Chapter 19
Transportation

19.1 Environmental Setting/Affected Environment

19.1.1 Potential Environmental Effects Area

The study area (the area in which impacts may occur) for transportation consists of the Plan Area (the area covered by the BDCP), as well as other roadway segments that could be affected by construction activities associated with the project, as shown in Figures 19-1 and 19-2a through 19-2c. Roadway, marine, rail, air, and transit transportation facilities serve the Delta. The potential effects of the proposed construction, operations, and maintenance of the water conveyance system (CM1) on these facilities are evaluated at the project level, and the effects of CM2–CM22 are evaluated at the program level, consistent with the approach described in Chapter 4, *Approach to the Environmental Analysis*.

Transportation systems in areas outside the study area—upstream of the Delta and the SWP and CVP export service areas—would not be affected by the proposed water conveyance system or other BDCP conservation measures.

19.1.2 Roadway Facilities

A total of 114 roadway segments in the study area were selected for analysis based on the likelihood that they would be utilized for construction-related activities or by personnel involved in maintenance and operation of the facilities following construction. Table 19-1 lists the study roadway segments considered in the traffic analysis and their jurisdiction, location, and functional classification. Under existing [baseline year 2009] conditions, State Route (SR) 4 traveled through downtown Brentwood and Oakley. However, in January 2012, this section of SR 4 was relinquished to the cities of Brentwood and Oakley, and Contra Costa County, and Caltrans adopted the SR 4 Bypass as the new SR 4. Because the BDCP construction and operation would occur after the relinquishment and new route adoption, the study roadway segments have been categorized under their post-relinquishment jurisdiction.

Figures 19-2a through 19-2c show where each roadway facility is in relation to the study area. The unique IDs for each roadway segment on these figures correspond to the segment IDs shown in Table 19-1. A technical report analyzing construction traffic is provided in Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis.*

Table 19-1. Roadway Study Segments

Segment ID*	Roadway	From	To	Jurisdiction	Location	Analysis Functional Classification
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./ San Joaquin Co. Line	Alameda Co.	Alameda Co.	Major 2-lane Highway
BRE 01	Brentwood Blvd (old SR 4)	Delta Rd (Oakley City Limits)	Balfour Rd	Caltrans D4/ City of Brentwood[a]	Brentwood	2-lane Arterial
BRE 02	Brentwood Blvd (old SR 4)	Balfour Rd	Brentwood City Limits (South)	Caltrans D4/ City of Brentwood[a]	Brentwood	4-lane Arterial Divided
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	City of Brentwood	Brentwood	4-lane Arterial Divided
CC 01	Bethel Island Rd	Oakley City Limits	End	Contra Costa Co.	Contra Costa Co.	Major 2-lane Highway
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	Contra Costa Co.	Contra Costa Co.	Major 2-lane Highway
CC 03	Old SR 4	Brentwood City Limits (South)	Marsh Creek Rd	Caltrans D4/ Contra Costa Co.[a]	Contra Costa Co.	Major 2-lane Highway
CC 04	Byron Hwy	Delta Rd	Old SR 4	Contra Costa Co.	Contra Costa Co.	Major 2-lane Highway
CC 05	Byron Hwy	SR 4	Contra Costa Co./ Alameda Co. Line	Contra Costa Co.	Byron	Major 2-lane Highway
CT 01	I-5 NB	Florin Rd	Pocket Rd	Caltrans D3	Sacramento	3-lane Freeway
CT 02	I-5 SB	Florin Rd	Pocket Rd	Caltrans D3	Sacramento	3-lane Freeway
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	Caltrans D3	Sacramento	3-lane Freeway
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	Caltrans D3	Sacramento	3-lane Freeway
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	Caltrans D3	Elk Grove	2-lane Freeway
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	Caltrans D3	Elk Grove	2-lane Freeway
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	Caltrans D3	Sacramento Co.	2-lane Freeway
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	Caltrans D3	Sacramento Co.	2-lane Freeway
CT 09	I-5 NB	Hood Franklin Rd	Twin Cities Rd	Caltrans D3	Sacramento Co.	2-lane Freeway
CT 10	I-5 SB	Hood Franklin Rd	Twin Cities Rd	Caltrans D3	Sacramento Co.	2-lane Freeway
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	Caltrans D10	Sacramento Co.	2-lane Freeway
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	Caltrans D10	Sacramento Co.	2-lane Freeway
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	Caltrans D10	Sacramento Co./ San Joaquin Co.	2-lane Freeway
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	Caltrans D10	Sacramento Co./ San Joaquin Co.	2-lane Freeway

Segment ID*	Roadway	From	To	Jurisdiction	Location	Analysis Functional Classification
CT 15	I-5 NB	Peltier Rd	Turner Rd	Caltrans D10	San Joaquin Co.	2-lane Freeway
CT 16	I-5 SB	Peltier Rd	Turner Rd	Caltrans D10	San Joaquin Co.	2-lane Freeway
CT 17	I-5 NB	Turner Rd	SR 12	Caltrans D10	San Joaquin Co.	2-lane Freeway
CT 18	I-5 SB	Turner Rd	SR 12	Caltrans D10	San Joaquin Co.	2-lane Freeway
CT 19	I-5 NB	SR 12	Eight Mile Rd	Caltrans D10	San Joaquin Co.	3-lane Freeway
CT 20	I-5 SB	SR 12	Eight Mile Rd	Caltrans D10	San Joaquin Co.	3-lane Freeway
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	Caltrans D10	Stockton	3-lane Freeway
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	Caltrans D10	Stockton	3-lane Freeway
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge	Caltrans D3	Sacramento Co.	Minor 2-lane Highway
CT 24	SR 160 (Freeport Blvd/River Rd)	Freeport Bridge	Scribner Rd	Caltrans D3	Sacramento Co.	Minor 2-lane Highway
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	Caltrans D3	Sacramento Co.	Minor 2-lane Highway
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	Caltrans D3	Sacramento Co.	Minor 2-lane Highway
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	Caltrans D3	Sacramento Co.	Minor 2-lane Highway
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	Caltrans D3	Sacramento Co./ Yolo Co.	Minor 2-lane Highway
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	Caltrans D3	Sacramento Co.	Minor 2-lane Highway
CT 30	SR 160 (River Rd)	Walnut Grove Bridge	A St (Isleton)	Caltrans D3	Isleton	Minor 2-lane Highway
CT 31	SR 160	A St (Isleton)	SR 12	Caltrans D3	Sacramento Co.	Minor 2-lane Highway
CT 32	SR 160	SR 12	Brannan Island Rd	Caltrans D3	Sacramento Co.	Major 2-lane Highway
CT 33	SR 84 (Jefferson Blvd)	West Sacramento City Limits	Courtland Rd	Caltrans D3	Yolo Co.	Minor 2-lane Highway
CT 34	SR 84 (Courtland Rd/ Ryer Ave)	Courtland Rd	Cache Slough Ferry	Caltrans D4	Yolo Co./Solano Co.	Minor 2-lane Highway
CT 35	I-80 EB	Suisun Valley Rd	SR 12	Caltrans D4	Fairfield	5-lane Freeway + HOV
CT 36	I-80 WB	SR 12	Suisun Valley Rd	Caltrans D4	Fairfield	5-lane Freeway + HOV
CT 37	SR 12 EB	I-80	Beck Ave	Caltrans D4	Fairfield	2-lane Freeway
CT 38	SR 12 WB	Beck Ave	I-80	Caltrans D4	Fairfield	2-lane Freeway
CT 39	SR 12	Beck Ave	Sunset Ave/Grizzly Island Rd	Caltrans D4	Suisun City	4-lane Multilane Highway
CT 40	SR 12	Sunset Ave/ Grizzly Island Rd	Walters Rd/ Lawler Ranch Pkwy	Caltrans D4	Suisun City	4-lane Multilane Highway

Segment ID*	Roadway	From	To	Jurisdiction	Location	Analysis Functional Classification
CT 41	SR 12	Walters Rd/ Lawler Ranch Pkwy	SR 113	Caltrans D4	Solano Co.	Major 2-lane Highway
CT 42	SR 12	SR 113	SR 84 (River Rd)	Caltrans D4	Rio Vista/Solano Co.	Major 2-lane Highway
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Rd)	SR 160 (River Rd)	Caltrans D4	Sacramento Co./ Rio Vista	2-lane Arterial
CT 44	SR 12	SR 160 (River Rd)	Sacramento Co./ SJ Co. Line	Caltrans D3	Sacramento Co.	Major 2-lane Highway
CT 45	SR 12	Sacramento Co./SJ Co. Line	I-5	Caltrans D10	San Joaquin Co.	Major 2-lane Highway
CT 46	I-80 EB	SR 113	Pedrick Rd	Caltrans D4	Dixon	3-lane Freeway
CT 47	I-80 WB	Pedrick Rd	SR 113	Caltrans D4	Dixon	3-lane Freeway
CT 48	SR 113	I-80	Dixon City Limits	Caltrans D4	Dixon	4-lane Arterial, Divided
CT 49	SR 113	Dixon City Limits	SR 12	Caltrans D4	Solano Co.	Minor 2-lane Highway
CT 50	SR 4 (Marsh Creek Rd)	Vasco Rd	Byron Hwy (Old SR 4)	Contra Costa Co./ Caltrans D4[b]	Contra Costa Co.	Major 2-lane Highway
CT 51	SR 4	Marsh Creek Rd	Discovery Bay Blvd	Caltrans D4	Contra Costa Co.	Major 2-lane Highway
CT 52	SR 4	Discovery Bay Blvd	Tracy Blvd	Caltrans D4	Contra Costa Co./ San Joaquin Co.	Major 2-lane Highway
CT 53	SR 4 (Charter Way)	Tracy Blvd	I-5	Caltrans D10	San Joaquin Co./ Stockton	Minor 2-lane Highway
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)	Caltrans D10	Stockton	4-lane Freeway
CT 55	I-5 SB	SR 4 (Freeway)	SR 4 (Charter Way)	Caltrans D10	Stockton	4-lane Freeway
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	Caltrans D10	Stockton	3-lane Freeway
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	Caltrans D10	Stockton	3-lane Freeway
CT 58	I-205 EB	I-580	Mountain House Pkwy	Caltrans D10	Mountain House	3-lane Freeway
CT 59	I-205 WB	I-580	Mountain House Pkwy	Caltrans D10	Mountain House	3-lane Freeway
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	Caltrans D10	Mountain House/ Tracy	3-lane Freeway
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	Caltrans D10	Mountain House/ Tracy	3-lane Freeway
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	Caltrans D10	Tracy	3-lane Freeway
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	Caltrans D10	Tracy	3-lane Freeway
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	Caltrans D10	Tracy	3-lane Freeway

Segment ID*	Roadway	From	To	Jurisdiction	Location	Analysis Functional Classification
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	Caltrans D10	Tracy	3-lane Freeway
ISL 01	A St/4th St/Jackson Blvd.	SR 160	Isleton City Limits	City of Isleton	Isleton	Major 2-lane Highway
OAK 01	Main Street (Old SR 4)	SR 160	Cypress Rd	Caltrans D4/ City of Oakley[a]	Oakley	4-lane Arterial Divided
OAK 02	Main Street (Old SR 4)	Cypress Rd	Delta Road (Oakley City Limits)	Caltrans D4/ City of Oakley[a]	Oakley	2-lane Arterial
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	City of Oakley	Oakley	Major 2-lane Highway
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	City of Oakley	Oakley	Minor 2-lane Highway
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	City of Oakley	Oakley	Minor 2-lane Highway
SAC 01	Pocket Rd	I-5	Freeport Blvd (Old SR 160)	City of Sacramento	Sacramento	4-lane Arterial Divided
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	City of Sacramento	Sacramento	2-lane Arterial
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	Sacramento Co./Yolo Co.	Sacramento Co./ Yolo Co.	Minor 2-lane Highway
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	Sacramento Co.	Sacramento Co.	Major 2-lane Highway
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 06	Twin Cities Rd	River Rd	I-5	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 07	Twin Cities Rd	I-5	Franklin Blvd	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 08	Sutter Slough Bridge Rd	Sacramento Co./ Yolo Co. Line	Paintersville Bridge	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 10	River Rd (Sac Co.)	Twin Cities Rd	Walnut Grove Bridge	Sacramento Co.	Sacramento Co.	Major 2-lane Highway
SC 11	Walnut Grove Rd/ River Rd	Walnut Grove Bridge	Sacramento Co./ SJ Co. Line	Sacramento Co.	Walnut Grove	Minor 2-lane Highway
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 13	Race Track Rd/Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway

Segment ID*	Roadway	From	To	Jurisdiction	Location	Analysis Functional Classification
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	Sacramento Co.	Sacramento Co.	Minor 2-lane Highway
SJ 01	Walnut Grove Rd	Sacramento Co./ SJ Co. Line	I-5	San Joaquin Co.	San Joaquin Co.	Major 2-lane Highway
SJ 02	Peltier Rd	Blossom Rd	I-5	San Joaquin Co.	San Joaquin Co.	Minor 2-lane Highway
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	San Joaquin Co.	San Joaquin Co.	Major 2-lane Highway
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	San Joaquin Co.	San Joaquin Co.	Major 2-lane Highway
SJ 05	Byron Hwy	Alameda Co./ San Joaquin Co. Line	Mountain House Pkwy	San Joaquin Co.	Mountain House	Major 2-lane Highway
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	San Joaquin Co.	Mountain House	Minor 2-lane Highway
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	San Joaquin Co.	Mountain House	4-lane Arterial, Divided
STK 01	Eight Mile Rd	Stockton City Limits	I-5	City of Stockton	Stockton	2-lane Arterial
TRA 01	Tracy Blvd	Tracy City Limits	I-205	City of Tracy	Tracy	2-lane Arterial
WS 01	Harbor Blvd	Industrial Blvd	US 50	City of West Sacramento	West Sacramento	4-lane Arterial Divided
WS 02	Industrial Blvd/Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	City of West Sacramento	West Sacramento	4-lane Arterial Divided
WS 03	Jefferson Blvd (Old SR 84)	Lake Washington Blvd	Southport Pkwy	City of West Sacramento	West Sacramento	4-lane Arterial Divided
WS 04	Jefferson Blvd (Old SR 84)	Southport Pkwy	West Sacramento City Limits	City of West Sacramento	West Sacramento	Minor 2-lane Highway
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	Yolo Co.	Yolo Co.	Minor 2-lane Highway
YOL 02	River Rd (Yolo Co.)	Courtland Rd	Sacramento Co./ Yolo Co. Line	Yolo Co.	Yolo Co.	Minor 2-lane Highway
YOL 03	Courtland Rd	SR 84 (Jefferson Blvd)	River Rd	Yolo Co.	Yolo Co.	Minor 2-lane Highway

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

[a] Facility is analyzed as a Caltrans facility under baseline year 2009 conditions and a local facility under Baseline Plus Background Growth Plus Project (BPBGPP) conditions – roadway is relinquished to local jurisdiction in 2012 after baseline year 2009.

[b] Facility is analyzed as a local facility under baseline year 2009 conditions and a Caltrans facility under BPBGPP conditions – roadway is adopted as a State facility in 2012 after baseline year 2009.

* Segment ID naming convention refers to jurisdiction and segment number. Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

19.1.2.1 Existing Levels of Service

Existing traffic volumes were estimated for each roadway study segment using procedures and methodologies contained in the *2000 Highway Capacity Manual (HCM)* (Transportation Research Board 2000). The volumes are used to measure traffic operating conditions using level of service (LOS), which is a qualitative measure of traffic operating conditions whereby a letter grade is used to represent the level of comfort and convenience associated with driving. In general, LOS A represents free flowing traffic with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions.

Traffic data were collected for all roadway study segments to estimate the weekday hourly LOS from 6:00 AM to 7:00 PM for existing (baseline year 2009) conditions. Traffic volume estimates for Existing Conditions were obtained from traffic counts collected between 2008 and 2012. Data sources included Caltrans, previous transportation studies, and new counts conducted for the BDCP (Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*). Approximately half of the study roadway segments required new counts, which were collected between February and April 2012. Where possible, 2008 counts were factored up to create 2009 traffic volume estimates. The 2012 traffic counts were not adjusted because historical counts were not available for these locations and, in many cases, the traffic growth patterns were uncertain due to the 2008–09 recession effects.

None of the jurisdictions have established hourly LOS traffic volume thresholds specific to the roadway study segments; therefore, existing hourly traffic volume thresholds were developed based on the 2000 HCM methodology (Appendix 19A). Table 19-2 displays the roadway functional class (facility type) and the hourly capacity threshold (number of vehicles per hour) associated with each LOS category in the study area.

Table 19-2. Hourly Level of Service Thresholds for Roadway Type

	Vehicles per Hour				
Facility Type (Functional Class)	A	B	C	D	E
Minor two-lane highway	90	200	680	1,410	1,740
Major two-lane highway	120	290	790	1,600	2,050
Four-lane, multilane highway	2,140	3,520	5,060	6,560	7,300
Two-lane arterial	–	–	970	1,760	1,870
Four-lane arterial, divided	–	–	1,920	3,540	3,740
Two-lane freeway[a]	1,110	2,010	2,880	3,570	4,010
Three-lane freeway[a]	1,700	3,080	4,400	5,410	6,060
Four-lane freeway[a]	2,320	4,200	5,950	7,280	8,140
Five-lane freeway plus high occupancy vehicle (HOV) lane[a]	3,300	5,970	8,350	10,160	11,320

Source: Appendix 19A, based on Highway Capacity Manual 2000.
Note: The numbers in this table represent the upper limits to reach a specific Level of Service. Numbers higher than those shown for Level of Service E would be considered Level of Service F.
– = LOS is not achievable due to the type of facility.
[a] LOS capacity threshold is for one direction.

As shown in Table 19-3, under Existing Conditions, LOS thresholds are exceeded on a total of **15** roadway segments for at least 1 hour during the 6:00 AM to 7:00 PM analysis period (see entries in **bold text**).

Table 19-3. Existing Levels of Service in the Study Area

Segment ID*	Segment	From	To	LOS Threshold[d]	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./ San Joaquin Co. Line	D	1,600	385 to 656	-
BRE 01	**SR 4 (Brentwood Blvd)[a]**	**Delta Rd (Oakley City Limits)**	**Balfour Rd**	**C**	**970**	**586 to 1,516**	**11 (7–9AM; 10AM–7PM)**
BRE 02	SR 4 (Brentwood Blvd)[a]	Balfour Rd	Brentwood City Limits (South)	C	1,920	369 to 1,013	-
BRE 03	Balfour Rd	SR 4 (Brentwood Blvd)	Brentwood City Limits	D	3,540	437 to 1,300	-
CC 01	Bethel Island Rd	Oakley City Limits	End	D	1,600	124 to 330	-
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	D	1,600	90 to 297	-
CC 03	**SR 4[a]**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	**C**	**790**	**1,133 to 1,682**	**13 (6AM–7PM)**
CC 04	Byron Hwy	Delta Rd	SR 4	D	1,410	108 to 240	-
CC 05	Byron Hwy	SR 4	Contra Costa Co./ Alameda Co. Line	D	1,600	483 to 907	-
CT 01	I-5 NB	Florin Rd	Pocket Rd	F	6,060	2,589 to 5,820	-
CT 02	I-5 SB	Florin Rd	Pocket Rd	F	6,060	1,647 to 5,705	-
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	F	6,060	2,359 to 5,156	-
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	F	6,060	1,543 to 5,243	-
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,820 to 3,339	-
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,254 to 3,332	-
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,504 to 2,162	-
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,217 to 2,236	-
CT 09	I-5 NB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,414 to 1,851	-
CT 10	I-5 SB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,207 to 1,964	-
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,312 to 1,720	-
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,111 to 1,813	-
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	C	2,880	1,374 to 1,803	-
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	C	2,880	1,128 to 1,894	-
CT 15	I-5 NB	Peltier Rd	Turner Rd	C	2,880	1,421 to 1,885	-
CT 16	I-5 SB	Peltier Rd	Turner Rd	C	2,880	1,145 to 1,974	-

Segment ID*	Segment	From	To	LOS Threshold[d]	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 17	I-5 NB	Turner Rd	SR 12	C	2,880	1,288 to 1,985	-
CT 18	I-5 SB	Turner Rd	SR 12	C	2,880	1,124 to 1,482	-
CT 19	I-5 NB	SR 12	Eight Mile Rd	C	4,400	1,533 to 2,267	-
CT 20	I-5 SB	SR 12	Eight Mile Rd	C	4,400	1,243 to 2,070	-
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	D	5,410	1,937 to 3,452	-
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	D	5,410	1,817 to 2,760	-
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge	E	1,740	136 to 476	-
CT 24	SR 160 (Freeport Blvd/River Rd)	Freeport Bridge	Scribner Rd	E	1,740	94 to 180	-
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	E	1,740	41 to 125	-
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	E	1,740	105 to 170	-
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	E	1,740	69 to 122	-
CT 28	**SR 160 (Paintersville Bridge)**	**Sutter Slough Bridge Rd**	**SR 160 (River Rd)**	**E**	**1,740**	**75 to 150**	**-**
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	E	1,740	78 to 128	-
CT 30	SR 160 (River Rd)	Walnut Grove Bridge	A St (Isleton)	E	1,740	173 to 465	-
CT 31	SR 160	A St (Isleton)	SR 12	E	1,740	193 to 378	-
CT 32	SR 160	SR 12	Brannan Island Rd	F	1,740	530 to 894	-
CT 33	SR 84 (Jefferson Blvd)	West Sacramento City Limits	Courtland Rd	B	200	40 to 169	-
CT 34	SR 84 (Courtland Rd/ Ryer Ave)	Courtland Rd	Cache Slough Ferry	C	680	10 to 25	-
CT 35	I-80 EB	Suisun Valley Rd	SR 12	C	8,350	3,079 to 6,994	-
CT 36	**I-80 WB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**5,751 to 8,892**	**2 (6–8AM)**
CT 37	SR 12 EB	I-80	Beck Ave	C	2,880	528 to 1,847	-
CT 38	SR 12 WB	I-80	Beck Ave	C	2,880	829 to 1,625	-
CT 39	SR 12	Beck Ave	Sunset Ave/ Grizzly Island Rd	C	5,060	2,408 to 3,573	-
CT 40	SR 12	Sunset Ave/Grizzly Island Rd	Walters Rd/ Lawler Ranch Pkwy	C	5,060	1,607 to 2,353	-

