Appendix A

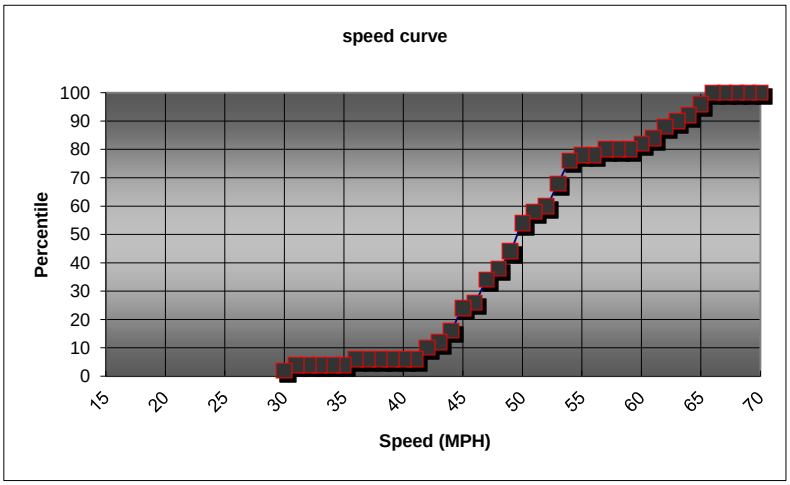
Speed Data

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



LOCATION:	SR-233
LIMITS:	SR152 to Cates Ct
DIRECTION:	Northbound
TIME:	09:00 to 09:45
DATE:	5/30/2019
LATITUDE:	37.085494
LONGITUDE:	-120.295701
85% SPEED	62
10 mph PACE	45 - 54 MPH
AVG. SPEED	51 MPH
POSTED SPEED	55 MPH

MPH																												
70																												0
69																												0
68																												0
67																												0
66	X	X																										2
65	X	X																										2
64	X																											1
63	X																											1
62	X	X																										2
61	X																											1
60	X																											1
59																												0
58																												0
57	X																											1
56																												0
55	X																											1
54	X	X	X	X																								4
53	X	X	X	X																								4
52	X																											1
51	X	X																										2
50	X	X	X	X	X																							5
49	X	X	X																									3
48	X	X																										2
47	X	X	X	X																								4
46	X																											1
45	X	X	X	X																								4
44	X	X																										2
43	X																											1
42	X	X																										2
41																												0
40																												0
39																												0
38																												0
37																												0
36	X																											1
35																												0
34																												0
33																												0
32																												0
31	X																											1
30	X																											1
																											TOTAL:	50

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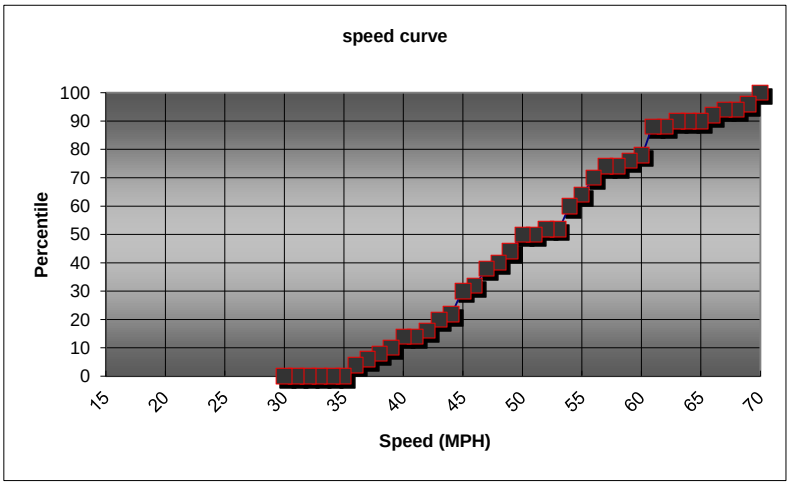

LOCATION:	SR-233
LIMITS:	SR152 to Cates Ct
DIRECTION:	Southbound
TIME:	09:00 to 09:45
DATE:	5/30/2019
LATITUDE:	37.085494
LONGITUDE:	-120.295701
85% SPEED	61
10 mph PACE	54 - 63 MPH
AVG. SPEED	52 MPH
POSTED SPEED	55 MPH

MPH																											
70	X	X																									**2**
69	X																										**1**
68																											**0**
67	X																										**1**
66	X																										**1**
65																											**0**
64																											**0**
63	X																										**1**
62																											**0**
61	X	X	X	X	X																						**5**
60	X																										**1**
59	X																										**1**
58																											**0**
57	X	X																									**2**
56	X	X	X																								**3**
55	X	X																									**2**
54	X	X	X	X																							**4**
53																											**0**
52	X																										**1**
51																											**0**
50	X	X	X																								**3**
49	X	X																									**2**
48	X																										**1**
47	X	X	X																								**3**
46	X																										**1**
45	X	X	X	X																							**4**
44	X																										**1**
43	X	X																									**2**
42	X																										**1**
41																											**0**
40	X	X																									**2**
39	X																										**1**
38	X																										**1**
37	X																										**1**
36	X	X																									**2**
35																											**0**
34																											**0**
33																											**0**
32																											**0**
31																											**0**
30																											**0**
																									TOTAL:		**50**

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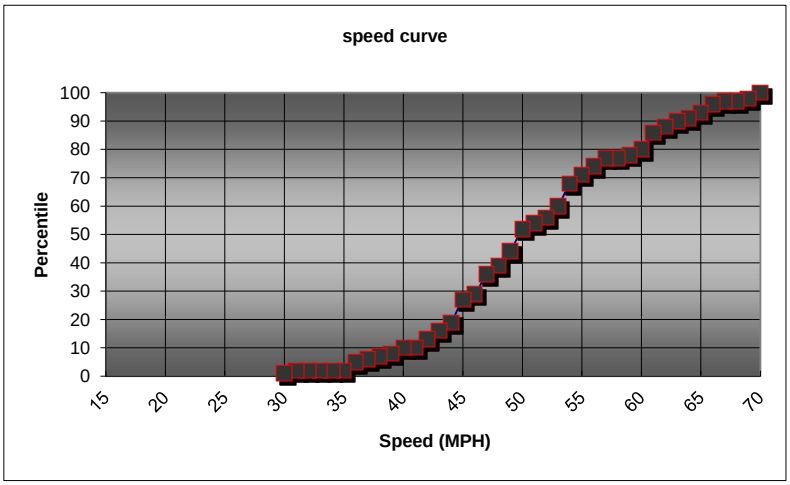

LOCATION:	SR-233
LIMITS:	SR152 to Cates Ct
DIRECTION:	Northbound + Southbound
TIME:	09:00 to 09:45
DATE:	5/30/2019
LATITUDE:	37.085494
LONGITUDE:	-120.295701
85% SPEED	61
10 mph PACE	45 - 54 MPH
AVG. SPEED	51 MPH
POSTED SPEED	55 MPH

MPH																											
70	X	X																									**2**
69	X																										**1**
68																											**0**
67	X																										**1**
66	X	X	X																								**3**
65	X	X																									**2**
64	X																										**1**
63	X	X																									**2**
62	X	X																									**2**
61	X	X	X	X	X	X																					**6**
60	X	X																									**2**
59	X																										**1**
58																											**0**
57	X	X	X																								**3**
56	X	X	X																								**3**
55	X	X	X																								**3**
54	X	X	X	X	X	X	X	X																			**8**
53	X	X	X	X																							**4**
52	X	X																									**2**
51	X	X																									**2**
50	X	X	X	X	X	X	X	X																			**8**
49	X	X	X	X	X																						**5**
48	X	X	X																								**3**
47	X	X	X	X	X	X	X																				**7**
46	X	X																									**2**
45	X	X	X	X	X	X	X	X																			**8**
44	X	X	X																								**3**
43	X	X	X																								**3**
42	X	X	X																								**3**
41																											**0**
40	X	X																									**2**
39	X																										**1**
38	X																										**1**
37	X																										**1**
36	X	X	X																								**3**
35																											**0**
34																											**0**
33																											**0**
32																											**0**
31	X																										**1**
30	X																										**1**
																									TOTAL:		**100**

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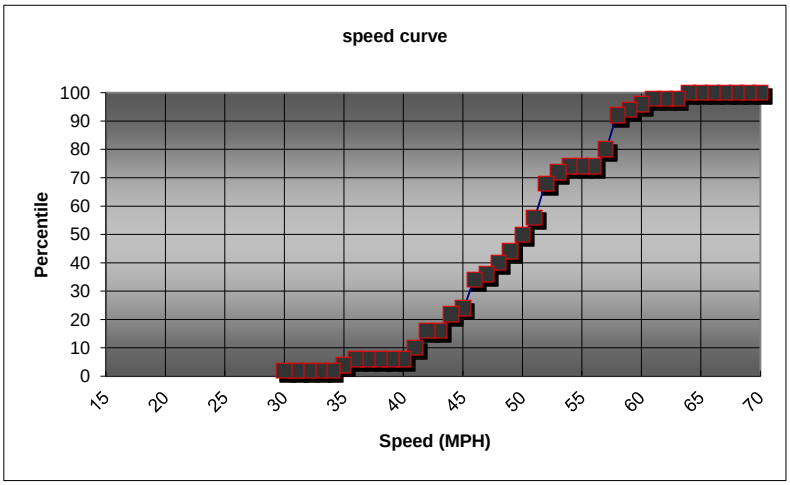

LOCATION:	Rd 16
LIMITS:	Ave 23.5 to Ave 24
DIRECTION:	Northbound
TIME:	11:30 to 12:30
DATE:	5/29/2019
LATITUDE:	37.092004
LONGITUDE:	-120.256799
85% SPEED	58
10 mph PACE	44 - 53 MPH
AVG. SPEED	50 MPH
POSTED SPEED	N.P. MPH

MPH																											
70																											**0**
69																											**0**
68																											**0**
67																											**0**
66																											**0**
65																											**0**
64	X																										**1**
63																											**0**
62																											**0**
61	X																										**1**
60	X																										**1**
59	X																										**1**
58	X	X	X	X	X	X																					**6**
57	X	X	X																								**3**
56																											**0**
55																											**0**
54	X																										**1**
53	X	X																									**2**
52	X	X	X	X	X	X																					**6**
51	X	X	X																								**3**
50	X	X	X																								**3**
49	X	X																									**2**
48	X	X																									**2**
47	X																										**1**
46	X	X	X	X	X																						**5**
45	X																										**1**
44	X	X	X																								**3**
43																											**0**
42	X	X	X																								**3**
41	X	X																									**2**
40																											**0**
39																											**0**
38																											**0**
37																											**0**
36	X																										**1**
35	X																										**1**
34																											**0**
33																											**0**
32																											**0**
31																											**0**
30	X																										**1**
																									TOTAL:		**50**

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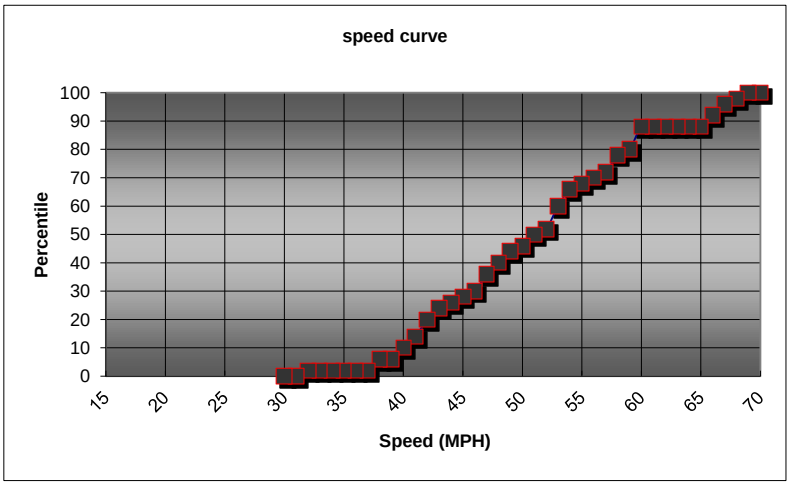

LOCATION:	Rd 16
LIMITS:	Ave 23.5 to Ave 24
DIRECTION:	Southbound
TIME:	11:30 to 12:30
DATE:	5/29/2019
LATITUDE:	37.092004
LONGITUDE:	-120.256799
85% SPEED	60
10 mph PACE	51 - 60 MPH
AVG. SPEED	51 MPH
POSTED SPEED	N.P. MPH

MPH																											
70																											**0**
69	X																										**1**
68	X																										**1**
67	X	X																									**2**
66	X	X																									**2**
65																											**0**
64																											**0**
63																											**0**
62																											**0**
61																											**0**
60	X	X	X	X																							**4**
59	X																										**1**
58	X	X	X																								**3**
57	X																										**1**
56	X																										**1**
55	X																										**1**
54	X	X	X																								**3**
53	X	X	X	X																							**4**
52	X																										**1**
51	X	X																									**2**
50	X																										**1**
49	X	X																									**2**
48	X	X																									**2**
47	X	X	X																								**3**
46	X																										**1**
45	X																										**1**
44	X																										**1**
43	X	X																									**2**
42	X	X	X																								**3**
41	X	X																									**2**
40	X	X																									**2**
39																											**0**
38	X	X																									**2**
37																											**0**
36																											**0**
35																											**0**
34																											**0**
33																											**0**
32	X																										**1**
31																											**0**
30																											**0**
																									TOTAL:		**50**

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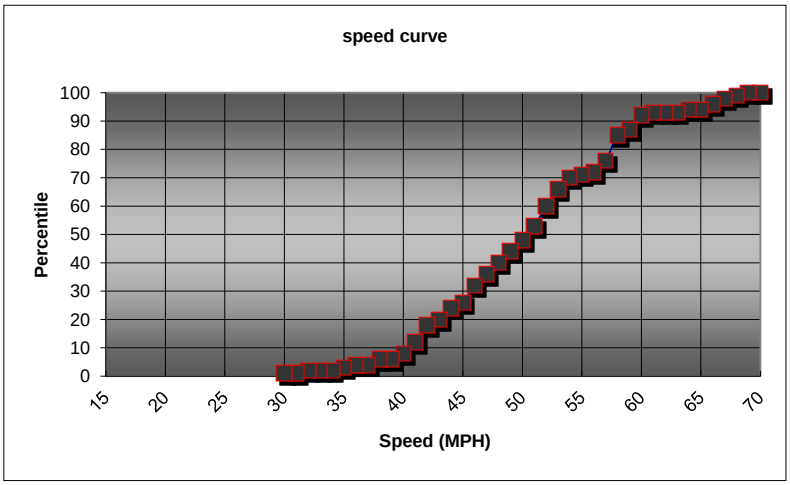

LOCATION:	Rd 16
LIMITS:	Ave 23.5 to Ave 24
DIRECTION:	Northbound + Southbound
TIME:	11:30 to 12:30
DATE:	5/29/2019
LATITUDE:	37.092004
LONGITUDE:	-120.256799
85% SPEED	58
10 mph PACE	45 - 54 MPH
AVG. SPEED	51 MPH
POSTED SPEED	N.P. MPH

MPH																												
70																												0
69	X																											1
68	X																											1
67	X	X																										2
66	X	X																										2
65																												0
64	X																											1
63																												0
62																												0
61	X																											1
60	X	X	X	X	X																							5
59	X	X																										2
58	X	X	X	X	X	X	X	X	X																			9
57	X	X	X	X																								4
56	X																											1
55	X																											1
54	X	X	X	X																								4
53	X	X	X	X	X	X																						6
52	X	X	X	X	X	X	X																					7
51	X	X	X	X	X																							5
50	X	X	X	X																								4
49	X	X	X	X																								4
48	X	X	X	X																								4
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44	X	X	X	X																								4
43	X	X																										2
42	X	X	X	X	X	X																						6
41	X	X	X	X																								4
40	X	X																										2
39																												0
38	X	X																										2
37																												0
36	X																											1
35	X																											1
34																												0
33																												0
32	X																											1
31																												0
30	X																											1
																											TOTAL:	100

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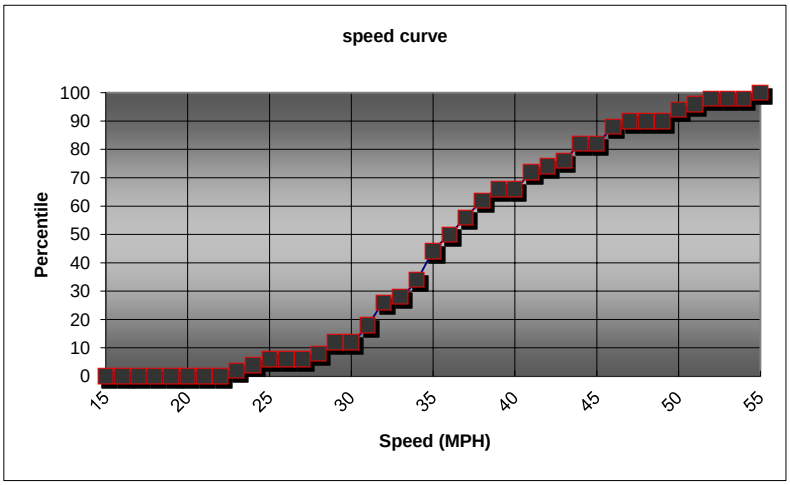

LOCATION:	Rd 16
LIMITS:	Ave 25 to Mariposa Ave
DIRECTION:	Southbound
TIME:	10:30 to 11:30
DATE:	5/29/2019
LATITUDE:	37.1133358
LONGITUDE:	-120.2567532
85% SPEED	46
10 mph PACE	32 - 41 MPH
AVG. SPEED	38 MPH
POSTED SPEED	40 MPH

MPH																											
55	X																										**1**
54																											**0**
53																											**0**
52	X																										**1**
51	X																										**1**
50	X	X																									**2**
49																											**0**
48																											**0**
47	X																										**1**
46	X	X	X																								**3**
45																											**0**
44	X	X	X																								**3**
43	X																										**1**
42	X																										**1**
41	X	X	X																								**3**
40																											**0**
39	X	X																									**2**
38	X	X	X																								**3**
37	X	X	X																								**3**
36	X	X	X																								**3**
35	X	X	X	X	X																						**5**
34	X	X	X																								**3**
33	X																										**1**
32	X	X	X	X																							**4**
31	X	X	X																								**3**
30																											**0**
29	X	X																									**2**
28	X																										**1**
27																											**0**
26																											**0**
25	X																										**1**
24	X																										**1**
23	X																										**1**
22																											**0**
21																											**0**
20																											**0**
19																											**0**
18																											**0**
17																											**0**
16																											**0**
15																											**0**
																									TOTAL:		**50**

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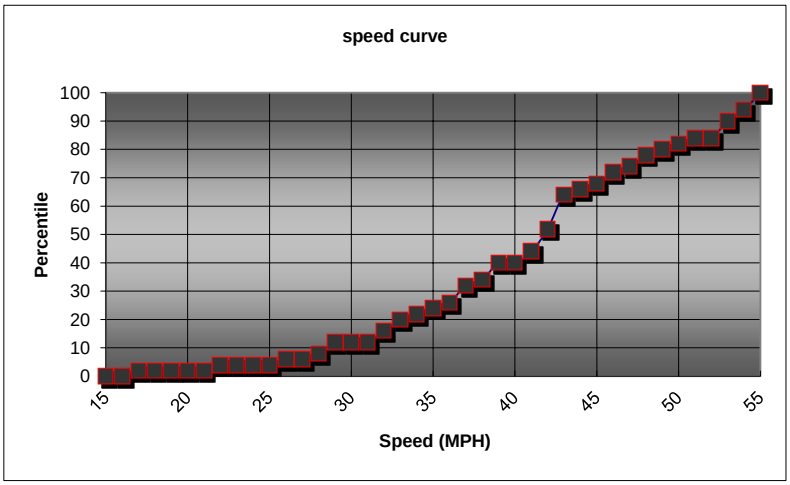

LOCATION:	Rd 16
LIMITS:	Ave 25 to Mariposa Ave
DIRECTION:	Northbound
TIME:	10:30 to 11:30
DATE:	5/29/2019
LATITUDE:	37.1133358
LONGITUDE:	-120.2567532
85% SPEED	52
10 mph PACE	37 - 46 MPH
AVG. SPEED	41 MPH
POSTED SPEED	40 MPH

MPH																											
55	X	X	X																								**3**
54	X	X																									**2**
53	X	X	X																								**3**
52																											**0**
51	X																										**1**
50	X																										**1**
49	X																										**1**
48	X	X																									**2**
47	X																										**1**
46	X	X																									**2**
45	X																										**1**
44	X																										**1**
43	X	X	X	X	X	X																					**6**
42	X	X	X	X																							**4**
41	X	X																									**2**
40																											**0**
39	X	X	X																								**3**
38	X																										**1**
37	X	X	X																								**3**
36	X																										**1**
35	X																										**1**
34	X																										**1**
33	X	X																									**2**
32	X	X																									**2**
31																											**0**
30																											**0**
29	X	X																									**2**
28	X																										**1**
27																											**0**
26	X																										**1**
25																											**0**
24																											**0**
23																											**0**
22	X																										**1**
21																											**0**
20																											**0**
19																											**0**
18																											**0**
17	X																										**1**
16																											**0**
15																											**0**
																									TOTAL:		**50**

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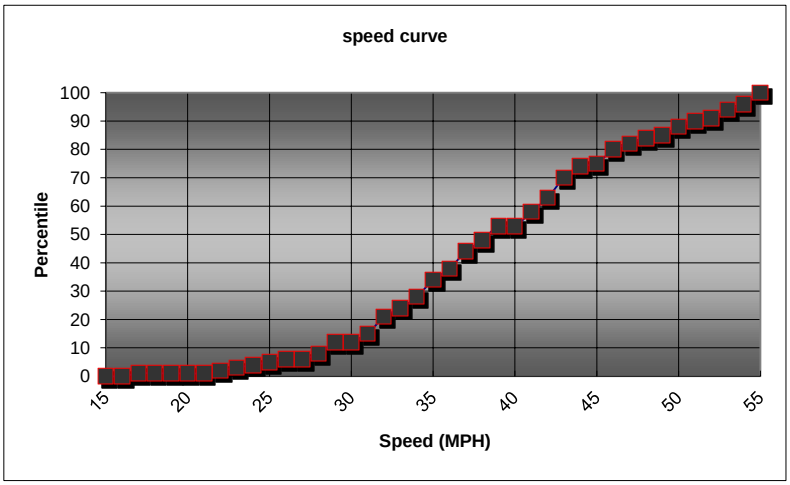


LOCATION:	Rd 16
LIMITS:	Ave 25 to Mariposa Ave
DIRECTION:	Southbound + Northbound
TIME:	10:30 to 11:30
DATE:	5/29/2019
LATITUDE:	37.1133358
LONGITUDE:	-120.2567532
85% SPEED	49
10 mph PACE	35 - 44 MPH
AVG. SPEED	39 MPH
POSTED SPEED	40 MPH

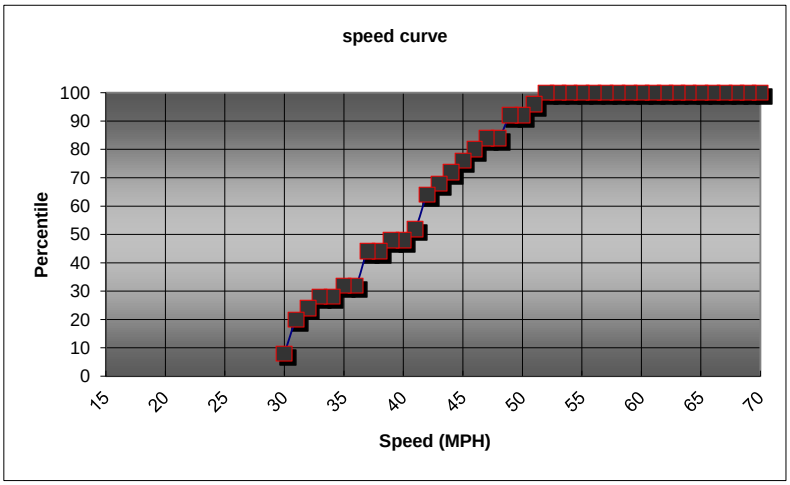
MPH																											
55	X	X	X	X																							4
54	X	X																									2
53	X	X	X																								3
52	X																										1
51	X	X																									2
50	X	X	X																								3
49	X																										1
48	X	X																									2
47	X	X																									2
46	X	X	X	X	X																						5
45	X																										1
44	X	X	X	X																							4
43	X	X	X	X	X	X	X																				7
42	X	X	X	X	X																						5
41	X	X	X	X	X																						5
40																											0
39	X	X	X	X	X																						5
38	X	X	X	X																							4
37	X	X	X	X	X	X																					6
36	X	X	X	X																							4
35	X	X	X	X	X	X																					6
34	X	X	X	X																							4
33	X	X	X																								3
32	X	X	X	X	X	X																					6
31	X	X	X																								3
30																											0
29	X	X	X	X																							4
28	X	X																									2
27																											0
26	X																										1
25	X																										1
24	X																										1
23	X																										1
22	X																										1
21																											0
20																											0
19																											0
18																											0
17	X																										1
16																											0
15																											0
																									TOTAL:		**100**

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



LOCATION:	Ave 24
LIMITS:	Rd 16 to Rd 17
DIRECTION:	Eastbound
TIME:	13:35 to 14:40
DATE:	5/29/2019
LATITUDE:	37.098255
LONGITUDE:	-120.254918
85% SPEED	48
10 mph PACE	37 - 46 MPH
AVG. SPEED	40 MPH
POSTED SPEED	N.P. MPH

MPH																											
70																											0
69																											0
68																											0
67																											0
66																											0
65																											0
64																											0
63																											0
62																											0
61																											0
60																											0
59																											0
58																											0
57																											0
56																											0
55																											0
54																											0
53																											0
52	X																										1
51	X																										1
50																											0
49	X	X																									2
48																											0
47	X																										1
46	X																										1
45	X																										1
44	X																										1
43	X																										1
42	X	X	X																								3
41	X																										1
40																											0
39	X																										1
38																											0
37	X	X	X																								3
36																											0
35	X																										1
34																											0
33	X																										1
32	X																										1
31	X	X	X																								3
30	X	X																									2
																									TOTAL:		**25**

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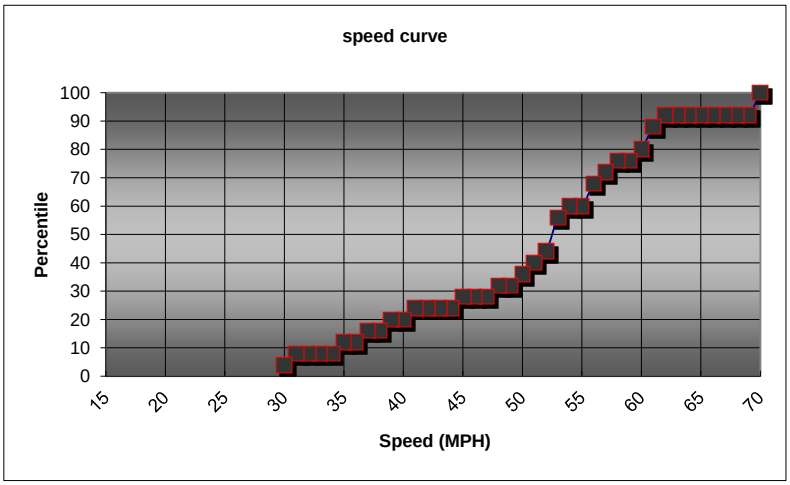

LOCATION:	Ave 24
LIMITS:	Rd 16 to Rd 17
DIRECTION:	Westbound
TIME:	13:35 to 14:40
DATE:	5/29/2019
LATITUDE:	37.098255
LONGITUDE:	-120.254918
85% SPEED	61
10 mph PACE	53 - 62 MPH
AVG. SPEED	51 MPH
POSTED SPEED	N.P. MPH

MPH																											
70	X	X																									**2**
69																											**0**
68																											**0**
67																											**0**
66																											**0**
65																											**0**
64																											**0**
63																											**0**
62	X																										**1**
61	X	X																									**2**
60	X																										**1**
59																											**0**
58	X																										**1**
57	X																										**1**
56	X	X																									**2**
55																											**0**
54	X																										**1**
53	X	X	X																								**3**
52	X																										**1**
51	X																										**1**
50	X																										**1**
49																											**0**
48	X																										**1**
47																											**0**
46																											**0**
45	X																										**1**
44																											**0**
43																											**0**
42																											**0**
41	X																										**1**
40																											**0**
39	X																										**1**
38																											**0**
37	X																										**1**
36																											**0**
35	X																										**1**
34																											**0**
33																											**0**
32																											**0**
31	X																										**1**
30	X																										**1**
																									TOTAL:		**25**

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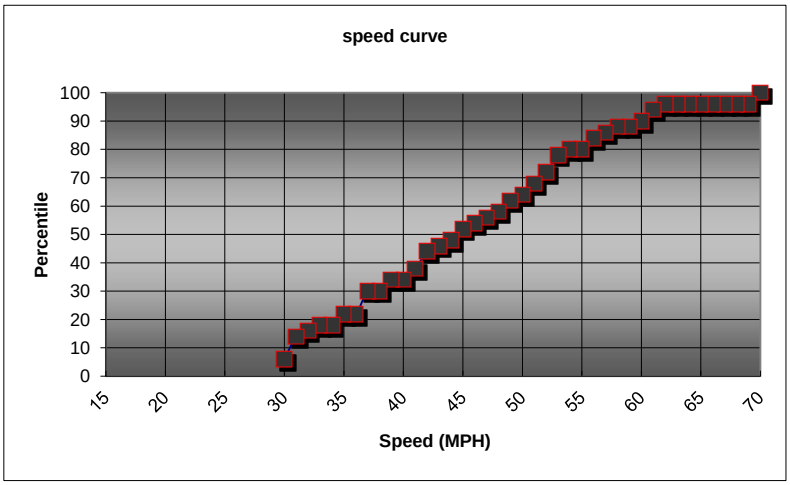

LOCATION:	Ave 24
LIMITS:	Rd 16 to Rd 17
DIRECTION:	Eastbound + Westbound
TIME:	13:35 to 14:40
DATE:	5/29/2019
LATITUDE:	37.098255
LONGITUDE:	-120.254918
85% SPEED	57
10 mph PACE	30 - 39 MPH
AVG. SPEED	46 MPH
POSTED SPEED	N.P. MPH

MPH																											
70	X	X																									**2**
69																											**0**
68																											**0**
67																											**0**
66																											**0**
65																											**0**
64																											**0**
63																											**0**
62	X																										**1**
61	X	X																									**2**
60	X																										**1**
59																											**0**
58	X																										**1**
57	X																										**1**
56	X	X																									**2**
55																											**0**
54	X																										**1**
53	X	X	X																								**3**
52	X	X																									**2**
51	X	X																									**2**
50	X																										**1**
49	X	X																									**2**
48	X																										**1**
47	X																										**1**
46	X																										**1**
45	X	X																									**2**
44	X																										**1**
43	X																										**1**
42	X	X	X																								**3**
41	X	X																									**2**
40																											**0**
39	X	X																									**2**
38																											**0**
37	X	X	X	X																							**4**
36																											**0**
35	X	X																									**2**
34																											**0**
33	X																										**1**
32	X																										**1**
31	X	X	X	X																							**4**
30	X	X	X																								**3**
																									TOTAL:		**50**

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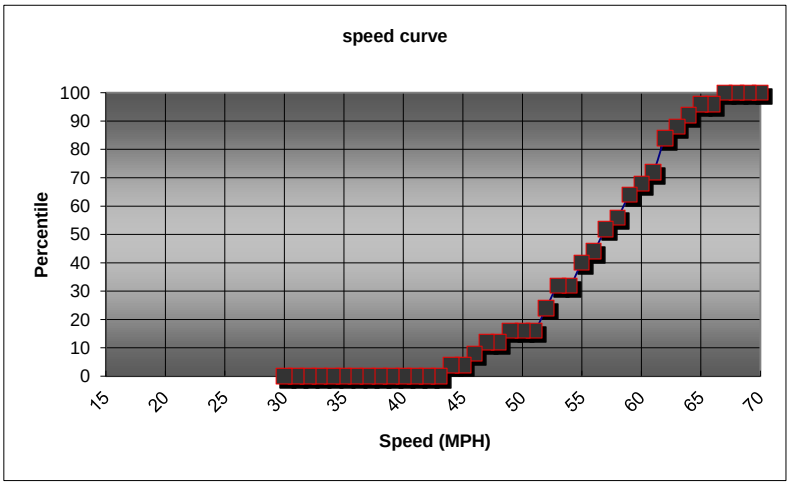

LOCATION:	Ave 26
LIMITS:	Rd 21 to Rd 19
DIRECTION:	Eastbound
TIME:	13:30 to 14:30
DATE:	5/30/2019
LATITUDE:	37.127243
LONGITUDE:	-120.188919
85% SPEED	62
10 mph PACE	55 - 64 MPH
AVG. SPEED	57 MPH
POSTED SPEED	N.P. MPH

MPH																											
70																											0
69																											0
68																											0
67	X																										1
66																											0
65	X																										1
64	X																										1
63	X																										1
62	X	X	X																								3
61	X																										1
60	X																										1
59	X	X																									2
58	X																										1
57	X	X																									2
56	X																										1
55	X	X																									2
54																											0
53	X	X																									2
52	X	X																									2
51																											0
50																											0
49	X																										1
48																											0
47	X																										1
46	X																										1
45																											0
44	X																										1
43																											0
42																											0
41																											0
40																											0
39																											0
38																											0
37																											0
36																											0
35																											0
34																											0
33																											0
32																											0
31																											0
30																											0
																									TOTAL:		**25**

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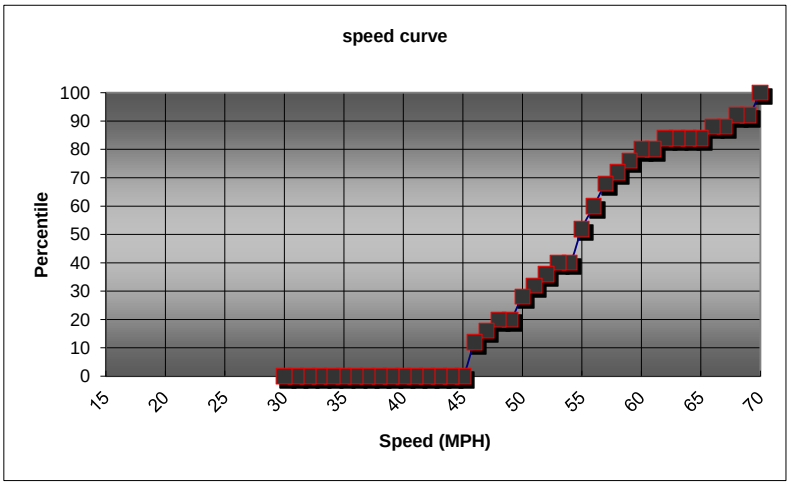

LOCATION:	Ave 26
LIMITS:	Rd 21 to Rd 19
DIRECTION:	Westbound
TIME:	13:30 to 14:30
DATE:	5/30/2019
LATITUDE:	37.127243
LONGITUDE:	-120.188919
85% SPEED	64
10 mph PACE	50 - 59 MPH
AVG. SPEED	56 MPH
POSTED SPEED	N.P. MPH

MPH																											
70	X	X																									**2**
69																											**0**
68	X																										**1**
67																											**0**
66	X																										**1**
65																											**0**
64																											**0**
63																											**0**
62	X																										**1**
61																											**0**
60	X																										**1**
59	X																										**1**
58	X																										**1**
57	X	X																									**2**
56	X	X																									**2**
55	X	X	X																								**3**
54																											**0**
53	X																										**1**
52	X																										**1**
51	X																										**1**
50	X	X																									**2**
49																											**0**
48	X																										**1**
47	X																										**1**
46	X	X	X																								**3**
45																											**0**
44																											**0**
43																											**0**
42																											**0**
41																											**0**
40																											**0**
39																											**0**
38																											**0**
37																											**0**
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35																											**0**
34																											**0**
33																											**0**
32																											**0**
31																											**0**
30																											**0**
																									TOTAL:		**25**

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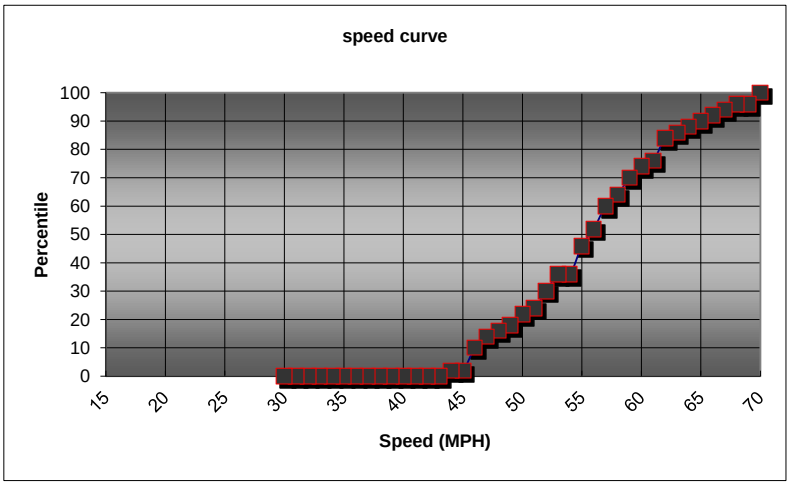

LOCATION:	Ave 26
LIMITS:	Rd 21 to Rd 19
DIRECTION:	Eastbound + Westbound
TIME:	13:30 to 14:30
DATE:	5/30/2019
LATITUDE:	37.127243
LONGITUDE:	-120.188919
85% SPEED	63
10 mph PACE	53 - 62 MPH
AVG. SPEED	56 MPH
POSTED SPEED	N.P. MPH

MPH																											
70	X	X																									2
69																											0
68	X																										1
67	X																										1
66	X																										1
65	X																										1
64	X																										1
63	X																										1
62	X	X	X	X																							4
61	X																										1
60	X	X																									2
59	X	X	X																								3
58	X	X																									2
57	X	X	X	X																							4
56	X	X	X																								3
55	X	X	X	X	X																						5
54																											0
53	X	X	X																								3
52	X	X	X																								3
51	X																										1
50	X	X																									2
49	X																										1
48	X																										1
47	X	X																									2
46	X	X	X	X																							4
45																											0
44	X																										1
43																											0
42																											0
41																											0
40																											0
39																											0
38																											0
37																											0
36																											0
35																											0
34																											0
33																											0
32																											0
31																											0
30																											0
																									TOTAL:		**50**

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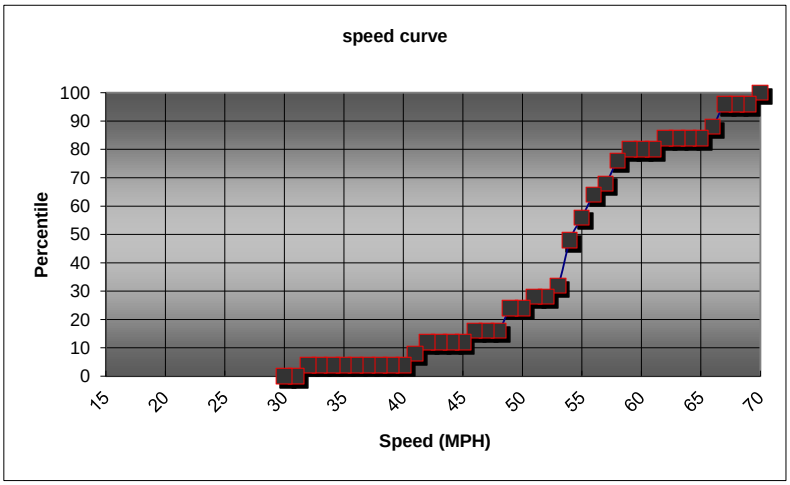

LOCATION:	Chowchilla Blvd
LIMITS:	Ave 24.5 to Prosperity Blvd
DIRECTION:	Northbound
TIME:	10:00 to 11:20
DATE:	5/30/2019
LATITUDE:	37.108353
LONGITUDE:	-120.236665
85% SPEED	64
10 mph PACE	49 - 58 MPH
AVG. SPEED	55 MPH
POSTED SPEED	55 MPH

MPH																											
70	X																										1
69																											0
68																											0
67	X	X																									2
66	X																										1
65																											0
64																											0
63																											0
62	X																										1
61																											0
60																											0
59	X																										1
58	X	X																									2
57	X																										1
56	X	X																									2
55	X	X																									2
54	X	X	X	X																							4
53	X																										1
52																											0
51	X																										1
50																											0
49	X	X																									2
48																											0
47																											0
46	X																										1
45																											0
44																											0
43																											0
42	X																										1
41	X																										1
40																											0
39																											0
38																											0
37																											0
36																											0
35																											0
34																											0
33																											0
32	X																										1
31																											0
30																											0
																									TOTAL:		**25**

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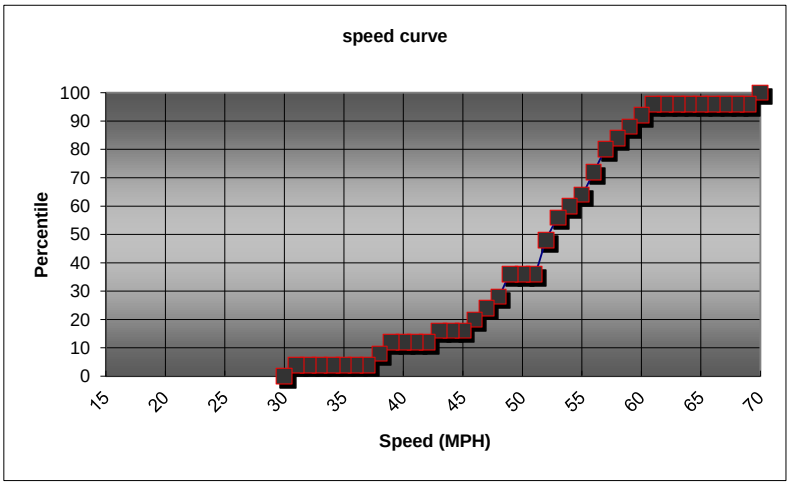

LOCATION:	Chowchilla Blvd
LIMITS:	Ave 24.5 to Prosperity Blvd
DIRECTION:	Southbound
TIME:	10:00 to 11:20
DATE:	5/30/2019
LATITUDE:	37.108353
LONGITUDE:	-120.236665
85% SPEED	58
10 mph PACE	52 - 61 MPH
AVG. SPEED	52 MPH
POSTED SPEED	55 MPH

MPH																											
70	X																										**1**
69																											**0**
68																											**0**
67																											**0**
66																											**0**
65																											**0**
64																											**0**
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62																											**0**
61	X																										**1**
60	X																										**1**
59	X																										**1**
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57	X	X																									**2**
56	X	X																									**2**
55	X																										**1**
54	X																										**1**
53	X	X																									**2**
52	X	X	X																								**3**
51																											**0**
50																											**0**
49	X	X																									**2**
48	X																										**1**
47	X																										**1**
46	X																										**1**
45																											**0**
44																											**0**
43	X																										**1**
42																											**0**
41																											**0**
40																											**0**
39	X																										**1**
38	X																										**1**
37																											**0**
36																											**0**
35																											**0**
34																											**0**
33																											**0**
32																											**0**
31	X																										**1**
30																											**0**
																									TOTAL:		**25**

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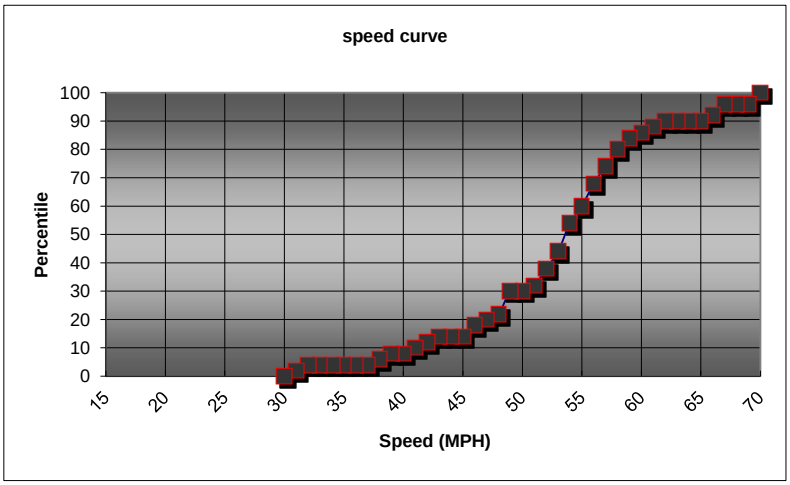

LOCATION:	Chowchilla Blvd
LIMITS:	Ave 24.5 to Prosperity Blvd
DIRECTION:	Northbound + Southbound
TIME:	10:00 to 11:20
DATE:	5/30/2019
LATITUDE:	37.108353
LONGITUDE:	-120.236665
85% SPEED	60
10 mph PACE	49 - 58 MPH
AVG. SPEED	53 MPH
POSTED SPEED	55 MPH

MPH																											
70	X	X																									2
69																											0
68																											0
67	X	X																									2
66	X																										1
65																											0
64																											0
63																											0
62	X																										1
61	X																										1
60	X																										1
59	X	X																									2
58	X	X	X																								3
57	X	X	X																								3
56	X	X	X	X																							4
55	X	X	X																								3
54	X	X	X	X	X																						5
53	X	X	X																								3
52	X	X	X																								3
51	X																										1
50																											0
49	X	X	X	X																							4
48	X																										1
47	X																										1
46	X	X																									2
45																											0
44																											0
43	X																										1
42	X																										1
41	X																										1
40																											0
39	X																										1
38	X																										1
37																											0
36																											0
35																											0
34																											0
33																											0
32	X																										1
31	X																										1
30																											0
																										TOTAL:	**50**

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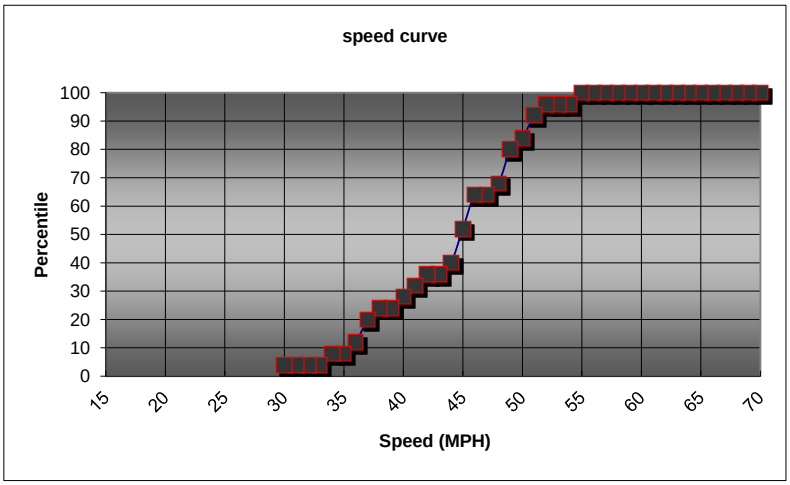


LOCATION:	Rd 19
LIMITS:	
	South of Ave 26
DIRECTION:	Southbound
TIME:	11:30 to 13:20
DATE:	5/30/2019
LATITUDE:	37.125363
LONGITUDE:	-120.202157
85% SPEED	50
10 mph PACE	44 - 53 MPH
AVG. SPEED	44 MPH
POSTED SPEED	N.P. MPH

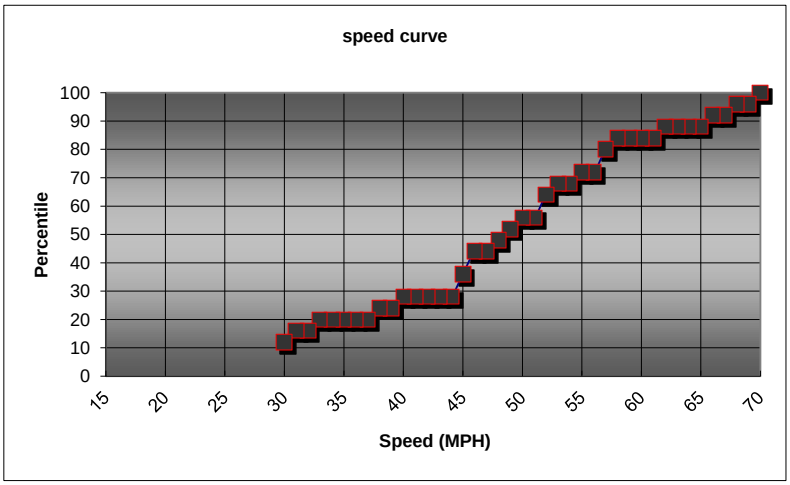
MPH																										
70																										0
69																										0
68																										0
67																										0
66																										0
65																										0
64																										0
63																										0
62																										0
61																										0
60																										0
59																										0
58																										0
57																										0
56																										0
55	X																									1
54																										0
53																										0
52	X																									1
51	X	X																								2
50	X																									1
49	X	X	X																							3
48	X																									1
47																										0
46	X	X	X																							3
45	X	X	X																							3
44	X																									1
43																										0
42	X																									1
41	X																									1
40	X																									1
39																										0
38	X																									1
37	X	X																								2
36	X																									1
35																										0
34	X																									1
33																										0
32																										0
31																										0
30	X																									1
																									TOTAL:	**25**

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



LOCATION:	Rd 19
LIMITS:	
	South of Ave 26
DIRECTION:	Northbound
TIME:	11:30 to 13:20
DATE:	5/30/2019
LATITUDE:	37.125363
LONGITUDE:	-120.202157
85% SPEED	60
10 mph PACE	45 - 54 MPH
AVG. SPEED	48 MPH
POSTED SPEED	N.P. MPH

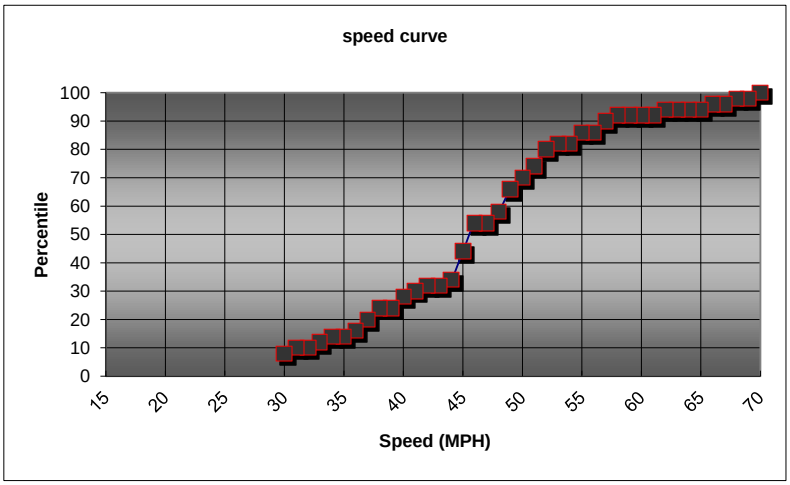
MPH																											
70	X																										**1**
69																											**0**
68	X																										**1**
67																											**0**
66	X																										**1**
65																											**0**
64																											**0**
63																											**0**
62	X																										**1**
61																											**0**
60																											**0**
59																											**0**
58	X																										**1**
57	X	X																									**2**
56																											**0**
55	X																										**1**
54																											**0**
53	X																										**1**
52	X	X																									**2**
51																											**0**
50	X																										**1**
49	X																										**1**
48	X																										**1**
47																											**0**
46	X	X																									**2**
45	X	X																									**2**
44																											**0**
43																											**0**
42																											**0**
41																											**0**
40	X																										**1**
39																											**0**
38	X																										**1**
37																											**0**
36																											**0**
35																											**0**
34																											**0**
33	X																										**1**
32																											**0**
31	X																										**1**
30	X	X	X																								**3**
																									TOTAL:		**25**

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



LOCATION:	Rd 19
LIMITS:	
	South of Ave 26
DIRECTION:	Southbound + Northbound
TIME:	11:30 to 13:20
DATE:	5/30/2019
LATITUDE:	37.125363
LONGITUDE:	-120.202157
85% SPEED	55
10 mph PACE	44 - 53 MPH
AVG. SPEED	46 MPH
POSTED SPEED	N.P. MPH

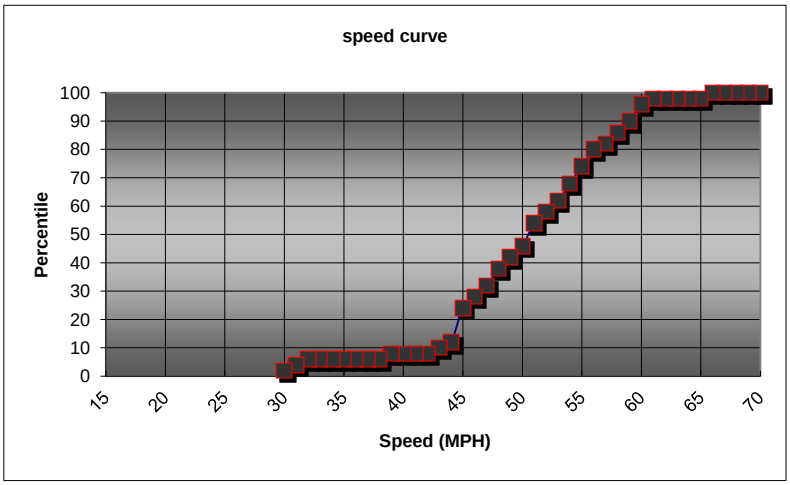
MPH																											
70	X																										**1**
69																											**0**
68	X																										**1**
67																											**0**
66	X																										**1**
65																											**0**
64																											**0**
63																											**0**
62	X																										**1**
61																											**0**
60																											**0**
59																											**0**
58	X																										**1**
57	X	X																									**2**
56																											**0**
55	X	X																									**2**
54																											**0**
53	X																										**1**
52	X	X	X																								**3**
51	X	X																									**2**
50	X	X																									**2**
49	X	X	X	X																							**4**
48	X	X																									**2**
47																											**0**
46	X	X	X	X	X																						**5**
45	X	X	X	X	X																						**5**
44	X																										**1**
43																											**0**
42	X																										**1**
41	X																										**1**
40	X	X																									**2**
39																											**0**
38	X	X																									**2**
37	X	X																									**2**
36	X																										**1**
35																											**0**
34	X																										**1**
33	X																										**1**
32																											**0**
31	X																										**1**
30	X	X	X	X																							**4**
																									TOTAL:		**50**

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



LOCATION:	Chowchilla Blvd
LIMITS:	North of Kings Ave
DIRECTION:	Northbound
TIME:	09:40 to 10:30
DATE:	5/29/2019
LATITUDE:	37.127539
LONGITUDE:	-120.260105
85% SPEED	58
10 mph PACE	45 - 54 MPH
AVG. SPEED	50 MPH
POSTED SPEED	40 MPH

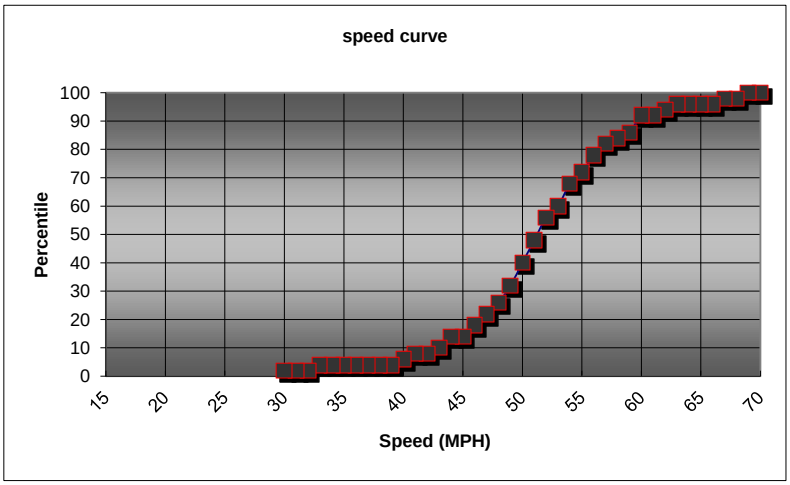
MPH																											
70																											0
69																											0
68																											0
67																											0
66	X																										1
65																											0
64																											0
63																											0
62																											0
61	X																										1
60	X	X	X																								3
59	X	X																									2
58	X	X																									2
57	X																										1
56	X	X	X																								3
55	X	X	X																								3
54	X	X	X																								3
53	X	X																									2
52	X	X																									2
51	X	X	X	X																							4
50	X	X																									2
49	X	X																									2
48	X	X	X																								3
47	X	X																									2
46	X	X																									2
45	X	X	X	X	X	X																					6
44	X																										1
43	X																										1
42																											0
41																											0
40																											0
39	X																										1
38																											0
37																											0
36																											0
35																											0
34																											0
33																											0
32	X																										1
31	X																										1
30	X																										1
																										TOTAL:	**50**

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



LOCATION:	Chowchilla Blvd
LIMITS:	North of Kings Ave
DIRECTION:	Southbound
TIME:	09:40 to 10:30
DATE:	5/29/2019
LATITUDE:	37.127539
LONGITUDE:	-120.260105
85% SPEED	59
10 mph PACE	48 - 57 MPH
AVG. SPEED	52 MPH
POSTED SPEED	40 MPH

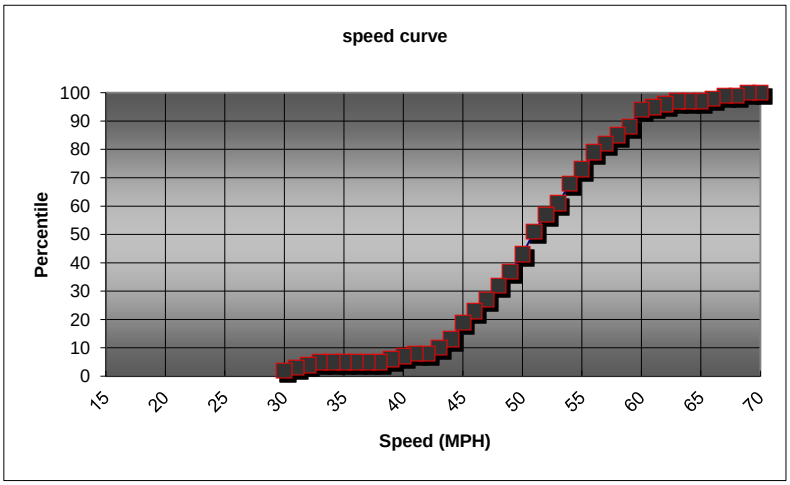
MPH																												
70																												0
69	X																											1
68																												0
67	X																											1
66																												0
65																												0
64																												0
63	X																											1
62	X																											1
61																												0
60	X	X	X																									3
59	X																											1
58	X																											1
57	X	X																										2
56	X	X	X																									3
55	X	X																										2
54	X	X	X	X																								4
53	X	X																										2
52	X	X	X	X																								4
51	X	X	X	X																								4
50	X	X	X	X																								4
49	X	X	X																									3
48	X	X																										2
47	X	X																										2
46	X	X																										2
45																												0
44	X	X																										2
43	X																											1
42																												0
41	X																											1
40	X																											1
39																												0
38																												0
37																												0
36																												0
35																												0
34																												0
33	X																											1
32																												0
31																												0
30	X																											1
																											TOTAL:	**50**

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



LOCATION:	Chowchilla Blvd
LIMITS:	North of Kings Ave
DIRECTION:	Northbound + Southbound
TIME:	09:40 to 10:30
DATE:	5/29/2019
LATITUDE:	37.127539
LONGITUDE:	-120.260105
85% SPEED	58
10 mph PACE	47 - 56 MPH
AVG. SPEED	51 MPH
POSTED SPEED	40 MPH

MPH																											
70																											**0**
69	X																										**1**
68																											**0**
67	X																										**1**
66	X																										**1**
65																											**0**
64																											**0**
63	X																										**1**
62	X																										**1**
61	X																										**1**
60	X	X	X	X	X	X																					**6**
59	X	X	X																								**3**
58	X	X	X																								**3**
57	X	X	X																								**3**
56	X	X	X	X	X	X																					**6**
55	X	X	X	X	X																						**5**
54	X	X	X	X	X	X	X																				**7**
53	X	X	X	X																							**4**
52	X	X	X	X	X	X																					**6**
51	X	X	X	X	X	X	X	X																			**8**
50	X	X	X	X	X	X																					**6**
49	X	X	X	X	X																						**5**
48	X	X	X	X	X																						**5**
47	X	X	X	X																							**4**
46	X	X	X	X																							**4**
45	X	X	X	X	X	X																					**6**
44	X	X	X																								**3**
43	X	X																									**2**
42																											**0**
41	X																										**1**
40	X																										**1**
39	X																										**1**
38																											**0**
37																											**0**
36																											**0**
35																											**0**
34																											**0**
33	X																										**1**
32	X																										**1**
31	X																										**1**
30	X	X																									**2**
																									TOTAL:		**100**

Appendix B

Vehicle, Pedestrian and Bicycle Turning Movement Counts

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

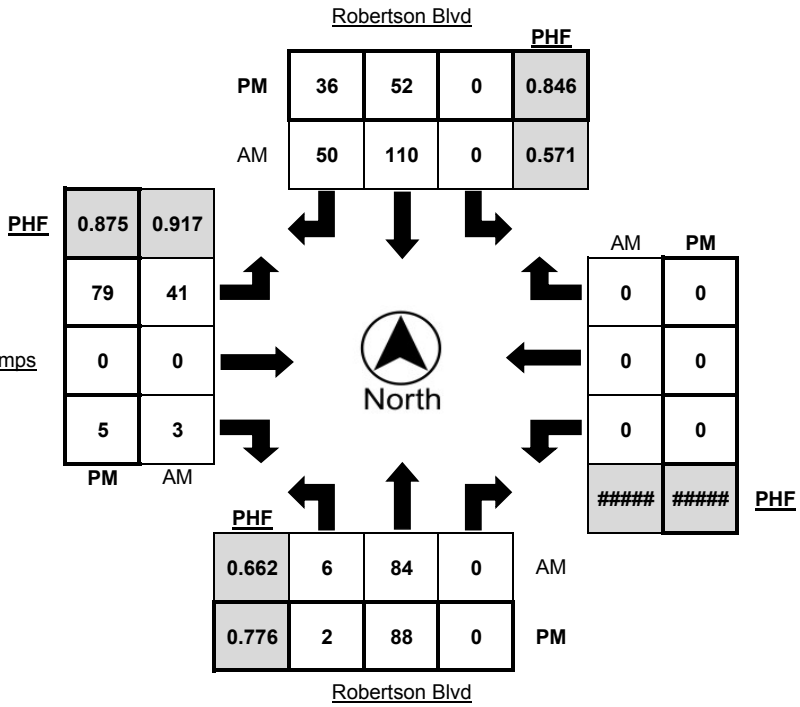
LOCATION Robertson Blvd @ SR152 EB Ramps
LATITUDE 37.0824
COUNTY Madera
LONGITUDE -120.2984
COLLECTION DATE Thursday, May 30, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	1	11	0	2	0	12	11	2	4	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	19	0	0	1	9	10	1	9	0	0	1	0	0	0	0
7:30 AM - 7:45 AM	3	15	0	0	0	14	19	0	12	0	0	1	0	0	0	0
7:45 AM - 8:00 AM	1	14	0	0	0	28	8	3	11	0	1	0	0	0	0	0
8:00 AM - 8:15 AM	2	21	0	0	0	50	20	0	9	0	1	3	0	0	0	0
8:15 AM - 8:30 AM	0	34	0	1	0	18	3	0	9	0	1	1	0	0	0	0
8:30 AM - 8:45 AM	0	19	0	1	0	17	14	0	7	0	0	2	0	0	0	0
8:45 AM - 9:00 AM	1	11	0	1	0	7	5	1	10	0	1	2	0	0	0	0
TOTAL	**8**	**144**	**0**	**5**	**1**	**155**	**90**	**7**	**71**	**0**	**4**	**10**	**0**	**0**	**0**	**0**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	4	24	0	4	0	12	9	0	14	0	1	0	0	0	0	0
4:15 PM - 4:30 PM	0	21	0	2	0	11	7	0	19	0	2	0	0	0	0	0
4:30 PM - 4:45 PM	1	28	0	3	0	10	9	0	23	0	1	1	0	0	0	0
4:45 PM - 5:00 PM	0	17	0	1	0	16	9	0	20	0	1	4	0	0	0	0
5:00 PM - 5:15 PM	1	22	0	1	0	15	11	3	17	0	1	0	0	0	0	0
5:15 PM - 5:30 PM	0	16	0	2	0	16	2	0	20	0	1	3	0	0	0	0
5:30 PM - 5:45 PM	2	15	0	0	0	20	11	0	13	0	1	0	0	0	0	0
5:45 PM - 6:00 PM	0	17	0	1	0	7	5	0	24	0	1	0	0	0	0	0
TOTAL	**8**	**160**	**0**	**14**	**0**	**107**	**63**	**3**	**150**	**0**	**9**	**8**	**0**	**0**	**0**	**0**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	6	84	0	1	0	110	50	3	41	0	3	5	0	0	0	0
4:15 PM - 5:15 PM	2	88	0	7	0	52	36	3	79	0	5	5	0	0	0	0

	PHF	Trucks
AM	0.714	3.1%
PM	0.910	5.7%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

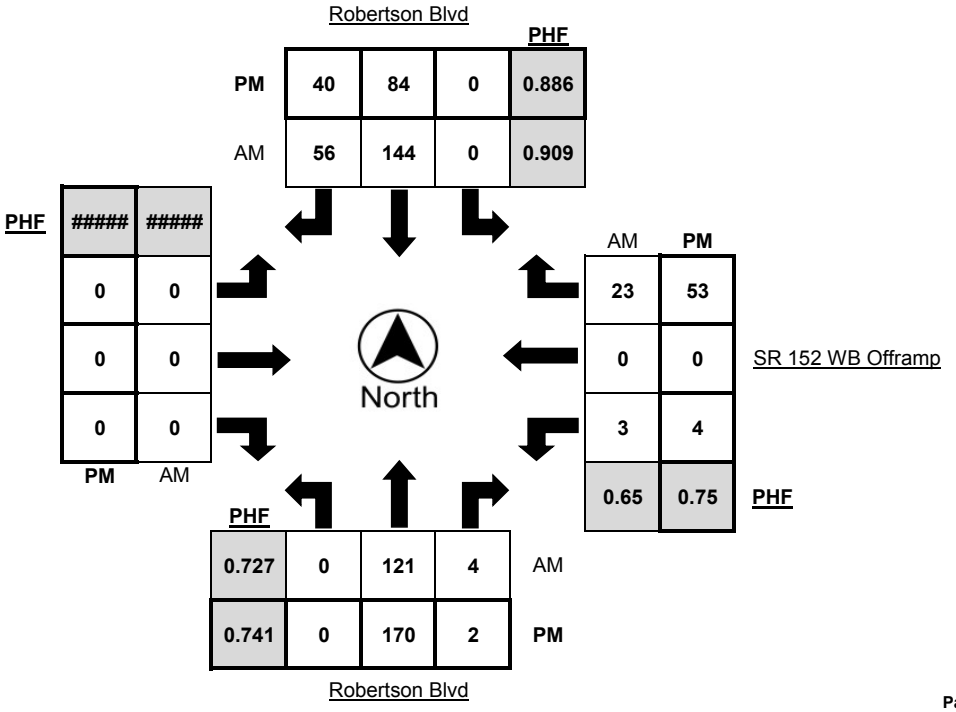
LOCATION Robertson Blvd @ SR152 WB Ramps
LATITUDE 37.0848
COUNTY Madera
LONGITUDE -120.2963
COLLECTION DATE Thursday, May 30, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	10	0	0	0	21	29	3	0	0	0	0	3	0	4	1
7:15 AM - 7:30 AM	0	24	3	2	0	20	21	4	0	0	0	0	0	0	6	0
7:30 AM - 7:45 AM	0	28	0	0	0	31	15	1	0	0	0	0	0	0	8	1
7:45 AM - 8:00 AM	0	24	1	0	0	41	14	2	0	0	0	0	1	0	9	0
8:00 AM - 8:15 AM	0	28	1	2	0	46	8	1	0	0	0	0	0	0	3	0
8:15 AM - 8:30 AM	0	41	2	1	0	26	19	3	0	0	0	0	2	0	3	0
8:30 AM - 8:45 AM	0	25	2	3	0	27	12	2	0	0	0	0	3	0	7	0
8:45 AM - 9:00 AM	0	22	1	1	0	13	13	4	0	0	0	0	1	0	5	1
TOTAL	**0**	**202**	**10**	**9**	**0**	**225**	**131**	**20**	**0**	**0**	**0**	**0**	**10**	**0**	**45**	**3**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	36	1	0	0	22	11	0	0	0	0	0	0	0	10	0
4:15 PM - 4:30 PM	0	40	0	3	0	17	19	2	0	0	0	0	1	0	12	0
4:30 PM - 4:45 PM	0	58	0	1	0	20	8	1	0	0	0	0	1	0	11	0
4:45 PM - 5:00 PM	0	38	0	1	0	22	10	1	0	0	0	0	2	0	10	1
5:00 PM - 5:15 PM	0	36	1	0	0	24	5	4	0	0	0	0	0	0	14	0
5:15 PM - 5:30 PM	0	38	1	1	0	18	17	2	0	0	0	0	1	0	18	2
5:30 PM - 5:45 PM	0	27	0	1	0	29	20	2	0	0	0	0	0	0	14	1
5:45 PM - 6:00 PM	0	42	0	0	0	13	7	0	0	0	0	0	0	0	9	0
TOTAL	**0**	**315**	**3**	**7**	**0**	**165**	**97**	**12**	**0**	**0**	**0**	**0**	**5**	**0**	**98**	**4**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	0	121	4	3	0	144	56	7	0	0	0	0	3	0	23	1
4:30 PM - 5:30 PM	0	170	2	3	0	84	40	8	0	0	0	0	4	0	53	3

	PHF	Trucks
AM	0.944	3.1%
PM	0.901	4.0%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

