

APPENDIX U

OPERATIONAL ANALYSIS

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OPERATIONAL ANALYSIS OF THE CONGESTION MANAGEMENT PROCESS

StanCOG, as the Congestion Management Agency (CMA) for Stanislaus County, has the responsibility to prepare and maintain a Congestion Management Process (CMP). The 2010 update to the CMP was adopted in January 2010. The CMP is an integrated component of StanCOG's planning process in which a systematic progression of activities to analyze and address regional congestion is integrated in the RTP and Federal Transportation Improvement Program (FTIP) process. The CMP has specific objectives that are derived from the vision, goals and objectives of the previous, 2011 RTP. The CMP is thus a performance-based process which is consistent with, and assists in, the implementation of the 2011 RTP.

StanCOG prepared a comprehensive CMP update in 2010 for the development of the 2011 RTP and will prepare a similar update to the CMP prior to the next RTP planning cycle. As an interim step, several key components of the CMP update were performed and are reflected in the 2014 RTP/SCS. These include updating the ADT LOS thresholds to reflect the 2010 Highway Capacity Manual (the 2010 CMP is based on the previous manual) and application of the StanCOG's new MIP travel demand model (the 2010 CMP is based on StanCOG's predecessor model).

CMP Level of Service (LOS) Standards

State statutes (SECTION 65088-65089.10) require the CMA to set level of service standards for the system of highways and roadways designated by the agency. "Level of Server" (LOS) is actually a qualitative measurement of travel conditions for various modes of travel, in which "A" signifies the best experience, and "F" signifies the worst experience. In Stanislaus County, local jurisdictions have adopted their minimum level of service for their respective transportation networks in the general plan circulation element, and they are the main entities to monitor and maintain the adopted performance level. The jurisdictions in Stanislaus County are closely aligned with StanCOG's MIP traffic model to assess project traffic impacts on the existing system. This approach ensures some degree of consistency between StanCOG and its member jurisdictions in evaluating the transportation system's performance. Mitigation will be required if the LOS on the affected system exceed the minimum accepted LOS because of direct impacts from new development. The cities of Modesto, Turlock and Ceres have adopted LOS D as their minimum LOS performance. Stanislaus County has established LOS C as their goal. The remaining cities have adopted LOS C as their performance standard.

Level of Service Analysis Methodologies and Forecast LOS Results

The analysis for vehicle levels of service on local and arterial roadways, state highways, and freeway segments use the Planning and Preliminary Design Generalized Daily Service Volume thresholds derived from the 2010 Highway Capacity Manual. State highways and freeway segments use Average Daily Traffic (ADT) data from the Caltrans Traffic Data Branch. Due to negative growth on state facilities resulting from the housing bubble collapse and the resulting recession experience from 2007-2012, 2008 ADT for local roadways was considered reflective of 2012 conditions. Local and arterial roadway

ADT used field counts for data inputs. Unacceptable roadway operations were based on the operating jurisdiction's LOS standard, per the local General Plans and Caltrans Transportation Concept Reports.

A summary of the level of service criteria for each type of facility used for the operation analysis for Stanislaus County is shown Table 1. These reflect the most recent update of the Highway Capacity Manual (HCM 2010).

Daily traffic forecasts for CMP roadways developed by StanCOG's updated MIP travel demand model for each of the RTP/SCS scenario, the base year (2012), the No Build scenario, the Historical Trend scenario, and the 2014 RTP/SCS are provided in Table 2. These projections have been adjusted per NCHRP-255 to correct for systematic modeling error (baseline adjustment procedure).

The results of this LOS analysis for each of the RTP/SCS scenarios, the base year (2012), and the No Build scenario, the Historical Trend scenario, and the 2014 RTP/SCS are provided in Table 3. Future roadway capital improvement projects identified in the Tier I (financially constrained) and Tier II (financially unconstrained) of the 2014 RTP/SCS (labelled Scenario 3) were back-checked and determined to still support identified CMP congestion relief needs.

