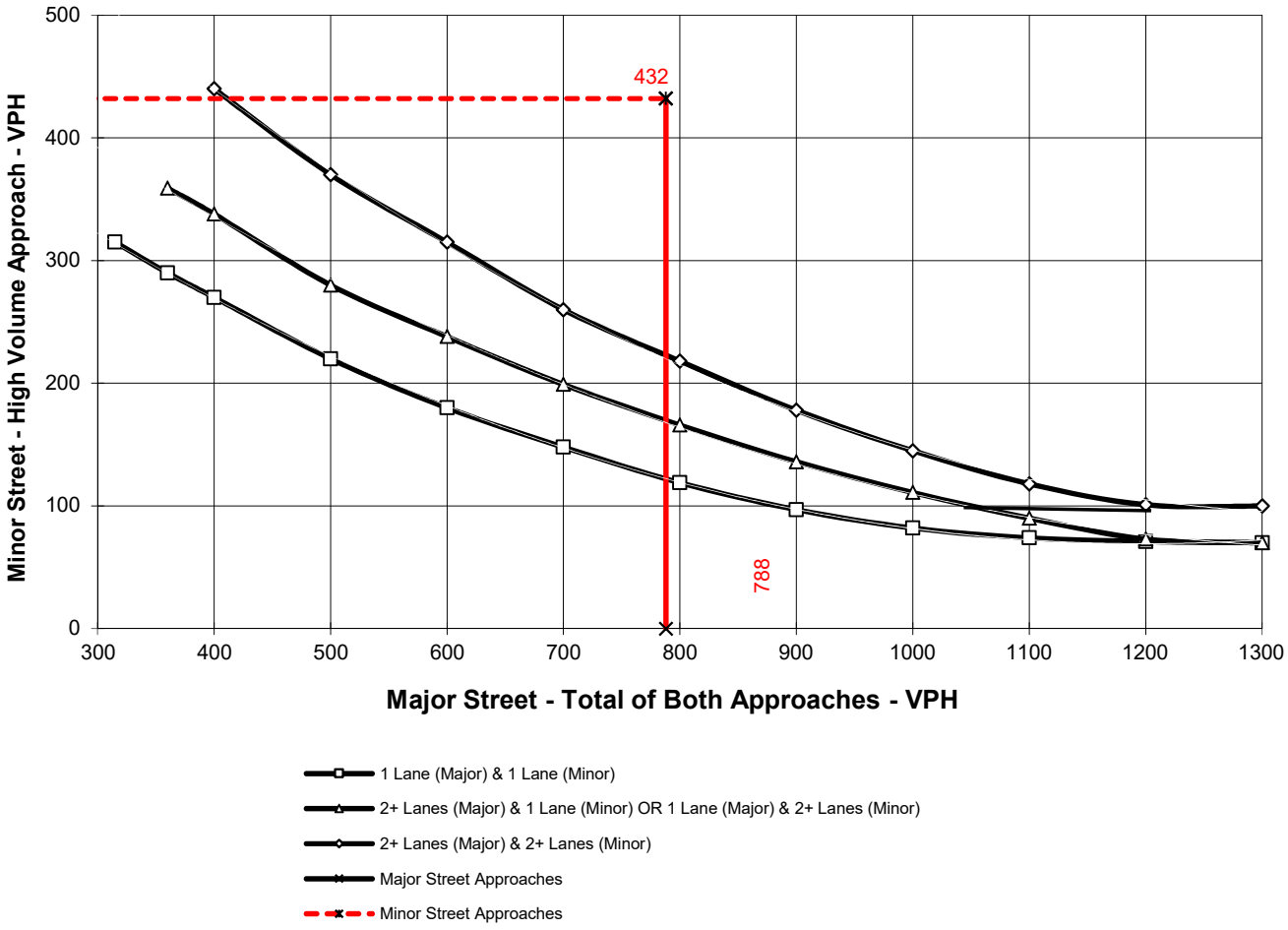
PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing

Major Street Name = **Valley Boulevard**
Total of Both Approaches (VPH) = **788**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Maridian Avenue**
High Volume Approach (VPH) = **432**
Number of Approach Lanes Minor Street = **2**

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

APPENDIX G

San Bernardino Associated Governments
Development Mitigation Nexus Fee

Attachment 1

Arterial Projects

($ in thousands)

COLTON

Arterial Description	Lane-Miles	2013 Cost Estimate	Status (C, D, or F)*	If C, year of completion	2013 Notes
Widen Agua Mansa Rd from Rancho Ave to Rialto Channel from 2 to 4 lanes	6.40	$5,410	F		
Widen Agua Mansa Rd from Riverside Ave to Rialto Channel from 2 to 4 lanes		$2,020	C	2010	Separate entry noting completed segment of large overall project, $2M in 2010$
Widen Barton Rd from S. City Limits to Washington Ave from 2 to 4 lanes	1.74	$1,325	F		
Widen C St from City Limits w/o Rancho Ave to Pennsylvania Ave from 2 to 4 lanes	1.70	$1,296	F		
Widen Fairway Dr from Sperry Dr to City Limits from 2 lanes to 4 lanes	3.52	$4,391	F		
Widen La Cadena Dr from Rancho Av to Litton Ave from 4 lanes to 6 lanes	4.94	$3,475	D		
Widen La Cadena Dr from Palm Ave to Iowa Ave from 4 to 6 lanes	3.58	$2,873	F		
Widen and realign Reche Cnyn Rd from Washington St (Hunts Ln) to City Limits from 2 to 4 lanes	1.29	$2,112	D		
Widen Reche Cnyn Rd from S. Crystal Ridge to Riverside County Line from 2 to 4 lanes	1.97	$2,570	D		
Widen Riverside Ave from Riv. County Line to Santa Ana River from 4 to 6 lanes	1.90	$2,850	F		
Widen Riverside Ave from Santa Ana River to Agua Mansa Rd from 4 to 6 lanes	2.47	$1,810	F		
Widen San Bernardino Ave/Olive St. from Pepper Ave to County Limit from 2 lanes to 4 lanes	2.01	$1,866	F		
Widen Olive St. from County Limit to Rancho Ave from 2 to 4 lanes	0.17	$155	F		
Widen Slover from Pepper Ave to Riverside Ave from 2 to 4 lanes	3.98	$3,024	F		
Extend Washington St from Aqueduct to La Cadena Dr from 0 to 2 lanes	1.86	$5,968	D		
Widen Washington St from Waterman to I-215 from 4 to 6 lanes	9.60	$5,640	F		
Widen and extend Pepper Ave from I-10 to Agua Mansa Rd from 0/2 to 4 lanes	4.69				This segment will be removed from General Plan update
Colton Total	47.13	$46,785			

*C = Completed, D = In Development, F = Future

APPENDIX H

Preliminary Construction Cost Estimates for Congestion Management Program

PRELIMINARY CONSTRUCTION COST ESTIMATES
FOR
CONGESTION MANAGEMENT PLAN

Add One Lane Each Direction on Freeway	
Asphalt Concrete Pavement	$2,300,000 Per Mile
Portland Cement Concrete Pavement	$2,800,000 Per Mile
Includes: Excavation Paving Section Barrier Shoulder Upgrade Drainage System Traffic Control Mobilization @10% Design @11% Construction Mgt. @12.5%	**Excludes:** Environmental Costs Right of Way Widening of Bridge Structures Added Retaining Walls Added Sound Walls

Widen Existing UC Structures	
Total Cost =	$160 Per Square Foot
Includes: Structure Mobilization @10% Design @11% Construction Mgt. @12.5%	**Excludes:** Environmental Costs Right of Way Traffic Control Ramp Modifications Signal/Lighting Up Grades Drainage Upgrades Added Retaining Walls Added Sound Walls