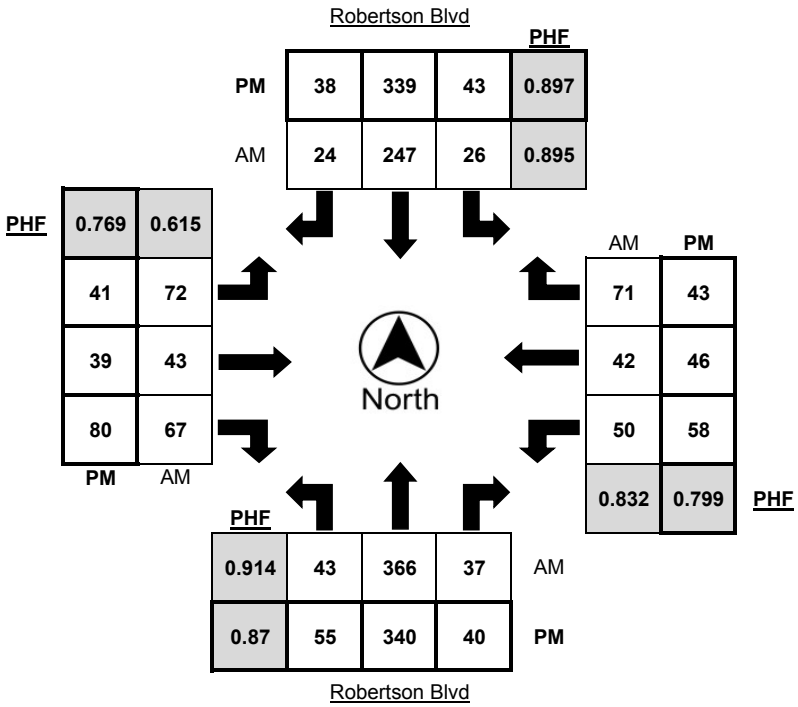
LOCATION Robertson Blvd @ 15th St
LATITUDE 37.1139
COUNTY Madera
LONGITUDE -120.2713
COLLECTION DATE Thursday, May 30, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	2	47	3	3	3	47	1	5	1	2	9	0	1	1	7	0
7:15 AM - 7:30 AM	9	53	6	4	4	44	2	9	7	7	7	0	8	6	8	1
7:30 AM - 7:45 AM	18	83	16	2	7	52	8	6	8	10	17	1	12	13	16	3
7:45 AM - 8:00 AM	4	97	11	5	5	67	4	5	30	22	22	3	15	16	18	1
8:00 AM - 8:15 AM	15	100	7	7	2	64	5	3	20	8	16	1	14	7	26	4
8:15 AM - 8:30 AM	6	86	3	4	12	64	7	11	14	3	12	1	9	6	11	1
8:30 AM - 8:45 AM	7	55	6	9	5	69	8	11	5	5	3	0	10	6	12	0
8:45 AM - 9:00 AM	1	71	7	1	1	51	3	3	6	9	9	1	10	6	9	0
TOTAL	**62**	**592**	**59**	**35**	**39**	**458**	**38**	**53**	**91**	**66**	**95**	**7**	**79**	**61**	**107**	**10**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	11	67	6	0	14	84	6	3	4	6	15	1	13	6	9	0
4:15 PM - 4:30 PM	8	74	12	2	11	51	6	4	12	6	15	0	16	19	11	1
4:30 PM - 4:45 PM	21	90	10	4	8	64	7	5	13	10	16	2	14	7	6	0
4:45 PM - 5:00 PM	14	85	12	6	12	82	9	2	11	8	12	1	18	13	11	3
5:00 PM - 5:15 PM	15	80	9	4	5	73	11	3	4	8	18	1	13	6	12	2
5:15 PM - 5:30 PM	10	73	12	5	17	91	9	1	11	8	28	3	7	11	10	1
5:30 PM - 5:45 PM	16	102	7	3	9	93	9	3	15	15	22	0	20	16	10	3
5:45 PM - 6:00 PM	10	90	6	1	15	74	12	4	8	7	17	1	11	10	10	1
TOTAL	**105**	**661**	**74**	**25**	**91**	**612**	**69**	**25**	**78**	**68**	**143**	**9**	**112**	**88**	**79**	**11**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	43	366	37	18	26	247	24	25	72	43	67	6	50	42	71	9
4:45 PM - 5:45 PM	55	340	40	18	43	339	38	9	41	39	80	5	58	46	43	9

	PHF	Trucks
AM	0.875	5.3%
PM	0.870	3.5%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

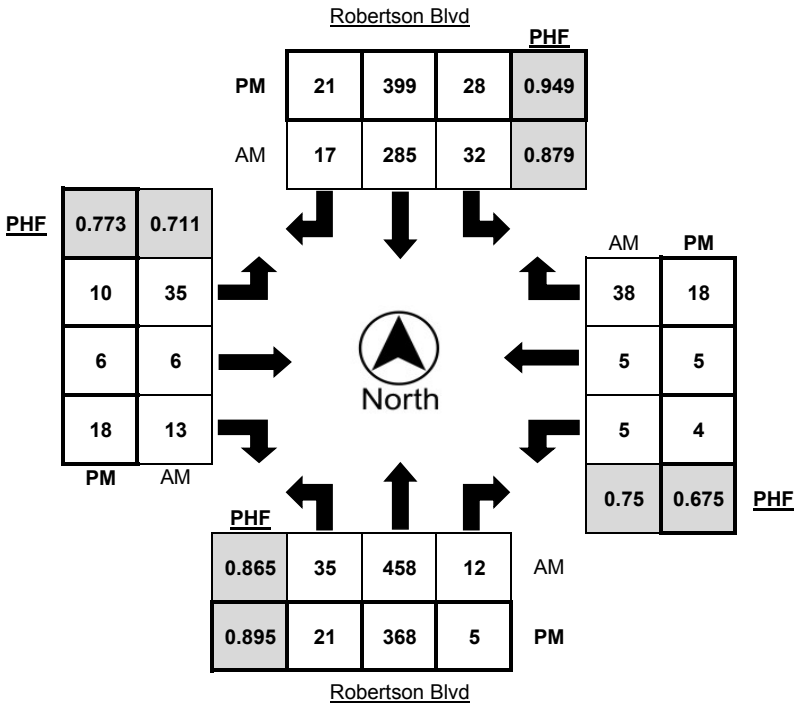
LOCATION Robertson Blvd @ 13th St
LATITUDE 37.1154
COUNTY Madera
LONGITUDE -120.2696
COLLECTION DATE Thursday, May 30, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	3	51	0	2	2	52	2	3	3	1	1	0	1	0	2	0
7:15 AM - 7:30 AM	9	59	1	1	4	46	1	7	0	1	1	0	5	4	5	2
7:30 AM - 7:45 AM	16	83	2	1	5	54	4	7	9	2	6	0	1	2	11	4
7:45 AM - 8:00 AM	15	126	5	1	10	75	10	6	11	3	5	0	2	0	14	0
8:00 AM - 8:15 AM	4	131	2	4	12	73	1	6	13	1	1	0	2	2	8	1
8:15 AM - 8:30 AM	0	118	3	3	5	83	2	13	2	0	1	0	0	1	5	1
8:30 AM - 8:45 AM	1	75	1	3	2	78	2	10	2	0	0	0	0	1	4	0
8:45 AM - 9:00 AM	1	84	2	1	2	54	0	3	2	0	0	0	1	0	2	0
TOTAL	**49**	**727**	**16**	**16**	**42**	**515**	**22**	**55**	**42**	**8**	**15**	**0**	**12**	**10**	**51**	**8**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	8	74	4	1	7	115	3	2	1	1	2	0	2	1	6	0
4:15 PM - 4:30 PM	3	86	0	1	4	75	7	3	4	0	2	0	0	0	3	0
4:30 PM - 4:45 PM	6	106	3	2	1	78	4	3	3	2	4	0	1	1	5	0
4:45 PM - 5:00 PM	5	104	1	0	5	102	3	2	6	3	2	0	0	1	5	0
5:00 PM - 5:15 PM	4	87	1	2	8	92	5	3	2	1	3	0	1	0	3	0
5:15 PM - 5:30 PM	5	90	2	5	7	106	5	2	2	1	7	0	1	2	4	0
5:30 PM - 5:45 PM	7	87	1	0	8	99	8	3	0	1	6	0	2	2	6	0
5:45 PM - 6:00 PM	4	101	7	1	6	94	2	3	5	0	1	0	1	0	6	0
TOTAL	**42**	**735**	**19**	**12**	**46**	**761**	**37**	**21**	**23**	**9**	**27**	**0**	**8**	**7**	**38**	**0**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	35	458	12	9	32	285	17	32	35	6	13	0	5	5	38	6
4:45 PM - 5:45 PM	21	368	5	7	28	399	21	10	10	6	18	0	4	5	18	0

	PHF	Trucks
AM	0.852	5.0%
PM	0.953	1.9%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

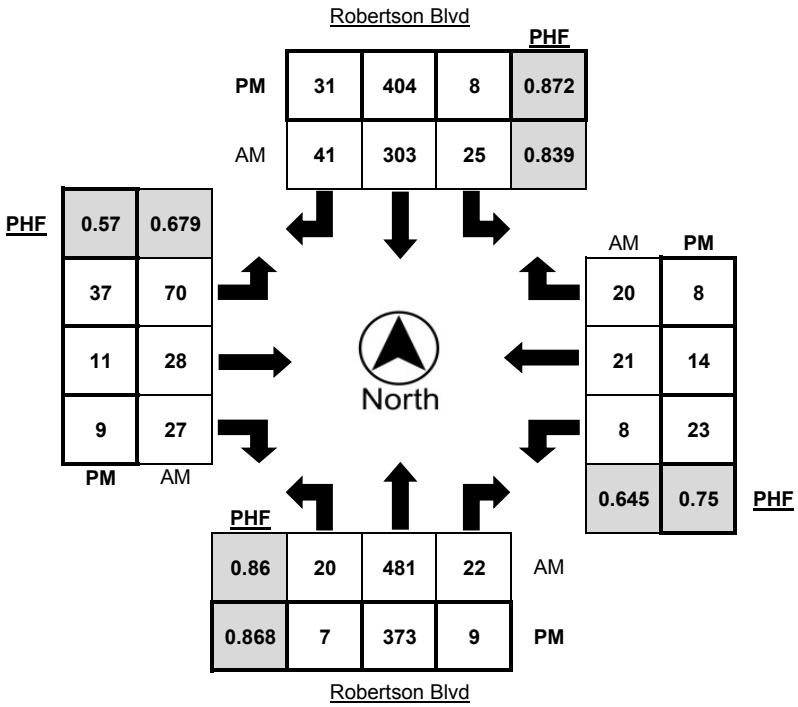
LOCATION Robertson Blvd @ 11th St
LATITUDE 37.1167
COUNTY Madera
LONGITUDE -120.2679
COLLECTION DATE Thursday, May 30, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	54	0	4	2	49	2	4	2	0	1	0	1	1	1	0
7:15 AM - 7:30 AM	4	60	0	2	0	59	5	7	10	3	4	0	3	6	3	0
7:30 AM - 7:45 AM	4	95	2	6	3	52	13	5	25	10	8	0	2	4	6	0
7:45 AM - 8:00 AM	5	138	6	6	8	88	14	6	26	10	10	6	4	9	6	0
8:00 AM - 8:15 AM	7	136	9	0	11	83	7	7	13	5	8	0	0	4	6	0
8:15 AM - 8:30 AM	4	112	5	0	3	80	7	13	6	3	1	2	2	4	2	1
8:30 AM - 8:45 AM	2	79	1	0	2	76	3	10	1	1	0	0	3	2	1	0
8:45 AM - 9:00 AM	3	78	1	0	3	49	5	3	6	7	1	1	6	4	0	0
TOTAL	**29**	**752**	**24**	**18**	**32**	**536**	**56**	**55**	**89**	**39**	**33**	**9**	**21**	**34**	**25**	**1**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	1	71	5	0	1	100	3	2	7	3	6	0	4	7	2	0
4:15 PM - 4:30 PM	0	85	3	1	1	82	3	4	12	3	1	0	8	3	3	0
4:30 PM - 4:45 PM	2	107	1	3	0	79	1	4	2	3	3	0	4	5	2	0
4:45 PM - 5:00 PM	1	110	2	2	1	101	8	3	5	1	2	0	3	2	2	0
5:00 PM - 5:15 PM	2	85	2	6	0	91	12	2	8	3	2	0	6	2	4	0
5:15 PM - 5:30 PM	1	90	1	5	3	120	4	4	6	0	4	0	3	5	2	0
5:30 PM - 5:45 PM	2	92	2	0	2	99	6	3	15	8	2	0	5	1	2	0
5:45 PM - 6:00 PM	2	106	4	0	3	94	9	1	8	0	1	0	9	6	0	0
TOTAL	**11**	**746**	**20**	**17**	**11**	**766**	**46**	**23**	**63**	**21**	**21**	**0**	**42**	**31**	**17**	**0**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	20	481	22	12	25	303	41	31	70	28	27	8	8	21	20	1
5:00 PM - 6:00 PM	7	373	9	11	8	404	31	10	37	11	9	0	23	14	8	0

	PHF	Trucks
AM	0.823	4.9%
PM	0.965	2.2%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

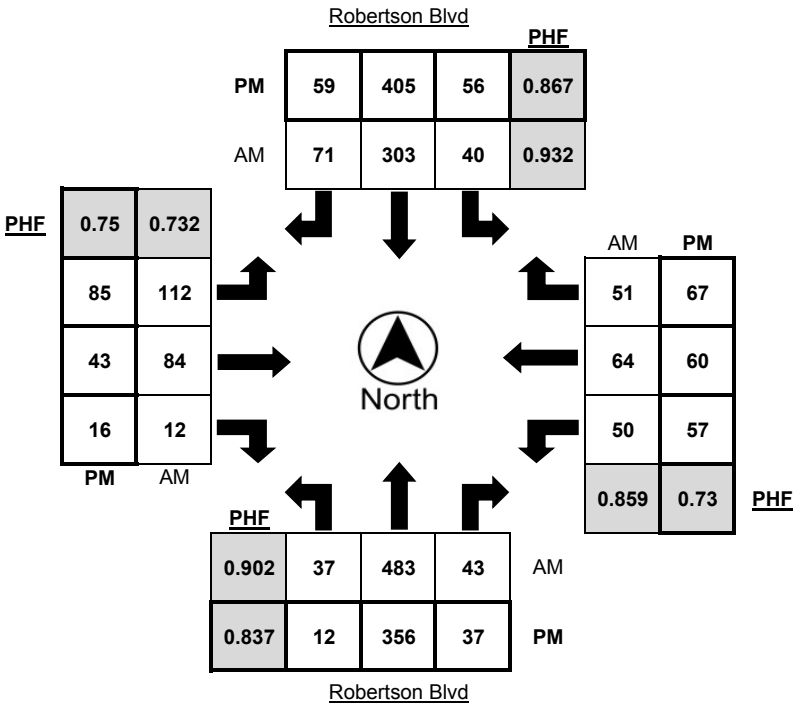
LOCATION Robertson Blvd @ 5th St
LATITUDE 37.1208
COUNTY Madera
LONGITUDE -120.2627
COLLECTION DATE Thursday, May 30, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	63	4	6	6	51	3	9	7	5	1	0	2	3	8	0
7:15 AM - 7:30 AM	2	52	4	3	6	62	10	9	10	6	2	0	6	13	8	4
7:30 AM - 7:45 AM	4	120	8	6	10	68	14	8	21	15	1	4	12	9	12	6
7:45 AM - 8:00 AM	5	132	15	13	12	79	12	6	36	30	5	2	12	21	15	6
8:00 AM - 8:15 AM	15	126	15	8	10	82	19	10	24	21	4	1	12	16	8	1
8:15 AM - 8:30 AM	13	105	5	8	8	74	26	13	31	18	2	0	14	18	16	2
8:30 AM - 8:45 AM	5	71	8	7	9	91	25	10	15	12	2	1	7	17	21	4
8:45 AM - 9:00 AM	3	84	7	9	10	49	6	2	16	10	2	2	6	15	16	4
TOTAL	**47**	**753**	**66**	**60**	**71**	**556**	**115**	**67**	**160**	**117**	**19**	**10**	**71**	**112**	**104**	**27**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	5	75	7	0	7	92	17	4	16	13	10	0	17	17	17	3
4:15 PM - 4:30 PM	4	79	14	3	10	76	11	3	13	19	3	1	18	16	13	2
4:30 PM - 4:45 PM	14	89	13	5	4	66	18	4	24	14	6	0	10	17	21	4
4:45 PM - 5:00 PM	6	93	12	5	10	88	17	5	11	14	8	1	17	23	20	1
5:00 PM - 5:15 PM	4	81	8	6	15	96	14	5	23	13	1	0	21	21	21	2
5:15 PM - 5:30 PM	4	78	7	5	23	112	15	5	20	11	4	2	13	12	16	3
5:30 PM - 5:45 PM	1	89	12	2	9	97	14	3	15	6	3	0	11	15	13	1
5:45 PM - 6:00 PM	3	108	10	0	9	100	16	3	27	13	8	0	12	12	17	0
TOTAL	**41**	**692**	**83**	**26**	**87**	**727**	**122**	**32**	**149**	**103**	**43**	**4**	**119**	**133**	**138**	**16**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	37	483	43	35	40	303	71	37	112	84	12	7	50	64	51	15
5:00 PM - 6:00 PM	12	356	37	13	56	405	59	16	85	43	16	2	57	60	67	6

	PHF	Trucks
AM	0.902	7.0%
PM	0.935	3.0%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

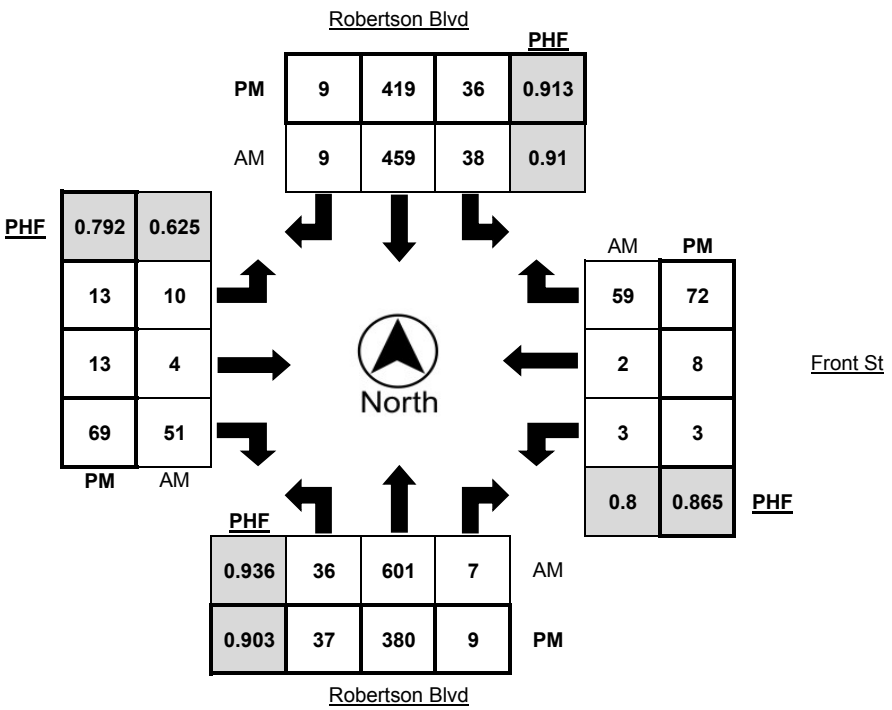
LOCATION Robertson Blvd @ Front St
LATITUDE 37.1242
COUNTY Madera
LONGITUDE -120.2583
COLLECTION DATE Wednesday, May 29, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	5	92	2	5	6	48	0	5	2	1	23	2	2	1	6	0
7:15 AM - 7:30 AM	8	87	4	6	8	70	0	10	2	3	11	3	0	8	2	0
7:30 AM - 7:45 AM	10	135	3	5	2	101	0	3	1	0	14	2	3	0	13	2
7:45 AM - 8:00 AM	10	139	0	13	19	118	2	1	1	1	24	4	2	1	14	1
8:00 AM - 8:15 AM	12	152	1	1	6	123	1	4	3	1	12	3	0	0	20	1
8:15 AM - 8:30 AM	7	162	3	4	6	119	3	9	2	1	5	3	0	1	10	0
8:30 AM - 8:45 AM	7	148	3	2	7	99	3	5	4	1	10	0	1	0	15	1
8:45 AM - 9:00 AM	8	141	7	4	5	94	1	3	3	1	11	3	0	0	13	0
TOTAL	**67**	**1056**	**23**	**40**	**59**	**772**	**10**	**40**	**18**	**9**	**110**	**20**	**8**	**11**	**93**	**5**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	12	103	3	1	6	106	1	1	1	2	18	1	0	1	22	0
4:15 PM - 4:30 PM	11	101	2	3	13	112	2	2	2	3	24	0	2	0	22	0
4:30 PM - 4:45 PM	4	92	4	2	7	103	2	1	3	4	23	3	0	2	13	0
4:45 PM - 5:00 PM	10	84	0	0	10	98	4	1	7	4	4	2	1	5	15	1
5:00 PM - 5:15 PM	10	89	3	2	12	104	2	1	17	0	8	0	3	1	16	0
5:15 PM - 5:30 PM	9	85	4	2	4	109	1	0	19	4	2	0	0	2	18	1
5:30 PM - 5:45 PM	7	91	1	1	10	91	6	2	19	1	2	0	1	2	14	1
5:45 PM - 6:00 PM	8	86	2	2	15	98	3	1	18	1	3	1	0	0	19	0
TOTAL	**71**	**731**	**19**	**13**	**77**	**821**	**21**	**9**	**86**	**19**	**84**	**7**	**7**	**13**	**139**	**3**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	36	601	7	20	38	459	9	19	10	4	51	10	3	2	59	3
4:00 PM - 5:00 PM	37	380	9	6	36	419	9	5	13	13	69	6	3	8	72	1

	PHF	Trucks
AM	0.966	4.1%
PM	0.908	1.7%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

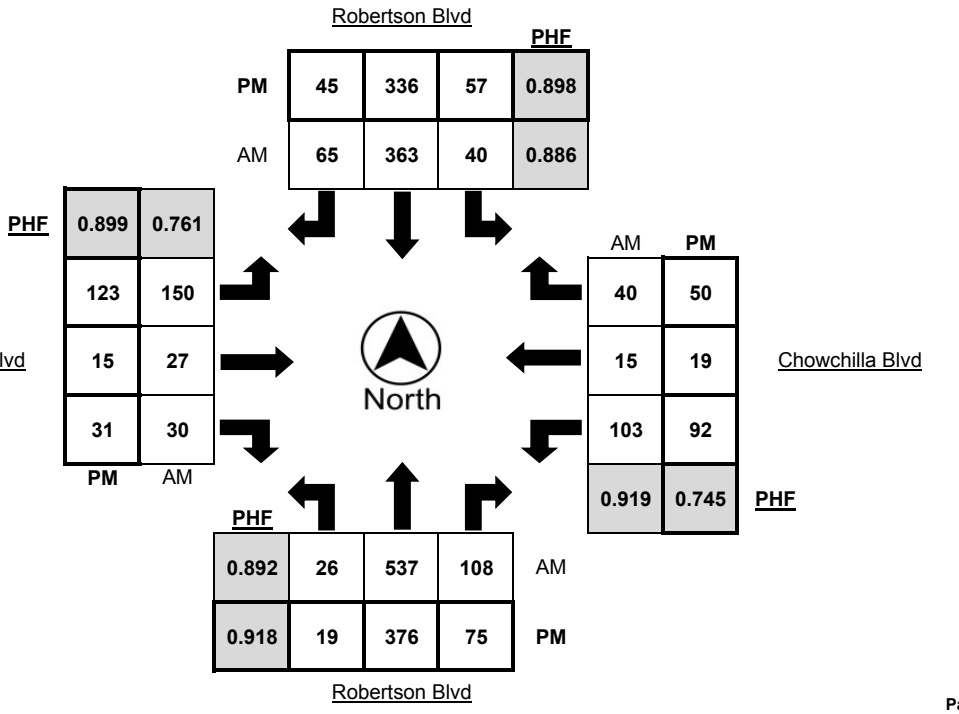
LOCATION Robertson Blvd @ Chowchilla Blvd
LATITUDE 37.1256
COUNTY Madera
LONGITUDE -120.2565
COLLECTION DATE Wednesday, May 29, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	6	81	13	5	17	34	9	10	34	7	9	0	14	3	8	6
7:15 AM - 7:30 AM	8	74	11	7	17	53	8	12	18	5	5	5	10	2	3	2
7:30 AM - 7:45 AM	7	117	23	6	16	74	13	7	37	8	16	6	14	5	12	1
7:45 AM - 8:00 AM	9	94	35	10	14	98	20	4	54	7	7	7	27	2	14	3
8:00 AM - 8:15 AM	8	157	23	1	11	86	14	13	38	10	10	3	21	4	7	1
8:15 AM - 8:30 AM	5	147	28	4	8	95	16	9	28	6	7	5	26	5	10	2
8:30 AM - 8:45 AM	4	139	22	6	7	84	15	8	30	4	6	4	29	4	9	1
8:45 AM - 9:00 AM	2	132	27	8	5	89	13	12	28	8	9	6	10	5	15	2
TOTAL	**49**	**941**	**182**	**47**	**95**	**613**	**108**	**75**	**267**	**55**	**69**	**36**	**151**	**30**	**78**	**18**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	4	100	24	1	16	80	14	3	30	2	8	2	24	3	27	3
4:15 PM - 4:30 PM	5	101	20	3	13	98	11	5	33	4	8	3	19	3	9	1
4:30 PM - 4:45 PM	4	89	16	3	11	73	9	3	32	4	11	1	24	10	8	1
4:45 PM - 5:00 PM	6	86	15	1	17	85	11	7	28	5	4	3	25	3	6	1
5:00 PM - 5:15 PM	13	94	15	1	21	74	6	3	33	6	8	2	30	3	14	1
5:15 PM - 5:30 PM	3	92	26	4	17	79	5	4	31	4	7	0	22	6	12	3
5:30 PM - 5:45 PM	6	102	15	4	12	76	9	4	34	5	7	3	28	9	14	2
5:45 PM - 6:00 PM	5	96	17	5	15	80	14	2	20	4	10	1	22	2	13	2
TOTAL	**46**	**760**	**148**	**22**	**122**	**645**	**79**	**31**	**241**	**34**	**63**	**15**	**194**	**39**	**103**	**14**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	26	537	108	21	40	363	65	34	150	27	30	19	103	15	40	7
4:00 PM - 5:00 PM	19	376	75	8	57	336	45	18	123	15	31	9	92	19	50	6

	PHF	Trucks
AM	0.967	5.4%
PM	0.932	3.3%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

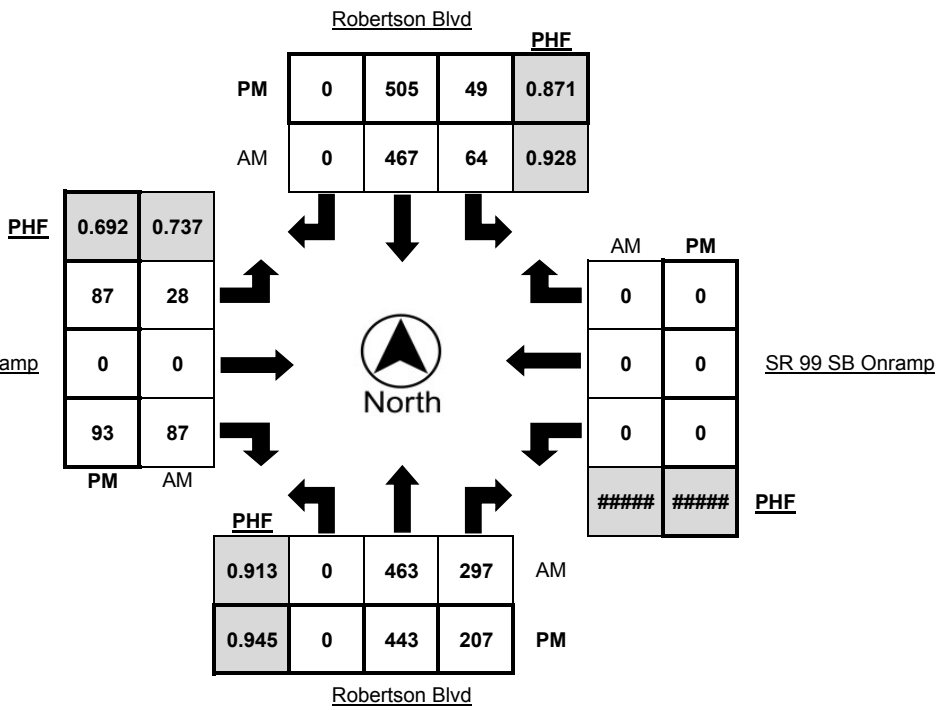
LOCATION Robertson Blvd @ SR99 SB Ramps
LATITUDE 37.1264
COUNTY Madera
LONGITUDE -120.2552
COLLECTION DATE Wednesday, May 29, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	66	72	7	17	59	0	3	5	0	21	3	0	0	0	0
7:15 AM - 7:30 AM	0	51	68	15	25	75	0	3	5	0	21	5	0	0	0	0
7:30 AM - 7:45 AM	0	95	83	14	15	97	0	4	4	0	23	3	0	0	0	0
7:45 AM - 8:00 AM	0	103	83	8	15	118	0	3	13	0	26	1	0	0	0	0
8:00 AM - 8:15 AM	0	138	70	7	15	128	0	6	5	0	20	0	0	0	0	0
8:15 AM - 8:30 AM	0	127	61	9	19	124	0	7	6	0	18	3	0	0	0	0
8:30 AM - 8:45 AM	0	71	55	4	19	107	0	4	5	0	18	3	0	0	0	0
8:45 AM - 9:00 AM	0	86	51	8	8	71	0	5	4	0	22	3	0	0	0	0
TOTAL	**0**	**737**	**543**	**72**	**133**	**779**	**0**	**35**	**47**	**0**	**169**	**21**	**0**	**0**	**0**	**0**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	113	57	4	13	141	0	4	22	0	16	0	0	0	0	0
4:15 PM - 4:30 PM	0	117	60	3	11	99	0	0	13	0	18	2	0	0	0	0
4:30 PM - 4:45 PM	0	117	63	11	14	110	0	3	12	0	18	1	0	0	0	0
4:45 PM - 5:00 PM	0	107	36	3	9	114	0	2	12	0	10	1	0	0	0	0
5:00 PM - 5:15 PM	0	118	54	3	14	113	0	3	14	0	16	1	0	0	0	0
5:15 PM - 5:30 PM	0	114	55	2	13	114	0	2	32	0	33	3	0	0	0	0
5:30 PM - 5:45 PM	0	107	56	3	7	134	0	7	27	0	28	1	0	0	0	0
5:45 PM - 6:00 PM	0	104	42	3	15	144	0	5	14	0	16	0	0	0	0	0
TOTAL	**0**	**897**	**423**	**32**	**96**	**969**	**0**	**26**	**146**	**0**	**155**	**9**	**0**	**0**	**0**	**0**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	0	463	297	38	64	467	0	20	28	0	87	7	0	0	0	0
5:00 PM - 6:00 PM	0	443	207	11	49	505	0	17	87	0	93	5	0	0	0	0

	PHF	Trucks
AM	0.935	4.6%
PM	0.958	2.4%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

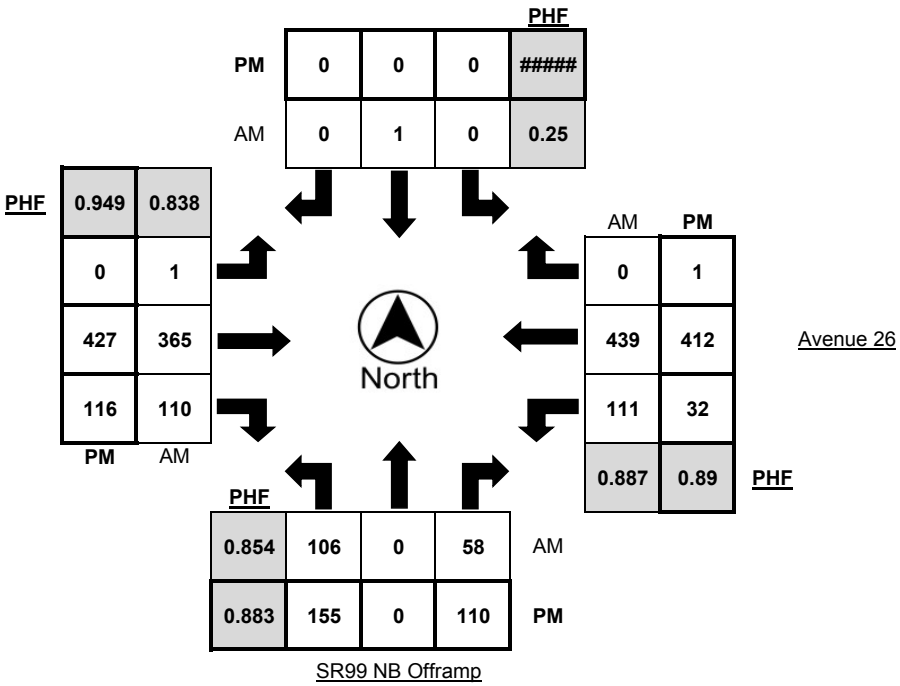
LOCATION Robertson Blvd @ SR99 NB Ramps
LATITUDE 37.1273
COUNTY Madera
LONGITUDE -120.2494
COLLECTION DATE Wednesday, May 29, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	24	0	7	6	0	0	0	0	0	33	40	3	25	55	0	7
7:15 AM - 7:30 AM	22	0	6	8	0	0	0	0	0	29	27	5	30	71	0	3
7:30 AM - 7:45 AM	28	0	9	3	0	1	0	0	0	55	35	8	33	92	0	8
7:45 AM - 8:00 AM	26	0	6	6	0	0	0	0	0	88	27	6	22	112	0	2
8:00 AM - 8:15 AM	24	0	23	4	0	0	0	0	1	120	21	5	36	119	0	8
8:15 AM - 8:30 AM	28	0	20	7	0	0	0	0	0	102	27	3	20	116	0	6
8:30 AM - 8:45 AM	27	0	13	3	0	0	0	0	0	64	10	3	21	90	0	5
8:45 AM - 9:00 AM	26	0	16	0	0	0	0	0	0	53	30	6	13	57	0	2
TOTAL	**205**	**0**	**100**	**37**	**0**	**1**	**0**	**0**	**1**	**544**	**217**	**39**	**200**	**712**	**0**	**41**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	42	0	31	3	0	0	0	0	0	111	31	2	9	116	0	1
4:15 PM - 4:30 PM	39	0	36	5	0	0	0	0	0	114	29	3	11	114	0	1
4:30 PM - 4:45 PM	36	0	19	2	0	0	0	0	0	98	29	4	5	86	1	1
4:45 PM - 5:00 PM	38	0	24	4	0	0	0	0	0	104	27	4	7	96	0	1
5:00 PM - 5:15 PM	29	1	21	3	0	0	0	0	0	91	35	0	10	91	0	0
5:15 PM - 5:30 PM	34	0	24	3	0	1	0	0	0	68	48	8	9	96	0	0
5:30 PM - 5:45 PM	36	0	21	3	0	0	0	0	0	79	36	7	9	94	0	0
5:45 PM - 6:00 PM	48	0	26	5	0	0	0	0	0	74	34	4	8	92	0	0
TOTAL	**302**	**1**	**202**	**28**	**0**	**1**	**0**	**0**	**0**	**739**	**269**	**32**	**68**	**785**	**1**	**4**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	106	0	58	20	0	1	0	0	1	365	110	22	111	439	0	24
4:00 PM - 5:00 PM	155	0	110	14	0	0	0	0	0	427	116	13	32	412	1	4

	PHF	Trucks
AM	0.866	5.5%
PM	0.913	2.5%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

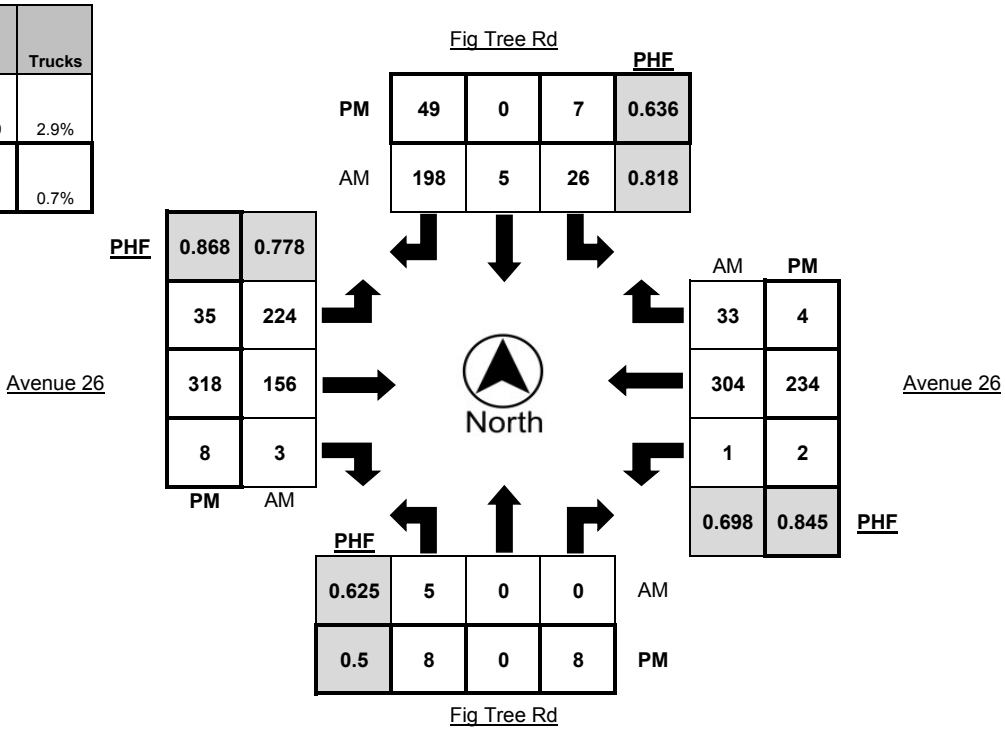
LOCATION Ave 26 @ Fig Tree Rd
LATITUDE 37.1272
COUNTY Madera
LONGITUDE -120.2397
COLLECTION DATE Wednesday, May 29, 2019
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	1	22	0	2	0	78	0	4
7:15 AM - 7:30 AM	0	0	0	0	0	0	2	0	6	22	0	1	0	84	1	2
7:30 AM - 7:45 AM	0	0	0	0	0	0	14	0	27	26	0	2	0	104	1	1
7:45 AM - 8:00 AM	1	0	0	0	5	2	41	0	53	28	0	1	0	115	6	1
8:00 AM - 8:15 AM	2	0	0	0	8	1	55	2	74	47	2	1	0	79	10	6
8:15 AM - 8:30 AM	1	0	0	0	10	1	59	5	62	46	0	4	0	60	13	2
8:30 AM - 8:45 AM	1	0	0	1	3	1	43	0	35	35	1	3	1	50	4	2
8:45 AM - 9:00 AM	1	0	0	0	3	0	9	0	37	40	1	3	0	54	0	1
TOTAL	**6**	**0**	**0**	**1**	**29**	**5**	**224**	**7**	**295**	**266**	**4**	**17**	**1**	**624**	**35**	**19**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	2	0	1	0	3	0	19	0	7	96	1	0	0	69	2	1
4:15 PM - 4:30 PM	2	0	2	0	2	0	8	0	9	74	3	1	2	61	0	1
4:30 PM - 4:45 PM	1	0	0	1	1	0	11	0	9	71	0	0	0	51	2	0
4:45 PM - 5:00 PM	3	0	5	0	1	0	11	0	10	77	4	0	0	53	0	1
5:00 PM - 5:15 PM	1	0	1	0	0	0	11	0	12	71	0	0	1	36	2	0
5:15 PM - 5:30 PM	2	0	0	0	3	0	21	0	10	75	3	0	0	37	1	0
5:30 PM - 5:45 PM	3	0	1	0	1	0	12	0	9	78	6	0	1	40	0	0
5:45 PM - 6:00 PM	6	0	2	0	0	1	7	0	5	67	10	0	5	61	0	0
TOTAL	**20**	**0**	**12**	**1**	**11**	**1**	**100**	**0**	**71**	**609**	**27**	**1**	**9**	**408**	**7**	**3**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	5	0	0	1	26	5	198	7	224	156	3	9	1	304	33	11
4:00 PM - 5:00 PM	8	0	8	1	7	0	49	0	35	318	8	1	2	234	4	3

	PHF	Trucks
AM	0.859	2.9%
PM	0.841	0.7%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

LOCATION Ave 26 @ Rd 19 **LATITUDE** 37.1273

COUNTY Madera **LONGITUDE** -120.2021

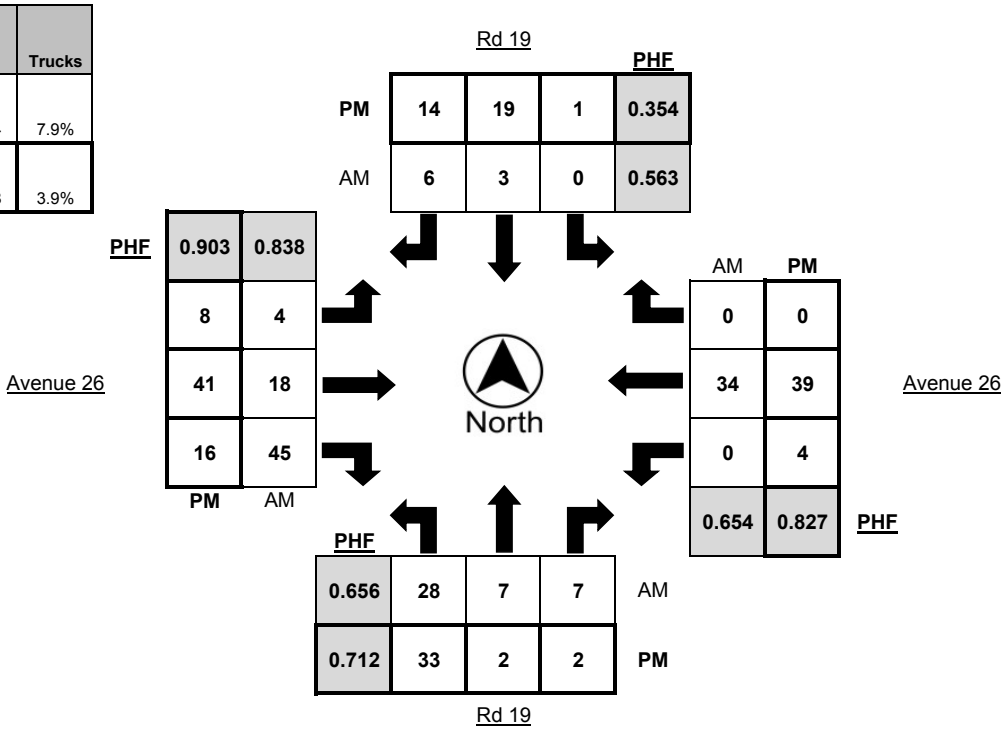
COLLECTION DATE Wednesday, May 29, 2019 **WEATHER** Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	3	0	0	1	0	0	1	0	3	4	2	0	0	7	0	2
7:15 AM - 7:30 AM	1	2	2	1	0	1	3	1	4	3	6	1	1	4	0	0
7:30 AM - 7:45 AM	3	2	2	0	0	0	1	1	3	4	11	1	0	10	0	0
7:45 AM - 8:00 AM	2	2	2	0	0	2	1	0	1	4	15	0	0	13	0	1
8:00 AM - 8:15 AM	12	2	2	6	0	0	4	0	0	4	12	0	0	7	0	1
8:15 AM - 8:30 AM	11	1	1	1	0	1	0	0	0	6	7	1	0	4	0	0
8:30 AM - 8:45 AM	3	0	0	1	0	1	0	0	3	6	2	3	0	3	0	0
8:45 AM - 9:00 AM	4	1	1	0	0	0	0	0	0	2	2	0	0	8	0	0
TOTAL	**39**	**10**	**10**	**10**	**0**	**5**	**10**	**2**	**14**	**33**	**57**	**6**	**1**	**56**	**0**	**4**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	12	1	0	1	1	16	7	0	3	11	2	1	0	12	0	0
4:15 PM - 4:30 PM	7	1	1	1	0	1	2	0	1	10	7	1	2	7	0	1
4:30 PM - 4:45 PM	8	0	0	0	0	1	4	0	2	13	3	0	1	8	0	0
4:45 PM - 5:00 PM	6	0	1	0	0	1	1	0	2	7	4	0	1	12	0	2
5:00 PM - 5:15 PM	1	2	0	0	0	0	5	1	1	5	1	0	0	7	0	0
5:15 PM - 5:30 PM	2	0	0	1	0	1	3	0	0	12	2	0	0	4	0	0
5:30 PM - 5:45 PM	4	0	0	0	0	0	0	0	4	8	6	0	0	3	0	0
5:45 PM - 6:00 PM	4	0	0	0	0	2	2	1	6	4	3	1	1	3	0	0
TOTAL	**44**	**4**	**2**	**3**	**1**	**22**	**24**	**2**	**19**	**70**	**28**	**3**	**5**	**56**	**0**	**3**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	28	7	7	7	0	3	6	1	4	18	45	2	0	34	0	2
4:00 PM - 5:00 PM	33	2	2	2	1	19	14	0	8	41	16	2	4	39	0	3

	PHF	Trucks
AM	0.884	7.9%
PM	0.688	3.9%



Appendix C

Average Daily Traffic Counts for Study Segments

Metro Traffic Data Inc.

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotraffic data.com

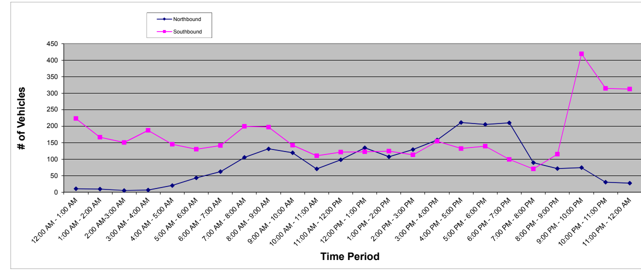
Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

Description	SR233 btw SR152/Cates Ct
Survey Date	Thursday, May 30, 2019
Latitude	37.085494
Longitude	-120.2957009
Number of Lanes	2
Total Volume	6147
HV Percentage	15.6%
AM Peak Period	7:30am-8:30am
AM Peak Volume	627
AM PHF	0.92
PM Peak Period	2:00pm-3:00pm
PM Peak Volume	900
PM PHF	0.85

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Northbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	5	2	2	0	9	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	1	2	2	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	1	1	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	3	2	0	0	5	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	4	3	3	7	17	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	3	11	10	10	34	0	1	3	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	8	17	7	21	53	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1
7:00 AM - 8:00 AM	0	0	0	0	0	14	29	31	25	99	0	0	0	3	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM - 9:00 AM	0	1	0	0	1	28	43	26	23	120	0	1	1	1	3	0	0	0	0	0	1	0	1	1	3	0	0	0	0	0	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	34	26	19	28	107	2	0	0	1	3	1	0	0	0	1	1	3	1	1	6	0	0	0	0	0	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	0	0	0	13	19	14	19	65	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
11:00 AM - 12:00 PM	0	0	0	0	0	19	25	25	18	87	0	1	0	2	3	0	0	2	0	2	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0
12:00 PM - 1:00 PM	0	0	0	0	0	26	30	26	19	101	4	8	7	4	23	0	1	3	0	4	0	0	2	0	2	0	0	1	0	1	0	0	0	0	0
1:00 PM - 2:00 PM	0	0	0	0	0	19	24	19	22	84	4	4	1	1	10	0	2	1	2	5	2	1	1	1	5	0	0	0	0	0	0	0	0	0	0
2:00 PM - 3:00 PM	0	0	0	0	0	18	21	31	32	102	6	4	2	2	14	2	2	0	0	4	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0
3:00 PM - 4:00 PM	0	0	0	0	0	26	24	29	51	130	4	3	9	2	18	0	0	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	1	0	1
4:00 PM - 5:00 PM	0	0	0	0	0	41	41	54	37	173	6	7	8	10	31	0	1	1	1	3	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	48	42	41	37	168	3	9	4	16	32	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1
6:00 PM - 7:00 PM	1	0	0	0	1	33	21	44	18	116	16	18	38	20	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:00 PM - 8:00 PM	0	0	0	0	0	21	12	18	9	60	11	5	7	5	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	22	15	15	17	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	21	25	17	9	72	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	11	5	8	6	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	12	5	4	5	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
Total	2					1740					274					21					27					6					5				
Percentage	0.1%					82.0%					12.9%					1.0%					1.3%					0.3%					0.2%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
1:00 AM - 2:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
4:00 AM - 5:00 AM	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
6:00 AM - 7:00 AM	0	0	0	1	1	0	3	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62
7:00 AM - 8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
8:00 AM - 9:00 AM	1	0	0	0	1	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	131
9:00 AM - 10:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119
10:00 AM - 11:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70
11:00 AM - 12:00 PM	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98
12:00 PM - 1:00 PM	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	134
1:00 PM - 2:00 PM	1	0	0	1	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107
2:00 PM - 3:00 PM	0	0	0	0	0	1	0	2	0	3	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	129
3:00 PM - 4:00 PM	0	1	0	1	2	1	0	0	1	2	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	211
5:00 PM - 6:00 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89
8:00 PM - 9:00 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Total	12					28					5					3					0					0					0					2123
Percentage	0.6%					1.3%					0.2%					0.1%					0.0%					0.0%					0.0%					100.0%

8:15am-9:15am AM PK 138 AM PHF 0.77 4:30pm-5:30pm PM PK 220 PM PHF 0.86 HV Percent 5.0%

Southbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	34	33	24	15	106	3	2	3	2	10	0	0	0	0	0	0	0	0	0	0	1	1	3	2	7	0	0	1	0	1
1:00 AM - 2:00 AM	0	0	0	0	0	19	20	21	10	70	2	2	4	1	9	0	0	0	0	0	0	0	0	0	0	1	2	2	1	6	0	0	2	1	3
2:00 AM-3:00 AM	0	0	0	0	0	14	20	11	11	56	1	0	1	0	2	0	0	0	2	2	0	0	0	0	0	0	1	0	0	1	0	1	3	2	6
3:00 AM - 4:00 AM	0	0	0	0	0	13	20	12	23	68	0	1	2	3	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	1	1	0	6
4:00 AM - 5:00 AM	0	0	0	0	0	28	34	9	7	78	1	3	1	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	2	1	0	0	3
5:00 AM - 6:00 AM	0	0	0	0	0	19	22	48	26	115	1	2	3	2	8	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1
6:00 AM - 7:00 AM	0	0	0	0	0	24	42	29	16	111	3	4	7	7	21	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1
7:00 AM - 8:00 AM	0	0	0	0	0	27	24	33	34	118	21	16	17	13	67	0	0	1	2	3	1	1	0	1	3	0	1	0	1	2	0	1	0	3	4
8:00 AM - 9:00 AM	0	0	0	0	0	46	41	35	16	138	18	15	7	6	46	0	0	0	0	0	0	2	3	2	7	0	0	2	0	2	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	21	29	28	14	92	5	5	10	11	31	0	0	0	2	2	0	3	2	0	5	0	0	0	2	2	0	0	1	1	2
10:00 AM - 11:00 AM	0	0	0	0	0	23	18	17	13	71	9	6	6	7	28	0	1	0	0	1	3	1	0	0	4	0	0	1	1	2	1	0	0	1	2
11:00 AM - 12:00 PM	0	0	0	0	0	17	18	24	24	83	3	8	7	8	26	0	0	0	0	0	1	0	3	1	5	0	0	1	0	1	0	0	0	0	0
12:00 PM - 1:00 PM	0	0	0	0	0	20	14	18	18	70	3	9	12	10	34	0	1	0	2	3	0	2	2	3	7	0	1	1	1	3	0	1	0	0	1
1:00 PM - 2:00 PM	0	0	0	0	0	17	16	18	17	68	10	14	6	9	39	2	1	0	1	4	4	0	1	1	6	0	0	2	0	2	0	1	2	1	4
2:00 PM - 3:00 PM	0	0	0	0	0	22	21	16	18	77	6	4	6	4	20	1	1	1	1	4	1	0	1	1	3	2	1	1	2	6	0	0	0	0	0
3:00 PM - 4:00 PM	0	0	0	0	0	31	27	18	17	93	10	8	4	16	38	3	4	1	2	10	2	2	1	1	6	1	0	0	1	2	0	1	1	0	2
4:00 PM - 5:00 PM	0	0	0	0	0	25	25	20	27	97	6	11	7	9	33	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	20	22	42	16	100	8	10	11	6	35	0	0	0	0	0	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	0	0	21	24	29	15	89	3	1	2	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	21	14	9	16	60	2	2	2	3	9	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	1	1	23	21	24	35	103	2	1	2	3	8	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	54	90	84	100	328	5	3	4	3	15	0	1	0	0	1	2	0	3	0	5	1	4	0	1	6	7	0	0	0	7
10:00 PM - 11:00 PM	0	0	0	0	0	80	53	60	60	253	4	2	6	3	15	1	0	1	0	2	0	0	0	3	3	1	0	0	0	1	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	61	50	47	38	196	3	5	7	2	17	1	0	1	0	2	2	2	0	1	5	0	0	0	0	0	1	2	0	0	3
Total	1					2640					528					36					69					48					46				
Percentage	0.0%					65.6%					13.1%					0.9%					1.7%					1.2%					1.1%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	21	11	22	20	74	6	1	5	1	13	0	0	0	0	0	0	2	2	6	10	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	223
1:00 AM - 2:00 AM	14	8	17	17	56	0	2	3	2	7	1	0	1	0	2	6	2	0	5	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	166
2:00 AM-3:00 AM	13	16	15	18	62	3	2	0	2	7	0	0	0	0	0	4	3	3	2	12	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	150
3:00 AM - 4:00 AM	17	20	12	22	71	4	3	2	4	13	2	0	1	2	5	4	5	4	4	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	187
4:00 AM - 5:00 AM	27	14	0	0	41	3	2	2	3	10	0	0	0	0	0	1	4	0	0	5	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	145
5:00 AM - 6:00 AM	0	0	0	0	0	1	2	1	0	4	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130
6:00 AM - 7:00 AM	0	0	1	0	1	0	0	0	2	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141
7:00 AM - 8:00 AM	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	199
8:00 AM - 9:00 AM	0	1	0	0	1	0	0	0	1	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197
9:00 AM - 10:00 AM	0	0	1	0	1	0	0	2	1	3	1	0	0	2	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	142
10:00 AM - 11:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	110
11:00 AM - 12:00 PM	1	2	0	1	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	121
12:00 PM - 1:00 PM	0	0	1	2	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122
1:00 PM - 2:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	124
2:00 PM - 3:00 PM	1	0	0	1	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113
3:00 PM - 4:00 PM	0	0	0	0	0	1	1	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139
6:00 PM - 7:00 PM	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115
9:00 PM - 10:00 PM	7	7	12	18	44	0	2	1	4	7	0	0	0	0	0	0	2	3	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	419
10:00 PM - 11:00 PM	7	2	5	14	28	0	1	0	0	1	0	0	0	0	0	3	6	2	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	314
11:00 PM - 12:00 AM	14	12	13	3	42	2	2	14	19	37	0	0	0	0	0	2	1	3	4	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	312
Total	431					115					15					87					5					3					0					4024
Percentage	10.7%					2.9%					0.4%					2.2%					0.1%					0.1%					0.0%					100.0%

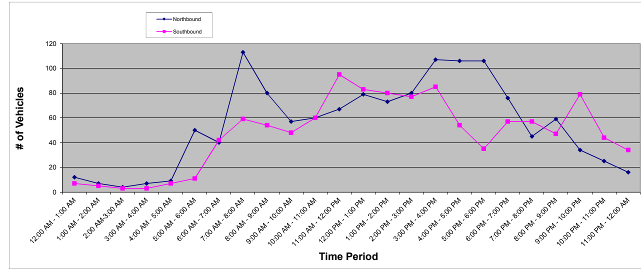
7:30am-8:30am AM PK 230 AM PHF 0.90 9:15pm-10:15pm PM PK 439 PM PHF 0.86 HV Percent 21.2%

Metro Traffic Data Inc.

Description	Rd 16 btw Ave 23.5 / Ave 24
Survey Date	Wednesday, May 29, 2019
Latitude	37.092004
Longitude	-120.2567991
Number of Lanes	2
Total Volume	2438
HV Percentage	22.7%
AM Peak Period	7:15am-8:15am
AM Peak Volume	184
AM PHF	0.79
PM Peak Period	3:00pm-4:00pm
PM Peak Volume	192
PM PHF	0.86

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotraffic data.com

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

Northbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	1	3	3	1	8	0	0	1	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	2	0	2	2	6	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	1	0	1	1	3	0	0	1	1	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	2	4	6	1	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	4	4	12	12	32	1	3	2	3	9	0	0	0	0	0	0	1	2	4	7	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	1	1	5	4	9	6	24	0	1	1	4	6	0	0	0	0	0	0	2	2	4	8	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	1	0	0	0	1	5	11	17	39	72	4	3	7	5	19	0	0	0	1	1	3	4	2	7	16	0	0	0	0	0	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	17	10	9	8	44	4	5	4	1	14	0	0	0	0	0	5	3	3	8	19	0	0	0	0	0	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	1	1	2	3	4	4	13	24	3	2	5	6	16	0	0	0	0	0	0	1	4	5	10	0	0	0	0	0	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	0	0	0	5	4	6	5	20	2	5	3	6	16	0	0	0	0	0	3	3	6	7	19	0	0	0	0	0	0	0	0	0	0
11:00 AM - 12:00 PM	0	0	0	0	0	6	7	9	11	33	3	2	4	7	16	0	0	0	0	0	4	1	10	2	17	0	0	0	0	0	0	0	0	0	0
12:00 PM - 1:00 PM	0	0	0	0	0	13	9	15	9	46	6	3	3	6	18	0	0	0	1	1	3	3	1	2	9	0	0	0	0	0	0	0	0	0	0
1:00 PM - 2:00 PM	0	2	0	0	2	4	8	13	9	34	3	8	4	2	17	0	1	0	0	1	7	3	1	1	12	0	0	0	0	0	0	0	0	0	0
2:00 PM - 3:00 PM	0	0	1	0	1	9	9	10	11	39	1	5	1	5	12	0	0	0	1	1	4	7	8	5	24	0	0	1	0	1	0	0	0	0	0
3:00 PM - 4:00 PM	0	0	0	0	0	11	13	17	25	66	3	3	4	4	14	0	0	0	0	0	7	5	5	5	22	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	3	0	0	0	3	12	21	17	21	71	6	3	3	3	15	0	0	0	1	1	4	3	4	3	14	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	21	24	17	15	77	4	4	3	2	13	0	0	0	0	0	5	4	4	3	16	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	1	1	12	8	21	10	51	0	0	6	4	10	0	0	0	0	0	8	2	1	2	13	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	10	5	8	7	30	1	2	2	0	5	0	0	0	0	0	1	3	6	0	10	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	12	8	12	14	46	1	1	1	3	6	0	0	0	0	0	1	1	2	3	7	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	1	0	1	10	4	8	5	27	0	1	1	0	2	0	0	0	0	0	1	1	0	1	3	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	1	0	0	0	1	4	7	5	5	21	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	4	4	3	3	14	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Total	13					797					218					5					231					1					0				
Percentage	1.0%					60.7%					16.6%					0.4%					17.6%					0.1%					0.0%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
2:00 AM-3:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:00 AM - 4:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:00 AM - 6:00 AM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
7:00 AM - 8:00 AM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113
8:00 AM - 9:00 AM	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
9:00 AM - 10:00 AM	1	0	0	2	3	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57
10:00 AM - 11:00 AM	1	1	2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
12:00 PM - 1:00 PM	1	2	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79
1:00 PM - 2:00 PM	0	3	1	1	5	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
2:00 PM - 3:00 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
3:00 PM - 4:00 PM	1	1	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107
4:00 PM - 5:00 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106
6:00 PM - 7:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
9:00 PM - 10:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Total	35					7					0					5					0					0					0					1312
Percentage	2.7%					0.5%					0.0%					0.4%					0.0%					0.0%					0.0%					100.0%

7:15am-8:15am AM PK 125 AM PHF 0.60 3:30pm-4:30pm PM PK 116 PM PHF 0.83 HV Percent 21.6%

Southbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	2	1	0	1	4	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	2	0	1	1	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	3	3	3	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	8	6	6	3	23	2	0	5	5	12	1	0	0	0	1	0	2	2	2	6	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0	3	15	13	6	37	3	2	5	0	10	0	0	0	0	0	3	2	6	0	11	0	0	0	0	0	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	6	14	9	6	35	0	3	2	0	5	0	0	1	0	1	2	2	2	4	10	0	0	0	1	1	0	0	0	0	0
9:00 AM - 10:00 AM	0	1	0	0	1	6	3	10	6	25	6	0	3	0	9	0	0	0	0	0	5	0	3	3	11	0	1	0	0	1	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	4	0	4	6	10	3	12	31	3	0	3	2	8	0	0	0	0	0	0	5	6	4	15	0	0	0	0	0	0	0	0	0	0
11:00 AM - 12:00 PM	3	0	0	0	3	6	6	25	17	54	2	6	8	2	18	1	0	0	0	1	7	0	8	0	15	0	0	0	0	0	0	0	0	0	0
12:00 PM - 1:00 PM	0	2	2	0	4	19	12	8	11	50	5	2	2	0	9	0	0	0	0	0	8	0	2	7	17	0	0	0	0	0	0	0	0	0	0
1:00 PM - 2:00 PM	0	0	0	0	0	3	17	15	9	44	0	0	8	2	10	0	0	0	0	0	2	6	10	8	26	0	0	0	0	0	0	0	0	0	0
2:00 PM - 3:00 PM	2	0	0	0	2	13	8	11	9	41	0	7	3	6	16	0	0	2	0	2	2	0	2	6	10	0	0	0	0	0	0	0	0	0	0
3:00 PM - 4:00 PM	0	1	0	0	1	15	16	15	11	57	3	0	0	5	8	0	0	0	0	0	9	0	3	5	17	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	1	0	1	9	8	7	8	32	0	0	3	2	5	0	0	0	0	0	6	5	2	2	15	0	1	0	0	1	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	7	6	5	2	20	2	1	3	6	12	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	2	0	0	2	8	14	6	12	40	5	3	0	0	8	1	0	0	0	1	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	1	0	1	12	3	8	12	35	3	2	2	0	7	0	0	0	0	0	0	3	6	4	13	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	12	6	3	6	27	3	5	3	3	14	0	0	0	0	0	4	0	0	2	6	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	4	0	4	8	6	7	9	30	6	7	5	5	23	0	0	1	0	1	3	6	8	2	19	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	1	4	2	5	12	2	2	6	5	15	0	0	0	0	0	5	2	0	5	12	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	1	1	3	1	1	2	7	3	3	0	6	12	0	0	1	0	1	2	6	3	0	11	0	0	0	0	0	0	0	0	0	0
Total	24					624					209					8					223					3					0				
Percentage	2.1%					55.4%					18.6%					0.7%					19.8%					0.3%					0.0%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:00 AM - 5:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
7:00 AM - 8:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
8:00 AM - 9:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
10:00 AM - 11:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
11:00 AM - 12:00 PM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95
12:00 PM - 1:00 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83
1:00 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
2:00 PM - 3:00 PM	2	0	2	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
3:00 PM - 4:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
6:00 PM - 7:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57
7:00 PM - 8:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
9:00 PM - 10:00 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79
10:00 PM - 11:00 PM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
11:00 PM - 12:00 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Total	31					3					0					1					0					0					0					1126
Percentage	2.8%					0.3%					0.0%					0.1%					0.0%					0.0%					0.0%					100.0%

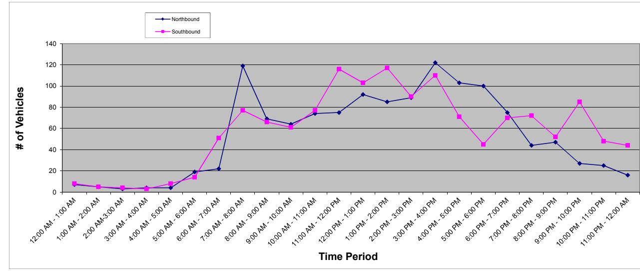
11:30am-12:30am AM PK 111 AM PHF 0.68 2:30pm-3:30pm PM PK 89 PM PHF 0.82 HV Percent 23.9%

Metro Traffic Data Inc.

Description	Rd 16 btw Ave 25 / Mariposa Ave
Survey Date	Wednesday, May 29, 2019
Latitude	37.113336
Longitude	-120.2567532
Number of Lanes	2
Total Volume	2687
HV Percentage	26.7%
AM Peak Period	7:15am-8:15am
AM Peak Volume	207
AM PHF	0.72
PM Peak Period	3:00pm-4:00pm
PM Peak Volume	232
PM PHF	0.88

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotraffic data.com

Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

Northbound

Hour	Class 1					Class 2					Class 3					Class 4				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	2	3	0	0	5	0	0	0	1	1	0	0	0	1	1
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	2	0	2	1	0	0	2	3	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	1	0	1	1	3	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	3	1	3	2	9	0	0	1	1	2	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	3	0	4	5	12	0	0	0	1	1	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0	5	9	17	35	66	2	4	2	12	20	0	1	0	2	3
8:00 AM - 9:00 AM	0	0	0	0	0	15	8	10	5	38	6	1	3	1	11	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	5	5	6	14	30	2	2	1	6	11	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	0	0	0	8	4	4	8	24	3	3	6	6	18	0	0	0	0	0
11:00 AM - 12:00 PM	0	0	0	0	0	4	12	14	12	42	1	6	1	3	11	1	0	0	0	1
12:00 PM - 1:00 PM	0	0	0	0	0	15	15	15	12	57	2	3	1	3	9	0	0	0	1	1
1:00 PM - 2:00 PM	1	0	0	0	1	6	8	12	12	38	2	5	10	3	20	0	0	0	1	1
2:00 PM - 3:00 PM	0	0	0	2	2	8	10	12	10	40	3	2	4	4	13	0	0	0	1	1
3:00 PM - 4:00 PM	0	0	0	1	1	18	10	15	20	63	3	6	6	9	24	1	0	0	0	1
4:00 PM - 5:00 PM	0	0	0	0	0	20	17	14	17	68	6	3	4	6	19	0	1	0	1	2
5:00 PM - 6:00 PM	0	0	0	0	0	17	15	13	10	55	6	6	2	7	21	0	0	0	0	0
6:00 PM - 7:00 PM	1	0	0	0	1	11	7	12	8	38	5	2	9	1	17	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	11	4	3	4	22	1	4	2	0	7	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	11	6	4	7	28	0	1	4	1	6	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	7	4	6	4	21	0	3	2	0	5	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	3	7	7	3	20	0	1	0	0	1	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	4	3	3	2	12	0	1	2	1	4	0	0	0	0	0
Total	5					696					225					11				
Percentage	0.4%					54.0%					17.4%					0.9%				

Hour	Class 5					Class 6					Class 7					Class 8					Class 9				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
3:00 AM - 4:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	1	1	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
6:00 AM - 7:00 AM	2	1	2	4	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	3	3	7	14	27	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
8:00 AM - 9:00 AM	2	9	1	5	17	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	2
9:00 AM - 10:00 AM	4	2	5	7	18	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	2	0	1	0	3
10:00 AM - 11:00 AM	9	5	6	7	27	1	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
11:00 AM - 12:00 PM	2	4	7	2	15	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3
12:00 PM - 1:00 PM	8	6	2	6	22	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
1:00 PM - 2:00 PM	4	6	6	4	20	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	1	2	0	0	3
2:00 PM - 3:00 PM	5	6	6	7	24	0	2	3	1	6	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2
3:00 PM - 4:00 PM	8	7	8	5	28	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:00 PM - 5:00 PM	4	3	3	3	13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
5:00 PM - 6:00 PM	6	6	5	4	21	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2
6:00 PM - 7:00 PM	6	7	2	4	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	2	4	7	2	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	7	5	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	1	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	300					17					1					8					26				
Percentage	23.3%					1.3%					0.1%					0.6%					2.0%				

Hour	Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
10:00 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75
12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92
1:00 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85
2:00 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Total	0					1					0					0					0					1290
Percentage	0.0%					0.1%					0.0%					0.0%					0.0%					100.0%

7:15am-8:15am AM PK 132 AM PHF 0.52 3:00pm-4:00pm PM PK 122 PM PHF 0.87 HV Percent 28.2%

Southbound

Hour	Class 1					Class 2					Class 3					Class 4				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	2	1	0	1	4	0	0	4	0	4	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	2	0	1	1	4	0	0	1	0	1	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	3	4	4	0	11	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	8	6	8	3	25	2	0	7	7	16	1	0	0	0	1
7:00 AM - 8:00 AM	0	0	0	0	0	3	19	16	8	46	4	2	6	0	12	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	6	15	11	7	39	0	4	3	0	7	0	0	1	0	1
9:00 AM - 10:00 AM	0	1	0	0	1	8	3	13	7	31	9	0	3	0	12	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	2	2	4	8	11	3	16	38	4	0	4	3	11	0	0	0	0	0
11:00 AM - 12:00 PM	1	0	0	0	1	9	8	29	19	65	2	8	10	2	22	1	0	0	0	1
12:00 PM - 1:00 PM	0	2	2	0	4	23	14	10	12	59	6	3	3	0	12	0	0	0	0	0
1:00 PM - 2:00 PM	0	0	0	0	0	15	19	21	10	65	0	0	8	3	11	0	0	0	0	0
2:00 PM - 3:00 PM	2	0	0	0	2	14	9	14	11	48	0	7	4	6	17	0	0	2	0	2
3:00 PM - 4:00 PM	0	1	0	0	1	18	22	18	16	74	4	0	0	6	10	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	1	0	1	12	10	8	11	41	0	0	4	2	6	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	9	7	6	3	25	3	1	4	7	15	0	0	0	0	0
6:00 PM - 7:00 PM	0	2	0	0	2	10	17	6	17	50	6	3	0	0	9	1	0	0	0	1
7:00 PM - 8:00 PM	0	0	1	0	1	15	4	8	15	42	4	3	2	0	9	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	13	7	3	6	29	3	5	3	4	15	0	0	0	0	0
9:00 PM - 10:00 PM	0	2	1	0	3	11	7	8	10	36	9	7	7	7	30	0	0	1	0	1
10:00 PM - 11:00 PM	0	0	0	0	0	4	5	2	6	17	3	2	7	6	18	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	1	1	4	1	1	2	8	3	4	0	9	16	0	0	1	0	1
Total	21					765					258					8				
Percentage	1.5%					54.8%					18.5%					0.6%				

Hour	Class 5					Class 6					Class 7					Class 8					Class 9				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:00 AM - 6:00 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	3	3	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	5	3	10	0	18	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
8:00 AM - 9:00 AM	3	3	3	7	16	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
9:00 AM - 10:00 AM	6	0	4	5	15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM - 11:00 AM	0	7	10	5	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
11:00 AM - 12:00 PM	8	2	7	6	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4
12:00 PM - 1:00 PM	8	4	3	10	25	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	2
1:00 PM - 2:00 PM	3	9	17	12	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM - 3:00 PM	3	0	3	9	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	6
3:00 PM - 4:00 PM	13	0	4	6	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:00 PM - 5:00 PM	8	8	3	3	22	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
7:00 PM - 8:00 PM	0	4	8	7	19	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
8:00 PM - 9:00 PM	5	0	0	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	5	3	2	3	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
10:00 PM - 11:00 PM	4	3	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	5
11:00 PM - 12:00 AM	3	9	4	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	307					3					0					3					31				
Percentage	22.0%					0.2%					0.0%					0.2%					2.2%				

Hour	Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66
9:00 AM - 10:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61
10:00 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116
12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
1:00 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
2:00 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Total	0					1					0					0					0					1397
Percentage	0.0%					0.1%					0.0%					0.0%					0.0%					100.0%

11:30am-12:30am AM PK 136 AM PHF 0.74 1:15pm-2:15pm PM PK 120 PM PHF 0.65 HV Percent 25.3%

Metro Traffic Data Inc.