Table 1. Summary of Level of Service Criteria

Local/Arterial Roadways						
Lanes	Daily Service Volumes - Level Terrain					Notes
	LOS A	LOS B	LOS C	LOS D	LOS E	
2	--	--	5300	13800	17900	30 mph, K=0.1, D=0.55
4	--	--	19300	33500	34100	45 mph, K=0.1, D=0.55
6	--	--	28700	48600	48900	45 mph, K=0.1, D=0.55
3	--	--	12300	23650	26000	Interpolated
5	--	--	24000	41050	41500	Interpolated
State Highways						
Lanes	Daily Service Volumes - Level Terrain					Notes
	LOS A	LOS B	LOS C	LOS D	LOS E	
2	--	5000	8400	14800	28000	K=0.1, D=0.50
4	--	29900	43200	56800	66400	K=0.1, D=0.50
6	--	44800	64800	85200	99600	K=0.1, D=0.50
3	--	17450	25800	35800	47200	Interpolated
5	--	37350	54000	71000	83000	Interpolated
Freeways						
Lanes	Daily Service Volumes - Level Terrain					Notes
	LOS A	LOS B	LOS C	LOS D	LOS E	
4	28400	46800	65200	81200	94000	K=0.1, D=0.50
6	42600	70200	97800	121800	141000	K=0.1, D=0.50
8	56800	93600	130400	162400	188000	K=0.1, D=0.50

K-Factor = Peak hour % of ADT

D-Factor = Directional Split

Table 2. 2040 CMP Roadway Segment ADT Forecasts

ID	Roadway	Segment		Scenario			
		From	To	Base Year	2040 No Build	2040 Historical Trend	2040 RTP/SCS
1	7th Street	Morgan Rd	K Street	17,200	24,780	19,980	19,820
2	9th Street	Carpenter Rd	River Rd	24,000	24,330	18,060	15,370
3	Bangs Ave	Dale Rd	SR 108 (McHenry Ave)	6,200	11,220	11,180	10,670
4	Beckwith Rd	SR 99	Modesto GP Boundary	9,000	11,080	10,780	12,230
5	Blue Gum Ave	Poust Rd	Rosemore Ave	19,070	19,410	18,680	18,620
6	Briggsmore Ave	Sisk Rd	Oakdale Rd	46,000	47,190	50,780	51,060
7	Briggsmore Ave	Oakdale Rd	Roselle Ave	27,000	37,670	32,160	31,880
8	Briggsmore Ave	Roselle Ave	Claus Rd	16,850	23,620	27,320	26,140
9	Briggsmore Ave	Claus Rd	Modesto GP Boundary	11,230	12,350	10,380	9,020
10	Carpenter Rd	SR 99	Maze Blvd	31,200	34,440	31,510	42,680
11	Carpenter Rd	Maze Blvd	Paradise Rd	17,200	23,280	25,580	20,980
12	Carpenter Rd	Paradise Rd	Hatch Rd	17,350	28,250	30,520	27,750
13	Central Avenue	Whitmore Ave	Grayson Rd	3,849	6,910	6,330	5,400
14	Christofferson Pkwy	Berkeley Ave	Geer Rd	10,300	11,520	11,630	11,760
15	Claratina Ave	SR 108 (McHenry Ave)	Coffee Rd	12,250	22,200	41,760	41,870
16	Claribel Rd	SR 108 (McHenry Ave)	Oakdale Rd	12,500	33,040	34,600	28,980
17	Claus Rd	Briggsmore Ave	Sylvan Ave	19,300	33,750	52,210	51,050
18	Coffee Rd	Mable Rd	Claribel Rd	20,700	30,100	20,280	19,160
19	Crows Landing Rd	7th Street	SR 99	8,000	13,970	11,460	11,690
20	Crows Landing Rd	SR 99	Whitmore Ave	24,000	35,220	35,500	37,780
21	Crows Landing Rd	Service Rd	Grayson Rd	8,430	10,900	12,100	16,970
22	Dakota Ave	North Ave	Salida Blvd	5,488	34,620	38,590	10,550
23	Dale Rd	Standiford Ave	Pelandale Ave	21,700	26,020	25,940	26,890
24	Dale Rd	Pelandale Ave	SR 219 (Kiernan Ave)	10,230	23,370	20,940	21,310
25	East Ave	Santa Fe Ave	Turlock City Limit	6,400	10,480	10,560	12,020
26	El Vista Ave	Briggsmore Ave	Yosemite Blvd	33,000	40,450	40,830	40,590
27	Faith Home Rd	Grayson Rd	N of River Xing	3,600	25,240	30,960	28,940
28	Fulkerth Rd	Dianne Rd	SR 99	7,660	20,070	19,390	15,740
29	Golden State Blvd	West Main St	Berkeley Ave	10,200	16,810	16,950	16,900
30	Grayson Rd	Ustick Rd	Mitchell Rd	3,064	5,120	4,880	4,730
31	Hatch Rd	Carpenter Rd	Crows Landing Rd	10,140	12,520	12,780	11,420
32	Hatch Rd	Crows Landing Rd	SR 99	17,460	20,200	21,210	19,960
33	Hatch Rd	SR 99	Mitchell Rd	24,000	28,430	28,520	27,360
34	Hatch Rd	Mitchell Rd	Santa Fe Ave	10,050	16,170	17,380	15,480
35	Hatch Rd	Santa Fe Ave	Geer Rd	9,560	10,420	9,900	9,670
36	Keyes Rd	Faith Home Rd	SR 99	7,600	20,530	22,750	20,430
37	Mitchell Rd	Yosemite Blvd	Modesto GP Boundary	23,100	24,990	23,910	23,950
38	Mitchell Rd	Service Rd	SR 99	24,000	29,230	21,950	23,220
39	Monte Vista Ave	Olive Ave	Berkeley Ave	11,240	11,240	11,160	11,290