Segment ID*	Segment	From	To	LOS Threshold[d]	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 41	**SR 12**	**Walters Rd/Lawler Ranch Pkwy**	**SR 113**	**C**	**790**	**627 to 1,075**	**10 (6–8AM; 9–1PM; 2–6PM)**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**C**	**790**	**1,073 to 1,544**	**13 (6AM–7PM)**
CT 43	**SR 12 (Rio Vista Bridge)**	**SR 84 (River Rd)**	**SR 160 (River Rd)**	**C**	**970**	**1,135 to 1,685**	**13 (6AM–7PM)**
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./ SJ Co. Line**	**C**	**790**	**704 to 1,030**	**12 (6AM–6PM)**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**773 to 1,164**	**12 (6AM–6PM)**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**2,508 to 4,632**	**2 (3–5 PM)**
CT 47	I-80 WB	SR 113	Pedrick Rd	C	4,400	3,068 to 4,191	-
CT 48	SR 113	I-80	Dixon City Limits	C	1,920	569 to 1,341	-
CT 49	SR 113	Dixon City Limits	SR 12	C	680	174 to 294	-
CT 50	Marsh Creek Rd (Future SR 4)[b]	Vasco Rd	SR 4 (Byron Hwy)	D	1,600	442 to 733	-
CT 51	SR 4	Marsh Creek Rd	Discovery Bay Blvd	D	1,600	554 to 1,224	-
CT 52	SR 4	Discovery Bay Blvd	Tracy Blvd	C	790	412 to 746	-
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**D**	**1,410**	**867 to 1,492**	**1 (4–5PM)**
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	2,552 to 4,815	-
CT 55	I-5 SB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	4,550 to 5,913	-
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	D	5,410	2,430 to 4,586	-
CT 57	**I-5 SB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**4,333 to 5,631**	**3 (7–8AM; 4–6PM)**
CT 58	**I-205 EB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,350 to 5,071**	**4 (3–7PM)**
CT 59	**I-205 WB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,873 to 4,867**	**2 (6–8AM)**
CT 60	**I-205 EB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,431 to 5,068**	**4 (3–7PM)**

Segment ID*	Segment	From	To	LOS Threshold[d]	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	C	4,400	1,875 to 4,117	-
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	D	5,410	1,525 to 4,200	-
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	D	5,410	1,852 to 3,079	-
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	D	5,410	1,511 to 4,182	-
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	D	5,410	2,083 to 3,446	-
ISL 01	A St/4th St/Jackson Blvd.	SR 160	Isleton City Limits	D	1,410	17 to 75	-
OAK 01	SR 4 (Main St)[a]	SR 160	Cypress Rd	C	1,920	752 to 1,663	-
OAK 02	**SR 4 (Main St)[a]**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	**C**	**970**	**722 to 1,335**	**10 (7–9AM; 11AM–7PM)**
OAK 03	Cypress Rd	SR 4 (Main Street)	Bethel Island Rd	D	1,600	304 to 764	-
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	D	1,410	140 to 367	-
OAK 05	Delta Rd	SR 4 (Main Street)	Byron Hwy	D	1,410	155 to 334	-
SAC 01	Pocket Rd	I-5	Freeport Blvd (Old SR 160)	D	3,540	789 to 2,191	-
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	D	1,760	152 to 492	-
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	D	1,410	98 to 346	-
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	D	1,410	77 to 137	
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	D	1,410	10 to 29	-
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	D	1,410	19 to 38	-
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	D	1,410	41 to 71	-
SC 06	Twin Cities Rd	River Rd	I-5	D	1,410	130 to 248	-
SC 07	Twin Cities Rd	I-5	Franklin Blvd	D	1,410	141 to 318	-
SC 08	Sutter Slough Bridge Rd	Sacramento Co./ Yolo Co. Line	Paintersville Bridge	D	1,410	51 to 113	-
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	D	1,410	85 to 134	-
SC 10	River Rd (Sac Co.)	Twin Cities Rd	Walnut Grove Bridge	D	1,600	223 to 365	-
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./SJ Co. Line	D	1,410	175 to 332	-
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	D	1,410	61 to 283	-
SC 13	Race Track Rd/ Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	D	1,410	17 to 34	-

Segment ID*	Segment	From	To	LOS Threshold[d]	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	D	1,410	14 to 39	-
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	D	1,410	4 to 53	-
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	D	1,410	16 to 52	-
SJ 01	Walnut Grove Rd	Sacramento Co./SJ Co. Line	I-5	C	790	141 to 232	-
SJ 02	Peltier Rd	Blossom Rd	I-5	C	680	8 to 23	-
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	C	790	108 to 209	-
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	C	790	69 to 171	-
SJ 05	Byron Hwy[c]	Alameda Co./ San Joaquin Co. Line	Mountain House Pkwy	D	1,600	521 to 824	-
SJ 06	Mountain House Pkwy[c]	Byron Hwy	Arnaudo Blvd	D	1,410	190 to 298	-
SJ 07	Mountain House Pkwy[c]	Arnaudo Blvd	I-205	D	3,540	418 to 769	-
STK 01	Eight Mile Rd	Stockton City Limits	I-5	E	1,870	309 to 769	-
TRA 01	Tracy Blvd	Tracy City Limits	I-205	E	1,870	309 to 759	-
WS 01	Harbor Blvd	Industrial Blvd	US 50	D	3,540	1,140 to 2,317	-
WS 02	Industrial Blvd/ Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	C	1,920	773 to 1,858	-
WS 03	Jefferson Blvd (Old SR 84)	Lake Washington Blvd	Southport Pkwy	C	1,920	546 to 1,718	-
WS 04	Jefferson Blvd (Old SR 84)	Southport Pkwy	West Sacramento City Limits	C	680	42 to 146	-
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	C	680	74 to 249	-
YOL 02	River Rd (Yolo Co.)	Courtland Rd	Sacramento Co./Yolo Co. Line	C	680	25 to 63	-
YOL 03	Courtland Rd	SR 84 (Jefferson Blvd)	River Rd	C	680	28 to 77	-

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

[a] Facility is analyzed as a Caltrans facility under baseline year 2009 conditions – roadway is relinquished to local jurisdiction after baseline year 2009.

[b] Facility is analyzed as a local facility under baseline year 2009 conditions – roadway is adopted as a State facility after baseline year 2009.

[c] Roadways within the Mountain House Community Service District have a LOS D threshold, compared to the LOS C threshold used in the remainder of unincorporated San Joaquin County.

[d] Levels of Service identified in this column do not necessarily represent current Levels of Service but reflect Caltrans' long-term (20-year) projections based on population projections in the affected region.

19.1.2.2 Existing Pavement Conditions

Typically, physical roadway impacts such as pavement deterioration are not evaluated for construction traffic because of the temporary nature of construction activities. Chapter 610 of the Caltrans Highway Design Manual (2009) provides guidance on pavement engineering considerations including roadway rehabilitation techniques to extend the life of pavement. As stated in Chapter 613.1 of the manual, "pavements are engineered to carry the truck traffic loads expected during the pavement design life. Truck traffic…is the primary factor affecting pavement design life and its serviceability." Further, information obtained from local jurisdictions suggests that some roadways identified as potential construction site access routes do not currently have adequate engineered pavement sections to withstand construction traffic, particularly heavy vehicles. Therefore, because of the estimated amount of truck trips that could occur during the relatively lengthy construction period for the alternatives, information was obtained on existing pavement conditions on the study area roadways.

Existing pavement conditions of the study area roadway segments were obtained from most jurisdictions (refer to Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*, for more information). Many jurisdictions have a pavement management system, which typically includes routine visual inspection of roadway facilities. For most local jurisdictions included in this analysis, the calculated Pavement Condition Index (PCI) is used as the metric to describe the condition of a roadway section. Pavement conditions with the study area vary greatly by jurisdiction and by roadway. Facilities range from engineered pavement sections constructed in accordance with a design life of 20 or more years to local agricultural routes and levee roads with minimally engineered sections.

The Metropolitan Transportation Commission (MTC) has published two manuals, *Pavement Condition Index Distress Identification Manual for Asphalt and Surface Treatment Pavements* (February 1986) and *Pavement Condition Index Distress Identification Manual for Jointed Portland Cement Concrete Pavements* (October 1991). Both provide guidance to assist pavement inspectors in determining surface distress and severity levels. The inspection method is designed to facilitate the calculation of the PCI, which is a composite rating index. The PCI is expressed as a number from 0 to 100, with 100 being new pavement. MTC uses the PCI scale presented in Table 19-4 to rate pavement condition. A PCI of 55 represents the threshold between "Fair/Good" condition. A PCI greater than 70 is considered "Very Good".

Table 19-4. Pavement Condition Index (PCI) Rating Scale

Pavement Condition Index	Rating
100–86	Excellent
85–71	Very Good
70–56	Good
55–41	Fair
40–26	Poor
25–11	Very Poor
10–0	Failed

Sources: Metropolitan Transportation Commission 1986, 1991.

The City of Sacramento utilizes a different pavement management application, which results in the calculation of the segment's overall condition represented by the Pavement Quality Index (PQI). The PQI is a composite score of three indictors for ride comfort, surface distress and structural adequacy. A PQI greater than 50 is considered "Fair". A PQI greater than 70 is considered "Good".

San Joaquin County updates pavement conditions every two years. Their pavement management system calculates the Overall Condition Index (OCI) based on a number of factors, including surface distress, patching, ride and drainage condition. An OCI greater than 60 is considered "Fair". An OCI greater than 70 is considered "Good".

Finally, Caltrans applies a different methodology for assessing pavement condition. The Caltrans 2011 State of Pavement Report (December 2011) states that an annual Pavement Condition Survey (PCS) is conducted to continually monitor the State Highway System. The PCS consists of a visual inspection of the pavement surface by a team of pavement analysts and the use of an automated data collection system. The result is an International Roughness Index (IRI) for roadway segments, which is a measure of ride quality. IRI units are measured by inches per mile and the data measures relative vertical movement of the vehicle. On rough pavements, IRI values are high. Caltrans has adopted the Federal Highway Administration (FHWA) threshold of an IRI value of less than or equal to 170 inches per mile as "acceptable". According to the FHWA, the IRI value must be less than 95 to be rated "good". IRI values, reflective of 2009 pavement conditions, were obtained from Caltrans Division of Maintenance. Pavement conditions vary greatly by Caltrans District and by facility. IRI values were recorded in the physical conditions spreadsheet. Caltrans roadway segments were identified as "acceptable" if the IRI was less than or equal to 170. Facilities with IRI values greater than 170 were recorded as "deficient". It's important to note that the PCI and IRI scales are opposite of each other, meaning that a high PCI is good but a high IRI equates to a poor condition.

For the purpose of this analysis, existing pavement conditions in most local jurisdictions are identified as acceptable if their PCI is greater than 55. For roadway segments within the City of Sacramento, a PQI greater than 70 is considered acceptable. For roadway segments within San Joaquin County, an OCI greater than 70 is considered acceptable, except in the Mountain House Community Service District (CSD), which uses the PCI metric. Existing pavement conditions for Caltrans roadway segments are identified as acceptable if the IRI was less than or equal to 170. As shown in Table 19-5, a total of **60** roadway segments have deficient pavement under Existing Conditions (see entries in **bold text**).

Table 19-5. Existing Pavement Conditions in the Study Area

Segment ID*	Roadway	From	To	Condition	Extent of Deficiency[a]	Notes
ALA 01	Byron Hwy	Contra Costa Co./Alameda Co. Line	Alameda Co./San Joaquin Co. Line	Acceptable	-	PCI 100. Improvement project out to bid for summer 2012.
BRE 01	SR 4 (Brentwood Blvd)[a]	Delta Rd (Oakley City Limits)	Balfour Rd	Acceptable	-	PCI range from 79 to 87.
BRE 02	SR 4 (Brentwood Blvd)[a]	Balfour Rd	Brentwood City Limits (South)	Acceptable	-	PCI range from 79 to 87.
BRE 03	Balfour Rd	SR 4 (Brentwood Blvd)	Brentwood City Limits	Acceptable	-	PCI range from 76 to 81.
CC 01	**Bethel Island Rd**	**Oakley City Limits**	**End**	**Deficient**	**Majority**	**PCI range from 43 to 75. PCI 43 for 3,000 feet. PCI 50 to 60 for 2,900 feet. PCI 70+ for 2,700'.**
CC 02	**Balfour Rd**	**Brentwood City Limits**	**Byron Hwy**	**Deficient**	**Majority**	**PCI range from 34 to 41.**
CC 03	**SR 4[a]**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	**Deficient**	**Majority**	**IRI range 156 to 280. Minority of segment length is acceptable.**
CC 04	Byron Hwy	Delta Rd	SR 4	Acceptable	-	PCI range from 66 to 72. Approximately 15,000 feet (majority of segment length) better than PCI 70.
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./Alameda Co. Line**	**Deficient**	**Minority**	**PCI range from 51 to 85. Little more than half study segment (19,850 feet greater than PCI 70).**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Majority**	**IRI range from 152 to 177. Approximately 1 mile exceeds IRI 170 threshold (majority of segment length).**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Minority**	**IRI range from 152 to 189. Approximately 0.1 mile exceeds IRI 170 threshold. Vast majority of segment is acceptable.**
CT 03	**I-5 NB**	**Pocket Rd**	**Laguna Blvd**	**Deficient**	**Minority**	**IRI range from 118 to 207. Approximately 0.6 mile exceeds IRI 170 threshold. Majority of segment is acceptable.**
CT 04	**I-5 SB**	**Pocket Rd**	**Laguna Blvd**	**Deficient**	**Minority**	**IRI range from 142 to 208. Approximately 0.6 mile exceeds IRI 170 threshold. Majority of segment is acceptable.**
CT 05	**I-5 NB**	**Laguna Blvd**	**Elk Grove Blvd**	**Deficient**	**All**	**IRI range from 182 to 278. All of segment exceeds IRI 170 threshold level.**

Segment ID*	Roadway	From	To	Condition	Extent of Deficiency[a]	Notes
CT 06	**I-5 SB**	**Laguna Blvd**	**Elk Grove Blvd**	**Deficient**	**Minority**	**IRI range from 106 to 172. Majority of segment better than acceptable IRI 170. Approximately 0.4 mile at IRI 172.**
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	-	IRI range from 96 to 118.
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	-	IRI range from 114 to 151.
CT 09	**I-5 NB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Majority**	**IRI range from 124 to 246. Approximately half better than acceptable IRI 170.**
CT 10	**I-5 SB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Minority**	**IRI range from 134 to 208. Approximately 5 miles better than acceptable IRI 170 (majority of segment).**
CT 11	**I-5 NB**	**Twin Cities Rd**	**Walnut Grove Rd**	**Deficient**	**Minority**	**IRI range from 94 to 182. Approximately 0.5 mile exceeds IRI 170 threshold. Majority of segment at better than acceptable range.**
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	Acceptable	-	IRI range from 102 to 164.
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	Acceptable	-	IRI range from 82 to 122.
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	Acceptable	-	IRI range from 97 to 123.
CT 15	I-5 NB	Peltier Rd	Turner Rd	Acceptable	-	IRI range from 86 to 132.
CT 16	I-5 SB	Peltier Rd	Turner Rd	Acceptable	-	IRI range from 100 to 140.
CT 17	I-5 NB	Turner Rd	SR 12	Acceptable	-	IRI range from 106 to 144.
CT 18	I-5 SB	Turner Rd	SR 12	Acceptable	-	IRI range from 109 to 154.
CT 19	**I-5 NB**	**SR 12**	**Eight Mile Rd**	**Deficient**	**Majority**	**IRI range from 160 to 266.**
CT 20	I-5 SB	SR 12	Eight Mile Rd	Acceptable	-	IRI range from 140 to 167.
CT 21	**I-5 NB**	**Eight Mile Rd**	**Hammer Ln**	**Deficient**	**Majority**	**IRI range from 146 to 206. Approximately half of segment length exceeds acceptable level.**
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	Acceptable	-	IRI range from 148 to 192. Approximately 0.25 miles exceeds IRI 170 threshold. Majority of segment length better than acceptable level.
CT 23	**SR 160 (Freeport Blvd)**	**Sacramento City Limits**	**Freeport Bridge**	**Deficient**	**Minority**	**IRI range from 139 to 184. Majority of segment length better than acceptable level.**
CT 24	**SR 160 (Freeport Blvd/River Rd)**	**Freeport Bridge**	**Scribner Rd**	**Deficient**	**Minority**	**IRI range from 113 to 184. Approximately 1.5 miles at or exceeds IRI 170 threshold. Majority of segment is acceptable.**
CT 25	**SR 160 (River Rd)**	**Scribner Rd**	**Hood Franklin Rd**	**Deficient**	**Majority**	**IRI range from 144 to 242. Approximately half segment length exceeds IRI 170 threshold.**

Segment ID*	Roadway	From	To	Condition	Extent of Deficiency[a]	Notes
CT 26	**SR 160 (River Rd)**	**Hood Franklin Rd**	**Lambert Rd**	**Deficient**	**Majority**	**IRI range from 166 to 214. Approximately 0.5 mile better than acceptable IRI 170 threshold (minority of segment length).**
CT 27	**SR 160 (River Rd)**	**Lambert Rd**	**Paintersville Bridge**	**Deficient**	**Majority**	**IRI range from 146 to 221. Approximately 1 mile better than acceptable IRI 170 threshold (minority of segment length).**
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	Not Applicable	-	Bridge
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	Acceptable	-	IRI range from 132 to 139.
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**Deficient**	**All**	**IRI range from 219 to 236.**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**Deficient**	**Majority**	**IRI range from 161 to 234. Approximately 1.2 miles better than acceptable IRI 170 (minority of segment length).**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**Deficient**	**Majority**	**IRI range from 131 to 178. Approximately half segment length better than acceptable IRI threshold.**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**Deficient**	**Majority**	**IRI range from 157 to 294. Approximately 1 mile better than acceptable (minority of segment length).**
CT 34	**SR 84 (Courtland Rd/Ryer Ave)**	**Courtland Rd**	**Cache Slough Ferry**	**Deficient**	**Majority**	**IRI range from 122 to 432. Approximately 6 miles better than acceptable (minority of segment length).**
CT 35	I-80 EB	Suisun Valley Rd	SR 12	Acceptable	-	IRI range from 68 to 114.
CT 36	I-80 WB	SR 12	Suisun Valley Rd	Acceptable	-	IRI range from 92 to 147.
CT 37	SR 12 EB	I-80	Beck Ave	Acceptable	-	IRI range from 65 to 167.
CT 38	SR 12 WB	Beck Ave	I-80	Acceptable	-	IRI range from 63 to 167.
CT 39	SR 12	Beck Ave	Sunset Ave/ Grizzly Island Rd	Acceptable	-	IRI range from 93 to 156.
CT 40	SR 12	Sunset Ave/Grizzly Island Rd	Walters Rd/ Lawler Ranch Pkwy	Acceptable	-	IRI range from 100 to 118.
CT 41	**SR 12**	**Walters Rd/ Lawler Ranch Pkwy**	**SR 113**	**Deficient**	**Minority**	**IRI range from 94 to 249. Approximately 1 mile exceeds IRI 170 threshold (minority of segment length).**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**Deficient**	**Majority**	**IRI range 165 to 258. Approximately 2 miles better than acceptable (minority of segment length).**

Segment ID*	Roadway	From	To	Condition	Extent of Deficiency[a]	Notes
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Rd)	SR 160 (River Rd)	Not Applicable	-	Bridge
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./SJ Co. Line**	**Deficient**	**Majority**	**IRI range from 135 to 236. Approximately 2.5 miles better than acceptable (minority of segment length).**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**Deficient**	**Majority**	**IRI range from 106 to 325. Approximately 3 miles better than acceptable (minority of segment length).**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**Deficient**	**Minority**	**IRI range from 145 to 172. Majority of segment better than acceptable.**
CT 47	I-80 WB	Pedrick Rd	SR 113	Acceptable	-	IRI range from 142 to 169.
CT 48	SR 113	I-80	Dixon City Limits	Acceptable	-	IRI range from 54 to 162.
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**Deficient**	**Majority**	**IRI range from 158 to 250. Approximately 1 mile better than acceptable (minority of segment length).**
CT 50	Marsh Creek Rd (Future SR 4)[b]	Vasco Rd	SR 4 (Byron Hwy)	Acceptable	-	PCI 91.
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**Deficient**	**Majority**	**IRI range from 135 to 248. Approximately half segment length better than acceptable 170 IRI.**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**Deficient**	**Minority**	**IRI range from 133 to 293. Approximately 5.5 miles better than acceptable 170 IRI (majority of segment length).**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**Deficient**	**Majority**	**IRI range from 82-301. Approximately 1.5 miles better than acceptable 170 IRI (minority of segment length).**
CT 54	**I-5 NB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**All**	**IRI range from 174 to 205.**
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**All**	**IRI range from 192 to 303.**
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	Acceptable	-	IRI range from 55 to 137.
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	Acceptable	-	IRI range from 78 to 103.
CT 58	I-205 EB	I-580	Mountain House Pkwy	Acceptable	-	IRI range from 71 to 133.
CT 59	I-205 WB	I-580	Mountain House Pkwy	Acceptable	-	IRI range from 63 to 132.
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	Acceptable	-	IRI range from 70 to 91.