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotraffic data.com

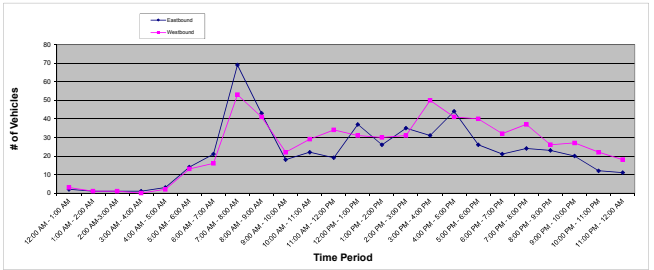
Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

Description	Ave 24 btw Rd 16 / Rd 17
Survey Date	Wednesday, May 29, 2019
Latitude	37.098255
Longitude	-120.2549176
Number of Lanes	2
Total Volume	1124
HV Percentage	20.2%
AM Peak Period	7:15am-8:15am
AM Peak Volume	148
AM PHF	0.59
PM Peak Period	3:30pm-4:30pm
PM Peak Volume	91
PM PHF	0.91

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Eastbound

| Hour | Class 1 | | | | | Class 2 | | | | | Class 3 | | | | | Class 4 | | | | | Class 5 | | | | | Class 6 | | | | | Class 7 | | | | | Class 8 | | | | | Class 9 | | | | | Class 10 | | | | | Class 11 | | | | | Class 12 | | | | | Class 13 | | | | | Class 14 | | | | | Total |
|---|---|---

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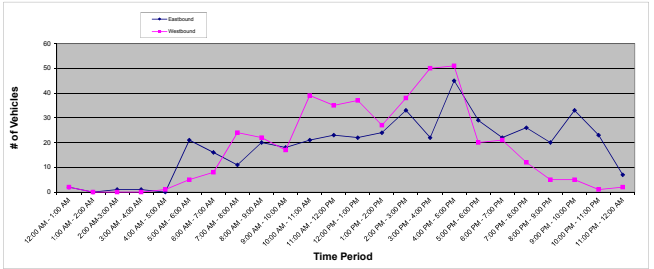
Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

Description	Ave 26 btw Rd 21 / Rd 19
Survey Date	Thursday, May 30, 2019
Latitude	37.127243
Longitude	-120.1889191
Number of Lanes	2
Total Volume	862
HV Percentage	25.8%
AM Peak Period	10:00am-11:00am
AM Peak Volume	60
AM PHF	0.79
PM Peak Period	3:45pm-4:45pm
PM Peak Volume	96
PM PHF	0.89

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Eastbound

| Hour | Class 1 | | | | | Class 2 | | | | | Class 3 | | | | | Class 4 | | | | | Class 5 | | | | | Class 6 | | | | | Class 7 | | | | | Class 8 | | | | | Class 9 | | | | | Class 10 | | | | | Class 11 | | | | | Class 12 | | | | | Class 13 | | | | | Class 14 | | | | | Total |
|---|---|---

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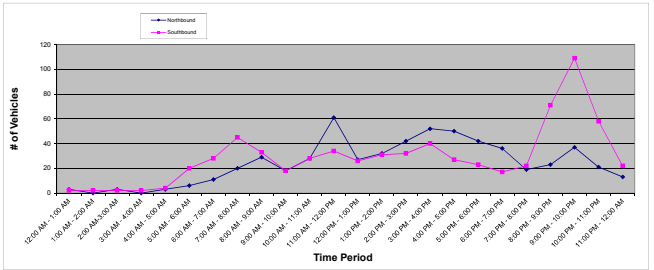
Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588

Description	Chowchilla Blvd btw Ave 24.5 / Prosperity Blvd
Survey Date	Thursday, May 30, 2019
Latitude	37.108353
Longitude	-120.2366654
Number of Lanes	2
Total Volume	1272
HV Percentage	19.7%
AM Peak Period	11:00am-12:00am
AM Peak Volume	95
AM PHF	0.91
PM Peak Period	9:00pm-10:00pm
PM Peak Volume	146
PM PHF	0.87

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Northbound

| Hour | Class 1 | | | | | Class 2 | | | | | Class 3 | | | | | Class 4 | | | | | Class 5 | | | | | Class 6 | | | | | Class 7 | | | | | Class 8 | | | | | Class 9 | | | | | Class 10 | | | | | Class 11 | | | | | Class 12 | | | | | Class 13 | | | | | Class 14 | | | | | Total |
|---|---|---

Metro Traffic Data Inc.

Description	Rd 19 s/o Ave 26
Survey Date	Thursday, May 30, 2019
Latitude	37.125363
Longitude	-120.202157
Number of Lanes	2
Total Volume	669
HV Percentage	26.0%
AM Peak Period	7:30am-8:30am
AM Peak Volume	80
AM PHF	0.74
PM Peak Period	3:30pm-4:30pm
PM Peak Volume	85
PM PHF	0.66

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total

Metro Traffic Data Inc.
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Prepared For:

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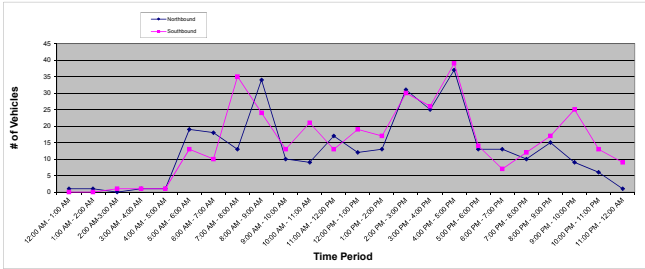
4305 Hacienda Dr, Suite 550
Pleasanton, CA 94588



Northbound

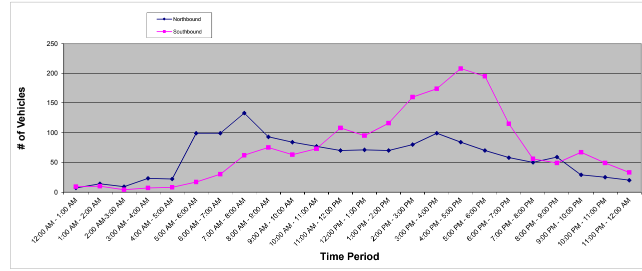
| Hour | Class 1 | | | | | Class 2 | | | | | Class 3 | | | | | Class 4 | | | | | Class 5 | | | | | Class 6 | | | | | Class 7 | | | | | Class 8 | | | | | Class 9 | | | | | Class 10 | | | | | Class 11 | | | | | Class 12 | | | | | Class 13 | | | | | Class 14 | | | | | Total |
|---|---|---

Metro Traffic Data Inc.

Description	Chowchilla Blvd n/o Kings Ave
Survey Date	Wednesday, May 29, 2019
Latitude	37.127539
Longitude	-120.2601048
Number of Lanes	2
Total Volume	3228
HV Percentage	22.3%
AM Peak Period	7:15am-8:15am
AM Peak Volume	203
AM PHF	0.86
PM Peak Period	4:15pm-5:15pm
PM Peak Volume	298
PM PHF	0.97

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Prepared For:

TJKM
4305 Hacienda Dr, Suite 550
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Northbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	**0**	2	0	0	0	**2**	0	1	1	0	**2**	0	0	0	0	**0**	0	1	1	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
1:00 AM - 2:00 AM	0	0	0	0	**0**	1	0	2	2	**5**	1	0	1	1	**3**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
2:00 AM-3:00 AM	0	0	0	0	**0**	3	0	0	1	**4**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
3:00 AM - 4:00 AM	0	0	0	0	**0**	2	0	2	11	**15**	0	2	2	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**
4:00 AM - 5:00 AM	0	0	0	0	**0**	2	2	5	5	**14**	0	1	2	0	**3**	0	0	0	0	**0**	0	0	0	2	**2**	0	0	0	0	**0**	0	0	0	0	**0**
5:00 AM - 6:00 AM	0	0	1	0	**1**	11	15	24	17	**67**	0	5	6	9	**20**	0	0	0	0	**0**	0	3	0	1	**4**	0	0	0	0	**0**	0	0	0	0	**0**
6:00 AM - 7:00 AM	2	1	0	0	**3**	18	15	18	18	**69**	2	2	4	4	**12**	1	0	0	0	**1**	5	2	1	0	**8**	0	0	1	1	**2**	0	0	0	0	**0**
7:00 AM - 8:00 AM	0	0	0	0	**0**	18	28	33	15	**94**	3	6	5	3	**17**	0	1	0	0	**1**	3	3	4	2	**12**	0	1	0	0	**1**	0	0	0	0	**0**
8:00 AM - 9:00 AM	0	0	0	3	**3**	16	18	14	11	**59**	5	2	3	2	**12**	0	0	1	1	**2**	4	4	4	1	**13**	0	0	1	0	**1**	0	1	0	0	**1**
9:00 AM - 10:00 AM	0	1	1	0	**2**	16	11	11	9	**47**	4	4	3	3	**14**	0	1	0	1	**2**	6	4	2	2	**14**	0	0	0	0	**0**	0	0	0	0	**0**
10:00 AM - 11:00 AM	0	0	1	0	**1**	11	9	8	10	**38**	4	9	4	4	**21**	0	0	1	0	**1**	1	4	2	2	**9**	1	1	0	0	**2**	0	0	0	0	**0**
11:00 AM - 12:00 PM	0	0	4	0	**4**	9	6	9	12	**36**	4	3	3	1	**11**	1	0	0	0	**1**	1	4	4	2	**11**	0	0	1	0	**1**	0	0	0	0	**0**
12:00 PM - 1:00 PM	0	0	0	0	**0**	13	7	8	12	**40**	4	5	3	4	**16**	0	0	0	0	**0**	0	3	2	2	**7**	2	1	0	0	**3**	0	0	0	0	**0**
1:00 PM - 2:00 PM	0	0	0	0	**0**	15	10	12	7	**44**	2	2	2	4	**10**	0	0	0	0	**0**	2	3	2	3	**10**	1	0	0	0	**1**	0	0	0	0	**0**
2:00 PM - 3:00 PM	0	1	0	0	**1**	8	13	16	9	**46**	7	2	4	1	**14**	0	0	0	0	**0**	3	2	0	5	**10**	1	0	0	1	**2**	0	0	0	0	**0**
3:00 PM - 4:00 PM	0	0	0	0	**0**	10	17	21	20	**68**	3	2	2	3	**10**	0	0	0	1	**1**	2	4	3	4	**13**	0	1	0	0	**1**	0	0	0	0	**0**
4:00 PM - 5:00 PM	0	0	0	0	**0**	15	16	13	19	**63**	1	3	4	6	**14**	0	0	0	0	**0**	2	1	2	0	**5**	0	0	1	0	**1**	0	0	0	0	**0**
5:00 PM - 6:00 PM	0	0	0	0	**0**	18	15	13	5	**51**	7	3	1	3	**14**	0	0	0	0	**0**	0	0	2	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
6:00 PM - 7:00 PM	0	0	0	0	**0**	12	10	15	6	**43**	0	2	5	1	**8**	0	0	0	0	**0**	2	0	1	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**
7:00 PM - 8:00 PM	0	1	0	0	**1**	11	6	8	12	**37**	3	4	1	1	**9**	0	0	0	0	**0**	1	1	0	0	**2**	0	0	1	0	**1**	0	0	0	0	**0**
8:00 PM - 9:00 PM	0	3	2	0	**5**	8	12	9	10	**39**	2	1	2	3	**8**	0	0	0	0	**0**	0	0	0	2	**2**	0	0	0	0	**0**	0	0	0	0	**0**
9:00 PM - 10:00 PM	0	0	1	0	**1**	7	10	5	3	**25**	1	0	0	0	**1**	0	0	0	0	**0**	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
10:00 PM - 11:00 PM	1	0	0	0	**1**	3	6	5	4	**18**	2	1	1	1	**5**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**
11:00 PM - 12:00 AM	0	0	0	3	**3**	7	5	1	2	**15**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**
Total	26					939					228					10					132					16					1				
Percentage	1.8%					65.0%					15.8%					0.7%					9.1%					1.1%					0.1%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	**0**	0	0	0	1	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**7**
1:00 AM - 2:00 AM	0	0	0	0	**0**	0	1	0	3	**4**	0	0	0	0	**0**	0	0	0	1	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**14**
2:00 AM-3:00 AM	0	0	0	0	**0**	1	0	0	0	**1**	0	0	0	0	**0**	0	1	0	1	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**9**
3:00 AM - 4:00 AM	0	0	0	0	**0**	0	2	2	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**23**
4:00 AM - 5:00 AM	0	0	1	0	**1**	1	0	1	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**22**
5:00 AM - 6:00 AM	0	0	0	0	**0**	1	1	3	0	**5**	0	0	0	0	**0**	0	1	0	1	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**99**
6:00 AM - 7:00 AM	0	1	0	1	**2**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	**99**
7:00 AM - 8:00 AM	0	0	1	1	**2**	2	0	0	3	**5**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**133**
8:00 AM - 9:00 AM	0	0	0	0	**0**	0	1	1	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**93**
9:00 AM - 10:00 AM	0	0	0	0	**0**	1	1	2	0	**4**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**84**
10:00 AM - 11:00 AM	0	1	0	0	**1**	0	1	1	2	**4**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**77**
11:00 AM - 12:00 PM	0	0	0	0	**0**	0	1	2	1	**4**	0	0	0	0	**0**	2	0	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**70**
12:00 PM - 1:00 PM	0	1	0	0	**1**	0	0	1	3	**4**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**71**
1:00 PM - 2:00 PM	0	1	0	0	**1**	0	2	0	1	**3**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**70**
2:00 PM - 3:00 PM	0	0	1	0	**1**	1	1	4	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**80**
3:00 PM - 4:00 PM	0	0	0	2	**2**	1	2	0	0	**3**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**99**
4:00 PM - 5:00 PM	0	0	0	0	**0**	0	0	0	1	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**84**
5:00 PM - 6:00 PM	0	0	0	0	**0**	0	1	2	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**70**
6:00 PM - 7:00 PM	0	0	0	0	**0**	2	1	0	0	**3**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**58**
7:00 PM - 8:00 PM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**50**
8:00 PM - 9:00 PM	1	0	0	1	**2**	0	2	0	1	**3**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**59**
9:00 PM - 10:00 PM	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**29**
10:00 PM - 11:00 PM	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**25**
11:00 PM - 12:00 AM	0	0	0	0	**0**	0	0	1	1	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**20**
Total	14					66					1					11					0					1					0					1445
Percentage	1.0%					4.6%					0.1%					0.8%					0.0%					0.1%					0.0%					100.0%

6:45am-7:45am AM PK 133 AM PHF 0.76 3:15pm-4:15pm PM PK 101 PM PHF 0.84 HV Percent 17.4%

Southbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	**0**	1	0	4	1	**6**	0	0	0	1	**1**	0	0	0	0	**0**	0	1	0	1	**2**	0	0	0	0	**0**	0	0	0	0	**0**
1:00 AM - 2:00 AM	0	0	0	0	**0**	3	1	4	0	**8**	0	0	0	1	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**
2:00 AM-3:00 AM	0	0	0	0	**0**	0	1	1	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	1	0	0	0	**1**	0	0	1	0	**1**	0	0	0	0	**0**
3:00 AM - 4:00 AM	0	0	0	0	**0**	0	0	1	2	**3**	0	0	0	1	**1**	0	0	0	0	**0**	1	0	0	1	**2**	0	0	0	0	**0**	0	0	0	0	**0**
4:00 AM - 5:00 AM	0	0	1	0	**1**	0	0	1	2	**3**	0	0	0	1	**1**	0	0	0	0	**0**	0	1	1	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
5:00 AM - 6:00 AM	0	0	0	0	**0**	0	5	2	2	**9**	0	0	0	1	**1**	0	0	0	0	**0**	0	0	3	1	**4**	0	1	1	1	**3**	0	0	0	0	**0**
6:00 AM - 7:00 AM	0	0	0	0	**0**	3	3	7	9	**22**	0	1	2	1	**4**	0	0	1	0	**1**	1	0	1	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
7:00 AM - 8:00 AM	0	0	0	0	**0**	4	7	7	11	**29**	1	2	2	5	**10**	0	0	0	0	**0**	2	5	5	8	**20**	0	1	0	0	**1**	0	0	0	0	**0**
8:00 AM - 9:00 AM	0	1	0	1	**2**	7	6	12	8	**33**	1	2	2	3	**8**	0	0	0	1	**1**	8	5	5	9	**27**	0	0	0	1	**1**	0	0	0	0	**0**
9:00 AM - 10:00 AM	0	0	0	0	**0**	4	5	11	8	**28**	0	3	3	2	**8**	1	1	0	0	**2**	4	6	9	2	**21**	1	0	1	0	**2**	0	0	0	0	**0**
10:00 AM - 11:00 AM	0	0	0	0	**0**	8	11	7	9	**35**	1	4	3	2	**10**	0	0	0	0	**0**	3	6	6	9	**24**	0	0	0	0	**0**	0	0	0	0	**0**
11:00 AM - 12:00 PM	2	0	1	0	**3**	16	14	11	17	**58**	4	4	5	1	**14**	0	0	0	0	**0**	8	7	10	2	**27**	0	1	0	0	**1**	1	0	0	0	**1**
12:00 PM - 1:00 PM	0	1	0	0	**1**	13	10	10	14	**47**	2	9	4	3	**18**	1	0	0	0	**1**	5	3	1	8	**17**	0	1	0	0	**1**	0	0	0	0	**0**
1:00 PM - 2:00 PM	0	0	0	0	**0**	9	12	16	23	**60**	2	5	4	7	**18**	1	0	0	1	**2**	5	8	5	10	**28**	0	0	0	0	**0**	0	0	0	0	**0**
2:00 PM - 3:00 PM	3	0	0	1	**4**	23	18	37	21	**99**	4	2	9	5	**20**	1	1	0	0	**2**	3	3	14	6	**26**	1	0	0	1	**2**	0	0	0	0	**0**
3:00 PM - 4:00 PM	1	0	0	0	**1**	23	29	29	25	**106**	7	5	1	6	**19**	1	0	0	0	**1**	9	9	11	12	**41**	0	0	0	0	**0**	0	0	0	0	**0**
4:00 PM - 5:00 PM	0	0	0	0	**0**	29	34	33	35	**131**	10	12	4	6	**32**	0	1	0	1	**2**	9	9	10	9	**37**	0	1	1	0	**2**	0	0	0	0	**0**
5:00 PM - 6:00 PM	0	0	1	0	**1**	33	31	27	28	**119**	3	14	10	6	**33**	1	0	0	0	**1**	11	8	7	11	**37**	0	0	0	0	**0**	0	0	0	0	**0**
6:00 PM - 7:00 PM	0	0	0	0	**0**	24	23	24	19	**90**	4	3	4	2	**13**	0	0	0	0	**0**	5	2	3	1	**11**	0	0	0	0	**0**	0	0	0	0	**0**
7:00 PM - 8:00 PM	0	0	0	0	**0**	8	8	14	12	**42**	3	1	3	0	**7**	0	0	0	0	**0**	3	2	0	2	**7**	0	0	0	0	**0**	0	0	0	0	**0**
8:00 PM - 9:00 PM	0	0	0	0	**0**	5	10	10	12	**37**	1	1	0	0	**2**	0	0	0	0	**0**	1	3	2	1	**7**	0	0	0	0	**0**	0	0	0	0	**0**
9:00 PM - 10:00 PM	2	0	2	0	**4**	11	13	8	9	**41**	2	2	4	3	**11**	0	0	0	0	**0**	2	1	1	0	**4**	0	0	0	2	**2**	0	0	0	0	**0**
10:00 PM - 11:00 PM	0	0	1	0	**1**	9	10	13	6	**38**	1	0	0	1	**2**	0	0	0	0	**0**	3	1	2	1	**7**	1	0	0	0	**1**	0	0	0	0	**0**
11:00 PM - 12:00 AM	1	0	0	2	**3**	4	3	1	0	**8**	2	0	2	1	**5**	0	0	0	0	**0**	4	4	0	4	**12**	0	0	0	0	**0**	0	0	0	0	**0**
Total	21					1054					239					13					366					17					1				
Percentage	1.2%					59.1%					13.4%					0.7%					20.5%					1.0%					0.1%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**9**
1:00 AM - 2:00 AM	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**10**
2:00 AM-3:00 AM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**4**
3:00 AM - 4:00 AM	0	0	0	1	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**7**
4:00 AM - 5:00 AM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	1	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**8**
5:00 AM - 6:00 AM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**17**
6:00 AM - 7:00 AM	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**30**
7:00 AM - 8:00 AM	1	0	0	0	**1**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**62**
8:00 AM - 9:00 AM	0	0	0	1	**1**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**75**
9:00 AM - 10:00 AM	1	0	0	1	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**63**
10:00 AM - 11:00 AM	0	0	1	0	**1**	2	0	1	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**73**
11:00 AM - 12:00 PM	0	0	0	1	**1**	1	0	1	1	**3**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**108**
12:00 PM - 1:00 PM	0	3	0	0	**3**	2	1	2	2	**7**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**95**
1:00 PM - 2:00 PM	0	1	2	0	**3**	2	0	2	1	**5**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**116**
2:00 PM - 3:00 PM	2	1	0	1	**4**	0	3	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**160**
3:00 PM - 4:00 PM	2	0	0	0	**2**	1	1	0	1	**3**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**174**
4:00 PM - 5:00 PM	1	0	0	0	**1**	1	0	2	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**208**
5:00 PM - 6:00 PM	0	0	0	0	**0**	1	2	0	1	**4**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**195**
6:00 PM - 7:00 PM	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**115**
7:00 PM - 8:00 PM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**56**
8:00 PM - 9:00 PM	1	0	0	1	**2**	0	0	0	1	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**49**
9:00 PM - 10:00 PM	0	0	2	0	**2**	0	0	0	2	**2**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**67**
10:00 PM - 11:00 PM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**49**
11:00 PM - 12:00 AM	0	0	0	1	**1**	1	0	2	1	**4**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**33**
Total	28					40					0					2					2					0					0					1783
Percentage	1.6%					2.2%					0.0%					0.1%					0.1%					0.0%					0.0%					100.0%

11:00am-12:00am AM PK 108 AM PHF 0.84 4:00pm-5:00pm PM PK 208 PM PHF 0.91 HV Percent 26.3%

Appendix D

Caltrans signal timing sheet for signalized intersections

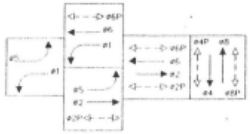
NOTES:

1. ALL PULL BOXES SHALL BE NO. 5 WITH EXTENSION UNLESS OTHERWISE NOTED ON PLAN.
2. SIGNAL CABLE SHALL NOT BE SPLICED AND SHALL RUN FROM TERMINAL STRIP TO CONTROLLER CABINET.
3. ALL LOOPS SHALL HAVE THE TERMINAL LUGS IN THE CONTROLLER CABINET CRIMPED & SOLDERED.
4. ALL WORK SHALL CONFORM TO STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS & R/S STANDARD PLANS, ADOPTED 1988.
5. ALL SIGNAL SECTIONS SHALL BE 12" IN DIAMETER.
6. ALL INTERSECTION SAFETY LIGHTS ARE 240V, 200W HPS W/ TYPE IV PEC.
7. SAW CUT EXISTING ASPHALT AND INSTALL CONCRETE AS SHOWN. REPAVE AREA TO MATCH EXISTING.
8. NO PULL BOXES SHALL BE LOCATED IN THE DRIVE WAY AREA.
9. EXISTING #5 PULL BOX.
10. CONTRACTOR TO FURNISH & INSTALL MAGNETIC DETECTOR AS SHOWN IN EXISTING CONDUIT & WIRE UNDER CONDUCTORS TO CONTROLLER.
11. CONTRACTOR TO EXTEND EXISTING 1 1/2"C TO PULL BOX AS SHOWN.
12. THE PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

SERVICE PEDESTAL CIRCUIT SCHEDULE

CONTRACTOR TO BE VERIFIED & UPDATED

1) 100 A. MAIN BREAKER
2) 4 P. 20 A. INTERSECTION SAFETY LIGHTING (240V)
3) 20 A. RECEPTACLE
4) 20 A. SAFETY LIGHTING TEST SWITCH
5) 20 A. IRRIGATION (FUTURE)
6) 20 A. SPARE
7) 20 A. SPARE

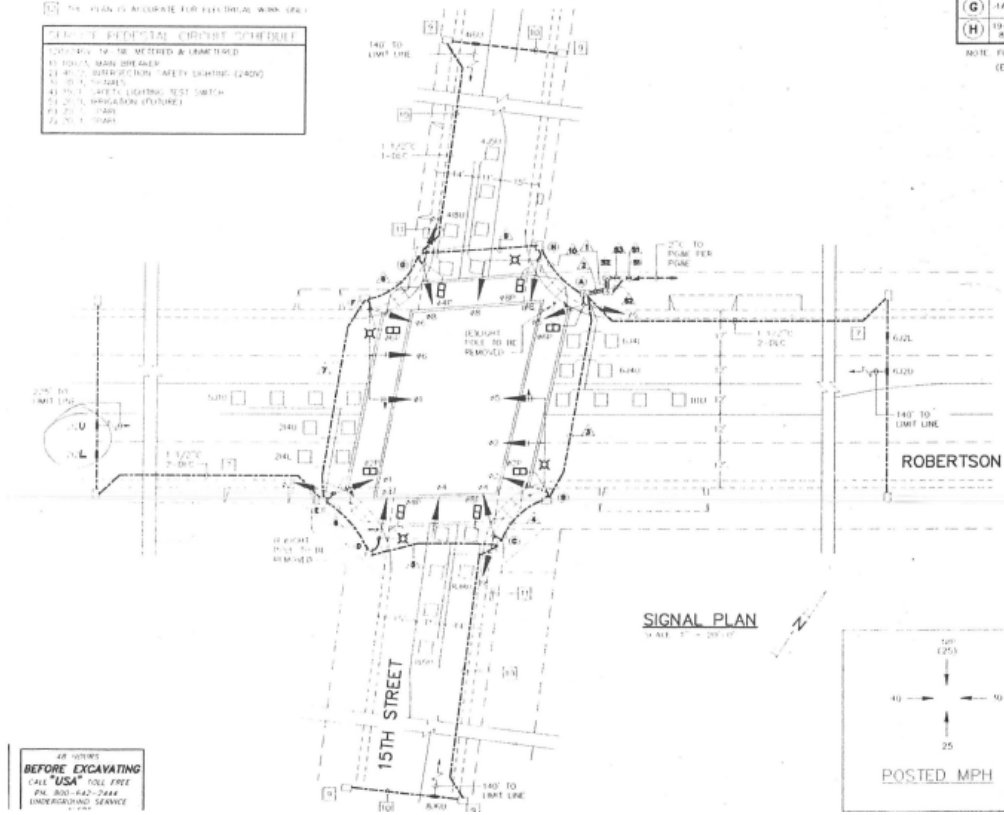


PHASE DIAGRAM

EQUIPMENT SCHEDULE

LOCATION	POLE TYPE	MAST ARM LENGTH SIGNAL	MAST ARM LENGTH LUMINAIRE	SIGNAL MOUNTING POST	SIGNAL MOUNTING MAST-ARM	SIGNAL MOUNTING PED	BACK PLATE	PPB TYPE/ø	PPB TYPE/ARROW	LUMINAIRE HPS	NOTES
(S1)											SERVICE EQUIPMENT ENCLOSURE, TYPE III-AF TESCO TYPE 21-100BS OR APPROVED EQUAL
(S2)											PROVIDE & INSTALL NEW 170 CONTROLLER & TYPE 332 CABINET PER CALTRANS STD. PLANS & SPECS. & BATTERY BACKUP POWER SUPPLY - SEE SPECIAL PROVISION
(A)	1A			TV-2-T		SP-1-T	2	8	→		
(B)	24-3-80	35'	12'	SV-1-T	MAS(35') MAS(18')	SP-1-T	3	8	→	200W	200W HPS LUMINAIRE (240V) W/ TYPE IV PEC
(C)	1A			TV-2-T		SP-1-T	2	2	→		
(D)	19-3-80	20'	12'	SV-1-T	MAS(20')	SP-1-T	2	2	→	200W	200W HPS LUMINAIRE (240V) W/ TYPE IV PEC
(E)	1A			TV-2-T		SP-1-T	2	4	→		
(F)	24-3-80	35'	12'	SV-1-T	MAS (35') MAS (17')	SP-1-T	3	4	→	200W	200W HPS LUMINAIRE (240V) W/ TYPE IV PEC
(G)	1A			TV-2-T		SP-1-T	2	6	→		
(H)	19-3-80	20'	12'	SV-1-T	MAS(20')	SP-1-T	2	6	→	200W	200W HPS LUMINAIRE (240V) W/ TYPE IV PEC

NOTE: FURNISH & INSTALL ALL NEW EQUIPMENT IN THIS PROJECT UNLESS OTHERWISE NOTED.
(E)=EXISTING



SIGNAL PLAN

CABLE SCHEDULE

CABLE TYPE	STD	PHASE	CONDUIT RUN NUMBER AND SIZE
VEH-PED 12C / 11-#14 1-#12	(A)	5,6,6P	8
	(B)	2,5,5P	8
	(C)	4,8,8P	2
	(D)	4, 4P	2
	(E)	1,2,2P	4
	(F)	1,6,6P	4
	(G)	4,8,4P	6
	(H)	8,8P	6
PPB 5C / 3-#14			
		TOTAL	8/8 8/8 4/4 3/3 2/2 1/1 1/1 2/2 3/3

AWG	CIRCUIT	1	2	3	4	5	6	7	8	9	10
#14	SIGNALS	2	2								
#12	INTERSECTION LIGHTING	4	4	2	2	2	2	2	2	2	2
#6	ROADWAY LIGHTING										
	DETECTORS TYPE III-D/C										
	PHASE										
	#1			1	1						
	#5			1	1						
	#2/#6			2	2	2	2	2			
	#4					2	2	2			
	#4/#8					1	1	1			
	#3									2	2
	#7									1	1
	#3/#7										
	#8			2	2	2					
	#8/#8			1	1	1					
	TOTAL			10	10	8	5	5		3	3

OCT 24 '07

811 NOTICE
BEFORE EXCAVATING
CALL "USA" TOLL FREE
PH. 800-642-2444
UNDERGROUND SERVICE

GIERSCH & OLSON CIVIL ENGINEERS
RIVERSIDE, CALIFORNIA

CLIENT: CITY OF CHOWCHILLA

PROJECT: ROBERTSON BOULEVARD AND 15TH STREET

CONSTRUCTION PLANS

FOR

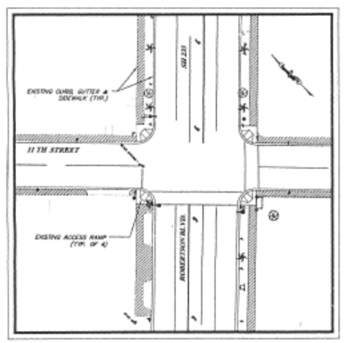
ROBERTSON BLVD. (SR 233) / 11TH STREET TRAFFIC SIGNAL

CITY OF CHOWCHILLA

MADERA COUNTY, CALIFORNIA

FUNDED BY SR2SL - 5258 (014)

Location Map
N.T.S.



Project Intersection
N.T.S.

Project Location Map
N.T.S.

CA: 1-800-227-2600
NV: 1-800-227-2600

NOTE:
CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTACT UNDERGROUND SERVICES ALERT TO LOCATE EXISTING UTILITIES 48 HOURS PRIOR TO CONSTRUCTION AT 1-800-227-2600.

CONTRACTORS: These improvement plans have been prepared with the intent that the engineering firm of Giersch & Associates, Inc. will be performing the construction staking for the complete project. If anyone other than the design engineer is employed to use these plans for the purpose of construction staking, notice is hereby given that the firm of Giersch & Associates, Inc. will not assume any responsibility for errors or omissions, if any, which might occur and which could have been avoided, corrected, or mitigated if the firm of Giersch & Associates, Inc. had performed the staking work.

The existence and approximate location of underground utilities or structures shown on these plans were determined from information provided by a field investigation and Record Information. There may be other utilities and or structures in the area. The contractor is required to take due precautionary measures to protect the utilities or structures shown and any other utilities or structures that may be at the site. It shall be the contractor's responsibility to notify the owners of the utilities or structures concerned and call USA Alert 1-800-227-2600 before starting work. Where on-site utilities are not covered by USA Alert and precautionary measure justify, the contractor shall employ a professional to locate existing utilities and structures.

Construction contractor agrees that in accordance with generally accepted construction practices, construction contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property; that this requirement shall be made to apply continuously and not be limited to normal working hours, and construction contractor further agrees to defend, indemnify and hold design professional harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting liability arising from the sole negligence of the design professional.

UNAUTHORIZED CHANGES AND USES: Giersch & Associates, Inc. will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of the plans.

California Council of Civil Engineers & Land Surveyors

GIERSCH & ASSOCIATES
CIVIL ENGINEERS
421 No. "I" Street
Madera, California 93637
(559) 673-5981 FAX 675-3544
E-mail: office@gai-online.com

DATE: 9/30/05

DATE: September 30, 2005

SEPTEMBER 2005

Sheet Index

These plans have been approved for Encroachment Permit No. 1/25/06

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
02 107535

City Council

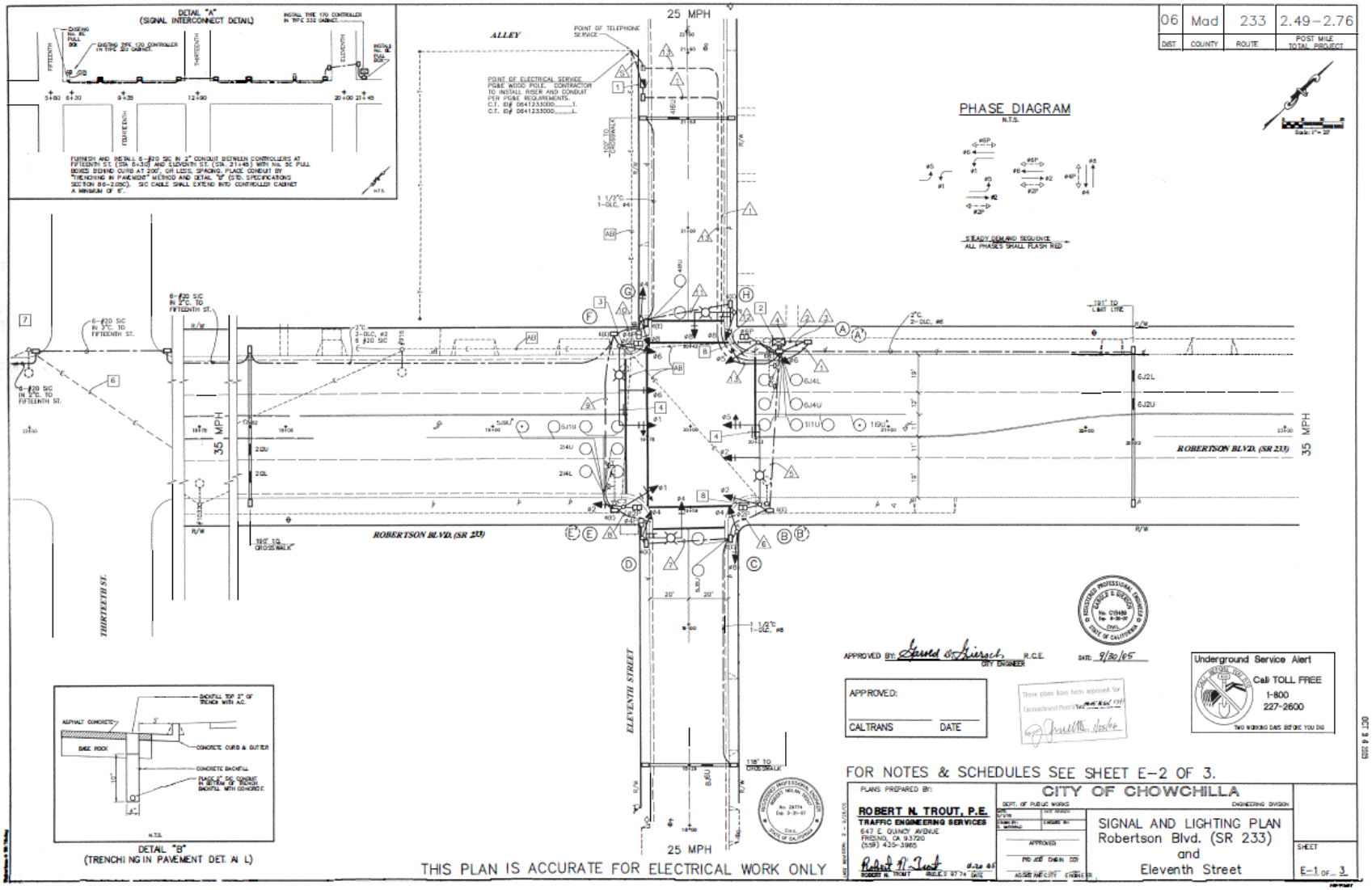
Albert Lucchesi	Mayor
Ronald Harris	Mayor Pro Tem
Jerry Belton	
Alfred Ginsburg	
Ray Warner	

Nancy Red	City Administrator	665-8615
Doug Lackey	Deputy Director of Public Services	665-8615
Jay Varney	Police Chief	665-8600
Harry Turner	Fire Chief	665-8625
Richard Hargrove	City Attorney	261-0163
Giersch & Associates	City Engineers	673-5981
Pacific Gas & Electric		675-2216
SBC - Emergency Repair		611
SBC - Engineering		209-383-3330
Central Valley Cable		665-5748
Underground Utility Locating Service		800-642-2444

All Area Codes are 559 unless otherwise indicated

Robertson Blvd. / 11th Street (SR233) Traffic Signal
City of Chowchilla
101P0411
SEPT 2005
GIERSCH & ASSOCIATES CIVIL ENGINEERS

SHEET 1 OF 3 SHEETS
JOB NO. 101P0411
FILE NO. 101P0411Q1 1289



06	Mad	233	2.49–2.76
DIST.	COUNTY	ROUTE	POST MILE TOTAL PROJECT

06	Mad	233	2.49–2.76
DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT

POLE AND EQUIPMENT SCHEDULE

NO	STANDARD TYPE	STANDARD SIG. MA.	STANDARD LUM. MA.	STANDARD MAST ARM	VEH SIG MTG POLE	PED SIG #	PED SIG MTG	PPB #	PPB ARROW	HPS LUM	SPECIAL REQUIREMENTS
(A)	1-A(10')	---	---	---	TV-3-T	8	SP-1-T	---	---	---	---
(A')	9A E	18' E	---	---	---	---	---	---	---	---	REMOVE AND SALVAGE [5]
(B)	28-4-129	40'	12'	MAS,MAS	SV-1-T	2	SP-1-T	---	---	200 W	"F DIST" = 15', SNS "Eleventh St"
(B')	15 E	---	12' E	---	---	---	---	---	---	100 W E	REMOVE AND SALVAGE [7]
(C)	1-A(10')	---	---	---	TV-2-T	---	SP-1-T	2	⟵	---	---
(D)	17-2-129	20'	12'	MAS	SV-1-T	4	SP-1-T	2	⟵	200 W	SNS "Robertson Blvd"
(E)	1-A(10')	---	---	---	TV-2-T	2	SP-1-T	4	⟵	---	---
(E')	9A E	18' E	---	---	---	---	---	---	---	---	REMOVE AND SALVAGE [5]
(F)	28-4-129	40'	12'	MAS,MAS	SV-1-T	6	SP-1-T	4	⟵	200 W	"F DIST" = 15', SNS "Eleventh St"
(G)	1-A(10')	---	---	---	TV-2-T	6	SP-1-T	6	⟵	---	---
(H)	17-2-129	20'	12'	MAS	SV-1-T	---	SP-1-T	6	⟵	200 W	SNS "Robertson Blvd"

E = EXISTING
SNS = CALTRANS TYPE G7 SIGN (CONTRACTOR FURNISH AND INSTALL)

CONDUCTOR AND CONDUIT SCHEDULE

CABLE SCHEDULE			CONDUCTOR RUN NUMBER AND SIZE												
CABLE TYPE	STD	PHASE	1 2"	2 2"	3 2"	4 2"-3"	5 3"	6 3"	7 3"	8 3"	9 3"	10 3"	11 3"	12 3"	13 2"
VEH-PED 12C/ 11-#14 1-#12	(A)	5,6,6P				1									
	(B)	2,5,2P				1	1								
	(C)	4,8 2				1	1	1	1						
	(D)	4,4P 2				1	1	1	1	1					
	(E)	1,2,2P 4				1	1	1	1	1	1				
	(F)	1,6,6P 4				1	1					1	1	1	1
	(G)	4,6,4P 6				1	1						1	1	1
PPB 3C/ 3-#14	(H)	6 6				1	1							1	1
	TOTAL		0	0	0	8	6	4	3	3	2	1	0	1	2	3	3
AWG	CIRCUIT														
#4	SIGNALS		2	2											
#6	LIGHTING		4		4		2	2	2			2	2	2	
6-#19	TELEPHONE					1									1
6-#20	SIC					1					1	1	1		
DETECTORS															
TYPE B DLC															
PHASE															
#1						2									
#2						2					2	2	2	2	
#2 adv						2						2	2	2	
#4						1							1	1	
#4 adv						1							1	1	
#5						2					2	2	2	2	
#6						2									
#6 adv						2									
#8						1	1	1							
#8 adv						1	1	1							
TOTAL			0	0	0	16	2	2	0	0	4	6	8	8	0

adv = ADVANCE MAGNETIC PROBES
△ = PG and E SERVICE, 3 EA. #2.

GENERAL NOTES

1. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND FACILITIES AND PROVIDE PROTECTION PRIOR TO AND DURING TRENCHING, JACKING OR BORING. CONTACT UNDERGROUND SERVICE ALERT TOLL FREE AT (800) 642-2444 48 HOURS PRIOR TO EXCAVATING.
2. CONTRACTOR SHALL ARRANGE WITH UTILITY COMPANY FOR UTILITY RELOCATION INCLUDING OVERHEAD CONFLICTS.
3. ALL SIGNAL INDICATIONS SHALL BE 12"
4. ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LIGHT EMITTING DIODE (LED), FURNISHED BY CALTRANS AND INSTALLED BY CONTRACTOR.
5. ALL PULL BOXES SHALL BE No. 5 WITH EXTENSION UNLESS OTHERWISE NOTED.
6. SEE SECTION 24 IN SPECIAL PROVISIONS FOR SIGNING/STRIPING.

APPLICABLE STATE STANDARD PLANS, JULY 2004

ES-1A, ES-1B, ES-2A, ES-2C, 2S-2F, ES-3C, ES-4A, ES-4B, ES-4C, ES-4D, ES-4E, ES-5A, ES-5B, ES-5C, ES-5E, ES-7B, ES-7D, ES-7F, ES-7M, ES-7N, ES-7P, ES-8, ES-10, ES-11, ES-13A, ES-13B

PROJECT NOTES (SEE SHEET 1 OF 2)

[1] 120/240 VOLT 1ø, 3 WIRE, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE.

SINGLE PHASE CALTRANS ID No. (0641233000_____T)

AMPS	VOLTS	POLES	LOAD	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	———
60	120	1	TRAFFIC SIGNAL	YES	———
30	120	1	SPARE	YES	———
--	--	2	SPACE	YES	———

SINGLE PHASE CALTRANS ID No. (0641233000_____L)

AMPS	VOLTS	POLES	LOAD	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	———
40	240	2	HIGHWAY LIGHTING	YES	IV
30	120	1	SPARE	YES	———
--	--	2	SPACE	YES	———

[2] CONTRACTOR SHALL DELIVER AND INSTALL CALTRANS FURNISHED MODEL 170 CONTROLLER ASSEMBLY AND MODEL 332-A CABINET WITH BATTERY BACKUP POWER SUPPLY, 12" LED VEHICLE MODULES, AND LED PEDESTRIAN MODULES. POLICE PANEL TO FACE ROUTE 233. CONSTRUCT 6' WIDE BY 15' LONG CONCRETE SIDEWALK AROUND CONTROLLER CABINET.

[3] REMOVE AND SALVAGE EXISTING WOOD POLE, TYPE A SERVICE, STREETLIGHT (#1042), AND FLASHING BEACON CONTROL ASSEMBLY. RETURN TO ELECTRICAL MAINTENANCE, 1283 N. WEST AVE., FRESNO, CA

[4] FURNISH AND INSTALL 36"x36", TYPE R73-3 SIGN IN SIGNAL MAST ARM 3' FROM MAS VEHICLE SIGNAL.

[5] COMPLETELY REMOVE CONCRETE FOUNDATIONS AND PULL BOXES AT (A'), (B') AND (E'). BACKFILL HOLES AND COMPACT AS DIRECTED BY THE ENGINEER.

[6] COORDINATE WITH PG&E, THE INSTALLATION OF APPROXIMATELY 400' OF OVERHEAD ELECTRICAL TO SERVE TWO REMAINING STREET LIGHT NOS. 1032 AND 916. WIRING TO BE PER PG&E SPECIFICATIONS.

[7] MAKE CONNECTION TO EXISTING STREET LIGHT SYSTEM COMING FROM THE SOUTH WEST. ADD TWO REMAINING STREET LIGHTS (NOTE [6]) TO EXISTING SYSTEM PER PG&E SPECIFICATIONS.

[8] CONTRACTOR TO FURNISH AND INSTALL TYPE I, PEDESTRIAN BARRICADE, PER STD. PLAN ES-7P. FURNISH AND INSTALL TYPE R49 (LT) AND R49 (RT) ON BARRICADES.

APPROVED BY: Jarrod A. Lucier CITY ENGINEER R.C.E. DATE: 9/30/05

APPROVED: _____ CALTRANS _____ DATE

These plans have been approved for Encroachment Permit No. FRE 233 0391 by _____ on 1/26/06

Underground Service Alert — Call TOLL FREE 1-800 227-2600 — TWO WORKING DAYS BEFORE YOU DIG

FOR PLAN SEE SHEET E1 OF 3.

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

PLANS PREPARED BY:
ROBERT N. TROUT, P.E.
TRAFFIC ENGINEERING SERVICES
647 E. QUINCY AVENUE
FRESNO, CA 93720
(559) 435-3965
Robert N. Trout 10-30-05
ROBERT N. TROUT R.C.E. 29774 DATE

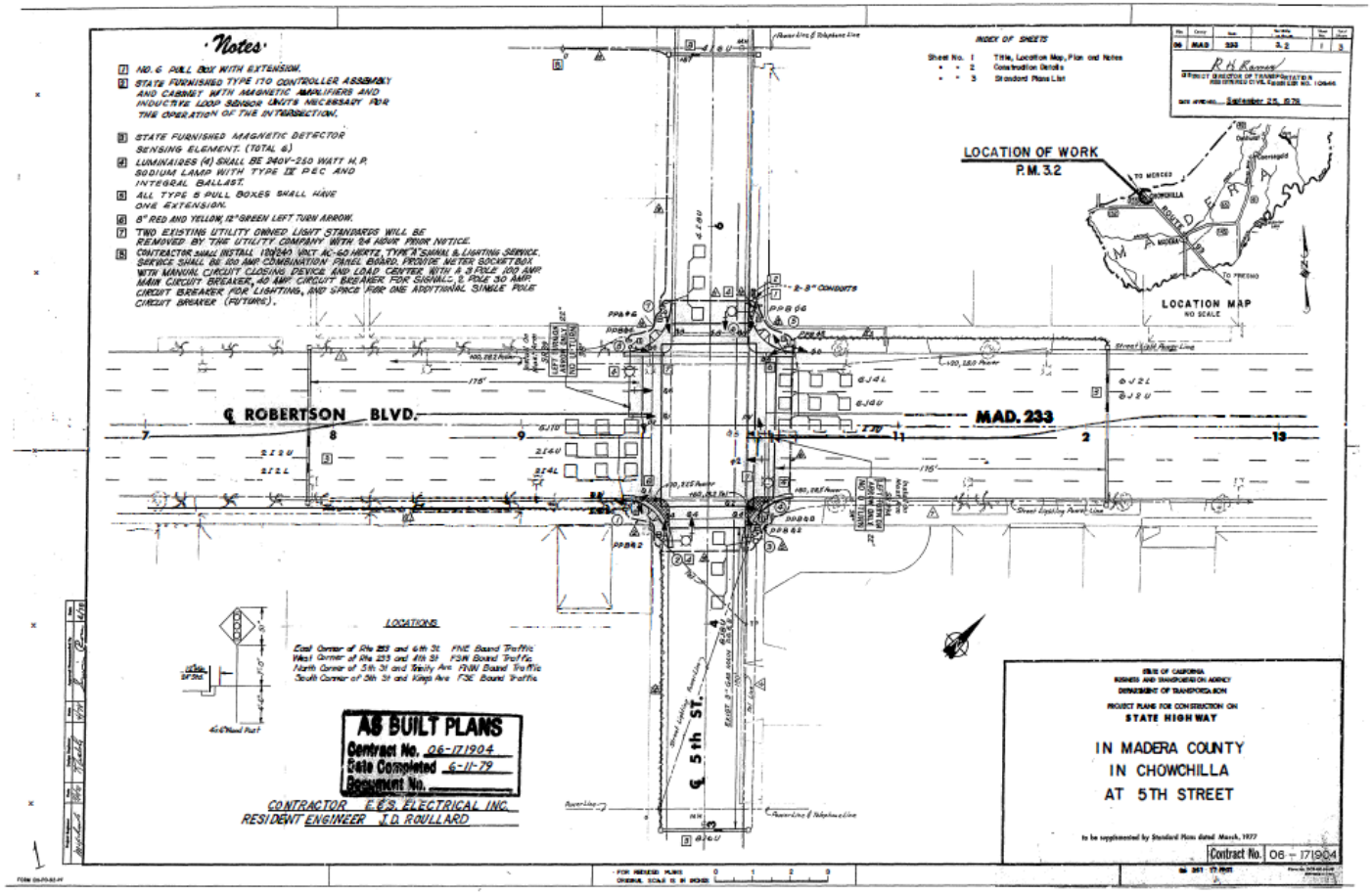
CITY OF CHOWCHILLA
DEPT. OF PUBLIC WORKS — ENGINEERING DIVISION
DATE: 10/7/05 — DATE REVISED:
DRAWN BY: D. McDONALD — CHECKED BY:
APPROVED:
PROJECT ENGINEER
ASSISTANT CITY ENGINEER

SIGNAL AND LIGHTING NOTES
Robertson Blvd. (SR 233)
and
Eleventh Street

SHEET E-2 OF 3

OCT 18 2005

LAST REVISED: 2 - 4:29:26



AS BUILT PLANS
Contract No. 06-171904
Date Completed 6-11-79
Document No.

No.	County	Route	Post Miles Total Project	Sheet No.	Total Sheets
06	Mad	233	3.2	2	3

REGISTERED CIVIL ENGINEER

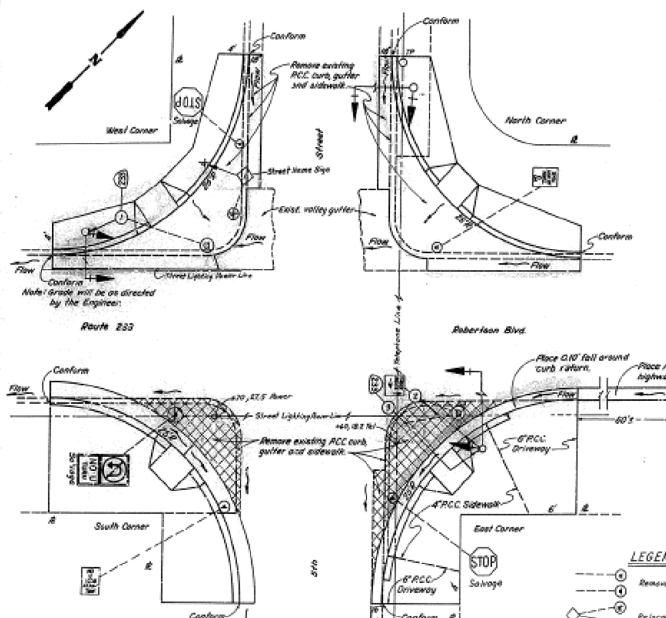
DATE APPROVED September 25, 1978

CONDUCTOR SCHEDULE

AWG	RUN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	CONDUIT SIZE	1½	2½	2½	1	3	3	1½	2½	1½	1½	2½	1¼	1½
AWG	CIRCUIT													
14	Ø 1		3	3		3	3		3		3	3		
	Ø 2		3	3		3	3		3					
	Ø 4			3		3	3		3					
	Ø 5						3		3					
	Ø 6								3		3	3		
	Ø 8											3	3	
	Ø 2 PED.		2	2		2	2		2					
	Ø 4 PED.			2		2	2		2			2		
	Ø 6 PED.								2		2	2		
	Ø 8 PED.					2	2		2				2	
	Ø 2 P.P.B.			1		1	1		1					
	Ø 4 P.P.B.		1	1		1	1		1		1	1		
	Ø 6 P.P.B.											1	1	
	Ø 8 P.P.B.						1		1					
	SPARES		3	3		3	3		6		3	3	3	
	P.P.B. COMMON		1	1		1	1		1		1	1	1	
2#18	Ø 1 LOOP DET.								1					
CABLE	Ø 2 " "		2	2		2	2		2					
	Ø 4 " "											1		
	Ø 5 " "		1	1		1	1		1					
	Ø 6 " "								2					
	Ø 8 " "					2	1		1					
	Ø 1 ANGLE/K DET	2	2	2		2	2		2		2	2		
	Ø 4 " "									1		1		
	Ø 6 " "						2	2	1					
	Ø 8 " "			+	1	1	1		1					
8	LIGHTING			2		2	2		2	2	2	2	2	2
8	SERVICE									2		2		2
10	COMMON		1	1		1	1		1		1	1	1	

POLE SCHEDULE

STANDARD		VEH. MTG.		PED. MTG.		REMARKS
No.	Description	Pole	M.A.	Type	P.P.B.	
1	TYPE 1A	TY-1-T		SP-1-T	Ø4	
2	TYPE 15-1-30	SV-1-T	MAS	SP-1-T	Ø2	12'LA,15' SA
3	TYPE 1A	TY-1-T		SP-1-T	Ø2	
4	TYPE 26-3-30	SV-1-T	MAS,30'	SP-1-T	Ø8	15'LA,40' MA
5	TYPE 1-A	TY-1-T		SP-1-T	Ø8	
6	TYPE 15-1-30	SV-1-T	MAS	SP-1-T	Ø6	12'LA,15' MA
7	TYPE 1-A	TY-1-T		SP-1-T	Ø6	
8	TYPE 24-3-30	SV-1-T	MAS/(?)	SP-1-T	Ø4	15'LA,35' SA
9						
10						
11						
12						
13						
14						
15						
16						



CORNER PLANS

Scale: 1" = 5'

LEGEND

Remove Existing Sign

Relocate Existing Sign (Metal Post)

Relocate Existing Sign (Strap And Saddle Bracket Method)

0.5' A.C. Pavement

TYPICAL TYPE A2-6 MODIFIED CURB

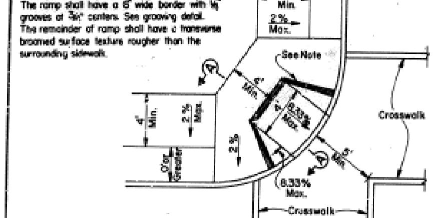
Scale: 1" = 1'

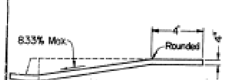
*Variable - 1'-6" for North and West Corners.
1'-4" for East Corner.
2'-0" for South Corner.

AS BUILT PLANS
Contract No. 06-171904
Date Completed 6-11-79
Document No.

NOTE

The ramp shall have a 6" wide border with ¼" grooves at ¾" centers. See grooving detail. The remainder of ramp shall have a transverse broomed surface texture rougher than the surrounding sidewalk.





SECTION A-A

GROOVING DETAIL

WHEELCHAIR RAMP DETAILS

CONSTRUCTION DETAILS

AS BUILT PLANS
Contract No. 06-171904
Date Completed 6-11-79
Document No.

GENERAL ROAD WORK

- ☐A35-A2 P.C.C. Paving Details.
- ☐A35-B Approach Slab.
- ☐A62-A3 Excavation and Backfill Miscellaneous - Limits of Payment.
- ☐A62-BA Excavation and Backfill Bridge Surcharge and Wall - Limits of Payment.
- ☐A62-BB Excavation and Backfill Bridge - Limits of Payment.
- ☐A62-CA Construction Details. Concrete and Asbestos Cement Culverts.
- ☐A62-CB Construction Details. Metal Culverts.
- ☐A62-CC Excavation and Backfill - Reinforced Concrete and Asbestos Cement Culverts - Limits of Payment.
- ☐A62-CD Excavation and Backfill Metal Culverts - Limits of Payment.
- ☐A73-10 Timber Barricade, Raised Traffic Bars, Dikes and Road Intersections.
- ☐A74-A7 Markers.
- ☐A74-B3 Markers and Monuments.
- ☐A75-A5 Concrete Barrier Type 50.
- ☐A75-B4 Concrete Barrier Type 50.
- ☐A76-A10 Cable Barrier.
- ☐A76-B5 Cable Barrier.
- ☐A77-A10 Metal Beam Barrier.
- ☐A77-B10 Metal Beam Barrier.
- ☐A77-C8S Metal Beam Guard Railing, Steel Post.
- ☐A77-C8W Metal Beam Guard Railing, Wood Post.
- ☐A77-D2S Guard Rail Anchors, Steel Post.
- ☐A77-D2W Barrier and Guard Rail Anchs. - Wood Post.
- ☐A77-E4 Cable Anchor Assembly, Breakaway.
- ☐A77-F Thrie Beam Barrier.
- ☐A77-G Thrie Beam Barrier.
- ☐A79-A.1 Chain Link Fence.
- ☐A79-B.1 Barbed Wire and Wire Mesh Fences.
- ☐A79-A.9 Guard Rail Flares.
- ☐A79-B.8 Guard Rail Flares and Miscellaneous Guard Rail Details.
- ☐A79-C.7 Guard Rail Connections to Bridge Rails, Retaining Walls and Abutments.
- ☐A79-D.8 Guard Rail Connections to Bridge Sidewalks and Curbs.
- ☐A80-6 Emergency Passageways.
- ☐A81-9 Obstruction Deflectors and Barrier Transitions.
- ☐A82-3 Cattle Guards - Metal.
- ☐A83-1 Locatometer Scale Pit.
- ☐ A84 Platform Scale Installation, Typical - Freeway.
- ☐C7-A Reinforced Concrete Crib Wall Types A, B, C and D - Construction Details.
- ☐C7-B Reinforced Concrete Crib Wall Types A, B, C and D - Design Data.
- ☐C7-C Reinforced Concrete Crib Wall Types E, F, G, H and I - Construction Details.
- ☐C7-D Reinforced Concrete Crib Wall Types E, F, G, H and I - Design Data.
- ☐C8-A3 Steel Crib Wall - Construction Details.
- ☐C8-B.2 Steel Crib Wall - Design Data.
- ☐C8-C Steel Crib Wall - Design Data.
- ☐C9-A Timber Crib Wall Types A, B, C and D - Construction Details.
- ☐C9-B Timber Crib Wall Types A, B, C and D - Design Data.
- ☐D72-11 Drainage Inlets - OS, DL, GOL.
- ☐D73-13 Drainage Inlets - GL, G2, G3, G4, G5, G6.
- ☐D74-14 Drainage Inlets - GT1, GT2, GT3, GT4, GO, GDO.
- ☐D75-14 Pipe Inlets.
- ☐D77-A2 Grate Details.
- ☐D77-B4 Grate Details.
- ☐D78-2 Gutter Depressions.
- ☐D84-3 Box Culvert Wingwall, Types "A" "B" & "C".
- ☐D85-3 Box Culvert Wingwall, Types "D" & "E".
- ☐D86-A.1 Box Culvert Warped Wingwalls.
- ☐D86-B.1 Pipe Culvert Headwalls, Endwalls & Warped Wingwalls.
- ☐D86-C.1 Arch Culvert Headwalls, Endwalls & Warped Wingwalls.
- ☐D87-A.6 Overside Drains.
- ☐D87-B.6 Overside Drains and Underdrains.
- ☐D88-5 Construction Loads on Culverts.
- ☐D89-4 Pipe Headwalls and Strut Details.
- ☐D90-2 Pipe Culvert Headwalls, Endwalls & Wingwall Types "A" "B" & "C".
- ☐D93-10 Drainage Inlet Riser Connections.
- ☐D94-7 Flared End Sections.
- ☐D95-2 Concrete Arch Culverts.
- ☐D96-4 Pipe Riser with Debris Rack Cage.
- ☐D97-A CSP Downdrain Coupling Details.
- ☐D97-B CSP Coupling Band Details No.1 - Standard Joint.
- ☐D97-C CSP Coupling Band Details No.2 - Standard Joint.
- ☐D97-D CSP Coupling Details No.3 - Standard Joint.
- ☐D97-E CSP Coupling Band Details No.1 - Positive Joint.
- ☐D97-F CSP Coupling Band Details No.2 - Positive Joint.
- ☐D97-G CSP Coupling Details No.3 - Positive Joint.
- ☐D98-A1 Standard Inlet Structure Shoulder Installation Details and Details of Slotted Drain Connections.
- ☐D98-B.1 12" Thru 24" Slotted CSP Drain Details.
- ☐N8-A.1 Curbs and Driveways.
- ☐N8-B.1 Wheelchair Ramp Details

BRIDGE

- ☐B0-1 Bridge Details.
- ☐B0-3 Bridge Details.
- ☐B0-5 Bridge Details.
- ☐B0-13 Bridge Details.
- ☐B1-11 Closure Wall Details - Box Girder.
- ☐B2-1 Pile Details - Class 45-1 & Class 45-2.
- ☐B2-3 16" Cast-in-Drilled-Hole Concrete Pile.
- ☐B2-5 Pile Details - Class 70.
- ☐B2-6 Pile Details - Class 45-1CB Class 45-2C.
- ☐B2-8 Pile Details - Class 70 C.
- ☐B2-9 Load Test Anchor Pile Details.
- ☐B3-1 Retaining Wall - Type 1, H = 4'-30'.
- ☐B3-2 Retaining Wall - Type 1, H = 32'-36'
- ☐B3-3 Retaining Wall - Type 1A.
- ☐B3-4 Retaining Wall - Type 2.
- ☐B3-5 Counterfort Retaining Wall - Type 3.
- ☐B3-6 Counterfort Retaining Wall - Type 4.
- ☐B3-7 Retaining Wall - Type 5.
- ☐B3-8 Retaining Wall Details No. 1.
- ☐B3-9 Retaining Wall Details No. 2.
- ☐B3-11 Retaining Wall - Type 6 - 6' Max.
- ☐B6-1 T-Beam Details.
- ☐B6-10 Utility Openings - T-Beam.
- ☐B6-21 Joint Seal Details.
- ☐B7-1 Box Girder Details.
- ☐B7-5 Drain Details.
- ☐B7-6 Drain Types D1 & D2.
- ☐B7-10 Utility Opening - Box Girder.
- ☐B7-11 Utilities Details.
- ☐B8-5 CIP Prestressed Girder Details.
- ☐B11-7 Chain Link Railing.
- ☐B11-30 Temporary Railings.
- ☐B11-47 Cable Railing.
- ☐B11-51 Tubular Hand Railing.
- ☐B11-52 Chain Link Railing Type 7.
- ☐B11-53 Concrete Barrier Type 25.
- ☐B11-54 Concrete Barrier Type 26
- ☐B13-1 Slope Protection Detail No. 1.
- ☐B13-2 Slope Protection Detail No. 2.
- ☐B14-1 Structural Steel Plate Vehicular Undercrossing
- ☐B14-2 Structural Steel Plate Arches.
- ☐B14-3 Supply Line & Communication & Sprinkler Control Conduit (Maximum Pipe or Conduit Size = 4").

SIGNS, SIGNALS and LIGHTING

OVERHEAD SIGNS - TRUSS

- ☐S1-12 Instructions and Examples.
- ☐S2-11 Single Post Type, Post Type II Thru VIII.
- ☐S3-11 Two Post Type, Post Type 1-S Thru VII-S.
- ☐S4-6 Single Post Type, Structural Frame Members.
- ☐S5-6 Two Post Type, Structural Frame Members.
- ☐S6-8 Structural Frame Details.
- ☐S7-8 Frame Juncture Details.
- ☐S8A Aluminum Frame Removable Sign Panel Frames
- ☐S8B Removable Sign Panel Frames.
- ☐S8C Sign Panel Mounting Details Laminated Panel, Type A.
- ☐S9-12 Walkway Details No. 1.
- ☐S10-9 Walkway Details No. 2.
- ☐S11-10 Walkway Safety Railing Details.
- ☐S13-10 Pile Foundation.

OVERHEAD SIGNS - LIGHTWEIGHT

- ☐S14A-5 Balanced - Single Steel Post Connection and Mounting Details.
- ☐S14B-4 Balanced - Single Steel Post Details.
- ☐S15-8 Type A, Connection Details.
- ☐S16-7 Type B, Connection Details.
- ☐S17-8 Type C, Connection Details.
- ☐S18A-8 Sign Panel Mounting Details, Laminated Panel, Type A.
- ☐S18B-7 Light Fixture Mounting Details.
- ☐S20A-7 Post Details.
- ☐S20B-9 Foundation.

OVERHEAD SIGNS - BOX BEAM

- ☐S21-4 Instructions and Examples.
- ☐S22-2 Two Post Type Frame Members.
- ☐S23-4 Two Post Type Frame Details.
- ☐S24-4 Two Post Type Cantilever Frame Details.
- ☐S25-4 Two Post Type Frame Juncture Details.
- ☐S26-5 Two Post Type Post Details.
- ☐S27-5 Single Post Type Frame Members.
- ☐S28-5 Single Post Cantilever Frame Details.
- ☐S29-4 Single Post Cantilever Frame Juncture Details.
- ☐S30-6 Single Post Cantilever Post Details.
- ☐S31-3 Single Post Butterfly Frame Details.
- ☐S32-4 Single Post Butterfly Frame Juncture Details.
- ☐S33-4 Single Post Butterfly Post Details.
- ☐S34A-5 Sign Panel Mounting Details, Single Sheet Sign Panel.
- ☐S39-6 Box Beam & Closed Truss Alternative Foundation.

OVERHEAD SIGNS - BOX BEAM CLOSED TRUSS ALTERNATIVE

- ☐S40A-1 Two Post Type Frame Members.
- ☐S40B-1 Single and Two Post Type General Frame Details.
- ☐S40C-1 Ripped Sheet Metal Details.
- ☐S40D-1 Two Post Type Frame Details.
- ☐S40E-1 Two Post Type Frame Juncture Details.
- ☐S40F-1 Two Post Type Post Details.
- ☐S40G-1 Single Post Type Frame Members.
- ☐S40H-1 Single Post Cantilever Frame Details.
- ☐S40I-1 Single Post Cantilever Frame Juncture Details.
- ☐S40J-1 Single Post Cantilever Post.
- ☐S40K-1 Single Post Butterfly Frame Details.
- ☐S40L-3 Single Post Butterfly Frame Juncture Details.
- ☐S40M-1 Single Post Butterfly Post Details.

OVERHEAD SIGNS - TUBULAR

- ☐S40N Instructions and Examples.
- ☐S40P Single Post Type Layout and Pipe Selection.
- ☐S40Q Two Post Type Layout and Pipe Selection.
- ☐S40R Structural Frame Details No. 1.
- ☐S40S Structural Frame Details No. 2.
- ☐S40T Foundation Details.

ROADSIDE SIGNS

- ■S41-3 Typical Installation Details No. 1.
- ☐S42-6 Wood Posts, Typical Installation Details No. 2.
- ☐S43-13 Timber Poles, Typical Installation Details No. 3.
- ■S44-7 Typical Installation Details No. 4.

TRAFFIC SIGNAL and HIGHWAY LIGHTING DETAILS

- ■ES-1A Symbols and Abbreviations.
- ■ES-1B Symbols and Abbreviations.
- ■ES-2A Service Equipment.
- ■ES-2B Service Equipment.
- ☐ES-2C Service Equipment.
- ■ES-3A Signal Heads and Mountings.
- ■ES-3B Signal Heads and Mountings.
- ■ES-3C Signal Heads and Mountings.
- ☐ES-4A Controller Cabinet Details.
- ■ES-1B Controller Cabinet Details.
- ■ES-4C Controller Cabinet Details.
- ■ES-5A Detectors.
- ■ES-5B Detectors.
- ■ES-5C Detectors.

TRAFFIC SIGNAL and LIGHTING STANDARDS

- ■ES-6A Type I Standards and Pushbutton Posts.
- ☐ES-6B Types #1, J5 and 21.
- ☐ES-6C Type 15-SB.
- ☐ES-6D Types 30 and 31.
- ☐ES-6E Types 30 and 31 Base Plate Details.
- ☐ES-6F 10 Degree Type 35.
- ☐ES-6G 10 Degree Type 36.
- ☐ES-6H 10 Degree Details.
- ☐ES-6I 10 Degree Type 36 Foundation and Slip Base Details.
- ■ES-6J Case 1 Arm Loading, Wind Velocity = 70 MPH Arm Lengths 15' to 30'.
- ☐ES-6K Case 2 Arm Loading, Wind Velocity = 70 MPH Arm Lengths 20' to 30'.
- ■ES-6L Case 3 Arm Loading, Wind Velocity = 70 MPH Arm Lengths 20' to 45'.
- ☐ES-6M Case 4 Arm Loading, Wind Velocity = 70 MPH Arm Lengths 25' to 45'.
- ☐ES-6N Type 40-0-80.
- ☐ES-6O Case 1 Arm Loading, Wind Velocity = 80 MPH Arm Lengths 25' to 30'.
- ☐ES-6P Case 2 Arm Loading, Wind Velocity = 80 MPH Arm Lengths 20' to 30'.
- ☐ES-6Q Case 3 Arm Loading, Wind Velocity = 80 MPH Arm Lengths 20' to 45'.
- ☐ES-6R Case 4 Arm Loading, Wind Velocity = 80 MPH Arm Lengths 25' to 45'.
- ■ES-6S Details No. 1.
- ■ES-6T Details No. 2.

To accompany plans dated September 25, 78

DISTRICT	COUNTY	ROUTE	POST MILE	SHEET	TOTAL SHEETS
06	Mad	234	5.2	3	3

- ☐ES-6U Slip Base Insert for Type I 08 15
- ☐ES-6V Left Turn Signal and Sign Standard Type 33.

TRAFFIC SIGNAL and LIGHTING DETAILS

- ☐ES-7A Electrical Details, Structure Installations.
- ☐ES-7B Electrical Details, Structure Installations.
- ☐ES-7C Electrical Details, Structure Installations.
- ☐ES-7D Electrical Details, Structure Installations.
- ■ES-8 Pull Box Details.
- ☐ES-9A Cantilever Advance Flashing Beacon Installations, Types 9, 9A, 9B - Details.
- ☐ES-9B Cantilever Advance Flashing Beacon Installations, Types 9, 9A, 9B - Details.
- ■ES-10 Isolux Diagrams.
- ■ES-11 Foundation Installations.
- ☐ES-12 Pedestrian Undercrossing Fluorescent Lighting Fixture.
- ☐ES-13 Wiring Details and Fuse Ratings.
- ☐ES-15 Pedestrian Overcrossing Fluorescent Lighting Fixture.

FLUORESCENT TUNNEL LIGHTING FIXTURES

- ☐ES-17A Luminaire Housing Fabrication Details.
- ☐ES-17B Types E and C.
- ☐ES-17C Type E and C Luminaire, Reflector Fabrication Details.
- ☐ES-17D Type E-11.
- ☐ES-17E Luminaire Installation Details.
- ☐ES-17F Luminaire Ballasts.
- ☐ES-17G Luminaire Feeder Connection Details.

EXTINGUISHABLE MESSAGE SIGN

- ☐ES-27 Extinguishable Message Sign, 10" Letters.
- ☐ES-28 Extinguishable Message Sign & Flashing Beacon Installation

FLUORESCENT SIGN LIGHTING DETAILS

- ☐ES-30 36" Fluorescent Sign Lighting Equipment.
- ☐ES-31 72" Fluorescent Sign Lighting Equipment.
- ☐ES-32A Fluorescent Sign Lighting Equipment.
- ☐ES-32B Fluorescent Sign Lighting Equipment.

AS BUILT PLANS
Contract No. 06-171904
Date Completed 6-11-79
Document No.

STATE OF CALIFORNIA
BUSINESS AND TRANSPORTATION AGENCY
DEPARTMENT OF TRANSPORTATION
STANDARD PLANS LIST
(MARCH 1977 EDITION)

The Standard Plan sheets indicated by a marked box are applicable to this CONTRACT NO. 06-171904

AS BUILT PLANS
Contract No. 06-171904
Date Completed 6-11-79
Document No.

