Project Trip Distribution and Assignment

The distribution of trips to the north, south, east and west, as well as the actual routes used, is based on a combination of existing travel patterns observed in the June 2011 traffic counts, site visits, and the Solano-Napa Travel Demand Model's trip distribution characteristics for development on the site. While the model was not used to directly generate and distribution project trips, it was used to help estimate the trip distribution, via a "Select Zone" assignment, in which retail uses were entered for the Plan zone, and trips were tracked throughout the study are network. The final selected project trip distribution is based on a combination of the model Select Zone assignment, site visits, and observed traffic patterns from the June 2011 traffic counts. The project trip distribution is shown in Exhibit 3.11-7.

Project Traffic Volumes

Exhibit 3.11-8a, Exhibit 3.11-8b, and Exhibit 3.11-8c, show the project traffic volumes assigned to the study intersections, for Phases 1, 1+2, and 1+2+3.

Intersection Traffic Volumes and LOS – Existing Plus Project Scenarios

Exhibit 3.11-9a, Exhibit 3.11-9b, and Exhibit 3.11-9c show the intersection peak-hour volumes for the Existing Plus Project scenarios, for Phases 1, 1+2, and 1+2+3, respectively. Table 3.11-11 shows the corresponding service levels for these scenarios. Significant impacts are indicated by the shaded cells. Thresholds of significance are described below in Section 3.11.5., and the impacts are discussed in Section 3.11.6.

Freeway and State Route Volumes – Existing Plus Project Scenarios

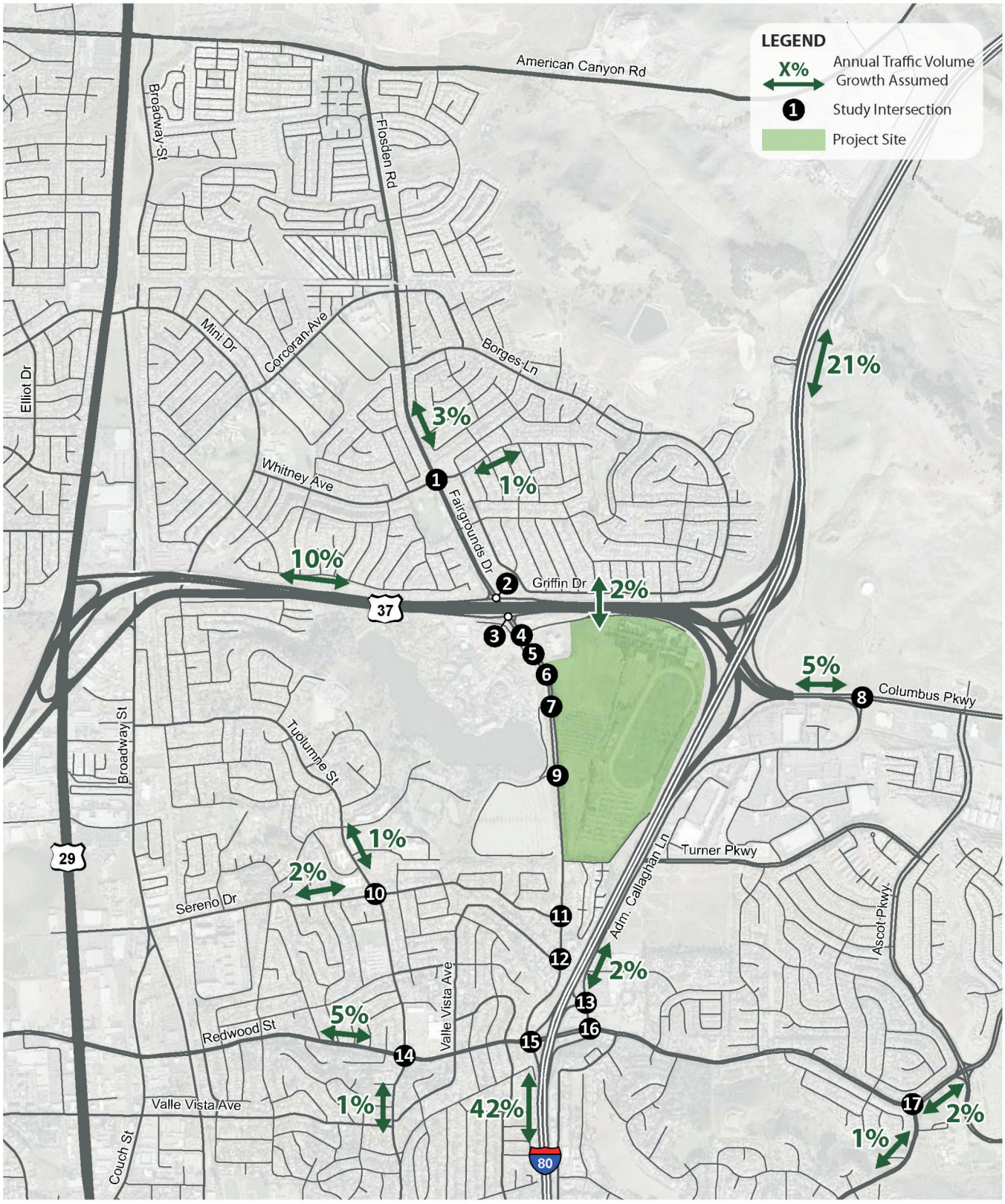
Table 3.11-11 shows the freeway and state route volumes for the Existing Plus Project scenarios. Thresholds of significance are described below in Section 3.11.5., and the impacts are discussed in Section 3.11.6.

Intersection Traffic Volumes and LOS – Cumulative Scenarios

Exhibit 3.11-1 shows the intersection peak-hour volumes for the Cumulative No Project scenarios, and Exhibit 3.11-2a, Exhibit 3.11-2b, and Exhibit 3.11-2c show the volumes for Cumulative Plus Project Phases 1, 1+2, and 1+2+3, respectively. Table 3.11-13 shows the corresponding service levels for these scenarios. Significant impacts are indicated by the shaded cells. Thresholds of significance are described below in Section 3.11.5., and the Cumulative impacts are discussed in Section 3.11.7.

Freeway and State Route Volumes – Cumulative Scenarios

Table 3.11-14 shows the freeway and state route volumes for the Cumulative No Project and Cumulative Plus Project scenarios. Thresholds of significance are described below in Section 3.11.5., and the Cumulative impacts are discussed in Section 3.11.

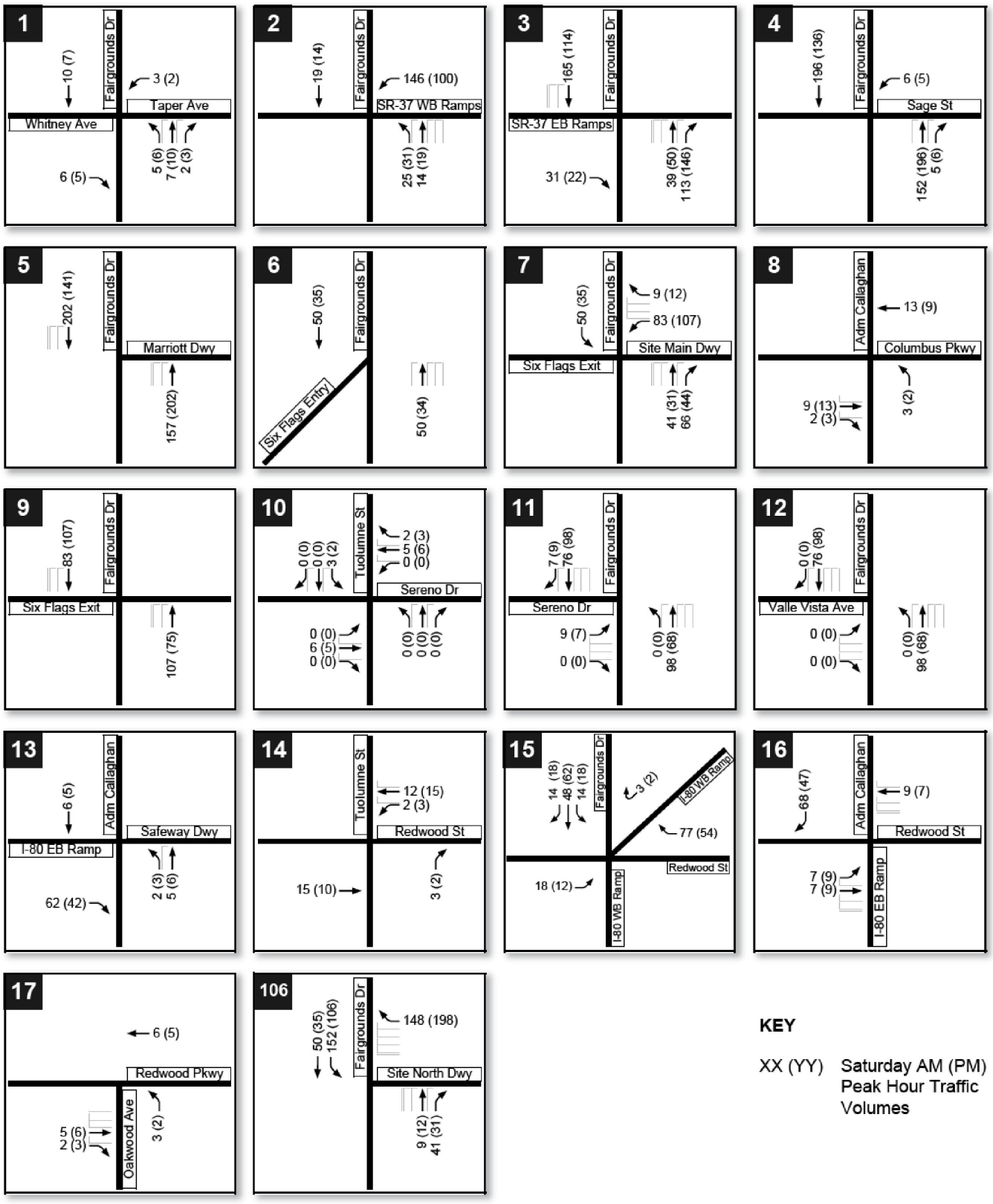


Source: Fehr and Peers, 2011.

NORTH

Michael Brandman Associates

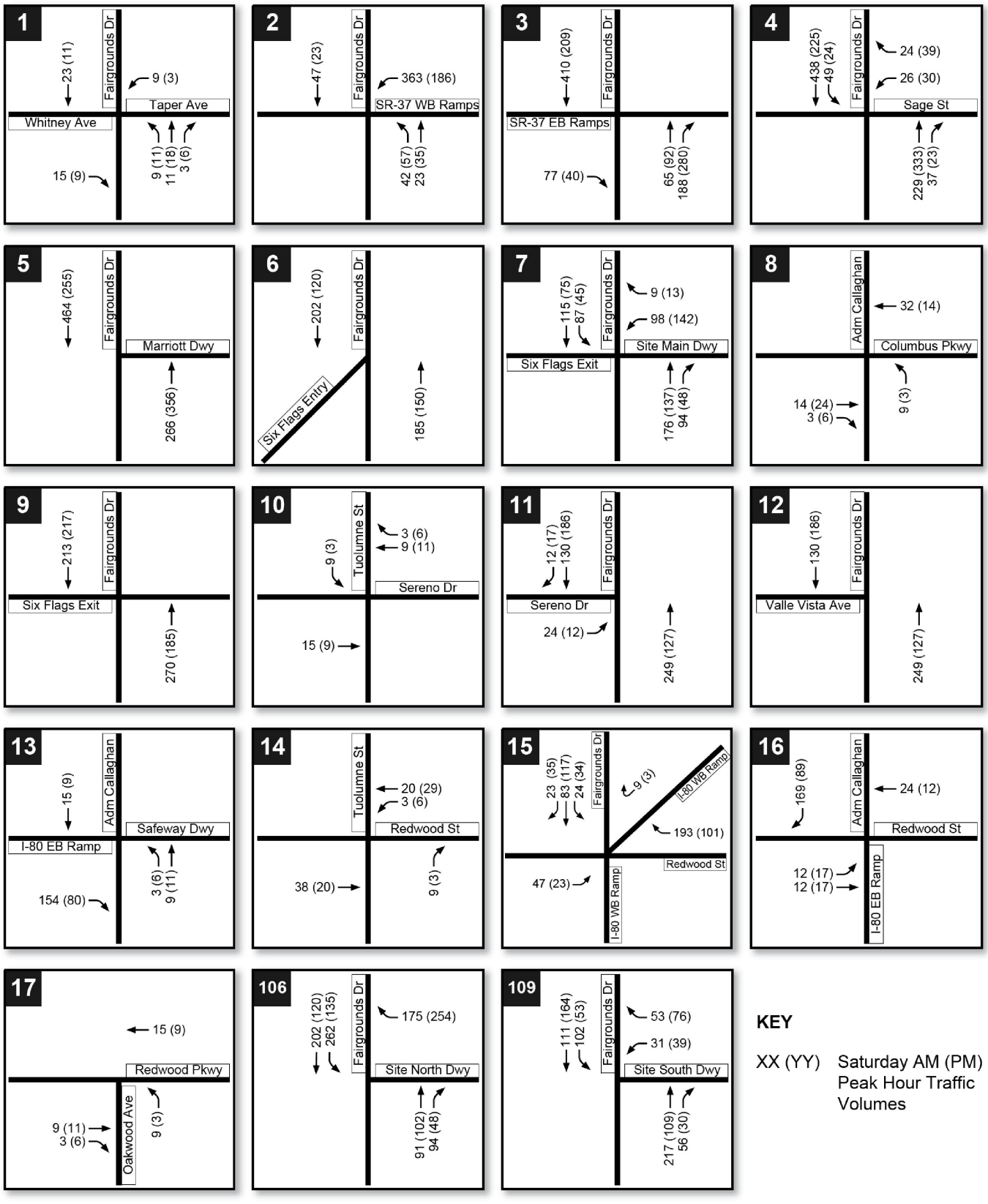
Exhibit 3.11-7
Project Trip Distribution



Source: Fehrs and Peers, 2012.