ID	Roadway	Segment		Scenario			
		From	To	Base Year	2040 No Build	2040 Historical Trend	2040 RTP/SCS
40	Morgan Rd	7th Street	Grayson Rd	10,564	12,130	9,090	9,220
41	Oakdale Rd	Claribel Rd	Claratina Ave	11,000	16,330	12,440	12,450
42	Oakdale Rd	Claratina Ave	Sylvan Ave	23,000	31,550	40,450	41,740
43	Oakdale Rd	Sylvan Ave	Floyd Ave	32,203	42,130	44,940	46,340
44	Oakdale Rd	Floyd Ave	Briggsmore Ave	37,280	43,990	47,590	48,790
45	Olive Ave	Canal Dr	Wayside Rd	8,810	9,090	9,250	9,220
46	Paradise Rd	Sutter Ave	Carpenter Rd	13,000	18,780	17,620	18,240
47	Paradise Rd	Carpenter Rd	Modesto GP Boundary	10,560	14,100	13,440	13,220
48	Prescott Rd	Briggsmore Ave	Modesto GP Boundary	24,000	24,250	24,440	24,140
49	Roselle Ave	Floyd Ave	Claribel Rd	8,000	21,480	23,110	21,640
50	Rosemore Ave	Kansas Ave	Blue Gum Ave	3,412	4,660	3,960	4,010
51	Santa Fe Ave	Hatch Rd	7th Street	8,100	11,670	9,690	8,560
52	Scenic Drive	Rose Ave	Oakdale Rd	30,000	37,170	35,580	35,390
53	Scenic Drive	Oakdale Rd	Claus Rd	19,200	21,480	21,660	21,870
54	Service Rd	Central Ave	Mitchell Rd	9,430	15,540	21,090	18,520
55	Sperry Ave	SR 33	Ward Ave	7,150	12,070	13,810	13,240
56	Standiford Ave	Dale Rd	Prescott Rd	34,400	35,920	37,250	37,260
57	Standiford Ave	Prescott Rd	Oakdale Rd	36,000	44,320	38,330	38,440
58	Sylvan Rd	Roselle Ave	Claus Rd	16,340	30,120	22,630	23,040
59	Taylor Rd	Berkeley Ave	Geer Rd	8,000	8,570	8,310	8,280
60	Taylor Rd	Golden State Blvd	SR 99	12,000	12,000	15,390	16,120
61	Tully Rd	Standiford Ave	Pelandale Ave	17,000	26,520	26,880	26,410
62	Tully Rd	Pelandale Ave	Modesto GP Boundary	6,025	15,300	15,450	14,180
63	W. Main St	Tegner Rd	Walnut Rd	16,080	25,830	24,560	24,400
64	Washington Rd	Linwood Ave	Monte Vista Ave	1,500	5,890	7,900	3,830
65	Whitmore Ave	Ustick Rd	Morgan Rd	12,000	15,290	16,070	16,940
66	Whitmore Ave	Mitchell Rd	Faith Home Rd	6,160	7,260	8,040	8,810
67	Whitmore Ave	Mountain View Rd	Santa Fe Ave	5,700	6,100	6,850	6,670
68	I-5	Merced Co. Line	Stuhr Rd	39,000	53,360	52,660	52,680
69	I-5	Stuhr Rd	Fink Rd	39,000	52,500	51,590	51,750
70	I-5	Fink Rd	Sperry Ave	40,000	54,850	53,910	54,050
71	I-5	Sperry Ave	Westley Rest Area	46,000	58,240	57,830	57,800
72	I-5	Westley Rest Area	San Joaquin Co. Line	41,500	54,360	53,850	53,810
73	SR 4	San Joaquin Co. Line	Milton Rd	10,300	18,360	18,240	18,290
74	SR 4	Milton Rd	Calaveras Co. Line	8,800	17,660	17,660	17,660
75	SR 33 (N St)	Merced Co. Line	North of Newman	8,440	17,020	20,080	20,210
76	SR 33	North of Newman	Crows Landing Rd	6,160	16,310	16,170	16,260
77	SR 33	Crows Landing Rd	Poppy Ave	4,233	16,010	15,800	15,780
78	SR 33 (2nd St)	Poppy Ave	M Street	7,525	17,240	16,910	16,790
79	SR 33	Ward Ave	Westley	4,963	17,900	17,270	16,770
80	SR 99	Merced Co. Line	SR 165	63,000	81,040	81,640	81,990