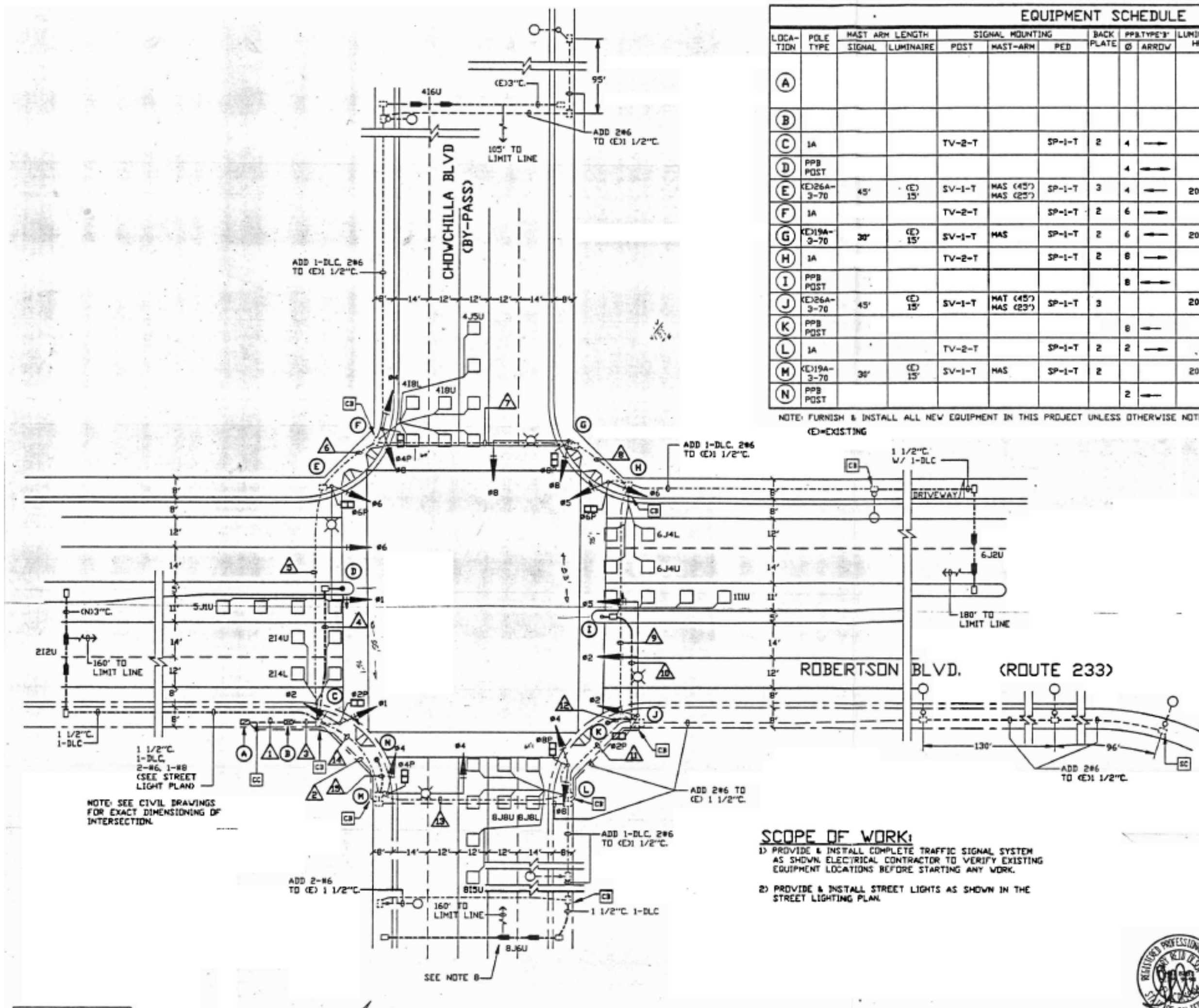
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT WHICH WAS PREPARED UNDER MY DIRECTION AND CONTROL OR THE DATE IS INCORRECTLY, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
8-25-80 Joseph M. Peter
SUPERVISOR OF DRAFTING SERVICES

EQUIPMENT SCHEDULE

LOCATION	POLE TYPE	MAST ARM LENGTH SIGNAL	MAST ARM LENGTH LUMINAIRE	SIGNAL MOUNTING POST	SIGNAL MOUNTING MAST-ARM	SIGNAL MOUNTING PED	BACK PLATE	PPB TYPE "B" Ø	PPB TYPE "B" ARROW	LUMINAIRE HPS	NOTES:
Ⓐ											EXIST. SERVICE EQUIPMENT ENCLOSURE, TYPE III-AF. ADD A 70A, 120V, 1 POLE CIRCUIT BREAKER FOR METERED TRAFFIC SIGNALS AND A 40A, 240V, 2 POLE CIRCUIT BREAKER FOR UNMETERED HIGHWAY LIGHTING.
Ⓑ											PROVIDE & INSTALL NEW 170 CONTROLLER & TYPE 332 CABINET PER CALTRANS STD. PLANS & SPECS.
Ⓒ	1A			TV-2-T		SP-1-T	2	4	⟶		
Ⓓ	PPB POST							4	⟷		
Ⓔ	(E)26A-3-70	45'	(E) 15'	SV-1-T	MAS (45') MAS (25')	SP-1-T	3	4	⟵	200W	REMOVE AND SALVAGE EXISTING 150W HPS LUMINAIRE. INSTALL NEW 200W HPS LUMINAIRE. PROVIDE FOR TYPE IV PEC.
Ⓕ	1A			TV-2-T		SP-1-T	2	6	⟶		
Ⓖ	(E)19A-3-70	30'	(E) 15'	SV-1-T	MAS	SP-1-T	2	6	⟵	200W	REMOVE AND SALVAGE EXISTING 150W HPS LUMINAIRE. INSTALL NEW 200W HPS LUMINAIRE. PROVIDE FOR TYPE IV PEC.
Ⓗ	1A			TV-2-T		SP-1-T	2	8	⟶		
Ⓘ	PPB POST							8	⟷		
Ⓙ	(E)26A-3-70	45'	(E) 15'	SV-1-T	MAT (45') MAS (23')	SP-1-T	3			200W	REMOVE AND SALVAGE EXISTING 150W HPS LUMINAIRE. INSTALL NEW 200W HPS LUMINAIRE. PROVIDE FOR TYPE IV PEC.
Ⓚ	PPB POST							8	⟵		
Ⓛ	1A			TV-2-T		SP-1-T	2	2	⟶		
Ⓜ	(E)19A-3-70	30'	(E) 15'	SV-1-T	MAS	SP-1-T	2			200W	REMOVE AND SALVAGE EXISTING 70W HPS LUMINAIRE. INSTALL NEW 200W HPS LUMINAIRE. PROVIDE FOR TYPE IV PEC.
Ⓝ	PPB POST							2	⟵		

NOTE: FURNISH & INSTALL ALL NEW EQUIPMENT IN THIS PROJECT UNLESS OTHERWISE NOTED.

(E)=EXISTING



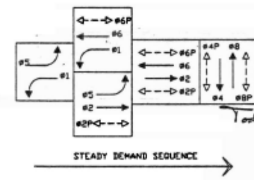
NOTES:

1. ALL PULL BOXES SHALL BE NO. 5 WITH EXTENSION UNLESS OTHERWISE NOTED ON PLAN.
2. SIGNAL CABLE SHALL NOT BE SPLICED AND SHALL RUN FROM TERMINAL STRIP TO CONTROLLER CABINET.
3. ALL DLC's SHALL HAVE THE TERMINAL LUGS IN THE CONTROLLER CABINET CRIMPED & SOLDERED.
4. ALL WORK SHALL CONFORM TO STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS & THE STANDARD PLAN, JULY, 1992 EDITION.
5. ALL SIGNAL SECTIONS SHALL BE 12" IN DIAMETER.
6. ALL EXISTING LIGHTING CONDUCTORS SHALL BE REMOVED AND REPLACED WITH THE SIZES SHOWN ON THE PLANS WITH TYPE THW INSULATION.
7. ALL EXISTING CONDUCTORS FROM PULL BOXES TO LUMINAIRES SHALL BE REMOVED AND REPLACED WITH #14 AWG CONDUCTORS WITH TYPE THW INSULATION (12 TOTAL).
8. CONDUIT FOR THE MAGNETIC DETECTOR INSTALLATION ON THE SOUTH LEG OF THE INTERSECTION SHALL BE PLACED UNDER EXISTING PAVEMENT BY JACKING OR DRILLING METHODS.
9. THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

SCOPE OF WORK:

1) PROVIDE & INSTALL COMPLETE TRAFFIC SIGNAL SYSTEM AS SHOWN. ELECTRICAL CONTRACTOR TO VERIFY EXISTING EQUIPMENT LOCATIONS BEFORE STARTING ANY WORK.

2) PROVIDE & INSTALL STREET LIGHTS AS SHOWN IN THE STREET LIGHTING PLAN.



PHASE DIAGRAM

These plans have been approved for Encroachment Permit No. ______ by Todd L. Barnes on AUG 16 1994

SIGNAL PLAN

SCALE: 1" = 20'

48 HOURS BEFORE EXCAVATING CALL "USA" TOLL FREE PH. 800-642-2444 UNDERGROUND SERVICE ALERT

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

GIERSCH & OLSON CIVIL ENGINEERS MADERA, CALIFORNIA

DRAWN BY: A.C. CHECKED BY: GRO

DATE: AUGUST, 93

CLIENT: CITY OF CHOWCHILLA

PROJECT: ROBERTSON BOULEVARD RAMP TO S.P.R.R. TRACKS

13 13 101P0103-84

State of California
DEPARTMENT OF TRANSPORTATION

2070 Controller Timing Chart

Caltrans TSCP Ver 2.21

Location:
System:
Master At:
District:
I/C:
Designed By:
Intalled By:
Service Info:

Timing Change: By: Date Start: Date End: Designed: Installed:

		FLASH
PHASE	1)	[ ]
	2)	[ ]
	3)	[ ]
	4)	[ ]
	5)	[ ]
	6)	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout

Comments and Notes:

RAM Checksum

Page 2:	74AB	Page 8:	85AF
Page 3:	55E0	Page 9:	0340
Page 4:	0491	Page 10:	BAC2
Page 5:	191A	Page 11:	93EE
Page 6:	191A	Page 12:	EF20
Page 7:	10E2	Page 13:	86F7

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 - 4 5 6 - 8
Restricted	- - - - - - - -

Phase Recalls (2-1-1-2)	
Vehicle Min	- 2 - - - 6 - -
vehicle Max	- - - - - - - -
Pedestrian	- - - - - - - -
Bicyle	- - - - - - - -

Phase Locks (2-1-1-3)	
Red	- 2 - - - 6 - -
Yellow	- - - - - - - -
Force/Max	- - - - - - - -

Phase Features (2-1-1-4)	
Double Entry	- - - 4 - - - 8
Rest In Walk	- - - - - - - -
Rest In Red	- - - - - - - -
Walk2	- - - - - - - -
Max Green 2	1 2 - 4 5 6 - 8
Max Green 3	- - - - - - - -

Startup (2-1-1-5)	
First Green Phases	- 2 - - - 6 - -
Yellow Start Phases	- - - - - - - -
Vehicle Calls	1 2 - 4 5 6 - 8
Pedestrian Calls	- 2 - 4 - 6 - 8
Yellow Start Overlaps	- - - - - - - -
Startup All-Red	6.0

Call To Phase (2-1-2-1)			
1	- - - - - - - -	1	Omit On Green - - -
2	- - - - - - - -	2	- - - - - - - -
3	- - - - - - - -	3	- - - - - - - -
4	- - - - - - - -	4	- - - - - - - -
5	- - - - - - - -	5	- - - - - - - -
6	- - - - - - - -	6	- - - - - - - -
7	- - - - - - - -	7	- - - - - - - -
8	- - - - - - - -	8	- - - - - - - -

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	- - - - - - - -
Yellow Flash Overlap	- - - - - - - -
Flash In Red Phases	- - - - - - - -
Flash In Red Overlap	- - - - - - - -

Special Operation (2-1-2-3)	
Single Exit Phase	- - - - - - - -
Driveway Signal Phases	- - - - - - - -
Driveway Signal Overlaps	- - - - - - - -
Leading Ped Phases	- - - - - - - -

Protected Permissive (2-1-2-4)	
Protected Permissive	- - - - - - - -

Pedestrian (2-1-3)	
P1	- - - - - - - -
P2	- 2 - - - - - -
P3	- - - - - - - -
P4	- - - 4 - - - -
P5	- - - - - - - -
P6	- - - - - 6 - -
P7	- - - - - - - -
P8	- - - - - - - 8

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A [Arrow A]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
B [Arrow B]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
C [OL A]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
D [OL B]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
E [OL C]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
F [OL D]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

[-] 332 Cabinet Overlap Assignment - For Reference Only

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PHASE TIMING

PHASE (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	7	0	7	0	7
Flash Don't Walk	0	16	0	24	0	15	0	25
Minimum Green	7	10	0	8	7	10	0	8
Det Limit	0	20	0	20	0	20	0	20
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	15	25	0	20	15	25	0	20
Max Green 2	25	35	0	30	25	35	0	30
Max Green 3	0	0	0	0	0	0	0	0
Extension	2.0	5.2	0.0	5.3	2.0	4.9	0.0	6.3
Maximum Gap	2.0	7.2	0.0	7.3	2.0	6.7	0.0	8.7
Minimum Gap	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Reduce Every	0.0	0.5	0.0	0.4	0.0	0.6	0.0	0.3
Yellow	3.7	4.4	3.0	4.1	3.7	4.4	3.0	4.1
All-Red	2.0	2.0	1.0	2.2	2.0	2.0	1.0	2.2
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A [Arrow A]	B [Arrow B]	C [OL A]	D [OL B]	E [OL C]	F [OL D]
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert (2-5)	
Time	5.0

Red To Se (2-6)	
Red To Sec	OFF

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

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Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											
P	Green		0.0	- - - - - - - -											

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
	- 2 - 4 - 6 - 8	- 2 - - - 6 - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- 2 - 4 - 6 - 8	- 2 - - - 6 - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
P	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

Master Timer Sync (7-A)	
Enable in Plans	
1-9	- - - - - - - - -
11-19	- - - - - - - - -
21-29	- - - - - - - - -

Master Sub Master	
Input	0.0
Output	0

(7-E) Free	
Lag	Omit
- 2 - 4 - 6 - 8	- - - - - - - -
Veh Min	Veh Max
- 2 - - - 6 - -	- - - - - - - -
Ped	Bike
- - - - - - - -	- - - - - - - -
Cond	Cond Grn
- - - - - - - -	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	Offset
0	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

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DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	Count+Call+Extend	1 - - - - - - -	NO	1I1U	1	1	0.0	10	3.2
2	Count+Call+Extend	1 - - - - - - -	NO	1I1L	2	1	0.0	10	7.2
3	Count+Call+Extend	- 2 - - - - - -	NO	2I2U	3	0	0.0	10	1.1
4	Count+Call+Extend	- 2 - - - - - -	NO	2I2L	4	0	0.0	10	1.5
5	Count+Call+Extend	- 2 - - - - - -	NO	2I3U	5	0	0.0	10	4.5
6	Count+Call+Extend	- 2 - - - - - -	NO	2I3L	6	0	0.0	10	6.2
7	Count+Call+Extend	- 2 - - - - - -	NO	2I4U	7	0	2.0	10	2.1
8	Count+Call+Extend	- 2 - - - - - -	NO	2I4L	8	0	2.0	10	7.4
9	Count+Call+Extend	- - - - - - - 8	NO	3I5U	9	3	0.0	10	3.4
10	Count+Call+Extend	- - - - - - - 8	NO	3I5L	10	3	0.0	10	7.6
11	Count+Call+Extend	- - - 4 - - - -	NO	4I6U	11	2	0.0	10	1.3
12	Count+Call+Extend	- - - 4 - - - -	NO	4I6L	12	0	0.0	10	1.7
13	Count+Call+Extend	- - - 4 - - - -	NO	4I7U	13	0	0.0	10	4.7
14	Count+Call+Extend	- - - 4 - - - -	NO	4I7L	14	0	0.0	10	6.4
15	Count+Call+Extend	- - - 4 - - - -	NO	4I8U	15	5	2.0	10	2.3
16	Count+Call+Extend	- - - 4 - - - -	NO	4I8L	16	5	2.0	10	7.8
17	Count+Call+Extend	1 - - - - - - -	NO	1I9U	17	0	0.0	10	3.6
18	Count+Call+Extend	- - 3 - - - - -	NO	3I9L	18	0	0.0	10	3.8
19	None	- - - - - - - -	NO	2I10U	19	0	0.0	10	4.1
20	None	- - - - - - - -	NO	4I10L	20	0	0.0	10	4.2
21	Count+Call+Extend	- - - - 5 - - -	NO	5J1U	21	1	0.0	10	3.1
22	Count+Call+Extend	- - - - 5 - - -	NO	5J1L	22	1	0.0	10	7.1
23	Count+Call+Extend	- - - - - 6 - -	NO	6J2U	23	0	0.0	10	1.2
24	Count+Call+Extend	- - - - - 6 - -	NO	6J2L	24	0	0.0	10	1.6
25	Count+Call+Extend	- - - - - 6 - -	NO	6J3U	25	0	0.0	10	4.6
26	Count+Call+Extend	- - - - - 6 - -	NO	6J3L	26	0	0.0	10	6.3
27	Count+Call+Extend	- - - - - 6 - -	NO	6J4U	27	0	2.0	10	2.2
28	Count+Call+Extend	- - - - - 6 - -	NO	6J4L	28	0	2.0	10	7.3
29	Count+Call+Extend	- - - 4 - - - -	NO	7J5U	29	3	0.0	10	3.3
30	Count+Call+Extend	- - - 4 - - - -	NO	7J5L	30	3	0.0	10	7.5
31	Count+Call+Extend	- - - - - - - 8	NO	8J6U	31	2	0.0	10	1.4
32	Count+Call+Extend	- - - - - - - 8	NO	8J6L	32	0	0.0	10	1.8
33	Count+Call+Extend	- - - - - - - 8	NO	8J7U	33	0	0.0	10	4.8
34	Count+Call+Extend	- - - - - - - 8	NO	8J7L	34	0	0.0	10	6.5
35	Count+Call+Extend	- - - - - - - 8	NO	8J8U	35	5	2.0	10	2.4
36	Count+Call+Extend	- - - - - - - 8	NO	8J8L	36	5	2.0	10	7.7
37	Count+Call+Extend	- - - - 5 - - -	NO	5J9U	37	0	0.0	10	3.5
38	Count+Call+Extend	- - - - - - 7 -	NO	7J9L	38	0	0.0	10	3.7
39	None	- - - - - - - -	NO	6J10U	39	0	0.0	10	4.3
40	None	- - - - - - - -	NO	8J10L	40	0	0.0	10	4.4
41	Pedestrian	- 2 - - - - - -	NO	2I12U	41	0	0.0	0	5.1
42	Pedestrian	- - - 4 - - - -	NO	4I12L	42	0	0.0	0	5.3
43	Pedestrian	- - - - - 6 - -	NO	6I13U	43	0	0.0	0	5.2
44	Pedestrian	- - - - - - - 8	NO	8I13L	44	0	0.0	0	5.4

Failure Times (5-3)	Minutes
Maximum On Time	0
Fail Reset Time	0

Failure Override (5-4)	
Detectors 1-8	- - - - - - - -
Detectors 9-16	- - - - - - - -
Detectors 17-24	- - - - - - - -
Detectors 25-32	- - - - - - - -
Detectors 33-40	- - - - - - - -
Detectors 41-44	- - - - - - - -

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Num	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Det Num	0	0	0	0	0	0	0	0

CIC Operation (5-6-1)	
Enable in Plans	- - - - - - - -

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.0	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Phase	0	0	0	0	0	0	0	0

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

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TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 2 (8-2-2)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 3 (8-2-3)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 4 (8-2-4)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 5 (8-2-5)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 6 (8-2-6)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

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HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1	0	0	- - - - - - -	0
2	0	0	- - - - - - -	0
3	0	0	- - - - - - -	0
4	0	0	- - - - - - -	0
5	0	0	- - - - - - -	0
6	0	0	- - - - - - -	0
7	0	0	- - - - - - -	0
8	0	0	- - - - - - -	0
9	0	0	- - - - - - -	0
10	0	0	- - - - - - -	0
11	0	0	- - - - - - -	0
12	0	0	- - - - - - -	0
13	0	0	- - - - - - -	0
14	0	0	- - - - - - -	0
15	0	0	- - - - - - -	0
16	0	0	- - - - - - -	0

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1	0	0	- - - - - - -	0
2	0	0	- - - - - - -	0
3	0	0	- - - - - - -	0
4	0	0	- - - - - - -	0
5	0	0	- - - - - - -	0
6	0	0	- - - - - - -	0
7	0	0	- - - - - - -	0
8	0	0	- - - - - - -	0
9	0	0	- - - - - - -	0
10	0	0	- - - - - - -	0
11	0	0	- - - - - - -	0
12	0	0	- - - - - - -	0
13	0	0	- - - - - - -	0
14	0	0	- - - - - - -	0
15	0	0	- - - - - - -	0
16	0	0	- - - - - - -	0

Solar Clock Data (8-4)

North Latidude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

	Ped Recall
Hebrew Sabbath	- - - - - - - -
Holiday	- - - - - - - -

Daylight Saving (8-6)

Daylight Saving	YES

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0600	2230	1 2 3 4 5 6 7	17	1 2 3 4 5 6 7 8
2	0000	0000	- - - - - - -	0	- - - - - - - -
3	0000	0000	- - - - - - -	0	- - - - - - - -
4	0600	2200	- - - - - - -	24	- - - - 5 - - -
5	0000	0000	- - - - - - -	0	- - - - - - - -
6	0000	0000	- - - - - - -	0	- - - - - - - -
7	0000	0000	- - - - - - -	0	- - - - - - - -
8	0000	0000	- - - - - - -	0	- - - - - - - -
9	0000	0000	- - - - - - -	0	- - - - - - - -
10	0000	0000	- - - - - - -	0	- - - - - - - -
11	0000	0000	- - - - - - -	0	- - - - - - - -
12	0000	0000	- - - - - - -	0	- - - - - - - -
13	0000	0000	- - - - - - -	0	- - - - - - - -
14	0000	0000	- - - - - - -	0	- - - - - - - -
15	0000	0000	- - - - - - -	0	- - - - - - - -
16	0000	0000	- - - - - - -	0	- - - - - - - -

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

SOFT LOGIC

#	Data	OP	Data	OP	Data	OP	Data
1	00.0	00	00.0	00	00.0	00	00.0
2	00.0	00	00.0	00	00.0	00	00.0
3	00.0	00	00.0	00	00.0	00	00.0
4	00.0	00	00.0	00	00.0	00	00.0
5	00.0	00	00.0	00	00.0	00	00.0
6	00.0	00	00.0	00	00.0	00	00.0
7	00.0	00	00.0	00	00.0	00	00.0
8	00.0	00	00.0	00	00.0	00	00.0
9	00.0	00	00.0	00	00.0	00	00.0
10	00.0	00	00.0	00	00.0	00	00.0
11	00.0	00	00.0	00	00.0	00	00.0
12	00.0	00	00.0	00	00.0	00	00.0
13	00.0	00	00.0	00	00.0	00	00.0
14	00.0	00	00.0	00	00.0	00	00.0
15	00.0	00	00.0	00	00.0	00	00.0
16	00.0	00	00.0	00	00.0	00	00.0

CALLBACK NUMBERS

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

NETWORK

Network (6-4)				
Address	1			
Protocol	AB3418			
Port	27000			
IP Mode	Static IP			
IP Address	192	168	13	1
Netmask	255	255	255	0
Broadcast	192	168	13	255
Gateway	192	168	13	254

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RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing
Delay	0
Clear 1	10
Clear 2	0
Clear 3	0
Hold	0
Exit	5
Min Grn	0
Ped Clr	0

Phase Flags (3-1-2)		
Grn Hold	Yel Flash	Red Flash
- 2 - - 5 - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	1 2 3 4 5 6 7 8

Pedestrian Flags (3-1-3)		
Walk	Flash DW	Solid DW
- - - - - - - -	- - - - - - - -	- 2 - 4 - 6 - 8
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -

Overlap Flags (3-1-4)		
Grn Hold	Yel Flash	Red Flash
- - - - - -	- - - - - -	- - - - - -
- - - - - -	- - - - - -	- - - - - -
- - - - - -	- - - - - -	- - - - - -
- - - - - -	- - - - - -	A B C D E F

Exit Parameters (3-1-5)

Phase Green	Overlap Green	Vehicle Recall	Ped Call
- - - - - - - -	- - - - - -	1 2 3 4 5 6 7 8	- 2 - 4 - 6 - 8

Configuration (3-1-6)

Port	Gate Port	Latching	Power-Up
2.5	0.0	Yes	Flashing

RR 2

(3-2-1)	Timing
Delay	0
Clear 1	10
Clear 2	0
Clear 3	0
Hold	0
Exit	0
Min Grn	0
Ped Clr	0

Phase Flags (3-2-2)		
Grn Hold	Yel Flash	Red Flash
- - - 4 - - 7 -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
1 2 3 - - 6 - -	- - - - - - - -	- - - - - - - -

Pedestrian Flags (3-2-3)		
Walk	Flash DW	Solid DW
- - - - - - - -	- - - - - - - -	- 2 - 4 - 6 - 8
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- 2 - - - 6 - -	- - - - - - - -	- - - 4 - - - 8

Overlap Flags (3-2-4)		
Grn Hold	Yel Flash	Red Flash
- - - - - -	- - - - - -	- - - - - -
- - - - - -	- - - - - -	- - - - - -
- - - - - -	- - - - - -	- - - - - -
- - - - - -	- - - - - -	- - - - - -

Exit Parameters (3-2-5)

Exit Ph Grn	Exit Ovl Grn	Exit Veh Recall	Exit Ped Call
- - - - - - - -	- - - - - -	- - - 4 - - 7 -	- - - - - - - -

Configuration (3-2-6)

Port	Gate Port	Latching	Power-Up
2.6	0.0	Yes	Flashing

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- 2 - - 5 - - -	- - - - - - -

Port	Latching	Phase Termination
5.5	No	Advance

EVB (3-B)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- - - 4 - - 7 -	- - - - - - -

Port	Latching	Phase	Phase Termination
5.6	No		Advance

EVC (3-C)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	1 - - - - 6 - -	- - - - - - -

Port	Latching	Phase Termination
5.7	No	Advance

EVD (3-D)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- - 3 - - - - 8	- - - - - - -

Port	Latching	Phase	Phase Termination
5.8	No		Advance

INPUTS

		7 Wire I/C(2-1-5-1)			
		Input	Port	Input	Port
Enable	No	R1	3.8	Free	3.6
Max ON	0	R2	3.5	D2	2.8
Max OFF	0	R3	3.7	D3	6.1

Manual Control(2-1-5-2)	
Input	Port
Manual Adv	6.6
Adv Enable	6.6

Battery Backup (2-1-5-5)	
Port	Operation
2.7	Flashing

Cabinet Staus (2-1-5-3)	
Input	Port
Flash Bus	0.0
Door Ajar	0.0
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	0.0
2	0.0
3	0.0
4	0.0

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C
+ middle output of loadswitches 3 and 6

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	1	2	3	4	5	6	7	8	Coord	Lag	Min Recall	Restricted
Plan C	0	0	0	0	0	0	0	0	0	0	0	0	- 2 - - - 6 - -	- 2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -
Plan D	0	0	0	0	0	0	0	0	0	0	0	0	- 2 - - - 6 - -	- 2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -

TRANSIT PRIORITY

Local Plans (3-E) 1...9 1...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 2	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 3	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 4	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 5	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 6	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 7	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 8	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 9	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 11	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 12	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 13	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 14	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 15	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 16	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 17	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 18	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 19	Green Factor	0	0	0	0	0	0	0	0	0	0	0

Enable Priority in Plan (3-E-A)					
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	- - - - - - - -	0.0	OPT	0	0
Plan 11-19	- - - - - - - -	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
0	- - - - - - - -
0	- - - - - - - -

Free Plans (3-E-E)	
Max Green	Hold Phase
0	- - - - - - - -

Access Utilities (9-5)	
Password	***
Timeout	30

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
	0.0	0.0	0.0	0	- - - - - - - -	0.0	0.0	0.0	0	0.0	0

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CONTROLLER ID

Manufacturer ID	Caltrans TSCP Ver 2.21
Model ID	Model 2070
Protocol Revision ID	AB3418

State of California
DEPARTMENT OF TRANSPORTATION

2070 Controller Timing Chart

Caltrans TSCP Ver 2.21

Location:
District:
System:
I/C:
Master At:
Timing Change:
By:
Designed:
Installed:
Designed By:
Installed By:
Date End:
Service Info:

Intersection Layout

		Date Start:	FLASH
PHASE	1)		[ ]
	2)		[ ]
	3)		[ ]
	4)		[ ]
	5)		[ ]
	6)		[ ]
	7)		[ ]
	8)		[ ]
OVERLAP	A)		[ ]
	B)		[ ]
	C)		[ ]
	D)		[ ]
	E)		[ ]
	F)		[ ]

Comments and Notes:

RAM Checksum

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CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 - 4 5 6 - 8
Restricted	- - - - - - - -

Phase Recalls (2-1-1-2)	
Vehicle Min	- 2 - - - 6 - -
vehicle Max	- - - - - - - -
Pedestrian	- - - - - - - -
Bicyle	- - - - - - - -

Phase Locks (2-1-1-3)	
Red	- - - - - - - -
Yellow	- - - - - - - -
Force/Max	- - - - - - - -

Phase Features (2-1-1-4)	
Double Entry	- - - 4 - - - 8
Rest In Walk	- - - - - - - -
Rest In Red	- - - - - - - -
Walk2	- - - - - - - -
Max Green 2	1 2 - 4 5 6 - 8
Max Green 3	- - - - - - - -

Startup (2-1-1-5)	
First Green Phases	- 2 - - - 6 - -
Yellow Start Phases	- - - - - - - -
Vehicle Calls	1 2 - 4 5 6 - 8
Pedestrian Calls	- 2 - 4 - 6 - -
Yellow Start Overlaps	- - - - - - - -
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	- - - - - - - -	1	- - - - - - - -
2	- - - - - - - -	2	- - - - - - - -
3	- - - - - - - -	3	- - - - - - - -
4	- - - - - - - -	4	- - - - - - - -
5	- - - - - - - -	5	- - - - - - - -
6	- - - - - - - -	6	- - - - - - - -
7	- - - - - - - -	7	- - - - - - - -
8	- - - - - - - -	8	- - - - - - - -

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	- - - - - - - -
Yellow Flash Overlap	- - - - - - - -
Flash In Red Phases	- - - - - - - -
Flash In Red Overlap	- - - - - - - -

Special Operation (2-1-2-3)	
Single Exit Phase	- - - - - - - -
Driveway Signal Phases	- - - - - - - -
Driveway Signal Overlaps	- - - - - - - -
Leading Ped Phases	- - - - - - - -

Protected Permissive (2-1-2-4)	
Protected Permissive	- - - - - - - -

Pedestrian (2-1-3)	
P1	- - - - - - - -
P2	- 2 - - - - - -
P3	- - - - - - - -
P4	- - - 4 - - - -
P5	- - - - - - - -
P6	- - - - - 6 - -
P7	- - - - - - - -
P8	- - - - - - - 8

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
~~A [Arrow A]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~B [Arrow B]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~C [OL A]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~D [OL B]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~E [OL C]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~F [OL D]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

[-] 332 Cabinet Overlap Assignment - For Reference Only

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PHASE TIMING

PHASE (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	10	0	7	0	0
Flash Don't Walk	0	12	0	21	0	12	0	0
Minimum Green	7	10	0	8	7	10	0	8
Det Limit	0	20	0	20	0	20	0	20
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	15	25	0	20	15	25	0	20
Max Green 2	25	35	0	30	25	35	0	30
Max Green 3	0	0	0	0	0	0	0	0
Extension	2.0	5.2	0.0	4.6	2.0	5.2	0.0	5.4
Maximum Gap	2.0	7.2	0.0	6.4	2.0	7.2	0.0	7.4
Minimum Gap	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Reduce Every	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.4
Yellow	3.7	4.1	3.0	4.1	3.7	4.1	3.0	4.1
All-Red	2.0	2.0	1.0	2.4	2.0	2.0	1.0	2.4
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A [Arrow A]	B [Arrow B]	C [OL A]	D [OL B]	E [OL C]	F [OL D]
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert (2-5)	
Time	5.0

Red To Se (2-6)	
Red To Sec	OFF

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

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Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select

	Green Factor	90	0.0	- - - - - - - -				12			18	12			18
	Green Factor	95	0.0	- - - - - - - -				15			25	15			25
	Green Factor	100	0.0	- - - - - - - -				18			25	18			25
	Green Factor		0.0	- - - - - - - -											
	Green Factor		0.0	- - - - - - - -											
	Green Factor		0.0	- - - - - - - -											
	Green Factor		0.0	- - - - - - - -											
	Green Factor		0.0	- - - - - - - -											
	Green Factor		0.0	- - - - - - - -											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	- 2 - - - 6 - - -
11-19	- - - - - - - - -
21-29	- - - - - - - - -

Master Sub Master	
Input	0.0
Output	0

(7-E) Free	
Lag	Omit
- 2 - 4 - 6 - 8	- - - - - - - -
Veh Min	Veh Max
- 2 - - - 6 - - -	- - - - - - - -
Ped	Bike
- - - - - - - -	- - - - - - - -
Cond	Cond Grn
- - - - - - - -	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 2	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 3	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 4	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 5	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 6	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 7	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 9	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	Offset
0	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

PAGE 4 CHECKSUM: D7F1

Local Plan 11...19 (7-2) TIMING DATA COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	1	2	3	4	5	6	7	8
Plan 11	Green Factor		0.0	- - - - - - -											
Plan 12	Green Factor		0.0	- - - - - - -											
Plan 13	Green Factor		0.0	- - - - - - -											
Plan 14	Green Factor		0.0	- - - - - - -											
Plan 15	Green Factor		0.0	- - - - - - -											
Plan 16	Green Factor		0.0	- - - - - - -											
Plan 17	Green Factor		0.0	- - - - - - -											
Plan 18	Green Factor		0.0	- - - - - - -											
Plan 19	Green Factor		0.0	- - - - - - -											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 12	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 13	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 14	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan15	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 16	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 17	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 18	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 19	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -

PAGE 5 CHECKSUM: 191A

Local Plan 21...29 (7-3) TIMING DATA

		Cycle	Multi	Lag Gap	[Offsets] COORDINATION A	B	C	Green Factors or Press [F] to Select Force-Off 1	2	3	4	5	6	7	8
Plan 21	Green Factor		0.0	- - - - - - -											
Plan 22	Green Factor		0.0	- - - - - - -											
Plan 23	Green Factor		0.0	- - - - - - -											
Plan 24	Green Factor		0.0	- - - - - - -											
Plan 25	Green Factor		0.0	- - - - - - -											
Plan 26	Green Factor		0.0	- - - - - - -											
Plan 27	Green Factor		0.0	- - - - - - -											
Plan 28	Green Factor		0.0	- - - - - - -											
Plan 29	Green Factor		0.0	- - - - - - -											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 22	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 23	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 24	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 25	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 26	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 27	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 28	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 29	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	Count+Call+Extend	1	NO	1I1U	1	1	0.0	10	3.2
2	Count+Call+Extend	1	NO	1I1L	2	1	0.0	10	7.2
3	Count+Call+Extend	2	NO	2I2U	3	0	0.0	10	1.1
4	Count+Call+Extend	2	NO	2I2L	4	0	0.0	10	1.5
5	Count+Call+Extend	2	NO	2I3U	5	0	0.0	10	4.5
6	Count+Call+Extend	2	NO	2I3L	6	0	0.0	10	6.2
7	Count+Call+Extend	2	NO	2I4U	7	0	2.0	10	2.1
8	Count+Call+Extend	2	NO	2I4L	8	0	2.0	10	7.4
9	Count+Call+Extend	3	NO	3I5U	9	0	0.0	10	3.4
10	Count+Call+Extend	3	NO	3I5L	10	0	0.0	10	7.6
11	Count+Call+Extend	4	NO	4I6U	11	3	0.0	10	1.3
12	Count+Call+Extend	4	NO	4I6L	12	0	0.0	10	1.7
13	Count+Call+Extend	4	NO	4I7U	13	0	0.0	10	4.7
14	Count+Call+Extend	4	NO	4I7L	14	0	0.0	10	6.4
15	Count+Call+Extend	4	NO	4I8U	15	3	2.0	10	2.3
16	Count+Call+Extend	4	NO	4I8L	16	3	2.0	10	7.8
17	Count+Call+Extend	1	NO	1I9U	17	1	0.0	10	3.6
18	Count+Call+Extend	3	NO	3I9L	18	0	0.0	10	3.8
19	None		NO	2I10U	19	0	0.0	10	4.1
20	None		NO	4I10L	20	0	0.0	10	4.2
21	Count+Call+Extend	5	NO	5J1U	21	1	0.0	10	3.1
22	Count+Call+Extend	5	NO	5J1L	22	1	0.0	10	7.1
23	Count+Call+Extend	6	NO	6J2U	23	0	0.0	10	1.2
24	Count+Call+Extend	6	NO	6J2L	24	0	0.0	10	1.6
25	Count+Call+Extend	6	NO	6J3U	25	0	0.0	10	4.6
26	Count+Call+Extend	6	NO	6J3L	26	0	0.0	10	6.3
27	Count+Call+Extend	6	NO	6J4U	27	0	2.0	10	2.2
28	Count+Call+Extend	6	NO	6J4L	28	0	2.0	10	7.3
29	Count+Call+Extend	7	NO	7J5U	29	0	0.0	10	3.3
30	Count+Call+Extend	7	NO	7J5L	30	0	0.0	10	7.5
31	Count+Call+Extend	8	NO	8J6U	31	3	0.0	10	1.4
32	Count+Call+Extend	8	NO	8J6L	32	0	0.0	10	1.8
33	Count+Call+Extend	8	NO	8J7U	33	0	0.0	10	4.8
34	Count+Call+Extend	8	NO	8J7L	34	0	0.0	10	6.5
35	Count+Call+Extend	8	NO	8J8U	35	3	2.0	10	2.4
36	Count+Call+Extend	8	NO	8J8L	36	3	2.0	10	7.7
37	Count+Call+Extend	5	NO	5J9U	37	1	0.0	10	3.5
38	Count+Call+Extend	7	NO	7J9L	38	0	0.0	10	3.7
39	None		NO	6J10U	39	0	0.0	10	4.3
40	None		NO	8J10L	40	0	0.0	10	4.4
41	Pedestrian	2	NO	2I12U	41	0	0.0	0	5.1
42	Pedestrian	4	NO	4I12L	42	0	0.0	0	5.3
43	Pedestrian	6	NO	6I13U	43	0	0.0	0	5.2
44	Pedestrian	8	NO	8I13L	44	0	0.0	0	5.4

Failure Times (5-3)	Minutes
Maximum On Time	0
Fail Reset Time	0

Failure Override (5-4)	
Detectors 1-8	_ _ _ _ _ _ _ _
Detectors 9-16	_ _ _ _ _ _ _ _
Detectors 17-24	_ _ _ _ _ _ _ _
Detectors 25-32	- - - - - - - -
Detectors 33-40	_ _ _ _ _ _ _ _
Detectors 41-44	_ _ _ _ _ _ _ _

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Num	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Det Num	0	0	0	0	0	0	0	0

CIC Operation (5-6-1)	
Enable in Plans	_ _ _ _ _ _ _ _

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.0	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Phase	0	0	0	0	0	0	0	0

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

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TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 2 (8-2-2)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 3 (8-2-3)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 4 (8-2-4)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 5 (8-2-5)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 6 (8-2-6)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

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HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Solar Clock Data (8-4)

North Latidude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	- - - - - - - -
Holiday	- - - - - - - -

Daylight Saving (8-6)

Daylight Saving	YES

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0530	2230	1 2 3 4 5 6 7	17	1 2 3 4 5 6 7 8
2	0000	0000	- - - - - - -	0	- - - - - - - -
3	0000	0000	- - - - - - -	0	- - - - - - - -
4	0000	0000	- - - - - - -	0	- - - - - - - -
5	0000	0000	- - - - - - -	0	- - - - - - - -
6	0000	0000	- - - - - - -	0	- - - - - - - -
7	0000	0000	- - - - - - -	0	- - - - - - - -
8	0000	0000	- - - - - - -	0	- - - - - - - -
9	0000	0000	- - - - - - -	0	- - - - - - - -
10	0000	0000	- - - - - - -	0	- - - - - - - -
11	0000	0000	- - - - - - -	0	- - - - - - - -
12	0000	0000	- - - - - - -	0	- - - - - - - -
13	0000	0000	- - - - - - -	0	- - - - - - - -
14	0000	0000	- - - - - - -	0	- - - - - - - -
15	0000	0000	- - - - - - -	0	- - - - - - - -
16	0000	0000	- - - - - - -	0	- - - - - - - -

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C20 (6-1-2)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C21 (6-1-3)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1	12.5	01	00.0	00	00.0	00	00.0
2	00.0	00	00.0	00	00.0	00	00.0
3	00.0	00	00.0	00	00.0	00	00.0
4	00.0	00	00.0	00	00.0	00	00.0
5	00.0	00	00.0	00	00.0	00	00.0
6	00.0	00	00.0	00	00.0	00	00.0
7	00.0	00	00.0	00	00.0	00	00.0
8	00.0	00	00.0	00	00.0	00	00.0
9	00.0	00	00.0	00	00.0	00	00.0
10	00.0	00	00.0	00	00.0	00	00.0
11	00.0	00	00.0	00	00.0	00	00.0
12	00.0	00	00.0	00	00.0	00	00.0
13	00.0	00	00.0	00	00.0	00	00.0
14	00.0	00	00.0	00	00.0	00	00.0
15	00.0	00	00.0	00	00.0	00	00.0
16	00.0	00	00.0	00	00.0	00	00.0

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

NETWORK

Network (6-4)				
Address	1			
Protocol	AB3418			
Port	27000			
IP Mode	Static IP			
IP Address	192	168	13	1
Netmask	255	255	255	0
Broadcast	192	168	13	255
Gateway	192	168	13	254

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RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay	0									
Clear 1	10	2 - - 5 - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	2 - 4 - 6 - 8	- - - - - - -	- - - - - - -	- - - - - - -
Clear 2	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Clear 3	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Hold	0	- - - - - - - -	- - - - - - - -	1 2 3 4 5 6 7 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - -	- - - - - - -	A B C D E F
Exit	5									
Min Grn	0									
Ped Clr	0									

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Recall	Ped Call
- - - - - - - -	- - - - - - -	1 2 3 4 5 6 7 8	2 - 4 - 6 - 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	Yes	Flashing

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay	0									
Clear 1	10	- - 4 - - 7 -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	2 - 4 - 6 - 8	- - - - - - -	- - - - - - -	- - - - - - -
Clear 2	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Clear 3	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Hold	0	1 2 3 - - 6 - -	- - - - - - - -	- - - - - - - -	2 - - - 6 - -	- - - - - - - -	- - 4 - - - 8	- - - - - - -	- - - - - - -	- - - - - - -
Exit	0									
Min Grn	0									
Ped Clr	0									

Exit Parameters (3-2-5)			
Exit Ph Grn	Exit Ovl Grn	Exit Veh Recall	Exit Ped Call
- - - - - - - -	- - - - - - -	- - 4 - - 7 -	- - - - - - - -

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-Up
2.6	0.0	Yes	Flashing

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	2 - - 5 - - -	- - - - - -

Port	Latching	Phase Termination
5.5	No	Advance

EVB (3-B)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- - 4 - - 7 -	- - - - - -

Port	Latching	Phase	Phase Termination
5.6	No		Advance

EVC (3-C)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	1 - - - - 6 - -	- - - - - -

Port	Latching	Phase Termination
5.7	No	Advance

EVD (3-D)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- 3 - - - - 8	- - - - - -

Port	Latching	Phase	Phase Termination
5.8	No		Advance

INPUTS

		7 Wire I/C(2-1-5-1)			
		Input	Port	Input	Port
Enable	No	R1	3.8	Free	3.6
Max ON	0	R2	3.5	D2	2.8
Max OFF	0	R3	3.7	D3	6.1

Manual Control(2-1-5-2)	
Input	Port
Manual Adv	6.6
Adv Enable	6.6

Battery Backup (2-1-5-5)	
Port	Operation
2.7	Flashing

Cabinet Staus (2-1-5-3)	
Input	Port
Flash Bus	0.0
Door Ajar	0.0
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	0.0
2	0.0
3	0.0
4	0.0

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C
+ middle output of loadswitches 3 and 6

YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs 1	2	3	4	5	6	7	8	Coord	Lag	Min Recall	Restricted
Plan C	0	0	0	0	0	0	0	0	0	0	0	0	2 - - - 6 - - -	2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -
Plan D	0	0	0	0	0	0	0	0	0	0	0	0	2 - - - 6 - - -	2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -

TRANSIT PRIORITY

Local Plans (3-E) 1...9 1...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 2	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 3	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 4	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 5	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 6	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 7	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 8	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 9	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 11	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 12	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 13	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 14	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 15	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 16	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 17	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 18	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 19	Green Factor	0	0	0	0	0	0	0	0	0	0	0

Enable Priority in Plan (3-E-A)				
Enable in Plans	Input	Type	Stop	Go
Plan 1-9 - - - - - - - -	0.0	OPT	0	0
Plan 11-19 - - - - - - - -	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
0	- - - - - - - -
0	- - - - - - - -

Free Plans (3-E-E)	
Max Green	Hold Phase
0	- - - - - - - -

Access Utilities (9-5)	
Password	***
Timeout	30

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
	0.0	0.0	0.0	0	- - - - - - - -	0.0	0.0	0.0	0	0.0	0

CONTROLLER ID

Manufacturer ID	Caltrans TSCP Ver 2.21
Model ID	Model 2070
Protocol Revision ID	AB3418

State of California
DEPARTMENT OF TRANSPORTATION

2070 Controller Timing Chart

Caltrans TSCP Ver 2.21

Location:
District:
System:
I/C:
Master At:
Timing Change:
By:
Designed:
Installed:
Designed By:
Installed By:
Date End:
Service Info:

Intersection Layout

		Date Start:	FLASH
PHASE	1)		[ ]
	2)		[ ]
	3)		[ ]
	4)		[ ]
	5)		[ ]
	6)		[ ]
	7)		[ ]
	8)		[ ]
OVERLAP	A)		[ ]
	B)		[ ]
	C)		[ ]
	D)		[ ]
	E)		[ ]
	F)		[ ]

Comments and Notes:

RAM Checksum

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CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 - 4 5 6 - 8
Restricted	- - - - - - - -

Phase Recalls (2-1-1-2)	
Vehicle Min	- 2 - - - 6 - -
vehicle Max	- - - - - - - -
Pedestrian	- - - - - - - -
Bicyle	- - - - - - - -

Phase Locks (2-1-1-3)	
Red	- - - - - - - -
Yellow	- - - - - - - -
Force/Max	- - - - - - - -

Phase Features (2-1-1-4)	
Double Entry	- - - 4 - - - 8
Rest In Walk	- - - - - - - -
Rest In Red	- - - - - - - -
Walk2	- - - - - - - -
Max Green 2	1 2 - 4 5 6 - 8
Max Green 3	- - - - - - - -

Startup (2-1-1-5)	
First Green Phases	- 2 - - - 6 - -
Yellow Start Phases	- - - - - - - -
Vehicle Calls	1 2 - 4 5 6 - 8
Pedestrian Calls	- 2 - 4 - 6 - 8
Yellow Start Overlaps	- - - - - - - -
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	- - - - - - - -	1	- - - - - - - -
2	- - - - - - - -	2	- - - - - - - -
3	- - - - - - - -	3	- - - - - - - -
4	- - - - - - - -	4	- - - - - - - -
5	- - - - - - - -	5	- - - - - - - -
6	- - - - - - - -	6	- - - - - - - -
7	- - - - - - - -	7	- - - - - - - -
8	- - - - - - - -	8	- - - - - - - -

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	- - - - - - - -
Yellow Flash Overlap	- - - - - - - -
Flash In Red Phases	- - - - - - - -
Flash In Red Overlap	- - - - - - - -

Special Operation (2-1-2-3)	
Single Exit Phase	- - - - - - - -
Driveway Signal Phases	- - - - - - - -
Driveway Signal Overlaps	- - - - - - - -
Leading Ped Phases	- - - - - - - -

Protected Permissive (2-1-2-4)	
Protected Permissive	- - - - - - - -

Pedestrian (2-1-3)	
P1	- - - - - - - -
P2	- 2 - - - - - -
P3	- - - - - - - -
P4	- - - 4 - - - -
P5	- - - - - - - -
P6	- - - - - 6 - -
P7	- - - - - - - -
P8	- - - - - - - 8

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
~~A [Arrow A]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~B [Arrow B]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~C [OL A]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~D [OL B]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~E [OL C]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~F [OL D]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

[-] 332 Cabinet Overlap Assignment - For Reference Only

PAGE 2 **CHECKSUM:** ~~20BB~~

PHASE TIMING

PHASE (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	10	0	7	0	10
Flash Don't Walk	0	14	0	23	0	14	0	23
Minimum Green	7	12	0	8	7	12	0	8
Det Limit	0	20	0	20	0	20	0	20
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	20	25	0	25	20	25	0	25
Max Green 2	30	35	0	35	35	35	0	35
Max Green 3	0	0	0	0	0	0	0	0
Extension	2.0	6.0	0.0	5.0	2.0	6.0	0.0	5.0
Maximum Gap	2.0	8.5	0.0	7.0	2.0	8.5	0.0	7.0
Minimum Gap	2.0	2.5	0.0	2.0	2.0	2.5	0.0	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Reduce Every	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5
Yellow	3.7	4.1	3.0	4.1	3.7	4.1	3.0	4.1
All-Red	2.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A [Arrow A]	B [Arrow B]	C [OL A]	D [OL B]	E [OL C]	F [OL D]
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert (2-5)	
Time	5.0

Red To Se (2-6)	
Red To Sec	OFF

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

PAGE 3 CHECKSUM: 5B26

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor		0.0	- - - - - - -											
Plan 2	Green Factor		0.0	- - - - - - -											
Plan 3	Green Factor		0.0	- - - - - - -											
Plan 4	Green Factor		0.0	- - - - - - -											
Plan 5	Green Factor		0.0	- - - - - - -											
Plan 6	Green Factor		0.0	- - - - - - -											
Plan 7	Green Factor		0.0	- - - - - - -											
Plan 8	Green Factor		0.0	- - - - - - -											
Plan 9	Green Factor		0.0	- - - - - - -											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	- 2 - - - 6 - - -
11-19	- - - - - - - - -
21-29	- - - - - - - - -

Master Sub Master	
Input	0.0
Output	0

(7-E) Free	
Lag	Omit
- 2 - 4 - 6 - 8	- - - - - - - -
Veh Min	Veh Max
- 2 - - - 6 - - -	- - - - - - - -
Ped	Bike
- - - - - - - -	- - - - - - - -
Cond	Cond Grn
- - - - - - - -	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 2	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 3	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 4	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 5	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 6	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 7	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 9	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	Offset
0	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

PAGE 4 CHECKSUM: DE5A

Local Plan 11...19 (7-2) TIMING DATA COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	1	2	3	4	5	6	7	8
Plan 11	Green Factor		0.0	- - - - - - -											
Plan 12	Green Factor		0.0	- - - - - - -											
Plan 13	Green Factor		0.0	- - - - - - -											
Plan 14	Green Factor		0.0	- - - - - - -											
Plan 15	Green Factor		0.0	- - - - - - -											
Plan 16	Green Factor		0.0	- - - - - - -											
Plan 17	Green Factor		0.0	- - - - - - -											
Plan 18	Green Factor		0.0	- - - - - - -											
Plan 19	Green Factor		0.0	- - - - - - -											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 12	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 13	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 14	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan15	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 16	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 17	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 18	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 19	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -

PAGE 5 CHECKSUM: 191A

Local Plan 21...29 (7-3) TIMING DATA

					COORDINATION [Offsets]			Green Factors or Press [F] to Select Force-Off							
		Cycle	Multi	Lag Gap	A	B	C	1	2	3	4	5	6	7	8
Plan 21	Green Factor		0.0	- - - - - - -											
Plan 22	Green Factor		0.0	- - - - - - -											
Plan 23	Green Factor		0.0	- - - - - - -											
Plan 24	Green Factor		0.0	- - - - - - -											
Plan 25	Green Factor		0.0	- - - - - - -											
Plan 26	Green Factor		0.0	- - - - - - -											
Plan 27	Green Factor		0.0	- - - - - - -											
Plan 28	Green Factor		0.0	- - - - - - -											
Plan 29	Green Factor		0.0	- - - - - - -											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 22	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 23	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 24	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 25	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 26	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 27	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 28	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 29	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -

PAGE 6 CHECKSUM: 191A

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	Count+Call+Extend	1	NO	1I1U	1	2	0.0	10	3.2
2	Count+Call+Extend	1	NO	1I1L	2	2	0.0	10	7.2
3	Count+Call+Extend	2	NO	2I2U	3	0	0.0	10	1.1
4	Count+Call+Extend	2	NO	2I2L	4	0	0.0	10	1.5
5	Count+Call+Extend	2	NO	2I3U	5	0	0.0	10	4.5
6	Count+Call+Extend	2	NO	2I3L	6	0	0.0	10	6.2
7	Count+Call+Extend	2	NO	2I4U	7	0	2.0	10	2.1
8	Count+Call+Extend	2	NO	2I4L	8	0	2.0	10	7.4
9	Count+Call+Extend	3	NO	3I5U	9	0	0.0	10	3.4
10	Count+Call+Extend	3	NO	3I5L	10	0	0.0	10	7.6
11	Count+Call+Extend	4	NO	4I6U	11	2	0.0	10	1.3
12	Count+Call+Extend	4	NO	4I6L	12	0	0.0	10	1.7
13	Count+Call+Extend	4	NO	4I7U	13	0	0.0	10	4.7
14	Count+Call+Extend	4	NO	4I7L	14	0	0.0	10	6.4
15	Count+Call+Extend	4	NO	4I8U	15	2	2.0	10	2.3
16	Count+Call+Extend	4	NO	4I8L	16	2	2.0	10	7.8
17	Count+Call+Extend	1	NO	1I9U	17	0	0.0	10	3.6
18	Count+Call+Extend	3	NO	3I9L	18	0	0.0	10	3.8
19	None		NO	2I10U	19	0	0.0	10	4.1
20	None		NO	4I10L	20	0	0.0	10	4.2
21	Count+Call+Extend	5	NO	5J1U	21	2	0.0	10	3.1
22	Count+Call+Extend	5	NO	5J1L	22	2	0.0	10	7.1
23	Count+Call+Extend	6	NO	6J2U	23	0	0.0	10	1.2
24	Count+Call+Extend	6	NO	6J2L	24	0	0.0	10	1.6
25	Count+Call+Extend	6	NO	6J3U	25	0	0.0	10	4.6
26	Count+Call+Extend	6	NO	6J3L	26	0	0.0	10	6.3
27	Count+Call+Extend	6	NO	6J4U	27	0	2.0	10	2.2
28	Count+Call+Extend	6	NO	6J4L	28	0	2.0	10	7.3
29	Count+Call+Extend	7	NO	7J5U	29	0	0.0	10	3.3
30	Count+Call+Extend	7	NO	7J5L	30	0	0.0	10	7.5
31	Count+Call+Extend	8	NO	8J6U	31	2	0.0	10	1.4
32	Count+Call+Extend	8	NO	8J6L	32	0	0.0	10	1.8
33	Count+Call+Extend	8	NO	8J7U	33	0	0.0	10	4.8
34	Count+Call+Extend	8	NO	8J7L	34	0	0.0	10	6.5
35	Count+Call+Extend	8	NO	8J8U	35	5	2.0	10	2.4
36	Count+Call+Extend	8	NO	8J8L	36	2	2.0	10	7.7
37	Count+Call+Extend	5	NO	5J9U	37	0	0.0	10	3.5
38	Count+Call+Extend	7	NO	7J9L	38	0	0.0	10	3.7
39	None		NO	6J10U	39	0	0.0	10	4.3
40	None		NO	8J10L	40	0	0.0	10	4.4
41	Pedestrian	2	NO	2I12U	41	0	0.0	0	5.1
42	Pedestrian	4	NO	4I12L	42	0	0.0	0	5.3
43	Pedestrian	6	NO	6I13U	43	0	0.0	0	5.2
44	Pedestrian	8	NO	8I13L	44	0	0.0	0	5.4

Failure Times (5-3)	Minutes
Maximum On Time	0
Fail Reset Time	0

Failure Override (5-4)	
Detectors 1-8	_ _ _ _ _ _ _ _
Detectors 9-16	_ _ _ _ _ _ _ _
Detectors 17-24	_ _ _ _ _ _ _ _
Detectors 25-32	- - - - - - - -
Detectors 33-40	_ _ _ _ _ _ _ _
Detectors 41-44	_ _ _ _ _ _ _ _

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Num	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Det Num	0	0	0	0	0	0	0	0

CIC Operation (5-6-1)	
Enable in Plans	_ _ _ _ _ _ _ _

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.0	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Phase	0	0	0	0	0	0	0	0

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 2 (8-2-2)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 3 (8-2-3)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 4 (8-2-4)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 5 (8-2-5)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 6 (8-2-6)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

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HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Solar Clock Data (8-4)

North Latidude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	- - - - - - - -
Holiday	- - - - - - - -

Daylight Saving (8-6)

Daylight Saving	YES

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0530	2230	1 2 3 4 5 6 7	17	1 2 3 4 5 6 7 8
2	0000	0000	- - - - - - -	0	- - - - - - - -
3	0000	0000	- - - - - - -	0	- - - - - - - -
4	0000	0000	- - - - - - -	0	- - - - - - - -
5	0000	0000	- - - - - - -	0	- - - - - - - -
6	0000	0000	- - - - - - -	0	- - - - - - - -
7	0000	0000	- - - - - - -	0	- - - - - - - -
8	0000	0000	- - - - - - -	0	- - - - - - - -
9	0000	0000	- - - - - - -	0	- - - - - - - -
10	0000	0000	- - - - - - -	0	- - - - - - - -
11	0000	0000	- - - - - - -	0	- - - - - - - -
12	0000	0000	- - - - - - -	0	- - - - - - - -
13	0000	0000	- - - - - - -	0	- - - - - - - -
14	0000	0000	- - - - - - -	0	- - - - - - - -
15	0000	0000	- - - - - - -	0	- - - - - - - -
16	0000	0000	- - - - - - -	0	- - - - - - - -

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C20 (6-1-2)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C21 (6-1-3)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

SOFT LOGIC

#	Data	OP	Data	OP	Data	OP	Data
1	00.0	00	00.0	00	00.0	00	00.0
2	00.0	00	00.0	00	00.0	00	00.0
3	00.0	00	00.0	00	00.0	00	00.0
4	00.0	00	00.0	00	00.0	00	00.0
5	00.0	00	00.0	00	00.0	00	00.0
6	00.0	00	00.0	00	00.0	00	00.0
7	00.0	00	00.0	00	00.0	00	00.0
8	00.0	00	00.0	00	00.0	00	00.0
9	00.0	00	00.0	00	00.0	00	00.0
10	00.0	00	00.0	00	00.0	00	00.0
11	00.0	00	00.0	00	00.0	00	00.0
12	00.0	00	00.0	00	00.0	00	00.0
13	00.0	00	00.0	00	00.0	00	00.0
14	00.0	00	00.0	00	00.0	00	00.0
15	00.0	00	00.0	00	00.0	00	00.0
16	00.0	00	00.0	00	00.0	00	00.0

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

NETWORK

Network (6-4)				
Address	1			
Protocol	AB3418			
Port	27000			
IP Mode	Static IP			
IP Address	192	168	13	1
Netmask	255	255	255	0
Broadcast	192	168	13	255
Gateway	192	168	13	254

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RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing
Delay	0
Clear 1	10
Clear 2	0
Clear 3	0
Hold	0
Exit	5
Min Grn	0
Ped Clr	0

Phase Flags (3-1-2)		
Grn Hold	Yel Flash	Red Flash
2 - - 5 - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	1 2 3 4 5 6 7 8

Pedestrian Flags (3-1-3)		
Walk	Flash DW	Solid DW
- - - - - - - -	- - - - - - - -	2 - 4 - 6 - 8
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -

Overlap Flags (3-1-4)		
Grn Hold	Yel Flash	Red Flash
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	A B C D E F

Exit Parameters (3-1-5)

Phase Green	Overlap Green	Vehicle Recall	Ped Call
- - - - - - - -	- - - - - - -	1 2 3 4 5 6 7 8	2 - 4 - 6 - 8

Configuration (3-1-6)

Port	Gate Port	Latching	Power-Up
2.5	0.0	Yes	Flashing

RR 2

(3-2-1)	Timing
Delay	0
Clear 1	10
Clear 2	0
Clear 3	0
Hold	0
Exit	0
Min Grn	0
Ped Clr	0

Phase Flags (3-2-2)		
Grn Hold	Yel Flash	Red Flash
- - 4 - - 7 -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
1 2 3 - - 6 - -	- - - - - - - -	- - - - - - - -

Pedestrian Flags (3-2-3)		
Walk	Flash DW	Solid DW
- - - - - - - -	- - - - - - - -	2 - 4 - 6 - 8
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
2 - - - 6 - - -	- - - - - - - -	- - 4 - - - 8

Overlap Flags (3-2-4)		
Grn Hold	Yel Flash	Red Flash
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -

Exit Parameters (3-2-5)

Exit Ph Grn	Exit Ovl Grn	Exit Veh Recall	Exit Ped Call
- - - - - - - -	- - - - - - -	- - 4 - - 7 -	- - - - - - - -

Configuration (3-2-6)

Port	Gate Port	Latching	Power-Up
2.6	0.0	Yes	Flashing

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	2 - - 5 - - -	- - - - - -

Port	Latching	Phase Termination
5.5	No	Advance

EVB (3-B)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- - 4 - - 7 -	- - - - - -

Port	Latching	Phase	Phase Termination
5.6	No		Advance

EVC (3-C)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	1 - - - - 6 - -	- - - - - -

Port	Latching	Phase Termination
5.7	No	Advance

EVD (3-D)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- 3 - - - - 8	- - - - - -

Port	Latching	Phase	Phase Termination
5.8	No		Advance

INPUTS

		7 Wire I/C(2-1-5-1)			
		Input	Port	Input	Port
Enable	No	R1	3.8	Free	3.6
Max ON	0	R2	3.5	D2	2.8
Max OFF	0	R3	3.7	D3	6.1

Manual Control(2-1-5-2)	
Input	Port
Manual Adv	6.6
Adv Enable	6.6

Battery Backup (2-1-5-5)	
Port	Operation
2.7	Flashing

Cabinet Staus (2-1-5-3)	
Input	Port
Flash Bus	0.0
Door Ajar	0.0
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	0.0
2	0.0
3	0.0
4	0.0

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C
+ middle output of loadswitches 3 and 6

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YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs 1	2	3	4	5	6	7	8	Coord	Lag	Min Recall	Restricted
Plan C	0	0	0	0	0	0	0	0	0	0	0	0	2 - - - 6 - - -	2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -
Plan D	0	0	0	0	0	0	0	0	0	0	0	0	2 - - - 6 - - -	2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -

TRANSIT PRIORITY

Local Plans (3-E) 1...9 1...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 2	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 3	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 4	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 5	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 6	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 7	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 8	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 9	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 11	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 12	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 13	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 14	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 15	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 16	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 17	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 18	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 19	Green Factor	0	0	0	0	0	0	0	0	0	0	0

Enable Priority in Plan (3-E-A)				
Enable in Plans	Input	Type	Stop	Go
Plan 1-9 - - - - - - -	0.0	OPT	0	0
Plan 11-19 - - - - - - -	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
0	- - - - - - -
0	- - - - - - -

Free Plans (3-E-E)	
Max Green	Hold Phase
0	- - - - - - -

Access Utilities (9-5)	
Password	***
Timeout	30

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
	0.0	0.0	0.0	0	- - - - - - - -	0.0	0.0	0.0	0	0.0	0

CONTROLLER ID

Manufacturer ID	Caltrans TSCP Ver 2.21
Model ID	Model 2070
Protocol Revision ID	AB3418

State of California
DEPARTMENT OF TRANSPORTATION

2070 Controller Timing Chart

Caltrans TSCP Ver 2.21

Location:
District:
System:
I/C:
Master At:
Timing Change: By:
Designed:
Installed:
Designed By:
Installed By:
Date End:
Service Info:

Intersection Layout

		Date Start:	FLASH
PHASE	1)		[ ]
	2)		[ ]
	3)		[ ]
	4)		[ ]
	5)		[ ]
	6)		[ ]
	7)		[ ]
	8)		[ ]
OVERLAP	A)		[ ]
	B)		[ ]
	C)		[ ]
	D)		[ ]
	E)		[ ]
	F)		[ ]

Comments and Notes:

RAM Checksum

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CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 - 4 5 6 - 8
Restricted	- - - - - - - -

Phase Recalls (2-1-1-2)	
Vehicle Min	- 2 - - - 6 - -
vehicle Max	- - - - - - - -
Pedestrian	- - - - - - - -
Bicyle	- - - - - - - -

Phase Locks (2-1-1-3)	
Red	1 2 - - 5 6 - -
Yellow	- - - - - - - -
Force/Max	- - - - - - - -

Phase Features (2-1-1-4)	
Double Entry	- - - 4 - - - 8
Rest In Walk	- - - - - - - -
Rest In Red	- - - - - - - -
Walk2	- - - - - - - -
Max Green 2	1 2 - 4 5 6 - 8
Max Green 3	- - - - - - - -

Startup (2-1-1-5)	
First Green Phases	- 2 - - - 6 - -
Yellow Start Phases	- - - - - - - -
Vehicle Calls	1 2 - 4 5 6 - 8
Pedestrian Calls	- 2 - 4 - 6 - 8
Yellow Start Overlaps	- - - - - - - -
Startup All-Red	7.0

Call To Phase (2-1-2-1)		Omit On Green	
1	- - - - - - - -	1	- - - - - - - -
2	- - - - - - - -	2	- - - - - - - -
3	- - - - - - - -	3	- - - - - - - -
4	- - - - - - - -	4	- - - - - - - -
5	- - - - - - - -	5	- - - - - - - -
6	- - - - - - - -	6	- - - - - - - -
7	- - - - - - - -	7	- - - - - - - -
8	- - - - - - - -	8	- - - - - - - -

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	- - - - - - - -
Yellow Flash Overlap	- - - - - - - -
Flash In Red Phases	- - - - - - - -
Flash In Red Overlap	- - - - - - - -

Special Operation (2-1-2-3)	
Single Exit Phase	- - - - - - - -
Driveway Signal Phases	- - - - - - - -
Driveway Signal Overlaps	- - - - - - - -
Leading Ped Phases	- - - - - - - -

Protected Permissive (2-1-2-4)	
Protected Permissive	- - - - - - - -

Pedestrian (2-1-3)	
P1	- - - - - - - -
P2	- 2 - - - - - -
P3	- - - - - - - -
P4	- - - 4 - - - -
P5	- - - - - - - -
P6	- - - - - 6 - -
P7	- - - - - - - -
P8	- - - - - - - 8

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
~~A [Arrow A]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~B [Arrow B]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~C [OL A]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~D [OL B]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~E [OL C]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
~~F [OL D]~~	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

[-] 332 Cabinet Overlap Assignment - For Reference Only

PAGE 2 **CHECKSUM:** ~~840C~~

PHASE TIMING

PHASE (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	7	0	7	0	7
Flash Don't Walk	0	23	0	27	0	23	0	27
Minimum Green	8	10	0	8	8	10	0	8
Det Limit	0	30	0	20	0	30	0	20
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	20	40	0	25	20	40	0	25
Max Green 2	30	50	0	35	30	50	0	35
Max Green 3	0	0	0	0	0	0	0	0
Extension	2.0	4.4	0.0	3.0	2.0	4.9	0.0	4.4
Maximum Gap	2.0	5.8	0.0	5.0	2.0	6.5	0.0	5.8
Minimum Gap	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Reduce Every	0.0	0.7	0.0	0.8	0.0	0.6	0.0	0.7
Yellow	3.7	4.1	3.0	4.1	3.7	4.1	3.0	4.1
All-Red	2.2	2.0	1.0	2.1	2.2	2.0	1.0	2.1
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A [Arrow A]	B [Arrow B]	C [OL A]	D [OL B]	E [OL C]	F [OL D]
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert (2-5)	
Time	5.0

Red To Se (2-6)	
Red To Sec	OFF

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

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Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor		0.0	- - - - - - -											
Plan 2	Green Factor		0.0	- - - - - - -											
Plan 3	Green Factor		0.0	- - - - - - -											
Plan 4	Green Factor		0.0	- - - - - - -											
Plan 5	Green Factor		0.0	- - - - - - -											
Plan 6	Green Factor		0.0	- - - - - - -											
Plan 7	Green Factor		0.0	- - - - - - -											
Plan 8	Green Factor		0.0	- - - - - - -											
Plan 9	Green Factor		0.0	- - - - - - -											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	- 2 - - - 6 - - -
11-19	- - - - - - - - -
21-29	- - - - - - - - -

Master Sub Master	
Input	0.0
Output	0

(7-E) Free	
Lag	Omit
- 2 - 4 - 6 - 8	- - - - - - - -
Veh Min	Veh Max
- 2 - - - 6 - - -	- - - - - - - -
Ped	Bike
- - - - - - - -	- - - - - - - -
Cond	Cond Grn
- - - - - - - -	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 2	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 3	2 - 4 - 6 - 8	2 - - - 6 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 4	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 5	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 6	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 7	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 9	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	Offset
0	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

PAGE 4 CHECKSUM: DE5A

Local Plan 11...19 (7-2) TIMING DATA COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	1	2	3	4	5	6	7	8
Plan 11	Green Factor		0.0	- - - - - - -											
Plan 12	Green Factor		0.0	- - - - - - -											
Plan 13	Green Factor		0.0	- - - - - - -											
Plan 14	Green Factor		0.0	- - - - - - -											
Plan 15	Green Factor		0.0	- - - - - - -											
Plan 16	Green Factor		0.0	- - - - - - -											
Plan 17	Green Factor		0.0	- - - - - - -											
Plan 18	Green Factor		0.0	- - - - - - -											
Plan 19	Green Factor		0.0	- - - - - - -											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 12	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 13	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 14	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan15	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 16	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 17	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 18	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 19	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -

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Local Plan 21...29 (7-3) TIMING DATA

					COORDINATION [Offsets]			Green Factors or Press [F] to Select Force-Off							
		Cycle	Multi	Lag Gap	A	B	C	1	2	3	4	5	6	7	8
Plan 21	Green Factor		0.0	- - - - - - -											
Plan 22	Green Factor		0.0	- - - - - - -											
Plan 23	Green Factor		0.0	- - - - - - -											
Plan 24	Green Factor		0.0	- - - - - - -											
Plan 25	Green Factor		0.0	- - - - - - -											
Plan 26	Green Factor		0.0	- - - - - - -											
Plan 27	Green Factor		0.0	- - - - - - -											
Plan 28	Green Factor		0.0	- - - - - - -											
Plan 29	Green Factor		0.0	- - - - - - -											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 22	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 23	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 24	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 25	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 26	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 27	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 28	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
Plan 29	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -

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DETECTORS

Detector Attributes (5-1)				Slot
Det	Type	Phases	Lock	
1	Count+Call+Extend	1 - - - - - - -	NO	1I1U
2	Count+Call+Extend	1 - - - - - - -	NO	1I1L
3	Count+Call+Extend	- 2 - - - - - -	NO	2I2U
4	Count+Call+Extend	- 2 - - - - - -	NO	2I2L
5	Count+Call+Extend	- 2 - - - - - -	NO	2I3U
6	Count+Call+Extend	- 2 - - - - - -	NO	2I3L
7	Count+Call+Extend	- 2 - - - - - -	NO	2I4U
8	Count+Call+Extend	- 2 - - - - - -	NO	2I4L
9	Count+Call+Extend	- - - - - - - 8	NO	3I5U
10	Count+Call+Extend	- - - - - - - 8	NO	3I5L
11	Count+Call+Extend	- - - 4 - - - -	NO	4I6U
12	Count+Call+Extend	- - - 4 - - - -	NO	4I6L
13	Count+Call+Extend	- - - 4 - - - -	NO	4I7U
14	Count+Call+Extend	- - - 4 - - - -	NO	4I7L
15	Count+Call+Extend	- - - 4 - - - -	NO	4I8U
16	Count+Call+Extend	- - - 4 - - - -	NO	4I8L
17	Count+Call+Extend	1 - - - - - - -	NO	1I9U
18	Count+Call+Extend	- - 3 - - - - -	NO	3I9L
19	None	- - - - - - - -	NO	2I10U
20	None	- - - - - - - -	NO	4I10L
21	Count+Call+Extend	- - - - 5 - - -	NO	5J1U
22	Count+Call+Extend	- - - - 5 - - -	NO	5J1L
23	Count+Call+Extend	- - - - - 6 - -	NO	6J2U
24	Count+Call+Extend	- - - - - 6 - -	NO	6J2L
25	Count+Call+Extend	- - - - - 6 - -	NO	6J3U
26	Count+Call+Extend	- - - - - 6 - -	NO	6J3L
27	Count+Call+Extend	- - - - - 6 - -	NO	6J4U
28	Count+Call+Extend	- - - - - 6 - -	NO	6J4L
29	Count+Call+Extend	- - - 4 - - - -	NO	7J5U
30	Count+Call+Extend	- - - 4 - - - -	NO	7J5L
31	Count+Call+Extend	- - - - - - - 8	NO	8J6U
32	Count+Call+Extend	- - - - - - - 8	NO	8J6L
33	Count+Call+Extend	- - - - - - - 8	NO	8J7U
34	Count+Call+Extend	- - - - - - - 8	NO	8J7L
35	Count+Call+Extend	- - - - - - - 8	NO	8J8U
36	Count+Call+Extend	- - - - - - - 8	NO	8J8L
37	Count+Call+Extend	- - - - 5 - - -	NO	5J9U
38	Count+Call+Extend	- - - - - - 7 -	NO	7J9L
39	None	- - - - - - - -	NO	6J10U
40	None	- - - - - - - -	NO	8J10L
41	Pedestrian	- 2 - - - - - -	NO	2I12U
42	Pedestrian	- - - 4 - - - -	NO	4I12L
43	Pedestrian	- - - - - 6 - -	NO	6I13U
44	Pedestrian	- - - - - - - 8	NO	8I13L

Detector Configuration (5-2)				
Det	Delay	Extend	Recall	Port
1	0	0.0	10	3.2
2	0	0.0	10	7.2
3	0	0.0	10	1.1
4	0	0.0	10	1.5
5	0	0.0	10	4.5
6	0	0.0	10	6.2
7	0	2.0	10	2.1
8	0	2.0	10	7.4
9	0	0.0	10	3.4
10	0	0.0	10	7.6
11	0	0.0	10	1.3
12	0	0.0	10	1.7
13	0	0.0	10	4.7
14	0	0.0	10	6.4
15	0	5.0	10	2.3
16	0	5.0	10	7.8
17	0	0.0	10	3.6
18	0	0.0	10	3.8
19	0	0.0	10	4.1
20	0	0.0	10	4.2
21	0	0.0	10	3.1
22	0	0.0	10	7.1
23	0	0.0	10	1.2
24	0	0.0	10	1.6
25	0	0.0	10	4.6
26	0	0.0	10	6.3
27	0	2.0	10	2.2
28	0	2.0	10	7.3
29	0	0.0	10	3.3
30	0	0.0	10	7.5
31	0	0.0	10	1.4
32	0	0.0	10	1.8
33	0	0.0	10	4.8
34	0	0.0	10	6.5
35	0	2.0	10	2.4
36	0	2.0	10	7.7
37	0	0.0	10	3.5
38	0	0.0	10	3.7
39	0	0.0	10	4.3
40	0	0.0	10	4.4
41	0	0.0	0	5.1
42	0	0.0	0	5.3
43	0	0.0	0	5.2
44	0	0.0	0	5.4

Failure Times (5-3)	Minutes
Maximum On Time	0
Fail Reset Time	0

Failure Override (5-4)	
Detectors 1-8	- - - - - - - -
Detectors 9-16	- - - - - - - -
Detectors 17-24	- - - - - - - -
Detectors 25-32	- - - - - - - -
Detectors 33-40	- - - - - - - -
Detectors 41-44	- - - - - - - -

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Det Num	0	0	0	0	0	0	0	0

CIC Operation (5-6-1)	
Enable in Plans	- - - - - - - - -

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.0	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Phase	0	0	0	0	0	0	0	0

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 2 (8-2-2)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 3 (8-2-3)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 4 (8-2-4)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 5 (8-2-5)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

Table 6 (8-2-6)		
Hour	Plan	OS
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A
0000	0	A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

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HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Solar Clock Data (8-4)

North Latidude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	- - - - - - - -
Holiday	- - - - - - - -

Daylight Saving (8-6)

Daylight Saving	YES

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0600	2200	1 2 3 4 5 6 7	17	1 2 3 4 5 6 7 8
2	0000	0000	- - - - - - -	0	- - - - - - - -
3	0000	0000	- - - - - - -	0	- - - - - - - -
4	0000	0000	- - - - - - -	0	- - - - - - - -
5	0000	0000	- - - - - - -	0	- - - - - - - -
6	0000	0000	- - - - - - -	0	- - - - - - - -
7	0000	0000	- - - - - - -	0	- - - - - - - -
8	0000	0000	- - - - - - -	0	- - - - - - - -
9	0000	0000	- - - - - - -	0	- - - - - - - -
10	0000	0000	- - - - - - -	0	- - - - - - - -
11	0000	0000	- - - - - - -	0	- - - - - - - -
12	0000	0000	- - - - - - -	0	- - - - - - - -
13	0000	0000	- - - - - - -	0	- - - - - - - -
14	0000	0000	- - - - - - -	0	- - - - - - - -
15	0000	0000	- - - - - - -	0	- - - - - - - -
16	0000	0000	- - - - - - -	0	- - - - - - - -

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C20 (6-1-2)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C21 (6-1-3)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1	00.0	00	00.0	00	00.0	00	00.0
2	00.0	00	00.0	00	00.0	00	00.0
3	00.0	00	00.0	00	00.0	00	00.0
4	00.0	00	00.0	00	00.0	00	00.0
5	00.0	00	00.0	00	00.0	00	00.0
6	00.0	00	00.0	00	00.0	00	00.0
7	00.0	00	00.0	00	00.0	00	00.0
8	00.0	00	00.0	00	00.0	00	00.0
9	00.0	00	00.0	00	00.0	00	00.0
10	00.0	00	00.0	00	00.0	00	00.0
11	00.0	00	00.0	00	00.0	00	00.0
12	00.0	00	00.0	00	00.0	00	00.0
13	00.0	00	00.0	00	00.0	00	00.0
14	00.0	00	00.0	00	00.0	00	00.0
15	00.0	00	00.0	00	00.0	00	00.0
16	00.0	00	00.0	00	00.0	00	00.0

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

NETWORK

Network (6-4)				
Address	1			
Protocol	AB3418			
Port	27000			
IP Mode	Static IP			
IP Address	192	168	13	1
Netmask	255	255	255	0
Broadcast	192	168	13	255
Gateway	192	168	13	254

PAGE 10 **CHECKSUM:** BAC2

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing
Delay	0
Clear 1	10
Clear 2	0
Clear 3	0
Hold	0
Exit	5
Min Grn	0
Ped Clr	0

Phase Flags (3-1-2)		
Grn Hold	Yel Flash	Red Flash
2 - - 5 - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	1 2 3 4 5 6 7 8

Pedestrian Flags (3-1-3)		
Walk	Flash DW	Solid DW
- - - - - - - -	- - - - - - - -	2 - 4 - 6 - 8
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -

Overlap Flags (3-1-4)		
Grn Hold	Yel Flash	Red Flash
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	A B C D E F

Exit Parameters (3-1-5)

Phase Green	Overlap Green	Vehicle Recall	Ped Call
- - - - - - - -	- - - - - - -	1 2 3 4 5 6 7 8	2 - 4 - 6 - 8

Configuration (3-1-6)

Port	Gate Port	Latching	Power-Up
2.5	0.0	Yes	Flashing

RR 2

(3-2-1)	Timing
Delay	0
Clear 1	10
Clear 2	0
Clear 3	0
Hold	0
Exit	0
Min Grn	0
Ped Clr	0

Phase Flags (3-2-2)		
Grn Hold	Yel Flash	Red Flash
- - 4 - - 7 -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
1 2 3 - - 6 - -	- - - - - - - -	- - - - - - - -

Pedestrian Flags (3-2-3)		
Walk	Flash DW	Solid DW
- - - - - - - -	- - - - - - - -	2 - 4 - 6 - 8
- - - - - - - -	- - - - - - - -	- - - - - - - -
- - - - - - - -	- - - - - - - -	- - - - - - - -
2 - - - 6 - - -	- - - - - - - -	- - 4 - - - 8

Overlap Flags (3-2-4)		
Grn Hold	Yel Flash	Red Flash
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -
- - - - - - -	- - - - - - -	- - - - - - -

Exit Parameters (3-2-5)

Exit Ph Grn	Exit Ovl Grn	Exit Veh Recall	Exit Ped Call
- - - - - - - -	- - - - - - -	- - 4 - - 7 -	- - - - - - - -

Configuration (3-2-6)

Port	Gate Port	Latching	Power-Up
2.6	0.0	Yes	Flashing

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	2 - - 5 - - -	- - - - - -

Port	Latching	Phase Termination
5.5	No	Advance

EVB (3-B)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- - 4 - - 7 -	- - - - - -

Port	Latching	Phase	Phase Termination
5.6	No		Advance

EVC (3-C)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	1 - - - - 6 - -	- - - - - -

Port	Latching	Phase Termination
5.7	No	Advance

EVD (3-D)

Preempt Timers			Phase Green	Overlap Grn
Delay	Clear	Max		
0	30	30	- - 3 - - - - 8	- - - - - -

Port	Latching	Phase	Phase Termination
5.8	No		Advance

INPUTS

		7 Wire I/C(2-1-5-1)			
		Input	Port	Input	Port
Enable	No	R1	3.8	Free	3.6
Max ON	0	R2	3.5	D2	2.8
Max OFF	0	R3	3.7	D3	6.1

Manual Control(2-1-5-2)	
Input	Port
Manual Adv	6.6
Adv Enable	6.6

Battery Backup (2-1-5-5)	
Port	Operation
2.7	Flashing

Cabinet Staus (2-1-5-3)	
Input	Port
Flash Bus	0.0
Door Ajar	0.0
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	0.0
2	0.0
3	0.0
4	0.0

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C
+ middle output of loadswitches 3 and 6

YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs 1	2	3	4	5	6	7	8	Coord	Lag	Min Recall	Restricted
Plan C	0	0	0	0	0	0	0	0	0	0	0	0	2 - - - 6 - - -	2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -
Plan D	0	0	0	0	0	0	0	0	0	0	0	0	2 - - - 6 - - -	2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -

TRANSIT PRIORITY

Local Plans (3-E) 1...9 1...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 2	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 3	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 4	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 5	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 6	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 7	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 8	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 9	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 11	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 12	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 13	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 14	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 15	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 16	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 17	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 18	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 19	Green Factor	0	0	0	0	0	0	0	0	0	0	0

Enable Priority in Plan (3-E-A)				
Enable in Plans	Input	Type	Stop	Go
Plan 1-9 - - - - - - - -	0.0	OPT	0	0
Plan 11-19 - - - - - - - -	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
0	- - - - - - - -
0	- - - - - - - -

Free Plans (3-E-E)	
Max Green	Hold Phase
0	- - - - - - - -

Access Utilities (9-5)	
Password	***
Timeout	30

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
	0.0	0.0	0.0	0	- - - - - - - -	0.0	0.0	0.0	0	0.0	0

CONTROLLER ID

Manufacturer ID	Caltrans TSCP Ver 2.21
Model ID	Model 2070
Protocol Revision ID	AB3418

Appendix E

Level of Service (LOS) Analysis Reports

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	3	6	84	110	50
Future Vol, veh/h	41	3	6	84	110	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	66	66	57	57
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	45	3	9	127	193	88

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	338	193	193	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	145	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	656	846	1374	-	-	0
Stage 1	837	-	-	-	-	0
Stage 2	880	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	651	846	1374	-	-	-
Mov Cap-2 Maneuver	651	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1374	-	661	-
HCM Lane V/C Ratio	0.007	-	0.072	-
HCM Control Delay (s)	7.6	0	10.9	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0	-	0.2	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	3	0	23	0	121	4	0	144	56
Future Vol, veh/h	0	0	0	3	0	23	0	121	4	0	144	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	80	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	65	65	65	73	73	73	91	91	91
Heavy Vehicles, %	2	2	2	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	5	0	35	0	166	5	0	158	62

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	355	-	-	-	0	-	-	-	0	
Stage 1	166	-	-	-	-	-	-	-	-	
Stage 2	189	-	-	-	-	-	-	-	-	
Critical Hdwy	6.43	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-	-	-	
Follow-up Hdwy	3.527	-	-	-	-	-	-	-	-	
Pot Cap-1 Maneuver	641	0	0	0	-	0	0	-	-	
Stage 1	861	0	0	0	-	0	0	-	-	
Stage 2	841	0	0	0	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	641	0	-	-	-	-	-	-	-	
Mov Cap-2 Maneuver	641	0	-	-	-	-	-	-	-	
Stage 1	861	0	-	-	-	-	-	-	-	
Stage 2	841	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	-	641	-	-	-
HCM Lane V/C Ratio	-	0.007	-	-	-
HCM Control Delay (s)	-	10.7	0	-	-
HCM Lane LOS	-	B	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	43	67	50	42	71	43	366	37	26	247	24
Future Volume (veh/h)	72	43	67	50	42	71	43	366	37	26	247	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.95	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	118	70	110	60	51	86	47	402	41	29	274	27
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.83	0.83	0.83	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	429	188	296	392	181	305	116	879	89	80	820	80
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.07	0.28	0.28	0.05	0.26	0.26
Sat Flow, veh/h	1202	625	983	1156	602	1015	1723	3137	318	1723	3163	309
Grp Volume(v), veh/h	118	0	180	60	0	137	47	219	224	29	148	153
Grp Sat Flow(s),veh/h/ln	1202	0	1608	1156	0	1617	1723	1719	1736	1723	1719	1753
Q Serve(g_s), s	4.1	0.0	4.4	2.1	0.0	3.2	1.3	5.2	5.3	0.8	3.4	3.5
Cycle Q Clear(g_c), s	7.3	0.0	4.4	6.5	0.0	3.2	1.3	5.2	5.3	0.8	3.4	3.5
Prop In Lane	1.00		0.61	1.00		0.63	1.00		0.18	1.00		0.18
Lane Grp Cap(c), veh/h	429	0	484	392	0	486	116	482	486	80	446	455
V/C Ratio(X)	0.27	0.00	0.37	0.15	0.00	0.28	0.40	0.45	0.46	0.36	0.33	0.34
Avail Cap(c_a), veh/h	798	0	977	746	0	982	872	1218	1230	872	1218	1242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	13.6	16.1	0.0	13.2	22.1	14.7	14.7	22.8	14.8	14.8
Incr Delay (d2), s/veh	0.9	0.0	1.2	0.8	0.0	1.3	0.8	1.6	1.6	1.0	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	2.1	0.8	0.0	1.6	0.6	2.6	2.7	0.4	1.7	1.8
LnGrp Delay(d),s/veh	16.8	0.0	14.8	16.9	0.0	14.5	22.9	16.2	16.3	23.9	15.7	15.7
LnGrp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		298			197			490			330	
Approach Delay, s/veh		15.6			15.3			16.9			16.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	20.2		21.2	9.0	19.2		21.2
Change Period (Y+Rc), s	* 5.7	6.4		* 6.3	* 5.7	6.4		* 6.3
Max Green Setting (Gmax), s	* 25	35.0		* 30	* 25	35.0		* 30
Max Q Clear Time (g_c+I1), s	2.8	7.3		9.3	3.3	5.5		8.5
Green Ext Time (p_c), s	0.0	5.6		3.0	0.0	3.4		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Notes

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

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	6	13	5	5	38	35	458	12	32	285	17
Future Vol, veh/h	35	6	13	5	5	38	35	458	12	32	285	17
Conflicting Peds, #/hr	5	0	0	0	0	5	10	0	50	50	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	75	75	75	86	86	86	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	8	18	7	7	51	41	533	14	36	324	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	773	1095	182	910	1097	329	353	0	0	597	0	0
Stage 1	416	416	-	672	672	-	-	-	-	-	-	-
Stage 2	357	679	-	238	425	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	289	212	829	230	212	667	1202	-	-	976	-	-
Stage 1	585	590	-	412	453	-	-	-	-	-	-	-
Stage 2	633	449	-	744	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	241	186	821	196	186	632	1191	-	-	930	-	-
Mov Cap-2 Maneuver	241	186	-	196	186	-	-	-	-	-	-	-
Stage 1	559	561	-	379	417	-	-	-	-	-	-	-
Stage 2	551	413	-	689	556	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.7	14.9	0.6	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1191	-	-	279	427	930	-	-
HCM Lane V/C Ratio	0.034	-	-	0.273	0.15	0.039	-	-
HCM Control Delay (s)	8.1	-	-	22.7	14.9	9	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.5	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	28	27	8	21	20	20	481	22	25	303	41
Future Volume (veh/h)	70	28	27	8	21	20	20	481	22	25	303	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.95	0.96		0.95	1.00		0.91	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	103	41	40	12	32	31	23	559	26	30	361	49
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.68	0.68	0.68	0.65	0.65	0.65	0.86	0.86	0.86	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	142	114	122	291	243	66	1013	47	81	951	128
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.04	0.30	0.30	0.05	0.30	0.30
Sat Flow, veh/h	743	395	316	151	807	675	1774	3427	159	1774	3123	420
Grp Volume(v), veh/h	184	0	0	75	0	0	23	288	297	30	203	207
Grp Sat Flow(s),veh/h/ln	1454	0	0	1633	0	0	1774	1770	1816	1774	1770	1774
Q Serve(g_s), s	3.5	0.0	0.0	0.0	0.0	0.0	0.8	8.4	8.4	1.0	5.5	5.6
Cycle Q Clear(g_c), s	5.3	0.0	0.0	1.8	0.0	0.0	0.8	8.4	8.4	1.0	5.5	5.6
Prop In Lane	0.56		0.22	0.16		0.41	1.00		0.09	1.00		0.24
Lane Grp Cap(c), veh/h	615	0	0	656	0	0	66	523	537	81	539	540
V/C Ratio(X)	0.30	0.00	0.00	0.11	0.00	0.00	0.35	0.55	0.55	0.37	0.38	0.38
Avail Cap(c_a), veh/h	800	0	0	862	0	0	724	1011	1037	724	1011	1013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	0.0	13.1	0.0	0.0	28.8	18.2	18.2	28.4	16.8	16.8
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	1.2	2.1	2.1	1.0	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	0.9	0.0	0.0	0.4	4.4	4.5	0.5	2.9	2.9
LnGrp Delay(d),s/veh	14.6	0.0	0.0	13.3	0.0	0.0	30.0	20.3	20.3	29.4	17.8	17.8
LnGrp LOS	B			B			C	C	C	C	B	B
Approach Vol, veh/h		184			75			608			440	
Approach Delay, s/veh		14.6			13.3			20.6			18.6	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	24.2		28.6	8.0	24.8		28.6
Change Period (Y+Rc), s	* 5.7	6.1		6.5	* 5.7	6.1		6.5
Max Green Setting (Gmax), s	* 25	35.0		30.0	* 25	35.0		30.0
Max Q Clear Time (g_c+I1), s	3.0	10.4		7.3	2.8	7.6		3.8
Green Ext Time (p_c), s	0.0	7.3		1.8	0.0	5.1		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

Notes

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

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	84	12	50	64	51	37	483	43	40	303	71
Future Volume (veh/h)	112	84	12	50	64	51	37	483	43	40	303	71
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	153	115	16	58	74	59	41	537	48	43	326	76
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.86	0.86	0.86	0.90	0.90	0.90	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	191	23	180	213	136	106	1120	100	110	980	225
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.06	0.34	0.34	0.06	0.34	0.34
Sat Flow, veh/h	762	735	89	351	820	523	1774	3282	293	1774	2855	656
Grp Volume(v), veh/h	284	0	0	191	0	0	41	289	296	43	200	202
Grp Sat Flow(s),veh/h/ln	1586	0	0	1694	0	0	1774	1770	1805	1774	1770	1741
Q Serve(g_s), s	3.3	0.0	0.0	0.0	0.0	0.0	1.2	6.8	6.9	1.2	4.5	4.6
Cycle Q Clear(g_c), s	8.0	0.0	0.0	4.7	0.0	0.0	1.2	6.8	6.9	1.2	4.5	4.6
Prop In Lane	0.54		0.06	0.30		0.31	1.00		0.16	1.00		0.38
Lane Grp Cap(c), veh/h	516	0	0	528	0	0	106	604	616	110	607	598
V/C Ratio(X)	0.55	0.00	0.00	0.36	0.00	0.00	0.39	0.48	0.48	0.39	0.33	0.34
Avail Cap(c_a), veh/h	1101	0	0	1147	0	0	1170	1167	1190	1003	1167	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	0.0	0.0	16.3	0.0	0.0	24.0	13.8	13.8	23.9	12.9	12.9
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.9	0.0	0.0	0.9	2.1	2.1	0.8	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	2.4	0.0	0.0	0.6	3.6	3.7	0.6	2.4	2.4
LnGrp Delay(d),s/veh	19.3	0.0	0.0	17.2	0.0	0.0	24.9	15.9	15.9	24.8	14.1	14.2
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		284			191			626			445	
Approach Delay, s/veh		19.3			17.2			16.5			15.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	24.2		19.9	8.9	24.3		19.9
Change Period (Y+Rc), s	* 5.7	6.1		6.1	* 5.7	6.1		6.1
Max Green Setting (Gmax), s	* 3.3	35.0		35.0	* 35	35.0		35.0
Max Q Clear Time (g_c+I1), s	10.2	8.9		10.0	3.2	6.6		6.7
Green Ext Time (p_c), s	0.0	9.0		3.5	0.0	6.2		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	4	51	3	2	59	36	601	7	38	459	9
Future Vol, veh/h	10	4	51	3	2	59	36	601	7	38	459	9
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	4	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	80	80	80	94	94	94	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	6	82	4	3	74	38	639	7	42	504	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	992	1321	259	1062	1323	327	516	0	0	650	0	0
Stage 1	595	595	-	723	723	-	-	-	-	-	-	-
Stage 2	397	726	-	339	600	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	200	155	740	178	155	669	1046	-	-	932	-	-
Stage 1	458	491	-	384	429	-	-	-	-	-	-	-
Stage 2	600	428	-	649	488	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	164	142	739	143	142	666	1044	-	-	928	-	-
Mov Cap-2 Maneuver	164	142	-	143	142	-	-	-	-	-	-	-
Stage 1	441	468	-	369	412	-	-	-	-	-	-	-
Stage 2	511	411	-	543	465	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	13.2	0.5	0.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1044	-	-	411	518	928	-	-
HCM Lane V/C Ratio	0.037	-	-	0.255	0.154	0.045	-	-
HCM Control Delay (s)	8.6	-	-	16.7	13.2	9.1	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0.5	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	27	30	103	15	40	26	537	108	40	363	65
Future Volume (veh/h)	150	27	30	103	15	40	26	537	108	40	363	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	197	36	39	112	16	43	29	603	121	45	408	73
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.76	0.76	0.76	0.92	0.92	0.92	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	407	401	358	405	401	358	93	1074	215	129	1159	206
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.05	0.37	0.37	0.07	0.39	0.39
Sat Flow, veh/h	1335	1770	1579	1316	1770	1579	1774	2940	589	1774	3004	533
Grp Volume(v), veh/h	197	36	39	112	16	43	29	362	362	45	239	242
Grp Sat Flow(s),veh/h/ln	1335	1770	1579	1316	1770	1579	1774	1770	1759	1774	1770	1768
Q Serve(g_s), s	7.5	0.9	1.1	4.0	0.4	1.2	0.9	8.9	8.9	1.3	5.2	5.3
Cycle Q Clear(g_c), s	8.6	0.9	1.1	5.1	0.4	1.2	0.9	8.9	8.9	1.3	5.2	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.30
Lane Grp Cap(c), veh/h	407	401	358	405	401	358	93	647	643	129	683	682
V/C Ratio(X)	0.48	0.09	0.11	0.28	0.04	0.12	0.31	0.56	0.56	0.35	0.35	0.35
Avail Cap(c_a), veh/h	964	1140	1018	955	1140	1018	980	1629	1619	980	1629	1627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	16.6	16.6	18.7	16.4	16.7	24.8	13.8	13.8	24.0	11.8	11.9
Incr Delay (d2), s/veh	0.9	0.1	0.1	0.6	0.1	0.2	0.7	1.3	1.3	0.6	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.4	0.5	1.5	0.2	0.5	0.4	4.6	4.5	0.7	2.6	2.7
LnGrp Delay(d),s/veh	21.0	16.7	16.8	19.3	16.4	16.9	25.5	15.0	15.0	24.6	12.5	12.5
LnGrp LOS	C	B	B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		272			171			753			526	
Approach Delay, s/veh		19.8			18.4			15.4			13.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.8	25.9		18.5	8.7	27.1		18.5
Change Period (Y+Rc), s	5.9	6.1		6.2	5.9	6.1		6.2
Max Green Setting (Gmax), s	30.0	50.0		35.0	30.0	50.0		35.0
Max Q Clear Time (g_c+I1), s	3.3	10.9		10.6	2.9	7.3		7.1
Green Ext Time (p_c), s	0.0	8.9		1.0	0.0	6.4		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	0	87	0	0	0	0	463	297	64	467	0
Future Vol, veh/h	28	0	87	0	0	0	0	463	297	64	467	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	25	25	25	91	91	91	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	0	118	0	0	0	0	509	326	69	502	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1149	-	502	-	0	-	509	0	0
Stage 1	640	-	-	-	-	-	-	-	-
Stage 2	509	-	-	-	-	-	-	-	-
Critical Hdwy	6.42	-	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	-	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	219	0	569	0	-	0	1056	-	0
Stage 1	525	0	-	0	-	0	-	-	0
Stage 2	604	0	-	0	-	0	-	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	199	0	569	-	-	-	1056	-	-
Mov Cap-2 Maneuver	199	0	-	-	-	-	-	-	-
Stage 1	525	0	-	-	-	-	-	-	-
Stage 2	549	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.5	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	199	569	1056	-
HCM Lane V/C Ratio	-	0.19	0.207	0.065	-
HCM Control Delay (s)	-	27.3	13	8.6	0
HCM Lane LOS	-	D	B	A	A
HCM 95th %tile Q(veh)	-	0.7	0.8	0.2	-

Intersection	
Int Delay, s/veh	22.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	365	110	111	439	0	106	0	58	0	1	0
Future Vol, veh/h	1	365	110	111	439	0	106	0	58	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	89	89	89	85	85	85	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	435	131	125	493	0	125	0	68	0	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	493	0	0	566	0	0	1248	1246	501	1280	1311	493
Stage 1	-	-	-	-	-	-	503	503	-	743	743	-
Stage 2	-	-	-	-	-	-	745	743	-	537	568	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1071	-	-	1006	-	-	150	174	570	143	159	576
Stage 1	-	-	-	-	-	-	551	541	-	407	422	-
Stage 2	-	-	-	-	-	-	406	422	-	528	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1071	-	-	1006	-	-	127	144	570	109	132	576
Mov Cap-2 Maneuver	-	-	-	-	-	-	127	144	-	109	132	-
Stage 1	-	-	-	-	-	-	550	540	-	407	350	-
Stage 2	-	-	-	-	-	-	333	350	-	464	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	152.3	33.1
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	175	1071	-	-	1006	-	-	132
HCM Lane V/C Ratio	1.103	0.001	-	-	0.124	-	-	0.03
HCM Control Delay (s)	152.3	8.4	0	-	9.1	0	-	33.1
HCM Lane LOS	F	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	9.7	0	-	-	0.4	-	-	0.1

Intersection	
Intersection Delay, s/veh	37.6
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	224	156	3	1	304	33	5	0	0	26	5	198
Future Vol, veh/h	224	156	3	1	304	33	5	0	0	26	5	198
Peak Hour Factor	0.78	0.78	0.78	0.70	0.70	0.70	0.62	0.62	0.62	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	287	200	4	1	434	47	8	0	0	32	6	241
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	46.2	40.5	12	18.1
HCM LOS	E	E	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	59%	0%	0%	11%
Vol Thru, %	0%	100%	41%	0%	90%	2%
Vol Right, %	0%	0%	0%	100%	10%	86%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	0	380	3	338	229
LT Vol	5	0	224	0	1	26
Through Vol	0	0	156	0	304	5
RT Vol	0	0	0	3	33	198
Lane Flow Rate	8	0	487	4	483	279
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.02	0	0.915	0.006	0.881	0.543
Departure Headway (Hd)	9.043	8.525	6.765	5.75	6.568	7.003
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	395	0	536	625	555	514
Service Time	6.821	6.301	4.48	3.465	4.585	5.048
HCM Lane V/C Ratio	0.02	0	0.909	0.006	0.87	0.543
HCM Control Delay	12	11.3	46.5	8.5	40.5	18.1
HCM Lane LOS	B	N	E	A	E	C
HCM 95th-tile Q	0.1	0	11	0	10	3.2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	18	45	0	34	0	28	7	7	0	3	6
Future Vol, veh/h	4	18	45	0	34	0	28	7	7	0	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	65	65	65	66	66	66	56	56	56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	21	54	0	52	0	42	11	11	0	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Stage 1												
Conflicting Flow All	52	0	0	75	0	0	118	110	48	121	137	52
Stage 2	-	-	-	-	-	-	58	58	-	52	52	-
	-	-	-	-	-	-	60	52	-	69	85	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Stage 1												
Pot Cap-1 Maneuver	1554	-	-	1524	-	-	858	780	1021	854	754	1016
Stage 2	-	-	-	-	-	-	954	847	-	961	852	-
	-	-	-	-	-	-	951	852	-	941	824	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1554	-	-	1524	-	-	843	778	1021	834	752	1016
Stage 1												
Mov Cap-2 Maneuver	-	-	-	-	-	-	843	778	-	834	752	-
Stage 2												
	-	-	-	-	-	-	951	844	-	958	852	-
	-	-	-	-	-	-	935	852	-	917	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	9.5	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	856	1554	-	-	1524	-	-	910
HCM Lane V/C Ratio	0.074	0.003	-	-	-	-	-	0.018
HCM Control Delay (s)	9.5	7.3	0	-	0	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	5	2	88	52	36
Future Vol, veh/h	79	5	2	88	52	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	78	78	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	6	3	113	61	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	180	61	61	0	-	0
Stage 1	61	-	-	-	-	-
Stage 2	119	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	810	1004	1542	-	-	0
Stage 1	962	-	-	-	-	0
Stage 2	906	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	808	1004	1542	-	-	-
Mov Cap-2 Maneuver	808	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	906	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1542	-	817	-
HCM Lane V/C Ratio	0.002	-	0.117	-
HCM Control Delay (s)	7.3	0	10	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0	-	0.4	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	4	0	53	0	170	2	0	84	40
Future Vol, veh/h	0	0	0	4	0	53	0	170	2	0	84	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	80	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	75	75	75	74	74	74	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	0	71	0	230	3	0	94	45

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	347	-	-	-	0	-	-	-	0	
Stage 1	230	-	-	-	-	-	-	-	-	
Stage 2	117	-	-	-	-	-	-	-	-	
Critical Hdwy	6.42	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	-	-	-	-	-	-	-	-	
Pot Cap-1 Maneuver	650	0	0	0	-	0	0	-	-	
Stage 1	808	0	0	0	-	0	0	-	-	
Stage 2	908	0	0	0	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	650	0	-	-	-	-	-	-	-	
Mov Cap-2 Maneuver	650	0	-	-	-	-	-	-	-	
Stage 1	808	0	-	-	-	-	-	-	-	
Stage 2	908	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	-	650	-	-	-
HCM Lane V/C Ratio	-	0.008	-	-	-
HCM Control Delay (s)	-	10.6	0	-	-
HCM Lane LOS	-	B	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	39	80	58	46	43	55	340	40	43	339	38
Future Volume (veh/h)	41	39	80	58	46	43	55	340	40	43	339	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	53	51	104	72	58	54	63	391	46	48	377	42
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.77	0.77	0.77	0.80	0.80	0.80	0.87	0.87	0.87	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	411	138	280	371	223	208	150	878	103	124	839	93
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.08	0.28	0.28	0.07	0.26	0.26
Sat Flow, veh/h	1269	545	1112	1221	886	825	1774	3183	372	1774	3208	355
Grp Volume(v), veh/h	53	0	155	72	0	112	63	216	221	48	207	212
Grp Sat Flow(s),veh/h/ln	1269	0	1657	1221	0	1710	1774	1770	1785	1774	1770	1794
Q Serve(g_s), s	1.6	0.0	3.5	2.4	0.0	2.4	1.5	4.6	4.7	1.2	4.5	4.5
Cycle Q Clear(g_c), s	4.0	0.0	3.5	5.9	0.0	2.4	1.5	4.6	4.7	1.2	4.5	4.5
Prop In Lane	1.00		0.67	1.00		0.48	1.00		0.21	1.00		0.20
Lane Grp Cap(c), veh/h	411	0	418	371	0	431	150	488	493	124	463	469
V/C Ratio(X)	0.13	0.00	0.37	0.19	0.00	0.26	0.42	0.44	0.45	0.39	0.45	0.45
Avail Cap(c_a), veh/h	922	0	1086	863	0	1121	969	1353	1365	969	1353	1371
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	14.1	16.6	0.0	13.7	19.9	13.7	13.7	20.4	14.1	14.2
Incr Delay (d2), s/veh	0.3	0.0	1.4	1.1	0.0	1.4	0.7	1.5	1.5	0.7	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.8	0.9	0.0	1.3	0.8	2.4	2.5	0.6	2.4	2.4
LnGrp Delay(d),s/veh	15.6	0.0	15.5	17.6	0.0	15.1	20.6	15.2	15.2	21.1	15.5	15.5
LnGrp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		208			184			500			467	
Approach Delay, s/veh		15.5			16.1			15.9			16.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	19.0		17.8	9.6	18.4		17.8
Change Period (Y+Rc), s	* 5.7	6.4		* 6.3	* 5.7	6.4		* 6.3
Max Green Setting (Gmax), s	* 25	35.0		* 30	* 25	35.0		* 30
Max Q Clear Time (g_c+I1), s	3.2	6.7		6.0	3.5	6.5		7.9
Green Ext Time (p_c), s	0.0	5.6		2.2	0.1	4.9		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Notes

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

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	6	18	4	5	18	21	368	5	28	399	21
Future Vol, veh/h	10	6	18	4	5	18	21	368	5	28	399	21
Conflicting Peds, #/hr	5	0	6	6	0	5	0	0	8	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	68	68	68	90	90	90	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	8	23	6	7	26	23	409	6	29	420	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	750	960	229	744	968	221	444	0	0	423	0	0
Stage 1	491	491	-	466	466	-	-	-	-	-	-	-
Stage 2	259	469	-	278	502	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	300	255	774	303	252	783	1112	-	-	1133	-	-
Stage 1	528	546	-	546	561	-	-	-	-	-	-	-
Stage 2	723	559	-	705	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	271	241	768	273	238	773	1110	-	-	1124	-	-
Mov Cap-2 Maneuver	271	241	-	273	238	-	-	-	-	-	-	-
Stage 1	516	531	-	531	545	-	-	-	-	-	-	-
Stage 2	671	543	-	652	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	13.6	0.4	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1110	-	-	399	458	1124	-	-
HCM Lane V/C Ratio	0.021	-	-	0.111	0.087	0.026	-	-
HCM Control Delay (s)	8.3	-	-	15.1	13.6	8.3	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.3	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	11	9	23	14	8	7	373	9	8	404	31
Future Volume (veh/h)	37	11	9	23	14	8	7	373	9	8	404	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	65	19	16	31	19	11	8	429	10	9	464	36
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.57	0.57	0.57	0.75	0.75	0.75	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	91	51	262	146	60	26	1132	26	30	1072	83
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.01	0.32	0.32	0.02	0.32	0.32
Sat Flow, veh/h	836	435	242	609	694	287	1774	3534	82	1774	3329	257
Grp Volume(v), veh/h	100	0	0	61	0	0	8	215	224	9	246	254
Grp Sat Flow(s),veh/h/ln	1512	0	0	1590	0	0	1774	1770	1847	1774	1770	1816
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.2	3.8	3.8	0.2	4.4	4.5
Cycle Q Clear(g_c), s	2.1	0.0	0.0	1.1	0.0	0.0	0.2	3.8	3.8	0.2	4.4	4.5
Prop In Lane	0.65		0.16	0.51		0.18	1.00		0.04	1.00		0.14
Lane Grp Cap(c), veh/h	465	0	0	468	0	0	26	567	591	30	570	585
V/C Ratio(X)	0.22	0.00	0.00	0.13	0.00	0.00	0.30	0.38	0.38	0.30	0.43	0.43
Avail Cap(c_a), veh/h	1247	0	0	1280	0	0	1098	1534	1601	1098	1534	1574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	13.0	0.0	0.0	19.7	10.6	10.6	19.6	10.8	10.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.0	2.4	1.0	0.9	2.1	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.6	0.0	0.0	0.1	2.0	2.1	0.1	2.3	2.4
LnGrp Delay(d),s/veh	13.8	0.0	0.0	13.4	0.0	0.0	22.0	11.6	11.6	21.8	12.0	12.0
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		100			61			447			509	
Approach Delay, s/veh		13.8			13.4			11.8			12.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	19.0		15.0	6.3	19.1		15.0
Change Period (Y+Rc), s	* 5.7	6.1		6.5	* 5.7	6.1		6.5
Max Green Setting (Gmax), s	* 25	35.0		30.0	* 25	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	5.8		4.1	2.2	6.5		3.1
Green Ext Time (p_c), s	0.0	5.6		0.9	0.0	6.5		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Notes

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

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	43	16	57	60	67	12	356	37	56	405	59
Future Volume (veh/h)	85	43	16	57	60	67	12	356	37	56	405	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	113	57	21	78	82	92	14	424	44	64	466	68
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.73	0.73	0.73	0.84	0.84	0.84	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	141	41	190	161	145	44	973	100	149	1116	162
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.02	0.30	0.30	0.08	0.36	0.36
Sat Flow, veh/h	778	585	168	380	668	603	1774	3230	333	1774	3100	450
Grp Volume(v), veh/h	191	0	0	252	0	0	14	231	237	64	265	269
Grp Sat Flow(s),veh/h/ln	1531	0	0	1650	0	0	1774	1770	1793	1774	1770	1780
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	0.0	0.4	5.0	5.1	1.6	5.4	5.5
Cycle Q Clear(g_c), s	4.7	0.0	0.0	6.2	0.0	0.0	0.4	5.0	5.1	1.6	5.4	5.5
Prop In Lane	0.59		0.11	0.31		0.37	1.00		0.19	1.00		0.25
Lane Grp Cap(c), veh/h	489	0	0	497	0	0	44	533	540	149	637	641
V/C Ratio(X)	0.39	0.00	0.00	0.51	0.00	0.00	0.32	0.43	0.44	0.43	0.42	0.42
Avail Cap(c_a), veh/h	1167	0	0	1260	0	0	1296	1293	1310	1111	1293	1301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	0.0	16.1	0.0	0.0	23.0	13.5	13.5	20.9	11.5	11.6
Incr Delay (d2), s/veh	1.1	0.0	0.0	1.7	0.0	0.0	1.5	2.0	2.0	0.7	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	3.2	0.0	0.0	0.2	2.7	2.8	0.8	2.9	2.9
LnGrp Delay(d),s/veh	16.6	0.0	0.0	17.8	0.0	0.0	24.5	15.5	15.5	21.6	13.1	13.1
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		191			252			482			598	
Approach Delay, s/veh		16.6			17.8			15.7			14.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	20.5		17.7	6.9	23.4		17.7
Change Period (Y+Rc), s	* 5.7	6.1		6.1	* 5.7	6.1		6.1
Max Green Setting (Gmax), s	* 30	35.0		35.0	* 35	35.0		35.0
Max Q Clear Time (g_c+I1), s	13.6	7.1		6.7	2.4	7.5		8.2
Green Ext Time (p_c), s	0.1	7.2		2.3	0.0	8.3		3.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	13	69	3	8	72	37	380	9	36	419	9
Future Vol, veh/h	13	13	69	3	8	72	37	380	9	36	419	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	90	90	90	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	16	87	3	9	84	41	422	10	40	460	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	845	1062	237	828	1062	217	472	0	0	433	0	0
Stage 1	547	547	-	510	510	-	-	-	-	-	-	-
Stage 2	298	515	-	318	552	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	256	222	764	263	222	787	1086	-	-	1123	-	-
Stage 1	489	516	-	514	536	-	-	-	-	-	-	-
Stage 2	686	533	-	668	513	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	208	205	763	206	205	786	1084	-	-	1122	-	-
Mov Cap-2 Maneuver	208	205	-	206	205	-	-	-	-	-	-	-
Stage 1	469	496	-	494	515	-	-	-	-	-	-	-
Stage 2	579	512	-	552	494	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	12.6	0.7	0.6
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1084	-	-	439	572	1122	-	-
HCM Lane V/C Ratio	0.038	-	-	0.274	0.169	0.035	-	-
HCM Control Delay (s)	8.5	-	-	16.3	12.6	8.3	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.6	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	15	31	92	19	50	19	376	75	57	336	45
Future Volume (veh/h)	123	15	31	92	19	50	19	376	75	57	336	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	137	17	34	124	26	68	21	409	82	63	373	50
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.74	0.74	0.74	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	357	319	411	357	319	73	848	169	173	1082	144
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.04	0.29	0.29	0.10	0.34	0.34
Sat Flow, veh/h	1295	1770	1581	1346	1770	1581	1774	2944	585	1774	3141	418
Grp Volume(v), veh/h	137	17	34	124	26	68	21	245	246	63	209	214
Grp Sat Flow(s),veh/h/ln	1295	1770	1581	1346	1770	1581	1774	1770	1759	1774	1770	1789
Q Serve(g_s), s	4.4	0.3	0.8	3.7	0.5	1.6	0.5	5.0	5.1	1.5	3.9	3.9
Cycle Q Clear(g_c), s	5.9	0.3	0.8	4.4	0.5	1.6	0.5	5.0	5.1	1.5	3.9	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.23
Lane Grp Cap(c), veh/h	378	357	319	411	357	319	73	510	507	173	610	617
V/C Ratio(X)	0.36	0.05	0.11	0.30	0.07	0.21	0.29	0.48	0.49	0.36	0.34	0.35
Avail Cap(c_a), veh/h	1144	1404	1254	1208	1404	1254	1206	2006	1994	1206	2006	2028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	14.2	14.4	16.2	14.3	14.7	20.5	13.0	13.0	18.6	10.7	10.8
Incr Delay (d2), s/veh	0.6	0.1	0.1	0.7	0.1	0.5	0.8	1.2	1.2	0.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.2	0.4	1.4	0.3	0.7	0.3	2.6	2.6	0.7	2.0	2.0
LnGrp Delay(d),s/veh	17.8	14.2	14.5	16.8	14.4	15.2	21.3	14.1	14.2	19.1	11.4	11.4
LnGrp LOS	B	B	B	B	B	B	C	B	B	B	B	B
Approach Vol, veh/h		188			218			512			486	
Approach Delay, s/veh		16.8			16.1			14.4			12.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	18.8		15.1	7.7	21.3		15.1
Change Period (Y+Rc), s	5.9	6.1		6.2	5.9	6.1		6.2
Max Green Setting (Gmax), s	30.0	50.0		35.0	30.0	50.0		35.0
Max Q Clear Time (g_c+I1), s	3.5	7.1		7.9	2.5	5.9		6.4
Green Ext Time (p_c), s	0.1	5.6		0.7	0.0	5.5		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	0	93	0	0	0	0	443	207	49	505	0
Future Vol, veh/h	87	0	93	0	0	0	0	443	207	49	505	0
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	25	25	25	94	94	94	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	0	135	0	0	0	0	471	220	56	580	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1163	-	580				-	0	-	471	0	0
Stage 1	692	-	-				-	-	-	-	-	-
Stage 2	471	-	-				-	-	-	-	-	-
Critical Hdwy	6.42	-	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	-	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	215	0	514				0	-	0	1091	-	0
Stage 1	497	0	-				0	-	0	-	-	0
Stage 2	628	0	-				0	-	0	-	-	0
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	199	0	514				-	-	-	1091	-	-
Mov Cap-2 Maneuver	199	0	-				-	-	-	-	-	-
Stage 1	497	0	-				-	-	-	-	-	-
Stage 2	580	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.7	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	199	514	1091	-
HCM Lane V/C Ratio	-	0.634	0.262	0.052	-
HCM Control Delay (s)	-	50	14.5	8.5	0
HCM Lane LOS	-	F	B	A	A
HCM 95th %tile Q(veh)	-	3.7	1	0.2	-

Intersection	
Int Delay, s/veh	28.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	427	116	32	412	1	155	0	110	0	0	0
Future Vol, veh/h	0	427	116	32	412	1	155	0	110	0	0	0
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	89	89	89	88	88	88	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	449	122	36	463	1	176	0	125	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	466	0	0	571	0	0	1046	1048	511	1112	1109	466
Stage 1	-	-	-	-	-	-	510	510	-	538	538	-
Stage 2	-	-	-	-	-	-	536	538	-	574	571	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1095	-	-	1002	-	-	206	228	563	186	210	597
Stage 1	-	-	-	-	-	-	546	538	-	527	522	-
Stage 2	-	-	-	-	-	-	529	522	-	504	505	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1093	-	-	1002	-	-	198	217	562	139	200	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	217	-	139	200	-
Stage 1	-	-	-	-	-	-	546	538	-	526	496	-
Stage 2	-	-	-	-	-	-	504	496	-	392	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	128.6	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	271	1093	-	-	1002	-	-	-
HCM Lane V/C Ratio	1.111	-	-	-	0.036	-	-	-
HCM Control Delay (s)	128.6	0	-	-	8.7	0	-	0
HCM Lane LOS	F	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	12.7	0	-	-	0.1	-	-	-

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	318	8	2	234	4	8	0	8	7	0	49
Future Vol, veh/h	35	318	8	2	234	4	8	0	8	7	0	49
Peak Hour Factor	0.87	0.87	0.87	0.84	0.84	0.84	0.50	0.50	0.50	0.64	0.64	0.64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	366	9	2	279	5	16	0	16	11	0	77
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	14.9	12.5	9.4	9.9
HCM LOS	B	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	10%	0%	1%	12%
Vol Thru, %	0%	0%	90%	0%	97%	0%
Vol Right, %	0%	100%	0%	100%	2%	88%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	8	353	8	240	56
LT Vol	8	0	35	0	2	7
Through Vol	0	0	318	0	234	0
RT Vol	0	8	0	8	4	49
Lane Flow Rate	16	16	406	9	286	88
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.031	0.026	0.585	0.011	0.427	0.142
Departure Headway (Hd)	7.05	5.83	5.193	4.439	5.379	5.835
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	511	618	690	799	666	608
Service Time	4.75	3.53	2.959	2.204	3.453	3.935
HCM Lane V/C Ratio	0.031	0.026	0.588	0.011	0.429	0.145
HCM Control Delay	10	8.7	15.1	7.3	12.5	9.9
HCM Lane LOS	A	A	C	A	B	A
HCM 95th-tile Q	0.1	0.1	3.8	0	2.1	0.5

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	41	16	4	39	0	33	2	2	1	19	14
Future Vol, veh/h	8	41	16	4	39	0	33	2	2	1	19	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	83	83	83	71	71	71	35	35	35
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	46	18	5	47	0	46	3	3	3	54	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Stage 1												
Conflicting Flow All	47	0	0	64	0	0	177	130	55	133	139	47
Stage 2	-	-	-	-	-	-	73	73	-	57	57	-
	-	-	-	-	-	-	104	57	-	76	82	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Stage 1												
Pot Cap-1 Maneuver	1560	-	-	1538	-	-	785	761	1012	839	752	1022
Stage 2	-	-	-	-	-	-	937	834	-	955	847	-
	-	-	-	-	-	-	902	847	-	933	827	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1560	-	-	1538	-	-	707	754	1012	829	745	1022
Stage 1												
Mov Cap-2 Maneuver	-	-	-	-	-	-	707	754	-	829	745	-
Stage 2												
	-	-	-	-	-	-	931	829	-	949	844	-
	-	-	-	-	-	-	809	844	-	922	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.7	10.4	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	721	1560	-	-	1538	-	-	841
HCM Lane V/C Ratio	0.072	0.006	-	-	0.003	-	-	0.116
HCM Control Delay (s)	10.4	7.3	0	-	7.3	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4

Appendix F

Truck Route Study Technical Memorandum

Technical Memorandum

To: Evelyn Espinosa, Madera County Transportation Commission

From: TJKM Transportation Consultants

Date: December 20, 2019

Subject Truck Route Study – Existing Conditions, Analysis Methodology, and Evaluation

This technical memorandum summarizes the existing conditions of the City's designated truck routes, a collision analysis along the truck routes, and draft criteria for performing truck route recommendations. This memorandum also summarizes an evaluation of potential truck routes within the City. The truck route study serves as part of the Chowchilla Multimodal Transportation Implementation Plan, funded by a SB-1 Sustainable Communities Planning Grant.

1. Introduction: Truck Route Study

All types and sizes of businesses rely on trucks for the delivery of goods and services to their own sites as well as their customers' destinations. Trucking and freight forwarding businesses play a vital role in boosting commerce and maintaining the health of the economy. These trucks also pay much higher fuel fees and taxes that support the construction and maintenance of freeways, state highways and streets. While trucks are an integral part of the day-to-day life, they do bring side effects in terms of increased noise, reduce safety and increased air pollution that has been a reason for concern for City residents. Most cities with significant truck traffic do balance these issues by limiting trucks on certain streets and banning them on others.

California regulates maximum truck size and weight to ensure effective truck movement on state highways and City streets without creating safety hazards or causing undue damage to pavement conditions. The California Vehicle Code (CVC) includes sections outlining how truck size and weight limits may be enforced, and provides local jurisdictions the authority to establish truck routes and truck prohibitions within the City limits. The CVC allows local jurisdictions to issue permits to vehicles in excess of the established size or weight limits to use city streets.

The CVC enables cities to establish restrictions on the movement of trucks within their jurisdiction. While it is legal for trucks to drive almost anywhere to deliver and pick up freight regardless of truck route designations (weight restrictions being an exception), it is possible to restrict through truck operations generally to truck routes. In other words, it is legal to prohibit through truck movements on non-state highways. However, it should be stressed that truck restrictions do not apply to trucks below the weight of three tons from traveling on otherwise restricted streets in order to deliver and pick up freight.

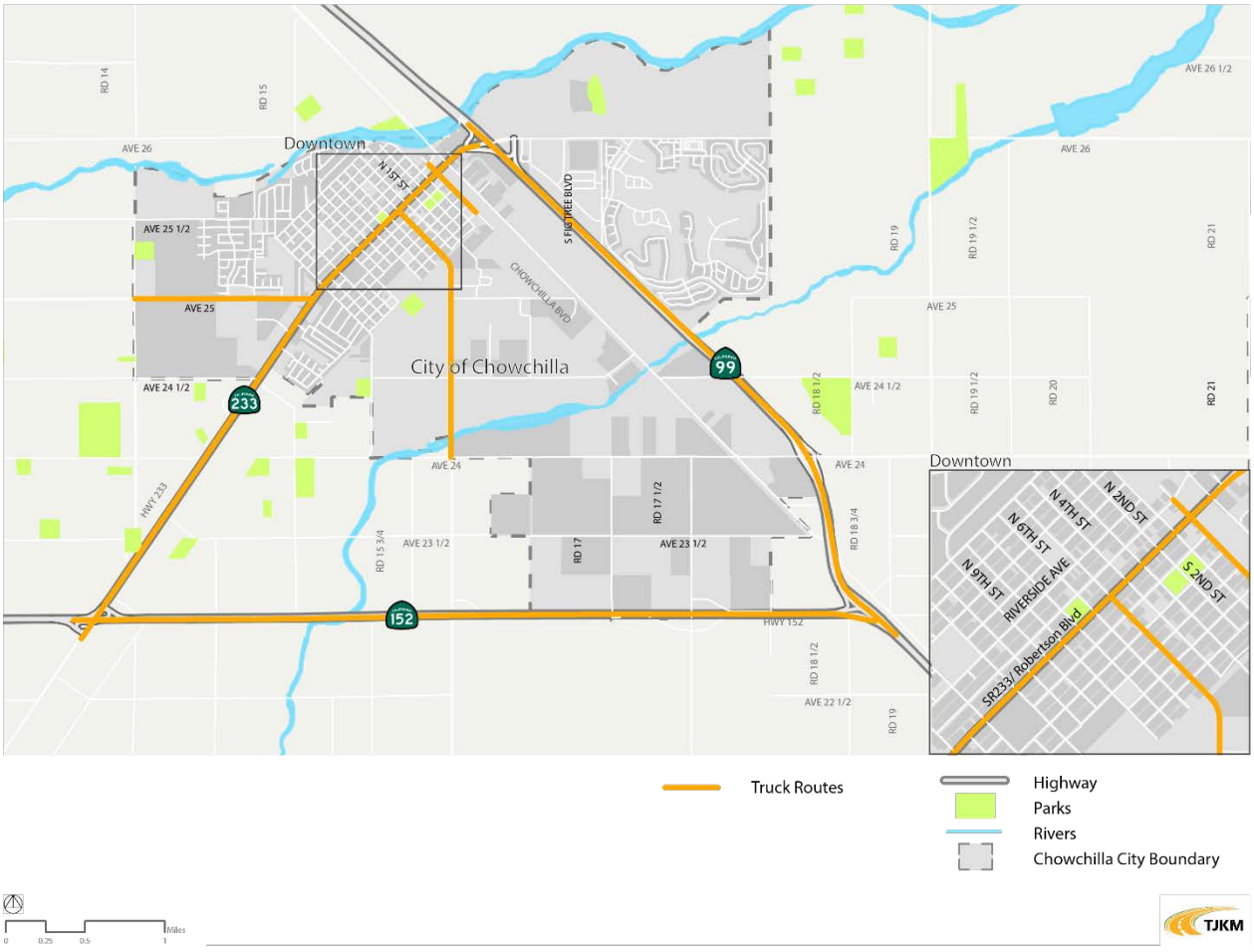
Trucks place extraordinary demands and impacts on City streets. First, their weight requires stronger pavement structures and bridges than regular vehicles. Even though trucks pay a relatively high annual license fee so that their added impacts can be mitigated with additional maintenance, these fees are split between the state and the jurisdiction where they are registered. Second, truck noise and additional emissions contribute to the sense of intrusion and a lowering of the quality of life in residential and retail areas. Third, high truck volumes significantly degrade levels of service at signalized intersections because each truck is equivalent to two or three cars. Fourth, trucks can lead to increased accidents, due to the fact that trucks have larger blind spots and their size may obstruct sight distance for other vehicles. A typical City street is not designed to accommodate trucks in terms of lane widths, shoulder widths, and intersection turning radii.

For these reasons, the City of Chowchilla (City) intends to restrict truck movements only to those corridors necessary to serve freight related needs of the City as opposed to serving as bypass routes for the congested regional corridors, state highways and freeways. Even so, provision for trucks on designated truck routes requires a careful effort to review all potential routes for adequacy and, to the extent possible, to avoid the problems created by trucks described above.

Study Area

The study area includes all roadways within the City limits, and State-Routes 233, 152, and 99. **Figure 1** illustrates the City boundary and the existing truck routes in the vicinity.

Figure 1: Study Area



Existing Truck Network

Regional Access

State Route 99 (SR-99) is a major north-south four-lane divided highway through the State of California that extends from Red Bluff in Northern California to south of Bakersfield, where it merges with Interstate-5. Near Chowchilla, SR-99 operates as a freeway, with restricted access and grade-separated interchanges. SR-99 serves as a regional highway that connects many cities and towns within California's Central Valley. SR-99 is part of the Surface Transportation Assistance Act (STAA) National Network of Truck Routes. The speed limit for vehicles is primarily 65 mph, whereas the speed limit for autos with trailers and trucks is 55 mph. Average Annual Daily Traffic (AADT) in the study area is approximately 50,000 vehicles, according to The Caltrans Traffic Census Program.

State Route 152 (SR-152) is a regional east-to-west four-lane divided highway through the State of California that extends from Chowchilla in Madera County to Watsonville in Santa Cruz County. SR-152 is also part of the STAA Truck Network and is classified as a Terminal Access Route. The speed limit on the highway is 65 mph for vehicles and 55 mph for trucks and autos with trailers. The AADT in the study area is approximately 16,600 vehicles, according to Caltrans Traffic Census Program.

State Route 233 (SR-233) a north-south two to four lane undivided highway that traverses through the City of Chowchilla and connects SR-152 to SR-99. SR-233 serves as the backbone of Chowchilla's transportation network. SR-233 serves as a Terminal Access route, which is part of the STAA National Network of Truck Routes. The speed limit in the rural segment of the corridor is 55 mph, but in and near the city, the limit is 30 mph.

Local Access

Washington Road is an east-west two lane major collector street that extends from the western city limits to SR-233. Washington Road is one of the local truck routes in the City that provide access to the industrial and commercial businesses within the City. The width of Washington Road ranges from 40 to 60 feet and the posted speed limit is 40 mph.

S. 15th Street/Road 16 is an east-west two lane minor collector street that extends from the southern city limits to SR-233. Similar to Washington Road, S. 15th Street/Road 16 is a local truck route that allows access to the Chowchilla-Madera County Fair Grounds, Chowchilla Municipal Airport, and the various industrial businesses located along Road 16 and Avenue 24 ½. The posted speed limit in the rural segment is 40 mph and within the City, the limit is 25 mph.

Front Street is an east-west major collector street that extends from Mariposa Avenue to Kings Avenue. Like the previous two corridors mentioned, Front Street provides access to the industrial and commercial businesses in that area. Front Street is primarily 40 feet wide with a posted speed limit of 25 mph.

California Vehicle Code

The California Vehicle Code (CVC) provides necessary statutory basis for any city to restrict through trucks within its boundaries. After conducting appropriate truck traffic analysis and receiving its governing body's approval through an ordinance, a city can enforce truck traffic restrictions if the CVC conditions are met.

CVC Section 35701 states:

a) *Any City, or county for a residence district, may, by ordinance, prohibit the use of a street by any commercial vehicle or by any vehicle exceeding a maximum gross weight limit, except with respect to….*

The remainder of the section refers to the exceptions for garbage trucks, etc., and also restricts cities and counties from banning commercial vehicles on interstate highways.

A residence district is defined in California Vehicle Code section 515 as:

A "residence district" is that portion of a highway and the property contiguous thereto, other than a business district, (a) upon one side of which highway, within a distance of a quarter of a

mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures, or (b) upon both sides of which highway, collectively, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures. A residence district may be longer than one-quarter of a mile if the above ratio of separate dwelling houses or business structures to the length of the highway exists.

A city ordinance established on the basis of CVC 35701 is not effective and enforceable until appropriate signs are installed indicating the applicable restrictions.

Recommended Truck Routes

When addressing concerns of excessive truck traffic on city streets, most cities choose one or both of the following options:

- Restrict trucks over certain weight limits, such as over three tons, five tons or seven tons, from specific streets and install appropriate signs along those corridors.
- Designate truck routes, encouraging truckers to choose those corridors over other streets that are not designated as truck routes.

The City has numerous streets designated as truck routes for trucks weighing over three tons. To better manage truck traffic on city streets and to preserve the quality of life on residential streets, this evaluation includes numerous aspects such as the current truck volumes, accident data, geometric constraints and predominant land uses. In addition, a detailed point-based methodology with nine criteria for determining the designated truck routes was used. The criteria are listed in the next section.

CA MUTCD R12-1 and R39 signs near the intersection of Road 16 and Avenue 25.

2. Review of Truck Collisions and Count Data

This section of the technical memorandum will summarize the collisions involving trucks in the City and a review of the traffic counts.

Data Collection

TJKM collected the following data in the field under existing conditions:

- Turning Movement Counts (TMC) for 12 study intersections for the weekday a.m. and p.m. peak hour for 12 study intersections. These counts include vehicles, pedestrians, and bicyclists (See **Appendix A**);
- 24-hour Average Daily Traffic (ADT) counts at 8 locations within the study area;
- 5 year collision data from 2014-2018

Average Daily Traffic (ADT) and Turning Movement Counts (TMC)

TJKM collected 24-hour bi-directional traffic volumes on Thursday, May 30, 2019 at the following eight locations, based on recommendations by the City.

1. SR-233/Robertson Boulevard between SR-152 and Cates Court
2. Road 16 between Avenue 23 ½ and Avenue 24
3. Road 16 between Avenue 25 and W. Mariposa Avenue
4. Avenue 24 between Road 16 and Road 17
5. Avenue 26 between Road 21 and Road 19
6. Chowchilla Boulevard between Avenue 24 ½ and Prosperity Boulevard
7. Road 19, south of Avenue 26
8. Chowchilla Boulevard, north of Kings Avenue

TJKM collected the turning movement counts on Thursday, May 30, 2019 when schools within the vicinity of the study intersections were in session. The TMC's for vehicles, pedestrians, and bicyclists were collected for the a.m. (7:00 a.m. – 9:00 a.m.) and p.m. (4:00 p.m. – 6:00 p.m.) peak periods. **Appendix A** contains the ADT and TMC's for the study segments and intersections.

Truck Collisions

Collisions involving trucks that were reported in the project vicinity were obtained from Transportation Injury Mapping System (TIMS) for the years 2014-2018.

Vehicle Classification Traffic Counts and Truck Volumes

To verify known truck routes and determine other routes used heavily by trucks, 24-hour vehicle classification counts were conducted in May 2019 for the previously mentioned roadway segments to determine ADT and truck traffic percentage. The data were analyzed and are shown in **Figure 2**. The ADT and truck counts for each direction for key corridors are shown in **Table 1.** Vehicle classification traffic counts and truck volumes are included in **Appendix A**.

Figure 2: Average Daily Traffic Counts and Truck Volumes

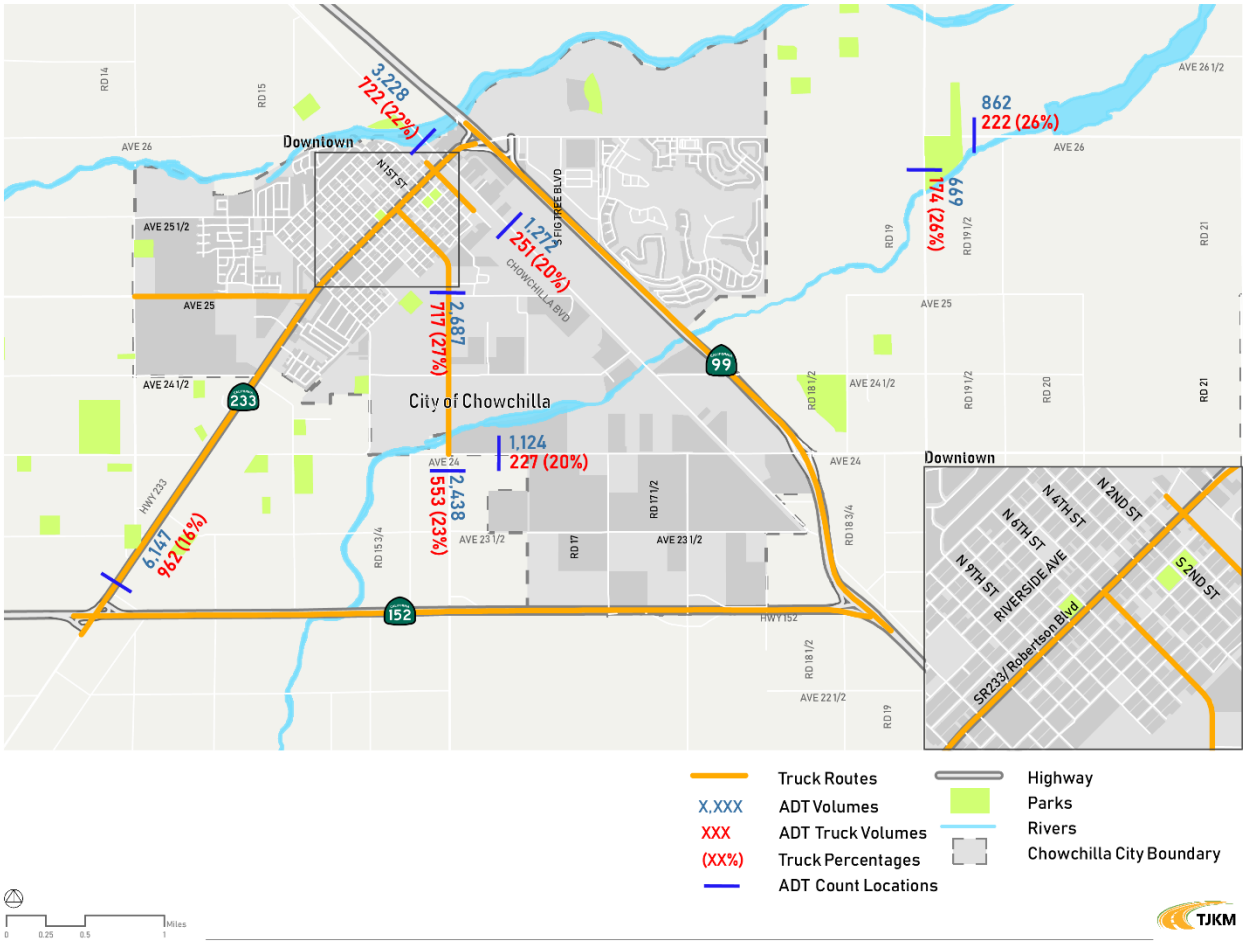


Table 1: Truck Percentages in the City of Chowchilla

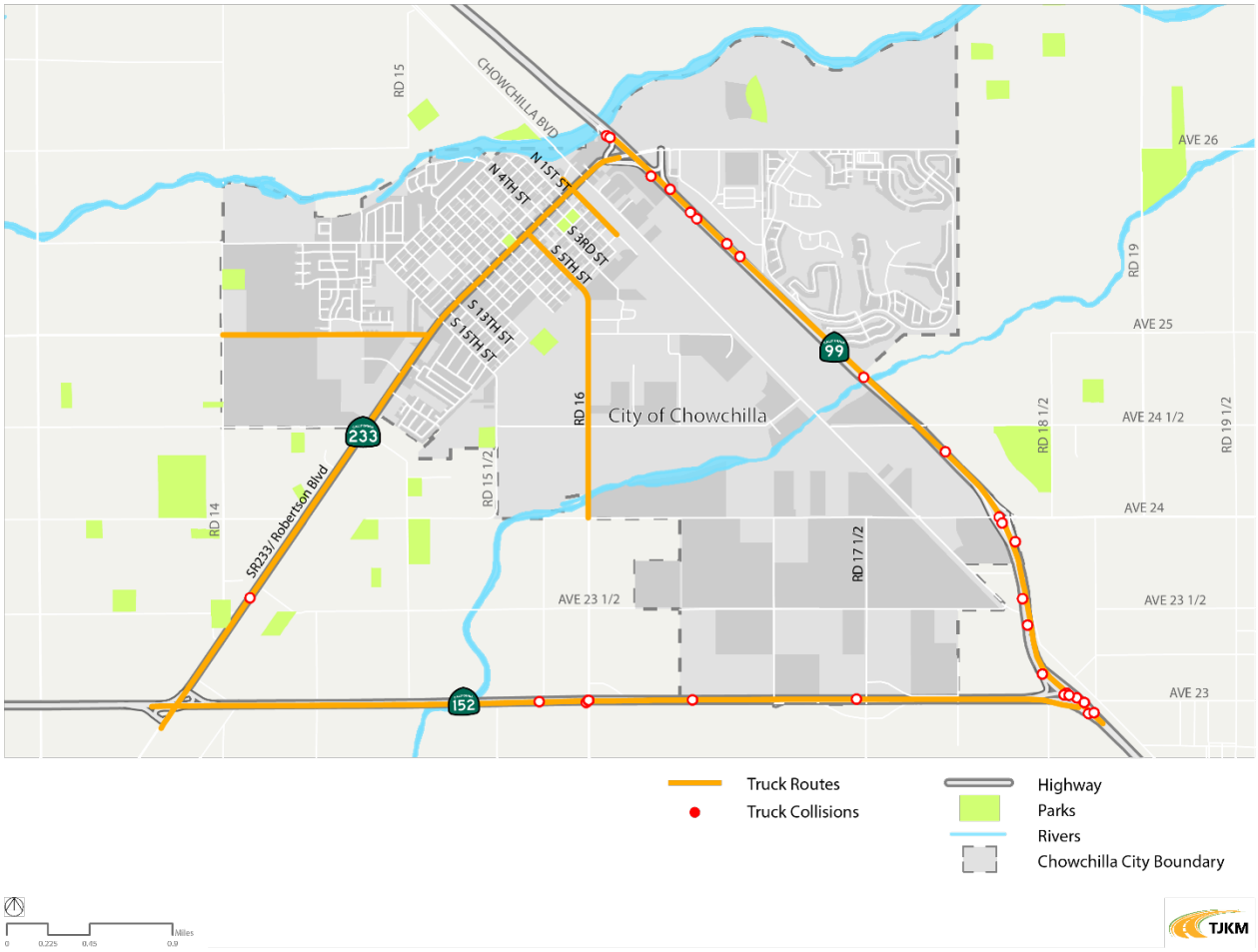
#	Roadway Segment	Direction	Average Daily Traffic	Auto	Trucks	Truck %
1	SR-233/Robertson Boulevard between Highway 152 and Cates Court	NB	2,123	2,016	107	5.0
		SB	4,024	3,169	855	21.2
2	Road 16 between Avenue 23 1/2 and Avenue 24	NB	1,312	1,028	284	21.6
		SB	1,126	857	269	23.9
3	Road 16 between Avenue 25 and W. Mariposa Ave	NB	1,290	926	364	28.2
		SB	1,397	1,044	353	25.3
4	Avenue 24 between Road 16 and Road 17	EB	524	408	116	22.1
		WB	600	489	111	18.5
5	Avenue 26 between Road 21 and Road 19	EB	440	309	131	29.8
		WB	422	331	91	21.6
6	Chowchilla Boulevard between Avenue 24 1/2 and Prosperity Boulevard	NB	576	485	91	15.8
		SB	696	536	160	23.0
7	Road 19, south of Avenue 26	NB	309	208	101	32.7
		SB	360	287	73	20.3
8	Chowchilla Boulevard, north of Kings Avenue	NB	1,445	1,193	252	17.4
		SB	1,783	1,314	469	26.3

Based on the peak hour intersection turning counts, intersections on average contain about 4 percent of trucks during the a.m. and p.m. peak hours. Generally, intersections along Robertson Boulevard have the highest amount of truck traffic during the a.m. peak hour. At Robertson Boulevard/13th Street, about 13 percent of westbound traffic is truck traffic during the a.m. peak hour. At Robertson Boulevard/Front Street, about 15 percent of eastbound traffic is truck traffic during the a.m. peak hour.

Truck Collisions

Once truck collisions in the City of Chowchilla were collected, individual collisions were plotted onto a map using ArcGIS. All of the collisions that occurred within City limits during the years 2014 through 2018 had occurred on both SR-99 and SR-152. There were five collisions that occurred within the City boundary during the analysis period. None of the recorded truck collisions occurred on City streets. This analysis thus incorporates all the truck collisions, which have occurred within the City of Chowchilla as well as the three truck routes surrounding the City. **Figure 3** illustrates the truck collisions that occurred for the years 2014 through 2018.