Exhibit 3.11-8a
Project Traffic Assignment
Phase 1

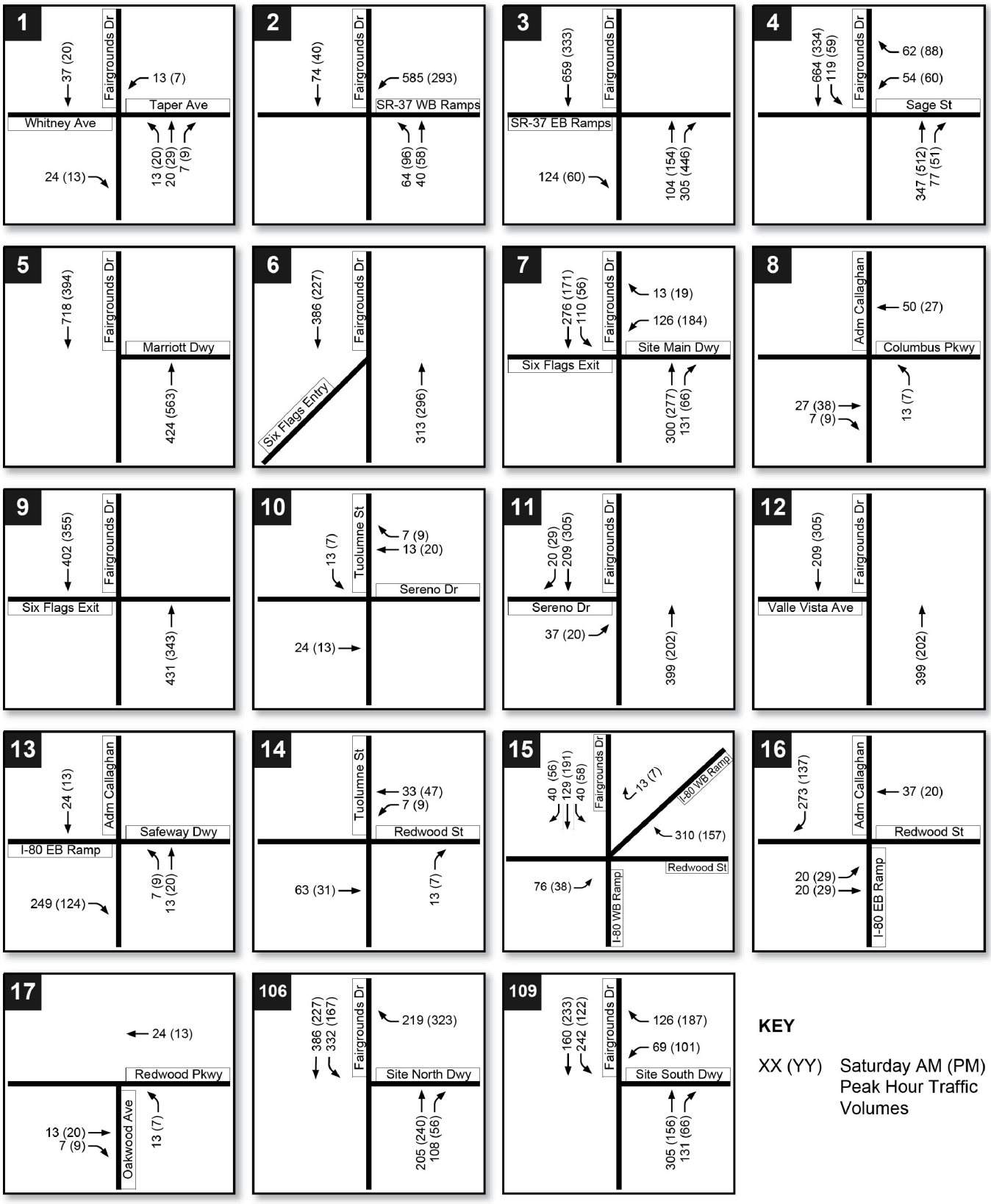
Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Exhibit 3.11-8b
Project Traffic Assignment
Phases 1 and 2

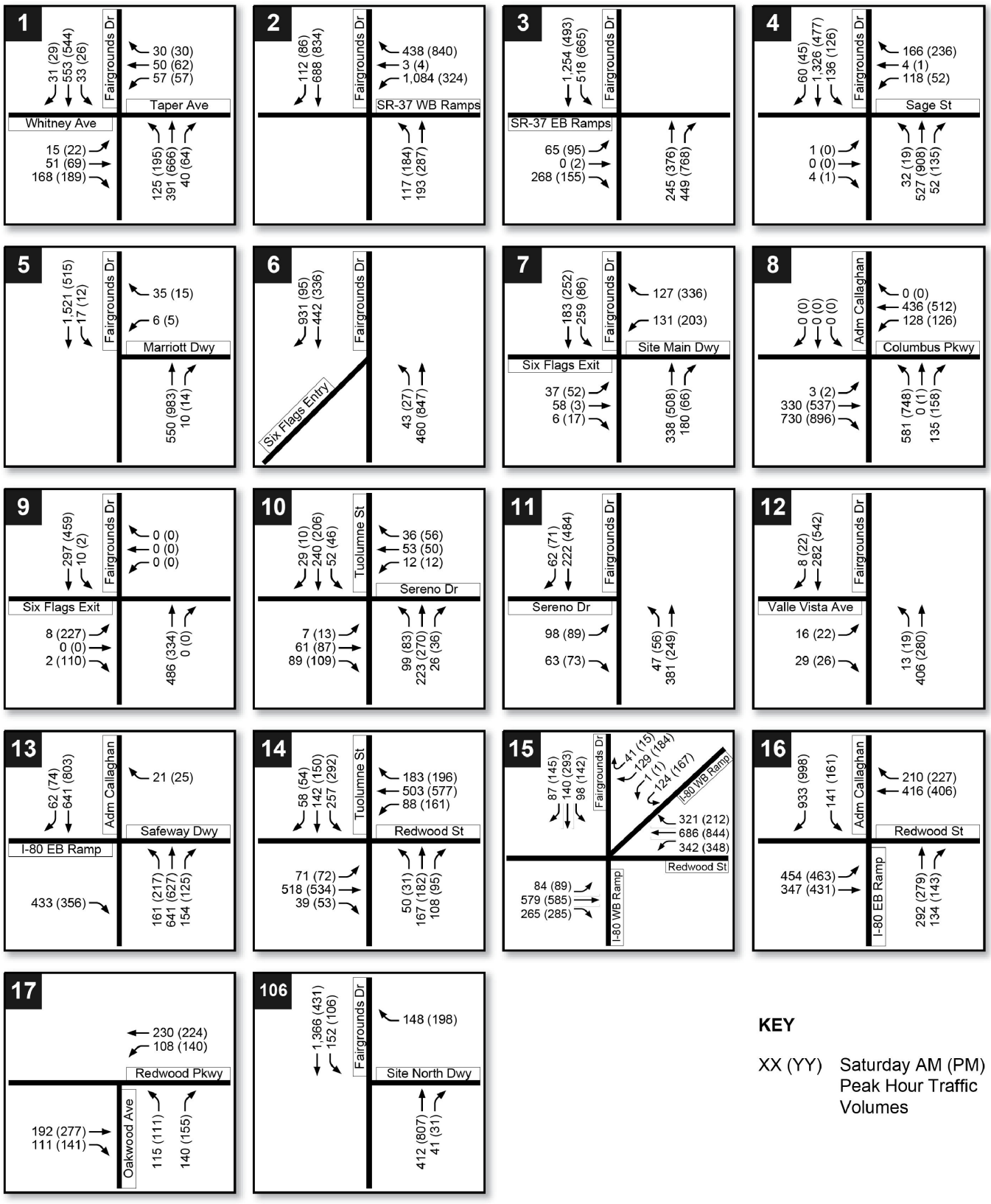
Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Exhibit 3.11-8c
Project Traffic Assignment
Phases 1, 2, and 3

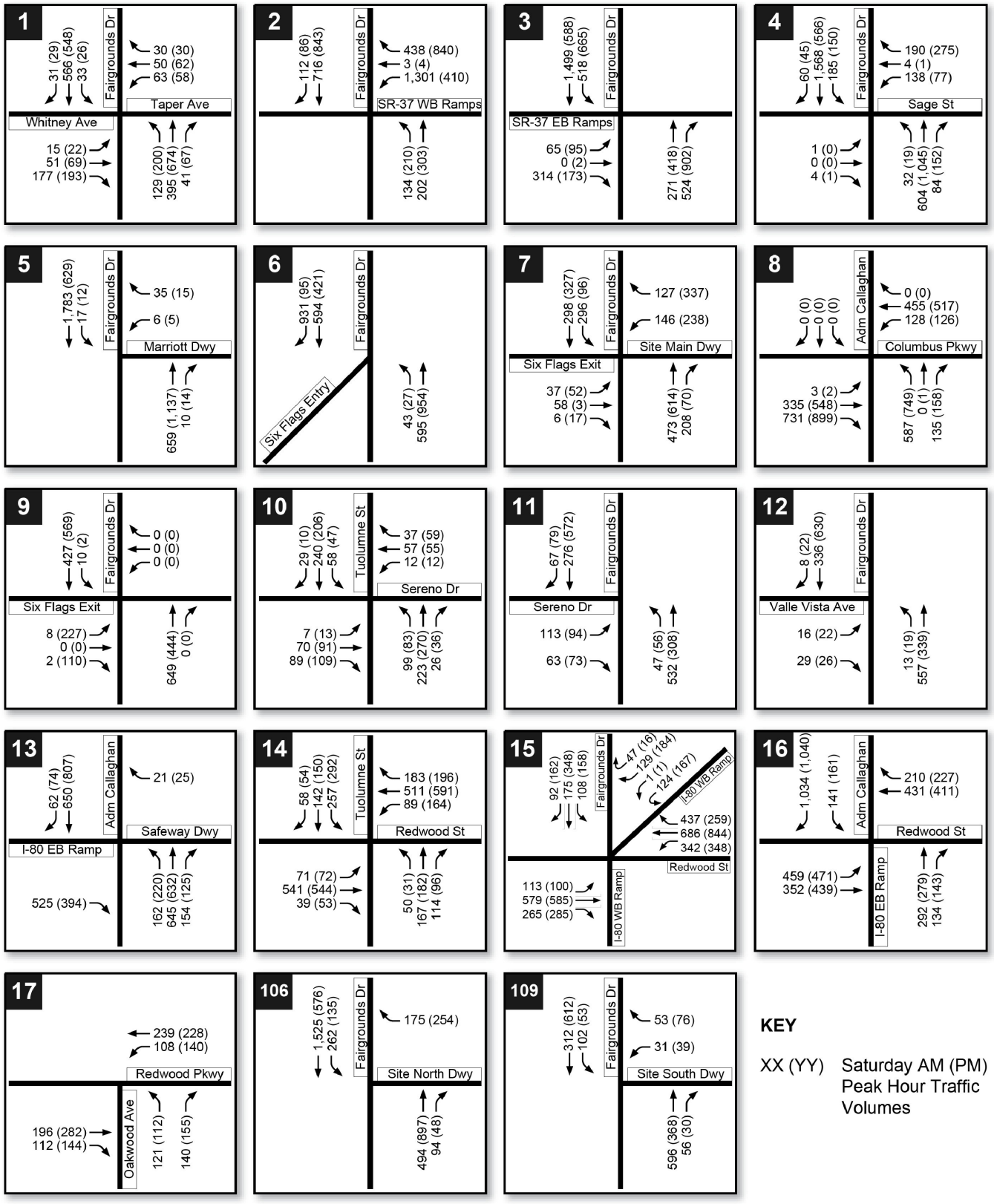
Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Exhibit 3.11-9a
Existing Plus Project Volumes
Phase 1