ID	Roadway	Segment		Scenario			
		From	To	Base Year	2040 No Build	2040 Historical Trend	2040 RTP/SCS
81	SR 99	SR 165	W. Main St	76,000	95,090	96,330	96,230
82	SR 99	W. Main St	Fulkerth Rd	86,000	101,550	102,840	103,530
83	SR 99	Fulkerth Rd	Monte Vista Ave	80,000	96,160	96,630	98,580
84	SR 99	Monte Vista Ave	Taylor Rd	73,000	128,470	127,350	130,550
85	SR 99	Taylor Rd	Mitchell Rd	81,000	114,270	116,090	119,880
86	SR 99	Mitchell Rd	Whitmore Ave	102,000	127,620	130,410	131,560
87	SR 99	Whitmore Ave	Hatch Rd	102,000	123,840	130,330	130,630
88	SR 99	Hatch Rd	Crows Landing Rd	104,000	130,800	137,130	138,390
89	SR 99	Crows Landing Rd	H St	111,000	139,160	142,560	144,770
90	SR 99	H St	SR 132	119,000	153,390	157,160	157,780
91	SR 99	SR 132	Kansas Ave	126,000	146,430	151,180	154,070
92	SR 99	Kansas Ave	Briggsmore Ave	129,000	147,540	154,490	158,790
93	SR 99	Briggsmore Ave	Beckwith Rd	129,000	133,230	139,870	151,480
94	SR 99	Beckwith Rd	Pelandale Ave	111,000	119,610	124,670	136,170
95	SR 99	Pelandale Ave	SR 219 (Kiernan Ave)	115,000	139,640	148,950	151,310
96	SR 99	SR 219 (Kiernan Ave)	San Joaquin Co. Line	117,000	134,800	146,500	144,520
97	SR 108 (Needham St)	K St	McHenry Ave	31,500	34,300	34,040	33,650
98	SR 108 (EB - K St)	9th St	Needham St	5,800	6,500	5,100	5,210
99	SR 108 (WB - L St)	Needham St	9th St	5,600	6,170	4,300	4,190
100	SR 108 (Needham St)	L St	McHenry Ave	18,400	20,610	22,040	21,610
101	SR 108 (McHenry Ave)	Needham St	Briggsmore Ave	33,000	45,410	44,170	44,740
102	SR 108 (McHenry Ave)	Briggsmore Ave	Coralwood Rd	40,500	49,020	48,060	47,840
103	SR 108 (McHenry Ave)	Coralwood Rd	SR 219 (Kiernan Ave)	21,800	30,380	31,860	31,980
104	SR 108 (McHenry Ave)	SR 219 (Kiernan Ave)	Ladd Rd	22,800	22,800	21,670	21,670
105	SR 108 (Patterson Rd)	McHenry Ave	Coffee Rd	21,200	28,340	25,800	26,150
106	SR 108 (Patterson Rd)	Coffee Rd	Oakdale Rd	21,200	25,600	21,750	21,920
107	SR 108	Oakdale Rd	First St	21,500	21,500	9,370	9,840
108	SR 108 (Atchison St)	First St	Claus Rd	18,200	18,200	12,640	13,070
109	SR 108	Claus Rd	Willowood Dr	19,267	19,267	1,030	1,400
110	SR 108 (F St)	Willowood Dr	SR 120 (Yosemite Ave)	21,300	21,300	17,760	17,980
111	SR 120	San Joaquin Co. Line	Valley Home Rd	29,000	34,180	28,610	32,090
112	SR 120	Valley Home Rd	Stanislaus River	25,550	33,830	27,840	31,160
113	SR 120 (Yosemite Ave)	Stanislaus River	A St	23,000	29,580	24,320	27,620
114	SR 120 (Yosemite Ave)	A St	SR 108 (F St)	29,000	35,680	30,810	34,100
115	SR 120 (F St)	SR 108	Maag Rd	22,100	22,100	11,610	16,880
116	SR 120 (F St)	Maag Rd	Stearns Rd	19,700	19,700	10,220	16,350
117	SR 120	Stearns Rd	Dillwood Rd	19,700	19,700	14,570	19,170
118	SR 120	Dillwood Rd	Orange Blossom Rd	19,700	30,050	32,060	32,060
119	SR 120	Orange Blossom Rd	Lancaster Rd	15,400	28,460	30,300	30,320
120	SR 120	Lancaster Rd	Kennedy Rd	14,300	23,050	23,450	23,420