Segment ID*	Roadway	From	To	Condition	Extent of Deficiency[a]	Notes
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	Acceptable	-	IRI range from 64 to 96.
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	Acceptable	-	IRI range from 80 to 108.
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	Acceptable	-	IRI range from 77 to 121.
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	Acceptable	-	IRI range from 77 to 108.
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	Acceptable	-	IRI range from 72 to 112.
ISL 01	**A St/4th St/ Jackson Blvd.**	**SR 160**	**Isleton City Limits**	**Deficient**	**Unknown**	**PCI not available from agency. Observations from Google Maps indicate deficient conditions (image date August 2007).**
OAK 01	**SR 4 (Main St)[a]**	**SR 160**	**Cypress Rd**	**Deficient**	**Majority**	**IRI range from 156 to 260 (minority of segment length acceptable). Pavement conditions supplied by Caltrans. Facility relinquished to local agency in January 2012.**
OAK 02	**SR 4 (Main St)[a]**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	**Deficient**	**All**	**IRI 235. Pavement conditions supplied by Caltrans. Facility relinquished to local agency in January 2012.**
OAK 03	Cypress Rd	SR 4 (Main Street)	Bethel Island Rd	Acceptable	-	PCI range from 65 to 80.
OAK 04	**Bethel Island Rd**	**Cypress Rd**	**Oakley City Limits**	**Deficient**	**Majority**	**PCI range from 55 to 80.**
OAK 05	**Delta Rd**	**SR 4 (Main Street)**	**Byron Hwy**	**Deficient**	**Majority**	**PCI 89 from Oakley city limits to Sellers Ave. East of Sellers Ave. (Contra Costa County) PCI range from 61-67.**
SAC 01	**Pocket Rd**	**I-5**	**Freeport Blvd (Old SR 160)**	**Deficient**	**All**	**PQI 70.**
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	Acceptable	-	PQI 84.
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	Not Applicable	-	Bridge
SC 02	**Hood Franklin Rd**	**SR 160 (River Rd)**	**I-5**	**Deficient**	**Majority**	**PCI range from 45 to 67. PCI 45 within Hood (approximately 1000').**
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	Acceptable	-	PCI 56.
SC 04	**Lambert Rd**	**Herzog Rd**	**Franklin Blvd**	**Deficient**	**Majority**	**PCI range from 35 to 59. At least 1 mile at PCI 35.**
SC 05	**Franklin Blvd**	**Lambert Rd**	**Twin Cities Rd**	**Deficient**	**All**	**PCI 32.**
SC 06	Twin Cities Rd	River Rd	I-5	Acceptable	-	PCI 84.
SC 07	**Twin Cities Rd**	**I-5**	**Franklin Blvd**	**Deficient**	**All**	**PCI 45.**

Segment ID*	Roadway	From	To	Condition	Extent of Deficiency[a]	Notes
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./Yolo Co. Line**	**Paintersville Bridge**	**Deficient**	**All**	**PCI 24.**
SC 09	**River Rd (Sac Co.)**	**Paintersville Bridge**	**Twin Cities Rd**	**Deficient**	**Majority**	**PCI range from 43 to 100. PCI 43 and 54 for approximately 1 mile on southernmost section south of Vorden and for one mile south of Paintersville Bridge.**
SC 10	**River Rd (Sac Co.)**	**Twin Cities Rd**	**Walnut Grove Bridge**	**Deficient**	**Minority**	**PCI range from 48 to 64. Majority of segment length has a PCI of 64. Section through Walnut Grove south of Center Avenue has a PCI of 48.**
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./SJ Co. Line	Acceptable	-	PCI 64.
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	Acceptable	-	PCI 85.
SC 13	**Race Track Rd/ Tyler Island Rd**	**Walnut Grove Rd**	**Southern End of Tyler Island**	**Deficient**	**Majority**	**PCI range from 36 to 94. Race Track Road has a PCI of 94. All of Tyler Island has PCI 36 (majority of study segment).**
SC 14	**Tyler Island Rd**	**Southern End of Tyler Island**	**SR 160 (River Rd)**	**Deficient**	**All**	**PCI range from 20 to 36. Tyler Island Bridge Road (Approximately 3,500 feet PCI 20, which on the MTC scale is very poor).**
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	Acceptable	-	PCI range from 86 to 94.
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	Acceptable	-	PCI 86.
SJ 01	**Walnut Grove Rd**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Minority**	**OCI range from 55 to 86.**
SJ 02	**Peltier Rd**	**Blossom Rd**	**I-5**	**Deficient**	**All**	**OCI range from 56 to 60.**
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	Acceptable	-	OCI 74.
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	Acceptable	-	OCI range from 78 to 93.
SJ 05	Byron Hwy[c]	Alameda Co./San Joaquin Co. Line	Mountain House Pkwy	Acceptable	-	PCI 68.
SJ 06	Mountain House Pkwy[c]	Byron Hwy	Arnaudo Blvd	Acceptable	-	PCI 100.
SJ 07	Mountain House Pkwy[c]	Arnaudo Blvd	I-205	Acceptable	-	PCI 100.
STK 01	**Eight Mile Rd**	**Stockton City Limits**	**I-5**	**Deficient**	**Majority**	**PCI range from 15 to 85 projected from 2009 conditions. 6,920 feet of PCI 15 along westernmost extent said to be in poor condition in need of major work. Extensive skin patching last done in 2010.**

Segment ID*	Roadway	From	To	Condition	Extent of Deficiency[a]	Notes
TRA 01	**Tracy Blvd**	**Tracy City Limits**	**I-205**	**Deficient**	**Majority**	**PCI range from 54 to 89.**
WS 01	Harbor Blvd	Industrial Blvd	US 50	Acceptable	-	PCI 81. (Last measured in 2005)
WS 02	Industrial Blvd/ Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	Acceptable	-	PCI 94. (Last measured in 2005)
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**Deficient**	**Unknown**	**Segment between Lake Washington Blvd and Marshall Rd new in 2005. Recent PCI is not available from agency. Observations from Google Maps indicate deficient conditions south of Marshall Road (image date August 2011).**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**Deficient**	**Unknown**	**Recent PCI is not available from agency. Observations from Google Maps indicate deficient conditions (image date September 2011)**
YOL 01	**River Rd (Yolo Co.)**	**Freeport Bridge**	**Courtland Rd**	**Deficient**	**Majority**	**PCI unknown for majority of segment per County. PCI near 100 for section between CR 141 and 142. Comment made that most County roads do not have adequate engineering pavement section constructed to a particular TI and are therefore subject to damage under truck loads. Deficiency assumed.**
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./Yolo Co. Line**	**Deficient**	**Majority**	**PCI unknown per County. Comment made that most County roads do not have adequate engineering pavement section constructed to a particular TI and are therefore subject to damage under truck loads. Deficiency assumed.**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**Deficient**	**Majority**	**PCI unknown per County. Comment made that most County roads do not have adequate engineering pavement section constructed to a particular TI and are therefore subject to damage under truck loads. Deficiency assumed.**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*.

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

[a] Facility is analyzed as a Caltrans facility under baseline year 2009 conditions – roadway is relinquished to local jurisdiction after baseline year 2009.

[b] Facility is analyzed as a local facility under baseline year 2009 conditions – roadway is adopted as a State facility after baseline year 2009.

[c] The Mountain House CSD maintains the roadways within the Mountain House Master Plan area, and uses the PCI rating system as opposed to the OCI rating system that is used in the remainder of unincorporated San Joaquin County.

19.1.2.3 Bicycle Routes

Several bicycle routes traverse the transportation study area. Bicycle routes may be separated non-motorized paths (Class I); marked bike lanes on a street or highway (Class II); or designated signed routes without a marked lane operating in mixed flow with motorized traffic (Class III). Bicycles may also operate legally on any roadway, regardless of whether or not a bike route class designation exists. Designated bicycle routes are located along SR 4, SR 12, and SR 160 and River Road through the Delta (Figure 19-1), consisting primarily of Class II and Class III facilities; however, some bicycle traffic may be found on all primary and secondary roadways within the transportation study area.

19.1.3 Marine Facilities

19.1.3.1 M5/580 Marine Highway Corridor

Marine facilities represent substantial transportation capacity within the transportation study area. Navigable coastal waters parallel the entire I-5 corridor, including numerous deep and safe rivers, bays, and ports and serving as extensions of the surface transportation system, particularly for freight and goods movement. Figure 19-1 illustrates the location of the commercial marine facilities within the transportation study area. These include facilities that are part of the Marine Highway Program overseen by the U.S. Department of Transportation Maritime Division.[1]

Two designated Marine Highway (M-) corridors lie within the study area vicinity, the M-5 corridor and the M-580 corridor.

- The M-5 corridor includes the Pacific Ocean coastal waters, connecting commercial navigation channels, ports, and harbors from San Diego to the US-Canada border north of Seattle. It spans Washington, Oregon and California along the West Coast. It connects to the M-84 corridor at Astoria, Oregon, and the M-580 Connector at Oakland.
- The M-580 corridor includes the San Joaquin River, Sacramento River, and connecting commercial navigation channels, ports, and harbors in Central California from Sacramento to Oakland. It connects to the M-5 Corridor at Oakland.

Most commercial barge traffic within the transportation study area travels along the Sacramento River Deep Water Ship Channel (SRDWSC), which begins in Sacramento and heads southwest toward Suisun Bay, where the canal ends. Once outside of the channel, ships use the Sacramento River for service to Sacramento or the San Joaquin River for access to the Port of Stockton. A new Marine Highway container barge service may begin operating between the Ports of West Sacramento, Oakland, and Stockton, although the service start date is currently unknown.

19.1.3.2 Port of Stockton

The Port of Stockton is located on the Stockton Deepwater Ship Channel, 75 nautical miles due east of the Golden Gate Bridge. The port is a major transportation center with berthing space for 17 vessels, 1.1 million square feet of dockside transit sheds and shipside rail trackage, and 7.7 million

[1] The Marine Highway Program was fully implemented in April 2010 through publication of a Final Rule in the Federal Register (http://edocket.access.gpo.gov/2010/pdf/2010-7899.pdf). The Secretary's designations were made pursuant to the Final Rule, as required by the Energy Independence and Security Act of 2007.

square feet of warehousing served by rail. The Port of Stockton has three traveling, multi-purpose bridge cranes to handle cargo from vessels direct to truck and rail. (Port of Stockton 2012)

River access to the port is through the Suisun Bay, San Joaquin River, and the Stockton Deep Water Channel. The Stockton Deep Water Channel connects the Disappointment Slough with the Port of Stockton marine terminal facilities (State Water Resources Control Board 2010), a distance of approximately 14 miles. Stockton's deepwater channel has an average depth of 35 feet, and an average depth at high tide of 40 feet (Port of Stockton 2012).

The port is located approximately one mile from I-5 and is easily accessible by other major interstates in the region. It is served by two Class I rail companies, UPRR and BNSF. Rail service is also provided to each warehouse within the port facility by the port's railroad, operated by the Central California Traction Company (CCT) (described in Section 19.1.4, *Rail Facilities*).

19.1.3.3 Port of West Sacramento

The Port of West Sacramento is located in West Sacramento 79 nautical miles northeast of San Francisco via rivers and shipping channels. The port has a mobile harbor crane for handling container cargo.

River access is available by entering the SRDWSC from Suisun Bay. The SRDWSC connects the marine terminal facilities of the Port of Sacramento along the navigable portion of the Sacramento River to the Contra Costa County boundary, a distance of 46.5 miles (U.S. Army Corps of Engineers 2010). The current channel provides for a navigable depth of 30 feet; the Army Corps of Engineers has proposed to deepen the channel to a navigable depth of 35 feet. Three rail companies serve the port with a 200-railcar terminal: BNSF, UPRR, and Sierra Northern Railway. The port is adjacent to I-80 and less than 2 miles from I-5. SR 84 is also located within one mile of the port (Port of West Sacramento 2012).

19.1.3.4 Ferry Services

Five public access ferry services operate within the transportation study area (Figure 19-1). Two of the ferries act as a part of the California highway system and are operated by Caltrans. One of these ferries, the Howard Landing Ferry, is located on SR 220 and crosses Steamboat Slough. The other ferry connects SR 84 in Solano County. The Ryer Island Ferry crosses the Cache Slough. The remaining three ferries transport passengers to private islands. One crosses the Little Connection Slough, another crosses the Middle River to Woodward Island, and the other travels from Jersey Island to both Webb Tract and Bradford Island (California Delta Chambers and Visitors Bureau 2009; California Department of Transportation 2009b).

19.1.3.5 Draw Bridges

Twenty-four draw bridges located throughout the Delta on both rail and road facilities are summarized in Table 19-6. Drawbridge clearance varies with the tides.

Table 19-6. Roadway and Rail Draw Bridges in the Study Area

Bridge ID	Bridge Name	Route	Span (feet)	Year Built	Bridge Type	Mean High Water (feet)	Mean Lower Low Water (feet)
22C0153	Sacramento River	"I" Street	853	1911	Swing	30	32
22 0021	Sacramento River (Tower Bridge)	SR 275	738	1934	Lift	30	32
24C0001	Sacramento River (Freeport)	Freeport	653	1929	Bascule	29	32
24 0053	Sacramento River (Paintersville)	SR 160	588	1923	Bascule	24	27
24 0052	Steamboat Slough	SR 160	343	1924	Bascule	21	24
23 0035	Miner Slough	SR 84	367	1933	Swing	17	21
24C0005	Sacramento River (Walnut Grove)	Walnut Grove Xing	302	1952	Bascule	21	24
24C0039	Georgiana Slough	Isleton Road	289	1962	Swing	14	17
29C0131	Mokelumne River (Millers Ferry)	Walnut Grove Road	239	1955	Swing	12	15
24 0051	Sacramento River (Isleton)	SR 160	624	1923	Bascule	15	18
24C0042	Georgiana Slough	Tyler Island Bridge Road	354	1940	Swing	10	13
29 0043	Mokelumne River	SR 12	1,436	1942	Swing	7	10
29 0101	Little Potato Slough	SR 12	2,980	1991	Swing	35	38
24 0121	Three Mile Slough	SR 160	749	1949	Lift	10	16
29C0219	White Slough (Honker Canal)	Eight Mile Road	479	1936	Swing	7	11
29C0114	Bishop Canal	Eight Mile Road	322	1989	Swing	NA	NA
29C0108	Middle River	Bacon Island Road	974	1995	Swing	9	12
29 0050	San Joaquin River (Garwoods)	SR 4	302	1933	Swing	NA	NA
29 0045	Old River	SR 4	528	1915	Swing	12	16
29 0049	Middle River (Santa Fe)	SR 4	547	1915	Swing	11	14
29C0022	Grant Line Canal	Tracy Boulevard	472	1959	Bascule	16	19
24C0053	Snodgrass Slough	Twin Cities Road	1,037	1931	Swing	12	18
24C0011	Sutter Slough	Sutter Slough BR Rd.	397	1939	Swing	NA	NA
29C0023	San Joaquin River	Navy Drive	272	1941	Swing	NA	NA

Sources: California Department of Transportation 2009b; Snug Harbor Resorts LLC 2009; T-Parks Marine 2010.

Notes: "Bridge ID" is a unique identifier for all bridges in the state bridge log. The first two digits indicate the county where the bridge is located (i.e., 33 = Alameda County, 28 = Contra Costa County, 23 = Sacramento County, 29 = San Joaquin County, and 22 = Yolo County). State-owned bridges have a space as the third character of the Bridge ID. County-owned bridges have a "C" as the third character. "Mean High Water" is the clearance underneath the bridge span to the top of the high water level when the bridge is in its operating position for the crossing road or rail facility. "Mean Lower Low Water" is the clearance underneath the bridge span to the top of the low lower water level when the bridge is in its operating position for the crossing road or rail facility.

19.1.4 Rail Facilities

Northern California has a rail network that provides freight and passenger services to various points in the continental United States and within the region. California is served by two private, transcontinental railroad companies: Union Pacific Railroad (UPRR) and BNSF. These two railroads own right-of-way and operate freight services over their own systems of main lines, branch lines, rail yards, and terminals. While the two railroads compete with each other for freight business, they also share routes and utilize each other's tracks under operating agreements.

In addition to providing freight services—with as many as 60 trains per day travelling over their respective routes—both railroads host extensive inter-city and long-haul passenger services that operate on their lines under agreement. The Capital Corridor passenger service between San José and Sacramento and the Amtrak long-distance interstate service are among these passenger operators (see Section 19.1.4.2, *Passenger Service*).

Railroads in the transportation study area are shown in Figure 19-1.

19.1.4.1 Freight Service

Union Pacific Railroad

UPRR's Martinez Subdivision runs between Oakland and Roseville. The double-track route travels along the eastern shore of San Francisco Bay through Berkeley, Richmond, Hercules, and Martinez. At Martinez, the route crosses the Carquinez Strait and continues through the wetlands along Suisun Bay to Fairfield. From Fairfield, the route generally runs parallel to I-80 into Sacramento and then goes on to Roseville. The main line tracks cross over the Yolo Bypass Wildlife Area and the Sacramento and American rivers on the way to Roseville (Altamont Press 2009).

The UPRR Tracy Subdivision runs between Martinez and Tracy. It generally runs inland of and parallel to the shoreline along Suisun Bay through Pittsburg, where the line turns southeast through Brentwood, Byron, and on to Tracy. While much of this line has not been in service recently, UPRR may return it to freight service in the future. Portions of the right-of-way may be used for the eBART extension in Contra Costa County (Altamont Press 2009).

Near Tracy, UPRR operates an intermodal yard at Lathrop. The UPRR facilities in the Delta have been designated in the 2025 Statewide Transportation Plan as a "Major International Trade Route" (California Department of Transportation 2006).

Burlington Northern Santa Fe Railway

The BNSF main line follows an inland route between Richmond and Port Chicago. At Port Chicago, the BNSF main line and UPRR Tracy Subdivision cross, and the BNSF route continues along the shoreline of Suisun Bay and the western edge of the Delta to Oakley. There, the BNSF main line turns southeast towards Stockton, crossing over numerous Delta tracts and islands. At Stockton, the BNSF main line route runs down the Central Valley to Barstow and then east (BNSF Railway 2012).

BNSF operates a large intermodal facility in Stockton called the Mariposa Intermodal facility. It is located east of SR 99 along Mariposa and Arch Road within the Stockton city limits. This site is capable of being expanded and providing opportunities for rail-related industrial development.

BNSF also has a smaller classification yard south of SR 4 near downtown Stockton. That facility is called the Mormon Yard for its location near the Mormon Slough (BNSF Railway 2012).

BNSF facilities in the Delta have been designated in the 2025 Statewide Transportation Plan as a "Major International Trade Route" (California Department of Transportation 2006).

The Central California Traction Company

The CCT is a short-line railroad which operates in the Stockton area with connections to both UPRR and BNSF (Central California Traction Company 2008a, 2008b). CCT operates the Port of Stockton rail connecting the port to the BNSF main line.

19.1.4.2 Passenger Service

Passenger rail service within the Delta and adjacent areas is provided by Amtrak and the Altamont Corridor Express (ACE). The San Francisco Bay Area Rapid Transit District (BART) has a planned extension to Antioch in the transportation study area.

Amtrak

Amtrak provides passenger rail service between Stockton, Sacramento, and Oakland over tracks owned by UPRR and BNSF. Amtrak also connects these cities in the Delta area to points north, east, and south. Amtrak's service is provided by the following routes.

- San Joaquin
- California Zephyr
- Capitol Corridor
- Coast Starlight

Each route has a different frequency of service and serves different markets. The California Zephyr and Coast Starlight routes are part of Amtrak's national service that spans the country, while the San Joaquin route is a northern California regional service. The Capitol Corridor route acts more like a commuter train (Amtrak 2009). These services may be affected if effects on water transportation results in an increase in freight rail use within the Delta which could result in impacts on passenger service provision.

The San Joaquin connects either Oakland or Sacramento with Bakersfield and passes through Stockton. There are four trains daily that start or end in Oakland and two trains daily that start or end in Sacramento (Amtrak 2009).

The California Zephyr starts at the Emeryville station and passes through Davis and Sacramento on its multiday trip to Chicago, Illinois. As part of the Amtrak national system, this route provides one trip in each direction daily. On the trip from the east to Emeryville, Amtrak does not pick up passengers in Sacramento or Davis. (Amtrak 2009).

The Coast Starlight is the north–south equivalent of the California Zephyr. The Coast Starlight connects Los Angeles with Seattle, Washington through Oakland and Sacramento. Like the California Zephyr, the Coast Starlight operates as one northbound and one southbound train daily (Amtrak 2009).

The Capitol Corridor train service is primarily a commuter service connecting San José with Sacramento via Oakland. This service provides several trips per day with shorter headways (the time between trips on the same transit route) during the morning and evening peak travel demand periods (when compared with midday service). On the Capitol Corridor trains, reservations are not required and tickets can be purchased either at select stations or on the train. Over the course of the day, 16 trains operate in each direction between Oakland and Sacramento (Amtrak 2009).

Altamont Corridor Express

Altamont Corridor Express operates rail commuter service between Stockton and San José through Tracy at the southern end of the Delta. The trains operate in the westbound direction in the morning and in the eastbound direction in the afternoon (Altamont Corridor Express 2011).

San Francisco Bay Area Rapid Transit District

The San Francisco Bay Area Rapid Transit District (BART) currently operates a rapid transit rail line to its Pittsburg-Bay Point terminus station. Although the present BART line is not currently within the transportation study area, BART is currently planning a project that will extend BART service beyond the Pittsburg/Bay Point Station into the transportation study area. The extended track alignment will go down the median of SR 4, through Pittsburg and Antioch and terminate east of Hillcrest Avenue in Antioch just within the transportation study area. BART expects to complete the extension in 2015. (Bay Area Rapid Transit 2011).

19.1.5 Air Transportation Facilities

Numerous air facilities are located within or adjacent to the transportation study area (Figure 19-1). Many of these are small air strips associated with ranching or farming operations and charter flight and recreational enterprises. The following public use airports are within or adjacent to the transportation study area.

- Byron Airport
- Franklin Field
- Lodi Airport
- Nut Tree Airport
- Rio Vista Municipal Airport
- Sacramento Executive Airport
- Sacramento International Airport
- Stockton Metropolitan Airport
- Tracy Municipal Airport
- Travis Air Force Base
- University Airport

19.1.5.1 Byron Airport

The Byron Airport (Federal Aviation Administration [FAA] identifier C83) is owned and operated by Contra Costa County. The airport is located between Byron and Tracy just south of Discovery Bay and west of Clifton Court Forebay. The airport has a 4,500 foot main runway and a 3,000 foot crosswind runway. For the 12 months ending October 2011, Byron Airport recorded an average of 164 aircraft operations per day, with most (92%) of those being general aviation aircraft based at Byron, (8%) being general aviation aircraft based elsewhere, and less than 1% military. No scheduled commercial flights depart from this airport. (AirNav 2012a.)

Bryon Airport is located largely within the boundaries of Conservation Zone (CZ) 8. For a description and map of the Conservation Zones, see Chapter 3, *Description of Alternatives*, and Figure 3-1.

19.1.5.2 Franklin Field

Franklin Field is a public use airport owned and operated by the County of Sacramento (FAA identifier F72). The airfield is located 4 miles southeast of Franklin, CA. The facility does not have an air traffic control tower or personnel and serves the general aviation community exclusively. It has two runways of similar length: Runway 18/36 is 11,001 feet long and Runway 9/27 is 10,992 feet long. For 12 months ending in August 2011, the airport had an average of 89 aircraft operations per day. These operations were primarily visiting general aviation (94%) and aircraft based at the airport (6%). No scheduled commercial flights depart from this airport. (AirNav 2012b.)

Franklin Field is located less than 0.25 mile directly adjacent to the east Plan Area boundary.

19.1.5.3 Lodi Airport

Lodi Airport (FAA identifier 1O3) is a privately owned airfield open to the public. The airport is located 4 miles north of Lodi, CA. The airport has two runways: Runway 8/26 is 3,735 feet long and Runway 12/30 is 2,723 feet long. For 12 months ending December 2011, there were 81 aircraft operations on average per day. Those operations were split between general aviation aircraft based at the airport (52%) and those based elsewhere (47%), with a small percentage (2%) air taxi. No scheduled commercial flights depart from this airport. (AirNav 2012c.)

Lodi Airport is located approximately 5.5 miles east of the Plan Area boundary, adjacent to SR 99.

19.1.5.4 Nut Tree Airport

Nut Tree Airport (FAA identifier KVCB) is owned and operated by Solano County. The airport is located 2 miles north of Vacaville, CA. The airport has no control tower and the one runway is approximately 4,700 feet long. For 12 months ending July 2011, there were 278 aircraft operations on average per day. These operations were primarily visiting general aviation (59%) and aircraft based at the airport (39%) and a small percentage (1%) air taxi. No scheduled commercial flights depart from this airport. (AirNav 2012d.)

Nut Tree Airport is located more than 6 miles west of the Plan Area boundary, near the I-80/I-505 junction.

19.1.5.5 Rio Vista Municipal Airport

The Rio Vista Municipal Airport (FAA identifier O88) is owned and operated by the City of Rio Vista. This general aviation airport is located north and west of Rio Vista on SR 12. The main runway is 4,200 feet long, and there is a 2,200 foot crosswind runway and a 180 by 180 foot helipad. For 12 months prior to July 2010, there were 96 aircraft operations on average per day. Those operations were split evenly between general aviation aircraft based at Rio Vista and those based elsewhere. No scheduled commercial flights depart from this airport (AirNav 2012e).

This airport is located within the boundaries of CZ 1.