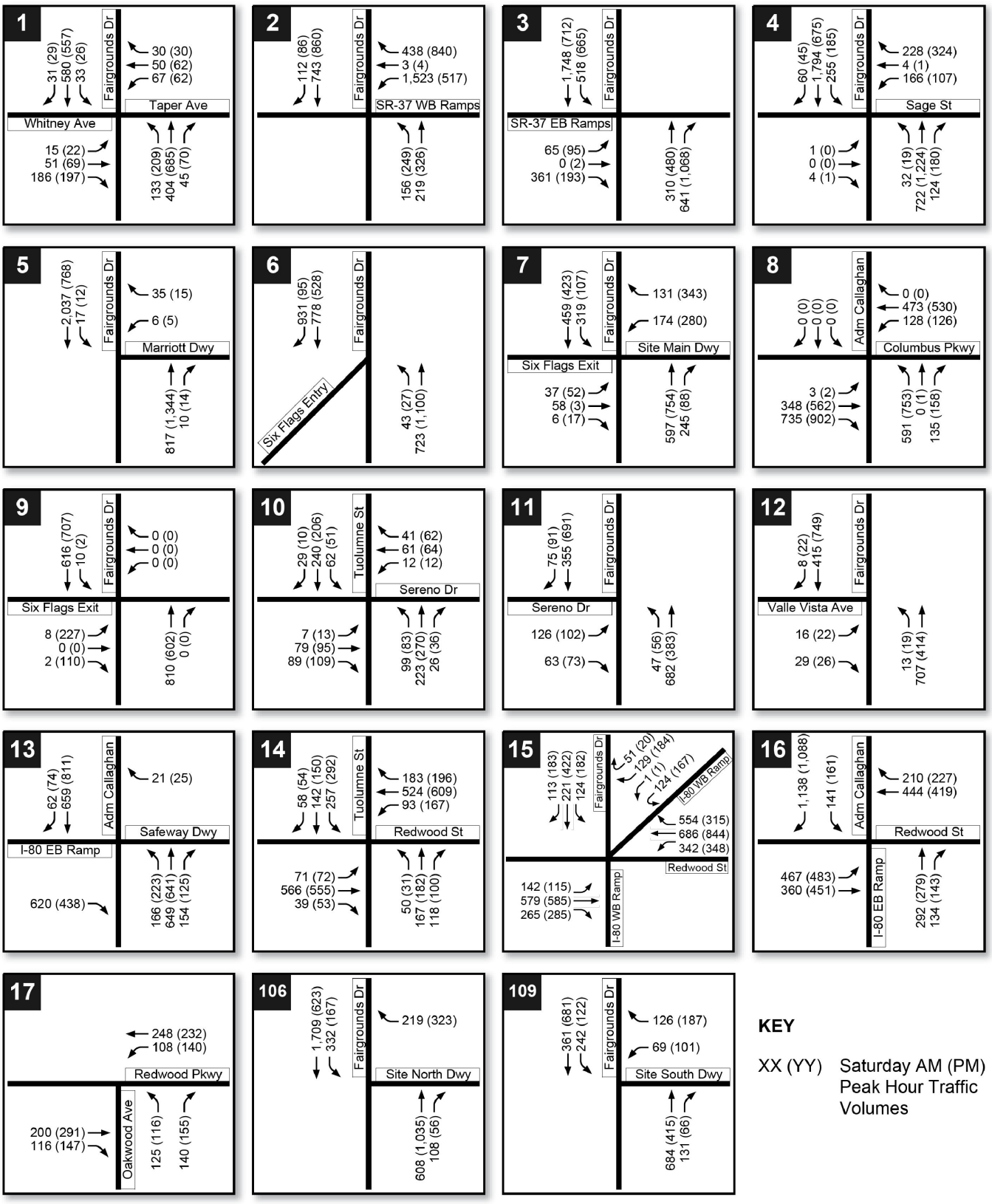
Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Exhibit 3.11-9b
Existing Plus Project Volumes
Phases 1 and 2

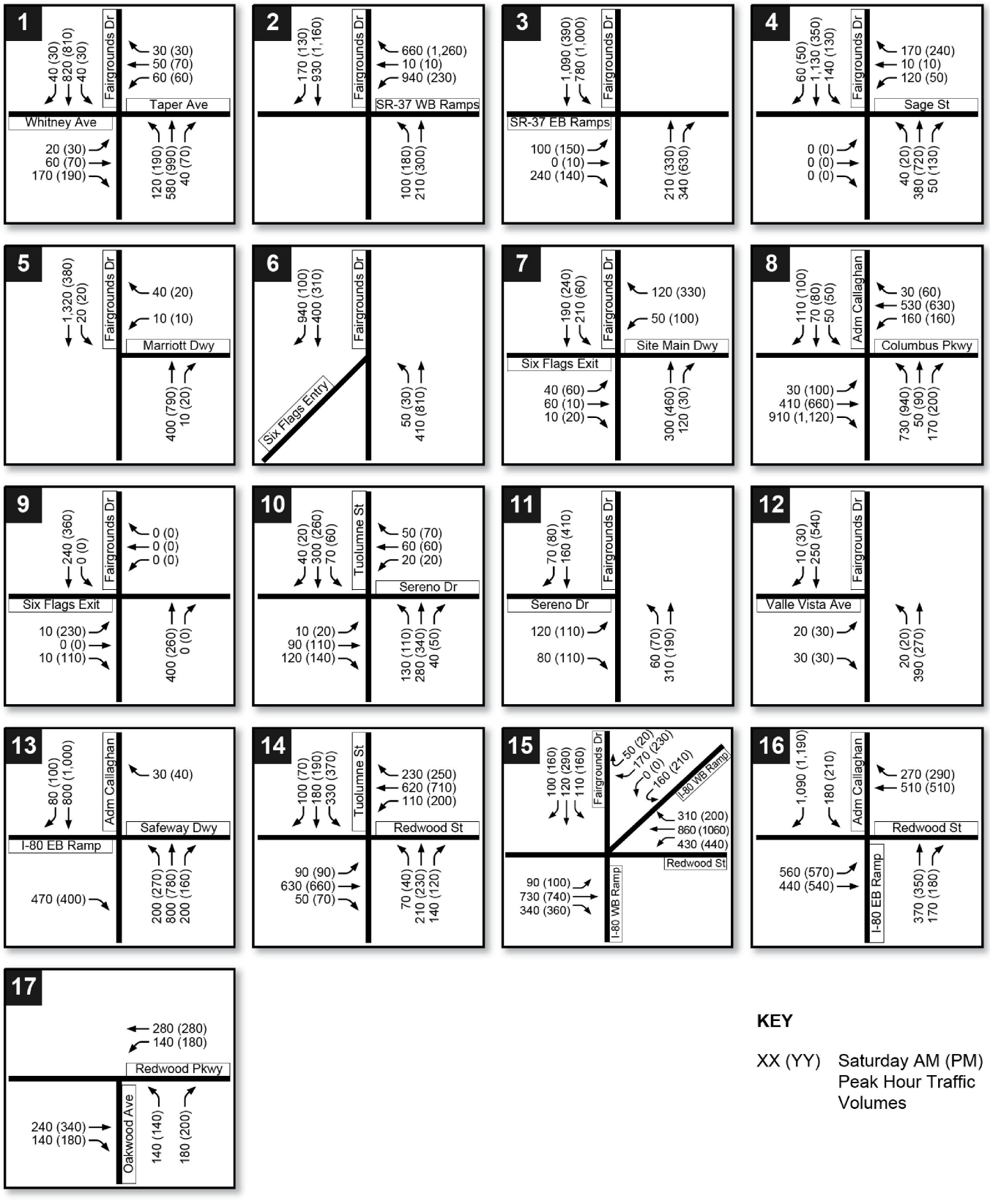
Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Exhibit 3.11-9c
Existing Plus Project Volumes
Phases 1, 2, and 3

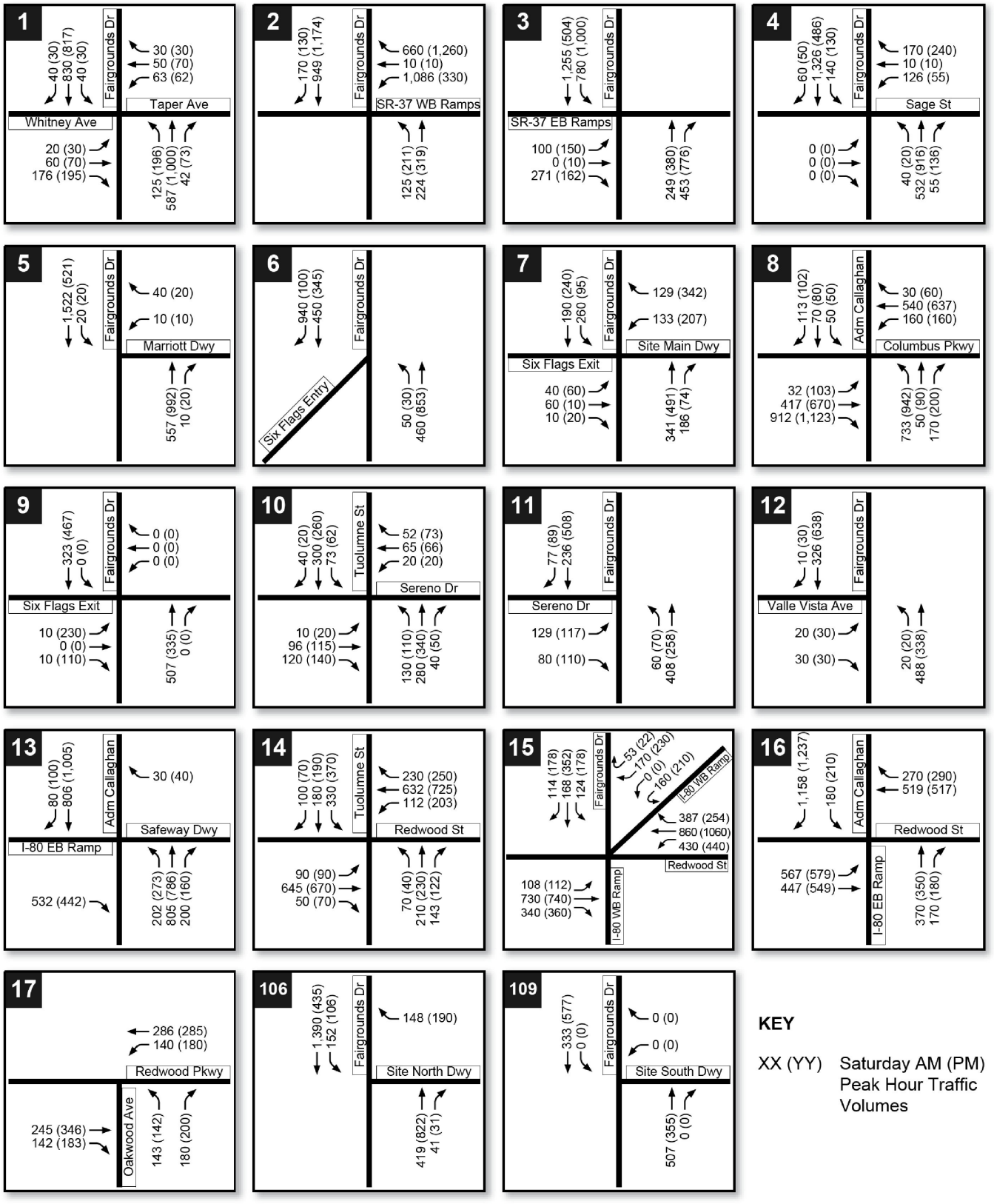
Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Michael Brandman Associates

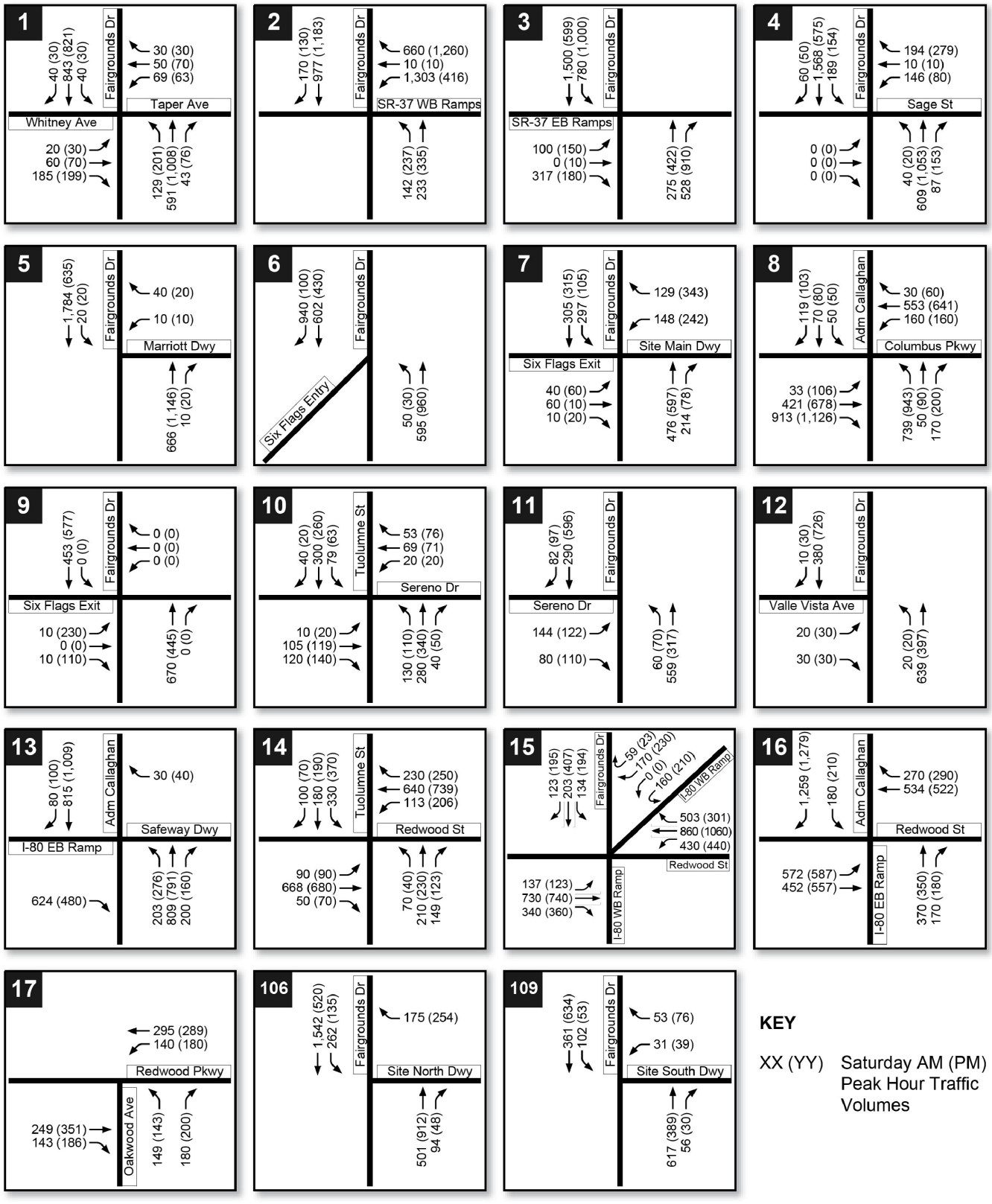
Exhibit 3.11-10
Cumulative No Project Volumes



Source: Fehrs and Peers, 2012.