ID	Roadway	Segment		Scenario			
		From	To	Base Year	2040 No Build	2040 Historical Trend	2040 RTP/SCS
121	SR 120	Kennedy Rd	Tuolumne Co. Line	14,300	26,110	26,110	26,110
122	SR 132	San Joaquin Co. Line	Carpenter Rd	13,583	18,680	17,050	16,370
123	SR 132 (Maze Blvd)	Carpenter Rd	SR 99	14,200	18,640	11,860	12,020
124	SR 132 (L St)	SR 99	9th St	14,100	17,420	16,930	17,210
125	SR 132 (9th St)	L St	D St	16,200	20,900	10,510	10,220
126	SR 132	9th St/D St	La Loma Ave	20,100	23,000	28,010	28,520
127	SR 132 (Yosemite Blvd)	La Loma Ave	Riverside Dr	22,067	26,340	26,450	26,250
128	SR 132 (Yosemite Blvd)	Riverside Dr	Claus Rd	18,467	22,620	22,030	21,820
129	SR 132 (Yosemite Blvd)	Claus Rd	Santa Fe Ave	15,900	16,120	15,390	12,680
130	SR 132 (Yosemite Blvd)	Santa Fe Ave	Root Rd	9,967	11,520	11,300	10,950
131	SR 132 (Yosemite Blvd)	Root Rd	Geer-Albers Rd	8,300	12,510	12,280	11,760
132	SR 132	Hickman Rd	Roberts Ferry Rd	2,700	4,200	4,130	3,510
133	SR 132	Roberts Ferry Rd	La Grange Rd	2,800	2,800	2,680	2,690
134	SR 132	La Grange Rd	Tuolumne Co. Line	1,700	1,880	1,880	1,880
135	SR 165 (Lander Ave)	SR 99	Merced Co. Line	27,500	31,190	31,390	31,170
136	SR 219 (Kiernan Ave)	SR 99	Sisk Rd	30,000	45,730	57,540	52,700
137	SR 219 (Kiernan Ave)	Sisk Rd	Stoddard Rd	14,900	25,050	30,380	25,510
138	SR 219 (Kiernan Ave)	Stoddard Rd	SR 108 (McHenry Ave)	14,900	25,580	36,040	31,370