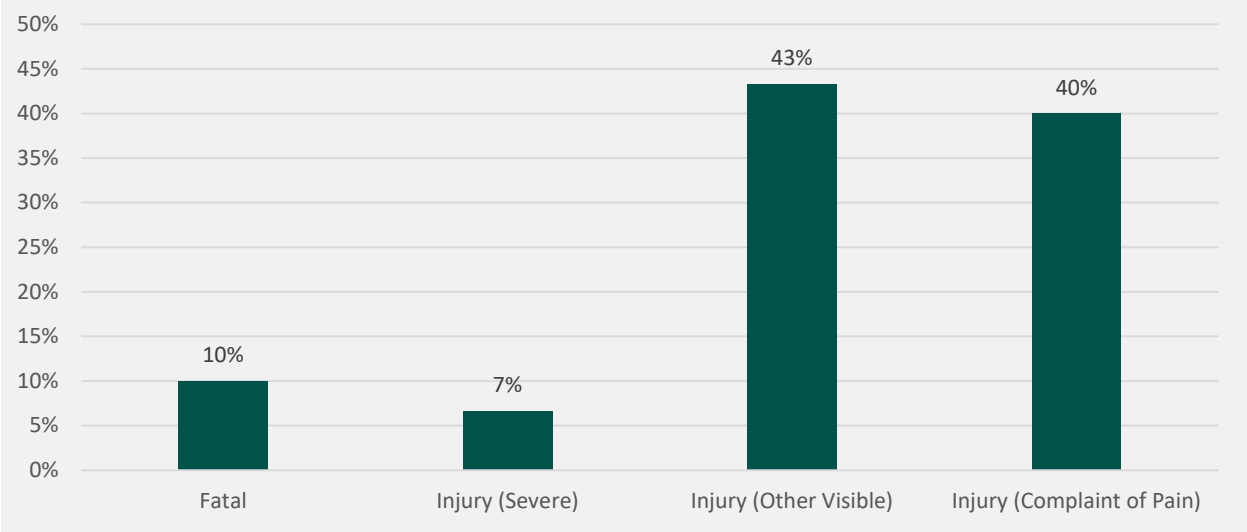
Figure 3: Truck Collisions in Chowchilla and SR-99, SR-152 and SR-233



Collision Analysis

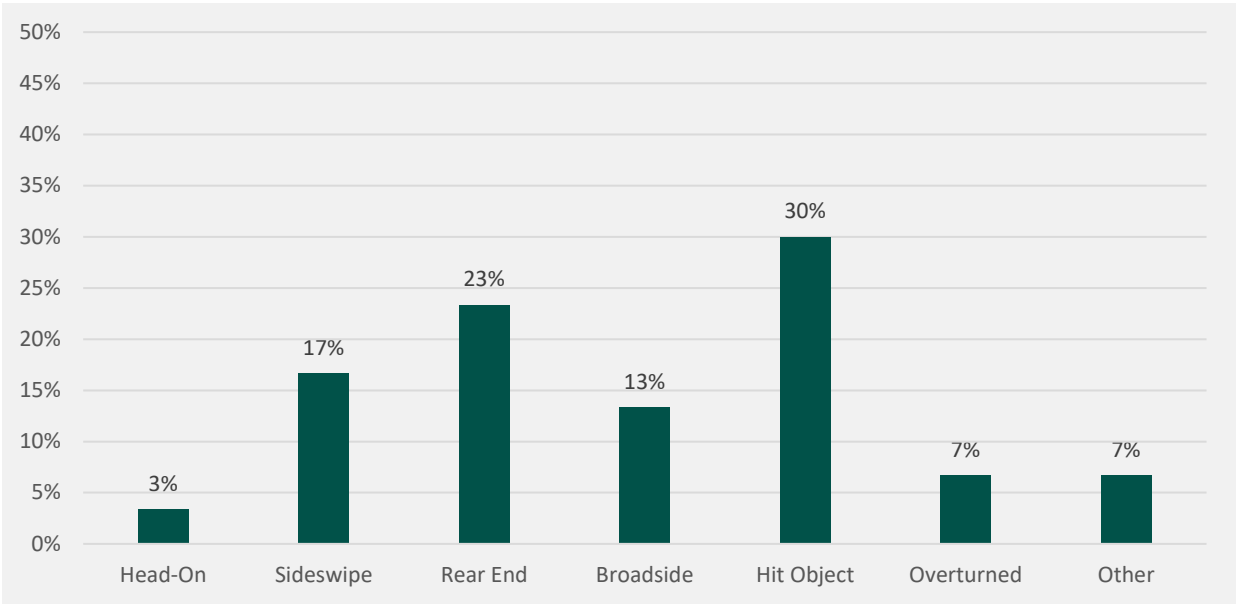
There are about 30 truck collisions that occurred in the City, including the existing truck routes that surround the State Routes. Fewer than 10 collisions occurred each year, during the analysis period between 2014 and 2018. About 60 percent of these collisions involved another motor vehicle; the remaining 40 percent involved hit objects. One of the truck collisions were involved with a pedestrian. Unsafe speed, improper turning, and unsafe lane change were the most common violation factors. **Figure 4** shows the severity of these crashes:

Figure 4: Crash Severity



About 17 percent of the collisions resulted in a severe injury or a fatality. The remaining collisions have either resulted in other visible injury or a complaint of pain. **Figure 5** illustrates the type of collisions. Hit Object and Rear-end were observed to be the highest occurring collisions.

Figure 5: Type of Collisions



3. Criteria for Evaluating Future Truck Route/Restrictions

This section of the technical memorandum will summarize a scoring system that can be used to determine truck routes/restrictions with the available data in the City. In addition to the criteria listed below, resident and community feedback should also be taken into consideration when determining recommendations for truck routes/restrictions.

Criteria for Determining Truck Routes

Criteria 1 - A completely **retail corridor** is awarded 5 points and a completely residential corridor is awarded -5 points. For a corridor with a mix of retail and residential use is awarded points between -5 and +5 based on the proportion of residential and retail along the corridor. The Land Use Map from the City of Chowchilla *2040 General Plan* was used to determine retail corridors.

Criteria 2 - A corridor designated as **STAA (Surface Transportation Assistance Act) route** is awarded 5 points and a corridor not designated and far away from a STAA route is awarded -5 points. For a corridor near STAA routes, points between -5 and +5 are awarded based on ease of accessibility and connectivity.

(The Surface Transportation Assistance Act of 1982 allows large trucks to operate on the Interstate system and certain primary routes collectively called the National Network. These trucks, referred to as STAA trucks, are longer than California legal trucks. As a result, STAA trucks need a larger turning radius than most local roads can accommodate.)

Criteria 3 – A truck route that is adjacent to an **existing or planned bicycle facility** (Class II through IV) will be assigned -3 points and a truck route not adjacent to an existing or planned bicycle facility will be assigned +3 points.

Criteria 4 – Points assigned, within a range of -2 to +2, based on **number of accidents**. A corridor with high traffic accidents involving trucks is assigned -2 points and a corridor with no accidents is awarded +2 points.

Criteria 5 - A corridor passing near **schools and parks** is assigned -2 points and corridor not passing near any schools or parks is awarded +2 points. Corridors in the proximity of schools

and parks are assigned points between -2 and +2 based on the access point and relative distance to schools/parks.

Criteria 6 – Points are assigned based on the **level of congestion** on the street. A corridor passing through intersections with LOS E or worse is awarded -1 point and a corridor passing through intersections with LOS D or better is awarded +1 point. The *Existing Conditions Report – SR-233 Corridor Plan* (October 2019) was used as a reference to evaluate potential truck routes.

Criteria 7 - A corridor passing through intersections with **substandard corner radii** is awarded -1 point and a corridor passing through intersections with no turning radii problems is awarded +1 point. Information needed for this segment could include feedback from trucking companies in the City on where it is difficult to turn on a street or complaints from residents.

Criteria 8 - A street with the most recent **Pavement Condition Index** below 65 is awarded -1 point and one with a PCI at 65 or above is awarded +1 point. Data from the *Presentation of Pavement Management System* (June 2018) is used to determine the scores for this criteria.

Criteria 9 – A corridor that has been identified as a **proposed truck route** in the *Chowchilla Industrial Park Specific Plan (September 2018)* will be awarded +1 point.

All criteria are to be assigned a range of values. However, weighting is to be assigned to each criterion based on the importance and relevance. Corridor type, proximity to STAA routes, bicycle facilities, proximity to schools and parks and accident rates are to be given higher weighting. **Table 2** illustrates the weighting and point scores for evaluating potential truck routes.

Table 2: Weightage and Point Scores for Evaluating Truck Routes

#	Criteria	Weight	Range Value	Range of Score Points
1	Passing through type of corridor	5	Residential: -1 Point Retail: +1 Point	Between -5 and +5
2	Connecting/proximity to STAA routes	5	Very Close: -1 Point Far away: +1 Point	Between -5 and +5
3	Adjacent to existing/planned bicycle facilities	3	Adjacent: -1 Point Not Adjacent: +1 Point	Between -3 and +3
4	Passing through corridors with high truck traffic accidents	2	AR>Statewide: -1 Point No Accidents: +1 Point	Between -2 and +2
5	Passing through schools and parks	2	Yes: -1 Points No: +1 Points	Between -2 and +2
6	Passing through intersections	1	LOS D or better: +1 Point LOS E or worse: -1 Point	Between -1 and +1
7	Passing through intersections with small corner radius	1	Yes: -1 Point No: +1 Point	Between -1 and +1
8	Passing through roads with Pavement Conditions Index <65	1	Yes: -1 Point No: 1 Point	Between -1 and +1
9	Corridor identified as a proposed truck route in the Industrial Park Specific Plan	1	Yes: -1 Point No: 1 Point	Between -1 and +1

For example, trucks passing through residential/retail are to be assigned a value between -5 and +5. Since trucks traveling through a residential corridor greatly affects the quality of life on that corridor, the roadway segment is to be penalized by assigning a value of -5 if it was passing through residential area. Alternatively, if the segment was through retail area, it is to be assigned a value of +5 and if the segment is to pass through a mixed corridor the value assigned is to be between -5 and +5 accordingly.

4. Evaluation of Truck Routes

The following roadway segments were evaluated as potential truck routes. **Figure 6** illustrates the roadway segments in the City of Chowchilla. These roadways are identified as arterial and collector streets in the *Chowchilla Draft 2040 General Plan* (2010).

1. S. Chowchilla Boulevard from Robertson Boulevard to City Limits
2. Front Street from Kings Avenue to Colusa Avenue
3. 3rd Street from Ventura Avenue to Robertson Boulevard
4. 3rd Street from Robertson Boulevard to Mariposa Avenue
5. 5th Street from Ventura Avenue to Robertson Boulevard
6. 5th Street from Robertson Boulevard to Mariposa Avenue
7. Road 16 from Mariposa Avenue to City Limits
8. Avenue 24 ½ from Road 16 to Chowchilla Boulevard
9. Avenue 24 ½ from Road 15 ½ to Road 16
10. Avenue 25 from Road 16 to Airport Drive
11. 15th Street from Robertson Boulevard to Avenue 24
12. 15th Street from Ventura Avenue to Robertson Boulevard
13. Washington Avenue from Robertson Boulevard to City Limits
14. Montgomery Lake Way from Avenue 26 to Fig Tree Road
15. Avenue 24 from Road 16 to SR-99
16. Colusa Avenue from 5th Street to Front Street
17. Avenue 23 ½ from SR-233 to Road 16
18. Road 16 from Avenue 24 to SR-152

All of the aforementioned segments were analyzed for each of the criteria. **Table 3** summarizes the findings of the segments scores. Based upon the scores, the truck routes were selected.

Figure 6: Study Roadway Segments

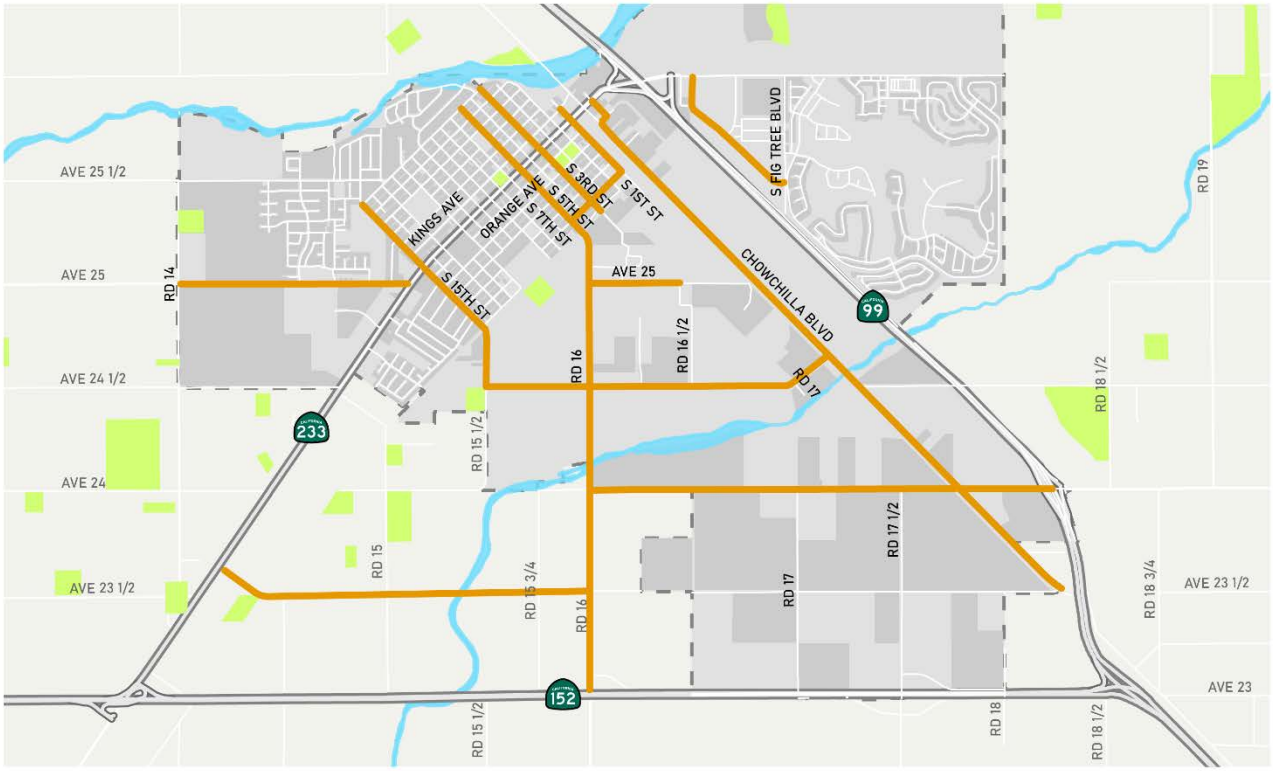


Table 3: Determination of Truck Routes

#	Segment	Limits	C1	C2	C3	C4	C5	C6	C7	C8	C9	Total
1	S. Chowchilla Blvd	Robertson Boulevard to City Limits	5	4	-1	2	2	1	1	1	1	**16**
2	Front Street	Kings Avenue to Colusa Avenue	5	4	3	2	2	1	-1	1	1	**18**
3	3rd Street	Ventura Avenue to Robertson Boulevard	-2	4	-3	2	-2	1	1	1	-1	**1**
4	3rd Street	Robertson Boulevard to Mariposa Avenue	0	4	-3	2	-2	1	1	1	-1	**3**
5	5th Street	Ventura Avenue to Robertson Boulevard	-2	4	-3	2	-2	1	1	1	-1	**1**
6	5th Street	Robertson Boulevard to Mariposa Avenue	1	4	-3	2	2	1	1	1	-1	**8**
7	Road 16	Mariposa Avenue to City Limits	3	4	-3	2	2	1	1	-1	1	**10**
8	24 ½ Avenue	Road 16 to Chowchilla Boulevard	5	2	3	2	2	1	1	1	-1	**16**
9	24 ½ Avenue	Road 15 ½ to Road 16	2	2	-2	2	2	1	1	1	-1	**8**
10	25 Avenue	Road 16 to Airport Drive	5	2	3	2	2	1	1	1	-1	**16**
11	15th Street	Robertson Boulevard to Avenue 24	1	4	-3	2	2	1	1	1	-1	**8**
12	15th Street	Ventura Avenue to Robertson Boulevard	-3	3	-3	2	-2	1	1	1	-1	**-1**
13	Washington Avenue	Robertson Boulevard to City Limits	-2	4	-2	2	2	1	1	1	-1	**6**
14	Montgomery Lake Way	Avenue 26 to Fig Tree Road	1	3	-2	2	2	1	1	1	1	**10**
15	Avenue 24	Road 16 to SR-99	5	4	-2	2	2	1	1	1	1	**15**
16	Colusa Avenue	5th Street to Front Street	0	3	3	2	2	1	1	1	-1	**12**

#	Segment	Limits	C1	C2	C3	C4	C5	C6	C7	C8	C9	Total
17	Avenue 23 ½	SR-233 to Road16	-3	5	3	2	2	1	1	N/A	-1	**10**
18	Road 16	Avenue 24 to SR-152	2	5	3	2	2	1	1	N/A	1	**17**

As shown in **Table 3**, S. Chowchilla Boulevard, Front Street, Avenue 23 ½, Avenue 24 ½, Avenue 25, and Avenue 24, and Road 16 are ranked much higher as preferred truck routes compared to 3rd Street, 5th Street, and 15th Street.

Currently, 3rd Street, 5th Street, and 15th Street primarily contain Medium Density Residential, Medium High Density Residential, Commercial, and public places such as R. C. Wisener Park, Stephens Elementary School, and Edward Ray Park. These corridors are also locations where there are existing or planned Class III bicycle facilities, which would potentially create conflicts on the corridors. These characteristics make 3rd Street, 5th Street, and 15th Street less safe for through truck activity.

5. Recommendations

It is anticipated that the streetscape of SR-233/Robertson Boulevard will change to become more inviting to pedestrians and bicyclists. Since many vehicles from SR-99 (AADT of 44,800 vehicles with 23% trucks) and SR-152 (AADT of 15,000 vehicles with 15% trucks) often travel through this thoroughfare to reach their destination; it can ultimately impact safety, noise, and air pollution within the city. Based on the study analysis and information available from the *Chowchilla Industrial Park Specific Plan* (September 2018), the following segments are recommended to be designated as truck routes within the City of Chowchilla.

- S. Chowchilla Boulevard, from Robertson Boulevard to City Limits
- Front Street, from Kings Avenue to Colusa Avenue
- Road 16, from Mariposa Avenue to City Limits
- Avenue 24 ½, from Road 16 to Chowchilla Boulevard
- Avenue 25, from Road 16 to Airport Dive
- Avenue 24, from Road 16 to SR-99
- Avenue 23 ½, from SR-233 to Road 16
- Road 16, from Avenue 24 to SR-152

It should be noted that although Colusa Avenue scored high on evaluation, it is not recommended as a truck route as the route would cut through a neighborhood where single-family homes are the predominant land use. Similarly, Montgomery Lake Way scored high on the evaluation, but due to the lack of connectivity to industrial/commercial land uses, it should not be designated as a truck route. **Figure 7** illustrates the proposed truck routes and circulation. Prior to implementing truck routes, Traffic Index (TI) should be determined to determine appropriate pavement thickness.

Coordination between the City of Chowchilla and Madera County is required to designate Avenue 23 ½ and Road 16 (Avenue 24 to SR-152) as truck routes as the roadway segment is under County jurisdiction. The two segments provide connectivity to Chowchilla Muni Airport allow trucks to bypass Chowchilla Downtown.

To improve safety and visibility along SR-233, red curbs, no parking signs, or markings should be extended at side-street stop controlled intersections to allow vehicles to turn onto SR-233 safely, since there have been many complaints from citizens about trucks restricting visibility.

S. Chowchilla Boulevard, Front Street, Road 16, and Avenue 24 are also identified as proposed truck routes in the *Chowchilla Industrial Park Specific Plan*. The *Industrial Park Specific Plan* also proposes a new roadway between Front Street and Road 16. **Figure 8** illustrates the proposed realignment. The proposed realignment would improve the circulation of trucks within the industrial park. Montgomery Lake Way is also listed as a proposed truck route once an overpass over SR-99 is constructed. These future projects would improve circulation and make the proposed truck routes more attractive to truck drivers, which would divert trucks from city streets.

Potential High-Speed Rail Impacts

The California High-Speed Rail Authority (CHSRA) is currently evaluating three wye alternatives in the Central Valley. All three of the alternatives are within proximity of the City of Chowchilla. Based on the information available from the *Merced to Fresno Section: Central Valley Wye Transportation Technical Report* (December 2016), the three wye alternatives are not expected to impact the truck routes and circulation within the vicinity of the City of Chowchilla.

Figure 7: Proposed Truck Routes

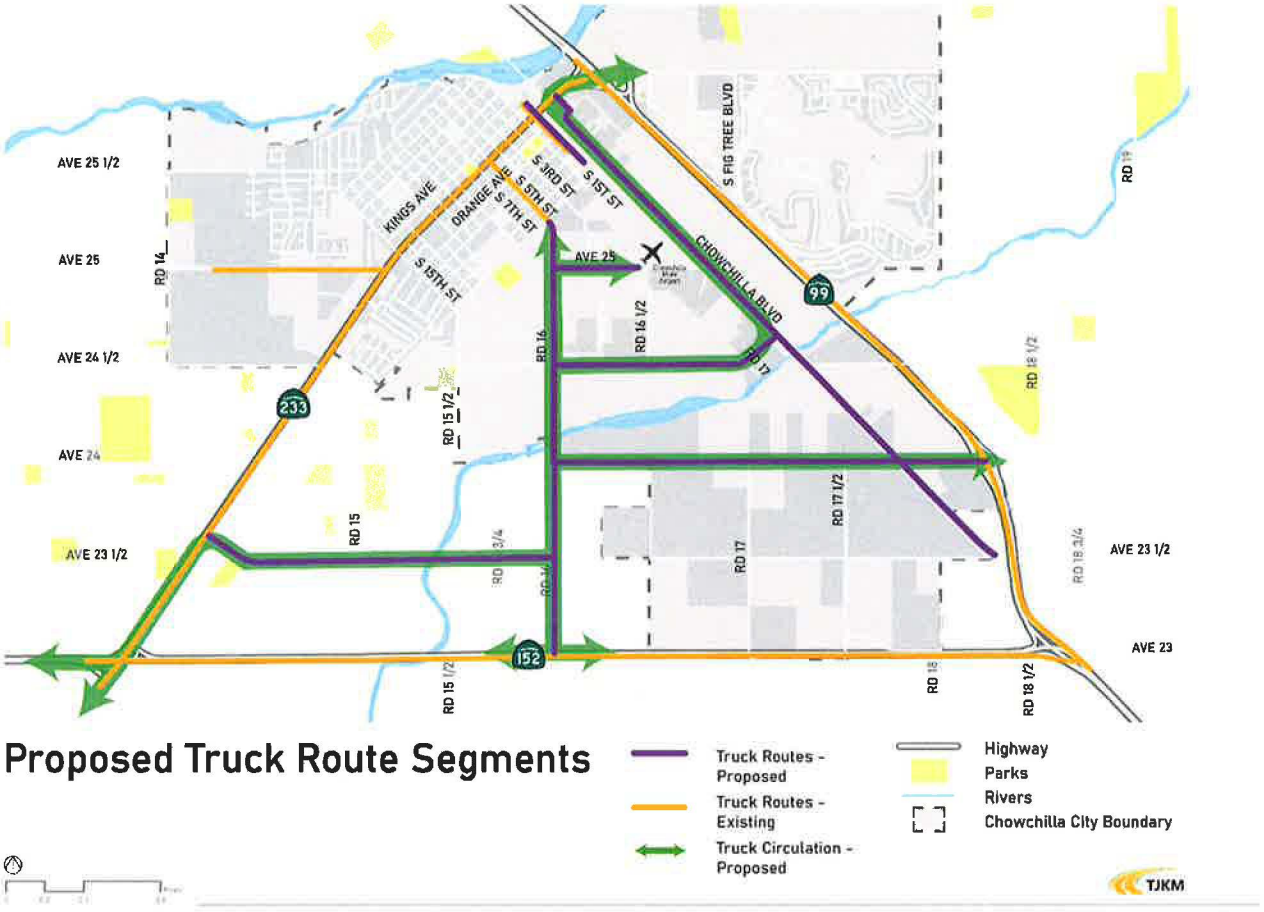
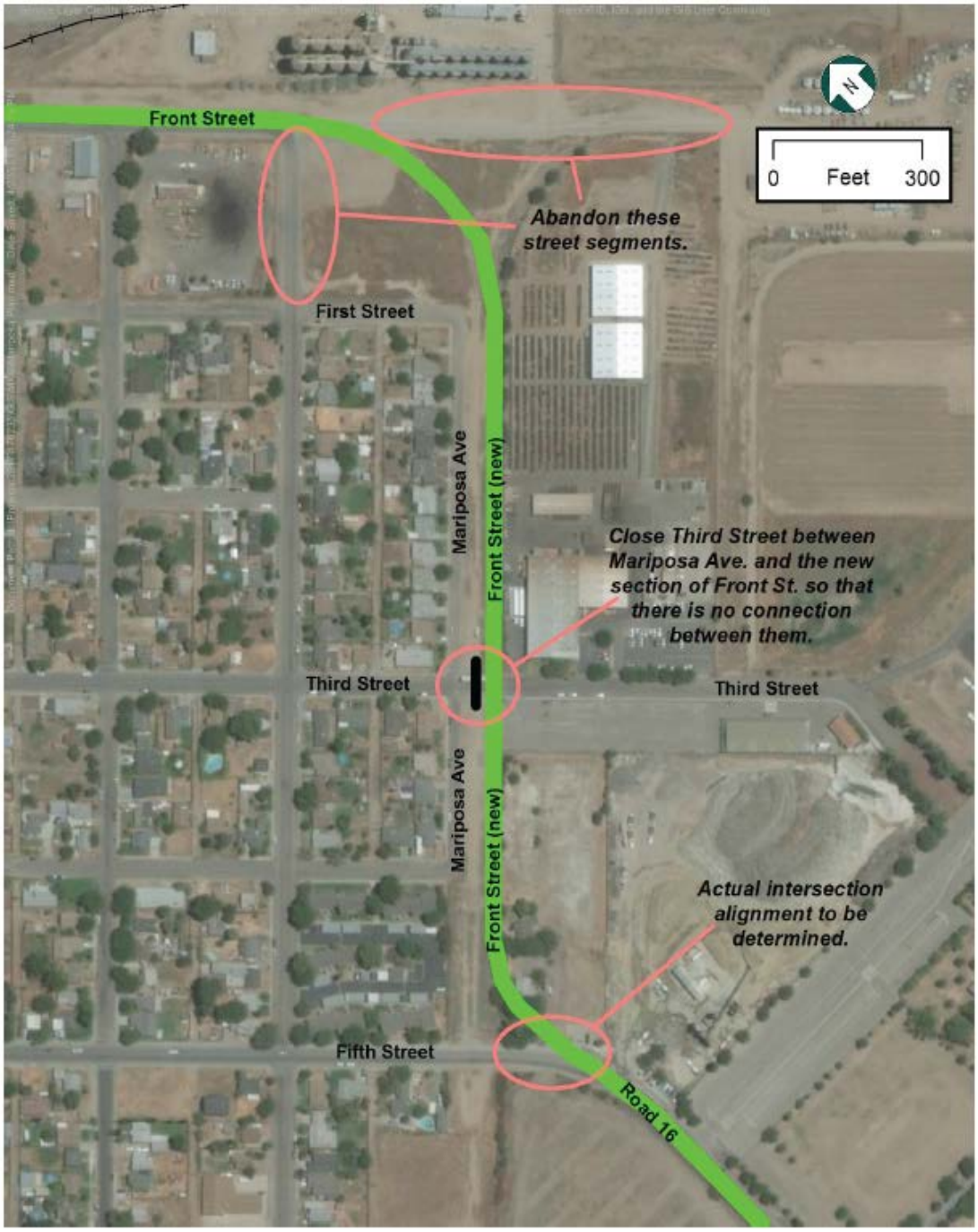


Figure 8: Front Street/Road 16 Realignment



Source: Chowchilla Industrial Park Specific Plan (2018)

Appendix G

Stop Sign Inventory Plan Report

Stop Sign Inventory Plan

Draft Report

City of Chowchilla

February 26, 2020

TJKM

Table of Contents

Tables

Figures

Appendices

1.0 Introduction

1.1 Introduction and Overview

The Stop Sign Inventory Plan is an effort by the City of Chowchilla to increase the public's safety by identifying deficiencies in all stop signs within City limits. The purpose of this study is to locate deficient stop signs within the City and provide cost estimates for recommended signage replacements. The plan surveys all stop signs in the City and documents damaged, faded, obstructed, poorly located and missing signs. TJKM created an inventory and evaluated each sign for its conditions, position and retroreflectivity standards.

The study follows the reflectivity standards outlined in the California Manual for Uniform Traffic Control Devices (CA MUTCD). This report presents the findings along with recommendations for signs and posts that require replacement.

A map of the area covered under the Sign Inventory Plan is shown in **Figure 1**.

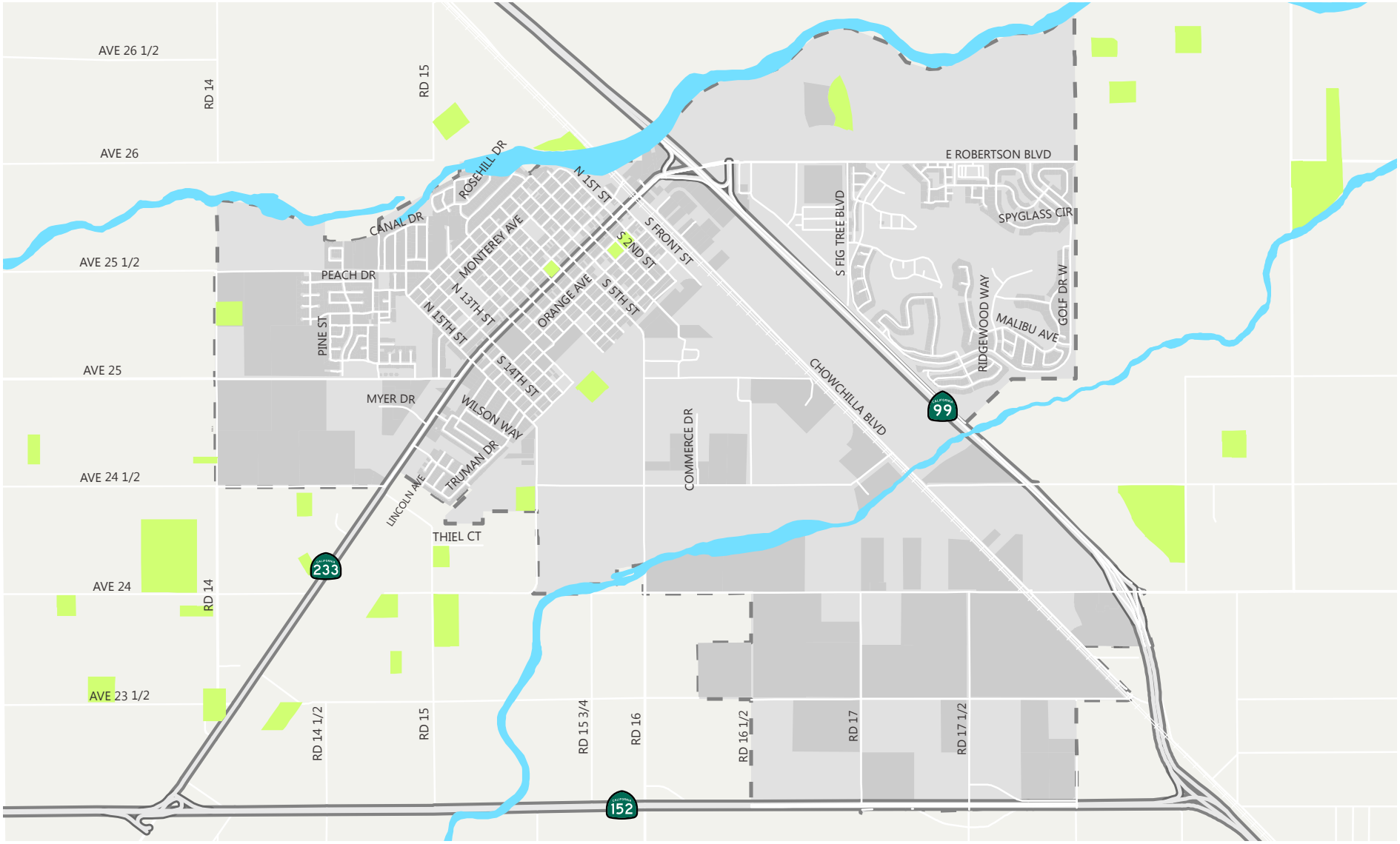
Table 1: Stop Signs Maintained by City of Chowchilla and Caltrans

Maintained By	*Number of Signs*
City	319
Caltrans	21
Total Stop Signs	**340**

As shown in **Table 1**, 319 stop signs are maintained by the City of Chowchilla. For the purposes of this report, only City maintained signs were considered for replacement. The signs surveyed are listed as follows-

- Signs that failed retroreflectivity test.
- Signs that passed retroreflectivity test but are damaged, faded or vandalized.
- Sign posts that "need replacement". Sign posts that need replacement include posts that are bent, loosely grounded or corroded.

Signs and sign posts categorized in such manner are made available to the City in the form of GIS layers using ArcMap. This software, allows the mapping of signs and sign posts for easy location and attribute look up with its geospatial abilities.



Study Area

Figure 1

Highway
Parks
Rivers
Chowchilla City Boundary

0 0.2 0.4 0.8 Miles

TJKM

A sign which passed the retroreflectivity test.

A sign which failed the retroreflectivity test.

A sign which passed the retroreflectivity test but is damaged.

A sign post which is damaged and needs replacement.

2.0 Stop Sign Inventory Evaluation Methodology

2.1 Stop Sign Inventory Data Attributes

National Data and Surveying Services (NDS) collected a complete inventory of all stop signs within the City of Chowchilla during the fall of 2019. The following is a list of attributes that have been collected:

1. Unique ID – Every device is assigned a unique identification number.
2. GPS (Latitude/Longitude) – NDS delivered sub-meter results and, in most cases, sub-foot results. NDS used the projection consistent with existing City GIS data.
3. Sign Type – Stop Sign
4. Road Name
5. Nearest Postal Address
6. Height of Sign from Ground – Addresses liability concerns.
7. Sign Dimensions – Height and width of sign. NDS uses a five-piece telescopic aluminum leveling rod that is made of a light and durable alloy for data collection in sign inventory studies. The rod is used for all sign measurements and is included within the picture to create a sense of scale when looking at the pictures later. This enables NDS to do an additional layer of Quality Control (QC), i.e. to check the measurements later and verify the field personnel. This also gives the City a sense of size in the years to come.
8. Sign Direction – Direction the sign is facing.
9. Position of Sign – Roadside, median, or overhead.
10. Condition of Sign – Good, vandalized, faded, damaged. etc.
11. Date of Installation (if available) – Many cities put a sticker on the back of the sign noting the date that the sign was put into service. This information can be very important when determining the replacement dates for signs.
12. Post Type – Unistrut, pipe post, wooden post, etc.
13. Post Condition – Good or needs repair.
14. Number of Signs on Post.
15. Sign Obstructions.
16. Obstruction Picture Hyperlink.

17. Sign Picture Hyperlink – NDS uses 12 MP Canon cameras which deliver excellent resolution even in direct sunlight. In most cases, even fine print on the sign can be read. Signs are hyperlinked and incorporated into the shape file. When viewing the sign through ESRI software, one can click on the hyperlink and see the sign.
18. Retroreflectivity – See the description in Task 2.3 below.
19. Notes.
20. Date of Survey.
21. Collection Time.
22. Name of Surveyor.
23. Date of Replacement.

2.2 Stop Sign Retroreflectivity Assessment

The purpose of this task is to evaluate all stop signs in the project area and assess their retroreflectivity. The NDS team collected retroreflectivity data for the City of Chowchilla during the daytime survey. The retroreflectometer results reveal which signs do not meet the minimum standards established by the Federal Highway Administration (FHWA). Retroreflectivity refers to the property of an object to reflect light back to the source. In the case of traffic signs, retroreflective sign sheeting is used to reflect light from vehicle headlamps back to a driver, thus increasing the sign visibility at night. Retroreflective traffic sign sheeting is created using tiny glass beads or prismatic reflectors that have been developed to reflect light.

The Manual of Uniform Traffic Control Devices for Streets and Highways defines standards to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. The FHWA recently adopted Federal rules that require all agencies that maintain roadways open for travel to adopt a sign maintenance program. It is important to maintain traffic sign retroreflectivity standards for nighttime driving, especially for senior drivers. The California Manual of Uniform Traffic Control Devices (CA MUTCD) provides uniform standards and specifications for all official traffic control devices in California. As per Revision 4 of the CA MUTCD, Section 2A.08 Maintaining Minimum Retroreflectivity, "*Public agencies or officials having jurisdiction shall use an assessment or management method that is designed to maintain sign retroreflectivity at or above the minimum levels in Table 2A-3*". This table has been attached for reference in **Appendix A.**

Table 2A.3 identifies the minimum retroreflectivity levels for CA MUTCD-standard signs, focusing on regulatory, warning, and guide signs. Signs which are below minimum levels must be replaced. Reflectivity data was collected with a Roadvista Model 922 Retroreflectometer. The Roadvista 922 has an integrated bar code reader allowing the user to match the reflectivity data to the sign inventory data. It is highly accurate and collects both 0.2 degrees and 0.5 degrees readings simultaneously. It also has an integrated GPS that verifies the location of the sign and ensures that the correct reflectivity data is matched to the correct sign attributes.

As per the CA MUTCD, the following are the few assessment or management methods that should be used to maintain sign retroreflectivity:

- Visual Nighttime Inspection - The retroreflectivity of an existing sign is assessed by a trained sign inspector conducting a visual inspection from a moving vehicle during nighttime conditions. Signs that are visually identified by the inspector to have retroreflectivity below the minimum levels should be replaced.
- Measured Sign Retroreflectivity - Sign retroreflectivity is measured using a retroreflectometer. Signs with retroreflectivity below the minimum levels should be replaced. This study uses this methodology.
- Expected Sign Life - When signs are installed, the installation date is labeled or recorded so that the age of a sign is known. The age of the sign is compared to the expected sign life. The expected sign life is based on the experience of sign retroreflectivity degradation in a geographic area compared to the minimum levels. Signs older than the expected life should be replaced.

2.3 Stop Sign Posts Condition Evaluation

Traffic sign posts were evaluated separately from the signs. In some cases, traffic signs are in acceptable condition but have damaged posts that need replacement, and vice versa. In other instances, both need replacement.

In the following chapter, the cost of recommended replacements are listed for signs failing retroreflectivity, signs in poor condition and sign posts that need replacement. Detailed tables for the study area can be viewed in **Appendix B** of this report.

2.4 Cost of Replacement per Unit

The table below lists the estimated costs for stop signs and sign posts that require replacement. Based upon the review of past contractor's bids for sign panels and sign posts, the estimated costs are as follows:

Table 2: Cost Estimates for Stop Signs and Sign Posts Replacement

	Category	*Condition*	*Unit Cost*
1	Stop Sign	Signs that failed retroreflectivity requirements	$250
2	Stop Sign	Signs which passed retroreflectivity requirement but that are damaged, faded or vandalized	$250
3	Stop Sign Post	Posts that are damaged, faded or vandalized	$250

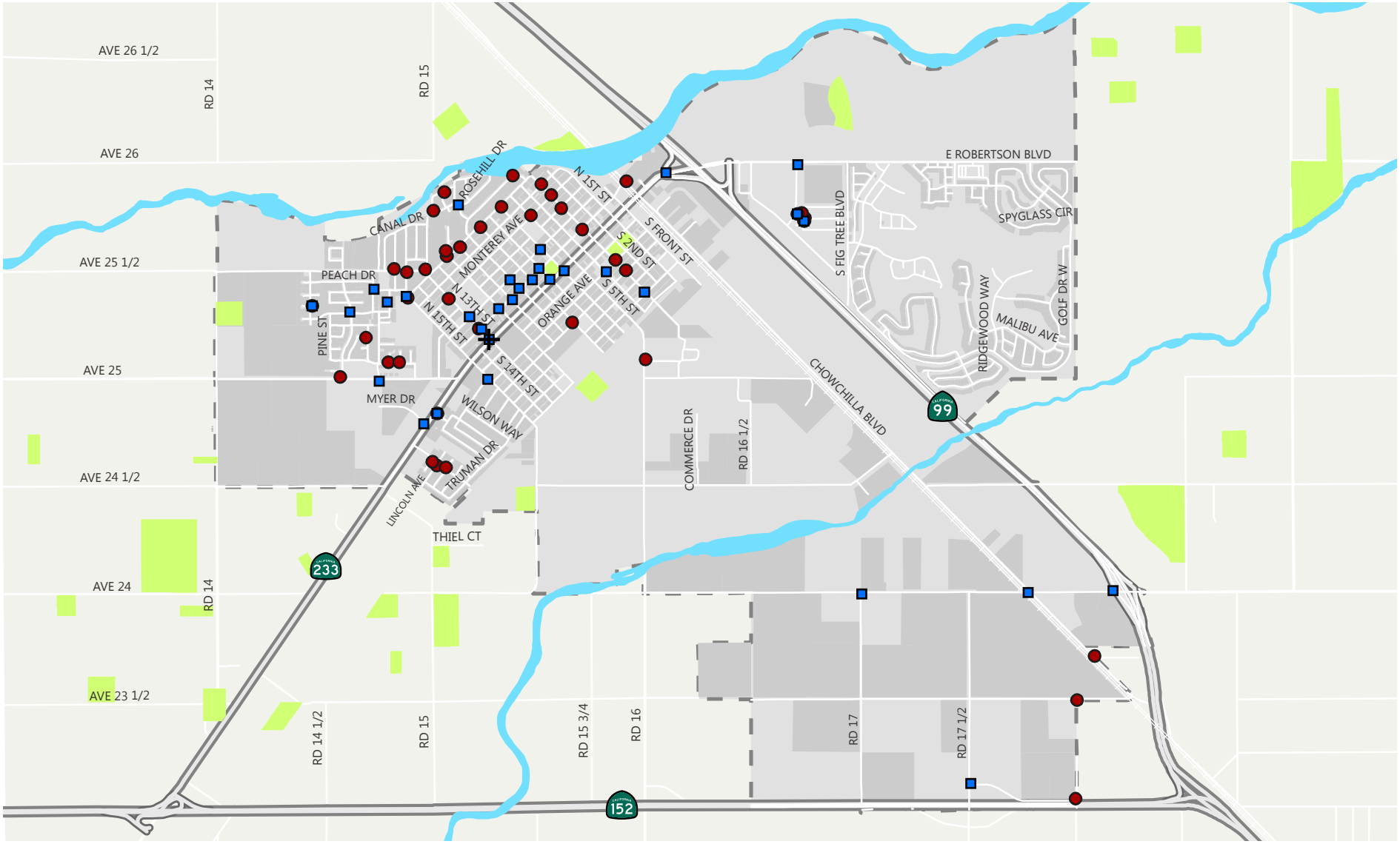
3.0 Stop Sign Inventory in the City of Chowchilla

This section presents the findings of the stop sign inventory survey. The findings of the survey are as follows:

- A total of 40 signs failed retroreflectivity test.
- A total of 32 signs passed retroreflectivity test but were damaged, vandalized or faded.
- One sign post was in poor condition.

Appendix B lists all signs surveyed in the City. **Figure 2** shows locations of the signs that failed retroreflectivity test, signs in poor condition, and sign posts in poor condition.

In the following sections, details such as unique ID, sign direction, sign condition etc. are provided for signs that failed retroreflectivity test, and for signs in poor condition. Details such as post ID, post condition and post type are provided for signs posts in poor condition.



Signs and Sign Posts Needing Replacement

Figure 2

Signs Failing Retroreflectivity Test

Signs in Poor Condition

Posts in Poor Condition

Highway

Parks

Rivers

Chowchilla City Boundary

Miles

0 0.2 0.4 0.8

TJKM

3.1 Stop Signs Failing Retroreflective

Table 3 below lists 40 signs requiring replacement in the City of Chowchilla due to failed retroreflectivity test. The total cost of these replacements, at a unit cost of $250 per sign, is estimated to be $10,000.

Table 3: List of Signs Failing Retroreflectivity in the City of Chowchilla

	Unique ID	Road Name	Sign Direction	Sign Condition	City Maintained	Retroreflectivity Test
1	101635	Verte Street	South	Faded	Yes	Fail
2	101636	Bidan Avenue	East	Vandalized	Yes	Fail
3	101637	Verte Street	North	Vandalized	Yes	Fail
4	101638	Mission Avenue	East	Faded	Yes	Fail
5	101427	Sixth Street	South	Good	Yes	Fail
6	101429	Eighth Street	South	Faded	Yes	Fail
7	101436	Danielle Street	South	Good	Yes	Fail
8	101438	Rosehill Drive	West	Faded	Yes	Fail
9	101439	Tenth Street	South	Good	Yes	Fail
10	101441	Hospital Drive	North	Good	Yes	Fail
11	101442	Hospital Drive	North	Damaged	Yes	Fail
12	101495	Eighth Street	North	Good	Yes	Fail
13	79907	Kings Avenue	West	Good	Yes	Fail
14	79911	Lake Avenue	West	Good	Yes	Fail
15	79914	Monterey Avenue	East	Good	Yes	Fail
16	79915	Sonoma Avenue	East	Good	Yes	Fail
17	79917	Circle Drive	West	Faded	Yes	Fail
18	79923	Monterey Avenue	East	Good	Yes	Fail
19	79949	Humbolt Avenue	East	Good	Yes	Fail
20	79951	Orange Avenue	East	Vandalized	Yes	Fail
21	79980	Chowchilla Boulevard	South	Faded	Yes	Fail
22	79883	Road 18	North	Vandalized	Yes	Fail
23	79884	Road 18	South	Faded	Yes	Fail
24	79887	Gordon Street	East	Good	Yes	Fail

	Unique ID	Road Name	Sign Direction	Sign Condition	City Maintained	Retroreflectivity Test
25	79895	Road 16	East	Faded	Yes	Fail
26	101525	Monterey Avenue	West	Good	Yes	Fail
27	101531	N 13th Street	North	Good	Yes	Fail
28	101542	Ventura Avenue	West	Good	Yes	Fail
29	101546	Gill Way	South	Good	Yes	Fail
30	101548	Holiday Way	North	Good	Yes	Fail
31	101558	Dorothy Way	North	Good	Yes	Fail
32	101582	Juniper Court	East	Faded	Yes	Fail
33	101588	Molly Avenue	West	Good	Yes	Fail
34	101595	Santa Cruz Boulevard	North	Good	Yes	Fail
35	101601	Birch Court	North	Good	Yes	Fail
36	101602	Cedar Court	North	Faded	Yes	Fail
37	101606	Adams Drive	East	Vandalized	Yes	Fail
38	101611	Lincoln Drive	South	Good	Yes	Fail
39	101612	Kennedy Court	South	Good	Yes	Fail
40	101614	Taft Court	North	Good	Yes	Fail

3.2 Stop Signs in Poor Condition

Table 4 below lists 32 signs which have passed the retroreflectivity test but require replacement due to being damaged, faded, or vandalized. The total cost of these replacements, at a unit cost of $250 per sign, is estimated to be $8,000.

Table 4: List of Stop Signs in Poor Condition in the City of Chowchilla

	Unique ID	Road Name	Sign Direction	Sign Condition	City Maintained	Retroreflectivity Test
1	101634	Genoa Lake	South	Faded	Yes	Pass
2	101635	Verte Street	South	Faded	Yes	Pass
3	101638	Mission Avenue	East	Faded	Yes	Pass
4	101425	Riverside Avenue	West	Vandalized	Yes	Pass
5	101433	Rosehill Drive	West	Vandalized	Yes	Pass
6	101456	Eleventh Street	North	Vandalized	Yes	Pass

	Unique ID	Road Name	Sign Direction	Sign Condition	City Maintained	Retroreflectivity Test
7	101459	Tenth Street	South	Vandalized	Yes	Pass
8	101461	Ninth Street	North	Vandalized	Yes	Pass
9	101463	Eight Street	South	Vandalized	Yes	Pass
10	101465	Seventh Street	North	Vandalized	Yes	Pass
11	101467	Riverside Avenue	West	Vandalized	Yes	Pass
12	101475	Seventh Street	North	Vandalized	Yes	Pass
13	101476	Sixth Street	South	Vandalized	Yes	Pass
14	101512	Roosevelt Drive	West	Vandalized	Yes	Pass
15	79945	S 3Rd Street	North	Vandalized	Yes	Pass
16	79953	S 4th Street	South	Vandalized	Yes	Pass
17	79983	Robertson Off Ramp	North	Damaged	Yes	Pass
18	79871	Avenue 24	East	Damaged	Yes	Pass
19	79875	Avenue 24	West	Vandalized	Yes	Pass
20	79879	Road 17	South	Faded	Yes	Pass
21	79882	Road 17 1/2	East	Faded	Yes	Pass
22	101527	Riverside Avenue	East	Vandalized	Yes	Pass
23	101532	N 13th Street	South	Vandalized	Yes	Pass
24	101533	N 13th Street	North	Vandalized	Yes	Pass
25	101543	Gill Way	North	Vandalized	Yes	Pass
26	101552	Cypress Lane	East	Vandalized	Yes	Pass
27	101555	Magnolia Court	West	Faded	Yes	Pass
28	101566	Santa Cruz Boulevard	North	Vandalized	Yes	Pass
29	101582	Juniper Court	East	Faded	Yes	Pass
30	101596	Kites Way	South	Vandalized	Yes	Pass
31	101606	Adams Drive	East	Vandalized	Yes	Pass
32	101608	Myer Drive	West	Vandalized	Yes	Pass

3.3 Stop Signs with Posts Needing Replacement

Table 5 lists sign posts that are bent, loosely grounded or corroded. One post requires replacement. The cost of this replacement is estimated to be $250.

Table 5: List of Stop Sign with Posts in Poor Condition in the City of Chowchilla

	Post ID	*Sign ID*	*Direction*	*Post Condition*	*Post Type*	*City Maintained*
1	Z00P0232	101533	North	Leaning	Wooden 4x4	Yes

4.0 Recommendations

This section presents the recommendations for the City of Chowchilla. Out of the total 319 City-maintained signs surveyed, TJKM recommends replacing 72 signs and one sign post for a total cost of $18,250. The details for these replacements are as follows-

- Replacement of 40 signs that failed the retroreflectivity test. The cost of replacement is estimated to be $10,000.
- Replacement of 32 signs that passed the retroreflectivity test but are damaged, vandalized or faded. The cost of replacement is estimated to be $8,000.
- Replacement of one sign post that was rated as "needs replacement". The cost of replacement is estimated to be $250.

Appendix A

MUTCD Table 2A-3

Table 2A-3. Minimum Maintained Retroreflectivity Levels[1]

Sign Color	Sheeting Type (ASTM D4956-04)				Additional Criteria
	Beaded Sheeting			Prismatic Sheeting	
	I	II	III	III, IV, VI, VII, VIII, IX, X	
White on Green	W*; G ≥ 7	W*; G ≥ 15	W*; G ≥ 25	W ≥ 250; G ≥ 25	Overhead
	W*; G ≥ 7	W ≥ 120; G ≥ 15			Post-mounted
Black on Yellow or Black on Orange	Y*; O*	Y ≥ 50; O ≥ 50			[2]
	Y*; O*	Y ≥ 75; O ≥ 75			[3]
White on Red	W ≥ 35; R ≥ 7				[4]
Black on White	W ≥ 50				–

[1] The minimum maintained retroreflectivity levels shown in this table are in units of cd/lx/m² measured at an observation angle of 0.2° and an entrance angle of -4.0°.
[2] For text and fine symbol signs measuring at least 48 inches and for all sizes of bold symbol signs
[3] For text and fine symbol signs measuring less than 48 inches
[4] Minimum sign contrast ratio ≥ 3:1 (white retroreflectivity ÷ red retroreflectivity)
* This sheeting type shall not be used for this color for this application.

Bold Symbol Signs

- W1-1,2 – Turn and Curve
- W1-3,4 – Reverse Turn and Curve
- W1-5 – Winding Road
- W1-6,7 – Large Arrow
- W1-8 – Chevron
- W1-10 – Intersection in Curve
- W1-11 – Hairpin Curve
- W1-15 – 270 Degree Loop
- W2-1 – Cross Road
- W2-2,3 – Side Road
- W2-4,5 – T and Y Intersection
- W2-6 – Circular Intersection
- W2-7,8 – Double Side Roads
- W3-1 – Stop Ahead
- W3-2 – Yield Ahead
- W3-3 – Signal Ahead
- W4-1 – Merge
- W4-2 – Lane Ends
- W4-3 – Added Lane
- W4-5 – Entering Roadway Merge
- W4-6 – Entering Roadway Added Lane
- W6-1,2 – Divided Highway Begins and Ends
- W6-3 – Two-Way Traffic
- W10-1,2,3,4,11,12 – Grade Crossing Advance Warning
- W11-2 – Pedestrian Crossing
- W11-3,4,16-22 – Large Animals
- W11-5 – Farm Equipment
- W11-6 – Snowmobile Crossing
- W11-7 – Equestrian Crossing
- W11-8 – Fire Station
- W11-10 – Truck Crossing
- W12-1 – Double Arrow
- W16-5P,6P,7P – Pointing Arrow Plaques
- W20-7 – Flagger
- W21-1 – Worker

Fine Symbol Signs (symbol signs not listed as bold symbol signs)

Special Cases

- W3-1 – Stop Ahead: Red retroreflectivity ≥ 7
- W3-2 – Yield Ahead: Red retroreflectivity ≥ 7; White retroreflectivity ≥ 35
- W3-3 – Signal Ahead: Red retroreflectivity ≥ 7; Green retroreflectivity ≥ 7
- W3-5 – Speed Reduction: White retroreflectivity ≥ 50
- For non-diamond shaped signs, such as W14-3 (No Passing Zone), W4-4P (Cross Traffic Does Not Stop), or W13-1P,2,3,6,7 (Speed Advisory Plaques), use the largest sign dimension to determine the proper minimum retroreflectivity level.

Appendix B

City of Chowchilla Sign Inventory

Unique ID	Road Name	Sign Direction	Sign Condition	Post ID	Post Type	Post Condition	City Maintained	Retroreflectivity Test
101615	Monroe Ct	North	Good	Z00P0314	Unistrut	Good	Yes	Pass
101616	Truman Av	South	Good	Z00P0315	Pipe Post	Good	Yes	Pass
101617	Truman Dr	North	Good	Z00P0316	Unistrut	Good	Yes	Pass
101618	Truman Dr	South	Good	Z00P0317	Unistrut	Good	Yes	Pass
101619	Grant Dr	West	Good	Z00P0318	Unistrut	Good	Yes	Pass
101620	Truman Dr	North	Good	Z00P0319	Unistrut	Good	Yes	Pass
101621	Truman Dr	South	Good	Z00P0320	Unistrut	Good	Yes	Pass
101622	Wilson Way	West	Good	Z00P0321	Unistrut	Good	Yes	Pass
101623	Truman Dr	North	Good	Z00P0322	Unistrut	Good	Yes	Pass
101624	Roosevelt Dr	North	Good	Z00P0323	Pipe Post	Good	Yes	Pass
101625	Roosevelt Dr	South	Good	Z00P0324	Unistrut	Good	Yes	Pass
101626	Adams Dr	West	Good	Z00P0325	Pipe Post	Good	Yes	Pass
101627	Robertson Blvd	South	Good	Z00P0326	Wooden 4x4	Good	No	Pass
101628	Carlyle St	South	Good	Z00P0327	Light Standard	Good	Yes	Pass
101629	Montgomery Lake Way	South	Good	Z00P0328	Unistrut	Good	Yes	Pass
101630	Montgomery Lake Way	East	Good	Z00P0329	Unistrut	Good	Yes	Pass
101631	Montgomery Lake Way	East	Good	Z00P0330	Unistrut	Good	Yes	Pass
101632	Road 16 1/2	East	Good	Z00P0331	Unistrut	Good	Yes	Pass
101633	Auto Park Pl	West	Good	Z00P0332	Unistrut	Good	Yes	Pass
101634	Genoa Lake	South	Faded	Z00P0333	Unistrut	Good	Yes	Pass
101635	Verte St	South	Faded	Z00P0334	Unistrut	Good	Yes	Fail
101636	Bidan Ave	East	Vandalized	Z00P0335	Unistrut	Good	Yes	Fail
101637	Verte St	North	Vandalized	Z00P0336	Unistrut	Good	Yes	Fail
101638	Mission Ave	East	Faded	Z00P0337	Unistrut	Good	Yes	Fail
101639	Genoa Lake Way	North	Good	Z00P0338	Unistrut	Good	Yes	Pass
101640	Montgomery Lake Way	East	Good	Z00P0339	Unistrut	Good	Yes	Pass
101641	Montgomery Lake Way	West	Good	Z00P0340	Unistrut	Good	Yes	Pass
101421	Fourth St	South	Good	Z00P0120	Unistrut	Good	Yes	Pass
101422	Fourth St	North	Good	Z00P0121	Unistrut	Good	Yes	Pass
101423	Sixth St	South	Good	Z00P0122	Unistrut	Good	Yes	Pass
101424	Sixth St	North	Good	Z00P0123	Unistrut	Good	Yes	Pass
101425	Riverside Ave	West	Vandalized	Z00P0124	Unistrut	Good	Yes	Pass
101426	Riverside Ave	East	Good	Z00P0125	Unistrut	Good	Yes	Pass
101427	Sixth St	South	Good	Z00P0126	Unistrut	Good	Yes	Fail
101428	Seventh St	South	Good	Z00P0127	Unistrut	Good	Yes	Pass
101429	Eighth St	South	Faded	Z00P0128	Unistrut	Good	Yes	Fail
101430	Ninthbst	South	Good	Z00P0129	Unistrut	Good	Yes	Pass
101431	Circle Dr	North	Good	Z00P0130	Unistrut	Good	Yes	Pass
101432	Amador St	North	Good	Z00P0131	Unistrut	Good	Yes	Pass
101433	Rosehill Dr	West	Vandalized	Z00P0132	Unistrut	Good	Yes	Pass
101434	Penny St	North	Good	Z00P0133	Pipe Post	Good	Yes	Pass
101435	Calaveras Dr	West	Good	Z00P0134	Unistrut	Good	Yes	Pass
101436	Danielle St	South	Good	Z00P0135	Pipe Post	Good	Yes	Fail
101437	Danielle St	North	Good	Z00P0136	Pipe Post	Good	Yes	Pass
101438	Rosehill Dr	West	Faded	Z00P0137	Pipe Post	Good	Yes	Fail
101439	Tenth St	South	Good	Z00P0138	Unistrut	Good	Yes	Fail
101440	Eleventh St	South	Good	Z00P0139	Unistrut	Good	Yes	Pass
101441	Hospital Dr	North	Good	Z00P0140	Unistrut	Good	Yes	Fail
101442	Hospital Dr	North	Damaged	Z00P0141	Pipe Post	Good	Yes	Fail
101443	Twelfth St	North	Good	Z00P0142	Unistrut	Good	Yes	Pass
101444	Sonoma Ave	West	Good	Z00P0143	Unistrut	Good	Yes	Pass
101445	Sonoma Ave	East	Good	Z00P0144	Unistrut	Good	Yes	Pass

Unique ID	Road Name	Sign Direction	Sign Condition	Post ID	Post Type	Post Condition	City Maintained	Retroreflectivity Test
101446	Monterey Ave	East	Good	Z00P0145	Unistrut	Good	Yes	Pass
101447	Eleventh St	North	Good	Z00P0146	Unistrut	Good	Yes	Pass
101448	Monterey Ave	West	Good	Z00P0147	Unistrut	Good	Yes	Pass
101449	Eleventh St	South	Good	Z00P0148	Unistrut	Good	Yes	Pass
101450	Lake Ave	East	Good	Z00P0149	Unistrut	Good	Yes	Pass
101451	Riverside Ave	East	Good	Z00P0150	Unistrut	Good	Yes	Pass
101452	Eleventh St	North	Good	Z00P0151	Unistrut	Good	Yes	Pass
101453	Riverside Ave	West	Good	Z00P0152	Unistrut	Good	Yes	Pass
101454	Eleventh St	South	Good	Z00P0153	Unistrut	Good	Yes	Pass
101455	Kings Ave	West	Good	Z00P0154	Unistrut	Good	Yes	Pass
101456	Eleventh St	North	Vandalized	Z00P0155	Unistrut	Good	Yes	Pass
101457	Kings Ave	West	Good	Z00P0156	Unistrut	Good	Yes	Pass
101458	Eleventh St	South	Good	Z00P0157	Unistrut	Good	Yes	Pass
101459	Tenth St	South	Vandalized	Z00P0158	Unistrut	Good	Yes	Pass
101460	Tenth St	North	Good	Z00P0159	Unistrut	Good	Yes	Pass
101461	Ninth St	North	Vandalized	Z00P0160	Unistrut	Good	Yes	Pass
101462	Ninth St	South	Good	Z00P0161	Unistrut	Good	Yes	Pass
101463	Eight St	South	Vandalized	Z00P0162	Unistrut	Good	Yes	Pass
101464	Eight St	North	Good	Z00P0163	Unistrut	Good	Yes	Pass
101465	Seventh St	North	Vandalized	Z00P0164	Unistrut	Good	Yes	Pass
101466	Lake Ave	West	Good	Z00P0165	Unistrut	Good	Yes	Pass
101467	Riverside Ave	West	Vandalized	Z00P0166	Unistrut	Good	Yes	Pass
101468	Riverside Ave	East	Good	Z00P0167	Unistrut	Good	Yes	Pass
101469	Monterey Ave	West	Good	Z00P0168	Unistrut	Good	Yes	Pass
101470	Monterey Ave	East	Good	Z00P0169	Unistrut	Good	Yes	Pass
101471	Trinity Ave	East	Good	Z00P0170	Unistrut	Good	Yes	Pass
101472	Tenth St	North	Vandalized	Z00P0171	Unistrut	Good	No	Pass
101473	Ninth St	North	Good	Z00P0172	Unistrut	Good	No	Pass
101474	Eight St	North	Good	Z00P0173	Wooden 4x4	Good	No	Pass
101475	Seventh St	North	Vandalized	Z00P0174	Unistrut	Good	Yes	Pass
101476	Sixth St	South	Vandalized	Z00P0175	Wooden 4x4	Good	Yes	Pass
101477	Seventh St	South	Good	Z00P0176	Wooden 4x4	Good	Yes	Pass
101478	Eighth	South	Vandalized	Z00P0177	Wooden 4x4	Good	No	Pass
101479	Ninth St	South	Good	Z00P0178	Wooden 4x4	Good	No	Pass
101480	Tenth St	South	Good	Z00P0179	Unistrut	Good	No	Pass
101481	Tenth St	North	Good	Z00P0180	Unistrut	Good	Yes	Pass
101482	Tenth St	South	Good	Z00P0181	Unistrut	Good	Yes	Pass
101483	Ninth St	South	Good	Z00P0182	Unistrut	Good	Yes	Pass
101484	Ninth St	North	Good	Z00P0183	Unistrut	Good	Yes	Pass
101485	Eighth St	North	Good	Z00P0184	Unistrut	Good	Yes	Pass
101486	Seventh St	North	Good	Z00P0185	Unistrut	Good	Yes	Pass
101487	Seventh St	South	Good	Z00P0186	Unistrut	Good	Yes	Pass
101488	Sixth St	North	Good	Z00P0187	Unistrut	Good	No	Pass
101489	Sixth St	South	Good	Z00P0188	Unistrut	Good	Yes	Pass
101490	Seventh St	South	Good	Z00P0189	Unistrut	Good	Yes	Pass
101491	Seventh St	North	Good	Z00P0190	Unistrut	Good	Yes	Pass
101492	Humboldt Ave	East	Good	Z00P0191	Unistrut	Good	Yes	Pass
101493	Eighth St	South	Good	Z00P0192	Unistrut	Good	Yes	Pass
101494	Humboldt Ave	West	Good	Z00P0193	Unistrut	Good	Yes	Pass
101495	Eighth St	North	Good	Z00P0194	Unistrut	Good	Yes	Fail
101496	Ninth St	North	Good	Z00P0195	Unistrut	Good	Yes	Pass
101497	Humboldt Ave	East	Good	Z00P0196	Unistrut	Good	Yes	Pass

Unique ID	Road Name	Sign Direction	Sign Condition	Post ID	Post Type	Post Condition	City Maintained	Retroreflectivity Test
101498	Eleventh St	South	Good	Z00P0197	Unistrut	Good	Yes	Pass
101499	Humboldt Ave	West	Good	Z00P0198	Unistrut	Good	Yes	Pass
101500	Eleventh St	North	Good	Z00P0199	Unistrut	Good	Yes	Pass
101501	Fourteenth St	North	Good	Z00P0200	Unistrut	Good	Yes	Pass
101502	Fourteenth St	South	Good	Z00P0201	Unistrut	Good	Yes	Pass
101503	Humboldt Ave	East	Good	Z00P0202	Unistrut	Good	Yes	Pass
101504	Alameda Ave	East	Good	Z00P0203	Unistrut	Good	Yes	Pass
101505	Colusa Ave	East	Good	Z00P0204	Unistrut	Good	Yes	Pass
101506	Mariposa Ave	East	Good	Z00P0205	Unistrut	Good	Yes	Pass
101507	Truman Dr	North	Good	Z00P0206	Unistrut	Good	Yes	Pass
101508	Harding Ave	West	Good	Z00P0207	Unistrut	Good	Yes	Pass
101509	Coolidge Ave	West	Good	Z00P0208	Unistrut	Good	Yes	Pass
101510	Hoover Ave	West	Good	Z00P0209	Unistrut	Good	Yes	Pass
101511	Orange Ave	East	Good	Z00P0210	Unistrut	Good	Yes	Pass
101512	Roosevelt Dr	West	Vandalized	Z00P0211	Unistrut	Good	Yes	Pass
101513	Trinity Ave	East	Good	Z00P0212	Unistrut	Good	Yes	Pass
101514	Fourteenth St	North	Good	Z00P0213	Unistrut	Good	Yes	Pass
101515	Fourteenth St	South	Good	Z00P0214	Unistrut	Good	Yes	Pass
101516	Road 14	South	Good	Z00P0215	U-Post	Good	Yes	Pass
101517	Road 14	North	Good	Z00P0216	U-Post	Good	Yes	Pass
101518	Ave 24 1/2	West	Good	Z00P0217	Unistrut	Good	Yes	Pass
101519	Ave 24 1/2	East	Good	Z00P0218	Unistrut	Good	Yes	Pass
101520	Road 14	South	Good	Z00P0219	U-Post	Good	Yes	Pass
79897	Front St	West	Good	Z00P0026	Light Standard	Good	Yes	Pass
79898	Front St	East	Good	Z00P0027	Unistrut	Good	Yes	Pass
79899	Kings Ave	East	Good	Z00P0028	Unistrut	Good	Yes	Pass
79900	First St	North	Good	Z00P0029	Unistrut	Good	Yes	Pass
79901	Kings Ave	West	Good	Z00P0030	Unistrut	Good	Yes	Pass
79902	First St	South	Good	Z00P0031	Unistrut	Good	Yes	Pass
79903	Second St	South	Good	Z00P0032	Unistrut	Good	Yes	Pass
79904	Second St	North	Good	Z00P0033	Unistrut	Good	Yes	Pass
79905	Kings Ave	East	Good	Z00P0034	Unistrut	Good	Yes	Pass
79906	Third St	South	Good	Z00P0035	Unistrut	Good	Yes	Pass
79907	Kings Ave	West	Good	Z00P0036	Unistrut	Good	Yes	Fail
79908	Third St	North	Good	Z00P0037	Unistrut	Good	Yes	Pass
79909	Riverside Ave	West	Good	Z00P0038	Unistrut	Good	Yes	Pass
79910	Riverside Av3	East	Good	Z00P0039	Unistrut	Good	Yes	Pass
79911	Lake Ave	West	Good	Z00P0040	Unistrut	Good	Yes	Fail
79912	Lake Ave	East	Good	Z00P0041	Unistrut	Good	Yes	Pass
79913	Monterey Ave	West	Good	Z00P0042	Unistrut	Good	Yes	Pass
79914	Monterey Ave	East	Good	Z00P0043	Unistrut	Good	Yes	Fail
79915	Sonoma Ave	East	Good	Z00P0044	Unistrut	Good	Yes	Fail
79916	Sonoma Ave	West	Good	Z00P0045	Unistrut	Good	Yes	Pass
79917	Circle Dr	West	Faded	Z00P0046	Unistrut	Good	Yes	Fail
79918	Calaveras St	North	Good	Z00P0047	Unistrut	Good	Yes	Pass
79919	Fourth St	South	Good	Z00P0048	Unistrut	Good	Yes	Pass
79920	Sonoma Ave	East	Good	Z00P0049	Unistrut	Good	Yes	Pass
79921	Fifth St	South	Good	Z00P0050	Unistrut	Good	Yes	Pass
79922	Sonoma Ave	West	Good	Z00P0051	Unistrut	Good	Yes	Pass
79923	Monterey Ave	East	Good	Z00P0052	Unistrut	Good	Yes	Fail
79924	Monterey Ave	West	Good	Z00P0053	Unistrut	Good	Yes	Pass
79925	Lake Ave	East	Good	Z00P0054	Unistrut	Good	Yes	Pass

Unique ID	Road Name	Sign Direction	Sign Condition	Post ID	Post Type	Post Condition	City Maintained	Retroreflectivity Test
79926	Riverside Ave	East	Good	Z00P0055	Unistrut	Good	Yes	Pass
79927	Riverside Ave	West	Good	Z00P0056	Unistrut	Good	Yes	Pass
79928	Kings Ave	East	Good	Z00P0057	Unistrut	Good	Yes	Pass
79929	Kings Ave	West	Good	Z00P0058	Unistrut	Good	Yes	Pass
79930	Trinity Ave	East	Good	Z00P0059	Unistrut	Good	Yes	Pass
79931	Trinity Ave	West	Good	Z00P0060	Unistrut	Good	Yes	Pass
79932	Orange Ave	East	Good	Z00P0061	Unistrut	Good	Yes	Pass
79933	Orange Ave	West	Good	Z00P0062	Unistrut	Good	Yes	Pass
79934	Humbolt Ave	East	Good	Z00P0063	Unistrut	Good	Yes	Pass
79935	Humbolt Av3	West	Good	Z00P0064	Unistrut	Good	Yes	Pass
79936	Alameda Ave	East	Good	Z00P0065	Unistrut	Good	Yes	Pass
79937	Alameda Ave	West	Good	Z00P0066	Unistrut	Good	Yes	Pass
79938	Colusa Ave	East	Good	Z00P0067	Unistrut	Good	Yes	Pass
79939	Calusa Ave	West	Good	Z00P0068	Unistrut	Good	Yes	Pass
79940	S 4th St	North	Good	Z00P0069	Unistrut	Good	Yes	Pass
79941	S 4th St	South	Good	Z00P0070	Unistrut	Good	Yes	Pass
79942	Mariposa Ave	West	Good	Z00P0071	Unistrut	Good	Yes	Pass
79943	Mariposa Ave	East	Good	Z00P0072	Unistrut	Good	Yes	Pass
79944	S 3Rd St	South	Good	Z00P0073	Unistrut	Good	Yes	Pass
79945	S 3Rd St	North	Vandalized	Z00P0074	Unistrut	Good	Yes	Pass
79946	Alameda Ave	West	Good	Z00P0075	Unistrut	Good	Yes	Pass
79947	Alameda Ave	East	Good	Z00P0076	Unistrut	Good	Yes	Pass
79948	Humbolt Ave	West	Good	Z00P0077	Unistrut	Good	Yes	Pass
79949	Humbolt Ave	East	Good	Z00P0078	Unistrut	Good	Yes	Fail
79950	Orange Ave	West	Good	Z00P0079	Unistrut	Good	Yes	Pass
79952	S 2nd St	South	Good	Z00P0081	Unistrut	Good	Yes	Pass
79951	Orange Ave	East	Vandalized	Z00P0080	Unistrut	Good	Yes	Fail
79953	S 4th St	South	Vandalized	Z00P0082	Unistrut	Good	Yes	Pass
79954	S 4th St	North	Good	Z00P0083	Unistrut	Good	Yes	Pass
79955	S 4th St	South	Good	Z00P0084	Unistrut	Good	Yes	Pass
79956	S 4th St	South	Faded	Z00P0085	Wooden 4x4	Good	No	Fail
79957	S 4th St	North	Vandalized	Z00P0086	Wooden 4x4	Good	No	Pass
79958	N 3rd St	North	Vandalized	Z00P0087	Pipe Post	Good	No	Pass
79959	N 2nd St	North	Vandalized	Z00P0088	Wooden 4x4	Good	No	Pass
79960	N 1st St	North	Vandalized	Z00P0089	Wooden 4x4	Good	No	Pass
79961	N Front St	North	Good	Z00P0090	Wooden 4x4	Good	Yes	Pass
79962	Trinity Ave	East	Good	Z00P0091	Unistrut	Good	Yes	Pass
79963	Trinity Ave	West	Good	Z00P0092	Unistrut	Good	Yes	Pass
79964	S 3rd St	South	Vandalized	Z00P0093	Pipe Post	Good	No	Pass
79965	S 1st St	South	Good	Z00P0094	Wooden 4x4	Good	No	Pass
79966	S Front St	South	Good	Z00P0095	Wooden 4x4	Good	No	Pass
79967	Trinity Ave	West	Good	Z00P0096	Unistrut	Good	Yes	Pass
79968	Orange Ave	West	Good	Z00P0097	Unistrut	Good	No	Pass
79969	Humboldt Ave	West	Good	Z00P0098	Unistrut	Good	Yes	Pass
79970	Alameda Ave	West	Good	Z00P0099	Unistrut	Good	Yes	Pass
79971	S Front St	South	Good	Z00P0100	Unistrut	Good	Yes	Pass
79972	S 1st St	South	Good	Z00P0101	Unistrut	Good	Yes	Pass
79973	S 1st St	North	Good	Z00P0102	Unistrut	Good	Yes	Pass
79975	S 2nd St	North	Good	Z00P0103	Pipe Post	Good	Yes	Pass
79976	S 2nd St	North	Good	Z00P0104	Unistrut	Good	Yes	Pass
79977	S 1st St	North	Good	Z00P0105	Unistrut	Good	Yes	Pass
79978	S 1st St	South	Good	Z00P0106	Unistrut	Good	Yes	Pass