Exhibit 3.11-11a
Cumulative Plus Project Traffic Volumes
Phase 1

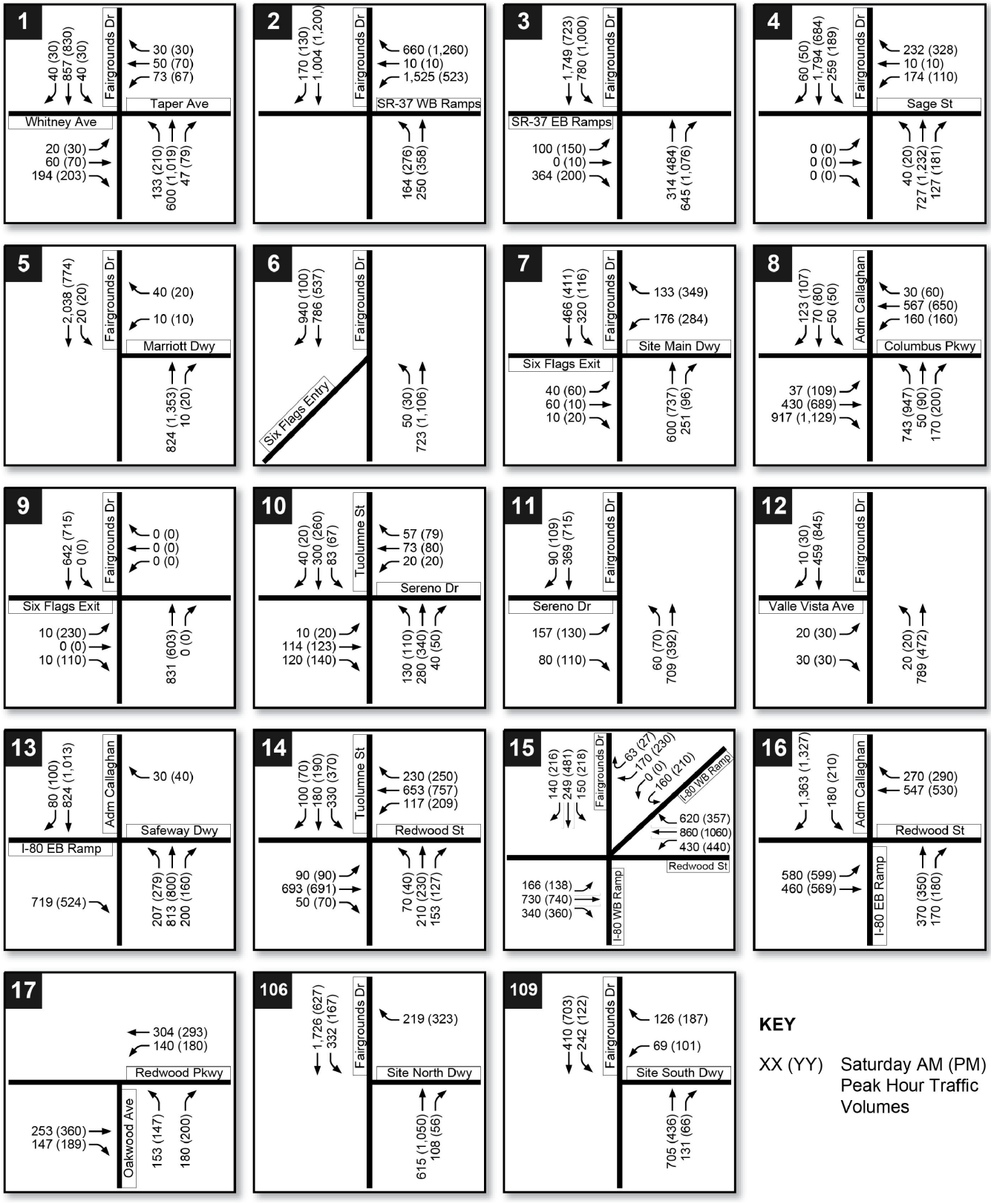
Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Exhibit 3.11-11b
Cumulative Plus Project Traffic Volumes
Phases 1 and 2

Michael Brandman Associates



Source: Fehrs and Peers, 2012.

Exhibit 3.11-11c
Cumulative Plus Project Traffic Volumes
Phases 1, 2, and 3

Michael Brandman Associates

Table 3.11-11: Intersection LOS Existing Plus Project Conditions—Saturday

Intersection	Control[1]	Peak Hour	Existing		Existing + Phase 1		Existing + Phases 1, 2		Existing + Phases 1, 2, 3	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
1. Whitney Avenue/ Fairgrounds Drive	Signal	AM	14.9	B	15.2	B	15.8	B	16.3	B
		PM	17.4	B	17.8	B	18.0	B	18.6	B
2. SR-37 WB Ramps/ Fairgrounds Drive	Signal	AM	22.0	C	28.1	C	47.2	D	**87.8**	**F**
		PM	14.2	B	16.4	B	18.6	B	21.9	C
3. SR-37 EB Ramps/ Fairgrounds Drive	Signal	AM	10.4	B	11.5	B	13.0	B	16.3	B
		PM	17.5	B	19.1	B	26.5	C	**60.5**	**E**
4. Sage Street/Fairgrounds Drive	SSSC/ Signal[3]	AM	**9.9 (66.0)**	**A (F)**	13.4	B	15.8	C	23.0	C
		PM	5.9 (29.0)	A (D)	12.3	B	14.7	B	18.5	C
5. Courtyard by Marriott Driveway/ Fairgrounds Drive	SSSC	AM	0.3 (11.7)	A (B)	0.3 (12.5)	A (B)	0.3 (12.7)	A (B)	0.2 (12.2)	A (B)
		PM	0.3 (13.8)	A (B)	0.3 (16.0)	A (C)	0.3 (18.3)	A (C)	0.3 (23.3)	A (C)
6. Six Flags Discovery Kingdom Entry/ Fairgrounds Drive[4]	SSSC	AM	0.3 (13.4)	A (B)	0.3 (13.9)	A (B)	0.3 (15.4)	A (C)	0.4 (14.2)	A (B)
		PM	0.2 (8.3)	A (A)	0.2 (8.4)	A (A)	0.2 (8.7)	A (A)	0.1 (9.1)	A (A)
7. Fairgrounds Drive/ Six Flags Discovery Kingdom Exit/ Project Main Entry Road	Signal	AM	22.3	C	28.6	C	32.1	C	35.5	D
		PM	18.7	B	22.6	C	24.2	C	26.2	C
8. Columbus Parkway/ Admiral Callaghan Lane	Signal	AM	17.5	B	17.6	B	18.5	B	18.6	B
		PM	23.3	C	23.4	C	23.5	C	23.7	C
9. Six Flags Discovery Kingdom South Exit/ Fairgrounds Drive	Signal	AM	2.1	A	2.0	A	2.0	A	2.5	A
		PM	7.6	A	7.9	A	8.3	A	8.5	A
10. Sereno Drive/Tuolumne Street	Signal	AM	12.3	B	12.8	B	13.1	B	13.2	B
		PM	12.8	B	13.0	B	13.0	B	13.2	B

Table 3.11-11 (cont.): Intersection LOS Existing Plus Project Conditions—Saturday

Intersection	Control[1]	Peak Hour	Existing		Existing + Phase 1		Existing + Phases 1, 2		Existing + Phases 1, 2, 3	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
11. Sereno Drive/ Fairgrounds Drive	Signal	AM	9.3	A	9.8	A	10.2	B	11.7	B
		PM	11.1	B	12.1	B	12.5	B	14.0	B
12. Valle Vista Avenue/ Fairgrounds Drive	SSSC	AM	1.0 (10.4)	A (B)	0.8 (11.1)	A (B)	0.7 (11.9)	A (B)	0.6 (13.1)	A (B)
		PM	1.0 (11.5)	A (B)	0.8 (12.5)	A (B)	0.8 (13.6)	A (B)	0.7 (15.6)	A (C)
13. I-80 EB Ramp/Admiral Callaghan Lane	SSSC	AM	1.1 (10.5)	A (B)	1.1 (10.5)	A (B)	1.1 (10.5)	A (B)	1.1 (10.6)	A (B)
		PM	1.4 (10.4)	A (B)	1.4 (10.5)	A (B)	1.5 (10.5)	A (B)	1.5 (10.5)	A (B)
14. Redwood Street/ Tuolumne Drive	Signal	AM	27.7	C	27.9	C	28.0	C	28.2	C
		PM	34.4	C	34.8	C	35.0	C	35.3	D
15. Redwood Street/I-80 WB Ramp	Signal	AM	23.3	C	28.9	C	33.1	C	53.4	D
		PM	33.7	C	37.8	D	44.8	D	64.1	E
16. Redwood Street/Admiral Callaghan Lane	Signal	AM	28.0	C	28.1	C	28.4	C	28.9	C
		PM	28.1	C	28.3	C	28.5	C	28.6	C
17. Redwood Parkway/ Oakwood Avenue	Signal	AM	11.2	B	11.2	B	11.2	B	11.2	B
		PM	12.5	B	12.5	B	12.5	B	12.6	B
106. Site North Driveway/ Fairgrounds Drive	Signal	AM	Intersection does not exist		2.3	A	2.8	A	3.2	A
		PM			4.2	A	4.9	A	5.5	A
109. Site South Driveway/ Fairgrounds Drive	Signal	AM	Intersection does not exist		Intersection does not exist		8.6	A	20.7	C
		PM					10.9	B	13.5	B

Note: **Bold** indicates LOS exceeding the applicable standard. Shading indicates a significant impact, based on the thresholds of significance.
[1] SSSC = Side street stop-controlled intersection.
[2] Average control delay and LOS for worst approach at SSSC intersections are presented in parentheses.
[3] Fairgrounds Drive/Sage Street is assumed to be signalized for all Existing Plus Project cases.
[4] At intersection 6, control delay and LOS for NBL movement are presented in parentheses.
Source: Fehr & Peers, August 2012.