19.1.5.6 Sacramento Executive Airport

Located in Sacramento between the I-5 and SR 99 corridors and directly on SR 160, Sacramento Executive Airport (FAA identifier SAC) is owned by the City of Sacramento and operated by Sacramento County. The airport has three runways and a 60 by 60 foot helipad. The main runway is 5,503 feet long and there are two shorter runways—crosswind Runway 12–30 (3,826 feet long) and Runway 16–34 (3,485 feet long). For 12 months prior to September 2010, the airport had an average of 248 aircraft operations per day. These operations were primarily visiting general aviation (75%). Aircraft based at the airport were 20%, and air taxi operations (unscheduled charter passenger or freight service flights) constituted 5% of the operations. A small number of flights were military in nature (<1%) (AirNav 2012f).

This airport is located outside the transportation study area, and less than 1 mile from the boundary of CZ 3.

19.1.5.7 Sacramento International Airport

The Sacramento International Airport (FAA identifier SMF) is owned and operated by Sacramento County and is located north and west of Sacramento on I-5. It has two parallel runways of approximately equal length (approximately 8,600 feet). For the 12 months ending in June 2011, the airport averaged 322 operations per day, with a majority being regularly scheduled commercial flights (72%), 15% being air taxi flights, 7% being general aviation flights based elsewhere, 4% being Sacramento-based general aviation flights, and 3% military flights. (AirNav 2012g.)

Sacramento International Airport is the largest airport within or adjacent to the Delta that has regularly scheduled commercial passenger service and also serves as an air freight terminal. In the calendar year ending in December 2008, over 153 million pounds of air freight was handled at this airport. The volume of air freight declined by over 10% from calendar year 2007 (Sacramento County 2009).

The Sacramento International Airport Critical Zone encompasses a 5-mile radius from the farthest edge of the Sacramento International Airport's area of operations, allowing the airport to have review responsibility and influence over specific land uses within this zone. The purpose of the review role is to ensure that land uses do not result in the attraction of wildlife that could present hazards for air operations. Air wildlife/plane collisions are more frequent at Sacramento International Airport than any other California airport and monitoring land uses amounts to preemptive avoidance of the obvious contributors to these occurrences. Risk associated land uses include specific types of agriculture such as livestock production and crops such as corn or rice. It also includes other potentially high wildlife attractors such as solid waste disposal facilities, water

treatment and management facilities, wetlands and other uses requiring water bodies. Waterfowl species are singled out as the greatest threat to air operations because of the size, weight and flight patterns of these bird species.

This airport lies outside the transportation study area to the north. The 10,000-foot critical flight zone for this airport is outside the transportation study area; however, the 5-mile general flight zone lies partially within the boundaries of CZ 2.

19.1.5.8 Stockton Municipal Airport

The Stockton Municipal Airport (FAA identifier SCK) is owned and operated by San Joaquin County and is located south of Stockton between the I-5 and SR 99 corridors. It has a 70 foot by 70 foot helipad and two parallel runways, with one notably longer than the other. Runway 11L-29R is 10,650 feet long and Runway 11R 29L is 4,454 feet long. For the 12 months ending in January 2011, the airport averaged 129 operations per day, consisting of general aviation flights not based in Stockton (69%), 25% Stockton-based general aviation flights, 10% military flights, 4% air taxi flights, and 2% scheduled commercial flights (AirNav 2012h). According to a press release, the airport was in the top third of all airports nationwide in freight volume in 2003 and 2004. Stockton Municipal Airport handled 30.3 million pounds of freight in 2003 and 33.8 million pounds of freight in 2004 (San Joaquin County 2009).

This airport is located outside the transportation study area, less than 2.5 miles from the boundary of CZ 7.

19.1.5.9 Tracy Municipal Airport

The City of Tracy owns and operates this general aviation airport (FAA identifier TCY) located at the southern edge of the city in the southern portion of the "Tracy Triangle" formed by I-5, I-205, and I 580. It has two runways of similar length: Runway 8–26 is 4,005 feet long and Runway 12–80, is 4,001 feet long. For the 12 months ending April 2008, Tracy Municipal Airport averaged 164 aircraft operations a day, with 65% of those operations being general aviation aircraft not based at the airport. The balance was airport-based general aviation aircraft (35%) with less than 1% being air taxi operations (City of Tracy 2009; AirNav 2012i).

This airport is located outside the transportation study area; however, a portion of the approach zone lies within the boundaries of CZ 7.

19.1.5.10 Travis Air Force Base

The U.S. Air Force owns and operates this private use airfield (FAA identifier SUU) located approximately 3 miles east of Fairfield, CA. It has two runways of similar length: Runway 3L/21R is 3,123 feet long and Runway 3R/21L is 3,031 feet long. No use statistics are available. (AirNav 2012j.) The Airport Land Use Compatibility Plan for this airport specifies that land uses that may cause visual, electronic, or bird strike hazards to aircraft in flight shall not be permitted within 12,500 feet of the Travis Air Force Base runways.

Although Travis Air Force Base is located outside the transportation study area in Solano County, the FAR 77 Surface Boundaries for this air base lie partially within transportation the study area. A portion of the approach/ departure area lies within the boundaries of CZ 1 (in the vicinity of SR

113). A substantial portion of the approach/ departure area is located within the boundaries of CZ 11, near Grizzly Bay.

19.1.5.11 University Airport

University Airport (FAA identifier KEDU) is owned and operated by the University of California. The airport is located 2 miles west of Davis, CA and is open to the public. The airport has no control tower and one 3,176 foot long runway. For the 12 months ending June 2010, the airport averaged 67 aircraft operations per day, consisting of general aviation flights based locally (49%) and based elsewhere (41%), 10% being air taxi flights, and <1% military flights. (AirNav 2012k.). This airport is located approximately 6 miles to the west of the Plan Area boundary.

19.1.6 Transit Facilities

Greyhound Bus Lines operate regularly scheduled intercity bus service in the vicinity of the Delta between the cities of Oakland, Sacramento, Stockton, and points beyond using I-80, I-580/I-205, I-5, and SR 99 (Greyhound Bus Lines 2009a). Between seven and nine bus trips are scheduled daily between these cities. Some of these are express trips that do not stop in intervening cities served by Greyhound. For example, of the nine trips daily between Oakland and Sacramento, four stop in Vacaville while five stop in Suisun City. In the case of the seven daily trips between Oakland and Stockton, only two stop in Tracy (one trip very early in the morning and one in the late afternoon). For the trips between Stockton and Sacramento, two of the eight daily trips stop in Lodi (Greyhound Bus Lines 2009b). Within the cities of the Delta, a variety of intra-city and/or intra-county transit services is provided. Some of these transit operators also provide short distance intercity service. Transit agencies serving the transportation study area with bus services include Tri-Delta Transit, South County Transit (SCT), and Rio Vista Transit. Transit routes in the transportation study area are illustrated in Figure 19-1.

19.2 Regulatory Setting

This section describes the applicable transportation regulatory requirements for the proposed alternatives.

19.2.1 Federal Plans, Policies, and Regulations

19.2.1.1 Federal Highway Administration

The Federal Highway Administration (FHWA) coordinates highway transportation in cooperation with states and other partners to enhance the country's safety, economic vitality, quality of life and the environment. Among the program areas of the FHWA is the Federal-Aid Highway Program, which provided federal financial assistance to states for construction and improvement of the National Highway System (NHS), urban and rural roads, and bridges. This program provides for general improvements and development of safe highways and roads. Some of the roadways within the study area could be recipients of federal funds, requiring FHWA approval.

Nationally, the NHS has over 163,000 miles of roadway but that system is only 4% of road miles but it carries approximately 40% of the traffic volume (Federal Highway Administration 2010).

19.2.1.2 Federal Aviation Administration

The Federal Aviation Administration (FAA) is the agency of the U.S. Department of Transportation charged with regulating air commerce to promote its safety and development; achieving the efficient use of navigable airspace of the United States; promoting, encouraging and developing civil aviation; developing and operating a common system of air traffic control and air navigation for both civilian and military aircraft; and promoting the development of a national system of airports.

Under the provisions of the FAA for the development and operation of the common air traffic control system, airports operate under the authority and guidance of the FAA. Any potential project-related effect on aviation and any measures to address such effects would be subject to the regulations of the FAA (Federal Aviation Administration 2005).

19.2.1.3 Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899, Section 10 requires that all obstructions to the navigable capacity of navigable waters of the United States must be authorized by Congress. The U.S. Army Corps of Engineers (USACE) must authorize any construction outside established harbor lines or where no harbor lines exist. USACE must also authorize any alterations within the limits of any breakwater or channel of any navigable water of the United States (U.S. Fish and Wildlife 2010).

19.2.1.4 United States Coast Guard

Title 14 of the United States Code (USC), and Title 33, and other portions of the Code of Federal Regulations (CFR) give the U.S. Coast Guard authority for maritime law enforcement on the navigable waters of the United States, as well as responsibilities for search and rescue, among other roles. Specific to the Delta, Title 33: Navigation and Navigable Waters, Part 162: Inland Waters Navigation Regulations, provides regulations for the navigation by both commercial and noncommercial vessels on the San Joaquin River Deep Water Ship Channel (between Suisun Bay and Stockton), and the SRDWSC (between Suisun Bay and West Sacramento).

19.2.2 State and Regional Plans, Policies, and Regulations

19.2.2.1 Public Resources Code

In accordance with CEQA Public Resources Code (PRC) Section 21092.4, the lead agency for a project that would have statewide, regional, or area-wide significance is required to consult with the regional transportation planning agency and public agencies that have transportation facilities which could be affected. Statewide, regional, or area-wide significance is defined in CEQA Guidelines Section 15206. All transportation agencies directly affected by the BDCP alternatives were consulted during the development stages of this analysis. All correspondence with staff was summarized in an outreach matrix (Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*). The most appropriate staff contacts at each agency were verified.

19.2.2.2 Delta Protection Commission's Land Use and Resource Management Plan

The Delta Protection Act of 1992 (Act) established the Delta Protection Commission (DPC), a State entity to plan for and guide the conservation and enhancement of the natural resources of the Delta,

while sustaining agriculture and meeting increased recreational demand. The Act defines a Primary Zone, which comprises the principal jurisdiction of the Delta Protection Commission. The Act requires the Commission to prepare and adopt a Land Use and Resource Management Plan for the Primary Zone of the Delta (1995), which must meet specific goals.

The Utilities and Infrastructure section includes the following relevant policy.

> **P-5**. Maintain roads within the Delta to serve the existing agricultural uses and supporting commercial uses, recreational users, and Delta residents. Promote the maintenance and enhancement of major thoroughfares already used as cross-Delta corridors.

19.2.2.3 Metropolitan Planning Organizations

Metropolitan planning organizations (MPO) coordinate transportation analysis, standards, and Federally funded capital investment across a number of transportation system owners and operators (e.g., state, counties, cities, and transit operators). There are three MPOs in the affected environment area:

- **Metropolitan Transportation Commission (MTC)**. MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, which includes Alameda, Contra Costa, and Solano counties in the Delta area. The MTC developed the current Transportation Improvement Program (TIP), which programs funds for the federal fiscal year (FY) 2008–2009 through FY 2011–2012. The MTC planning region includes nine roadway and transit improvement projects within the Delta area—three of which are federally funded (Metropolitan Transportation Commission 2009). None of these projects are expected to be affected by the BDCP alternatives.
- **Sacramento Area Council of Governments (SACOG)**. SACOG oversees Sacramento and Yolo counties in the Delta area, including the cities of West Sacramento, Elk Grove, and Galt. SACOG developed the 2011/14 Metropolitan Transportation Improvement Program[2], which identifies 30 roadway and transit projects, including nine federally funded projects in the Delta area (Sacramento Area Council of Governments 2009). None of these projects are expected to be affected by the BDCP alternatives.
- **San Joaquin Council of Governments (SJCOG)**. SJCOG oversees an eight-county region in the San Joaquin Valley, which includes San Joaquin County in the Delta area. SJCOG developed the current Federal Transportation Improvement Program, which covers FY 2008–2009 through 2011–2012. SJCOG planning region includes roadway and transit improvement projects within the Delta area that are federally funded (San Joaquin Council of Governments 2009). As with other MPOs, none of these projects are expected to be affected by the BDCP alternatives.

19.3 Environmental Consequences

This section describes the potential effects of the action alternatives on the transportation facilities in the study area. Effects are evaluated for severity and, where appropriate, mitigation measures are identified. This section describes potential direct and reasonably foreseeable indirect effects on transportation facilities that would result with implementation of each alternative. Potential effects are categorized into two categories: effects related to the physical and structural components of

[2] http://www.sacog.org/mtip/2011-2014/adoption/

water conveyance facilities, which are project-level features, and potential effects related to other conservation measures, which are program-level features. Direct or indirect effects on transportation facilities in areas upstream of the Delta or in the SWP/CVP export service areas are not anticipated because none of the BDCP conservation measures would be implemented in these project areas; thus, transportation facilities in these areas are not discussed further in this section.

Additionally, six of the proposed conservation measures related to supporting covered species and reducing effects from environmental stressors (listed below and described in Chapter 3, *Description of the Alternatives*), which would be implemented under all action alternatives, are not anticipated to result in any meaningful effects on transportation facilities in the study area because the actions implemented under these conservation measures are not, for the most part, land-based or land-focused activities, nor would they be expected to result in any direct or indirect effects on transportation in the study area. As such, these measures will not be addressed further in this analysis.

- Methylmercury Management (CM12)
- Stockton Deep Water Ship Channel Dissolved Oxygen Levels (CM14)
- Illegal Harvest Reduction (CM17)
- Conservation Hatcheries (CM18)
- Urban Stormwater Treatment (CM19)
- Avoidance and Minimization Measures (CM22)

19.3.1 Methods for Analysis

Section 19.3.2, *Determination of Effects*, addresses the potential for effects associated with temporary construction activities (i.e., effects limited to those during the 9-year construction period), the footprint of disturbance of new water conveyance facilities (CM1) and other conservation measures (CM2–CM22), and the permanent operation of the BDCP alternatives within the study area (i.e., effects occurring after construction and during the project lifetime).

This analysis uses a range of methodological approaches to evaluate effects stemming from the BDCP alternatives. First, geospatial data was used to identify the transportation facilities that would be affected by construction and operation of all components of the proposed BDCP alternatives, including water conveyance facilities and conservation measures.

Because activities associated with implementation of BDCP Conservation Measures 2–22 planned within the study area are conceptual, transportation effects of these measures were evaluated programmatically, using similar analytical approaches and tools as for the conveyance facilities (CM1). These effects are included in Section 19.3.3, *Effects and Mitigation Approaches* and they will also be discussed in greater detail and specificity in subsequent project-level environmental documentation once the specific locations for their implementation are determined.

Trip generation estimates were derived from construction estimates for the construction period and assumptions on the number of personnel needed for routine maintenance and operational activities following construction, which were developed by the engineering and design team for the air quality/GHG analysis. The estimates determined that construction of the conveyance facilities would generate substantially more trips on study area roadways, compared to other trips using other transportation systems (e.g., rail, transit, marine, or air). Additionally, vehicle trip generation from

construction would be substantially higher than trip generation during routine operation and maintenance activities following construction. Therefore, this analysis focuses on construction vehicle trip generation as the primary mechanism for impact.

The analysis that follows assesses the potential for construction activities associated with the BDCP to directly or indirectly affect transportation systems during the construction period. This section relies upon geospatial information identifying temporary ground-disturbing activities necessary for alternative construction, as well as the current LOS and pavement condition of transportation facilities within the study area. The analysis accounts for where construction access roads will connect to the existing roadway system, as well as the potential effect access roads may have on vehicle trip distribution.

Effects were determined by comparing the anticipated changes in Existing Conditions (baseline year 2009, as identified in Tables 19-3 and 19-5) in the transportation system that would result from construction and operation of the alternatives. The construction traffic analysis in Appendix 19A assumed the following.

- Construction will occur over a period of 9-years for the pipeline/tunnel, modified pipeline/tunnel, east canal, and west canal, and over a period of 7-years for the Through Delta/Separate Corridors alignment.
- All construction employees are expected to generate two trips per day – one arriving to the construction site and one departing the construction site.
- All construction related trucks are expected to generate eight trips per day.
- To model a reasonable "worst-case" scenario, all construction truck and employee trips are assigned to the roadway network for each analysis hour.
- Background traffic growth was included for the traffic operations analysis based on the anticipated year of construction activity. The final result is a set of volumes representing baseline plus background growth (BPBG) and baseline plus background growth plus project (BPBGPP) traffic conditions.[3]
- Pavement conditions analysis is based on BPBG and BPBGPP traffic conditions.

An intersection-level analysis was not performed because sufficient information regarding construction traffic patterns is not available for this level of analysis and it would be speculative and potentially misleading to assign construction related traffic by turning movement. The roadway segment analysis is sufficient to identify project impacts and to develop mitigation measures given the information available regarding construction traffic. By conducting an hourly "worst-case" scenario segment analysis, the traffic impact study identified critical time periods during the day that may need to be avoided or where physical improvements may be required. These critical periods include peak commute hours for the study roadways.

[3] The regional models forecast traffic volume changes based on population and employment growth, as well as changes in the transportation network. Given the amount of time that will pass before construction begins, these scenarios represent likely traffic conditions when project construction is expected to occur and provide the most meaningful basis for identifying potential project impacts. Only improvements for which the relevant jurisdiction has fully funded and explicitly committed to constructing prior to the anticipated start of construction for the project are assumed in the baseline scenario.

Routine maintenance and operation of the facilities would generate a low volume of daily vehicle trips (see Appendix 22A, *Air Quality Analysis Assumptions*). Trips generated by long-term employment would be spread throughout the region, with several occurring near the intakes and associated urbanized areas. Permanent alteration of transportation patterns during operations and maintenance is evaluated based on the estimated number of long-term employment trips, as well as the geographical dispersion of those trips throughout the Plan Area.

19.3.2 Determination of Effects

Potential transportation impacts were assessed in relation to relevant thresholds of significance established by agencies with jurisdictional authority, and/or applicable laws and regulations. An effect was considered to be adverse under NEPA and significant under CEQA, if it would result in any of the following conditions.

- Cause an increase in traffic or result in delays that are substantial in relation to the existing level of service conditions (Table 19-3). For the purposes of this analysis, an "increase in traffic" or "substantial delay" occurs when the hourly traffic volumes generated by the BPBGPP exceeds an acceptable LOS threshold (Table 19-7) or exacerbates an already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. If a roadway segment has sufficient reserve capacity to accommodate construction traffic within any applicable LOS threshold (Table 19-7), then no traffic operations impact was identified. If construction vehicle trips would cause the total hourly volume to exceed the LOS threshold (Table 19-7) for any analysis hour, a potential impact is identified.
- Cause a substantial deterioration of the roadway surface due to construction activities, in relation to existing pavement conditions (Table 19-5). For the purposes of this analysis, a "substantial deterioration of the roadway surface" occurs when the BPBGPP would result in a pavement change above the applicable thresholds shown in Table 19-7. If construction traffic is added to a roadway segment that has an existing pavement rating below the applicable threshold an impact is identified (Table 19-7).
- Interfere with emergency management and evacuation routes. For the purposes of this analysis, an increase in the amount of trucks using the transportation system in the study area is defined as a potential interference with emergency services.
- Disrupt marine traffic during construction or operations. For the purposes of this analysis, a marine traffic disruption would occur if construction activities required modification to existing water channel, substantially interfered with port navigation, and/or substantially increased the volume of barge movement within the study area.
- Disrupt rail traffic during construction or operations. For the purposes of this analysis, disruptions to rail traffic would occur if construction activities required modification to an existing or proposed rail line, or resulted in physical line crosses that substantially affect rail service.
- Disrupt transit service during construction. For the purposes of this analysis, disruptions to transit service would occur if traffic detours substantially delay transit service or if significant congestion occurs during lane closures and other construction activities.

- Interfere with bicycle routes during construction. For the purposes of this analysis, an "interference" is defined as a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures.
- Increase traffic volumes and delays during operations. For the purposes of this analysis, an increase in traffic volume or delay would occur if there is substantial increases in permanent project-related employment.
- Result in the permanent alteration of transportation patterns during operations. For the purposes of this analysis, a permanent alteration would occur if there is construction of new bridges, marine structures, or surface intersections with public roadways, state routes, or railroads.

For purposes of applying thresholds, and in accordance with PRC 21092.4, all transportation agencies directly affected by the BDCP alternatives were consulted during the development stages of this analysis. Agencies were sent a list of proposed study segments for review and comment, and were requested to supply any existing information on the segments within their jurisdiction. Agency representatives were also asked about potential mitigation approaches. The information obtained from the transportation agencies, provided in Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*, was used in the impact analysis and development of mitigation in this chapter. The LOS and pavement thresholds for each jurisdictions are identified in Table 19-7.

Table 19-7. Roadway Study Segment LOS and Pavement Thresholds

Jurisdiction	Level of Service (LOS)	Pavement Condition
City of Brentwood	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions.	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
City of Isleton Roadways	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions.	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
City of Oakley Roadways	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions.	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
City of Tracy Roadways	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
City of Sacramento Roadways	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions.	Add construction vehicle trips to any roadway segment with a PQI rating at or below 70
City of Stockton Roadways	Cause traffic operations to deteriorate from LOS E (or better) to LOS F or exacerbate LOS F conditions.	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55

Jurisdiction	Level of Service (LOS)	Pavement Condition
City of West Sacramento Roadways	Cause traffic operations to deteriorate from LOS C (or better) to LOS D (or worse) or exacerbate LOS D (or worse) conditions (Jefferson Boulevard and Industrial Boulevard/Lake Washington Boulevard [WS 02, WS 03, and WS 04]) Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions (Harbor Boulevard [WS 01])	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
Alameda County Roadways	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
Contra Costa County Roadways	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
Sacramento County Roadways	Cause traffic operations to deteriorate on a rural roadway segment from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions. Cause traffic operations to deteriorate on an urban roadway segment from LOS E (or better) to LOS F or exacerbate LOS F conditions.	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
San Joaquin County Roadways	Cause traffic operations to deteriorate from LOS C (or better) to LOS D (or worse) or exacerbate LOS D (or worse) conditions (Walnut Grove Road, Peltier Road, and Tracy Boulevard [SJ 01, SJ 02, SJ 03, and SJ 04]).	Add construction vehicle trips to any roadway segment with a OCI rating at or below 70 (Walnut Grove Road, Peltier Road, and Tracy Boulevard [SJ 01, SJ 02, SJ 03, and SJ 04])
Mountain House	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate LOS E (or worse) conditions (Byron Highway and Mountain House Parkway [SJ 05, SJ 06, and SJ 07])	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55 (Byron Highway and Mountain House Parkway [SJ 05, SJ 06, and SJ 07])
Yolo County	Cause traffic operations to deteriorate from LOS C (or better) to LOS D (or worse) or exacerbate LOS D (or worse) conditions	Add construction vehicle trips to any roadway segment with a PCI rating at or below 55
Caltrans	Cause traffic operations to deteriorate from LOS B to LOS C (or worse) along SR-84 between the West Sacramento city limits and Courtland Road Cause traffic operations to deteriorate from LOS C (or better) to LOS D (or worse) or exacerbate a LOS condition worse than LOS C (I-5 between Twin Cities Road and Eight Mile Road, I-205 between I-580 and Eleventh Street, SR-4 between Discovery Bay Boulevard and Tracy Boulevard, SR-84 between Courtland Road and Cache Slough Ferry, SR-12 between Walters Road/Lawler Ranch Parkway and I-5, SR-113 between SR-12 and I-80, SR-12 between I-80 and Walters Road/Lawler Ranch Parkway, I-80 between Suisun Valley Road and SR-12, I-80 between SR-113 and Pedrick Road, I-5 between Eight Mile Road and Eighth Street)	Add construction vehicle trips to any roadway segment with an IRI rating greater than 170

Jurisdiction	Level of Service (LOS)	Pavement Condition
	Cause traffic operations to deteriorate from LOS D (or better) to LOS E (or worse) or exacerbate a LOS condition worse than LOS D (I-205 between Grant Line Road and MacArthur Drive, SR-4 between SR-160 and Discovery Bay Boulevard, SR-4 between Tracy Boulevard and I-5)	
	Cause traffic operations to deteriorate from LOS E (or better) to LOS F (or worse) or exacerbate a LOS condition worse than LOS F (SR-160 between Sacramento City limits and SR-12)	
	Cause traffic operations to exacerbate a condition of LOS F (I-5 between Florin Road and Twin Cities Road, SR-160 between Brannan Island Road and SR-12)	

19.3.3 Effects and Mitigation Approaches

19.3.3.1 No Action Alternative

NEPA Effects: The No Action Alternative describes expected future conditions as of the year 2060 resulting from a continuation of existing policies and programs by federal, state, and local agencies in the absence of the BDCP alternatives. As described in Chapter 3, *Description of Alternatives*, the No Action Alternative assumptions are limited to Existing Conditions, programs adopted during the early stages of development of the EIR/EIS, facilities that are permitted or under construction during the early stages of development of the EIR/EIS, and foreseeable changes in development that would occur with or without the BDCP. A complete list and description of programs and plans considered under the No Action Alternative is provided in Appendix 3D, *Defining Existing Conditions, the No Action/No Project Alternative, and Cumulative Impact Conditions*. For a representation of conditions during the construction period in the absence of the project, please see Appendix 19A, *Bay Delta Conservation Plan Traffic Impact Analysis*.