Table 3.CMP Roadway Segment Level of Service Summary

ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY							
ID	Roadway	Segment		Level of Service ¹			
		From	To	Base Year	2040 NoBuild	2040 Historical	2040 RTP/SCS
1	7th Street	Morgan Rd	K Street	E	F	F	F
2	9th Street	Carpenter Rd	River Rd	D	D	C	C
3	Bangs Ave	Dale Rd	SR 108 (McHenry Ave)	D	D	D	D
4	Beckwith Rd	SR 99	Modesto GP Boundary	D	D	D	D
5	Blue Gum Ave	Poust Rd	Rosemore Ave	F	F	F	F
6	Briggsmore Ave	Sisk Rd	Oakdale Rd	F	F	F	F
7	Briggsmore Ave	Oakdale Rd	Roselle Ave	F	F	D	F
8	Briggsmore Ave	Roselle Ave	Claus Rd	E	F	D	F
9	Briggsmore Ave	Claus Rd	Modesto GP Boundary	C	C	C	C
10	Carpenter Rd	SR 99	Maze Blvd	D	F	D	F
11	Carpenter Rd	Maze Blvd	Paradise Rd	E	F	D	F
12	Carpenter Rd	Paradise Rd	Hatch Rd	E	F	F	F
13	Central Avenue	Whitmore Ave	Grayson Rd	C	D	C	C
14	Christofferson Pkwy	Berkeley Ave	Geer Rd	C	C	C	C
15	Claratina Ave	SR 108 (McHenry Ave)	Coffee Rd	D	F	D	D
16	Claribel Rd	SR 108 (McHenry Ave)	Oakdale Rd	D	F	D	F
17	Claus Rd	Briggsmore Ave	Sylvan Ave	F	F	F	F
18	Coffee Rd	Mable Rd	Claribel Rd	F	F	F	F
19	Crows Landing Rd	7th Street	SR 99	D	E	C	C
20	Crows Landing Rd	SR 99	Whitmore Ave	D	F	F	F
21	Crows Landing Rd	Service Rd	Grayson Rd	D	D	C	C
22	Dakota Ave	North Ave	Salida Blvd	D	F	F	D
23	Dale Rd	Standiford Ave	Pelandale Ave	D	D	C	C
24	Dale Rd	Pelandale Ave	SR 219 (Kiernan Ave)	C	D	C	C
25	East Ave	Santa Fe Ave	Turlock City Limit	D	D	D	D
26	El Vista Ave	Briggsmore Ave	Yosemite Blvd	D	F	F	F
27	Faith Home Rd	Grayson Rd	N of River Xing	C	F	F	F
28	Fulkerth Rd	Dianne Rd	SR 99	C	D	D	C
29	Golden State Blvd	West Main St	Berkeley Ave	C	C	C	C
30	Grayson Rd	Ustick Rd	Mitchell Rd	C	C	C	C
31	Hatch Rd	Carpenter Rd	Crows Landing Rd	D	D	D	D
32	Hatch Rd	Crows Landing Rd	SR 99	E	F	F	F
33	Hatch Rd	SR 99	Mitchell Rd	D	D	C	D
34	Hatch Rd	Mitchell Rd	Santa Fe Ave	D	E	C	E
35	Hatch Rd	Santa Fe Ave	Geer Rd	D	D	D	D
36	Keyes Rd	Faith Home Rd	SR 99	D	F	F	F
37	Mitchell Rd	Yosemite Blvd	Modesto GP Boundary	D	D	D	D
38	Mitchell Rd	Service Rd	SR 99	D	D	D	D
39	Monte Vista Ave	Olive Ave	Berkeley Ave	D	D	D	D
40	Morgan Rd	7th Street	Grayson Rd	D	D	C	C
41	Oakdale Rd	Claribel Rd	Claratina Ave	D	E	D	D
42	Oakdale Rd	Claratina Ave	Sylvan Ave	D	F	D	D
43	Oakdale Rd	Sylvan Ave	Floyd Ave	D	F	F	F
44	Oakdale Rd	Floyd Ave	Briggsmore Ave	D	F	F	F