Table 3.11-12: Freeway Volumes and LOS – Existing Plus Project—Saturday

Freeway Segment	Capacity	Existing			Phase 1 Project			Phase 2 Project			Phase 3 Project		
		Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]
AM Peak Hour													
I-80 EB, south of Redwood Parkway	6,000	5,340	0.89	D	**5,470**	**0.91**	**E**	**5,660**	**0.94**	**E**	**5,860**	**0.98**	**E**
I-80 EB, between Redwood Parkway and SR-37	6,000	4,660	0.78	C	4,730	0.79	C	4,830	0.81	D	4,940	0.82	D
I-80 EB, north of SR-37	8,000	3,750	0.47	A	3,810	0.48	A	3,840	0.48	A	3,900	0.49	A
I-80 WB, north of SR-37	6,000	3,490	0.44	A	3,560	0.45	A	3,670	0.46	A	3,780	0.47	A
I-80 WB, between SR-37 and Redwood Parkway	8,000	2,970	0.37	A	3,020	0.38	A	3,070	0.38	A	3,130	0.39	A
I-80 WB, south of Redwood Parkway	8,000	4,080	0.68	B	4,180	0.70	B	4,250	0.71	C	4,350	0.73	C
SR-37 EB, west of Fairground Drive	4,000	2,560	0.64	B	2,590	0.65	B	2,640	0.66	B	2,680	0.67	B
SR-37 EB, east of Fairground Drive	6,000	3,630	0.61	B	3,750	0.63	B	3,820	0.64	B	3,940	0.66	B
SR-37 WB, east of Fairground Drive	6,000	3,420	0.57	A	3,570	0.60	A	3,790	0.63	B	4,010	0.67	B
SR-37 WB, west of Fairground Drive	4,000	2,630	0.66	B	2,660	0.67	B	2,680	0.67	B	2,700	0.68	B
PM Peak Hour													
I-80 EB, south of Redwood Parkway	6,000	4,890	0.82	D	4,980	0.83	D	5,060	0.84	D	5,150	0.86	D
I-80 EB, between Redwood Parkway and SR-37	6,000	4,390	0.73	C	4,440	0.74	C	4,490	0.75	C	4,540	0.76	C
I-80 EB, north of SR-37	8,000	4,180	0.52	A	4,250	0.53	A	4,320	0.54	A	4,400	0.55	A
I-80 WB, north of SR-37	6,000	4,010	0.50	A	4,060	0.51	A	4,100	0.51	A	4,160	0.52	A
I-80 WB, between SR-37 and Redwood Parkway	8,000	4,800	0.60	B	4,870	0.61	B	4,940	0.62	B	5,020	0.63	B
I-80 WB, south of Redwood Parkway	8,000	**5,520**	**0.92**	**E**	**5,650**	**0.94**	**E**	**5,770**	**0.96**	**E**	**5,920**	**0.99**	**E**
SR-37 EB, west of Fairground Drive	4,000	2,930	0.73	C	2,950	0.74	C	2,970	0.74	C	2,990	0.75	C
SR-37 EB, east of Fairground Drive	6,000	3,510	0.59	A	3,660	0.61	B	3,790	0.63	B	3,960	0.66	B
SR-37 WB, east of Fairground Drive	6,000	3,870	0.65	B	3,970	0.66	B	4,060	0.68	B	4,170	0.70	B

Table 3.11-12 (cont.): Freeway Volumes and LOS – Existing Plus Project—Saturday

Freeway Segment	Capacity	Existing			Phase 1 Project			Phase 2 Project			Phase 3 Project		
		Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]
SR-37 WB, west of Fairground Drive	4,000	2,830	0.71	C	2,860	0.72	C	2,890	0.72	C	2,930	0.73	C

Notes:
Below-standard level of service (LOS E or F) **bolded**. Significant impacts shaded.
Source: Existing volumes from Caltrans Performance Measurement System (PeMS) November 2011 for Saturday peak-hour volumes on I-80 north of SR-37; volumes elsewhere derived from the Saturday/weekday count ratio at this location. Project assignment as described in text.
Fehr & Peers, August 2012.

Table 3.11-13: Intersection LOS Cumulative Plus Project Conditions—Saturday

Intersection	Control[1]	Peak Hour	Cumulative		Cumulative + Phase 1		Cumulative + Phases 1, 2		Cumulative + Phases 1, 2, 3	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
1. Whitney Avenue/ Fairgrounds Drive	Signal	AM	17.1	B	17.6	B	18.5	B	20.1	C
		PM	20.4	C	21.1	C	21.5	C	22.3	C
2. SR-37 WB Ramps/ Fairgrounds Drive	Signal	AM	30.1	C	45.9	D	**69.3**	**E**	**108.4**	**F**
		PM	**59.7**	**E**	**62.1**	**E**	**64.9**	**E**	**70.8**	**E**
3. SR-37 EB Ramps/ Fairgrounds Drive	Signal	AM	12.9	B	14.8	B	16.2	B	19.2	B
		PM	25.9	C	40.8	D	**72.5**	**E**	**121.7**	**F**
4. Sage Street/Fairgrounds Drive	Signal	AM	13.8	B	14.8	B	17.2	B	23.9	C
		PM	12.2	B	12.5	B	15.0	B	18.6	B
5. Courtyard by Marriott Driveway/ Fairgrounds Drive	SSSC	AM	0.4 (11.1)	A (B)	0.4 (12.3)	A (B)	0.3 (12.0)	A (B)	0.2 (10.4)	A (B)
		PM	0.5 (15.1)	A (C)	0.5 (16.8)	A (C)	0.4 (18.0)	A (C)	0.4 (21.0)	A (C)

Table 3.11-13 (cont.): Intersection LOS Cumulative Plus Project Conditions—Saturday

Intersection	Control[1]	Peak Hour	Cumulative		Cumulative + Phase 1		Cumulative + Phases 1, 2		Cumulative + Phases 1, 2, 3	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
6. Six Flags Discovery Kingdom Entry/ Fairgrounds Drive[3]	SSSC	AM	0.4 (13.7)	A (B)	0.4 (14.2)	A (B)	0.4 (15.2)	A (C)	0.4 (18.4)	A (D)
		PM	0.2 (8.3)	A (A)	0.2 (8.5)	A (A)	0.2 (8.7)	A (A)	0.2 (9.2)	A (A)
7. Fairgrounds Drive/Six Flags Discovery Kingdom Exit/Project Main Entry Road	Signal	AM	22.6	C	29.0	C	32.6	C	36.2	D
		PM	17.5	B	21.3	C	24.9	C	27.5	C
8. Columbus Parkway/ Admiral Callaghan Lane	Signal	AM	38.9	D	39.3	D	40.1	D	40.8	D
		PM	**65.9**	**E**	**66.7**	**E**	**66.9**	**E**	**67.9**	**E**
9. Six Flags Discovery Kingdom South Exit/ Fairgrounds Drive	Signal	AM	2.6	A	2.5	A	2.6	A	3.1	A
		PM	7.6	A	7.9	A	8.3	A	8.5	A
10. Sereno Drive/Tuolumne Street	Signal	AM	14.5	B	14.6	B	14.9	B	15.2	B
		PM	15.2	B	15.4	B	15.5	B	15.7	B
11. Sereno Drive/ Fairgrounds Drive	Signal	AM	10.8	B	11.2	B	11.9	B	13.6	B
		PM	13.7	B	15.1	B	16.1	B	19.2	B
12. Valle Vista Avenue/ Fairgrounds Drive	SSSC	AM	1.0 (11.1)	A (B)	0.8 (11.9)	A (B)	0.7 (12.9)	A (B)	0.7 (14.5)	A (B)
		PM	1.0 (12.8)	A (B)	1.0 (14.2)	A (B)	0.9 (15.8)	A (C)	0.9 (18.6)	A (C)
13. I-80 EB Ramp/Admiral Callaghan Lane	SSSC	AM	1.2 (11.2)	A (B)	1.2 (11.3)	A (B)	1.2 (11.3)	A (B)	1.3 (11.3)	A (B)
		PM	1.8 (11.1)	A (B)	1.8 (11.2)	A (B)	1.8 (11.2)	A (B)	1.9 (11.2)	A (B)
14. Redwood Street/ Tuolumne Drive	Signal	AM	37.0	D	37.2	D	37.5	D	37.8	D
		PM	43.1	D	43.6	D	44.0	D	44.6	D
15. Redwood Street/I-80 WB Ramp	Signal	AM	34.0	C	40.9	D	**70.1**	**E**	**99.8**	**F**
		PM	52.3	D	**73.4**	**E**	**88.6**	**F**	**112.3**	**F**

Table 3.11-13 (cont.): Intersection LOS Cumulative Plus Project Conditions—Saturday

Intersection	Control[1]	Peak Hour	Cumulative		Cumulative + Phase 1		Cumulative + Phases 1, 2		Cumulative + Phases 1, 2, 3	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
16. Redwood Street/Admiral Callaghan Lane	Signal	AM	31.0	C	31.9	C	31.9	C	32.8	C
		PM	32.0	C	32.4	C	32.8	C	33.3	C
17. Redwood Parkway/ Oakwood Avenue	Signal	AM	12.1	B	12.2	B	12.3	B	12.4	B
		PM	14.7	B	14.8	B	14.8	B	15.0	B
106. Site North Driveway/ Fairgrounds Drive	Signal	AM	Intersection does not exist		2.3	A	2.8	A	3.3	A
		PM			4.2	A	4.9	A	5.5	A
109. Site South Driveway/ Fairgrounds Drive	Signal	AM	Intersection does not exist		Intersection does not exist		8.6	A	22.6	C
		PM					7.7	A	11.8	B

Notes:
Bold indicates LOS exceeding the applicable standard. Shading indicates a significant impact, based on the thresholds of significance.
[1] SSSC = Side street stop-controlled intersection.
[2] Average control delay and LOS for worst approach at SSSC intersections are presented in parentheses.
[3] At intersection 6, control delay and LOS for NBL movement are presented in parentheses.
Source: Fehr & Peers, August 2012.

Table 3.11-14: Freeway Volumes and LOS – Cumulative Plus Project—Saturday

Freeway Segment	Capacity	Cumulative No Project			Phase 1 Project			Phase 2 Project			Phase 3 Project		
		Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]
AM Peak Hour													
I-80 EB, south of Redwood Parkway	6,000	5,890	0.98	**E**	6,020	1.00	**F**	6,220	1.04	**F**	6,420	1.07	**F**
I-80 EB, between Redwood Parkway and SR-37	6,000	5,350	0.89	D	5,420	0.90	**E**	5,520	0.92	**E**	5,630	0.94	**E**
I-80 EB, north of SR-37	8,000	4,400	0.55	A	4,460	0.56	A	4,490	0.56	A	4,550	0.57	A

Table 3.11-14 (cont.): Freeway Volumes and LOS – Cumulative Plus Project—Saturday

Freeway Segment	Capacity	Cumulative No Project			Phase 1 Project			Phase 2 Project			Phase 3 Project		
		Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]	Volume	V/C Ratio	LOS[1]
I-80 WB, north of SR-37	6,000	3,920	0.49	A	3,990	0.50	A	4,100	0.51	A	4,210	0.53	A
I-80 WB, between SR-37 and Redwood Parkway	8,000	3,440	0.43	A	3,500	0.44	A	3,540	0.44	A	3,600	0.45	A
I-80 WB, south of Redwood Parkway	8,000	4,660	0.78	C	4,760	0.79	C	4,830	0.81	D	4,930	0.82	D
SR-37 EB, west of Fairground Drive	4,000	2,980	0.75	C	3,010	0.75	C	3,060	0.77	C	3,100	0.78	C
SR-37 EB, east of Fairground Drive	6,000	4,070	0.68	B	4,180	0.70	B	4,260	0.71	C	4,380	0.73	C
SR-37 WB, east of Fairground Drive	6,000	3,770	0.63	B	3,920	0.65	B	4,130	0.69	B	4,360	0.73	C
SR-37 WB, west of Fairground Drive	4,000	3,150	0.79	C	3,180	0.80	C	3,190	0.80	C	3,210	0.80	D
PM Peak Hour													
I-80 EB, south of Redwood Parkway	6,000	5,660	0.94	**E**	5,750	0.96	**E**	5,830	0.97	**E**	5,920	0.99	**E**
I-80 EB, between Redwood Parkway and SR-37	6,000	6,270	1.05	**F**	6,400	1.07	**F**	6,520	1.09	**F**	6,670	1.11	**F**
I-80 EB, north of SR-37	8,000	5,200	0.87	D	5,250	0.88	D	5,290	0.88	D	5,350	0.89	D
I-80 WB, north of SR-37	6,000	5,610	0.70	C	5,680	0.71	C	5,750	0.72	C	5,830	0.73	C
I-80 WB, between SR-37 and Redwood Parkway	8,000	4,850	0.61	B	4,920	0.62	B	4,990	0.62	B	5,070	0.63	B
I-80 WB, south of Redwood Parkway	8,000	4,730	0.59	A	4,780	0.60	A	4,820	0.60	B	4,880	0.61	B
SR-37 EB, west of Fairground Drive	4,000	3,510	0.88	D	3,530	0.88	D	3,550	0.89	D	3,570	0.89	D
SR-37 EB, east of Fairground Drive	6,000	3,350	0.84	D	3,380	0.85	D	3,410	0.85	D	3,450	0.86	D
SR-37 WB, east of Fairground Drive	6,000	3,860	0.64	B	4,010	0.67	B	4,140	0.69	B	4,310	0.72	C
SR-37 WB, west of Fairground Drive	4,000	4,380	0.73	C	4,480	0.75	C	4,570	0.76	C	4,670	0.78	C

Notes:
Below-standard level of service (LOS E or F) **bolded**. Significant impacts shaded.
Source: Cumulative No Project volumes factored up from existing volumes, consistent with weekday growth as forecast in the technical studies for the Fairgrounds Drive/Redwood Parkway Interchange Improvement Project. Project assignment as described in text.
Fehr & Peers, August 2012.

3.11.5 - Thresholds of Significance

The following thresholds of significance have been developed in accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the City of Vallejo Traffic Impact Study Guidelines, and Caltrans Guide for the Preparation of Traffic Impact Studies, including Caltrans accepted practice for urban congested corridors.