As described in the discussion of the "background traffic growth," in general, traffic volumes on selected roadway segments are anticipated to increase over the construction period for the project due to population increases in the region. Under the No Action Alternative, any currently underway or planned project within the study area that involves construction and operation and maintenance activities may result in potential effects on transportation facilities from movement of personnel, delivery of construction equipment, and delivery of goods and services. The effects could include increased delays on already congested roadways or accelerated deterioration of roadway surfaces. However, without the estimated trip generation from implementation of the large-scale construction effort associated with the project, construction traffic impacts are likely to be lessened under the No Action Alternative, in comparison to the BDCP alternatives.

Roadways currently experiencing congestion and delays, as identified in Table 19-3, would continue to experience level of service impacts unless capacity enhancements are undertaken. Roadway segments with currently deficient pavement conditions are likely to continue to physically deteriorate. The portion of SR 4 that was relinquished by Caltrans to the Cities of Brentwood and Oakley and to Contra Costa County would no longer be maintained by the state and in the absence of mitigation agreements that are likely to be established with implementation of the project

alternatives, improvement to deteriorating roadways segments throughout the study area may be delayed or may not occur under the No-Action Alternative. Although traffic congestion is likely to increase in future years as growth occurs in the Bay Area and the Central Valley, there would be no project-related change in the characteristics of the transportation systems over state highways, local roadways, or navigation through Delta channels in the MTPs or RTP. No intake facilities or conveyance systems would be constructed that could result in short-term conflicts with users of the transportation corridors in the Delta.

Activities associated with operations and maintenance of the existing SWP and CVP systems and facilities upstream of the Delta would continue, but there would be no changes attributable to the BDCP that could affect transportation systems in these areas. Construction of wildlife habitat in Suisun Marsh or elsewhere as a result of implementation of the USFWS and NMFS Biological Opinions would potentially create localized transportation effects and could affect access to farmland.

There would be no project-related change in the characteristics of the transportation systems in the transportation study area and thus there would be no adverse effects.

The Delta and vicinity are within a highly active seismic area, with a generally high potential for major future earthquake events along nearby and/or regional faults, and with the probability for such events increasing over time. Based on the location, extent and minimally engineered nature of many existing levee structures in the Delta area, the potential for significant damage to, or failure of, these structures during a major local seismic event is generally moderate to high. For major earthquakes along larger faults, ground rupture can extend for considerable distances (hundreds or thousands of feet), with associated risks for surface structures such as roadways. (See Appendix 3E, *Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies* for more detailed discussion) In instances of a catastrophic event due to climate change or a seismic event, there would also be a potential for adverse effect on transportation (such as decreased level of service) or closure of roadways and other transportation systems in the affected portion of the study area.

***CEQA Conclusion*:** Under the No Action Alternative, the projects and programs that are assumed to continue in the absence of implementing the proposed BDCP alternatives and potential growth in traffic volumes on study area roadways are expected to have minimal effect on study area transportation facilities because none of the projects or programs assumed for this analysis would create new growth that would be expected to substantially effect study area traffic volumes and because the traffic generated under this alternative would not result in delays or deterioration of pavement conditions that are substantial in relation to the existing level of service and pavement conditions. The impacts on other transportation modes such as bicycle, marine, rail, bus, and air traffic are also not expected to be substantially affected because of the minimal traffic volume growth expected under this alternative. This impact would be less than significant.

19.3.3.2 Alternative 1A–Dual Conveyance with Pipeline/Tunnel and Intakes 1–5 (15,000 cfs; Operational Scenario A)

A total of five intakes would be constructed on the east bank of the Sacramento River under Alternative 1A. For the purposes of this analysis, Alternative 1A was assumed to entail construction of Intakes 1–5. This alternative would also include an intermediate forebay, and the conveyance facility would be a buried pipeline/tunnel (see Figures 3-2 and 3-3 in Chapter 3, *Description of the Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: As shown in Table 19-8, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 1A would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 33 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 1A would therefore exacerbate an already unacceptable LOS under BPBG conditions on **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation (LOS) impacts.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-8 because construction associated with Alternative 1A would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 1A would also exacerbate an already unacceptable LOS under BPBG conditions at **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

Table 19-8. Level of Service for Pipeline/Tunnel Alternatives (1A, 2A, 3, 5, 6A, 7, and 8)

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./San Joaquin Co. Line	D	1,600	385 to 656	-	477 to 813	-	1,049 to 1,385	-
BRE 01	Brentwood Blvd (old SR 4)[1]	Delta Rd (Oakley City Limits)	Balfour Rd	C	970	586 to 1,516	11 (7–9AM; 10AM–7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**598 to 1,547**	**-**	**1,170 to 2,119**	**9 (8–9AM; 11AM–7PM)**
BRE 02	Brentwood Blvd (old SR 4)[1]	Balfour Rd	Brentwood City Limits (South)	C	1,920	369 to 1,013		-	-	-	
				D	3,540	-	-	301 to 825	-	873 to 1,397	-
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	D	3,540	437 to 1,300	-	437 to 1,300	-	437 to 1,300	-
CC 01	Bethel Island Rd	Oakley City Limits	End	D	1,600	124 to 330	-	124 to 330	-	124 to 330	-
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	D	1,600	90 to 297	-	90 to 297	-	90 to 297	-
CC 03	**Old SR 4[1]**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	C	790	1,133 to 1,682	13 (6AM–7PM)	-	-	-	-
				D	**1,600**	**-**	**-**	**1,320 to 1,959**	**4 (7–8AM; 3–6PM)**	**1,892 to 2,531**	**13 (6AM–7PM)**
CC 04	Byron Hwy	Delta Rd	Old SR 4	D	1,410	108 to 240	-	108 to 240	-	108 to 240	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./ Alameda Co. Line**	**D**	**1,600**	**483 to 907**	**-**	**599 to 1,125**	**-**	**1,171 to 1,697**	**3 (8-9AM; 3-4PM; 5-6PM)**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**2,589 to 5,820**	**-**	**2,987 to 6,714**	**1 (7–8AM)**	**3,216 to 6,943**	**1 (7–8AM)**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**1,647 to 5,705**	**-**	**1,870 to 6,479**	**2 (4–6PM)**	**2,099 to 6,708**	**2 (4–6PM)**
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	F	6,060	2,359 to 5,156	-	2,359 to 5,156	-	2,359 to 5,156	-
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	F	6,060	1,543 to 5,243	-	1,543 to 5,243	-	1,543 to 5,243	-
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,820 to 3,339	-	1,820 to 3,339	-	1,820 to 3,339	-
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,254 to 3,332	-	1,254 to 3,332	-	1,254 to 3,332	-
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,504 to 2,162	-	1,751 to 2,517	-	2,102 to 2,868	-
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,217 to 2,236	-	1,425 to 2,619	-	1,776 to 2,970	-
CT 09	I-5 NB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,414 to 1,851	-	1,623 to 2,125	-	2,056 to 2,558	-
CT 10	I-5 SB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,207 to 1,964	-	1,405 to 2,285	-	1,838 to 2,718	-
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,312 to 1,720	-	1,561 to 2,047	-	1,912 to 2,398	-
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,111 to 1,813	-	1,322 to 2,158	-	1,673 to 2,509	-
CT 13	I-5 NB	Walnut Grove	Peltier Rd	C	2,880	1,374 to	-	1,649 to	-	1,730 to	-

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
		Rd				1,803		2,164		2,245	
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	C	2,880	1,128 to 1,894	-	1,354 to 2,273	-	1,435 to 2,354	-
CT 15	I-5 NB	Peltier Rd	Turner Rd	C	2,880	1,421 to 1,885	-	1,421 to 1,885	-	1,421 to 1,885	-
CT 16	I-5 SB	Peltier Rd	Turner Rd	C	2,880	1,145 to 1,974	-	1,145 to 1,974	-	1,145 to 1,974	-
CT 17	I-5 NB	Turner Rd	SR 12	C	2,880	1,288 to 1,985	-	1,623 to 2,501	-	1,698 to 2,576	-
CT 18	I-5 SB	Turner Rd	SR 12	C	2,880	1,124 to 1,482	-	1,416 to 1,867	-	1,491 to 1,942	-
CT 19	I-5 NB	SR 12	Eight Mile Rd	C	4,400	1,533 to 2,267	-	1,870 to 2,766	-	1,945 to 2,841	-
CT 20	I-5 SB	SR 12	Eight Mile Rd	C	4,400	1,243 to 2,070	-	1,516 to 2,525	-	1,591 to 2,600	-
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	D	5,410	1,937 to 3,452	-	1,937 to 3,452	-	1,937 to 3,452	-
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	D	5,410	1,817 to 2,760	-	1,817 to 2,760	-	1,817 to 2,760	-
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge	E	1,740	136 to 476	-	153 to 536	-	611 to 994	-
CT 24	SR 160 (Freeport Blvd/ River Rd)	Freeport Bridge	Scribner Rd	E	1,740	94 to 180	-	94 to 180	-	552 to 638	-
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	E	1,740	41 to 125	-	41 to 125	-	499 to 583	-
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	E	1,740	105 to 170	-	124 to 201	-	826 to 903	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	E	1,740	69 to 122	-	77 to 136	-	779 to 838	-
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	E	1,740	75 to 150	-	81 to 163	-	783 to 865	-
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	E	1,740	78 to 128	-	97 to 161	-	799 to 863	-
CT 30	SR 160 (River Rd)	Walnut Grove Bridge	A St (Isleton)	E	1,740	173 to 465	-	173 to 465	-	1,038 to 1,330	-
CT 31	SR 160	A St (Isleton)	SR 12	E	1,740	193 to 378	-	193 to 378	-	1,058 to 1,243	-
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**F**	**1,740**	**530 to 894**	**-**	**578 to 975**	**-**	**1,578 to 1,975**	**4 (6-7AM; 3–6PM)**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**B**	**200**	**40 to 169**	**-**	**46 to 194**	**-**	**618 to 766**	**13 (6AM–7PM)**
CT 34	SR 84 (Courtland Rd/ Ryer Ave)	Courtland Rd	Cache Slough Ferry	C	680	10 to 25	-	10 to 25	-	10 to 25	-
CT 35	**I-80 EB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**3,079 to 6,994**	**-**	**3,880 to 8,812**	**3 (3-6PM)**	**4,380 to 9,312**	**3 (3-6PM)**
CT 36	**I-80 WB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**5,751 to 8,892**	**2 (6–8AM)**	**7,246 to 11,204**	**6 (6–9AM; 3–6PM)**	**7,746 to 11,704**	**9 (6–10AM; 1–6PM)**
CT 37	SR 12 EB	I-80	Beck Ave	C	2,880	528 to 1,847	-	676 to 2,364	-	1,176 to 2,864	-
CT 38	SR 12 WB	I-80	Beck Ave	C	2,880	829 to 1,625	-	1,061 to 2,080	-	1,561 to 2,580	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 39	**SR 12**	**Beck Ave**	**Sunset Ave/ Grizzly Island Rd**	**C**	**5,060**	**2,408 to 3,573**	**-**	**3,046 to 4,519**	**-**	**4,046 to 5,519**	**2 (4–6PM)**
CT 40	SR 12	Sunset Ave/ Grizzly Island Rd	Walters Rd/ Lawler Ranch Pkwy	C	5,060	1,607 to 2,353	-	2,057 to 3,012	-	3,057 to 4,012	-
CT 41	**SR 12**	**Walters Rd/ Lawler Ranch Pkwy**	**SR 113**	**C**	**790**	**627 to 1,075**	**10 (6–8AM; 9–1PM; 2–6PM)**	**803 to 1,376**	**13 (6AM–7PM)**	**1,803 to 2,376**	**13 (6AM–7PM)**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**C**	**790**	**1,073 to 1,544**	**13 (6AM–7PM)**	**1,373 to 1,976**	**13 (6AM–7PM)**	**2,373 to 2,976**	**13 (6AM–7PM)**
CT 43	**SR 12 (Rio Vista Bridge)**	**SR 84 (River Rd)**	**SR 160 (River Rd)**	**C**	**970**	**1,135 to 1,685**	**13 (6AM–7PM)**	**1,453 to 2,157**	**13 (6AM–7PM)**	**2,453 to 3,157**	**13 (6AM–7PM)**
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./ SJ Co. Line**	**C**	**790**	**704 to 1,030**	**12 (6AM–6PM)**	**845 to 1,236**	**13 (6AM–7PM)**	**995 to 1,386**	**13 (6AM–7PM)**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**773 to 1,164**	**12 (6AM–6PM)**	**840 to 1,264**	**13 (6AM–7PM)**	**990 to 1,414**	**13 (6AM–7PM)**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**2,508 to 4,632**	**2 (3–5PM)**	**3,108 to 5,741**	**6 (7–9AM; 2–6PM)**	**3,394 to 6,027**	**7 (7–9AM; 1–6PM)**
CT 47	**I-80 WB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**3,068 to 4,191**	**-**	**3,563 to 4,867**	**4 (7–8AM; 3–6PM)**	**3,849 to 5,153**	**6 (6–9AM; 3–6PM)**
CT 48	SR 113	I-80	Dixon City Limits	C	1,920	569 to 1,341	-	569 to 1,341	-	1,141 to 1,913	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**C**	**680**	**174 to 294**	**-**	**216 to 365**	**-**	**788 to 937**	**13 (6AM–7PM)**
CT 50	**SR 4 (Marsh Creek Rd)[2]**	**Vasco Rd**	**Byron Hwy (Old SR 4)**	D	1,600	442 to 733	-	-	-	-	-
				C	**790**	**-**	**-**	**548 to 909**	**2 (4–6PM)**	**1,120 to 1,481**	**13 (6AM–7PM)**
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**D**	**1,600**	**554 to 1,224**	**-**	**654 to 1,445**	**-**	**1,226 to 2,017**	**11 (8AM–7PM)**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**C**	**790**	**412 to 746**	**-**	**412 to 746**	**-**	**984 to 1,318**	**13 (6AM–7PM)**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**D**	**1,410**	**867 to 1,492**	**1 (4–5PM)**	**867 to 1,492**	**1 (4–5PM)**	**1,439 to 2,064**	**13 (6AM–7PM)**
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	2,552 to 4,815	-	3,201 to 6,039	-	3,487 to 6,325	-
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**D**	**7,280**	**4,550 to 5,913**	**-**	**5,747 to 7,468**	**2 (7–8AM; 5–6PM)**	**6,033 to 7,754**	**4 (7–8AM; 2-3PM; 4–6PM)**
CT 56	**I-5 NB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**2,430 to 4,586**	**-**	**3,159 to 5,962**	**3 (3–6PM)**	**3,445 to 6,248**	**4 (2–6PM)**
CT 57	**I-5 SB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**4,333 to 5,631**	**3 (7–8AM; 4–6PM)**	**5,633 to 7,320**	**13 (6AM–7PM)**	**5,919 to 7,606**	**13 (6AM–7PM)**
CT 58	**I-205 EB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,350 to 5,071**	**4 (3–7PM)**	**1,629 to 6,118**	**5 (2–7PM)**	**1,915 to 6,404**	**5 (2–7PM)**
CT 59	**I-205 WB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,873 to 4,867**	**2 (6–8AM)**	**2,270 to 5,898**	**3 (6–9AM)**	**2,556 to 6,184**	**3 (6–9AM)**
CT 60	**I-205 EB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,431 to 5,068**	**4 (3–7PM)**	**1,803 to 6,386**	**5 (2–7PM)**	**2,089 to 6,672**	**5 (2–7PM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 61	**I-205 WB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,875 to 4,117**	**-**	**2,363 to 5,187**	**2 (6-8AM)**	**2,649 to 5,473**	**3 (6-9AM)**
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	D	5,410	1,525 to 4,200	-	1,891 to 5,208	-	1,983 to 5,300	-
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	D	5,410	1,852 to 3,079	-	2,296 to 3,818	-	2,388 to 3,910	-
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	D	5,410	1,511 to 4,182	-	1,874 to 5,186	-	1,966 to 5,278	-
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	D	5,410	2,083 to 3,446	-	2,583 to 4,273	-	2,675 to 4,365	-
ISL 01	A St/4th St/ Jackson Blvd.	SR 160	Isleton City Limits	D	1,410	17 to 75	-	17 to 75	-	17 to 75	-
OAK 01	Main Street (Old SR 4)[1]	SR 160	Cypress Rd	C	1,920	752 to 1,663		-	-	-	
				D	3,540	-	-	882 to 1,951	-	1,454 to 2,523	-
OAK 02	**Main Street (Old SR 4)[1]**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	C	970	722 to 1,335	10 (7–9AM; 11AM-7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**939 to 1,736**	**-**	**1,511 to 2,308**	**11 (7-9AM; 10AM-7PM)**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	D	1,600	304 to 764	-	304 to 764	-	304 to 764	-
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	D	1,410	140 to 367	-	140 to 367	-	140 to 367	-
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	D	1,410	155 to 334	-	155 to 334	-	155 to 334	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SAC 01	Pocket Rd	I-5	Freeport Blvd (Old SR 160)	D	3,540	789 to 2,191	-	789 to 2,191	-	1,247 to 2,649	-
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	D	1,760	152 to 492	-	176 to 571	-	634 to 1,029	-
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	D	1,410	98 to 346	-	98 to 346	-	98 to 346	-
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	D	1,410	77 to 137		82 to 146	-	947 to 1,011	-
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	D	1,410	10 to 29	-	12 to 34	-	714 to 736	-
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	D	1,410	19 to 38	-	20 to 40	-	722 to 742	-
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	D	1,410	41 to 71	-	41 to 71	-	41 to 71	-
SC 06	Twin Cities Rd	River Rd	I-5	D	1,410	130 to 248	-	135 to 257	-	297 to 419	-
SC 07	Twin Cities Rd	I-5	Franklin Blvd	D	1,410	141 to 318	-	141 to 318	-	141 to 318	-
SC 08	Sutter Slough Bridge Rd	Sacramento Co./ Yolo Co. Line	Paintersville Bridge	D	1,410	51 to 113	-	63 to 140	-	635 to 712	-
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	D	1,410	85 to 134	-	86 to 136	-	161 to 211	-
SC 10	River Rd (Sac Co.)	Twin Cities Rd	Walnut Grove Bridge	D	1,600	223 to 365	-	231 to 378	-	393 to 540	-
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./ SJ Co. Line	D	1,410	175 to 332	-	183 to 347	-	345 to 509	-
SC 12	Isleton Rd	River Rd (Walnut	1.5 miles west of	D	1,410	61 to 283	-	61 to 283	-	142 to 364	-

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
		Grove)/Isleton Rd Bridge	Isleton Rd Bridge								
SC 13	Race Track Rd/ Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	D	1,410	17 to 34	-	18 to 35	-	99 to 116	-
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	D	1,410	14 to 39	-	14 to 39	-	14 to 39	-
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	D	1,410	4 to 53	-	4 to 53	-	4 to 53	-
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	D	1,410	16 to 52	-	16 to 52	-	16 to 52	-
SJ 01	Walnut Grove Rd	Sacramento Co./ SJ Co. Line	I-5	C	790	141 to 232	-	147 to 242	-	309 to 404	-
SJ 02	Peltier Rd	Blossom Rd	I-5	C	680	8 to 23	-	8 to 23	-	8 to 23	-
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	C	790	108 to 209	-	108 to 209	-	292 to 393	-
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	C	790	69 to 171	-	84 to 209	-	268 to 393	-
SJ 05	Byron Hwy	Alameda Co./San Joaquin Co. Line	Mountain House Pkwy	D	1,600	521 to 824	-	646 to 1,022	-	1,218 to 1,594	-
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	D	1,410	190 to 298	-	236 to 370	-	808 to 942	-
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	D	3,540	418 to 769	-	543 to 1,000	-	1,115 to 1,572	-
STK 01	Eight Mile Rd	Stockton City Limits	I-5	E	1,870	309 to 769	-	309 to 769	-	309 to 769	-
TRA 01	Tracy Blvd	Tracy City Limits	I-205	E	1,870	309 to 759	-	377 to 926	-	561 to 1,110	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
WS 01	Harbor Blvd	Industrial Blvd	US 50	D	3,540	1,140 to 2,317	-	1,374 to 2,793	-	1,946 to 3,365	-
WS 02	**Industrial Blvd/ Lake Washington Blvd**	**Harbor Blvd**	**Jefferson Blvd (Old SR 84)**	**C**	**1,920**	**773 to 1,858**	**-**	**959 to 2,304**	**2 (7–8AM; 5–6PM)**	**1,531 to 2,876**	**9 (7–9AM; 12-7PM)**
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**C**	**1,920**	**546 to 1,718**	**-**	**665 to 2,094**	**1 (5–6PM)**	**1,237 to 2,666**	**6 (7–9AM; 3–7PM)**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**C**	**680**	**42 to 146**	**-**	**50 to 174**	**-**	**622 to 746**	**5 (7–9AM; 2-3PM; 4–6PM)**
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	C	680	74 to 249	-	74 to 249	-	74 to 249	-
YOL 02	River Rd (Yolo Co.)	Courtland Rd	Sacramento Co./ Yolo Co. Line	C	680	25 to 63	-	31 to 78	-	603 to 650	-
YOL 03	Courtland Rd	SR 84 (Jefferson Blvd)	River Rd	C	680	28 to 77	-	35 to 95	-	607 to 667	-

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the segment IDs mapped on Figures 19-2a through 19-2c.