Unique ID	Road Name	Sign Direction	Sign Condition	Post ID	Post Type	Post Condition	City Maintained	Retroreflectivity Test
79979	Chowchilla Blvd	North	Good	Z00P0107	Unistrut	Good	Yes	Pass
79980	Chowchilla Blvd	South	Faded	Z00P0108	Unistrut	Good	Yes	Fail
79981	Robertson Blvd	North	Good	Z00P0109	Wooden 4x4	Good	No	Pass
79982	Robertson Off Ramp	North	Good	Z00P0110	Wooden 4x4	Good	No	Pass
79983	Robertson Off Ramp	North	Damaged	Z00P0111	Wooden 4x4	Good	Yes	Pass
79984	Chowchilla Blvd	North	Good	Z00P0112	Unistrut	Good	Yes	Pass
79985	Chowchilla	North	Good	Z00P0113	Unistrut	Good	Yes	Pass
79986	Prosperty Blvd	West	Good	Z00P0114	Unistrut	Good	Yes	Pass
79987	Prosperty Blvd	West	Good	Z00P0115	Unistrut	Good	Yes	Pass
79988	Prosperty Blvd	East	Good	Z00P0116	Unistrut	Good	Yes	Pass
79989	Prosperty Blvd	East	Good	Z00P0117	Unistrut	Good	Yes	Pass
79990	Prosperty Blvd	East	Good	Z00P0118	Unistrut	Good	Yes	Pass
79991	Chowchilla Blvd	East	Good	Z00P0119	Wooden 4x4	Good	Yes	Pass
79871	Ave 24	East	Damaged	Z00P0001	Wooden 4x4	Good	Yes	Pass
79872	Ave 24	North	Vandalized	Z00P0002	Wooden 4x4	Good	No	Pass
79874	Chowchilla Blvd	North	Good	Z00P0003	U-Post	Good	Yes	Pass
79875	Ave 24	West	Vandalized	Z00P0004	Unistrut	Good	Yes	Pass
79876	Chowchilla Blvd	South	Good	Z00P0005	U-Post	Good	Yes	Pass
79877	Ave 24	East	Good	Z00P0006	U-Post	Good	Yes	Pass
79878	Road 17 1/2	South	Good	Z00P0007	Unistrut	Good	Yes	Pass
79879	Road 17	South	Faded	Z00P0008	U-Post	Good	Yes	Pass
79880	Road 17	South	Good	Z00P0009	U-Post	Good	Yes	Pass
79881	Road 17 1/2	North	Good	Z00P0010	Wooden 4x4	Good	Yes	Pass
79882	Road 17 1/2	East	Faded	Z00P0011	U-Post	Good	Yes	Pass
79883	Road 18	North	Vandalized	Z00P0012	U-Post	Good	Yes	Fail
79884	Road 18	South	Faded	Z00P0013	U-Post	Good	Yes	Fail
79885	Ave 23 1/2	East	Good	Z00P0014	Unistrut	Good	Yes	Pass
79886	Road 17 1/2	West	Good	Z00P0015	Unistrut	Good	Yes	Pass
79887	Gordon St	East	Good	Z00P0016	Unistrut	Good	Yes	Fail
79888	Ave 24 1/2	North	Good	Z00P0017	Unistrut	Good	Yes	Pass
79889	Road 16 1/2	North	Good	Z00P0018	Unistrut	Good	Yes	Pass
79890	Ave 24 1/2	East	Good	Z00P0019	Unistrut	Good	Yes	Pass
79891	Ave 24 1/2	West	Good	Z00P0020	U-Post	Good	Yes	Pass
79892	Ave 24 1/2	South	Good	Z00P0021	Unistrut	Good	Yes	Pass
79893	Ave 24 1/2	East	Good	Z00P0022	U-Post	Good	Yes	Pass
79894	Ave 25	East	Good	Z00P0023	Unistrut	Good	Yes	Pass
79895	Road 16	East	Faded	Z00P0024	Pipe Post	Good	Yes	Fail
79896	Airport Dr	South	Good	Z00P0025	Unistrut	Good	Yes	Pass
101521	Howell Rd	North	Good	Z00P0220	Unistrut	Good	Yes	Pass
101522	N 13th St	South	Good	Z00P0221	Unistrut	Good	Yes	Pass
101523	Monterey Rd	East	Good	Z00P0222	Unistrut	Good	Yes	Pass
101524	N 13th St	North	Good	Z00P0223	Unistrut	Good	Yes	Pass
101525	Monterey Ave	West	Good	Z00P0224	Unistrut	Good	Yes	Fail
101526	N 13th St	South	Good	Z00P0225	Unistrut	Good	Yes	Pass
101527	Riverside Ave	East	Vandalized	Z00P0226	Unistrut	Good	Yes	Pass
101528	N 13th St	North	Good	Z00P0227	Unistrut	Good	Yes	Pass
101529	Riverside Ave	West	Good	Z00P0228	Unistrut	Good	Yes	Pass
101530	N 13th St	South	Good	Z00P0229	Unistrut	Good	Yes	Pass
101531	N 13th St	North	Good	Z00P0230	Unistrut	Good	Yes	Fail
101532	N 13th St	South	Vandalized	Z00P0231	Unistrut	Good	Yes	Pass
101533	N 13th St	North	Vandalized	Z00P0232	Wooden 4x4	Leaning	Yes	Pass
101534	N 13th St	South	Vandalized	Z00P0233	Wooden 4x4	Good	No	Pass

Unique ID	Road Name	Sign Direction	Sign Condition	Post ID	Post Type	Post Condition	City Maintained	Retroreflectivity Test
101535	Kings Ave	East	Good	Z00P0234	Unistrut	Good	Yes	Pass
101536	Riverside Ave	East	Good	Z00P0235	Unistrut	Good	Yes	Pass
101537	Defender St	West	Good	Z00P0236	Unistrut	Good	Yes	Pass
101538	Lake Ave	East	Good	Z00P0237	Unistrut	Good	Yes	Pass
101539	Monterey Ave	East	Good	Z00P0238	Unistrut	Good	Yes	Pass
101540	Sonoma Ave	East	Good	Z00P0239	Unistrut	Good	Yes	Pass
101541	N 15th St	South	Good	Z00P0240	Unistrut	Good	Yes	Pass
101542	Ventura Ave	West	Good	Z00P0241	Unistrut	Good	Yes	Fail
101543	Gill Way	North	Vandalized	Z00P0242	Unistrut	Good	Yes	Pass
101544	Ventura Ave	East	Good	Z00P0243	Unistrut	Good	Yes	Pass
101545	Cypress Ln	West	Good	Z00P0244	Pipe Post	Good	Yes	Pass
101546	Gill Way	South	Good	Z00P0245	Pipe Post	Good	Yes	Fail
101547	Gill Way	North	Good	Z00P0246	Unistrut	Good	Yes	Pass
101548	Holiday Wa	North	Good	Z00P0247	Unistrut	Good	Yes	Fail
101549	Autum Way	North	Good	Z00P0248	Light Standard	Good	Yes	Pass
101550	Oleander Dr	South	Good	Z00P0249	Unistrut	Good	Yes	Pass
101551	Peach Dr	West	Good	Z00P0250	Unistrut	Good	Yes	Pass
101552	Cypress Ln	East	Vandalized	Z00P0251	Unistrut	Good	Yes	Pass
101553	Oleander Drive	North	Good	Z00P0252	Unistrut	Good	Yes	Pass
101554	Kites Way	South	Good	Z00P0253	Unistrut	Good	Yes	Pass
101555	Magnolia Ct	West	Faded	Z00P0254	Pipe Post	Good	Yes	Pass
101556	Chidlaw Dr	South	Good	Z00P0255	Pipe Post	Good	Yes	Pass
101557	N 14th St	South	Good	Z00P0256	Unistrut	Good	Yes	Pass
101558	Dorothy Way	North	Good	Z00P0257	Unistrut	Good	Yes	Fail
101559	Rose Ave	West	Good	Z00P0258	Unistrut	Good	Yes	Pass
101560	Phillip Way	South	Good	Z00P0259	Unistrut	Good	Yes	Pass
101561	Rose Ave	East	Good	Z00P0260	Unistrut	Good	Yes	Pass
101562	Rose Ave	West	Good	Z00P0261	Unistrut	Good	Yes	Pass
101563	Parkridge Dr	West	Good	Z00P0262	Unistrut	Good	Yes	Pass
101564	Santa Cruz Blvd	South	Good	Z00P0263	Unistrut	Good	Yes	Pass
101565	Parkridge Dr	East	Good	Z00P0264	Unistrut	Good	Yes	Pass
101566	Santa Cruz Blvd	North	Vandalized	Z00P0265	Unistrut	Good	Yes	Pass
101567	Cherry Wa	West	Good	Z00P0266	Unistrut	Good	Yes	Pass
101568	Cherry Way	East	Good	Z00P0267	Unistrut	Good	Yes	Pass
101569	Plum Ct	East	Good	Z00P0268	Unistrut	Good	Yes	Pass
101570	Plum Ct	West	Good	Z00P0269	Unistrut	Good	Yes	Pass
101571	Peach Dr	West	Good	Z00P0270	Unistrut	Good	Yes	Pass
101572	Peach Dr	East	Good	Z00P0271	Unistrut	Good	Yes	Pass
101573	Santa Cruz Blvd	South	Good	Z00P0272	Unistrut	Good	Yes	Pass
101574	Santa Cruz Blvd	North	Good	Z00P0273	Unistrut	Good	Yes	Pass
101575	Camellia Dr	West	Good	Z00P0274	Unistrut	Good	Yes	Pass
101576	Blossom Dr	West	Good	Z00P0275	Unistrut	Good	Yes	Pass
101577	Cottonwood Dr	South	Good	Z00P0276	Unistrut	Good	Yes	Pass
101578	Peach Dr	East	Good	Z00P0277	Unistrut	Good	Yes	Pass
101579	Peach Ct	West	Good	Z00P0278	Unistrut	Good	Yes	Pass
101580	Spruce Ct	East	Good	Z00P0279	Unistrut	Good	Yes	Pass
101581	Willow Ct	West	Good	Z00P0280	Unistrut	Good	Yes	Pass
101582	Juniper Ct	East	Faded	Z00P0281	Unistrut	Good	Yes	Fail
101583	Almond Ct	West	Good	Z00P0282	Unistrut	Good	Yes	Pass
101584	Park Ridge Ct	West	Good	Z00P0283	Unistrut	Good	Yes	Pass
101585	Park Ridge Dr	East	Good	Z00P0284	Unistrut	Good	Yes	Pass
101586	Pine St	South	Good	Z00P0285	Unistrut	Good	Yes	Pass

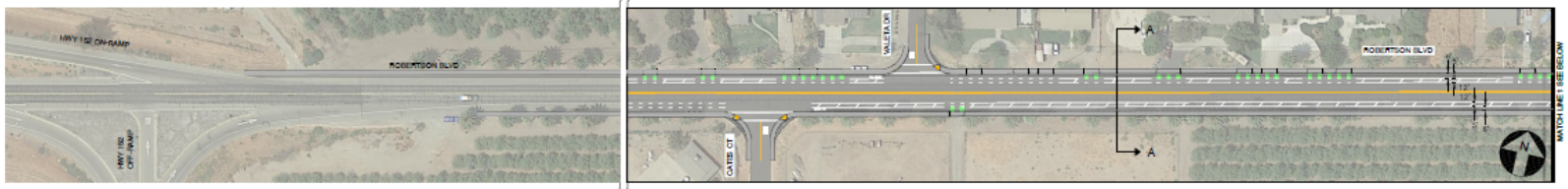
Unique ID	Road Name	Sign Direction	Sign Condition	Post ID	Post Type	Post Condition	City Maintained	Retroreflectivity Test
101587	Rose Ave	East	Good	Z00P0286	Unistrut	Good	Yes	Pass
101588	Molly Ave	West	Good	Z00P0287	Unistrut	Good	Yes	Fail
101589	Phillip Ct	West	Good	Z00P0288	Unistrut	Good	Yes	Pass
101590	Phillip Way	North	Good	Z00P0289	Unistrut	Good	Yes	Pass
101591	Elm Ave	East	Good	Z00P0290	Unistrut	Good	Yes	Pass
101592	Molly Ave	South	Good	Z00P0291	Unistrut	Good	Yes	Pass
101593	Elm Ave	East	Good	Z00P0292	Unistrut	Good	Yes	Pass
101594	Englewoog Ave	West	Good	Z00P0293	Unistrut	Good	Yes	Pass
101595	Santa Cruz Blvd	North	Good	Z00P0294	Unistrut	Good	Yes	Fail
101596	Kites Way	South	Vandalized	Z00P0295	Unistrut	Good	Yes	Pass
101597	Kites Way	North	Good	Z00P0296	Unistrut	Good	Yes	Pass
101598	Ave 24	West	Good	Z00P0297	Wooden 4x4	Good	Yes	Pass
101599	Defender St	North	Good	Z00P0298	Unistrut	Good	Yes	Pass
101600	Kites Way	North	Good	Z00P0299	Unistrut	Good	Yes	Pass
101601	Birch Ct	North	Good	Z00P0300	Unistrut	Good	Yes	Fail
101602	Cedar Ct	North	Faded	Z00P0301	Pipe Post	Good	Yes	Fail
101603	Oak Ct	North	Good	Z00P0302	Pipe Post	Good	Yes	Pass
101604	Maple St	North	Good	Z00P0303	Pipe Post	Good	Yes	Pass
101605	Adams Dr	West	Good	Z00P0304	Unistrut	Good	Yes	Pass
101606	Adams Dr	East	Vandalized	Z00P0305	Unistrut	Good	Yes	Fail
101607	Robertson Blvd	West	Good	Z00P0306	Unistrut	Good	Yes	Pass
101608	Myer Dr	West	Vandalized	Z00P0307	Unistrut	Good	Yes	Pass
101609	Palm Pkwy	East	Good	Z00P0308	Pipe Post	Good	Yes	Pass
101610	Jefferson St	East	Good	Z00P0309	Pipe Post	Good	Yes	Pass
101611	Lincoln Dr	South	Good	Z00P0310	Unistrut	Good	Yes	Fail
101612	Kennedy Ct	South	Good	Z00P0311	Unistrut	Good	Yes	Fail
101613	Lincoln Dr	North	Good	Z00P0312	Unistrut	Good	Yes	Pass

Appendix H

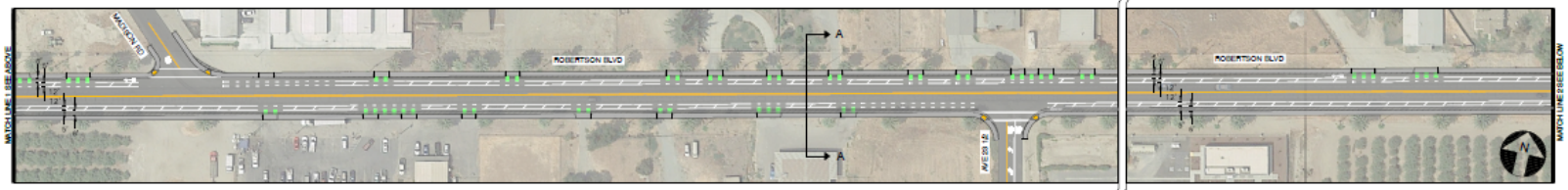
SR-233 Robertson Boulevard Corridor Design Concept Plan Drawings

SECTION A: STATE ROUTE 152 HIGHWAY CONNECTOR

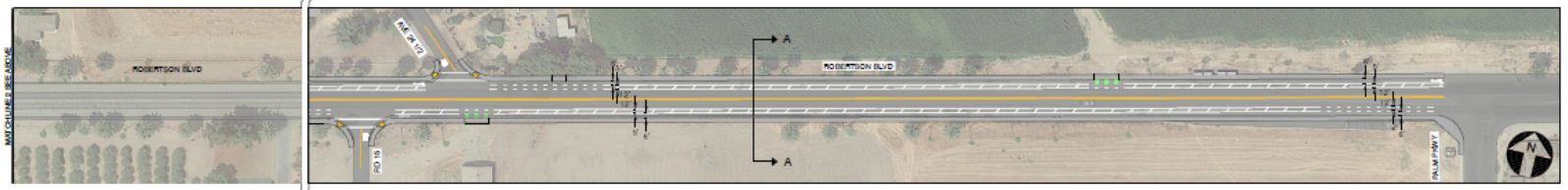
ALTERNATIVE 1 SHOWN BELOW



ALTERNATIVE 1 SHOWN BELOW



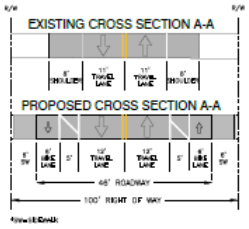
ALTERNATIVE 1 SHOWN BELOW



LEGEND

- EXISTING ROADWAY
- PROPOSED ROADWAY WIDENING
- PROPOSED ROADWAY NARROWING
- PROPOSED SIDEWALK
- PROPOSED BOLLARD
- PROPOSED ADA COMPLIANT CURB RAMP

ALTERNATIVE 1



IMPROVEMENTS: HWY 152 TO PALM PKWY

- NEW 5' CLASS IV BIKE LANES
- NEW 5' BUFFERS WITH FLEXIBLE POSTS
- SHOULDER LANES ELIMINATED
- NEW ADA COMPLIANT CURB RAMPS

FIGURE 1

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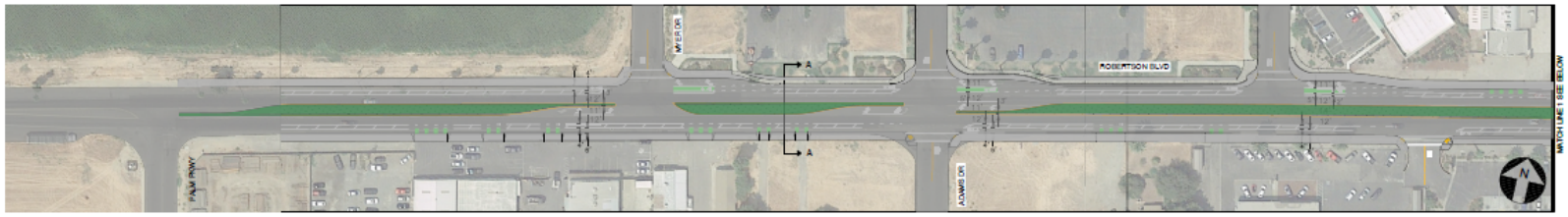
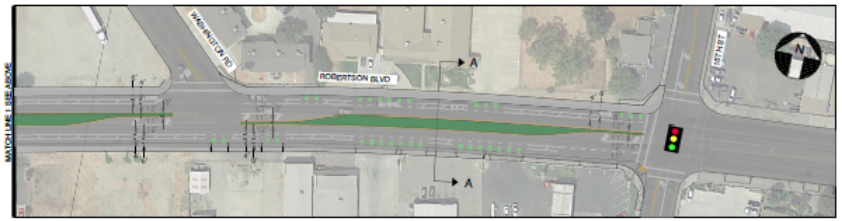
SECTION B: TRANSITION ZONE FROM HIGHWAY CONNECTOR TO URBAN BOULEVARD

ALTERNATIVE 1 SHOWN BELOW



ALTERNATIVE 1 SHOWN BELOW



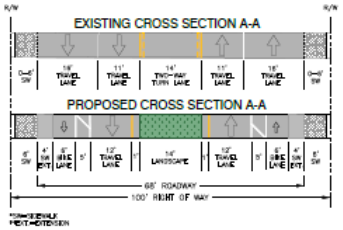
IMPROVEMENTS: PALM PKWY TO 15TH ST (ALTERNATIVE 1)

- ROAD DIET - CONVERT 4-LANES TO 3-LANES
- NEW 12' LANDSCAPED MEDIAN WITH 10' LEFT TURN POCKETS
- NEW 6' CLASS IV BIKE LANES
- NEW 5' BUFFERS WITH FLEXIBLE POSTS
- NEW 1' BUFFERS IN BETWEEN TRAVEL LANES AND RAISED MEDIAN
- NEW ADA COMPLIANT CURB RAMPS
- EXTEND EXISTING SIDEWALK TO 10' WIDE

LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- PROPOSED SIDEWALK
- PROPOSED LANDSCAPING
- PROPOSED BOLLARD
- PROPOSED ADA COMPLIANT CURB RAMP

ALTERNATIVE 1



ALTERNATIVE 2

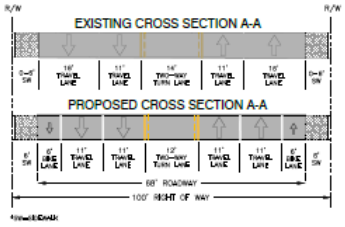
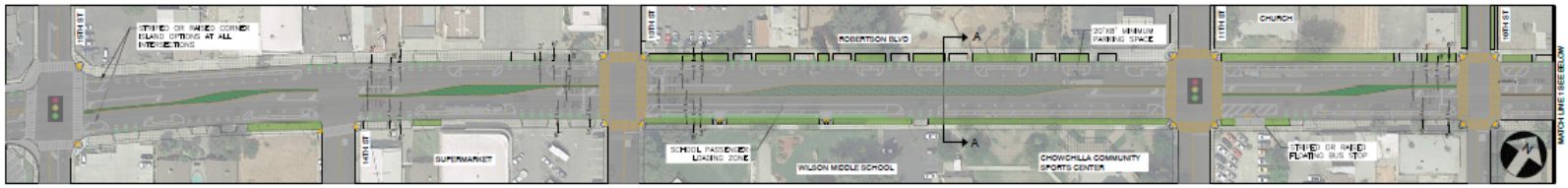


FIGURE 2

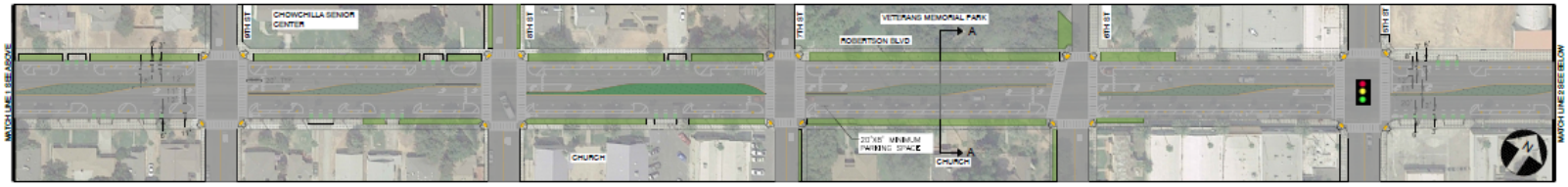
OCTOBER 2020

SECTION C: URBAN BOULEVARD - ALTERNATIVE 1

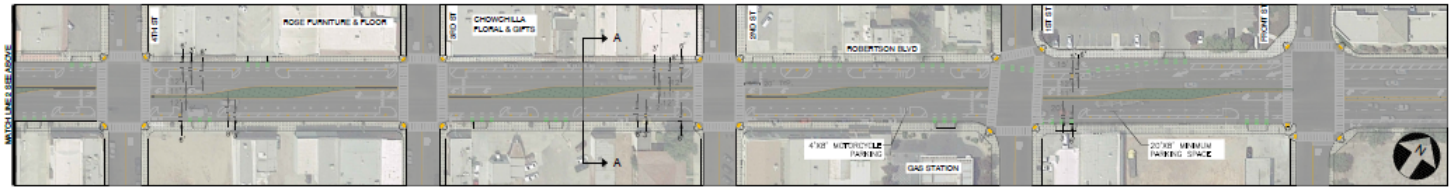
ALTERNATIVE 1 SHOWN BELOW



ALTERNATIVE 1 SHOWN BELOW



ALTERNATIVE 1 SHOWN BELOW



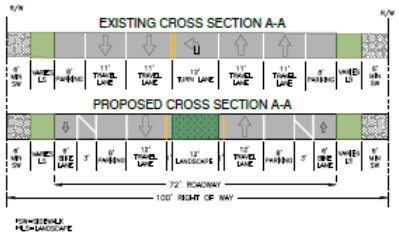
LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- EXISTING LANDSCAPING
- PROPOSED LANDSCAPING
- PROPOSED BOLLARD
- PROPOSED ADA COMPLIANT CURB RAMP
- MODIFY EXISTING TRAFFIC SIGNAL FOR PROPOSED LANE GEOMETRY

GENERAL NOTES

1) NO U-TURNS PERMITTED ALONG THE CORRIDOR

ALTERNATIVE 1



IMPROVEMENTS: 15TH ST TO FRONT ST

- ROAD DIET - CONVERT 4-LANES TO 2-LANES
- NEW 12' LANDSCAPED MEDIAN WITH 11' LEFT TURN POCKETS
- NEW 5' CLASS IV BIKE LANES
- NEW 3' BUFFERS WITH FLEXIBLE POSTS
- NEW 1' BUFFERS IN BETWEEN TRAVEL LANES AND RAISED MEDIAN
- NEW HIGH VISIBILITY CROSSWALKS
- NEW ADA COMPLIANT CURB RAMPS

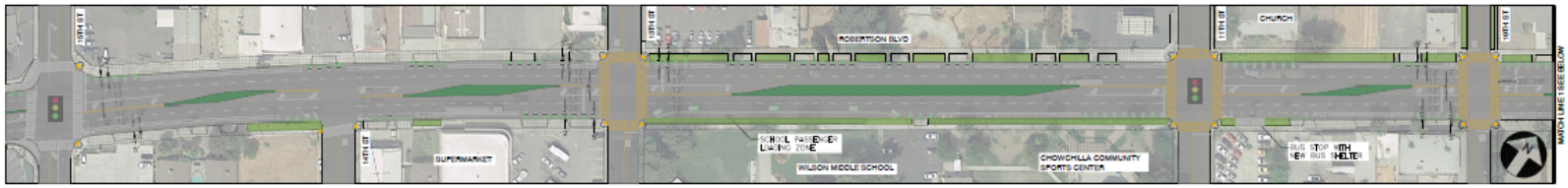
EXISTING PARKING SPACES = 304
PROPOSED PARKING SPACES =227
PARKING LOSS = -81

FIGURE 3

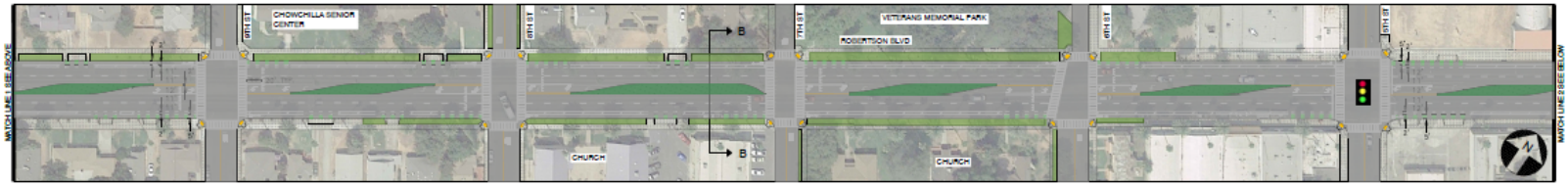
OCTOBER 2020

SECTION C: URBAN BOULEVARD - ALTERNATIVE 2

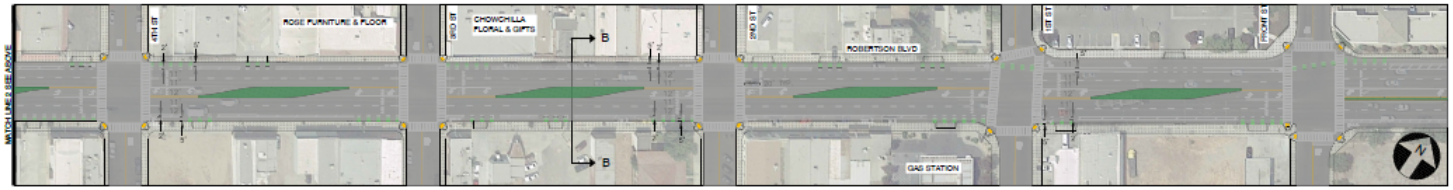
ALTERNATIVE 2 SHOWN BELOW



ALTERNATIVE 2 SHOWN BELOW



ALTERNATIVE 2 SHOWN BELOW



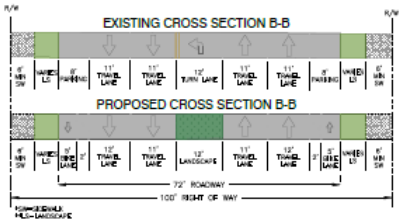
LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- EXISTING LANDSCAPING
- PROPOSED LANDSCAPING
- PROPOSED BOLLARD
- PROPOSED ADA COMPLIANT CURB RAMP
- MODIFY EXISTING TRAFFIC SIGNAL FOR PROPOSED LANE GEOMETRY

GENERAL NOTES

1) NO U-TURNS PERMITTED ALONG THE CORRIDOR

ALTERNATIVE 2



IMPROVEMENTS: 15TH ST TO FRONT ST

- NEW 12 LANDSCAPED MEDIAN WITH LEFT TURN POCKETS
- NEW 5' CLASS II BIKE LANES
- NEW 2 BUFFERS
- PARKING LANES ELIMINATED
- NEW HIGH VISIBILITY CROSSWALKS
- NEW ADA COMPLIANT CURB RAMPS

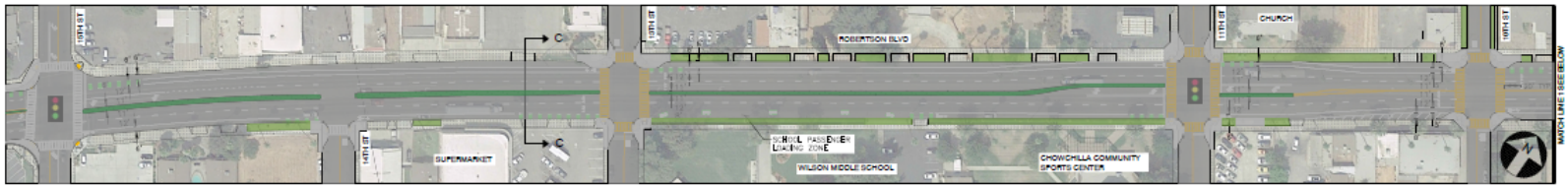
EXISTING PARKING SPACES ± 324
PROPOSED PARKING SPACES ± 0
PARKING LOSS ± -324

FIGURE 4

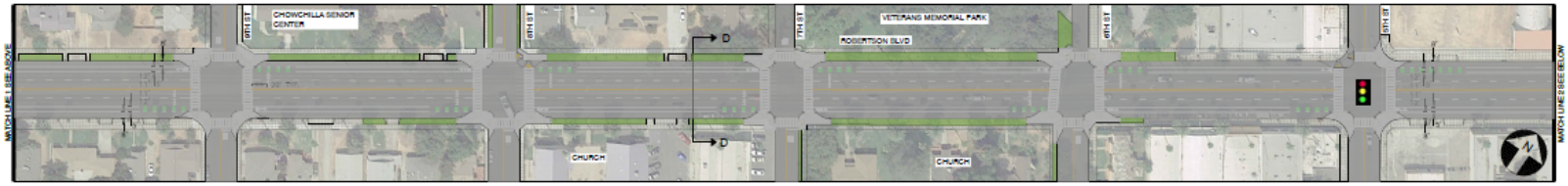
OCTOBER 2020

SECTION C: URBAN BOULEVARD - ALTERNATIVE 3

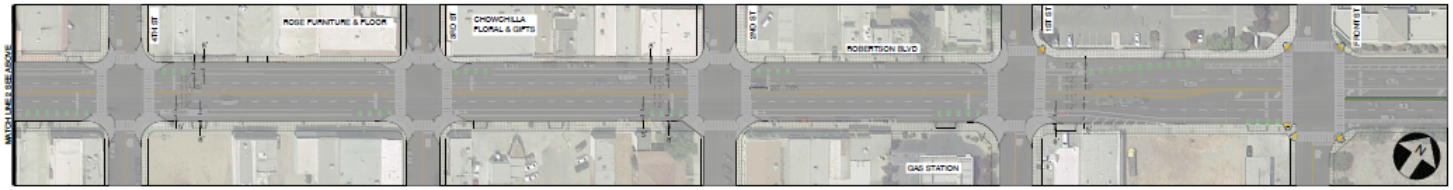
ALTERNATIVE 3 SHOWN BELOW



ALTERNATIVE 3 SHOWN BELOW



ALTERNATIVE 3 SHOWN BELOW



ALTERNATIVE 3

ALT 3 IMPROVEMENTS: 15TH ST TO 10TH ST

- NEW 5' CLASS II BIKE LANES
- ONE PARKING LANE ELIMINATED
- NEW HIGH VISIBILITY CROSSWALKS
- NEW ADA COMPLIANT CURB RAMPS
- NEW LANDSCAPED MEDIAN
- LEFT TURN LANES AT UNCONTROLLED INTERSECTION ELIMINATED

ALT 3 IMPROVEMENTS: 10TH ST TO FRONT ST

- NEW 5' CLASS II BIKE LANES
- LEFT TURN LANES ELIMINATED
- NEW HIGH VISIBILITY CROSSWALKS
- NEW ADA COMPLIANT CURB RAMP

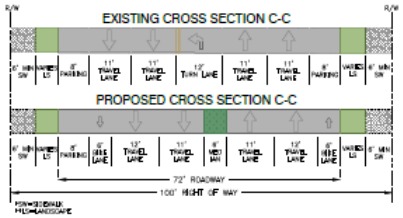
ALT 3 PARKING:
EXISTING PARKING SPACES = 324
PROPOSED PARKING SPACES = 207
PARKING LOSS = -117

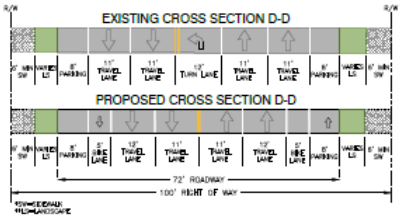
LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- EXISTING LANDSCAPING
- PROPOSED BULBOUT
- PROPOSED LANDSCAPING
- PROPOSED ADA COMPLIANT CURB RAMP
- MODIFY EXISTING TRAFFIC SIGNAL FOR PROPOSED LANE GEOMETRY

GENERAL NOTES

1) NO U-TURNS PERMITTED ALONG THE CORRIDOR





ALT 4 PARKING:
EXISTING PARKING SPACES = 324
PROPOSED PARKING SPACES = 245
PARKING LOSS = -79

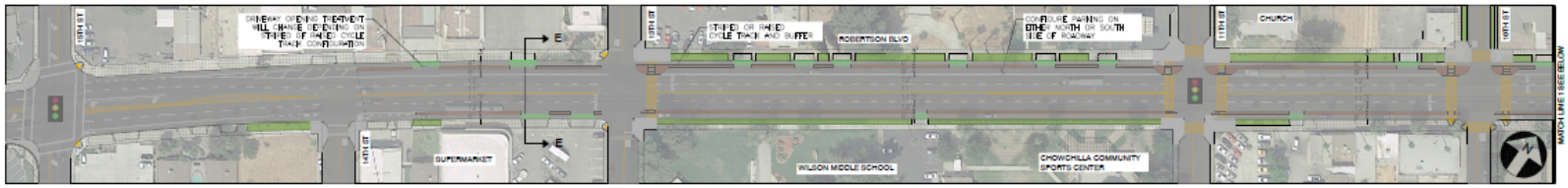
ALTERNATIVE 4

FIGURE 5

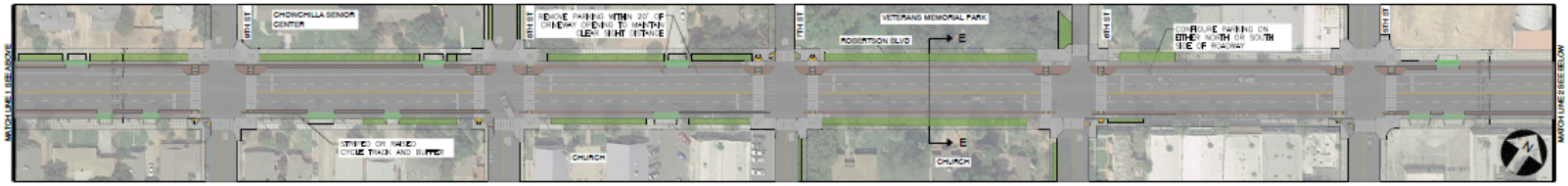
OCTOBER 2020

SECTION C: URBAN BOULEVARD - ALTERNATIVE 5

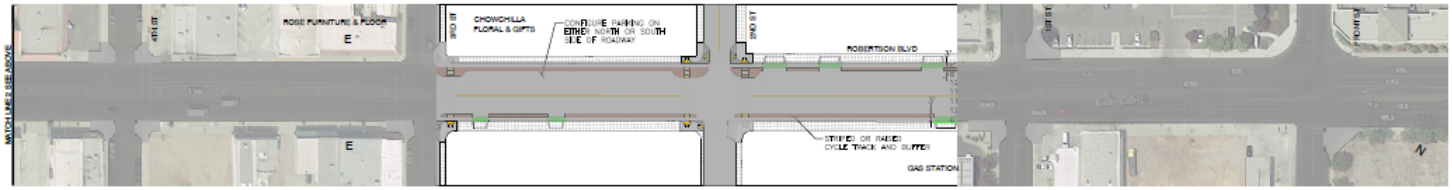
ALTERNATIVE 5 SHOWN BELOW



ALTERNATIVE 5 SHOWN BELOW



ALTERNATIVE 5 SHOWN BELOW



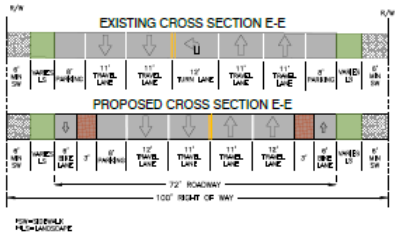
LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- EXISTING LANDSCAPING
- PROPOSED BICYCLE MEDIAN
- PROPOSED ADA COMPLIANT CURB RAMP
- MODIFY EXISTING TRAFFIC SIGNAL FOR PROPOSED LANE GEOMETRY

GENERAL NOTES

1) NO U-TURNS PERMITTED ALONG THE CORRIDOR

ALTERNATIVE 5



IMPROVEMENTS: 15TH ST TO FRONT ST

- NEW 6' CLASS IV BIKE LANES (AT GRADE OR RAISED)
- NEW 3' BICYCLE BUFFER (STRIPED, LANDSCAPED, OR CONCRETE)
- LEFT TURN LANES ELIMINATED FROM 14TH STREET TO 1ST STREET
- PARKING ELIMINATED ON ONE SIDE OF STREET
- NEW BULBOUTS
- NEW HIGH VISIBILITY CROSSWALKS
- NEW ADA COMPLIANT CURB RAMPS

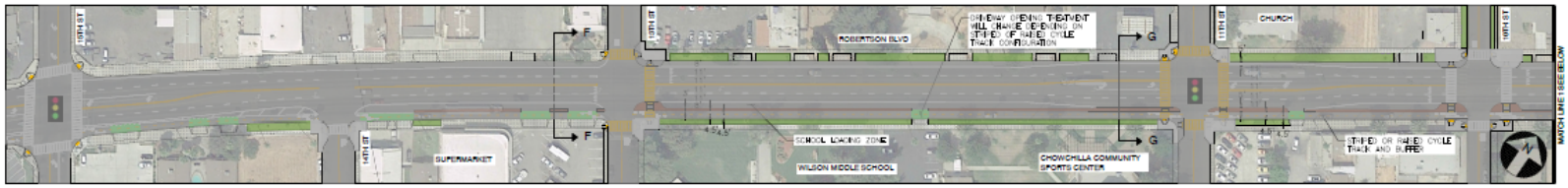
EXISTING PARKING SPACES = 324
PROPOSED PARKING SPACES =110 (NORTH SIDE PARKING ONLY)
PARKING LOSS = -214

FIGURE 6

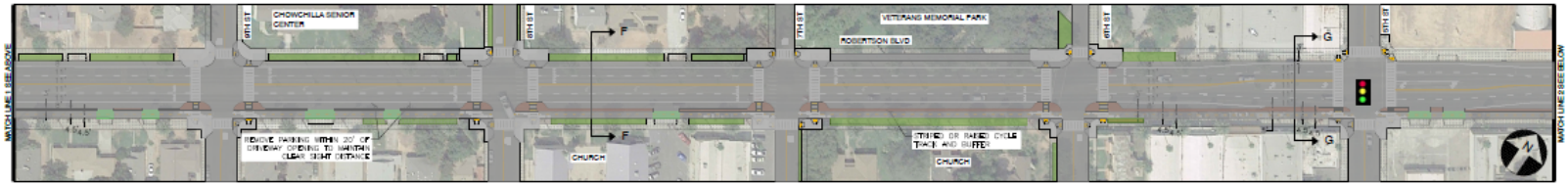
OCTOBER 2020

SECTION C: URBAN BOULEVARD - ALTERNATIVE 6

ALTERNATIVE 6 SHOWN BELOW



ALTERNATIVE 6 SHOWN BELOW



ALTERNATIVE 6 SHOWN BELOW

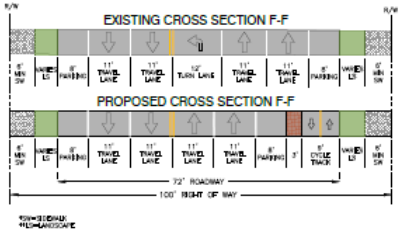
ALTERNATIVE 6

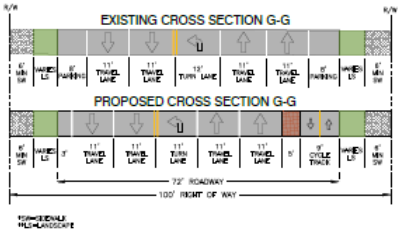
LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- EXISTING LANDSCAPING
- PROPOSED BICYCLE MEDIAN
- PROPOSED ADA COMPLIANT CURB RAMP
- MODIFY EXISTING TRAFFIC SIGNAL FOR PROPOSED LANE GEOMETRY

GENERAL NOTES

1) NO U-TURNS PERMITTED ALONG THE CORRIDOR





IMPROVEMENTS: 15TH ST TO FRONT ST

- NEW 9' CLASS IV CYCLE TRACK (AT GRADE OR RAISED)
- NEW 3' BICYCLE BUFFER (STRIPED, LANDSCAPED, OR CONCRETE)
- OPTION ELIMINATE LEFT TURN LANES TO PROVIDE PARKING
- OPTION TO KEEP LEFT TURN LANES AT KEY INTERSECTIONS WHILE ELIMINATING PARKING
- NEW BULBOUTS
- NEW HIGH VISIBILITY CROSSWALKS
- NEW ADA COMPLIANT CURB RAMPS

EXISTING PARKING SPACES = 324
PROPOSED PARKING SPACES =180
PARKING LOSS = -144

FIGURE 7

OCTOBER 2020

SECTION D: STATE ROUTE 99 OVERPASS

ALTERNATIVE 1 SHOWN BELOW

ALTERNATIVE 1 SHOWN BELOW

IMPROVEMENTS: STATE ROUTE 99 INTERCHANGE

- CONVERT EXISTING SHOULDER TO BIKE LANES
- INSTALL CLASS III SHARROW PAVEMENT MARKINGS AT THE OVERPASS
- NEW ADA COMPLIANT CURB RAMPS

LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- NEW ADA COMPLIANT CURB RAMP

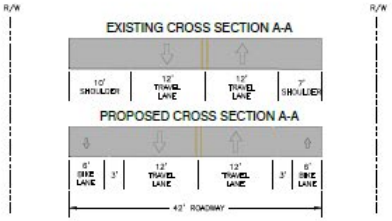
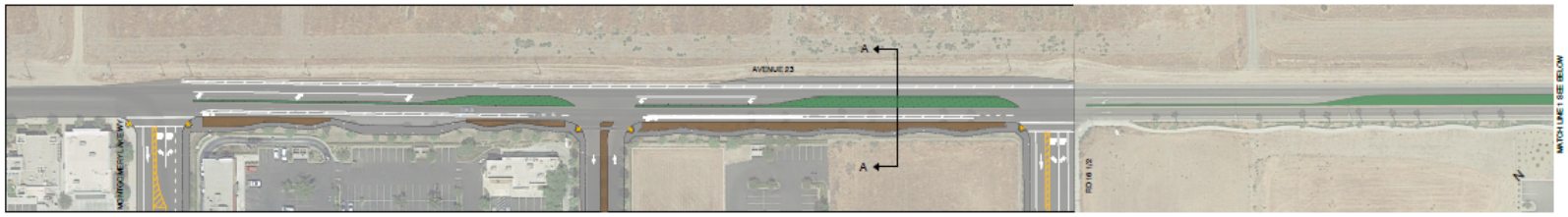


FIGURE 8

OCTOBER 2020

SECTION E: SUBURBAN STREET

ALTERNATIVE 1 SHOWN BELOW

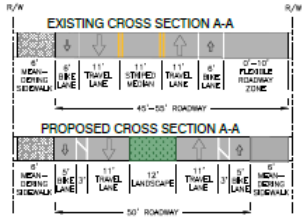


ALTERNATIVE 1 SHOWN BELOW

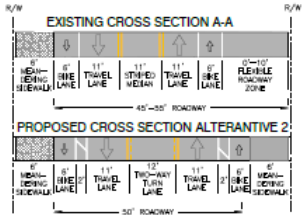
IMPROVEMENTS:
- NEW 12' CENTER TURN LANE WITH RAISED MEDIAN LANDSCAPE
- NEW 5' CLASS IV BIKE LANES
- NEW 3' BUFFERS WITH FLEXIBLE POSTS
- NEW 6' MEANDERING SIDEWALK IMPROVEMENTS

LEGEND
- EXISTING ROADWAY
- EXISTING SIDEWALK
- EXISTING LANDSCAPING
- PROPOSED LANDSCAPING
- PROPOSED SIDEWALK
- EXISTING ADA COMPLIANT CURB RAMP

ALTERNATIVE 1



ALTERNATIVE 2



ALTERNATIVE 3

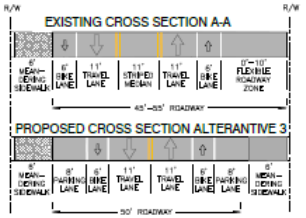
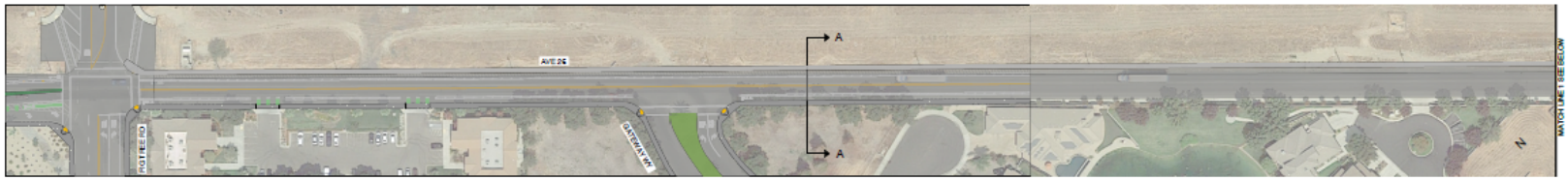


FIGURE 9

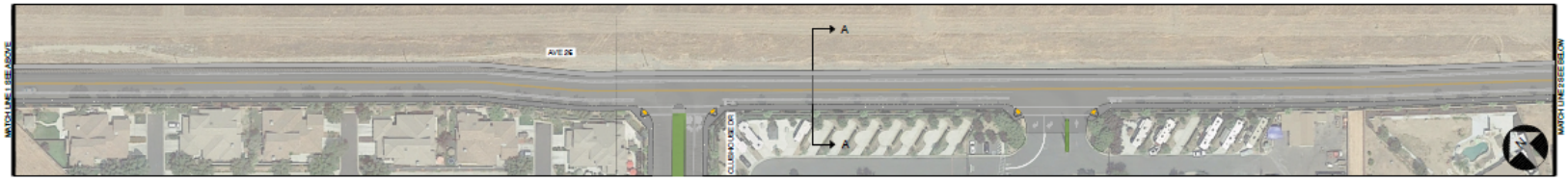
OCTOBER 2020

SECTION F: TRANSITION ZONE FROM SUBURBAN STREET TO RURAL HIGHWAY

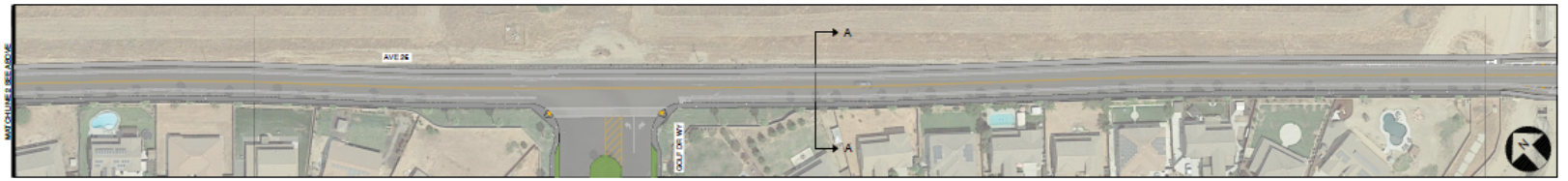
ALTERNATIVE 1 SHOWN BELOW



ALTERNATIVE 1 SHOWN BELOW



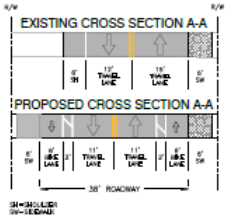
ALTERNATIVE 1 SHOWN BELOW



LEGEND

- EXISTING ROADWAY
- EXISTING SIDEWALK
- PROPOSED ROADWAY WIDENING
- PROPOSED ROADWAY NARROWING
- PROPOSED SIDEWALK
- PROPOSED ADA COMPLIANT CURB RAMPS

ALTERNATIVE 1



IMPROVEMENTS: ALONG AVE 26 FROM FIG TREE RD

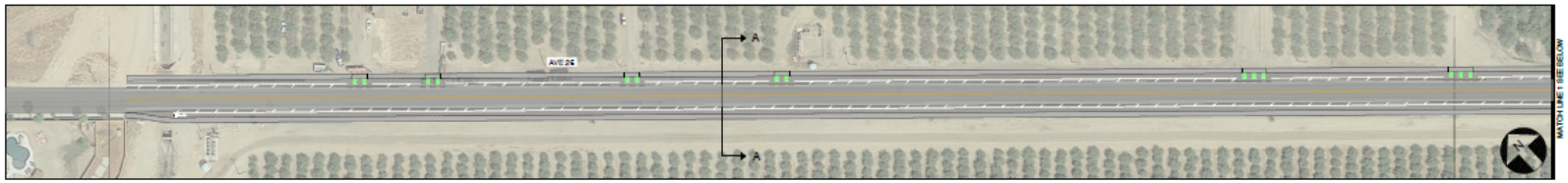
- NEW 5' CLASS II BIKE LANES
- NEW 2' BUFFERS
- NEW ADA COMPLIANT CURB RAMPS

FIGURE 10

OCTOBER 2020

SECTION G: RURAL HIGHWAY

ALTERNATIVE 1 SHOWN BELOW



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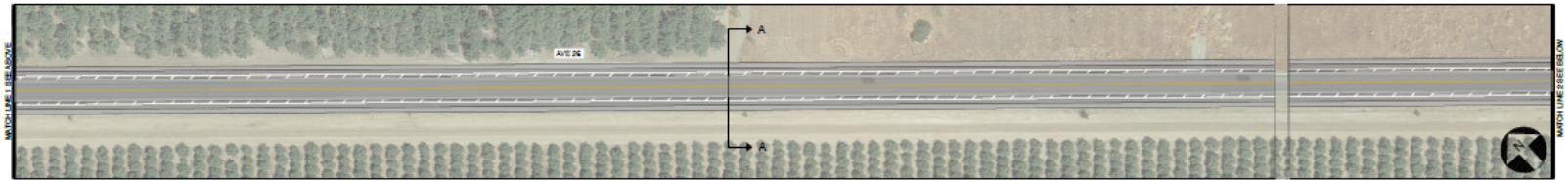

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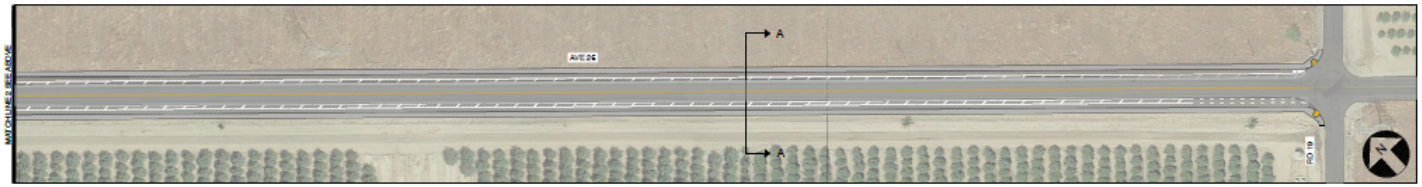
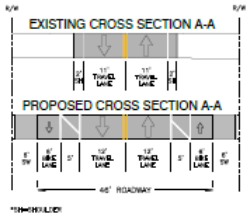


LEGEND

- EXISTING ROADWAY
- PROPOSED ROADWAY WIDENING
- PROPOSED SIDEWALK
- PROPOSED BOLLARD
- PROPOSED ADA COMPLIANT CURB RAMP

ALTERNATIVE 1



IMPROVEMENTS: ALONG AVE 26 TO RD 19

- NEW 5' CLASS IV BIKE LANES
- NEW 5' BUFFERS WITH FLEXIBLE POSTS
- NEW ADA COMPLIANT CURB RAMPS

FIGURE 11

OCTOBER 2020

Appendix I

Project Cost Estimates

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

Summary

No.	Segment	Alternative	Unit	Cost
1	A: State Route 152 Highway Connector	1	LS	$ 8,484,600
2	B: Transition Zone from Highway Connector to Urban Boulevard	1	LS	$ 4,758,400
3	B: Transition Zone from Highway Connector to Urban Boulevard	2	LS	$ 2,846,800
4	C: Downtown Chowchilla: Urban Boulevard	1A	LS	$ 4,656,500
5	C: Downtown Chowchilla: Urban Boulevard	1B	LS	$ 5,942,500
6	C: Downtown Chowchilla: Urban Boulevard	2	LS	$ 3,727,000
7	C: Downtown Chowchilla: Urban Boulevard	3	LS	$ 4,643,500
8	C: Downtown Chowchilla: Urban Boulevard	4	LS	$ 4,056,100
9	C: Downtown Chowchilla: Urban Boulevard	5	LS	$ 7,489,700
10	C: Downtown Chowchilla: Urban Boulevard	6	LS	$ 5,403,200
11	D: State Route 99 Overpass	1	LS	$ 183,700
12	E: Suburban Street	1	LS	$ 2,435,300
13	E: Suburban Street	2	LS	$ 1,043,600
14	E: Suburban Street	3	LS	$ 1,025,500
15	F: Transition Zone from Suburban Street to Rural Highway	1	LS	$ 2,318,700
16	G: Rural Highway	1	LS	$ 5,085,400

Assumptions:

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs. The opinions of probable costs were developed as part of a concept plan and additional analyses will be needed to determine the specific costs. Itemized construction costs and right of way impacts should be included in the detailed estimate during the design and construction process.

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

Segment A: State Route 152 Highway Connector
Highway 152 to Palm Parkway
Alternative 1

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 221,000.00	$ 221,000.00
2	PS&E	LS	1	$ 883,800.00	$ 883,800.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 221,000.00	$ 221,000.00
4	Construction Engineering (CE)	LS	1	$ 662,800.00	$ 662,800.00
5	PA&ED	LS	1	$ 441,900.00	$ 441,900.00
6	Mobilization and Demobilization	LS	1	$ 221,000.00	$ 221,000.00
7	Traffic and Dust Control	LS	1	$ 265,200.00	$ 265,200.00
8	Clearing and Grubbing	LS	1	$ 146,900.00	$ 146,900.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 221,000.00	$ 221,000.00
				General Items TOTAL	$ 3,294,600.00
	Pedestrian Improvements				
11	Remove Existing Striping	LF	195	$ 0.50	$ 97.50
12	Remove Existing Pavement Marking	EA	4	$ 300.00	$ 1,200.00
13	Remove Asphalt Pavement	SF	400	$ 2.00	$ 800.00
14	Install Basic Crosswalk	SF	875	$ 2.00	$ 1,750.00
15	Install Stop Bar	SF	120	$ 5.00	$ 600.00
16	Install "STOP" Pavement Marking	SF	200	$ 5.00	$ 1,000.00
17	Install Type IV Arrow Pavement Marking	SF	30	$ 5.00	$ 150.00
18	Construct New ADA Compliant Curb Ramp	EA	15	$ 7,500.00	$ 112,500.00
19	Construct Concrete Sidewalk	SF	123,905	$ 20.00	$ 2,478,100.00
20	Construct Curb and Gutter	LF	20,680	$ 45.00	$ 930,600.00
				Pedestrian Improvements TOTAL	$ 3,526,797.50
	Bicycle Improvements				
21	Remove Existing Striping	LF	20,400	$ 0.50	$ 10,200.00
22	Roadway Excavation	CY	750	$ 40.00	$ 30,000.00
23	Furnish and Install New Sign and New Post	EA	17	$ 550.00	$ 9,350.00
24	Install New 6 FT Class IV Bike Lane	LF	20,400	$ 1.50	$ 30,600.00
25	Install New 5 FT Buffer	LF	25,415	$ 1.50	$ 38,122.50
26	Install Bike Lane Pavement Marking	SF	105	$ 5.00	$ 525.00
27	Install Green Pavement Marking	SF	4,200	$ 20.00	$ 84,000.00
28	Furnish and Install Flexible Posts	EA	665	$ 50.00	$ 33,250.00
29	Hot Mix Asphalt	TON	760	$ 200.00	$ 152,000.00
30	Aggregate Base	TON	1,955	$ 35.00	$ 68,425.00
31	Aggregate Subbase	TON	1,465	$ 30.00	$ 43,950.00
				Bicycle Improvements TOTAL	$ 500,422.50
	Auto Improvements				
32	Construct Driveway	EA	76	$ 5,000.00	$ 380,000.00
33	Install Centerline Striping (Detail 22)	LF	50	$ 3.00	$ 150.00
34	Signing Modifications	LS	1	$ 11,250.00	$ 11,250.00
				Auto Improvements TOTAL	$ 391,400.00
				SUBTOTAL	$ 7,713,220.00
			CONTINGENCY	10%	$ 771,322.00
				TOTAL COST	$ 8,484,600.00

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

Segment B: Transition Zone from Highway Connector to Urban Boulevard
Palm Parkway to 15th Street
Alternative 1

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 123,900.00	$ 123,900.00
2	PS&E	LS	1	$ 495,300.00	$ 495,300.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 123,900.00	$ 123,900.00
4	Construction Engineering (CE)	LS	1	$ 371,500.00	$ 371,500.00
5	PA&ED	LS	1	$ 247,700.00	$ 247,700.00
6	Mobilization and Demobilization	LS	1	$ 123,900.00	$ 123,900.00
7	Traffic and Dust Control	LS	1	$ 148,600.00	$ 148,600.00
8	Clearing and Grubbing	LS	1	$ 80,800.00	$ 80,800.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 123,900.00	$ 123,900.00
				General Items TOTAL	$ 1,849,500.00
	Pedestrian Improvements				
11	Remove Existing Striping	LF	175	$ 0.50	$ 87.50
12	Remove Existing Pavement Marking	EA	5	$ 300.00	$ 1,500.00
13	Roadway Excavation	CY	815	$ 40.00	$ 32,600.00
14	Remove Asphalt Pavement	SF	15,145	$ 2.00	$ 30,290.00
15	Remove Existing Curb and Gutter	LF	1,060	$ 15.00	$ 15,900.00
16	Install Basic Crosswalk	SF	780	$ 2.00	$ 1,560.00
17	Install Stop Bar	SF	105	$ 5.00	$ 525.00
18	Install "STOP" Pavement Marking	SF	155	$ 5.00	$ 775.00
19	Install Type IV Arrow Pavement Marking	SF	30	$ 5.00	$ 150.00
20	Construct New ADA Compliant Curb Ramp	EA	13	$ 7,500.00	$ 97,500.00
21	Construct Concrete Sidewalk	SF	43,890	$ 20.00	$ 877,800.00
22	Construct Curb and Gutter	LF	4,895	$ 45.00	$ 220,275.00
				Pedestrian Improvements TOTAL	$ 1,278,962.50
	Bicycle Improvements				
23	Remove Existing Striping	LF	8,775	$ 0.50	$ 4,387.50
24	Furnish and Install New Sign and New Post	EA	10	$ 550.00	$ 5,500.00
25	Install New 6 FT Class IV Bike Lane	LF	5,010	$ 1.50	$ 7,515.00
26	Install New 4 FT Buffer	LF	5,990	$ 1.50	$ 8,985.00
27	Install Bike Lane Pavement Marking	SF	135	$ 5.00	$ 675.00
28	Install Green Pavement Marking	SF	2,245	$ 20.00	$ 44,900.00
29	Furnish and Install Flexible Posts	EA	123	$ 50.00	$ 6,150.00
				Bicycle Improvements TOTAL	$ 78,112.50
	Auto Improvements				
30	Remove Existing Pavement Marking	EA	18	$ 300.00	$ 5,400.00
31	Roadway Excavation	CY	500	$ 40.00	$ 20,000.00
32	Remove Asphalt Pavement	SF	27,135	$ 2.00	$ 54,270.00
33	Install Left-Turn Lane Striping (Detail 38)	LF	350	$ 4.00	$ 1,400.00
34	Install Centerline Striping (Detail 22)	LF	225	$ 3.00	$ 675.00
35	Install Median Striping (Detail 25)	LF	24,820	$ 3.00	$ 74,460.00
36	Install "AHEAD" Pavement Marking	SF	30	$ 5.00	$ 150.00
37	Install "SIGNAL" Pavement Marking	SF	30	$ 5.00	$ 150.00
38	Install Type IV Arrow Pavement Marking	SF	240	$ 5.00	$ 1,200.00
39	Construct Median Curb	LF	4,545	$ 45.00	$ 204,525.00
40	Construct Landscaped Median	SF	20,285	$ 15.00	$ 304,275.00
41	Furnish and Install Landscaped Median Irrigation	SF	20,285	$ 17.00	$ 344,845.00
42	Construct Driveway	EA	21	$ 5,000.00	$ 105,000.00
43	Signing Modifications	LS	1	$ 2,815.00	$ 2,815.00
				Auto Improvements TOTAL	$ 1,119,165.00
				SUBTOTAL	$ 4,325,740.00
				CONTINGENCY 10%	$ 432,574.00
				TOTAL COST	$ 4,758,400.00

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

Segment B: Transition Zone from Highway Connector to Urban Boulevard
Palm Parkway to 15th Street
Alternative 2

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 74,000.00	$ 74,000.00
2	PS&E	LS	1	$ 295,900.00	$ 295,900.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 74,000.00	$ 74,000.00
4	Construction Engineering (CE)	LS	1	$ 221,900.00	$ 221,900.00
5	PA&ED	LS	1	$ 148,000.00	$ 148,000.00
6	Mobilization and Demobilization	LS	1	$ 74,000.00	$ 74,000.00
7	Traffic and Dust Control	LS	1	$ 88,800.00	$ 88,800.00
8	Clearing and Grubbing	LS	1	$ 48,300.00	$ 48,300.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 74,000.00	$ 74,000.00
				General Items TOTAL	$ 1,108,900.00
	Pedestrian Improvements				
11	Remove Existing Striping	LF	175	$ 0.50	$ 87.50
12	Remove Existing Pavement Marking	EA	5	$ 300.00	$ 1,500.00
13	Roadway Excavation	CY	815	$ 40.00	$ 32,600.00
14	Remove Asphalt Pavement	SF	15,145	$ 2.00	$ 30,290.00
15	Remove Existing Curb and Gutter	LF	1,060	$ 15.00	$ 15,900.00
16	Install Basic Crosswalk	SF	780	$ 2.00	$ 1,560.00
17	Install Stop Bar	SF	105	$ 5.00	$ 525.00
18	Install "STOP" Pavement Marking	SF	155	$ 5.00	$ 775.00
19	Install Type IV Arrow Pavement Marking	SF	30	$ 5.00	$ 150.00
20	Construct New ADA Compliant Curb Ramp	EA	13	$ 7,500.00	$ 97,500.00
21	Construct Concrete Sidewalk	SF	43,890	$ 20.00	$ 877,800.00
22	Construct Curb and Gutter	LF	4,895	$ 45.00	$ 220,275.00
				Pedestrian Improvements TOTAL	$ 1,278,962.50
	Bicycle Improvements				
23	Remove Existing Striping	LF	8,775	$ 0.50	$ 4,387.50
24	Furnish and Install New Sign and New Post	EA	10	$ 550.00	$ 5,500.00
25	Install New 6 FT Class II Bike Lane	LF	5,010	$ 1.50	$ 7,515.00
26	Install Bike Lane Pavement Marking	SF	135	$ 5.00	$ 675.00
27	Install Green Pavement Marking	SF	2,245	$ 20.00	$ 44,900.00
				Bicycle Improvements TOTAL	$ 62,977.50
	Auto Improvements				
28	Remove Existing Pavement Marking	EA	18	$ 300.00	$ 5,400.00
29	Install Travel Lane Striping (Detail 8)	LF	5,010	$ 1.50	$ 7,515.00
30	Install Left-Turn Lane Striping (Detail 38)	LF	350	$ 4.00	$ 1,400.00
31	Install Centerline Striping (Detail 22)	LF	225	$ 3.00	$ 675.00
32	Install Two-Way Turn Lane Striping (Detail 32)	LF	2,505	$ 5.00	$ 12,525.00
33	Install "AHEAD" Pavement Marking	SF	60	$ 5.00	$ 300.00
34	Install "SIGNAL" Pavement Marking	SF	65	$ 5.00	$ 325.00
35	Install Type IV Arrow Pavement Marking	SF	240	$ 5.00	$ 1,200.00
36	Construct Driveway	EA	21	$ 5,000.00	$ 105,000.00
37	Signing Modifications	LS	1	$ 2,815.00	$ 2,815.00
				Auto Improvements TOTAL	$ 137,155.00
				SUBTOTAL	$ 2,587,995.00
			CONTINGENCY	10%	$ 258,799.50
				TOTAL COST	$ 2,846,800.00

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

C: Downtown Chowchilla: Urban Boulevard
15th Street to Front Street
Alternative 1A

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 120,200.00	$ 120,200.00
2	PS&E	LS	1	$ 480,800.00	$ 480,800.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 120,200.00	$ 120,200.00
4	Construction Engineering (CE)	LS	1	$ 360,600.00	$ 360,600.00
5	PA&ED	LS	1	$ 240,400.00	$ 240,400.00
6	Mobilization and Demobilization	LS	1	$ 120,200.00	$ 120,200.00
7	Traffic and Dust Control	LS	1	$ 192,400.00	$ 192,400.00
8	Clearing and Grubbing	LS	1	$ 64,300.00	$ 64,300.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 120,200.00	$ 120,200.00
				General Items TOTAL	$ 1,829,300.00
	Pedestrian Improvements				
11	Remove Existing Sign on Existing Post	EA	2	$ 150.00	$ 300.00
12	Remove Existing Striping	LF	3,485	$ 0.50	$ 1,742.50
13	Remove Existing Pavement Marking	EA	48	$ 300.00	$ 14,400.00
14	Furnish and Install New Sign and New Post	EA	84	$ 550.00	$ 46,200.00
15	Install High Visibility Crosswalk (White)	SF	18,910	$ 2.00	$ 37,820.00
16	Install High Visibility Crosswalk (Yellow)	SF	4,860	$ 5.00	$ 24,300.00
17	Install Stop Bar	SF	630	$ 5.00	$ 3,150.00
18	Install Yield Line	SF	470	$ 5.00	$ 2,350.00
19	Install "PED" Pavement Marking	SF	305	$ 5.00	$ 1,525.00
20	Install "SCHOOL" Pavement Marking	SF	140	$ 5.00	$ 700.00
21	Install "SLOW" Pavement Marking	SF	90	$ 5.00	$ 450.00
22	Install "STOP" Pavement Marking	SF	460	$ 5.00	$ 2,300.00
23	Install "XING" Pavement Marking	SF	420	$ 5.00	$ 2,100.00
24	Install Railroad Crossing Symbol Pavement Marking	SF	140	$ 5.00	$ 700.00
25	Construct New ADA Compliant Curb Ramp	EA	62	$ 7,500.00	$ 465,000.00
26	Furnish and Install Rectangular Rapid Flashing Beacon (RRFB) System	EA	1	$ 20,000.00	$ 20,000.00
				Pedestrian Improvements TOTAL	$ 623,037.50
	Bicycle Improvements				
27	Remove Existing Striping	LF	21,220	$ 0.50	$ 10,610.00
28	Furnish and Install New Sign and New Post	EA	29	$ 550.00	$ 15,950.00
29	Install New 6 FT Class IV Bike Lane	LF	10,610	$ 1.50	$ 15,915.00
30	Install New 3 FT Buffer	LF	12,155	$ 1.50	$ 18,232.50
31	Install Bike Lane Pavement Marking	SF	315	$ 5.00	$ 1,575.00
32	Install Green Pavement Marking	SF	5,410	$ 20.00	$ 108,200.00
33	Install Striped Corner Island	EA	44	$ 200.00	$ 8,800.00
34	Furnish and Install Flexible Posts	EA	253	$ 50.00	$ 12,650.00
				Bicycle Improvements TOTAL	$ 191,932.50
	Transit Improvements				
35	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
36	Construct New ADA Compliant Curb Ramp	EA	1	$ 7,500.00	$ 7,500.00
37	Install Striped Floating Bus Stop	EA	1	$ 450.00	$ 450.00
				Transit Improvements TOTAL	$ 8,500.00
	Auto Improvements				
38	Remove Existing Pavement Marking	EA	60	$ 300.00	$ 18,000.00
39	Roadway Excavation	CY	740	$ 40.00	$ 29,600.00
40	Remove Asphalt Pavement	SF	39,985	$ 2.00	$ 79,970.00
41	Install Left-Turn Lane Striping (Detail 38)	LF	1,795	$ 4.00	$ 7,180.00
42	Install Median Striping (Detail 25)	LF	9,245	$ 3.00	$ 27,735.00
43	Install Parking Striping	LF	1,150	$ 1.50	$ 1,725.00
44	Install Loading Zone Striping	LF	300	$ 1.50	$ 450.00
45	Install Type IV Arrow Pavement Marking	SF	945	$ 5.00	$ 4,725.00
46	Install Type VI Arrow Pavement Marking	SF	125	$ 5.00	$ 625.00
47	Construct Median Curb	LF	9,155	$ 45.00	$ 411,975.00
48	Construct Landscaped Median	SF	26,335	$ 15.00	$ 395,025.00
49	Furnish and Install Landscaped Median Irrigation	SF	26,335	$ 17.00	$ 447,695.00
50	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
51	Traffic Signal Modification*	LS	3	$ 50,000.00	$ 150,000.00
				Auto Improvements TOTAL	$ 1,580,330.00
				SUBTOTAL	$ 4,233,100.00
				CONTINGENCY 10%	$ 423,310.00
				TOTAL COST	$ 4,656,500.00

*Price for signal modification is a planning level estimate. It is assumed at this time the signal modification will not require new signal poles only signal head / pedestrian head adjustment. Cost will be greater if new poles are required.