ID	Roadway	Segment		Base Year	Level of Service ¹		
		From	To		2040 NoBuild	2040 Historical	2040 RTP/SCS
45	Olive Ave	Canal Dr	Wayside Rd	D	D	C	C
46	Paradise Rd	Sutter Ave	Carpenter Rd	D	F	E	F
47	Paradise Rd	Carpenter Rd	Modesto GP Boundary	D	E	D	D
48	Prescott Rd	Briggsmore Ave	Modesto GP Boundary	D	D	D	D
49	Roselle Ave	Floyd Ave	Claribel Rd	D	F	D	D
50	Rosemore Ave	Kansas Ave	Blue Gum Ave	C	C	C	C
51	Santa Fe Ave	Hatch Rd	7th Street	D	D	C	C
52	Scenic Drive	Rose Ave	Oakdale Rd	D	F	F	F
53	Scenic Drive	Oakdale Rd	Claus Rd	F	F	F	F
54	Service Rd	Central Ave	Mitchell Rd	D	E	D	F
55	Sperry Ave	SR 33	Ward Ave	D	D	C	D
56	Standiford Ave	Dale Rd	Prescott Rd	F	F	F	F
57	Standiford Ave	Prescott Rd	Oakdale Rd	F	F	F	F
58	Sylvan Rd	Roselle Ave	Claus Rd	E	F	F	F
59	Taylor Rd	Berkeley Ave	Geer Rd	D	D	D	D
60	Taylor Rd	Golden State Blvd	SR 99	D	D	C	C
61	Tully Rd	Standiford Ave	Pelandale Ave	C	D	D	D
62	Tully Rd	Pelandale Ave	Modesto GP Boundary	D	E	E	E
63	W. Main St	Tegner Rd	Walnut Rd	E	F	F	F
64	Washington Rd	Linwood Ave	Monte Vista Ave	C	D	C	C
65	Whitmore Ave	Ustick Rd	Morgan Rd	D	E	C	C
66	Whitmore Ave	Mitchell Rd	Faith Home Rd	D	D	C	C
67	Whitmore Ave	Mountain View Rd	Santa Fe Ave	D	D	D	D
68	I-5	Merced Co. Line	Stuhr Rd	B	C	C	C
69	I-5	Stuhr Rd	Fink Rd	B	C	C	C
70	I-5	Fink Rd	Sperry Ave	B	C	C	C
71	I-5	Sperry Ave	Westley Rest Area	B	C	C	C
72	I-5	Westley Rest Area	San Joaquin Co. Line	B	C	C	C
73	SR 4	San Joaquin Co. Line	Milton Rd	D	E	E	E
74	SR 4	Milton Rd	Calaveras Co. Line	D	E	E	E
75	SR 33 (N St)	Merced Co. Line	North of Newman	D	E	E	E
76	SR 33	North of Newman	Crows Landing Rd	C	E	E	E
77	SR 33	Crows Landing Rd	Poppy Ave	B	E	E	E
78	SR 33 (2nd St)	Poppy Ave	M Street	B	B	B	B
79	SR 33	Ward Ave	Westley	B	E	E	E
80	SR 99	Merced Co. Line	SR 165	B	C	C	C
81	SR 99	SR 165	W. Main St	C	C	C	C
82	SR 99	W. Main St	Fulkerth Rd	C	D	D	D
83	SR 99	Fulkerth Rd	Monte Vista Ave	C	C	C	D
84	SR 99	Monte Vista Ave	Taylor Rd	C	E	E	E
85	SR 99	Taylor Rd	Mitchell Rd	C	D	D	D
86	SR 99	Mitchell Rd	Whitmore Ave	D	E	D	E
87	SR 99	Whitmore Ave	Hatch Rd	D	E	C	E
88	SR 99	Hatch Rd	Crows Landing Rd	D	E	D	E
89	SR 99	Crows Landing Rd	H St	D	E	D	F
90	SR 99	H St	SR 132	D	F	D	F