Notes:

(1) Facility is analyzed as a Caltrans facility under Baseline Conditions and a local facility under Baseline Plus Construction Conditions – roadway is relinquished to local jurisdiction after Baseline Year (2009). LOS Threshold is LOS C under Baseline Conditions and changes to LOS D under Baseline Plus Construction Conditions.

(2) Facility is analyzed as a local facility under Baseline Conditions and a Caltrans facility under Baseline Plus Construction Conditions – roadway is adopted as a State facility after Baseline Year (2009). LOS Threshold is LOS D under Baseline Conditions and changes to LOS C under Baseline Plus Construction Conditions.

***CEQA Conclusion*:** Construction under Alternative 1A would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-8). As shown in Table 19-8, traffic volumes during construction of Alternative 1A would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Prior to construction, the BDCP proponents will be responsible for project management and may contract with one or more construction management firms to assist in ensuring that construction contractors' crews and schedules are coordinated and that the plans and specifications are being followed. The BDCP proponents will also ensure development of site-specific construction traffic management plans (TMPs) that address the specific steps to be taken before, during, and after construction to minimize traffic impacts, including the mitigation measures and environmental commitments identified in this EIR/EIS. This will include potential expansion of the study area identified in this EIR/EIS to capture all potentially significantly affected roadway segments.

The BDCP proponents will be responsible for developing the TMPs in consultation with the applicable transportation entities, including the following.

- Caltrans for state and federal roadway facilities;
- local agencies for local roads;
- transit providers;
- rail operators;
- the U.S. Coast Guard;
- city and county parks departments; and
- the California Department of Parks and Recreation (DPR).

The BDCP proponents will also ensure that the TMPs are implemented prior to beginning construction at a site, including in-water construction sites. If necessary to minimize unexpected operational impacts or delays experienced during real-time construction, the BDCP proponents will also be responsible for modifying the traffic management plan to reduce these effects.

Each TMP will address the following, as needed. Implementation of this measure will ensure operational traffic impacts and delays experienced during construction will be minimized to the greatest extent feasible.

- Signage warning of roadway surface conditions such as loose gravel, steel plates or similar conditions that could be hazardous to road cycling activity on roadways open to bicycle traffic.
- Signage and barricades to be used around the work sites.
- In-water work areas will be indicated by buoys, signage, or other effective means to warn boaters of their presence and restrict access. Warning devices and signage (e.g., "boats keep out" or "no wake zone" labeled buoys) will be in compliance with the U.S. Coast Guard Private Aid to Navigation requirements (U.S. Coast Guard 2012) and effective during non-daylight hours and periods of dense fog.
- Use of flag people or temporary traffic signals/signage as necessary to slow or detour traffic.
- Notifications for the public, emergency providers, cycling organizations, bike shops, and schools, the U.S. Coast Guard, boating organizations, marinas, city and county parks departments, and DPR, where applicable, describing construction activities that could affect transportation and water navigation.
- Outreach (via public meetings and/or flyers and other advertisements)
- Procedures for construction area evacuation in the case of an emergency declared by county or other local authorities.
- Alternate access routes via detours and bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders, pedestrians, and boaters, where applicable.
- Description of construction staging areas, material delivery routes, and specification of construction vehicle travel hour limits.
- Notifications to commercial and leisure boating community of proposed barge operations in the waterways, including posting notices at Delta marinas and public launch ramps. This information will provide details regarding construction site location(s), construction schedules, and identification of no-wake zone, speed restricted zones, and/or detours, where applicable.
- No-wake zone and speed-restrictions will be established as part of development of the site-specific plans and will be determined to protect the safety of construction workers and recreationists.
- Designation of areas where nighttime construction will occur.
- Plans to relocate school bus drop-off and pick-up locations if they will be affected during construction.
- Scheduling for oversized material deliveries to the work site and haul routes.
- Provisions that direct haulers are to pull over in the event of an emergency. If an emergency vehicle is approaching on a narrow two-way roadway, specify measures to ensure that appropriate maneuvers will be conducted by the construction vehicles to allow continual access for the emergency vehicles at the time of an emergency.
- Control for any temporary road closure, detour, or other disruption to traffic circulation, including any temporary partial water channel closures.
- Designated offsite vehicle staging and parking areas.

- Posted information for contact in case of emergency or complaint.
- Daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.
- Coordination with rail providers (BNSF Railway, Amtrak, and UPRR) to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures.
- Coordination with transit providers (SCT, Tri-Delta, Rio Vista, and Greyhound Bus Lines) to develop, where feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed.
- Routinely post information to the 511.org website regarding construction delays and detours.
- Other actions to be identified and developed as may be needed by the construction manager/resident engineer to ensure that temporary impacts on transportation facilities are minimized.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Where feasible, limit construction activity to fit within available reserve capacity or shift construction activity to hours with more reserve capacity so as to achieve acceptable LOS conditions (see Table 19-7). The BDCP proponents will include in the bid specifications a requirement that the contractor submit a proposal for a process for determining when the hours of construction can feasibly be limited to avoid operational deficiencies on identified roadway segments as specified in Table 19-9.

Table 19-9. Roadway Traffic Operations Mitigation Summary

				Applicable Mitigation Measures in Addition to TRANS-1a (Time period for construction traffic to avoid and Maximum number of hourly construction trips, if applicable)[a]				
Segment ID*	Segment	From	To	Pipeline/Tunnel–Alternatives 1A, 2A, 3, 5, 6A, 7, and 8	Modified Pipeline/Tunnel–Alternative 4	East Alignment–Alternatives 1B, 2B, and 6B	West Alignment–Alternatives 1C, 2C, and 6C	Through Delta/Separate Corridors–Alternative 9
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./ San Joaquin Co. Line				TRANS-1b (avoid 6–10AM & 3–7PM)	TRANS-1b (892 max hourly trips)
BRE 01	Brentwood Blvd (old SR 4)	Delta Road (Oakley City Limits)	Balfour Road	TRANS-1b (381 max hourly trips between 6AM–3PM;& 4–7PM; avoid 3–4 PM)	TRANS-1b (avoid 8–9AM & 11–7PM)	TRANS-1b (399 max hourly trips between 6AM–3PM;& 4–7PM; avoid 3–4 PM)	TRANS-1b (234 max hourly trips; avoid 7AM–7PM)	TRANS-1b (399 max hourly trips between 6 AM–3PM; & 4–7 PM; avoid 3–4 PM)
BRE 02	Brentwood Blvd (old SR 4)	Balfour Road	Brentwood City Limits (South)					TRANS-1b (6–7AM; 9AM–4PM or max 2,590 hourly trips)
BRE 03	Balfour Road	Brentwood Blvd (Old SR 4)	Brentwood City Limits					
CC 01	Bethel Island Road	Oakley City Limits	End					
CC 02	Balfour Road	Brentwood City Limits	Byron Hwy					
CC 03	Old SR 4	Brentwood City Limits (South)	Marsh Creek Road	TRANS-1b (163 max hourly trips between 6–7AM; 9AM–2PM; & 6–7PM; avoid 7–9AM & 2-6PM)	TRANS-1b (163 max hourly trips between 6–7AM, 9AM–2PM, & 6–7PM; avoid 7–9AM & 2–6PM)	TRANS-1b (165 max hourly trips between 6–7AM; 8AM–3PM; & 6–7PM; avoid 7–8AM & 3–6PM)	TRANS-1b (165 max hourly trips between 6–7AM, 8AM–3PM, & 6–7PM; avoid 7–8AM & 3–6PM)	TRANS-1b (165 max hourly trips between 6–7AM; 8AM–3PM; & 6–7PM; avoid 7–8AM & 3–6PM)
CC 04	Byron Hwy	Delta Road	Old SR 4					
CC 05	Byron Hwy	SR 4	Contra Costa Co./ Alameda Co. Line	TRANS-1b (avoid 8–9AM, 3–4PM, & 5–6PM)	TRANS-1b (avoid 8–9AM, 3–4PM, & 5–6PM)		TRANS-1b (620 max hourly trips; avoid 6–11AM & 12–7PM)	TRANS-1b (620 max hourly trips)
CT 01	I-5 NB	Florin Road	Pocket Road	TRANS-1b (avoid 7–8AM)	TRANS-1b (avoid 7–8AM)	TRANS-1b (avoid 7–8AM)	TRANS-1b (avoid 7–9AM)	
CT 02	I-5 SB	Florin Road	Pocket Road	TRANS-1b (avoid 4–6PM)	TRANS-1b (avoid 4–6PM)	TRANS-1b (avoid 4–6PM)	TRANS-1b (avoid 4–6PM)	
CT 03	I-5 NB	Pocket Road	Laguna Blvd					
CT 04	I-5 SB	Pocket Road	Laguna Blvd					
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd					
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd					
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Road					
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Road					
CT 09	I-5 NB	Hood Franklin Road	Twin Cities Road					
CT 10	I-5 SB	Hood Franklin Road	Twin Cities Road					
CT 11	I-5 NB	Twin Cities Road	Walnut Grove Road					
CT 12	I-5 SB	Twin Cities Road	Walnut Grove Road					
CT 13	I-5 NB	Walnut Grove Road	Peltier Road				TRANS-1b (avoid 4–5PM)	
CT 14	I-5 SB	Walnut Grove Road	Peltier Road				TRANS-1b (avoid 3–5PM)	
CT 15	I-5 NB	Peltier Road	Turner Road					
CT 16	I-5 SB	Peltier Road	Turner Road					
CT 17	I-5 NB	Turner Road	SR 12					
CT 18	I-5 SB	Turner Road	SR 12					
CT 19	I-5 NB	SR 12	Eight Mile Road					
CT 20	I-5 SB	SR 12	Eight Mile Road					
CT 21	I-5 NB	Eight Mile Road	Hammer Lane					
CT 22	I-5 SB	Eight Mile Road	Hammer Ln					

Segment ID*	Segment	From	To	Applicable Mitigation Measures in Addition to TRANS-1a (Time period for construction traffic to avoid and Maximum number of hourly construction trips, if applicable)[a]				
				Pipeline/Tunnel– Alternatives 1A, 2A, 3, 5, 6A, 7, and 8	Modified Pipeline/Tunnel– Alternative 4	East Alignment– Alternatives 1B, 2B, and 6B	West Alignment– Alternatives 1C, 2C, and 6C	Through Delta/Separate Corridors– Alternative 9
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge				TRANS-1b (1,234 max hourly trips)	
CT 24	SR 160 (Freeport Blvd/ River Road)	Freeport Bridge	Scribner Road					
CT 25	SR 160 (River Road)	Scribner Road	Hood Franklin Road					
CT 26	SR 160 (River Road)	Hood Franklin Road	Lambert Road					
CT 27	SR 160 (River Road)	Lambert Road	Paintersville Bridge					
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Road	SR 160 (River Road)					
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge			TRANS-1b (1,593 max hourly trips)	TRANS-1b (1,593 max hourly trips)	TRANS-1b (1,593 max hourly trips)
CT 30	SR 160 (River Road)	Walnut Grove Bridge	A St (Isleton)			TRANS-1b (1,275 max hourly trips)	TRANS-1b (1,275 max hourly trips)	TRANS-1b (1,275 max hourly trips)
CT 31	SR 160	A St (Isleton)	SR 12			TRANS-1b (1,362 max hourly trips)	TRANS-1b (1,362 max hourly trips)	TRANS-1b (1,362 max hourly trips)
CT 32	SR 160	SR 12	Brannan Island Road	TRANS-1b (avoid 6–7AM & 3–6PM)	TRANS-1b (avoid 6–10AM & 2–7PM)	TRANS-1b (814 max hourly trips)	TRANS-1b (814 max hourly trips)	TRANS-1b (814 max hourly trips)
CT 33	SR 84 (Jefferson Blvd)	West Sacramento City Limits	Courtland Road	TRANS-1b (92 max hourly trips between 6–8AM, 9AM–5PM, & 6–7PM; avoid 8–9AM & 5–6PM)	TRANS-1b (92 max hourly trips between 6–8AM, 9AM–5PM, & 6–7PM; avoid 8–9AM & 5–6PM)	TRANS-1b (101 max hourly trips between 6–8AM, 9AM–5PM, & 6–7PM; avoid 8–9AM & 5–6PM)	TRANS-1b (101 max hourly trips between 6–8AM, 9AM–5PM, & 6–7PM; avoid 8–9AM & 5–6PM)	TRANS-1b (101 max hourly trips between 6–8AM, 9AM–5PM, & 6–7PM; avoid 8–9AM & 5–6PM)
CT 34	SR 84 (Courtland Road/ Ryer Ave)	Courtland Road	Cache Slough Ferry					
CT 35	I-80 EB	Suisun Valley Road	SR 12	TRANS-1b (avoid 3–6PM)	TRANS-1b (avoid 3–6PM)	TRANS-1b (avoid 3–6PM)	TRANS-1b (avoid 2–6PM)	TRANS-1b (avoid 2–7PM)
CT 36	I-80 WB	Suisun Valley Road	SR 12	TRANS-1b (421 max hourly trips between 10AM–2PM; & 6–7PM; avoid 6–10AM & 2–6 PM)	TRANS-1b (avoid 6–10AM & 1–6PM)	TRANS-1b (801 max hourly trips between 9AM–3PM; & 6–7PM; avoid 6–9 AM & 3–6 PM)	TRANS-1b (801 max hourly trips between 9AM–3PM; & 6–7PM; avoid 6–9 AM & 3–6 PM)	TRANS-1b (801 max hourly trips between 9AM–3PM; & 6–7PM; avoid 6–9 AM & 3–6 PM)
CT 37	SR 12 EB	I-80	Beck Ave		TRANS-1b (avoid 5–7PM)	TRANS-1b (737 max hourly trips)	TRANS-1b (avoid 11AM–7PM)	TRANS-1b (737 max hourly trips)
CT 38	SR 12 WB	I-80	Beck Ave			TRANS-1b (avoid 6-8AM)	TRANS-1b (avoid 6–10AM)	TRANS-1b (995 max hourly trips)
CT 39	SR 12	Beck Ave	Sunset Ave/Grizzly Island Road	TRANS-1b (avoid 4–6PM)	TRANS-1b (avoid 3–6PM)	TRANS-1b (946 max hourly trips)	TRANS-1b (946 max hourly trips)	TRANS-1b (946 max hourly trips)
CT 40	SR 12	Sunset Ave/ Grizzly Island Road	Walters Road/ Lawler Ranch Pkwy				TRANS-1b (2,331 max hourly trips; avoid 6–9AM & 10AM–7PM)	TRANS-1b (2,331 max hourly trips)
CT 41	SR 12	Walters Road/ Lawler Ranch Pkwy	SR 113	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c
CT 42	SR 12	SR 113	SR 84 (River Road)	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Road)	SR 160 (River Road)	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c

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				Pipeline/Tunnel–Alternatives 1A, 2A, 3, 5, 6A, 7, and 8	Modified Pipeline/Tunnel–Alternative 4	East Alignment–Alternatives 1B, 2B, and 6B	West Alignment–Alternatives 1C, 2C, and 6C	Through Delta/Separate Corridors–Alternative 9
CT 44	SR 12	SR 160 (River Road)	Sacramento Co./ SJ Co. Line	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c
CT 45	SR 12	Sacramento Co./ SJ Co. Line	I-5	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c	TRANS-1c
CT 46	I-80 EB	SR 113	Pedrick Road	TRANS-1b (avoid 7–9AM & 1–6PM)	TRANS-1b (avoid 7–9AM & 1–6PM)	TRANS-1b (avoid 7–8AM & 2–6PM)	TRANS-1b (avoid 7–8AM & 2–6PM)	TRANS-1b (664 max hourly trips between 6–7AM; 9AM–2PM; & 6–7PM; avoid 7–9 AM & 2–6 PM)
CT 47	I-80 WB	Pedrick Road	SR 113	TRANS-1b (avoid 6–9AM & 3–6PM)	TRANS-1b (avoid 6–9AM & 3–6PM)	TRANS-1b (avoid 7–8AM & 3–6PM)	TRANS-1b (avoid 6–8AM & 3–6PM)	TRANS-1b (457 max hourly trips between 6–7AM; 8AM–3PM; & 6–7PM; avoid 7–8AM & 3–6PM)
CT 48	SR 113	I-80	Dixon City Limits		TRANS-1b (avoid 5–6PM)	TRANS-1b (avoid 4–6PM)	TRANS-1b (579 max hourly trips; avoid 7–9AM & 10AM–7PM)	TRANS-1b (579 max hourly trips)
CT 49	SR 113	Dixon City Limits	SR 12	TRANS-1b (315 max hourly trips)	TRANS-1b (315 max hourly trips)	TRANS-1b (362 max hourly trips)	TRANS-1b (362 max hourly trips)	TRANS-1b (362 max hourly trips)
CT 50	SR 4 (Marsh Creek Road)	Vasco Road	Byron Hwy (Old SR 4)	TRANS-1b (101 max hourly trips between 6–7AM; & 9AM–3PM; avoid 7–9AM & 3–7PM)	TRANS-1b (101 max hourly trips between 6–7AM; & 9AM–3PM; avoid 7–9AM & 3–7PM)	TRANS-1b (115 max hourly trips between 6AM–4PM & 6–7PM; avoid 4–6PM)	TRANS-1b (115 max hourly trips between 6AM–4PM & 6–7PM; avoid 4–6PM)	TRANS-1b (115 max hourly trips between 6AM–4PM & 6–7PM; avoid 4–6PM)
CT 51	SR 4	Marsh Creek Road	Discovery Bay Blvd	TRANS-1b (314 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (314 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (273 max hourly trips)	TRANS-1b (273 max hourly trips)	TRANS-1b (273 max hourly trips)
CT 52	SR 4	Discovery Bay Blvd	Tracy Blvd	TRANS-1b (174 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (174 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (174 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (174 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (174 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)
CT 53	SR 4 (Charter Way)	Tracy Blvd	I-5	TRANS-1b (161 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (161 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (161 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (161 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)	TRANS-1b (161 max hourly trips between 6AM–3PM & 6–7PM; avoid 3–6PM)
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)					
CT 55	I-5 SB	SR 4 (Freeway)	SR 4 (Charter Way)	TRANS-1b (avoid 7–8AM; 2–3PM; & 4–6PM)[b]	TRANS-1b (avoid 7–8AM; 2–6PM)[b]			TRANS-1b (959 max hourly trips between 6–7AM, 8AM–4PM, & 6–7PM; avoid 7–8AM & 4–6PM)[b]
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	TRANS-1b (avoid 2–6PM)[b]	TRANS-1b (avoid 2–6PM)[b]	TRANS-1b (avoid 3–6PM)[b]	TRANS-1b (avoid 3–6PM)[b]	TRANS-1b (avoid 1–6PM)[b]
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	TRANS-1c[b]	TRANS-1c[b]	TRANS-1c[b]	TRANS-1c[b]	TRANS-1c[b]
CT 58	I-205 EB	I-580	Mountain House Pkwy	TRANS-1b (avoid 2–7PM)	TRANS-1b (avoid 2–7PM)	TRANS-1b (avoid 3–7PM)	TRANS-1b (avoid 2–7PM)	TRANS-1b (avoid 2–7PM)
CT 59	I-205 WB	I-580	Mountain House Pkwy	TRANS-1b (avoid 6–9AM)	TRANS-1b (avoid 6–9AM)	TRANS-1b (avoid 6–9AM)	TRANS-1b (avoid 6–9AM)	TRANS-1b (avoid 6–10AM)
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	TRANS-1b (avoid 2–7PM)	TRANS-1b (avoid 2–7PM)	TRANS-1b (avoid 2–7PM)	TRANS-1b (avoid 2–7PM)	TRANS-1b (avoid 2–7PM)
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	TRANS-1b (avoid 6–9AM)	TRANS-1b (avoid 6–9AM)	TRANS-1b (avoid 6–7AM)	TRANS-1b (avoid 6–8AM)	TRANS-1b (avoid 6–9AM)
CT 62	I-205 EB	Grant Line Road	Tracy Blvd					
CT 63	I-205 WB	Grant Line Road	Tracy Blvd					
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr					
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr					

				Applicable Mitigation Measures in Addition to TRANS-1a (Time period for construction traffic to avoid and Maximum number of hourly construction trips, if applicable)[a]				
Segment ID*	Segment	From	To	Pipeline/Tunnel– Alternatives 1A, 2A, 3, 5, 6A, 7, and 8	Modified Pipeline/Tunnel– Alternative 4	East Alignment– Alternatives 1B, 2B, and 6B	West Alignment– Alternatives 1C, 2C, and 6C	Through Delta/Separate Corridors– Alternative 9
ISL 01	A St/4th St/ Jackson Blvd.	SR 160	Isleton City Limits					
OAK 01	Main St (old SR 4)	SR 160	Cypress Road					TRANS-1b (1,781 max hourly trips)
OAK 02	Main St (old SR 4)	Cypress Road	Delta Road (Oakley City Limits)	TRANS-1b (190 max hourly trips between 6–8AM; 9AM–2PM;& 4–7PM; avoid 8–9AM & 2–4PM)	TRANS-1b (190 max hourly trips between 6–8AM, 9AM–2PM, & 4–7PM; avoid 8–9AM & 2–4PM)	TRANS-1b (avoid 8–9AM; 2–6PM)	TRANS-1b (238 max hourly trips)	TRANS-1b (238 max hourly trips)
OAK 03	Cypress Road	Main St (Old SR 4)	Bethel Island Road					
OAK 04	Bethel Island Road	Cypress Road	Oakley City Limits					
OAK 05	Delta Road	Main St (Old SR 4)	Byron Hwy					
SAC 01	Pocket Road	I-5	Freeport Blvd (Old SR 160)				TRANS-1b (avoid 8–9AM; 2–6PM or max 1,349 hourly trips)	
SAC 02	Freeport Blvd (Old SR 160)	Pocket Road	Sacramento City Limits				TRANS-1b (1,229 max hourly trips)	
SC 01	Freeport Bridge	River Road	SR 160 (Freeport Blvd)				TRANS-1b (1,039 max hourly trips)	
SC 02	Hood Franklin Road	SR 160 (River Road)	I-5			TRANS-1b (1,268 max hourly trips)		
SC 03	Lambert Road	SR 160 (River Road)	Herzog Road					
SC 04	Lambert Road	Herzog Road	Franklin Blvd					
SC 05	Franklin Blvd	Lambert Road	Twin Cities Road					
SC 06	Twin Cities Road	River Road	I-5				TRANS-1b (1,157 max hourly trips)	
SC 07	Twin Cities Road	I-5	Franklin Blvd					
SC 08	Sutter Slough Bridge Road	Sacramento Co./Yolo Co. Line	Paintersville Bridge				TRANS-1b (1,288 max hourly trips)	TRANS-1b (1,288 max hourly trips)
SC 09	River Road (Sac Co.)	Paintersville Bridge	Twin Cities Road					
SC 10	River Road (Sac Co.)	Twin Cities Road	Walnut Grove Bridge					
SC 11	Walnut Grove Road/River Road	Walnut Grove Bridge	Sacramento Co./SJ Co. Line				TRANS-1b (1,070 max hourly trips)	
SC 12	Isleton Road	River Road (Walnut Grove)/Isleton Road Bridge	1.5 miles west of Isleton Road Bridge					
SC 13	Race Track Road/ Tyler Island Road	Walnut Grove Road	Southern End of Tyler Island					
SC 14	Tyler Island Road	Southern End of Tyler Island	SR 160 (River Road)					
SC 15	Jackson Slough Road	Isleton City Limits	SR 12					
SC 16	Jackson Slough Road	Brannan Island Road	SR 12					
SJ 01	Walnut Grove Road	Sacramento Co./ SJ Co. Line	I-5				TRANS-1b (552 max hourly trips)	TRANS-1b (551 max hourly trips)
SJ 02	Peltier Road	Blossom Road	I-5					
SJ 03	Tracy Blvd	SR 4	Clifton Court Road			TRANS-1b (581 max hourly trips)		TRANS-1b (581 max hourly trips)