Diamond Interchanges			
$10,000,000	EACH	NEW IC	Minimal Row/Environmental
$15,000,000	EACH	NEW IC	Includes Row/Environmental
$20,000,000	EACH	EXISTING	Minimal Row/Environmental
$25,000,000	EACH	EXISTING	Includes Row/ Environmental
Includes: Structure Retaining Walls Soil Nail Walls Drainage System Ramps Mobilization @ 10% Design @ 11% Construction Mgt. @ 12.5%		**Excludes:** As listed	

Retaining Walls

Height Feet	Structure Cost $/LF	Mobilization Design Constr. Mgt. $/LF	Total $/LF
4	$190	$70	$260
6	$260	$90	$350
8	$380	$140	$520
10	$430	$150	$580
12	$480	$170	$650
14	$590	$210	$800
16	$660	$240	$900
	Excludes: Environmental Costs Right of Way		

12' High Sound Walls (Masonry Block on Footing)

Structure Cost $/Mile	Mobilization Design Constr. Mgt. $/Mile	Total $/Mile
$800,000	$300,000	$1,100,000

Widen Conventional Highway

1.	Add one outside lane (Work includes earthwork, modify existing drainage system and construct AC shoulder section. Asphalt Concrete Pavement	 $1,000,000/Mile
2.	Add one outside lane each direction (Work includes earthwork, modify existing drainage system and construct AC shoulder section) Asphalt Concrete Pavement With Median Concrete Barrier With Median Double Thrie Beam Barrier	 $2,000,000/Mile $2,200,000/Mile $2,300,000/Mile

Local Interchange Improvements

1.	New Interchange	
	Urban Interchange	$10,000,000 to $17,000,000
	Partial – Cloverleaf Interchange (Work includes new OC structure, earthwork, signal)	$6,000,000
	Diamond Interchange (Work includes new OC structure, earthwork, signal)	$5,000,000

Local Interchange Improvements CONT...		
2.	Reconstruct Existing Interchange	
	Realign and widen existing ramps (to 2 lanes)	$750,000/Each Ramp
	Construct Loop on – ramps (Does not include realigning existing ramp)	$700,000/Each Ramp
	Upgrade existing Diamond IC to Partial – Cloverleaf	$6,000,000
3.	Improve Existing Interchange	
	Widen ramps (From one to two lanes)	$350,000/Each Ramp
	Widen existing OC structure	$110/Sq. Ft.
	Signalize ramp intersection	$90,000/Location
	Upgrade existing signal at ramp terminal	$75,000/Intersection
	Upgrade existing signal at ramp terminal (Add lights only)	$25,000/Each
4.	Ramp Metering System	$60,000/Each location
Intersection Improvements		
1.	Signalization of local intersection (with some roadwork)	$250,000
2.	Upgrade existing intersection signalization	$75,000
3.	Upgrade existing Traffic Controller/Assembles	$40,000/Each
4.	Install new signal	$90,000/location
5.	Add signal heads	$25,000/Intersection
6.	Construct left – turn lane (240' long)	$50,000/Each Location
7.	Street widening (12' wide) (Pavement only)	$180,000/Mile
8.	Curb and gutter (Type A2-8)	$15/LF

Other Improvements		
1.	Construct new OC structure (Does not include roadway work)	$100/Sq. Ft.
2.	Construct Retaining Walls (Type 1)	$285/LF (H=8') $360/LF (H=10') $460/LF (H=12') $560/LF (H=14')
3.	Construct Soundwall	$1,000,000/Mile (H=12')
4.	Traffic Management Plan	10% of total construction costs

NOTE: This cost estimate does not include the following items:

1. R/W engineering, appraisal, acquisition and utilities relocation costs.
2. Minor items and supplemental work (10%).
3. Mobilization (10%).
4. Contingencies (25%).
5. Landscaping costs.

General Note: **When adding a through lane, the minimum distance is 600' approach and 600' departure to the next intersection.**

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