The project would have a significant impact if it would:

a) Cause the LOS of a freeway segment to deteriorate from the current LOS (for project impacts) or future baseline LOS (for Cumulative impacts) by a letter grade on a state route segment for which there are no planned and funded projects or programs designed to decrease congestion either on the route or within the larger travel corridor.

b) Cause a signalized intersection's operations to deteriorate from an acceptable level (LOS D or better for intersections) to an unacceptable level, using the 2000 Highway Capacity Manual delay-based methodology.

c) Exacerbate unacceptable operations (LOS E or F) by increasing a signalized intersection's average delay by 5 seconds or more, using the 2000 Highway Capacity Manual delay-based methodology.

d) Cause a worsening of the volume to capacity (v/c) ratio of a signalized intersection, as noted in Table 3.11-15 below. (Note that the v/c ratio is a separate output of the 2000 Highway Capacity Manual methodology that is not reported in this chapter's level of service tables, but is included in the LOS calculation sheets in the technical appendix. The v/c ratio increases were checked as part of the impact evaluation, and where criterion (d) is met it is noted in the impact discussion).

Table 3.11-15: Volume-to-Capacity (V/C) Thresholds for Project Impacts

LOS Without Project	Increase in V/C With Project
C	>0.04
D	>0.02
E or F	>0.01
Source: City of Vallejo Traffic Impact Analysis Study Guidelines.	

Note: criteria b, c, and d above all apply to signalized intersections; meeting any one of the criteria would result in a significant impact.

e) Cause any of the conditions in criteria b, c, or d to occur at an unsignalized intersection, and cause the peak-hour volume signal warrant to be met.

f) Result in a queue in a left-turn pocket to extend beyond the turn pocket by 25 feet or more (i.e. the length of one vehicle) into adjacent traffic lanes that operate separately from the left-turn lane. Where the vehicle queue already exceeds that turn pocket length under pre-project conditions, a project impact would occur if project traffic lengthens the queue by 25 feet or more.

g) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

h) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

i) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

j) Result in inadequate emergency access.

k) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

3.11.6 - Project Impacts and Mitigation Measures

Freeway Traffic Increase

Impact TRANS-1:	**The project would cause the LOS of a freeway segment or ramp junction to deteriorate from the current LOS on a state route segment for which there are no planned and funded projects or programs designed to decrease congestion either on the route or within the larger travel corridor. (Significance criteria "a")**

Impact Analysis

Entertainment Area and Fairgrounds

As shown in Table 3.11-12, I-80 eastbound south of Redwood Parkway is projected to fall from LOS D to LOS E with the addition of project traffic for all three phases, in the Saturday AM peak hour. This segment is estimated to operate near the LOS D/E threshold without project traffic. The I-80 express lanes that are currently being studied but are not yet funded would add capacity to this segment and restore operations to LOS C or better for all three Existing Plus Project cases. The express lanes project is a regional capacity improvement project that would be expected to be funded with a combination of federal, state, and potentially local funds. As noted in the Transportation Setting, the traffic analysis period represents the regularly occurring peak time for the combined traffic generation of the Plan and Six Flags Discovery Kingdom, which would occur on Saturdays and Sundays between May and September, up to about 40 days per year. On other days of the year, the Plan traffic volume would be substantially lower.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-1 The project will contribute funding toward the I-80 Express Lanes project for the segment south of Redwood Parkway in Vallejo, if and when the project is programmed for funding by the MTC and the STA, through traffic impact fees administered by Solano County or the City of Vallejo. Because the funding and construction of the express lanes cannot be assured, this impact remains significant and unavoidable after mitigation.

Level of Significance After Mitigation

Significant and unavoidable impact.

Intersection Operations

Impact TRANS-2: The project would have significant impacts on intersections under Phases 1, 2 and 3, based on Significance Criteria (b) through (e).

Impact Analysis

Entertainment Area and Fairgrounds 11, Phases 1 and 2 trigger an impact at the intersection #7, Fairgrounds Drive/Six Flags Discovery Kingdom Exit/Project Main Entry Road, based on the significance criteria (d): City of Vallejo maximum volume-to-capacity ratio increase of 0.04 at an intersection operating at LOS C. However, the intersection would continue to operate at LOS C for Existing Plus Project Phase 1 and Existing Plus Project Phase 1+2. For Existing Plus Project Phase 1 +2 +3, it would operate at LOS D, which is also acceptable from an LOS standpoint. Therefore, no mitigation is proposed for this impact. As noted in the Transportation Setting, the traffic analysis period represents the regularly occurring peak time for the combined traffic generation of the Plan and Six Flags Discovery Kingdom, which would occur on Saturdays and Sundays between May and September, up to about 40 days per year. On other days of the year, the Plan traffic volume would be substantially lower.

Phase 3 of the project would trigger significant impacts at three additional intersections:

- #2 – Fairgrounds Drive/SR-37 Westbound Ramps—significance criteria (b)
- #3 – Fairgrounds Drive/SR-37 Eastbound Ramps—significance criteria (b)
- #15 – Redwood Street/Fairgrounds Drive/I-80 Westbound Ramps – significance criteria (b)

Because the STA and Caltrans are planning the Redwood Parkway/Fairgrounds Drive Improvement Project, which includes comprehensive improvements at these three intersections, the appropriate mitigation for these impacts is the construction of the Fairgrounds Drive/Redwood Parkway Interchange Improvements, which would provide additional capacity at all of these intersections as well as other intersections along Fairgrounds Drive. The currently envisioned design for the improvements was assumed for the mitigated analysis, with modifications as described in Section 3.11.4 to reflect the current project access plan. Because these improvements are also needed to mitigate the cumulative impacts of the project (for Phases 1+ 2 and 1+2+3), the mitigation analysis

was conducted for those cases, as the mitigated results would be better for Existing Plus Project scenarios than for the Cumulative Plus Project scenarios. Therefore, the mitigations and mitigated results are discussed in Section 3.11.7 (Cumulative Impacts), under Impact TRANS-9.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-2 Implement Mitigation Measure TRANS-9.

Level of Significance After Mitigation

Significant and unavoidable impact (refer to MM TRANS-9 for discussion).

Congestion Management Program Compliance

Impact TRANS-3: The project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Impact Analysis

Entertainment Area and Fairgrounds

The CMP routes of regional significance in the study area are I-80 and SR-37, both of which have a CMP level of service standard of F for the segments near the project site for weekday peak-hour conditions, based on their operating condition when the CMP was first prepared. Because this EIR transportation analysis addresses peak weekend peak-hour conditions as the highest-impact periods for the project, the weekend existing and forecast volumes are used to assess the impact of the project, relative to the standard.

As shown in Table 3.11-12, the Existing Plus Project freeway mainline LOS for the Phase 1, 2 and 3 scenarios are all LOS E or better. Therefore, no significant project impact related to CMP compliance is identified. As shown in Table 3.11-14, the Cumulative Plus Project freeway mainline LOS reaches LOS F for one segment—I-80 eastbound between Redwood Parkway and SR-37—for the Phase 1, 2 and 3 scenarios. However, because the LOS standard is F for this segment, no significant cumulative impact is identified.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

Implementation of Mitigation Measure TRANS-8 (which references Mitigation Measure TRANS-1) will reduce the level of this impact.

Level of Significance After Mitigation

Less than significant impact.

Air Traffic Patterns

Impact TRANS-4:	**The project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.**

Impact Analysis

Entertainment Area and Fairgrounds

The project does not include any airport facilities and will not generate an increase in air travel to nearby airports, based on the land uses proposed.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Hazards

Impact TRANS-5:	**The project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).**

Impact Analysis

Entertainment Area and Fairgrounds

The project's circulation system, including roadways, intersections, bike lanes and paths, and sidewalks, are designed in accordance with the City of Vallejo's design standards. Turning radius requirements for the design vehicle, the STAA interstate truck, are met. Traffic signals will be provided at the main entry intersection with Fairgrounds Drive, the northern loop road intersection with Fairgrounds Drive, and at the southern loop road intersection with Fairgrounds Drive. All internal intersections and driveways will be designed to provide adequate sight distance and turn lane transitions and storage, based on the City of Vallejo roadway design code.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Emergency Access

Impact TRANS-6: The project would not result in inadequate emergency access.

Impact Analysis

Entertainment Area and Fairgrounds

The project provides three full-access points—one on Sage Street and two on Fairgrounds Drive—and a fourth partial-access point at the intersection of the North Loop road with Fairgrounds Drive (all but the westbound left turn would be accommodated). As described above under Impact TRANS-4, all project roadways and intersections will be designed in accordance with City of Vallejo design standards. There are two Vallejo Fire Stations within a 5- minute drive of the project site: Station 27, located to the east of I-80 at 1585 Ascot Court, is about 1.5 miles away, and Station 23, located to the southwest at 900 Redwood Street, is about 2.1 miles away. There are multiple access routes to the site from each station, so that congestion at either the SR-37 interchange area or the I-80/Redwood Parkway interchange area can be bypassed, if needed, to achieve optimum response times.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary

Level of Significance After Mitigation

Less than significant impact.

Conflict with Alternative Transportation

Impact TRANS-7: The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Impact Analysis

Entertainment Area and Fairgrounds

The Plan includes facilities for bicyclists and pedestrians to move throughout the site and to/from offsite facilities, as well as a roadway system that will accommodate buses and a multi-modal center near the north end of the site. The Plan is consistent with the City of Vallejo, Solano County and Solano Transportation Authority goals and policies for non-auto mobility. The following discusses the bicycle, pedestrian, and transit facilities in more detail.

Pedestrian Circulation – As described in Section 3.11.4, the Plan includes sidewalks or multi-use paths on both sides of all the primary site roadways. Walking trips through the site and to/from Fairgrounds Drive will be well accommodated, with wide sidewalks, benches, landscaping and trees, and low traffic speeds on the adjacent travel lanes due to the roadway design. Sidewalks along Fairgrounds Drive are currently provided along the east side of Fairgrounds Drive between Redwood

Street and SR-37, including along the project frontage. However, on the west side of the roadway there is a sidewalk gap between the Six Flags Discovery Kingdom entrance and Sereno Drive. The planned Fairgrounds Drive/Redwood Parkway Interchange Improvements Project will improve the east-side sidewalk to provide a 10-foot sidewalk. Mitigation Measure TRANS-9 will ensure that the project contributes toward the completion of the offsite bicycle lane network.

Walking trips between the site and the Six Flags Discovery Kingdom site will also be accommodated by the signal at the intersection of Fairgrounds Drive and the Main Entry Road, where crosswalks are provided on three of the four approaches.

Bicycle Circulation – As described in Section 3.11.4, the Plan will provide a bicycle route on the main entry road, bike lanes on the north loop road, and a multi-use path on the south loop road. Bicycle racks will be provided at primary destinations onsite, as well as at the multi-modal Transit/North Parking Center. While bike lanes are currently provided on most of Fairgrounds Drive along the project frontage, and north of the site to SR-37, there are gaps near the Six Flags Discovery Kingdom Exit intersection (#7) and further south between Sereno Drive and Redwood Street. The planned Fairgrounds Drive/Redwood Parkway Interchange Improvements Project will close these gaps. Mitigation Measure TRANS-9 will ensure that the project contributes toward the completion of the offsite bicycle lane network.

Transit Service – The Plan site includes a Transit/North Parking Center site located on the north end with access from a roadway connecting Sage Street and the north loop road. The transit/north parking center would serve as a hub for bus service to the site, although buses will be able to circulate to other stops on the loop road and the main entry road. The Transit/North Parking Center could also serve shuttles to offsite employee parking, if and when such service is needed. The center would include secure bicycle storage, site wayfinding information, and other amenities to make it an attractive and desirable facility and thus promote transit use for both employees and visitors.

The draft STA Comprehensive Transportation Plan 2035 update lists a Transit/North Parking Center for the Solano Fairgrounds 360 project as planned project, making it eligible for future STA grant funding.

The project could qualify for programmatic funding such as Surface Transportation Program (STP) and Congestion Mitigation and Air Quality Improvement Program (CMAQ) sources, including Transportation for Livable Communities (TLC) grants and lifeline transit grants. The project can leverage these funding sources by providing a privately funded match.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.11.7 - Cumulative Impacts

Cumulative Freeway Traffic Increase

Impact TRANS-8:	**The project would cause the LOS of a freeway segment or ramp junction to deteriorate from the current LOS on a state route segment for which there are no planned and funded projects or programs designed to decrease congestion either on the route or within the larger travel corridor. (Significance criteria 'a'.)**

Impact Analysis

Entertainment Area and Fairgrounds

As shown in Table 3.11-12, two segments of I-80 eastbound—south of Redwood Parkway and between Redwood Parkway and SR-37—are projected to fall by a letter grade with the addition of project traffic to the 2035 No Project forecast volumes. This condition is forecast for the Saturday AM peak hour. The segment south of Redwood Parkway is forecast to be near the LOS D/E threshold without project traffic, and to fall from D to E with the addition of project traffic. The segment between Redwood Parkway and SR-37 is forecast to be near the LOS E/F threshold without project traffic, and to fall from E to F with the addition of project traffic.

The I-80 express lanes that are currently being studied but are not yet funded would add capacity to this segment and restore operations to LOS D or better for all three Cumulative Plus Project cases. The express lanes project is a regional capacity improvement project that would be expected to be funded with a combination of federal, state, and potentially local funds.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-8 Refer to Mitigation Measure TRANS-1.

Level of Significance After Mitigation

Significant and unavoidable impact.