Segment ID*	Segment	From	To	Applicable Mitigation Measures in Addition to TRANS-1a (Time period for construction traffic to avoid and Maximum number of hourly construction trips, if applicable)[a]				
				Pipeline/Tunnel–Alternatives 1A, 2A, 3, 5, 6A, 7, and 8	Modified Pipeline/Tunnel–Alternative 4	East Alignment–Alternatives 1B, 2B, and 6B	West Alignment–Alternatives 1C, 2C, and 6C	Through Delta/Separate Corridors–Alternative 9
SJ 04	Tracy Blvd	Clifton Court Road	Tracy City Limits			TRANS-1b (605 max hourly trips)		TRANS-1b (612 max hourly trips)
SJ 05	Byron Hwy	Alameda Co./ San Joaquin Co. Line	Mountain House Pkwy		TRANS-1b (avoid 7–8AM)		TRANS-1b (710 max hourly trips)	TRANS-1b (710 max hourly trips)
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd					TRANS-1b (1,088 max hourly trips)
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205					
STK 01	Eight Mile Road	Stockton City Limits	I-5					
TRA 01	Tracy Blvd	Tracy City Limits	I-205					TRANS-1b (1,081 max hourly trips)
WS 01	Harbor Blvd	Industrial Blvd	US 50				TRANS-1b (1,064 max hourly trips; avoid 7–10AM; 12–7PM)	TRANS-1b (1,064 max hourly trips)
WS 02	Industrial Blvd/ Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	TRANS-1b (387 max hourly trips between 6–7AM; & 9AM–4PM; avoid 7–9AM & 4–7PM)	TRANS-1b (avoid 7–9AM & 12–7PM)	TRANS-1b (avoid 7–8AM; 4–6PM)	TRANS-1b (372 max hourly trips between 6–7 AM, 9AM–5PM, & 6–7PM; avoid 7–9AM & 5–6PM)	TRANS-1b (372 max hourly trips between 6–7 AM, 9AM–5PM, & 6–7PM; avoid 7–9AM & 5–6PM)
WS 03	Jefferson Blvd (Old SR 84)	Lake Washington Blvd	Southport Pkwy	TRANS-1b (623 max hourly trips between 6–7AM; & 9AM–3PM; avoid 8–9AM & 3–7PM)	TRANS-1b (avoid 7–9AM & 3–7PM)	TRANS-1b (avoid 8–9AM & 4–6PM)	TRANS-1b (307 max hourly trips between 6AM–5PM, & 6–7PM; avoid 5–6PM)	TRANS-1b (380 max hourly trips between 6–8 AM, 9AM–5PM, & 6–7PM; avoid 8–9AM & 5–6PM)
WS 04	Jefferson Blvd (Old SR 84)	Southport Pkwy	West Sacramento City Limits	TRANS-1b (avoid 7–9AM; 2–3PM; & 4–6PM)	TRANS-1b (avoid 7–9AM & 2–6PM)		TRANS-1b (525 max hourly trips)	TRANS-1b (525 max hourly trips)
YOL 01	River Road (Yolo Co.)	Freeport Bridge	Courtland Road				TRANS-1b (426 max hourly trips)	
YOL 02	River Road (Yolo Co.)	Courtland Road	Sacramento Co./Yolo Co. Line				TRANS-1b (612 max hourly trips)	TRANS-1b (612 max hourly trips)
YOL 03	Courtland Road	SR 84 (Jefferson Blvd)	River Road				TRANS-1b (597 max hourly trips)	TRANS-1b (597 max hourly trips)

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

[a] For Mitigation Measure TRANS-1b, the maximum number of hourly construction trips is shown in parentheses within the specified time period, if applicable. If only a time period is shown, that time period is to be avoided.

[b] I-5 North Stockton Widening is currently under construction and would eliminate the operational impact at CT 55, 56, and 57 if it is completed prior to BDCP construction.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Prior to commencement of construction activities substantially affecting transportation facilities, the BDCP proponents will make a good faith effort to enter into mitigation agreements with affected state, regional, or local agencies ("affected agencies") to verify the location, extent, timing, and fair share cost to be paid for capacity enhancements to the identified roadway segments specified in Table 19-9.

Implementation of this measure is intended to provide funding from BDCP proponents sufficient to provide their fair share of the cost of capacity expansion so that traffic operating conditions (i.e., LOS) on study area roadways do not operate at a level of service or delay that is worse than the pre-project conditions (to the extent feasible in light of costs, logistics, and other factors). The BDCP proponents will include in the bid specifications requirements that the contractor(s) ensure that all enhancements are conducted in compliance with applicable standards of affected agencies and with any applicable mitigation agreements, as described below.

In attempting in good faith to enter into mitigation agreements with affected agencies, BDCP proponents shall be guided by the following principles. The BDCP proponents shall be responsible for their fair share costs of all feasible capacity-expanding physical improvements jointly determined by BDCP proponents and the affected agencies to be necessary, feasible, and available to reduce the severity of the BDCP's significant construction-related transportation impacts. Fair share calculations shall account not only for traffic levels as they existed at the time of the public release of the BDCP Draft EIR/EIS, but also for "background growth" between that time frame and the commencement of BDCP construction activities, as well as any probable future projects in the affected agency or neighboring agencies that will likely contribute to the need for, and directly benefit from, increased capacity.

The BDCP proponents' contribution toward such improvements may take any, or some combination, of the following forms:

1. Construction of improvements, which may be subject to fee credits and/or reimbursement, coordinated by the affected agency, from other fee-paying development projects if available with respect to improvements that would also benefit such fee-paying development projects;

    1) 2. The payment of impact fees to the affected agency in amounts that constitute the BDCP proponents' fair share contributions to the construction of the required improvements, consistent with the affected agency's Capital Improvement Program ("CIP") or other funding program that meets the definition of a "reasonable plan for mitigation" under CEQA case law (i.e., a plan that ensures that (i) the fees collected from the BDCP proponents will be used for their intended purposes, and (ii) the improvements will actually be built within a reasonable period of time);

    2) 3. The payment of adopted regional impact fees that would provide funding for transportation facilities that are affected by multiple agencies, except where the BDCP proponents' payments of other fees or construction of improvements within the affected agency will create credit against the payment of regional impact fees;

3) 4. The payment of impact fees to the affected agency in amounts that constitute the BDCP proponents' fair share contributions to the construction of improvements within other agencies and not the affected agency, which payments to the affected agency and transmittal of fees to other agency would occur through one or more enforceable agreements, provided that for each required improvement there is a reasonable plan for mitigation that ensures that (i) the fees collected from the BDCP proponents will be used for their intended purposes, and (ii) the improvements will actually be built within a reasonable period of time; and/or

4) 5. The payment of impact fees to the California Department of Transportation ("Caltrans") in amounts that constitute the BDCP proponents' fair share contributions to the construction of improvements on federal or state highways or freeways needed in part because of the BDCP, to be made available to Caltrans if and when Caltrans, DWR, and any other the affected agency enter into an enforceable agreement consistent with state law, provided that, for each required improvement, Caltrans has a reasonable mitigation plan that ensures that (i) the fees collected from the BDCP proponents will be used for their intended purposes, and (ii) the improvements will actually be built within a reasonable period of time.

In order to obtain the most fair, accurate, and up-to-date calculations of the BDCP proponents' fair share of the costs of required improvements, the agreement(s) reached between BDCP proponents and the affected agency or agencies shall also provide for the following: (i) that the traffic models to be used be operated by transportation consultant mutually acceptable to both BDCP proponents and the affected agency or agencies; and (ii) that the calculations account for (A) newly approved projects cumulatively that contribute to transportation-related impacts and that therefore should contribute to the funding of necessary improvements, and (B) up-to-date cost calculations for the construction of needed improvements based on recent changes in the costs of materials, labor, and other inputs.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: Construction truck traffic may damage roadway surfaces. During construction, various materials would be transported to and from the construction areas in load-bearing trucks. As shown in Table 19-10, construction of Alternative 1A would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **43** roadway segments (see table entries in **bold** type). Figure 19-4 shows all of the study roadway segments that could experience substantial pavement condition effects.

Table 19-10. Pavement Conditions for Pipeline/Tunnel Alternatives (1A, 2A, 3, 5, 6A, 7, and 8)

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Alternative Results in Construction Trips Added to Roadway	Alternative Results in Impact on Deficient Roadway
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./ San Joaquin Co. Line	Acceptable	Yes	No
BRE 01	Brentwood Blvd (old SR 4)	Delta Rd (Oakley City Limits)	Balfour Rd	Acceptable	Yes	No
BRE 02	Brentwood Blvd (old SR 4)	Balfour Rd	Brentwood City Limits (South)	Acceptable	Yes	No
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	Acceptable	No	No
CC 01	Bethel Island Rd	Oakley City Limits	End	Deficient	No	No
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	Deficient	No	No
CC 03	**Old SR 4**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	**Deficient**	**Yes**	**Yes**
CC 04	Byron Hwy	Delta Rd	Old SR 4	Acceptable	No	No
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./ Alameda Co. Line**	**Deficient**	**Yes**	**Yes**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	Yes	No
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	Yes	No
CT 09	**I-5 NB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 10	**I-5 SB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 11	**I-5 NB**	**Twin Cities Rd**	**Walnut Grove Rd**	**Deficient**	**Yes**	**Yes**
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	Acceptable	Yes	No
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 15	I-5 NB	Peltier Rd	Turner Rd	Acceptable	No	No
CT 16	I-5 SB	Peltier Rd	Turner Rd	Acceptable	No	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 17	I-5 NB	Turner Rd	SR 12	Acceptable	Yes	No
CT 18	I-5 SB	Turner Rd	SR 12	Acceptable	Yes	No
CT 19	**I-5 NB**	**SR 12**	**Eight Mile Rd**	**Deficient**	**Yes**	**Yes**
CT 20	I-5 SB	SR 12	Eight Mile Rd	Acceptable	Yes	No
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	Deficient	No	No
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	Acceptable	No	No
CT 23	**SR 160 (Freeport Blvd)**	**Sacramento City Limits**	**Freeport Bridge**	**Deficient**	**Yes**	**Yes**
CT 24	**SR 160 (Freeport Blvd/River Rd)**	**Freeport Bridge**	**Scribner Rd**	**Deficient**	**Yes**	**Yes**
CT 25	**SR 160 (River Rd)**	**Scribner Rd**	**Hood Franklin Rd**	**Deficient**	**Yes**	**Yes**
CT 26	**SR 160 (River Rd)**	**Hood Franklin Rd**	**Lambert Rd**	**Deficient**	**Yes**	**Yes**
CT 27	**SR 160 (River Rd)**	**Lambert Rd**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	Not Applicable	Yes	No
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	Acceptable	Yes	No
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**Deficient**	**Yes**	**Yes**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**Deficient**	**Yes**	**Yes**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**Deficient**	**Yes**	**Yes**
CT 34	SR 84 (Courtland Rd/Ryer Ave)	Courtland Rd	Cache Slough Ferry	Deficient	No	No
CT 35	I-80 EB	Suisun Valley Rd	SR 12	Acceptable	Yes	No
CT 36	I-80 WB	SR 12	Suisun Valley Rd	Acceptable	Yes	No
CT 37	SR 12 EB	I-80	Beck Ave	Acceptable	Yes	No
CT 38	SR 12 WB	Beck Ave	I-80	Acceptable	Yes	No
CT 39	SR 12	Beck Ave	Sunset Ave/Grizzly Island Rd	Acceptable	Yes	No
CT 40	SR 12	Sunset Ave/Grizzly Island Rd	Walters Rd/Lawler Ranch Pkwy	Acceptable	Yes	No
CT 41	**SR 12**	**Walters Rd/Lawler Ranch Pkwy**	**SR 113**	**Deficient**	**Yes**	**Yes**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**Deficient**	**Yes**	**Yes**

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Rd)	SR 160 (River Rd)	Not Applicable	Yes	No
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./SJ Co. Line**	**Deficient**	**Yes**	**Yes**
CT 45	**SR 12**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**Deficient**	**Yes**	**Yes**
CT 47	I-80 WB	Pedrick Rd	SR 113	Acceptable	Yes	No
CT 48	SR 113	I-80	Dixon City Limits	Acceptable	Yes	No
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 50	SR 4 (Marsh Creek Rd)	Vasco Rd	Byron Hwy (Old SR 4)	Acceptable	Yes	No
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**Deficient**	**Yes**	**Yes**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**Deficient**	**Yes**	**Yes**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 54	**I-5 NB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 58	I-205 EB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 59	I-205 WB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
ISL 01	A St/4th St/Jackson Blvd.	SR 160	Isleton City Limits	Deficient	No	No
OAK 01	**Main Street (Old SR 4)**	**SR 160**	**Cypress Rd**	**Deficient**	**Yes**	**Yes**
OAK 02	**Main Street (Old SR 4)**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	**Deficient**	**Yes**	**Yes**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	Acceptable	No	No
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	Deficient	No	No
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	Deficient	No	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
SAC 01	**Pocket Rd**	**I-5**	**Freeport Blvd (Old SR 160)**	**Deficient**	**Yes**	**Yes**
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	Acceptable	Yes	No
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	Not Applicable	No	No
SC 02	**Hood Franklin Rd**	**SR 160 (River Rd)**	**I-5**	**Deficient**	**Yes**	**Yes**
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	Acceptable	Yes	No
SC 04	**Lambert Rd**	**Herzog Rd**	**Franklin Blvd**	**Deficient**	**Yes**	**Yes**
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	Deficient	No	No
SC 06	Twin Cities Rd	River Rd	I-5	Acceptable	Yes	No
SC 07	Twin Cities Rd	I-5	Franklin Blvd	Deficient	No	No
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./Yolo Co. Line**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
SC 09	**River Rd (Sac Co.)**	**Paintersville Bridge**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
SC 10	**River Rd (Sac Co.)**	**Twin Cities Rd**	**Walnut Grove Bridge**	**Deficient**	**Yes**	**Yes**
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./SJ Co. Line	Acceptable	Yes	No
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	Acceptable	Yes	No
SC 13	**Race Track Rd/Tyler Island Rd**	**Walnut Grove Rd**	**Southern End of Tyler Island**	**Deficient**	**Yes**	**Yes**
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	Deficient	No	No
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	Acceptable	No	No
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	Acceptable	No	No
SJ 01	**Walnut Grove Rd**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
SJ 02	Peltier Rd	Blossom Rd	I-5	Deficient	No	No
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	Acceptable	Yes	No
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	Acceptable	Yes	No
SJ 05	Byron Hwy	Alameda Co./San Joaquin Co. Line	Mountain House Pkwy	Acceptable	Yes	No
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	Acceptable	Yes	No
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	Acceptable	Yes	No
STK 01	Eight Mile Rd	Stockton City Limits	I-5	Deficient	No	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
TRA 01	**Tracy Blvd**	**Tracy City Limits**	**I-205**	**Deficient**	**Yes**	**Yes**
WS 01	Harbor Blvd	Industrial Blvd	US 50	Acceptable	Yes	No
WS 02	Industrial Blvd/ Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	Acceptable	Yes	No
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**Deficient**	**Yes**	**Yes**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**Deficient**	**Yes**	**Yes**
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	Deficient	No	No
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./ Yolo Co. Line**	**Deficient**	**Yes**	**Yes**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**Deficient**	**Yes**	**Yes**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

As shown in Table 19-10, construction during Alternative 1A would contribute to substantial deterioration of pavement conditions of **43** roadway segments that would exceed applicable thresholds summarized in Table 19-7. Damage to roadway pavement is expected throughout the study area (Figure 19-4) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided. Collectively, these measures include stipulations to limit/prohibit construction activity on deficient roadways and improve the physical condition of affected segments.

***CEQA Conclusion*:** Construction traffic would result in a significant impact to pavement conditions. As shown in Table 19-10, construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

The BDCP proponents will, to the extent feasible include in the bid specifications prohibitions against construction traffic from using roadway segments with pavement conditions below the thresholds identified in this study (i.e., an IRI rating greater than 170 or a PCI rating worse than 55). Implementation of this measure would prohibit all construction traffic on the physically deficient roadway segments listed in Table 19-10, if feasible.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

If complete avoidance of physically deficient roadway segments as described in Mitigation Measure TRANS-2a is not feasible, construction activity will be limited to the extent feasible on the deficient roadways identified in Table 19-10. Implementation of this measure will reduce continuing deterioration of pavement conditions on the most damaged roadways in the study area. The BDCP proponents will include in the bid specifications requirements that limit the amount of construction traffic on roadway segments with pavement conditions below the thresholds identified in this study (i.e., an IRI rating greater than 170 or a PCI rating worse than 55), if feasible. Trucks would be prohibited and construction traffic would be limited to

passenger vehicles on travel routes with pavement conditions worse than the thresholds identified in this study (i.e., an IRI rating greater than 170 or a PCI rating worse than 55).

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

If use of physically deficient roadways cannot be avoided or limited as specified in Mitigation Measures TRANS-2a and TRANS-2b, it may be necessary to improve the deficient roadways identified in Table 19-10 or make other necessary infrastructure improvements, if any, before construction to make them suitable for use during construction. Additionally, all affected roadways would be returned to preconstruction condition or better following construction. Implementation of this measure will ensure that construction activities will not worsen pavement conditions, relative to Existing Conditions.

Prior to construction, the BDCP proponents will make a good faith effort to enter into mitigation agreements with or to obtain encroachment permits from affected agencies to verify what the location, extent, timing, and fair share cost to be paid by the BDCP proponents for any necessary pre- and post-construction physical improvements. The fair share amount would be either the cost to return the affected roadway segment to its preconstruction condition or a contribution to programmed planned improvements. Repairs may occur before or after construction and may include overlays, other surface treatments, or roadway reconstruction. The flood protection benefits of roadways will also be considered in developing and implementing activities pursuant to this measure.

Pre-construction analyses of existing pavement conditions will be conducted just prior to starting construction for any proposed construction traffic travel routes. The preconstruction pavement analysis will establish the baseline for required improvements and will be based on the PCI or IRI methodologies described in this EIR/EIS or an equivalent method as agreed to by the BDCP proponents and the affected agencies. Relevant flood protection agencies will also be consulted during the design of roadway improvements.

The BDCP proponents will include in the bid specifications stipulations that require the contractor(s) to conduct the pre-construction pavement analysis and conduct all improvements in compliance with applicable standards of affected agencies, as stipulated in the mitigation agreements or encroachment permits.

It is not anticipated that project construction could cause the need for major transportation infrastructure improvements, such as the need to upgrade or repair existing bridges or the need to construct new highway interchanges. To the extent that construction activities could cause the need for such major transportation infrastructure improvements, the BDCP proponents retain the flexibility to seek alternative means of transporting people, equipment, and materials to construction sites, such as via barges, to avoid the need for such major infrastructure improvements, if any.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 1A would require a heavy volume of materials to be hauled to the construction work zones, increasing the number of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the

potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

Table 19-11. Emergency Routes in the Study Area, by County

County	Designated Emergency Routes
Alameda	None identified
Contra Costa	Emergency routes are designated at the time of emergency by staff in the Emergency Operations Center in conjunction with Emergency Services
Sacramento	I-5, I-80, SR 50, SR 99, SR 160
San Joaquin	I-5, SR 4, SR 12, SR 26, SR 88, SR 99, SR 120
Solano	Emergency routes are designated at the time of emergency by staff in the Emergency Operations Center in conjunction with Emergency Services
Yolo	I-5, I-80, SR 84, SR 113, County Road 22, County Road 98

Sources: Sacramento County 2008, San Joaquin County 1992, Solano County 2008, County of Yolo 2009.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 1A would increase the amount of trucks using the transportation system in the study area. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes identified in Table 19-11 would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 1A would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 1A, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites. The materials and equipment would then be unloaded and trucked to the construction sites. Temporary barge unloading facilities for construction materials are planned at the following locations.

- SR 160 west of Walnut Grove
- Venice Island
- Bacon Island
- Woodward Island
- Victoria Island
- Tyler Island

Approximately 3,000 barge trips are projected to carry construction materials from ports to the sites listed above via the Sacramento River, averaging approximately 1 trip per day through a 9-year-long construction period. Although barges are relatively slow and have less maneuverability than smaller vessels, commercial barge operators on the Sacramento River are required to operate in compliance with navigational guidelines. The majority of commercial barge activity in the Delta travels from the San Francisco Bay to the Sacramento area via the SRDWSC (Delta Protection Commission 2012).

Alternative 1A would avoid direct effects on this barge traffic because the alternative features would be located along the Sacramento River (not the Deep Water Channel) and no modifications to the Deep Water Channel would be required. The barge unloading facility by Venice Island would not be expected to interfere with navigation to the Port of Stockton because it would be outside the main channel and would be designed to facilitate barge operations. The barge unloading facilities would be temporary and removed following construction. Increased barge traffic related to delivery of materials to the alternative work site would average approximately 1 barge trip per day over the 9-year-long construction period and is not anticipated to cause impediments to the passage of other vessels. There is 135 feet of open air clearance at the Antioch UPRR bridge and 144 feet at the Rio Vista bridge, and additional raising of draw bridges in the study area would not be required.

Although some in-water work would be necessary for intake construction, the Sacramento River would remain open to boat traffic at all times during construction. The intake cofferdams would extend into the river channel up to 120 feet, depending on location. The width of the river near the intakes (approximately 500–700 feet) would therefore allow for passage of the types of boats typically observed on the Sacramento River (channel width during construction 380–580 feet). (Refer to Chapter 15, *Recreation*, for additional discussion of the effects of intake construction on boating.).

This potential effect is not considered adverse because construction of Alternative 1A would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). As noted in Chapter 15, *Recreation*, Impact REC-3, temporary barge unloading facilities would occupy between 800 to 2,000 feet of riverbank,

depending on the location. Based on the river channel width, all barge facilities except the San Joaquin River facility could occupy substantial portions of the waterway. However, all barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 1A would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The proposed Alternative 1A conveyance crosses under the existing BNSF/Amtrak San Joaquin line between Bacon Island and Woodward Island. Maintaining freight and passenger service on the BNSF line is included in the design, and the effect of this crossing would be minimal to non-existent because the proposed conveyance would traverse the railroad in a deep bore tunnel.