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

C: Downtown Chowchilla: Urban Boulevard
15th Street to Front Street
Alternative 1B

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 154,000.00	$ 154,000.00
2	PS&E	LS	1	$ 616,000.00	$ 616,000.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 154,000.00	$ 154,000.00
4	Construction Engineering (CE)	LS	1	$ 462,000.00	$ 462,000.00
5	PA&ED	LS	1	$ 308,000.00	$ 308,000.00
6	Mobilization and Demobilization	LS	1	$ 154,000.00	$ 154,000.00
7	Traffic and Dust Control	LS	1	$ 246,400.00	$ 246,400.00
8	Clearing and Grubbing	LS	1	$ 64,300.00	$ 64,300.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 154,000.00	$ 154,000.00
				General Items TOTAL	$ 2,322,700.00
	Pedestrian Improvements				
11	Remove Existing Sign on Existing Post	EA	2	$ 150.00	$ 300.00
12	Remove Existing Striping	LF	3,485	$ 0.50	$ 1,742.50
13	Remove Existing Pavement Marking	EA	48	$ 300.00	$ 14,400.00
14	Furnish and Install New Sign and New Post	EA	84	$ 550.00	$ 46,200.00
15	Install High Visibility Crosswalk (White)	SF	18,910	$ 2.00	$ 37,820.00
16	Install High Visibility Crosswalk (Yellow)	SF	4,860	$ 5.00	$ 24,300.00
17	Install Stop Bar	SF	630	$ 5.00	$ 3,150.00
18	Install Yield Line	SF	470	$ 5.00	$ 2,350.00
19	Install "PED" Pavement Marking	SF	305	$ 5.00	$ 1,525.00
20	Install "SCHOOL" Pavement Marking	SF	140	$ 5.00	$ 700.00
21	Install "SLOW" Pavement Marking	SF	90	$ 5.00	$ 450.00
22	Install "STOP" Pavement Marking	SF	460	$ 5.00	$ 2,300.00
23	Install "XING" Pavement Marking	SF	420	$ 5.00	$ 2,100.00
24	Install Railroad Crossing Symbol Pavement Marking	SF	140	$ 5.00	$ 700.00
25	Construct New ADA Compliant Curb Ramp	EA	62	$ 7,500.00	$ 465,000.00
26	Furnish and Install Rectangular Rapid Flashing Beacon (RRFB) System	EA	1	$ 20,000.00	$ 20,000.00
				Pedestrian Improvements TOTAL	$ 623,037.50
	Bicycle Improvements				
27	Remove Existing Striping	LF	21,220	$ 0.50	$ 10,610.00
28	Furnish and Install New Sign and New Post	EA	29	$ 550.00	$ 15,950.00
29	Install New 6 FT Class IV Bike Lane	LF	10,610	$ 1.50	$ 15,915.00
30	Install New 3 FT Buffer	LF	12,155	$ 1.50	$ 18,232.50
31	Install Bike Lane Pavement Marking	SF	315	$ 5.00	$ 1,575.00
32	Install Green Pavement Marking	SF	5,410	$ 20.00	$ 108,200.00
33	Furnish and Install Raised Corner Island	EA	44	$ 15,000.00	$ 660,000.00
34	Furnish and Install Flexible Posts	EA	253	$ 50.00	$ 12,650.00
				Bicycle Improvements TOTAL	$ 843,132.50
	Transit Improvements				
35	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
36	Construct New ADA Compliant Curb Ramp	EA	1	$ 7,500.00	$ 7,500.00
37	Furnish and Install Raised Floating Bus Stop	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 33,050.00
	Auto Improvements				
38	Remove Existing Pavement Marking	EA	60	$ 300.00	$ 18,000.00
39	Roadway Excavation	CY	740	$ 40.00	$ 29,600.00
40	Remove Asphalt Pavement	SF	39,985	$ 2.00	$ 79,970.00
41	Install Left-Turn Lane Striping (Detail 38)	LF	1,795	$ 4.00	$ 7,180.00
42	Install Median Striping (Detail 25)	LF	9,245	$ 3.00	$ 27,735.00
43	Install Parking Striping	LF	1,150	$ 1.50	$ 1,725.00
44	Install Loading Zone Striping	LF	300	$ 1.50	$ 450.00
45	Install Type IV Arrow Pavement Marking	SF	945	$ 5.00	$ 4,725.00
46	Install Type VI Arrow Pavement Marking	SF	125	$ 5.00	$ 625.00
47	Construct Median Curb	LF	9,155	$ 45.00	$ 411,975.00
48	Construct Landscaped Median	SF	26,335	$ 15.00	$ 395,025.00
49	Furnish and Install Landscaped Median Irrigation	SF	26,335	$ 17.00	$ 447,695.00
50	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
51	Traffic Signal Modification*	LS	3	$ 50,000.00	$ 150,000.00
				Auto Improvements TOTAL	$ 1,580,330.00
				SUBTOTAL	$ 5,402,250.00
				CONTINGENCY 10%	$ 540,225.00
				TOTAL COST	$ 5,942,500.00

*Price for signal modification is a planning level estimate. It is assumed at this time the signal modification will not require new signal poles only signal head / pedestrian head adjustment. Cost will be greater if new poles are required.

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

C: Downtown Chowchilla: Urban Boulevard
15th Street to Front Street
Alternative 2

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 96,100.00	$ 96,100.00
2	PS&E	LS	1	$ 384,200.00	$ 384,200.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 96,100.00	$ 96,100.00
4	Construction Engineering (CE)	LS	1	$ 288,200.00	$ 288,200.00
5	PA&ED	LS	1	$ 192,100.00	$ 192,100.00
6	Mobilization and Demobilization	LS	1	$ 96,100.00	$ 96,100.00
7	Traffic and Dust Control	LS	1	$ 153,700.00	$ 153,700.00
8	Clearing and Grubbing	LS	1	$ 54,600.00	$ 54,600.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 96,100.00	$ 96,100.00
				General Items TOTAL	$ 1,467,200.00
	Pedestrian Improvements				
11	Remove Existing Sign on Existing Post	EA	2	$ 150.00	$ 300.00
12	Remove Existing Striping	LF	3,485	$ 0.50	$ 1,742.50
13	Remove Existing Pavement Marking	EA	48	$ 300.00	$ 14,400.00
14	Furnish and Install New Sign and New Post	EA	84	$ 550.00	$ 46,200.00
15	Install High Visibility Crosswalk (White)	SF	18,910	$ 2.00	$ 37,820.00
16	Install High Visibility Crosswalk (Yellow)	SF	4,860	$ 5.00	$ 24,300.00
17	Install Stop Bar	SF	630	$ 5.00	$ 3,150.00
18	Install Yield Line	SF	790	$ 5.00	$ 3,950.00
19	Install "PED" Pavement Marking	SF	650	$ 5.00	$ 3,250.00
20	Install "SCHOOL" Pavement Marking	SF	280	$ 5.00	$ 1,400.00
21	Install "SLOW" Pavement Marking	SF	185	$ 5.00	$ 925.00
22	Install "STOP" Pavement Marking	SF	460	$ 5.00	$ 2,300.00
23	Install "XING" Pavement Marking	SF	925	$ 5.00	$ 4,625.00
24	Install Railroad Crossing Symbol Pavement Marking	SF	140	$ 5.00	$ 700.00
25	Construct New ADA Compliant Curb Ramp	EA	60	$ 7,500.00	$ 450,000.00
26	Furnish and Install Rectangular Rapid Flashing Beacon (RRFB) System	EA	1	$ 20,000.00	$ 20,000.00
				Pedestrian Improvements TOTAL	$ 615,062.50
	Bicycle Improvements				
27	Remove Existing Striping	LF	21,220	$ 0.50	$ 10,610.00
28	Furnish and Install New Sign and New Post	EA	29	$ 550.00	$ 15,950.00
29	Install New 5 FT Class II Bike Lane	LF	10,610	$ 1.50	$ 15,915.00
30	Install New 2 FT Buffer	LF	11,670	$ 1.50	$ 17,505.00
31	Install Bike Lane Pavement Marking	SF	315	$ 5.00	$ 1,575.00
32	Install Sharrow Pavement Marking	SF	60	$ 5.00	$ 300.00
33	Install Green Pavement Marking	SF	5,690	$ 20.00	$ 113,800.00
				Bicycle Improvements TOTAL	$ 175,655.00
	Transit Improvements				
34	Remove Existing Bus Shelter	EA	1	$ 1,000.00	$ 1,000.00
35	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
36	Construct New ADA Compliant Curb Ramp	EA	1	$ 7,500.00	$ 7,500.00
37	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 34,050.00
	Auto Improvements				
38	Remove Existing Pavement Marking	EA	60	$ 300.00	$ 18,000.00
39	Roadway Excavation	CY	585	$ 40.00	$ 23,400.00
40	Remove Asphalt Pavement	SF	31,485	$ 2.00	$ 62,970.00
41	Install Travel Lane Striping (Detail 8)	LF	10,610	$ 1.50	$ 15,915.00
42	Install Left-Turn Lane Striping (Detail 38)	LF	1,620	$ 4.00	$ 6,480.00
43	Install Centerline Striping (Detail 22)	LF	1,790	$ 3.00	$ 5,370.00
44	Install Loading Zone Striping	LF	305	$ 1.50	$ 457.50
45	Install Type IV Arrow Pavement Marking	SF	945	$ 5.00	$ 4,725.00
46	Construct Median Curb	LF	5,655	$ 45.00	$ 254,475.00
47	Construct Landscaped Median	SF	22,900	$ 15.00	$ 343,500.00
48	Furnish and Install Landscaped Median Irrigation	SF	22,900	$ 17.00	$ 389,300.00
49	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
				Auto Improvements TOTAL	$ 1,130,217.50
				SUBTOTAL	$ 3,388,135.00
			CONTINGENCY	10%	$ 338,813.50
				TOTAL COST	$ 3,727,000.00

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

C: Downtown Chowchilla: Urban Boulevard
15th Street to Front Street
Alternative 3

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 119,800.00	$ 119,800.00
2	PS&E	LS	1	$ 479,100.00	$ 479,100.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 119,800.00	$ 119,800.00
4	Construction Engineering (CE)	LS	1	$ 359,300.00	$ 359,300.00
5	PA&ED	LS	1	$ 239,600.00	$ 239,600.00
6	Mobilization and Demobilization	LS	1	$ 119,800.00	$ 119,800.00
7	Traffic and Dust Control	LS	1	$ 191,700.00	$ 191,700.00
8	Clearing and Grubbing	LS	1	$ 67,200.00	$ 67,200.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 119,800.00	$ 119,800.00
				General Items TOTAL	$ 1,826,100.00
	Pedestrian Improvements				
11	Remove Existing Sign on Existing Post	EA	2	$ 150.00	$ 300.00
12	Remove Existing Striping	LF	3,485	$ 0.50	$ 1,742.50
13	Remove Existing Pavement Marking	EA	48	$ 300.00	$ 14,400.00
14	Furnish and Install New Sign and New Post	EA	84	$ 550.00	$ 46,200.00
15	Install High Visibility Crosswalk (White)	SF	15,340	$ 2.00	$ 30,680.00
16	Install High Visibility Crosswalk (Yellow)	SF	3,935	$ 5.00	$ 19,675.00
17	Install Stop Bar	SF	630	$ 5.00	$ 3,150.00
18	Install Yield Line	SF	555	$ 5.00	$ 2,775.00
19	Install "PED" Pavement Marking	SF	650	$ 5.00	$ 3,250.00
20	Install "SCHOOL" Pavement Marking	SF	280	$ 5.00	$ 1,400.00
21	Install "SLOW" Pavement Marking	SF	185	$ 5.00	$ 925.00
22	Install "STOP" Pavement Marking	SF	460	$ 5.00	$ 2,300.00
23	Install "XING" Pavement Marking	SF	925	$ 5.00	$ 4,625.00
24	Install Railroad Crossing Symbol Pavement Marking	SF	140	$ 5.00	$ 700.00
25	Construct New ADA Compliant Curb Ramp	EA	107	$ 7,500.00	$ 802,500.00
26	Construct Concrete Bulb-out	EA	49	$ 15,000.00	$ 735,000.00
27	Furnish and Install Rectangular Rapid Flashing Beacon (RRFB) System	EA	1	$ 20,000.00	$ 20,000.00
				Pedestrian Improvements TOTAL	$ 1,689,622.50
	Bicycle Improvements				
28	Remove Existing Striping	LF	21,220	$ 0.50	$ 10,610.00
29	Furnish and Install New Sign and New Post	EA	29	$ 550.00	$ 15,950.00
30	Install New 5 FT Class II Bike Lane	LF	7,810	$ 1.50	$ 11,715.00
31	Install New 6 FT Class II Bike Lane	LF	2,800	$ 1.50	$ 4,200.00
32	Install Bike Lane Pavement Marking	SF	315	$ 5.00	$ 1,575.00
33	Install Sharrow Pavement Marking	SF	60	$ 5.00	$ 300.00
34	Install Green Pavement Marking	SF	3,060	$ 20.00	$ 61,200.00
				Bicycle Improvements TOTAL	$ 105,550.00
	Transit Improvements				
35	Remove Existing Bus Shelter	EA	1	$ 1,000.00	$ 1,000.00
36	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
37	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 26,550.00
	Auto Improvements				
38	Remove Existing Pavement Marking	EA	60	$ 300.00	$ 18,000.00
39	Roadway Excavation	CY	195	$ 40.00	$ 7,800.00
40	Remove Asphalt Pavement	SF	10,515	$ 2.00	$ 21,030.00
41	Install Travel Lane Striping (Detail 8)	LF	10,610	$ 1.50	$ 15,915.00
42	Install Left-Turn Lane Striping (Detail 38)	LF	345	$ 4.00	$ 1,380.00
43	Install Centerline Striping (Detail 22)	LF	3,905	$ 3.00	$ 11,715.00
44	Install Parking Striping	LF	8,845	$ 1.50	$ 13,267.50
45	Install Type IV Arrow Pavement Marking	SF	255	$ 5.00	$ 1,275.00
46	Construct Median Curb	LF	2,695	$ 45.00	$ 121,275.00
47	Construct Landscaped Median	SF	6,445	$ 15.00	$ 96,675.00
48	Furnish and Install Landscaped Median Irrigation	SF	6,445	$ 17.00	$ 109,565.00
49	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
50	Traffic Signal Modification*	LS	3	$ 50,000.00	$ 150,000.00
				Auto Improvements TOTAL	$ 573,522.50
				SUBTOTAL	$ 4,221,345.00
			CONTINGENCY	10%	$ 422,134.50
				TOTAL COST	$ 4,643,500.00

*Price for signal modification is a planning level estimate. It is assumed at this time the signal modification will not require new signal poles only signal head / pedestrian head adjustment. Cost will be greater if new poles are required.

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

C: Downtown Chowchilla: Urban Boulevard
15th Street to Front Street
Alternative 4

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 104,700.00	$ 104,700.00
2	PS&E	LS	1	$ 418,800.00	$ 418,800.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 104,700.00	$ 104,700.00
4	Construction Engineering (CE)	LS	1	$ 314,100.00	$ 314,100.00
5	PA&ED	LS	1	$ 209,400.00	$ 209,400.00
6	Mobilization and Demobilization	LS	1	$ 104,700.00	$ 104,700.00
7	Traffic and Dust Control	LS	1	$ 167,600.00	$ 167,600.00
8	Clearing and Grubbing	LS	1	$ 54,800.00	$ 54,800.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 104,700.00	$ 104,700.00
				General Items TOTAL	$ 1,593,500.00
	Pedestrian Improvements				
11	Remove Existing Sign on Existing Post	EA	2	$ 150.00	$ 300.00
12	Remove Existing Striping	LF	3,485	$ 0.50	$ 1,742.50
13	Remove Existing Pavement Marking	EA	48	$ 300.00	$ 14,400.00
14	Furnish and Install New Sign and New Post	EA	84	$ 550.00	$ 46,200.00
15	Install High Visibility Crosswalk (White)	SF	15,340	$ 2.00	$ 30,680.00
16	Install High Visibility Crosswalk (Yellow)	SF	3,935	$ 5.00	$ 19,675.00
17	Install Stop Bar	SF	630	$ 5.00	$ 3,150.00
18	Install Yield Line	SF	595	$ 5.00	$ 2,975.00
19	Install "PED" Pavement Marking	SF	305	$ 5.00	$ 1,525.00
20	Install "SCHOOL" Pavement Marking	SF	140	$ 5.00	$ 700.00
21	Install "SLOW" Pavement Marking	SF	90	$ 5.00	$ 450.00
22	Install "STOP" Pavement Marking	SF	460	$ 5.00	$ 2,300.00
23	Install "XING" Pavement Marking	SF	420	$ 5.00	$ 2,100.00
24	Install Railroad Crossing Symbol Pavement Marking	SF	140	$ 5.00	$ 700.00
25	Construct New ADA Compliant Curb Ramp	EA	107	$ 7,500.00	$ 802,500.00
26	Construct Concrete Bulb-out	EA	49	$ 15,000.00	$ 735,000.00
27	Furnish and Install Rectangular Rapid Flashing Beacon (RRFB) System	EA	1	$ 20,000.00	$ 20,000.00
				Pedestrian Improvements TOTAL	$ 1,684,397.50
	Bicycle Improvements				
28	Remove Existing Striping	LF	21,220	$ 0.50	$ 10,610.00
29	Furnish and Install New Sign and New Post	EA	29	$ 550.00	$ 15,950.00
30	Install New 6 FT Class IV Bike Lane	LF	10,610	$ 1.50	$ 15,915.00
31	Install New 4 FT Buffer	LF	12,690	$ 1.50	$ 19,035.00
32	Install Bike Lane Pavement Marking	SF	315	$ 5.00	$ 1,575.00
33	Install Sharrow Pavement Marking	SF	60	$ 5.00	$ 300.00
34	Install Green Pavement Marking	SF	3,945	$ 20.00	$ 78,900.00
35	Furnish and Install Flexible Posts	EA	253	$ 50.00	$ 12,650.00
				Bicycle Improvements TOTAL	$ 154,935.00
	Transit Improvements				
36	Remove Existing Bus Shelter	EA	1	$ 1,000.00	$ 1,000.00
37	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
38	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 26,550.00
	Auto Improvements				
39	Remove Existing Pavement Marking	EA	60	$ 300.00	$ 18,000.00
40	Install Left-Turn Lane Striping (Detail 38)	LF	1,795	$ 4.00	$ 7,180.00
41	Install Two-Way Turn Lane Striping (Detail 32)	LF	5,305	$ 5.00	$ 26,525.00
42	Install Parking Striping	LF	10,310	$ 1.50	$ 15,465.00
43	Install Loading Zone Striping	LF	300	$ 1.50	$ 450.00
44	Install Type IV Arrow Pavement Marking	SF	945	$ 5.00	$ 4,725.00
45	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
46	Traffic Signal Modification*	LS	3	$ 50,000.00	$ 150,000.00
				Auto Improvements TOTAL	$ 227,970.00
				SUBTOTAL	$ 3,687,352.50
				CONTINGENCY 10%	$ 368,735.25
				TOTAL COST	$ 4,056,100.00

*Price for signal modification is a planning level estimate. It is assumed at this time the signal modification will not require new signal poles only signal head / pedestrian head adjustment. Cost will be greater if new poles are required.

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

C: Downtown Chowchilla: Urban Boulevard
15th Street to Front Street
Alternative 5

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 193,200.00	$ 193,200.00
2	PS&E	LS	1	$ 772,600.00	$ 772,600.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 193,200.00	$ 193,200.00
4	Construction Engineering (CE)	LS	1	$ 579,500.00	$ 579,500.00
5	PA&ED	LS	1	$ 386,300.00	$ 386,300.00
6	Mobilization and Demobilization	LS	1	$ 193,200.00	$ 193,200.00
7	Traffic and Dust Control	LS	1	$ 309,100.00	$ 309,100.00
8	Clearing and Grubbing	LS	1	$ 115,600.00	$ 115,600.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 193,200.00	$ 193,200.00
				General Items TOTAL	$ 2,945,900.00
	Pedestrian Improvements				
11	Remove Existing Sign on Existing Post	EA	2	$ 150.00	$ 300.00
12	Remove Existing Striping	LF	3,485	$ 0.50	$ 1,742.50
13	Remove Existing Pavement Marking	EA	48	$ 300.00	$ 14,400.00
14	Furnish and Install New Sign and New Post	EA	84	$ 550.00	$ 46,200.00
15	Install High Visibility Crosswalk (White)	SF	15,485	$ 2.00	$ 30,970.00
16	Install High Visibility Crosswalk (Yellow)	SF	3,810	$ 5.00	$ 19,050.00
17	Install Stop Bar	SF	630	$ 5.00	$ 3,150.00
18	Install Yield Line	SF	555	$ 5.00	$ 2,775.00
19	Install "PED" Pavement Marking	SF	650	$ 5.00	$ 3,250.00
20	Install "SCHOOL" Pavement Marking	SF	280	$ 5.00	$ 1,400.00
21	Install "SLOW" Pavement Marking	SF	185	$ 5.00	$ 925.00
22	Install "STOP" Pavement Marking	SF	460	$ 5.00	$ 2,300.00
23	Install "XING" Pavement Marking	SF	925	$ 5.00	$ 4,625.00
24	Install Railroad Crossing Symbol Pavement Marking	SF	140	$ 5.00	$ 700.00
25	Construct New ADA Compliant Curb Ramp	EA	108	$ 7,500.00	$ 810,000.00
26	Construct New Truncated Domes	SF	1,850	$ 10.00	$ 18,500.00
27	Construct Concrete Bulb-out	EA	43	$ 15,000.00	$ 645,000.00
28	Furnish and Install Rectangular Rapid Flashing Beacon (RRFB) System	EA	1	$ 20,000.00	$ 20,000.00
				Pedestrian Improvements TOTAL	$ 1,625,287.50
	Bicycle Improvements				
29	Remove Existing Striping	LF	21,220	$ 0.50	$ 10,610.00
30	Roadway Excavation	CY	530	$ 40.00	$ 21,200.00
31	Remove Asphalt Pavement	SF	28,615	$ 2.00	$ 57,230.00
32	Furnish and Install New Sign and New Post	EA	29	$ 550.00	$ 15,950.00
33	Install New 6 FT Class IV Bike Lane	LF	795	$ 1.50	$ 1,192.50
34	Install Bike Lane Pavement Marking	SF	305	$ 5.00	$ 1,525.00
35	Install Green Pavement Marking	SF	8,285	$ 20.00	$ 165,700.00
36	Construct Bike Buffer Curb	LF	17,940	$ 45.00	$ 807,300.00
37	Construct Landscaped Bike Buffer	SF	28,615	$ 15.00	$ 429,225.00
38	Furnish and Install Landscaped Bike Buffer Irrigation	SF	28,615	$ 17.00	$ 486,455.00
				Bicycle Improvements TOTAL	$ 1,996,387.50
	Transit Improvements				
39	Remove Existing Bus Shelter	EA	1	$ 1,000.00	$ 1,000.00
40	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
41	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 26,550.00
	Auto Improvements				
42	Remove Existing Pavement Marking	EA	60	$ 300.00	$ 18,000.00
43	Install Travel Lane Striping (Detail 8)	LF	10,610	$ 1.50	$ 15,915.00
44	Install Left-Turn Lane Striping (Detail 38)	LF	345	$ 4.00	$ 1,380.00
45	Install Centerline Striping (Detail 22)	LF	5,305	$ 3.00	$ 15,915.00
46	Install Parking Striping	LF	4,585	$ 1.50	$ 6,877.50
47	Install Type IV Arrow Pavement Marking	SF	195	$ 5.00	$ 975.00
48	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
49	Traffic Signal Modification*	LS	3	$ 50,000.00	$ 150,000.00
				Auto Improvements TOTAL	$ 214,687.50
				SUBTOTAL	$ 6,808,812.50
			CONTINGENCY	10%	$ 680,881.25
				TOTAL COST	$ 7,489,700.00

*Price for signal modification is a planning level estimate. It is assumed at this time the signal modification will not require new signal poles only signal head / pedestrian head adjustment. Cost will be greater if new poles are required.

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C: Downtown Chowchilla: Urban Boulevard
15th Street to Front Street
Alternative 6

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 139,400.00	$ 139,400.00
2	PS&E	LS	1	$ 557,600.00	$ 557,600.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 139,400.00	$ 139,400.00
4	Construction Engineering (CE)	LS	1	$ 418,200.00	$ 418,200.00
5	PA&ED	LS	1	$ 278,800.00	$ 278,800.00
6	Mobilization and Demobilization	LS	1	$ 139,400.00	$ 139,400.00
7	Traffic and Dust Control	LS	1	$ 223,100.00	$ 223,100.00
8	Clearing and Grubbing	LS	1	$ 79,100.00	$ 79,100.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 139,400.00	$ 139,400.00
				General Items TOTAL	$ 2,124,400.00
	Pedestrian Improvements				
11	Remove Existing Sign on Existing Post	EA	2	$ 150.00	$ 300.00
12	Remove Existing Striping	LF	3,485	$ 0.50	$ 1,742.50
13	Remove Existing Pavement Marking	EA	48	$ 300.00	$ 14,400.00
14	Furnish and Install New Sign and New Post	EA	84	$ 550.00	$ 46,200.00
15	Install High Visibility Crosswalk (White)	SF	13,635	$ 2.00	$ 27,270.00
16	Install High Visibility Crosswalk (Yellow)	SF	3,810	$ 5.00	$ 19,050.00
17	Install Stop Bar	SF	630	$ 5.00	$ 3,150.00
18	Install Yield Line	SF	555	$ 5.00	$ 2,775.00
19	Install "PED" Pavement Marking	SF	650	$ 5.00	$ 3,250.00
20	Install "SCHOOL" Pavement Marking	SF	280	$ 5.00	$ 1,400.00
21	Install "SLOW" Pavement Marking	SF	185	$ 5.00	$ 925.00
22	Install "STOP" Pavement Marking	SF	460	$ 5.00	$ 2,300.00
23	Install "XING" Pavement Marking	SF	925	$ 5.00	$ 4,625.00
24	Install Railroad Crossing Symbol Pavement Marking	SF	140	$ 5.00	$ 700.00
25	Construct New ADA Compliant Curb Ramp	EA	102	$ 7,500.00	$ 765,000.00
26	Construct New Truncated Domes	SF	1,055	$ 10.00	$ 10,550.00
27	Construct Concrete Bulb-out	EA	37	$ 15,000.00	$ 555,000.00
28	Furnish and Install Rectangular Rapid Flashing Beacon (RRFB) System	EA	1	$ 20,000.00	$ 20,000.00
				Pedestrian Improvements TOTAL	$ 1,478,637.50
	Bicycle Improvements				
29	Remove Existing Striping	LF	21,220	$ 0.50	$ 10,610.00
30	Roadway Excavation	CY	265	$ 40.00	$ 10,600.00
31	Remove Asphalt Pavement	SF	14,305	$ 2.00	$ 28,610.00
32	Furnish and Install New Sign and New Post	EA	29	$ 550.00	$ 15,950.00
33	Install New 9 FT Class IV Two-Way Cycle Track	LF	6,015	$ 2.00	$ 12,030.00
34	Install Bike Lane Pavement Marking	SF	630	$ 5.00	$ 3,150.00
35	Install Green Pavement Marking	SF	5,705	$ 20.00	$ 114,100.00
36	Construct Bike Buffer Curb	LF	8,970	$ 45.00	$ 403,650.00
37	Construct Landscaped Bike Buffer	SF	14,305	$ 15.00	$ 214,575.00
38	Furnish and Install Landscaped Bike Buffer Irrigation	SF	14,305	$ 17.00	$ 243,185.00
				Bicycle Improvements TOTAL	$ 1,056,460.00
	Transit Improvements				
39	Remove Existing Bus Shelter	EA	1	$ 1,000.00	$ 1,000.00
40	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
41	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 26,550.00
	Auto Improvements				
42	Remove Existing Pavement Marking	EA	60	$ 300.00	$ 18,000.00
43	Install Travel Lane Striping (Detail 8)	LF	10,610	$ 1.50	$ 15,915.00
44	Install Left-Turn Lane Striping (Detail 38)	LF	750	$ 4.00	$ 3,000.00
45	Install Centerline Striping (Detail 22)	LF	5,305	$ 3.00	$ 15,915.00
46	Install Parking Striping	LF	10,600	$ 1.50	$ 15,900.00
47	Install Type IV Arrow Pavement Marking	SF	315	$ 5.00	$ 1,575.00
48	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
49	Traffic Signal Modification*	LS	3	$ 50,000.00	$ 150,000.00
				Auto Improvements TOTAL	$ 225,930.00
				SUBTOTAL	$ 4,911,977.50
			CONTINGENCY	10%	$ 491,197.75
				TOTAL COST	$ 5,403,200.00

*Price for signal modification is a planning level estimate. It is assumed at this time the signal modification will not require new signal poles only signal head / pedestrian head adjustment. Cost will be greater if new poles are required.

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Segment D: State Route 99 Overpass

State Route 99 Interchange (Chowchilla Boulevard to Montgomery Lake Way)

Alternative 1

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 4,600.00	$ 4,600.00
2	PS&E	LS	1	$ 18,100.00	$ 18,100.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 4,600.00	$ 4,600.00
4	Construction Engineering (CE)	LS	1	$ 13,600.00	$ 13,600.00
5	PA&ED	LS	1	$ 9,100.00	$ 9,100.00
6	Mobilization and Demobilization	LS	1	$ 4,600.00	$ 4,600.00
7	Traffic and Dust Control	LS	1	$ 5,500.00	$ 5,500.00
8	Clearing and Grubbing	LS	1	$ 1,900.00	$ 1,900.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 4,600.00	$ 4,600.00
				General Items TOTAL	$ 76,600.00
	Pedestrian Improvements				
11	Install Basic Crosswalk	SF	150	$ 2.00	$ 300.00
12	Install Stop Bar	SF	20	$ 5.00	$ 100.00
13	Construct New ADA Compliant Curb Ramp	EA	7	$ 7,500.00	$ 52,500.00
				Pedestrian Improvements TOTAL	$ 52,900.00
	Bicycle Improvements				
14	Remove Existing Striping	LF	4,930	$ 0.50	$ 2,465.00
15	Furnish and Install New Sign and New Post	EA	8	$ 550.00	$ 4,400.00
16	Install New 6 FT Class IV Bike Lane	LF	5,480	$ 1.50	$ 8,220.00
17	Install New 3 FT Buffer	LF	3,370	$ 1.50	$ 5,055.00
18	Install Bike Lane Pavement Marking	SF	125	$ 5.00	$ 625.00
19	Install Sharrow Pavement Marking	SF	150	$ 5.00	$ 750.00
20	Install Green Pavement Marking	SF	120	$ 20.00	$ 2,400.00
21	Furnish and Install Flexible Posts	EA	114	$ 50.00	$ 5,700.00
				Bicycle Improvements TOTAL	$ 29,615.00
	Auto Improvements				
22	Install Travel Lane Striping (Detail 8)	LF	395	$ 1.50	$ 592.50
23	Install Left-Turn Lane Striping (Detail 38)	LF	130	$ 4.00	$ 520.00
24	Install Centerline Striping (Detail 22)	LF	2,195	$ 3.00	$ 6,585.00
25	Install "STOP" Pavement Marking	SF	22	$ 5.00	$ 110.00
				Auto Improvements TOTAL	$ 7,807.50
				SUBTOTAL	$ 166,922.50
			CONTINGENCY	10%	$ 16,692.25
				TOTAL COST	$ 183,700.00

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Segment E: Suburban Street
Montgomery Lake Way to Fig Tree Road
Alternative 1

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 63,200.00	$ 63,200.00
2	PS&E	LS	1	$ 252,800.00	$ 252,800.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 63,200.00	$ 63,200.00
4	Construction Engineering (CE)	LS	1	$ 189,600.00	$ 189,600.00
5	PA&ED	LS	1	$ 126,400.00	$ 126,400.00
6	Mobilization and Demobilization	LS	1	$ 63,200.00	$ 63,200.00
7	Traffic and Dust Control	LS	1	$ 75,900.00	$ 75,900.00
8	Clearing and Grubbing	LS	1	$ 42,400.00	$ 42,400.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 63,200.00	$ 63,200.00
				General Items TOTAL	$ 949,900.00
	Pedestrian Improvements				
11	Roadway Excavation	CY	45	$ 40.00	$ 1,800.00
12	Remove Asphalt Pavement	SF	5,345	$ 2.00	$ 10,690.00
13	Remove Existing Curb and Gutter	LF	1,670	$ 15.00	$ 25,050.00
14	Construct Concrete Sidewalk	SF	13,890	$ 20.00	$ 277,800.00
15	Construct Curb and Gutter	LF	2,315	$ 45.00	$ 104,175.00
				Pedestrian Improvements TOTAL	$ 419,515.00
	Bicycle Improvements				
16	Remove Existing Striping	LF	9,260	$ 0.50	$ 4,630.00
17	Remove Existing Pavement Marking	EA	5	$ 300.00	$ 1,500.00
18	Roadway Excavation	CY	95	$ 40.00	$ 3,800.00
19	Furnish and Install New Sign and New Post	EA	4	$ 550.00	$ 2,200.00
20	Install New 5 FT Class IV Bike Lane	LF	4,865	$ 1.50	$ 7,297.50
21	Install New 3 FT Buffer	LF	5,305	$ 1.50	$ 7,957.50
22	Install Bike Lane Pavement Marking	SF	75	$ 5.00	$ 375.00
23	Install Green Pavement Marking	SF	410	$ 20.00	$ 8,200.00
24	Furnish and Install Flexible Posts	EA	170	$ 50.00	$ 8,500.00
25	Hot Mix Asphalt	TON	95	$ 200.00	$ 19,000.00
26	Aggregate Base	TON	240	$ 35.00	$ 8,400.00
27	Aggregate Subbase	TON	180	$ 30.00	$ 5,400.00
				Bicycle Improvements TOTAL	$ 77,260.00
	Transit Improvements				
28	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
29	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 25,550.00
	Auto Improvements				
30	Remove Existing Pavement Marking	EA	17	$ 300.00	$ 5,100.00
31	Roadway Excavation	CY	395	$ 40.00	$ 15,800.00
32	Remove Asphalt Pavement	SF	21,375	$ 2.00	$ 42,750.00
33	Install Left-Turn Lane Striping (Detail 38)	LF	700	$ 4.00	$ 2,800.00
34	Install "AHEAD" Pavement Marking	SF	30	$ 5.00	$ 150.00
35	Install "STOP" Pavement Marking	SF	45	$ 5.00	$ 225.00
36	Install Type I 10'-0" Arrow Pavement Marking	SF	170	$ 5.00	$ 850.00
37	Install Type IV Arrow Pavement Marking	SF	150	$ 5.00	$ 750.00
38	Construct Median Curb	LF	4,210	$ 45.00	$ 189,450.00
39	Construct Landscaped Median	SF	15,030	$ 15.00	$ 225,450.00
40	Furnish and Install Landscaped Median Irrigation	SF	15,030	$ 17.00	$ 255,510.00
41	Signing Modifications	LS	1	$ 2,815.00	$ 2,815.00
				Auto Improvements TOTAL	$ 741,650.00
				SUBTOTAL	$ 2,213,875.00
			CONTINGENCY	10%	$ 221,387.50
				TOTAL COST	$ 2,435,300.00

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Segment E: Suburban Street
Montgomery Lake Way to Fig Tree Road
Alternative 2

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 27,000.00	$ 27,000.00
2	PS&E	LS	1	$ 107,800.00	$ 107,800.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 27,000.00	$ 27,000.00
4	Construction Engineering (CE)	LS	1	$ 80,900.00	$ 80,900.00
5	PA&ED	LS	1	$ 53,900.00	$ 53,900.00
6	Mobilization and Demobilization	LS	1	$ 27,000.00	$ 27,000.00
7	Traffic and Dust Control	LS	1	$ 32,400.00	$ 32,400.00
8	Clearing and Grubbing	LS	1	$ 16,900.00	$ 16,900.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 27,000.00	$ 27,000.00
				General Items TOTAL	$ 409,900.00
	Pedestrian Improvements				
11	Roadway Excavation	CY	45	$ 40.00	$ 1,800.00
12	Remove Asphalt Pavement	SF	5,345	$ 2.00	$ 10,690.00
13	Remove Existing Curb and Gutter	LF	1,670	$ 15.00	$ 25,050.00
14	Construct Concrete Sidewalk	SF	13,890	$ 20.00	$ 277,800.00
15	Construct Curb and Gutter	LF	2,315	$ 45.00	$ 104,175.00
				Pedestrian Improvements TOTAL	$ 419,515.00
	Bicycle Improvements				
16	Remove Existing Striping	LF	9,260	$ 0.50	$ 4,630.00
17	Remove Existing Pavement Marking	EA	5	$ 300.00	$ 1,500.00
18	Roadway Excavation	CY	95	$ 40.00	$ 3,800.00
19	Furnish and Install New Sign and New Post	EA	4	$ 550.00	$ 2,200.00
20	Install New 6 FT Class II Bike Lane	LF	4,865	$ 1.50	$ 7,297.50
21	Install New 2 FT Buffer	LF	5,095	$ 1.50	$ 7,642.50
22	Install Bike Lane Pavement Marking	SF	75	$ 5.00	$ 375.00
23	Install Green Pavement Marking	SF	490	$ 20.00	$ 9,800.00
24	Hot Mix Asphalt	TON	95	$ 200.00	$ 19,000.00
25	Aggregate Base	TON	240	$ 35.00	$ 8,400.00
26	Aggregate Subbase	TON	180	$ 30.00	$ 5,400.00
				Bicycle Improvements TOTAL	$ 70,045.00
	Transit Improvements				
27	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
28	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 25,550.00
	Auto Improvements				
29	Remove Existing Pavement Marking	EA	17	$ 300.00	$ 5,100.00
30	Install Left-Turn Lane Striping (Detail 38)	LF	700	$ 4.00	$ 2,800.00
31	Install Two-Way Turn Lane Striping (Detail 32)	LF	2,015	$ 5.00	$ 10,075.00
32	Install Centerline Striping (Detail 22)	LF	300	$ 3.00	$ 900.00
33	Install "AHEAD" Pavement Marking	SF	30	$ 5.00	$ 150.00
34	Install "STOP" Pavement Marking	SF	45	$ 5.00	$ 225.00
35	Install Type I 10'-0" Arrow Pavement Marking	SF	170	$ 5.00	$ 850.00
36	Install Type IV Arrow Pavement Marking	SF	150	$ 5.00	$ 750.00
37	Signing Modifications	LS	1	$ 2,815.00	$ 2,815.00
				Auto Improvements TOTAL	$ 23,665.00
				SUBTOTAL	$ 948,675.00
			CONTINGENCY	10%	$ 94,867.50
				TOTAL COST	$ 1,043,600.00

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Segment E: Suburban Street
Montgomery Lake Way to Fig Tree Road
Alternative 3

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 26,500.00	$ 26,500.00
2	PS&E	LS	1	$ 105,900.00	$ 105,900.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 26,500.00	$ 26,500.00
4	Construction Engineering (CE)	LS	1	$ 79,400.00	$ 79,400.00
5	PA&ED	LS	1	$ 53,000.00	$ 53,000.00
6	Mobilization and Demobilization	LS	1	$ 26,500.00	$ 26,500.00
7	Traffic and Dust Control	LS	1	$ 31,800.00	$ 31,800.00
8	Clearing and Grubbing	LS	1	$ 16,900.00	$ 16,900.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 26,500.00	$ 26,500.00
				General Items TOTAL	$ 403,000.00
	Pedestrian Improvements				
11	Roadway Excavation	CY	45	$ 40.00	$ 1,800.00
12	Remove Asphalt Pavement	SF	5,345	$ 2.00	$ 10,690.00
13	Remove Existing Curb and Gutter	LF	1,670	$ 15.00	$ 25,050.00
14	Construct Concrete Sidewalk	SF	13,890	$ 20.00	$ 277,800.00
15	Construct Curb and Gutter	LF	2,315	$ 45.00	$ 104,175.00
				Pedestrian Improvements TOTAL	$ 419,515.00
	Bicycle Improvements				
16	Remove Existing Striping	LF	9,260	$ 0.50	$ 4,630.00
17	Remove Existing Pavement Marking	EA	5	$ 300.00	$ 1,500.00
18	Roadway Excavation	CY	95	$ 40.00	$ 3,800.00
19	Furnish and Install New Sign and New Post	EA	4	$ 550.00	$ 2,200.00
20	Install New 6 FT Class II Bike Lane	LF	4,630	$ 1.50	$ 6,945.00
21	Install Bike Lane Pavement Marking	SF	75	$ 5.00	$ 375.00
22	Install Green Pavement Marking	SF	490	$ 20.00	$ 9,800.00
23	Hot Mix Asphalt	TON	95	$ 200.00	$ 19,000.00
24	Aggregate Base	TON	240	$ 35.00	$ 8,400.00
25	Aggregate Subbase	TON	180	$ 30.00	$ 5,400.00
				Bicycle Improvements TOTAL	$ 62,050.00
	Transit Improvements				
26	Furnish and Install New Sign and New Post	EA	1	$ 550.00	$ 550.00
27	Furnish and Install New Bus Shelter	EA	1	$ 25,000.00	$ 25,000.00
				Transit Improvements TOTAL	$ 25,550.00
	Auto Improvements				
28	Remove Existing Pavement Marking	EA	17	$ 300.00	$ 5,100.00
29	Install Centerline Striping (Detail 22)	LF	2,315	$ 3.00	$ 6,945.00
30	Install Parking Striping	LF	4,030	$ 1.50	$ 6,045.00
31	Install "AHEAD" Pavement Marking	SF	30	$ 5.00	$ 150.00
32	Install "STOP" Pavement Marking	SF	45	$ 5.00	$ 225.00
33	Install Type I 10'-0" Arrow Pavement Marking	SF	170	$ 5.00	$ 850.00
34	Signing Modifications	LS	1	$ 2,815.00	$ 2,815.00
				Auto Improvements TOTAL	$ 22,130.00
				SUBTOTAL	$ 932,245.00
			CONTINGENCY	10%	$ 93,224.50
				TOTAL COST	$ 1,025,500.00

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Segment F: Transition Zone from Suburban Street to Rural Highway
Fig Tree Road to the Open Trench East of Golf Drive West
Alternative 1

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 60,200.00	$ 60,200.00
2	PS&E	LS	1	$ 240,800.00	$ 240,800.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 60,200.00	$ 60,200.00
4	Construction Engineering (CE)	LS	1	$ 180,600.00	$ 180,600.00
5	PA&ED	LS	1	$ 120,400.00	$ 120,400.00
6	Mobilization and Demobilization	LS	1	$ 60,200.00	$ 60,200.00
7	Traffic and Dust Control	LS	1	$ 72,300.00	$ 72,300.00
8	Clearing and Grubbing	LS	1	$ 39,200.00	$ 39,200.00
9	Water Pollution Control Plan	LS	1	$ 10,000.00	$ 10,000.00
10	Miscellaneous Street Facilities and Operations	LS	1	$ 60,200.00	$ 60,200.00
				General Items TOTAL	$ 904,100.00
	Pedestrian Improvements				
11	Roadway Excavation	CY	60	$ 40.00	$ 2,400.00
12	Remove Asphalt Pavement	SF	3,125	$ 2.00	$ 6,250.00
13	Construct New ADA Compliant Curb Ramp	EA	8	$ 7,500.00	$ 60,000.00
14	Construct Concrete Sidewalk	SF	34,080	$ 20.00	$ 681,600.00
15	Construct Curb and Gutter	LF	5,680	$ 45.00	$ 255,600.00
				Pedestrian Improvements TOTAL	$ 1,005,850.00
	Bicycle Improvements				
16	Remove Existing Striping	LF	15,115	$ 0.50	$ 7,557.50
17	Furnish and Install New Sign and New Post	EA	11	$ 550.00	$ 6,050.00
18	Install New 6 FT Class II Bike Lane	LF	11,360	$ 1.50	$ 17,040.00
19	Install New 2 FT Buffer	LF	12,495	$ 1.50	$ 18,742.50
20	Install Bike Lane Pavement Marking	SF	115	$ 5.00	$ 575.00
21	Install Green Pavement Marking	SF	190	$ 20.00	$ 3,800.00
22	Hot Mix Asphalt	TON	325	$ 200.00	$ 65,000.00
23	Aggregate Base	TON	835	$ 35.00	$ 29,225.00
24	Aggregate Subbase	TON	625	$ 30.00	$ 18,750.00
				Bicycle Improvements TOTAL	$ 166,740.00
	Auto Improvements				
25	Remove Existing Pavement Marking	EA	23	$ 300.00	$ 6,900.00
26	Install Centerline Striping (Detail 22)	LF	5,680	$ 3.00	$ 17,040.00
27	Install "AHEAD" Pavement Marking	SF	30	$ 5.00	$ 150.00
28	Install "STOP" Pavement Marking	SF	45	$ 5.00	$ 225.00
29	Install Type I 10'-0" Arrow Pavement Marking	SF	250	$ 5.00	$ 1,250.00
30	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
				Auto Improvements TOTAL	$ 31,190.00
				SUBTOTAL	$ 2,107,880.00
			CONTINGENCY	10%	$ 210,788.00
				TOTAL COST	$ 2,318,700.00

Madera County Corridor Planning Study and Chowchilla Multimodal
Preliminary Cost Estimate
November 2020

Segment G: Rural Highway

The Open Trench East of Golf Dr West to Road 19

Alternative 1

No.	Item Description	Unit	Total Quantity	Unit Cost	Total
	General Items				
1	Environmental	LS	1	$ 127,300.00	$ 127,300.00
2	PS&E	LS	1	$ 509,100.00	$ 509,100.00
3	Appraisals, Acquisitions & Utilities	LS	1	$ 127,300.00	$ 127,300.00
4	Construction Engineering (CE)	LS	1	$ 381,900.00	$ 381,900.00
5	PA&ED	LS	1	$ 254,600.00	$ 254,600.00
6	Mobilization and Demobilization	LS	1	$ 127,300.00	$ 127,300.00
7	Traffic and Dust Control	LS	1	$ 152,800.00	$ 152,800.00
8	Clearing and Grubbing	LS	1	$ 85,900.00	$ 85,900.00
9	Grading and Earthwork	LS	1	$ 122,700.00	$ 122,700.00
10	Storm Water Pollution Prevention Plan	LS	1	$ 61,400.00	$ 61,400.00
11	Miscellaneous Street Facilities and Operations	LS	1	$ 127,300.00	$ 127,300.00
				General Items TOTAL	$ 2,077,600.00
	Pedestrian Improvements				
12	Construct New ADA Compliant Curb Ramp	EA	2	$ 7,500.00	$ 15,000.00
13	Construct Concrete Sidewalk	SF	62,760	$ 20.00	$ 1,255,200.00
14	Construct Curb and Gutter	LF	10,460	$ 45.00	$ 470,700.00
				Pedestrian Improvements TOTAL	$ 1,740,900.00
	Bicycle Improvements				
15	Remove Existing Striping	LF	10,460	$ 0.50	$ 5,230.00
16	Furnish and Install New Sign and New Post	EA	2	$ 550.00	$ 1,100.00
17	Install New 5 FT Class IV Bike Lane	LF	10,460	$ 1.50	$ 15,690.00
18	Install New 5 FT Buffer	LF	13,030	$ 1.50	$ 19,545.00
19	Install Bike Lane Pavement Marking	SF	10	$ 5.00	$ 50.00
20	Install Green Pavement Marking	SF	410	$ 20.00	$ 8,200.00
21	Furnish and Install Flexible Posts	EA	425	$ 50.00	$ 21,250.00
22	Hot Mix Asphalt	TON	1,945	$ 200.00	$ 389,000.00
23	Aggregate Base	TON	5,010	$ 35.00	$ 175,350.00
24	Aggregate Subbase	TON	3,760	$ 30.00	$ 112,800.00
				Bicycle Improvements TOTAL	$ 748,215.00
	Auto Improvements				
25	Install Centerline Striping (Detail 22)	LF	5,230	$ 3.00	$ 15,690.00
26	Construct Driveway	EA	7	$ 5,000.00	$ 35,000.00
27	Signing Modifications	LS	1	$ 5,625.00	$ 5,625.00
				Auto Improvements TOTAL	$ 56,315.00
				SUBTOTAL	$ 4,623,030.00
				CONTINGENCY 10%	$ 462,303.00
				TOTAL COST	$ 5,085,400.00

Appendix J

Public Comments and Caltrans Planning Department Comment Matrix

Community Facebook Thread Summary of Concerns and Priorities

This summary is regarding a conversation held via a Chowchilla Facebook page called "You Know You Grew Up in Chowchilla When…". The picture shared that started this thread is Conceptual Alternative 2 of the Conceptual designs. This Alternative shows: landscaped median with protected bikeway and it is the alternative that eliminates parking on Robertson Blvd while maintaining 2 travel lanes in each direction. **Note: These comments were not submitted by the public but were referred to the project team for its content in concerns and community priorities.**

#	Comment
Funding	There are concerns about adding a median to Robertson Boulevard, the cost and what it would mean to the community, as in more taxes for upkeep.
	Transparency of funding sources for a project like this.
	Concern about what funding source would be used for these types of improvements since Robertson Boulevard is a State facility.
Vegetation in the median	Upkeep of any vegetation also needs to be considered.
	Concerns that planting in the median would destroy the infrastructure around it.
	Water shortages should be taken into consideration.
	Concerns that vegetation in a median would impede visibility at intersections.
Traffic and parking	Removing a lane would worsen traffic.
	Concerns about removing parking and its impact on businesses.
Others	Concerns about May Parade. Concerns a median would obstruct mule teams wagons from turning around. Concerns that it would ruin the parade down Robertson. Concerns about palm trees.
Priorities	Fixing sidewalks would be better.
	Money would better spent fixing side streets.
	Fixing the south end of Robertson would be better.
	Fixing streetlights would be better.
	Support for facilities that improve public transportation, pedestrian and cyclist traffic and safety. It would improve Robertson vitality and encourage businesses.

Public Comments			
#	Date	Comment	Response to Comment
1	12/23/2020	I live on Robertson Boulevard if this crazy idea goes through I have to drive around the block in order to come back to get into my house. HAS ANYBODY TALKED TO THE HISTORICAL SOCIETY TO LEARN THE HISTORY OF ROBERTSON BOULEVARD AND WHY IT SHOULD NOT BE CHANGED. THIS IS JUST NOT A ROAD THAT GOES DOWN THROUGH THE MIDDLE OF CHOWCHILLA IT IS USED FOR PARADES THE STAMPEDE BEING ABLE TO GET FROM ONE SIDE TO THE OTHER SIDE OF THE STREET WITHOUT A CEMENT WALKWAY DOWN THE MIDDLE OF IT. This road is no different then main Street in Madera.This hook of cement going down the middle of Robertson Boulevard does no good for anyone.	Details related to the annual parades and festivals have been added on Page 50.
2	1/2/2021	All of this sounds good but this goes to my engineer Theory where it looks good on paper but in reality a lot won't work. Chowchilla has no Transportation alternatives, no taxi no bus no Uber. Why spend a lot of money on those types of things when they don't exist . Even if you did put a bike lane where are you going to go? There are no stores or shopping or entertainment or jobs around here. And a lot of the time it's too hot who wants to be out in that. You can't try to model this city like some in the bay area where there are a lot of things near residences. I've heard that you wanted to put some sort of a solid divider down the middle of Robertson where no turns would be allowed that is unreasonable since that is the main street to get to everywhere. surely there's something else you can do with this money, the only people that ride bikes around here are people that can't afford a car. Elderly are not going to use these suggested modes such as riding a bike. It gets too hot in the summer. There really are no businesses or places of employment nearby to make these modes of transportation viable. We only have one bus in town and I believe it is on an on call basis. Maybe if there were more buses on a regular schedule, people would use that . you don't want to make a single lane road to accommodate a bike lane, people don't want to be stuck behind a slow truck. You can't try to make this town like Silicon Valley where everything is conveniently and centrally located nearby, there is nothing nearby.	Comment Received
3	1/8/2021	While I do agree that pedestrian and bicycle safety is important, I do not like any of the 6 proposed alternatives to 233. The businesses along 233 require parking, 2 lanes each way are critical for the flow of traffic as well as left turn lanes. The crosswalks, sidewalks and stop signs are all items that I believe can and should be improved.	Comment Received
4	1/8/2021	We have lost so much tradition in our small town, I would hate to see the palms gone as well.	Comment Received
5	1/13/2021	As this is a freeway and not just Main Street (RB), I am seeing this corridor as ridiculous. It limits street area. We have one way streets on the side of the park (which has caused inconvenience) ● signs and stop lights, which has not stopped any accidents has it? Grass in the middle of RB, is this turf grass or real, because last I checked, we are still only allowed to water once a week or did something change? Not sure if this will make a difference or if anyone will read it, but instead of doing “extra”, why don’t we improve that Redskin Pride Road (it’s pretty homely and that is supposed to be pride?). Nothing to be proud of there! You ever taken a bike ride through this town? Roads are terrible. Fix the things that are broken first in this town, instead of making new things that will need tending to or take priority or cause inconvenience while being made. Fix what needs to be fixed first in this town, then talk about adding other stuff to the mix.	Comment Received
6	1/15/2021	I do not agree with the portion of the plan that deals with putting trees down the middle of Robertson Blvd. The Blvd has been used for a variety of events throughout each year ie Spring Festival Parade, Stampede.cattle Drive, Entrance of Santa, these events would be hampered with a tree lined median in the middle of the Blvd. I vote NO for continuing this project for our community.	Comment Received
	1/22/2021	I am concerned about the large trucks that frequently go up and down Robertson Blvd throughout the day. Losing some lines to landscaping means these large trucks will have less space to maneuver in. Large trucks have a hard time making turns in both directions off of Robertson Blvd. I do not think our city has the resources or means to keep the landscape looking attractive once the grant money has been used up. I worry that the water will spray all over the cars that drive by or water will flow in the streets as other city park projects and streets. The main reason I object is the Community of Chowchilla will be unable to show its community spirit by using the Blvd for large Community events ie Spring Festival Parade, Chowchilla Stampede, etc. Thank you for listening to the concerns of the Chowchilla Community. Kathleen Yowell. Teacher 39 years, Girl Scout Service Unit Director, member of the Community over 50 years. 559-430-5083.	Comment Received
7	1/23/2021	I would like to see more light posts light up our neighbors hoods and speed bumps. Many cars do not respect the speed limits and drive by fast.	Comment Received
8	1/23/2021	It looks like there has been a lot of work done to be creative and thoughtful and to improve the area. Which is great! My observations over the years. Are the city needs to beautify the man ndivider after the railroad tracks, simple and not very expensive to do and maintain.. parking needs to be kept on both sides of Robertson.. although businesses are sparse it is nice to be able to park on Robertson ... the speed of the vehicles going through town is ridiculous and has increased in the past ten years... little to know speed enforcement ..has allowed this to occur. With all the intersections with crosswalks visibility definately needs to be improved and or slow down the vehicles.bicycle paths would be great But I think parking comes before bike path. Thank you.	Comment Received

Public Comments			
#	Date	Comment	Response to Comment
9	1/23/2021	Chowchilla does need more stoplights and bike lanes in the town. However the idea of putting divederes through the middle of town is a waste of money. It's going to cause more harm than good. It going to make the response times for police and firefighters longer.	Comment Received
10	1/23/2021	There are a ton of issues to tackle and make whole before you go spending lots money on something that won't change anything other than making it look pretty and hinder the main vein of Chowchilla. Keep what you've got and improve it with lighting and better sidewalks. I think RB would be awesome with those improvements. RB is a pretty awesome unique road. Also, Nobody rides bikes anymore except for the homeless	Comment Received
11	1/24/2021	Why don't you pay the firefighters instead of them all volunteers. They work regular jobs and still go out and protect. This isn't where money should go. Seems to be wasteful spending to me	Comment Received
12	1/24/2021	I see rhis as a complete waste of taxpayer dollars. Not only will it make emergency services response times increase, it will be an inconvenience to residents who live off Robertson boulevard, it will cancel our towns annual cattle drive and parade. If you want to spend $$$ on Robertson boulevard then improve the street lighting and the drainage when it rains to stop the flooding. I am just disgusted that this has even been suggested and the time and $$$ already spent on this ridiculous idea.	Comment Received
13	1/24/2021	I am happy to see some attention finally given to these roads and our beautiful city of Chowchilla. I just have to say there have been many times I have had some scary experiences of having to slam on my breaks to avoid bicyclists while on Robertson (as they cut across traffic or went the wrong way) and I've also experienced the poor sidewalks. I have difficulty wheeling family members who are in wheelchairs on our sidewalks and often had to go around them or walk in the road where it's smoother when walking on the streets "sidewalks". I know this plan does have a lot of backlash regarding the divider being in the middle of the street, but please do something to increase the mobility and safety of residents in Chowchilla, especially considering people with disabilities. Chowchilla is behind in the modern world. I imagine a day when I can safely walk with my disabled family members around town again.	Comment Received
14	1/26/2021	If they take Robertson down to one lane (one example) on each side, it will force people to go down trinity and kings to get around, which doesn't seem safe to me, for many reasons. I imagine people speeding down those streets to "beat" whatever is on Robertson. The center divider w grass would never be kept up (drought and lack of resources to pay people) and would be a new place for riff raff to hang out and leave trash, etc. It would forever change the parade and stampede. Most importantly, it would be an obstacle for Emergency vehicles, as it blocks places they can now turn. I'm sure they could drive over it when needed, but then again, another reason it wouldn't look kept up. If you look at examples of Their parallel parking ideas, one example has the curb, bike lane, parked car, traffic lane. So now, to get out of your car, you would have traffic on one side of you and possibly a bike on the other. No safe side for elderly or children to exit the vehicle. It is also a state hwy that big rigs go through from 152 to 99. It makes no sense to have that divider. I can go on and on. They have money that they have to spend. My vote is to use that to fix sidewalks and handicap ramps, repaint crosswalks, clean up store fronts and plants, etc to start with. Nothing extreme like a center divider	Comment Received
15	1/26/2021	Please do not spend money for bike lanes.	Comment Received
16	1/26/2021	I really like the ones with the center landscaping, adds so much to an otherwise blah throughway. Also was wondering if this includes a new overpass on highway 99?	Comment Received

Public Comments			
#	Date	Comment	Response to Comment
17	1/26/2021	The links to check out the options are broken still. I do not believe medians will help with Jaywalkers and keeping accidents at bay. Medians with trees or shrubs will just obscure vision of people trying to cross roads not at a cross walks. They will end up being an eyesore when funding is cut to taking care of them. If medians are put through the middle of Robertson we will no longer be able to have our parades/cattle drive/stampedes. We should be spending our money better by replanting trees that have been taken down along main, funding more activities for our children like what we had when I was growing up. City sponsored Theatre/singing groups, Rec activities/sports, clubs, Christmas parades/goodie bags handed out after fire dept brought Santa for all the kids to see. I could go on and on really. We don't want to see Chowchilla start to look like every other city. It should stay unique with its wide road lined with palm trees so people continue to remember it for years to come. Just look at all the comments on the Chowchilla Community FB pages and how so many people who left still think fondly about the parades/fairs/stampedes. I agree more overhead lighting is needed in areas, redo sidewalks, add lights in road at crosswalks to illuminate/warn someone is in crosswalk, more patrols to give tickets to those driving to fast or not yielding, plant more trees/plants like there used to be, make sure there is funding to take care/maintain trees (pruning palms) on an annual basis. Thank you for allowing me to give my suggestions, but please consider them instead of turning Chowchilla into just another town on 99 by putting medians and blocking our beautiful view of the mountains on a clear day driving down Robertson Blvd. I think the City can do better than having someone from outside the community tell us how or what we need to do to OUR Main Street.	Comment Received
18	1/26/2021	I am against this project. You are not doing this for the residence of Chowchilla.	Comment Received
19	1/27/2021	I am mainly concerned with Section C: Urban Boulevard. The only alternative acceptable is Alternative 3. I do NOT want landscaped medians in Chowchilla's Robertson Boulevard.	Comment Received
20	1/27/2021	My thoughts on a center divider on Robertson Blvd. in Chowchilla. I am definitely against it. Here are some of my reasons. In my opinion, if you take Robertson down to one lane (one example) on each side, it will force people to go down Trinity or Kings to get around, which doesn't seem safe to me, for many reasons. I imagine people speeding down those streets to "beat" whatever is on Robertson. Even with two lanes on each side, the center divider with grass would never be kept up (drought and lack of resources to pay people) and would be a new place for homeless and drug addicts to hang out and leave trash, etc. It would forever change the parade and stampede. That would be a shame. Most importantly, it would be an obstacle for Emergency vehicles, as it blocks places they can now turn. I'm sure they could drive over it when needed, but then again, another reason it wouldn't look kept up. The parallel parking ideas; one example has the curb, bike lane, parked car, traffic lane. So now, to get out of your car, you would have traffic on one side of you and possibly a bike on the other. No safe side for elderly or children to exit the vehicle. It is also a state hwy that big rigs go through from 152 to 99. It makes no sense to have that divider. It would not be an improvement, it would be a hinderance. I can go on and on. My vote is to use the money to fix sidewalks and handicap ramps, repaint crosswalks, clean up store fronts and plants, and the actual roads, etc. add stop signs around town where needed. Nothing extreme like a center divider	Comment Received
21	1/27/2021	We should take into consideration bus parking spaces when they pull in and out of traffic.	Bus parking has been considered while designing all the alternatives.
22	1/27/2020	• This is a project that goes beyond city limits and thus farmers need to be contacted for their input. The whole sphere of influence should be considered. Farmers move convoys of almond sweepers, and large farm equipment down Robertson Boulevard. To enhance Robertson Boulevard: • Dealing with railroad tracks. • Additional lighting for pedestrian safety and better crosswalk striping. • Find out when kids get off school if more streetlights, or yield signs are what is needed. • Keep bicycles off Robertson Boulevard. • No bulb-outs, no islands, they narrow the street and makes it worse, it is detrimental to traffic flow because wide agricultural vehicles use Robertson Boulevard. Correction of the draft: The WWII airplane parade happens during the Spring Festival. Other festivals that need to be considered: Christmas Parade, the High School homecoming rallies. This is an all use Boulevard.	Details concerning the annual parades and festivals have been added on Page 50.
23	1/27/2020	• Robertson Boulevard needs to be left the way it is. • The money to change the Boulevard should be better used to repair roads and other issues such as sidewalks, roads, stripping crosswalks, housing for homeless people. • Robertson Blvd is a piece of history. • Palm trees are beautiful and should not be removed.	Comment Received

Public Comments			
#	Date	Comment	Response to Comment
24	1/27/2020	• Don’t mess up our little town, leave Chowchilla just the way it is.	Comment Received
25	1/27/2020	NO NO an NO!! On this project. What is the reason for this project$$$$$$. I have lived here my entire life of 71 years and my mother lived here for 92 years. I will be contacting the Mayor, Police Chief and City administration who have not lived here their entire lives. Some of the Council members have not either!! Why change the integrity of this town Now?$$$$$. I'm praying you get a lot of citizens SAYING NO! and that you will listen to their concerns and wishes.	Comment Received
26	1/27/2020	The proposed median in the middle of Robertson Boulevard is not what our community needs ... even with 18,000 people (the number include 2 prison population which will never be in town) these beach area dream pictures are not realistic. This is a working Community, the real problems are flooding around town. Take a walk today and look at the right hand side coming into town you will see 4 feet plus for rain water that gets trapped all along side of river Blvd. from front street to 15th street and it get worse on the back streets. The bus area at the Highschool the street is completely flooded. I’m all for sidewalk or Robertson Blvd but we need to get lots of estimates from businesses to get the work done at a reasonable price. I have lived in our small town for almost 40 years, I have seen great thing come and go, this is not one of them.	Comment Received
27	1/27/2020	As the amount of information presented in the proposal and appendices is voluminous, I will simply say what I would and wouldn't like to see along the Robertson Boulevard Corridor. I would like to see general repairs to the surface and striping, improved sidewalks and crosswalks, and better lighting at crosswalks. Striping for parking would be a nice addition. Has an overhead crossing structure ever been considered, possibly at an intersection that leads to CUHS or Wilson? For areas along the corridor outside of City Limits, general asphalt improvements with striping would be sufficient . Major improvements in these rural areas would not have much benefit. As a citizen of Chowchilla, I do not consider any attempts to reduce lanes on Robertson Boulevard as beneficial. Two lanes in each direction, along with dedicated turn lanes seems to accommodate the current needs of the flow of traffic. As someone who drives this route multiple times per day, I cannot imagine only having one lane in each direction, without a dedicated turn lane. The fear of being rear-ended would be in my mind every time I turned. I cannot imagine exiting my parked car with a big rig right along side of me, because it doesn't have another lane in which to drive. Lane reductions to accommodate a bike lane do not seem feasible to me at all. The bike lanes would go unused while traffic congestion would increase. I don't want to sound negative, but nobody is going to properly bike down Robertson Boulevard! The people who currently bike as their only means of transportation are going to continue to bike on the sidewalks and haphazardly through the streets. Those who bike for exercise are going to bike somewhere more enjoyable. We are not going to see families utilizing these bike lanes to go get ice cream. It just isn't going to happen! Dedicated bike lanes already exist on two parallel side streets. It is much safer and there is less traffic on those streets. I am not in favor of a center median. I foresee this as quickly becoming an eyesore of dead shrubs and garbage. We have a VERY small stretch of median near the railroad tracks, and eyesore status has already become the reality in this location. A median would also destroy one of our town's beloved traditions of having a parade in May. To summarize my opinions, I would prefer things to largely remain as they are, while implementing improvements within those parameters.	Comment Received
28	1/27/2020	Chowchilla has a huge problem with pedestrian crossing. Due to dim or unlighted areas crossing pedestrians are a problem for traffic, as well as for the pedestrians. Flashing pedestrian crossings would greatly help in night time visibility of pedestrians.	Comment Received
29	1/27/2020	I am opposed any medians. Pushing the bicyclists into traffic lanes to cross the bridge is more dangerous than the lack of safety features for cyclists in town. It looks like alternative 6 is my nearest choice. I like that truck traffic is diverted. The greening of Robertson Blvd. requires water as well as costly maintenance. DON'T do anything that would use water!	Comment Received
30	1/27/2020	After looking at all the alternatives for the improved corridor, I appreciate all the work done for this study, and for giving us alternatives. I am positive about the truck routes being outside the city, and would hope this improvement would be accomplished very early in the project. If a single lane version is chosen and trucks still are using Robertson, we will have a lot of slow traffic and therefore a lot of diesel pollution downtown. I am totally opposed to any median in the center of Robertson Blvd or Ave 26. I support two driving lanes for each direction of traffic & think that Alternative 6 best accomplishes that goal & retains the most parking spaces. Trees or bushes down the center of 233 require costly maintenance and water which is becoming more and more limited. And Help! Do something to fix the bike safety on the 99 overpass!	Comment Received

Caltrans Planning Department Comment Matrix		
#	Comment	Response to Comment
1	The Smart Mobility 2010 has been updated. Here is the link to the new Smart Mobility document - https://transplanning.onramp.dot.ca.gov/downloads/transplanning/files/suscommplan/SMF Guide 2020.pdf	Document reference has been added.
2	The Bicycle Plan and Complete Streets Facilities for District 6 document is a resource that could be included on page 5. https://dot.ca.gov/caltrans-near-me/district-6/district-6-programs/d6-bicycle-complete-streets	Added.
3	On page 8, ladder pedestrian crossings are mentioned but only standard and continental types of pedestrian crossings were detected on aerial maps. Please confirm.	Confirmed and edited.
4	Chapter 4 Corridor Design and Concept Development: the proposed corridor design concept alternatives for SR 233 include a road diet, removing existing travel lanes, removing existing left-turn lanes, removing the existing two-way left-turn lanes, and narrowing sidewalks in order to place bike facilities and a median landscape. However, there was no indication in chapter 2 the traffic analysis conducted analyzed the proposed corridor design alternatives only for the existing roadway traffic conditions.	Project + Proposed conditions werent analyzed. In the Next steps, a bullet point has been added specifying in case one of the road diet options were chosen for implementation, a detailed traffic analysis should be conducted prior to implementation.
5	Prior to any proposed future work, a detailed safety analysis and collision data should be provided to Caltrans for review. The safety analysis should provide the type of collisions, locations, and accident analysis for each intersection.	Agreed, this has been added to the next steps.
6	There are existing marked crosswalks (north & south legs) on SR 233 at the unsignalized intersections at 4th, 3rd, and 2nd streets. Maintaining one crosswalk on SR 233 on each of these intersections should be considered.	Planning level improvements include crosswalk enhancements for both N and S legs. Ultimately, Caltrans guidelines and warrant analysis will determine whether the
7	Chapter 4, Concept Alternative 1 & 2, maintaining one crosswalk on SR 233 at each of these intersections (8th & 7th St.) should be considered.	Planning level improvements include crosswalk enhancements for both N and S legs. Ultimately, Caltrans guidelines and warrant analysis will determine whether the
8	Chapter 4, page 62 Corridor Concept Alternative 3: There is proposed bike lane along the school frontage on SR 233 and a proposed school drop-off zone between 13th and 11th Street. Caltrans recommends the school drop-off zone be relocated to prevent a gap between the proposed bike lanes.	In order to maintain a continous bike lane - An option to relocate the pick-up drop off zone on the side street is also viable. This has been added under the Alternative Description.
9	Adding crosswalks that are crossing State Routes should meet the Caltrans crosswalk warrant criteria, which needs Caltrans approval. The safety aspect should be considered for placing crosswalks on State Routes.	Agreed and added.
10	Page 34, Table 5: the sign panel/sign sheeting Type XI (retro-reflective sign) should be used on State Routes.	Agreed and added.
11	Roadway improvement projects on State Routes should be designed per Caltrans Standards, including parking, bike lane, sidewalk, landscape, etc.	Agreed and added.
12	Please provide the speed limit and speed survey on the map as stated on page 15. Also, please provide posted speed limit(s) in Table 9 on Page 55.	Agreed and added.
13	All appendices including traffic analysis, safety analysis, speed survey etc. are not attached. Please include the appendices in the final report and submit to our office for review.	Appendices have been provided as a part of the Draft Report.
14	As a point of information, according to the Caltrans Transportation Concept Report (TCR), all segments of SR 233 (from SR 233/SR 152 to SR 233/ SR 99) are ultimately planned to be a 4-lane facility within a total of 100 to 110 feet of right-of-way.	Of the planning level design concepts, all the concepts before the interchange are within 100' and after the interchange are within the curb limits.

Caltrans Planning Department Comment Matrix		
#	Comment	Response to Comment
15	An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit. Please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, at (559) 488-4058. Please review the permit application checklist at: https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0402&distpath=MA OTO&brapath=PERM	Agreed.