ID	Roadway	Segment		Level of Service ¹			
		From	To	Base Year	2040 NoBuild	2040 Historical	2040 RTP/SCS
91	SR 99	SR 132	Kansas Ave	E	F	D	D
92	SR 99	Kansas Ave	Briggsmore Ave	E	F	D	D
93	SR 99	Briggsmore Ave	Beckwith Rd	E	E	D	D
94	SR 99	Beckwith Rd	Pelandale Ave	D	D	C	D
95	SR 99	Pelandale Ave	SR 219 (Kiernan Ave)	D	E	D	D
96	SR 99	SR 219 (Kiernan Ave)	San Joaquin Co. Line	D	E	D	F
97	SR 108 (Needham St)	K St	McHenry Ave	D	F	E	E
98	SR 108 (EB - K St)	9th St	Needham St	C	C	C	C
99	SR 108 (WB - L St)	Needham St	9th St	C	C	C	C
100	SR 108 (Needham St)	L St	McHenry Ave	C	D	D	D
101	SR 108 (McHenry Ave)	Needham St	Briggsmore Ave	D	F	F	F
102	SR 108 (McHenry Ave)	Briggsmore Ave	Coralwood Rd	D	F	D	D
103	SR 108 (McHenry Ave)	Coralwood Rd	SR 219 (Kiernan Ave)	D	D	D	D
104	SR 108 (McHenry Ave)	SR 219 (Kiernan Ave)	Ladd Rd	E	E	E	E
105	SR 108 (Patterson Rd)	McHenry Ave	Coffee Rd	E	F	E	E
106	SR 108 (Patterson Rd)	Coffee Rd	Oakdale Rd	E	E	E	E
107	SR 108	Oakdale Rd	First St	E	E	D	D
108	SR 108 (Atchison St)	First St	Claus Rd	E	E	D	D
109	SR 108	Claus Rd	Willowood Dr	E	E	B	B
110	SR 108 (F St)	Willowood Dr	SR 120 (Yosemite Ave)	E	E	E	E
111	SR 120	San Joaquin Co. Line	Valley Home Rd	F	F	F	F
112	SR 120	Valley Home Rd	Stanislaus River	E	F	E	F
113	SR 120 (Yosemite Ave)	Stanislaus River	A St	D	F	E	F
114	SR 120 (Yosemite Ave)	A St	SR 108 (F St)	D	F	D	E
115	SR 120 (F St)	SR 108	Maag Rd	D	D	C	C
116	SR 120 (F St)	Maag Rd	Stearns Rd	E	E	D	E
117	SR 120	Stearns Rd	Dillwood Rd	E	E	D	E
118	SR 120	Dillwood Rd	Orange Blossom Rd	E	F	F	F
119	SR 120	Orange Blossom Rd	Lancaster Rd	E	F	F	F
120	SR 120	Lancaster Rd	Kennedy Rd	D	E	E	E
121	SR 120	Kennedy Rd	Tuolumne Co. Line	D	E	E	E
122	SR 132	San Joaquin Co. Line	Carpenter Rd	D	E	E	E
123	SR 132 (Maze Blvd)	Carpenter Rd	SR 99	E	F	D	D
124	SR 132 (L St)	SR 99	9th St	C	C	C	C
125	SR 132 (9th St)	L St	D St	C	D	C	C
126	SR 132	9th St/D St	La Loma Ave	D	D	D	D
127	SR 132 (Yosemite Blvd)	La Loma Ave	Riverside Dr	D	D	D	D
128	SR 132 (Yosemite Blvd)	Riverside Dr	Claus Rd	F	F	F	F
129	SR 132 (Yosemite Blvd)	Claus Rd	Santa Fe Ave	E	E	E	D
130	SR 132 (Yosemite Blvd)	Santa Fe Ave	Root Rd	D	D	D	D
131	SR 132 (Yosemite Blvd)	Root Rd	Geer-Albers Rd	C	D	D	D
132	SR 132	Hickman Rd	Roberts Ferry Rd	B	B	B	B
133	SR 132	Roberts Ferry Rd	La Grange Rd	B	B	B	B
134	SR 132	La Grange Rd	Tuolumne Co. Line	B	B	B	B
135	SR 165 (Lander Ave)	SR 99	Merced Co. Line	E	F	F	F
136	SR 219 (Kiernan Ave)	SR 99	Sisk Rd	F	F	C	C
137	SR 219 (Kiernan Ave)	Sisk Rd	Stoddard Rd	E	E	B	B
138	SR 219 (Kiernan Ave)	Stoddard Rd	SR 108 (McHenry Ave)	E	E	B	B

¹ Based on Planning and Preliminary Design Generalized Daily Service Volumes thresholds derived from the Highway Capacity Manual (Transportation Research Board, 2010). Bold font and yellow/red shading indicates unacceptable roadway operations based on the operating jurisdiction's LOS standard, per the local General Plans and Caltrans Transportation Concept Reports. These volumes indicate K=0.1, D=0.50 or 0.55, Terrain = Flat and Free Flow Speed = 30 mph for two-lane arterials, 45 for four or six-lane arterials and 65 for freeways.