Cumulative Intersection Operations

Impact TRANS-9:	**The project would have significant impacts on intersections under Phases 1, 2 and 3, based on Significance Criteria (b) through (e).**

Impact Analysis

Entertainment Area and Fairgrounds

As shown in Table 3.11-13, Phase 1 of the project would trigger a cumulative impact at intersection #7, Fairgrounds Drive/Six Flags Discovery Kingdom Exit/Project Main Entry Road, based on significance criteria (d): City of Vallejo maximum volume-to-capacity ratio increase of 0.04 at an intersection operating at LOS C. However, the intersection would continue to operate at LOS C for

the Cumulative Plus Project Phase 1 case. Project Phase 1 would also trigger a cumulative impact at intersection #15, Redwood Street/Fairgrounds Drive/I-80 Westbound Ramps, based on significance criteria (b).

Phase 2 of the project would trigger significant cumulative impacts at three additional intersections:

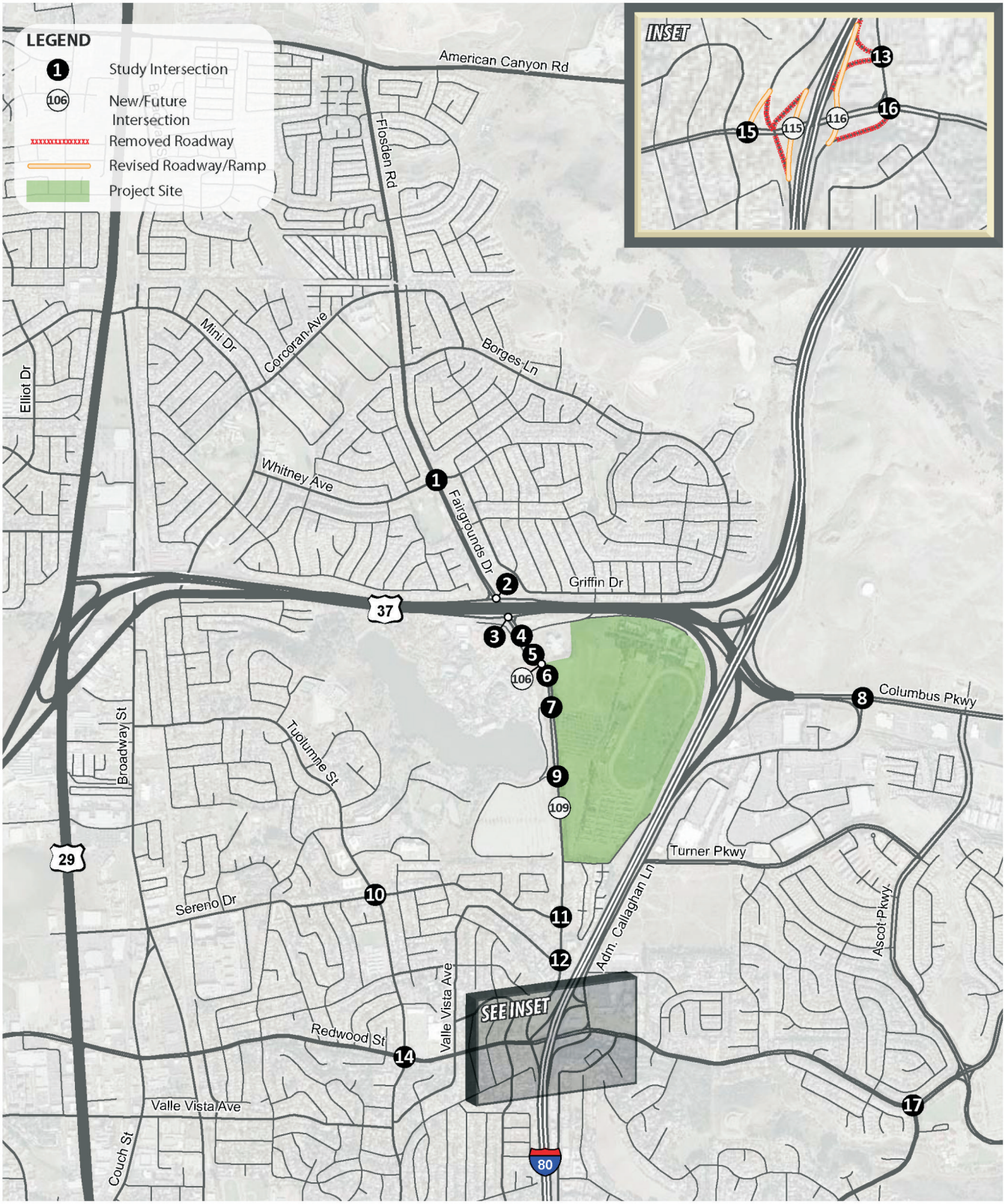
- #2 - Fairgrounds Drive/SR-37 Westbound Ramps – significance criteria (b)
- #3 - Fairgrounds Drive/SR-37 Eastbound Ramps – significance criteria (b)
- #8 - Columbus Parkway/Admiral Callaghan Lane – significance criteria (d)

Phase 3 of the project would worsen cumulative conditions at the above five intersections, and trigger a significant impact at one additional intersection: #1, Fairgrounds Drive/Whitney Avenue, based on significance criteria (d).

Because the Phase 1 cumulative impact at intersection #7 is due only to a v/c ratio increase, and does not result in a worsening of the LOS beyond LOS C, no mitigation is proposed for this impact. However, the impact would therefore remain significant and unavoidable. The mitigation for the Phase 1 cumulative impact at intersection #15 is to add a westbound right-turn lane on Redwood Street, and adjust the signal timings accordingly. While the Redwood Parkway/Fairgrounds Drive Improvement Project would also mitigate the Phase 1 impact, it is not proposed as mitigation until Phase 2 (see below), because the Phase 1 cumulative impact is relatively minor and does not require the complete reconstruction of the intersection as proposed in the Improvement Project. The mitigated future roadway network within the project study area is shown in Exhibit 3.11-12.

The appropriate mitigation for the Phase 2 and Phase 3 impacts at intersections #2, #3 and #15 is the construction of the Fairgrounds Drive/Redwood Parkway Interchange Improvements, because the project is already being planned and designed by the STA and Caltrans, and it will provide comprehensive improvements at these three intersections. The currently planned design for the improvements, as modified to be consistent with the project access plan (see discussion in the methodology section) was assumed for the mitigated analysis, with one modification: the addition of a second northbound right-turn lane at the Fairgrounds Drive/SR-37 Eastbound Ramps intersection. This additional right-turn lane is recommended to be added to the Redwood Parkway/Fairgrounds Drive Improvement Project design, if a physically and financially feasible design can be developed. Exhibit 3.11-13 shows the future intersection lane configurations, with the Redwood Parkway/Fairgrounds Drive Improvement Project as modified to fit the Project access plan and mitigation recommendations.

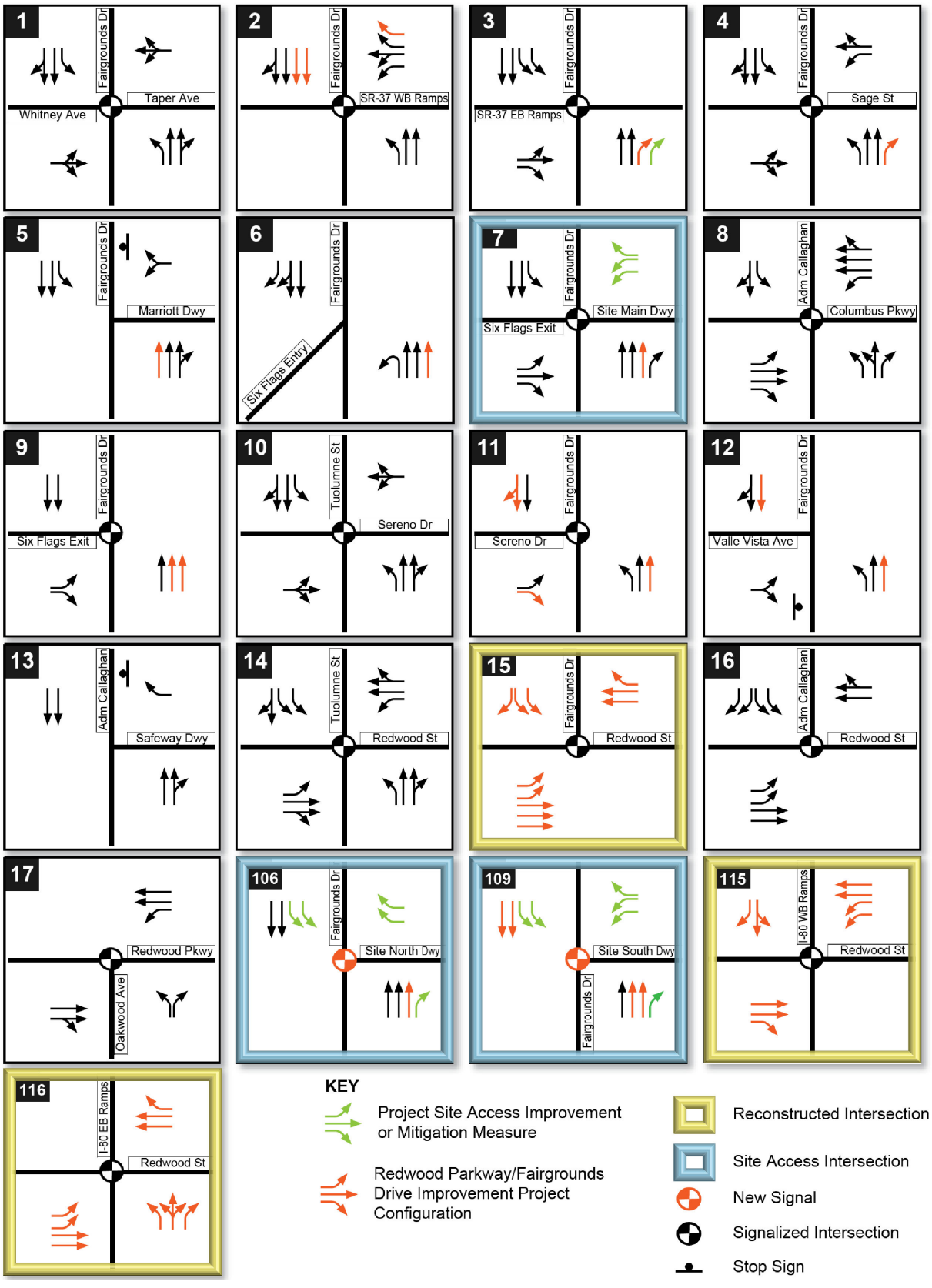
At intersection #1, Fairgrounds Drive/Whitney Avenue, and #8, Columbus Parkway/Admiral Callaghan Lane, the proposed mitigation is to adjust the signal timing to respond to the change in traffic volume.



Source: Fehr and Peers, 2011.

Michael Brandman Associates

Exhibit 3.11-12
Mitigated Future Roadway Network in Project Study Area



Source: Fehrs and Peers, 2012.

Exhibit 3.11-13
Future Intersection Lane Configurations and Control with Project Improvements, Redwood/Fairgrounds Improvement Project Changes, and Mitigation

Michael Brandman Associates

Table 3.11-16 shows the mitigated LOS for all of the impact locations, for Cumulative Plus Project Phases 1, 1+2, and 1+2+3. The footnotes in Table 3.11-16 identify the significance criteria used to identify each impact, and the proposed mitigation.

As noted under impact TRANS-2, the above mitigations would also mitigate the Existing Plus Project impacts.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-9 The project will mitigate the Phase 1, 2, and 3 impacts identified above as follows:

Phase 1 (Option a): Contribute a proportional share toward the widening of the westbound leg of Redwood Street at Fairgrounds Drive to provide space for a dedicated right-turn lane onto Fairgrounds Drive, and re-time signal accordingly. Widening would take place west of the I-80 bridge structure. The project's proportional share of the need for this improvement is 11 percent.

Phase 1 (Option b): Allocate mitigation funds equivalent to that described in Option (a) toward the ultimate improvements at the Fairgrounds Drive/Redwood Parkway interchange, to be held in a dedicated fund until those improvements are constructed.

Event Management Plan to ensure that the summer weekend late morning peak hour trips do not exceed the current trip generation:

For summer weekends, May - October (when Six Flags Discovery Kingdom is open), the following Exposition Hall and general Fairgrounds event management plan should be followed:

1. When Banquet Seating, Assembly Seating, or Trade Show events with estimated attendance at 75 percent or higher occupancy are scheduled on weekend days starting by 1 p.m., all other events on-site should have start times staggered by a minimum of two (2) hours (later than the Exposition Hall event start time). End times for those events should also be staggered by at least two (2) hours.
2. When Banquet, Assembly or Trade Show events with estimated attendance from 50 percent to 75 percent occupancy are scheduled on weekend days starting by 1 p.m., all other events on-site should have start times staggered by at least one (1) hour (later than the Exposition Hall event start time). End times should also be staggered by at least one (1) hour.

3. Non-seated concert events with estimated attendance at 50 percent or higher occupancy should not be scheduled to start before 1 p.m. on weekend days.
4. When non-seated concert events with estimated attendance below 50 percent are scheduled for weekend days starting by 1 p.m., all other events should have start times staggered by at least two (2) hours (later than the concert). End times should also be staggered by two (2) hours.
5. In addition to the above guidelines, when multiple venues including the Exposition Hall are scheduled on summer Saturdays and Sundays, all events should be staggered by a minimum of one (1) hour.

Phase 2: Contribute funds toward the construction of the Redwood Parkway/ Fairgrounds Drive improvement project at the two interchanges, at a level proportional to the full project's share of total future traffic at 2035, and considering other sources of potential traffic growth not modeled in this analysis, in particular that of Six Flags Discovery Kingdom. The project's share of total 2035 traffic, as modeled in this analysis – without any Six Flags Discovery Kingdom traffic growth—is as follows:

- At Fairgrounds Drive/SR-37 Ramps: 23 percent
- At Redwood Street/I-80 Ramps: 10 percent

The above proportions may be subject to reduction if growth plans for Six Flags Discovery Kingdom are proposed and approved.

The mitigation is tied to the Project's proportional share of total future traffic because the Redwood Parkway/Fairgrounds Drive Improvement Project's purpose, as defined by Caltrans and the STA, is to:

- Relieve existing congestion and improve traffic flow on the local roadway network for approved redevelopment and planned land uses in the area;
- Improve the existing interchanges and intersection operations;
- Improve the safety of the local roadway network by reducing congestion.

Thus, the project is not designed solely to serve traffic growth, but also to address existing deficiencies.

In addition to the above Phase 2 mitigation, the retiming of intersection #8, Columbus Parkway/Admiral Callaghan Lane, is required.

Phase 3: Adjust signal timing of intersection #1, Fairgrounds Drive/Whitney Lane.

Because the full funding and construction of the Fairgrounds Drive/Redwood Parkway Interchange improvements cannot be assured, the impacts at intersections #2, #3, and #15 remain significant and unavoidable.

Level of Significance After Mitigation

Significant and unavoidable impact.

3.11.8 - Residual Significant Effects

Significant and unavoidable impacts.

Table 3.11-16: Intersection LOS – Mitigated Cumulative Plus Project Conditions – Saturday

Intersection	Control[1]	Peak Hour	Cumulative		Cumulative + Phase 1		Cumulative + Phase 1 MITIGATED		Cumulative + Phases 1, 2		Cumulative + Phases 1, 2 MITIGATED		Cumulative + Phase 1, 2, 3		Cumulative + Phase 1, 2, 3 MITIGATED	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
1. Whitney Avenue/ Fairgrounds Drive	Signal	AM	17.1	B	17.6	B			18.5	B			20.1	C	20.1	C
		PM	20.4	C	21.1	C			21.5	C			22.3	C	22.4[10]	C[10]
2. SR-37 WB Ramps/ Fairgrounds Drive	Signal	AM	30.1	C	45.9	D			**69.3**	**E**	28.6[5]	C[5]	**108.4**	**F**	37.9[11]	D[11]
		PM	**59.7**	**E**	**62.1**	**E**			**64.9**	**E**	21.9	C	**70.8**	**E**	23.1	C
3. SR-37 EB Ramps/ Fairgrounds Drive	Signal	AM	12.9	B	14.8	B			16.2	B	18.7	B	19.2	B	17.0	B
		PM	25.9	C	40.8	D			**72.5**	**E**	25.9[6]	C[6]	**121.7**	**F**	28.4[12]	C[12]
4. Sage Street/Fairgrounds Drive	Signal	AM	13.8	B	14.8	B			17.2	B			23.9	C		
		PM	12.2	B	12.5	B			15.0	B			18.6	B		
5. Courtyard by Marriott Driveway/ Fairgrounds Drive	SSSC	AM	0.4 (11.1)	A (B)	0.4 (12.3)	A (B)			0.3 (12.0)	A (B)			0.2 (10.4)	A (B)		
		PM	0.5 (15.1)	A (C)	0.5 (16.8)	A (C)			0.4 (18.0)	A (C)			0.4 (21.0)	A (C)		
6. Six Flags Discovery Kingdom Entry/ Fairgrounds Drive[3]	SSSC	AM	0.4 (13.7)	A (B)	0.4 (15.3)	A (C)			0.4 (19.2)	A (C)			0.4 (26.0)	A (D)		
		PM	0.2 (8.3)	A (A)	0.2 (8.8)	A (A)			0.2 (9.3)	A (A)			0.1 (9.8)	A (A)		
7. Fairgrounds Drive/Six Flags Discovery Kingdom Exit/Fairgrounds Main Entry Road	Signal	AM	22.6	C	29.0	C			32.6	C			36.2	D		
		PM	17.5	B	21.3	C			24.9	C			27.5	C		
8. Columbus Parkway/Admiral Callaghan Lane	Signal	AM	38.9	D	39.3	D			40.1	D	40.1	D	40.8	D	40.8	D
		PM	**65.9**	**E**	**66.7**	**E**			**66.9**	**E**	55.8[7]	E[7]	**67.9**	**E**	56.5[14]	E[14]
9. Fairgrounds Drive/Six Flags Discovery Kingdom Exit/Project Main Entry Road	Signal	AM	2.6	A	2.5	A			2.6	A			3.1	A		
		PM	7.6	A	7.9	A			8.3	A			8.5	A		

Table 3.11-16 (cont.): Intersection LOS – Mitigated Cumulative Plus Project Conditions – Saturday

Intersection	Control[1]	Peak Hour	Cumulative		Cumulative + Phase 1		Cumulative + Phase 1 MITIGATED		Cumulative + Phases 1, 2		Cumulative + Phases 1, 2 MITIGATED		Cumulative + Phase 1, 2, 3		Cumulative + Phase 1, 2, 3 MITIGATED	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
10. Sereno Drive/Tuolumne Street	Signal	AM	14.5	B	14.6	B			14.9	B			15.2	B		
		PM	15.2	B	15.4	B			15.5	B			15.7	B		
11. Sereno Drive/ Fairgrounds Drive	Signal	AM	10.8	B	11.2	B			11.9	B			13.6	B		
		PM	13.7	B	15.1	B			16.1	B			19.2	B		
12. Valle Vista Avenue/ Fairgrounds Drive	SSSC	AM	1.0 (11.1)	A (B)	0.8 (11.9)	A (B)			0.7 (12.9)	A (B)			0.7 (14.5)	A (B)		
		PM	1.0 (12.8)	A (B)	1.0 (14.2)	A (B)			0.9 (15.8)	A (C)			0.9 (18.6)	A (C)		
13. I-80 EB Ramp/Admiral Callaghan Lane	SSSC	AM	1.2 (11.2)	A (B)	1.2 (11.3)	A (B)			1.2 (11.3)	A (B)			1.3 (11.3)	A (B)		
		PM	1.8 (11.1)	A (B)	1.8 (11.2)	A (B)			1.8 (11.2)	A (B)			1.9 (11.2)	A (B)		
14. Redwood Street/ Tuolumne Drive	Signal	AM	37.0	D	37.2	D			37.5	D			37.8	D		
		PM	43.1	D	43.6	D			44.0	D			44.6	D		
15. Redwood Street/I-80 WB Ramp	Signal	AM	34.0	C	40.9	D	33.1	C	**70.1**	**E**	8.2[8]	A[8]	**99.8**	**F**	9.3[15]	A[15]
		PM	52.3	D	**73.4**	**E**	49.0[4]	D[4]	**88.6**	**F**	10.5[9]	B[9]	**112.3**	**F**	11.9[16]	B[16]
16. Redwood Street/Admiral Callaghan Lane	Signal	AM	31.0	C	31.9	C			31.9	C			32.8	C		
		PM	32.0	C	32.4	C			32.8	C			33.3	C		
17. Redwood Parkway/ Oakwood Avenue	Signal	AM	12.1	B	12.2	B			12.3	B			12.4	B		
		PM	14.7	B	14.8	B			14.8	B			15.0	B		
106. Site North Driveway/ Fairgrounds Drive	Signal	AM	Intersection does not exist		2.3	A			2.8	A			3.3	A		
		PM			4.2	A			4.9	A			5.5	A		

Table 3.11-16 (cont.): Intersection LOS – Mitigated Cumulative Plus Project Conditions – Saturday

Intersection	Control[1]	Peak Hour	Cumulative		Cumulative + Phase 1		Cumulative + Phase 1 MITIGATED		Cumulative + Phases 1, 2		Cumulative + Phases 1, 2 MITIGATED		Cumulative + Phase 1, 2, 3		Cumulative + Phase 1, 2, 3 MITIGATED	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]
109. Site South Driveway/ Fairgrounds Drive	Signal	AM	Intersection does not exist		Intersection does not exist				10.3	B			17.9	B		
		PM							8.0	A			14.0	B		
115. Future Redwood Street/ I-80 WB Ramps[17]	Signal	AM	Intersection does not exist		Intersection does not exist		Intersection does not exist		Intersection does not exist		16.7	B	Intersection does not exist		16.9	B
		PM									28.4	C			29.1	C

Notes:
Bold indicates LOS exceeding the applicable standard. Shading indicates a significant impact, based on the thresholds of significance.

1 SSSC = Side street stop-controlled intersection.
2 Average control delay and LOS for worst approach at SSSC intersections are presented in parentheses.
3 At intersection 6, control delay and LOS for NBL movement are presented in parentheses.
4 Significant impact: Project causes Caltrans intersection LOS to change from D to E. Less-than-significant after mitigation: add WBR turn lane and optimize signal timings.
5 Significant impact: Project causes Caltrans intersection LOS to change from C to E. Less-than-significant after mitigation: add additional WBR turn lane, add two SBT lanes aligned with SBL turn lanes at int. 3, extended NBL turn lane to int. 3 (widen roadway between int. 2 and int. 3), and optimize signal timings including coordination with adjacent signalized intersections.
6 Significant impact: Project causes Caltrans intersection LOS to change from C to E. Less-than-significant after mitigation: add additional SBL turn lane (widen roadway between int. 2 and int. 3), add additional free NBR turn lane, and optimize signal timings including coordination with adjacent signalized intersections.
7 Significant impact: Project causes Vallejo intersection v/c ratio to increase by more than 0.01 seconds (intersection operates at LOS E before Project). Less-than-significant after mitigation: optimize signal timings.
8 Significant impact: Project causes Caltrans intersection LOS to change from C to E. Less-than-significant after mitigation: Relocate intersection to the west of current location (including realignment of Fairgrounds Dr.), create new separate intersection (int. 115) for I-80 WB Ramps, and optimize signal timings including coordination with adjacent signalized intersections.
9 Significant impact: Project causes Caltrans intersection LOS to change from D to F. Less-than-significant after mitigation: Relocate intersection to the west of current location (including realignment of Fairgrounds Dr.), create new separate intersection (int. 115) for I-80 WB Ramps, and optimize signal timings including coordination with adjacent signalized intersections.
10 Significant impact: Project causes Vallejo intersection v/c ratio to increase by more than 0.04 seconds (intersection operates at LOS C before project). Less-than-significant after mitigation: optimize signal timings.
11 Significant impact: Project causes Caltrans intersection LOS to change from C to F. Less-than-significant after mitigation: add additional WBR turn lane, add two SBT lanes aligned with SBL turn lanes at int. 3, extended NBL turn lane to int. 3 (widen roadway between int. 2 and int 3), and optimize signal timings including coordination with adjacent signalized intersections.
12 Significant impact: Project causes Caltrans intersection LOS to change from C to F. Less-than-significant after mitigation: add additional SBL turn lane (widen roadway between int. 2 and int. 3), add additional free NBR turn lane, and optimize signal timings including coordination with adjacent signalized intersections.
13 Significant impact: Project causes Vallejo intersection LOS to change from C to E. Less-than-significant after mitigation: add additional SBL turn lane, add additional NBT lane, and optimize signal timings.
14 Significant impact: Project causes Vallejo intersection v/c ratio to increase by more than 0.01 seconds (intersection operates at LOS E before Project). Less-than-significant after mitigation: optimize signal timings.
15 Significant impact: Project causes Caltrans intersection LOS to change from C to F. Less-than-significant after mitigation: Relocate intersection to the west of current location (including

Table 3.11-16 (cont.): Intersection LOS – Mitigated Cumulative Plus Project Conditions – Saturday

Intersection	Control[1]	Peak Hour	Cumulative		Cumulative + Phase 1		Cumulative + Phase 1 MITIGATED		Cumulative + Phases 1, 2		Cumulative + Phases 1, 2 MITIGATED		Cumulative + Phase 1, 2, 3		Cumulative + Phase 1, 2, 3 MITIGATED	
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]

realignment of Fairgrounds Dr.), create new separate intersection (int. 115) for I-80 WB Ramps, and optimize signal timings including coordination with adjacent signalized intersections.

[16] Significant impact: Project causes Caltrans intersection LOS to change from D to F. Less-than-significant after mitigation: Relocate intersection to the west of current location (including realignment of Fairgrounds Dr.), create new separate intersection (int. 115) for I-80 WB Ramps, and optimize signal timings including coordination with adjacent signalized intersections.

[17] Intersection 115 is created as part of mitigating Cumulative + Phase 1 and Cumulative + Phases 1, 2 significant impacts at intersection 15 (see notes 8, 9, 15, 16).

Source: Fehr & Peers, 2011.