The Union Pacific Railroad (UPRR) Tracy Subdivision (branch line) runs parallel to Byron Highway, between the highway and the proposed new forebay (Byron Tract Forebay) adjacent to the existing Clifton Court Forebay. The construction impact of the new forebay would be unlikely to disrupt rail service because much of this line has not been in service recently. The UPRR may return it to freight service in the future. Table 19-12 identifies potentially affected railroads.

Table 19-12. Construction Impacts on Rail Traffic for Pipeline/Tunnel Alternatives (1A, 2A, 3A, 5, 6A, 7, and 8)

Affected Railroad	Crosses and/or Immediately Adjacent to Construction Zone	Level of Train Volume	Construction Impacts on Rail Traffic
BNSF Railway and Amtrak San Joaquin Line	Yes	High	Minimal to Non-Existent (conveyance crosses railroad well below grade in deep bore tunnel)
Union Pacific Railroad--Tracy Subdivision	Yes	Low (Out of Service)	Minimal to Non-Existent

Construction of water conveyance facilities associated with BDCP would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the

BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic could be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers (BNSF Railway, Amtrak, and UPRR) to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction would be restricted or rail operations would need to be suspended for any activity within railroad rights of way.

***CEQA Conclusion*:** Construction of water conveyance facilities associated with BDCP would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: Construction of conveyances and other project elements may affect various roadways upon which transit service operates. To the extent that construction detours are necessary and/or significant congestion occurs during lane closures and other construction activities, transit routes and schedules would be affected. Table 19-13 summarizes the transit service potentially affected by Alternative 1A.

Table 19-13. Construction Impacts on Bus Routes for Pipeline/Tunnel Alternatives (1A, 2A, 3,5, 6A, 7, and 8)

Affected Transit Service	Roadway Operated on and Location	Estimated Trips per Day	Construction Impacts on Bus Routes
SCT/Link Delta Route	SR 12 across Bouldin Island	4 trips per weekday (2 in each direction)	Marginal, if any—deep bore tunnel construction below the roadway. A shaft location is identified adjacent to SR 12.

As shown in Table 19-8, construction activities would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12. Accordingly, tunnel construction could substantially affect operation of the SCT Link/Delta Route, and

construction of the shaft adjacent to SR 12 would affect traffic on that facility. Intercity Greyhound bus lines primarily operate on the interstate highway system in this vicinity. To the extent that other roadways affected by Alternative 1A construction also carry Greyhound bus lines, those routes may be affected as well. The effect of disruption to transit service during construction would be adverse. Mitigation Measure TRANS-1a, which includes stipulations to maintain continual circulation in and around construction zones and coordinate with transit providers (SCT, Tri-Delta, Rio Vista, and Greyhound Bus Lines) to develop daily construction time windows during which transit operations would be either detoured or significantly slowed is available to reduce this effect. Mitigation Measures TRANS-1b and TRANS-1c would also reduce the severity of this effect; however, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 1A would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12 (see Table 19-8). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. To the extent that other roadways affected by Alternative 1A construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would minimize the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12. Additionally, some bicycle traffic may be found on all primary and secondary roadways in the transportation study area. The temporary detour of SR 160 would continue to serve as a temporary bicycle route during construction and bicycles would be allowed on the completed and re-aligned SR 160. The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, or other conditions that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12 and result in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: Maintaining and operating BDCP facilities could affect roadway operations in the vicinity by increasing vehicle trips. However, operations and maintenance activities would only require minimal labor. Consistent with the assumptions used for the air quality/GHG analyses in Chapter 22, *Air Quality and Greenhouse Gases,* of this EIR/EIS, it was estimated that routine operations and maintenance activities and yearly maintenance activities would require the crews and equipment identified in Tables 19-14 and 19-15.

Table 19-14. Routine O&M Assumptions for Alternatives 1A-C, 2B-C, and 6A-C

Crew Type	Number of Employees	Vehicles (number)	Equipment (number)
Maintenance	5	Crew Truck (1) Foreman Truck (1)	–
Management	3	–	–
Repair	7	Crew Truck (1) Foreman Truck (1) 600 truckloads[a]	Backhoe (1)
Operating	9	–	–

[a] 600 truckloads would be required per intake.

Table 19-15. Yearly Maintenance Assumptions for Alternatives 1A-C, 2B-C, 3, 4, 5, 6A-C, 7, and 8

O&M Type	Number of Employees	Vehicles (number)	Equipment (number)
Annual Inspections	6	1 crew truck	Crane (1)
Tunnel Dewatering	18 (sediment crew) 11 (inspection crew)	1 crew truck	Crane (2)

The analysis of socioeconomic effects took a different approach to estimating O&M employment, based on use of the IMPLAN model (refer to Chapter 16, *Socioeconomics*, for additional information). The O&M activities are likely to be less labor intensive than shown in Table 19-16 because IMPLAN considers direct, indirect, and induced demand outside the Delta. The information is offered here to provide the possible range of O&M employment.

Table 19-16. O&M Employment

Alternative	Direct Employment	Total Employment
1A	187	269
1B	204	294
1C	187	269
9	121	177

Source: Chapter 16, *Socioeconomics*.

O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large

number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The intake design includes parking for employees during operations and maintenance. The small amount of added vehicle trips for facility maintenance and operations would not substantially contribute to traffic volumes and increase roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

CEQA Conclusion: Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: Due to the buried tunnel configuration, Alternative 1A does not intersect public roadways, state routes, railroads, and bridges except for the intake areas where the SR 160 and Randall Island Road would be permanently rerouted.

Each intake/pumping plant site would require realignment of the levee road (SR 160) adjacent to Intakes 1–5. The levee road adjacent to Intake 5 is Randall Island Road. A project study report (PSR) prepared by the California Department of Transportation (Caltrans) describes the assumptions and requirements for the permanent realignment of SR 160.

Except for the intakes, Alternative 1A does not have surface intersections with public roadways, state routes, or railroads, and would not require bridges. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Structures would be constructed as necessary to provide connectivity across canals (either bridges or siphons) for active railroads to cross without disruption. Water operations would not modify the river stage above the water levels seen in the river today. Therefore, no change would be expected to affect boat traffic associated with changes in water levels. Operations and maintenance of the facilities would not have any substantive impact on barge traffic (or the roadway network) due to operation of moveable bridges. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage (refer to Chapter 15, *Recreation*, for more discussion of effects on boating.) The effect of permanent alteration of transportation patterns during operations would not be adverse.

CEQA Conclusion: Each intake/pumping plant site constructed under Alternative 1A would require realignment of the levee road (SR 160) adjacent to Intakes 1–5. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Water operations would not modify the river stage above the water levels seen in the river today. Operations and maintenance of the facilities would not have any substantive impact on barge traffic (or the roadway network) due to operation of moveable bridges. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or

usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: Habitat restoration and enhancement conservation measures are anticipated to include a number of construction and maintenance activities. In particular, implementation of CM2 and CM3–CM10 would generate traffic on area roadways during construction and maintenance due to transport of construction vehicles, equipment, and employees to and from the sites for the purposes of modifying or installing new facilities, or making changes in operation of existing facilities. Because the specific areas for implementing these conservation measures have not been determined, this effect is evaluated qualitatively.

For the purposes of the EIR/EIS, it is assumed that during implementation, temporary impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. Roadways in the Delta subregion that are anticipated to be affected include the following.

- Interstate 680
- State Route 12
- Chadbourne Road
- Ramsey Road
- Jacksnipe Road
- Collinsville Road
- Grizzly Island Road
- Gum Tree Road
- Van Sickle Road
- Joyce Island Road
- Branscombe Road
- Potrero Hills Lane
- Scally Road
- Shiloh Road
- Little Honker Bay Road

The effect would vary according to the amount of traffic generated by the implementation of the specific conservation measure, the location and timing of the actions called for in the conservation measure, and the roadway and traffic conditions at the time of implementation. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely

responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: Constructing the proposed water conveyance facilities (CM1) and implementing CM2–CM22 could result in the potential for incompatibilities with plans and policies related to transportation and circulation. A number of plans and policies that coincide with the study area provide guidance for transportation resource issues as overviewed in *Section 17.2, Regulatory Setting*. This overview of plan and policy compatibility evaluates whether Alternative 1A is compatible or incompatible with such enactments, rather than whether impacts are adverse or not adverse or significant or less than significant. If the incompatibility relates to an applicable plan, policy, or regulation adopted to avoid or mitigate traffic effects, then an incompatibility might be indicative of a related significant or adverse effect under CEQA and NEPA, respectively. Such physical effects of Alternative 1A on transportation resources are addressed in Impacts TRANS-1 through TRANS-10. The following is a summary of compatibility evaluations related to transportation resources for plans and policies relevant to the BDCP. Note that as discussed in

Chapter 13, *Land Use,* Section 13.2.3, state and federal agencies are not generally subject to local land use regulations; incompatibilities with plans and policies are not, by themselves, physical consequences to the environment.

- The BDCP facilities would be constructed and operated consistent with regulations related to transportation and circulation enforced by local (including the local MPOs) and federal (including the FHWA and FAA) agencies. The alternative would not be incompatible with the *Rivers and Harbor Act of 1899* or the Title 33: Navigation and Navigable Waters, Part 162: Inland Waters Navigation Regulations.
- Consistent with the PRC Section 21092.4, the BDCP proponents have consulted with regional transportation planning agency and public agencies that have transportation facilities which could be affected by the project (see Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*). Accordingly, the project is compatible with the PRC.
- The *Land Use and Resource Management Plan for the Primary Zone of the Delta* (1995) identifies a policy to maintain roads in the Delta to serve the existing agricultural uses and supporting commercial uses, recreational users, and Delta residents. As discussed in Impact TRANS-2, damage to pavement associated with construction of water conveyance facilities associated with BDCP will be mitigated through implementation of Mitigation Measure TRANS-2a through Mitigation Measure TRANS-2c. Accordingly, the project would be compatible with the Delta Protection Act of 1992.
- The three MPOs in the study area (MTC, SACOG, and SJCOG) have developed transportation improvement programs to identify and fund transportation projects within their jurisdiction. Alternative 1A is not expected to affect any of these projects and would be consistent with all MPO improvement plans.
- In November 2009, the California Legislature enacted SB 1 X7, also known as the Sacramento–San Joaquin Delta Reform Act. The Delta bill created a new Delta Stewardship Council (DSC) and gave this body broad oversight of Delta planning and resource management, and tasked the DSC with developing, adopting, and implementing a long-term plan (the "Delta Plan") which will be legally enforceable. The Proposed Final Delta Plan, adopted by the DSC in May 2013, contains a set of recommendations and regulatory policies that cover five topic areas and goals: increased water supply reliability, restoration of the Delta ecosystem, improved water quality, reduced risks of flooding in the Delta, and protection and enhancement of the Delta. The following recommendations in the Delta Plan relate to transportation in the Delta (Delta Stewardship Council 2013):
    - DP R2: The California Department of Transportation should seek designation of State Route 160 as a National Scenic Byway and prepare and implement a scenic byway plan for it.
    - DP R5: The California Department of Transportation, local agencies, and utilities should plan infrastructure, such as roads and highways, to meet needs of development consistent with sustainable community strategies, local plans, Delta Protection Commission's Land Use and Resource Management Plan for the Primary Zone of the Delta, and the Delta Plan.
    - DP R6: The Delta Stewardship Council, as part of the prioritization of State levee investments called for in Water Code 85306RR P1, should consult with the California Department of Transportation as provided in Water Code section 85307(c) to consider the effects of flood hazards and sea level rise on State highways in the Delta.

As discussed in Impact TRANS-7, interference with bicycle routes during construction associated with BDCP will be mitigated through implementation of Mitigation Measure TRANS-1a. Accordingly, the project would be compatible with the Delta Plan. As discussed in Impact TRANS-9, permanent alteration of transportation patterns during operations and maintenance associated with the BDCP will not occur. Accordingly, the project would be compatible with the Delta Plan.

***CEQA Conclusion*:** The inconsistencies identified in the analysis indicate the potential for a physical consequence to the environment. The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.3 Alternative 1B—Dual Conveyance with East Alignment and Intakes 1–5 (15,000 cfs; Operational Scenario A)

During construction, temporary impacts on roadways under Alternative 1B would be similar to those described for Alternative 1A. As with Alternative 1A, a total of five intakes would be constructed (Intakes 1–5). Under Alternative 1B, no intermediate forebay would be constructed. The primary difference between Alternative 1A and 1B is the type and location of the conveyance facility, which under Alternative 1B would be a canal on the east side of the Sacramento River (Figures 3-4 and 3-5 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: As shown in Table 19-17, under BPBG conditions, a total of 19 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-17, construction associated with Alternative 1B would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total 39 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 1B would therefore exacerbate an already unacceptable LOS under BPBG conditions on **20** roadway segments (39 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation effects.

Table 19-17. Level of Service for East Alignment Alternatives (1B, 2B, and 6B)

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./ San Joaquin Co. Line	D	1,600	385 to 656	-	416 to 708	-	798 to 1,090	-
BRE 01	Brentwood Blvd (old SR 4)[1]	Delta Rd (Oakley City Limits)	Balfour Rd	C	970	586 to 1,516	11 (7–9AM; 10AM–7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**590 to 1,526**	**-**	**1,080 to 2,016**	**7 (8–9AM; 12–6PM)**
BRE 02	Brentwood Blvd (old SR 4)[1]	Balfour Rd	Brentwood City Limits (South)	C	1,920	369 to 1,013	-	-	-	-	
				D	3,540	-	-	346 to 950	-	836 to 1,440	-
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	D	3,540	437 to 1,300	-	437 to 1,300	-	437 to 1,300	-
CC 01	Bethel Island Rd	Oakley City Limits	End	D	1,600	124 to 330	-	124 to 330	-	124 to 330	-
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	D	1,600	90 to 297	-	90 to 297	-	90 to 297	-
CC 03	Old SR 4[1]	Brentwood City Limits (South)	Marsh Creek Rd	C	790	1,133 to 1,682	13 (6AM–7PM)	-	-	-	-
				D	**1,600**	**-**	**-**	**1,220 to 1,811**	**3 (3–6PM)**	**1,710 to 2,301**	**13 (6AM–7PM)**
CC 04	Byron Hwy	Delta Rd	Old SR 4	D	1,410	108 to 240	-	108 to 240	-	108 to 240	-
CC 05	Byron Hwy	SR 4	Contra Costa Co./ Alameda Co. Line	D	1,600	483 to 907	-	522 to 980	-	904 to 1,362	-
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**2,589 to 5,820**	**-**	**2,842 to 6,389**	**1 (7–8AM)**	**3,309 to 6,856**	**1 (7–8AM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**1,647 to 5,705**	**-**	**1,789 to 6,198**	**2 (4–6PM)**	**2,256 to 6,665**	**2 (4–6PM)**
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	F	6,060	2,359 to 5,156	-	2,359 to 5,156	-	2,359 to 5,156	-
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	F	6,060	1,543 to 5,243	-	1,543 to 5,243	-	1,543 to 5,243	-
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,820 to 3,339	-	1,820 to 3,339	-	1,820 to 3,339	-
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,254 to 3,332	-	1,254 to 3,332	-	1,254 to 3,332	-
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,504 to 2,162	-	1,637 to 2,353	-	2,107 to 2,823	-
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,217 to 2,236	-	1,329 to 2,442	-	1,799 to 2,912	-
CT 09	I-5 NB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,414 to 1,851	-	1,560 to 2,043	-	2,342 to 2,825	-
CT 10	I-5 SB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,207 to 1,964	-	1,333 to 2,169	-	2,115 to 2,951	-
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,312 to 1,720	-	1,485 to 1,946	-	1,762 to 2,223	-
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,111 to 1,813	-	1,257 to 2,052	-	1,534 to 2,329	-
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	C	2,880	1,374 to 1,803	-	1,594 to 2,091	-	1,714 to 2,211	-
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	C	2,880	1,128 to 1,894	-	1,308 to 2,197	-	1,428 to 2,317	-
CT 15	I-5 NB	Peltier Rd	Turner Rd	C	2,880	1,421 to 1,885	-	1,677 to 2,224	-	1,848 to 2,395	-
CT 16	I-5 SB	Peltier Rd	Turner Rd	C	2,880	1,145 to 1,974	-	1,351 to 2,329	-	1,522 to 2,500	-
CT 17	I-5 NB	Turner Rd	SR 12	C	2,880	1,288 to 1,985	-	1,494 to 2,303	-	1,614 to 2,423	-
CT 18	I-5 SB	Turner Rd	SR 12	C	2,880	1,124 to 1,482	-	1,304 to 1,719	-	1,424 to 1,839	-
CT 19	I-5 NB	SR 12	Eight Mile Rd	C	4,400	1,533 to 2,267	-	1,717 to 2,539	-	1,980 to 2,802	-
CT 20	I-5 SB	SR 12	Eight Mile Rd	C	4,400	1,243 to 2,070	-	1,392 to 2,318	-	1,655 to 2,581	-
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	D	5,410	1,937 to 3,452	-	2,169 to 3,866	-	2,366 to 4,063	-
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	D	5,410	1,817 to 2,760	-	2,035 to 3,091	-	2,232 to 3,288	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge	E	1,740	136 to 476	-	145 to 506	-	1,077 to 1,438	-
CT 24	SR 160 (Freeport Blvd/ River Rd)	Freeport Bridge	Scribner Rd	E	1,740	94 to 180	-	94 to 180	-	1,026 to 1,112	-
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	E	1,740	41 to 125	-	41 to 125	-	973 to 1,057	-
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	E	1,740	105 to 170	-	116 to 188	-	1,570 to 1,642	-
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	E	1,740	69 to 122	-	72 to 128	-	1,526 to 1,582	-
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	E	1,740	75 to 150	-	77 to 154	-	1,531 to 1,608	-
CT 29	**SR 160**	**Paintersville Bridge**	**Walnut Grove Bridge**	**E**	**1,740**	**78 to 128**	**-**	**89 to 147**	**-**	**1,925 to 1,983**	**13 (6AM–7PM)**
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**E**	**1,740**	**173 to 465**	**-**	**173 to 465**	**-**	**2,117 to 2,409**	**13 (6AM–7PM)**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**E**	**1,740**	**193 to 378**	**-**	**193 to 378**	**-**	**2,137 to 2,322**	**13 (6AM–7PM)**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**F**	**1,740**	**530 to 894**	**-**	**549 to 926**	**-**	**2,709 to 3,086**	**13 (6AM–7PM)**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**B**	**200**	**40 to 169**	**-**	**42 to 177**	**-**	**424 to 559**	**13 (6AM–7PM)**
CT 34	SR 84 (Courtland Rd/ Ryer Ave)	Courtland Rd	Cache Slough Ferry	C	680	10 to 25	-	10 to 25	-	10 to 25	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 35	**I-80 EB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**3,079 to 6,994**	**-**	**3,510 to 7,973**	**-**	**4,591 to 9,054**	**3 (3–6PM)**
CT 36	**I-80 WB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**5,751 to 8,892**	**2 (6–8AM)**	**6,556 to 10,137**	**2 (6–8AM)**	**7,637 to 11,218**	**8 (6–10AM; 2–6PM)**
CT 37	**SR 12 EB**	**I-80**	**Beck Ave**	**C**	**2,880**	**528 to 1,847**	**-**	**612 to 2,143**	**-**	**1,693 to 3,224**	**4 (3–7PM)**
CT 38	**SR 12 WB**	**I-80**	**Beck Ave**	**C**	**2,880**	**829 to 1,625**	**-**	**962 to 1,885**	**-**	**2,043 to 2,966**	**2 (6–8AM)**
CT 39	**SR 12**	**Beck Ave**	**Sunset Ave/ Grizzly Island Rd**	**C**	**5,060**	**2,408 to 3,573**	**-**	**2,772 to 4,114**	**-**	**4,932 to 6,274**	**10 (7–9AM; 11AM–7PM)**
CT 40	SR 12	Sunset Ave/ Grizzly Island Rd	Walters Rd/ Lawler Ranch Pkwy	C	5,060	1,607 to 2,353	-	1,864 to 2,729	-	4,024 to 4,889	-
CT 41	**SR 12**	**Walters Rd/ Lawler Ranch Pkwy**	**SR 113**	**C**	**790**	**627 to 1,075**	**10 (6-8AM; 9-1PM; 2-6PM)**	**727 to 1,247**	**12 (6AM–6PM)**	**2,887 to 3,407**	**13 (6AM–7PM)**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**C**	**790**	**1,073 to 1,544**	**13 (6AM–7PM)**	**1,245 to 1,791**	**13 (6AM–7PM)**	**3,405 to 3,951**	**13 (6AM–7PM)**
CT 43	**SR 12 (Rio Vista Bridge)**	**SR 84 (River Rd)**	**SR 160 (River Rd)**	**C**	**970**	**1,135 to 1,685**	**13 (6AM–7PM)**	**1,317 to 1,955**	**13 (6AM–7PM)**	**3,477 to 4,115**	**13 (6AM–7PM)**
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./ SJ Co. Line**	**C**	**790**	**704 to 1,030**	**12 (6AM–6PM)**	**774 to 1,133**	**12 (6AM–6PM)**	**905 to 1,264**	**13 (6AM–7PM)**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**773 to 1,164**	**12 (6AM–6PM)**	**806 to 1,214**	**13 (6AM–7PM)**	**937 to 1,345**	**13 (6AM–7PM)**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**2,508 to 4,632**	**2 (3–5PM)**	**2,765 to 5,107**	**3 (3–6PM)**	**3,064 to 5,406**	**5 (7–8AM; 2–6PM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 47	**I-80 WB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**3,068 to 4,191**	**-**	**3,280 to 4,481**	**2 (4–6PM)**	**3,579 to 4,780**	**4 (7–8AM; 3–6PM)**
CT 48	**SR 113**	**I-80**	**Dixon City Limits**	**C**	**1,920**	**569 to 1,341**	**-**	**569 to 1,341**	**-**	**1,167 to 1,939**	**2 (4–6PM)**
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**C**	**680**	**174 to 294**	**-**	**188 to 318**	**-**	**786 to 916**	**13 (6AM–7PM)**
CT 50	**SR 4 (Marsh Creek Rd)[2]**	**Vasco Rd**	**Byron Hwy (Old SR 4)**	**D**	**1,600**	**442 to 733**	**-**	**-**	**-**	**-**	**-**
				C	**790**	**-**	**-**	**477 to 792**	**1 (4–5PM)**	**1,515 to 1,830**	**13 (6AM–7PM)**
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**D**	**1,600**	**554 to 1,224**	**-**	**601 to 1,327**	**-**	**1,639 to 2,365**	**13 (6AM–7PM)**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**C**	**790**	**412 to 746**	**-**	**412 to 746**	**-**	**1,450 to 1,784**	**13 (6AM–7PM)**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**D**	**1,410**	**867 to 1,492**	**1 (4–5PM)**	**867 to 1,492**	**1 (4–5PM)**	**1,905 to 2,530**	**13 (6AM–7PM)**
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	2,552 to 4,815	-	2,855 to 5,386	-	3,374 to 5,905	-
CT 55	I-5 SB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	4,550 to 5,913	-	5,108 to 6,639	-	5,627 to 7,158	-
CT 56	**I-5 NB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**2,430 to 4,586**	**-**	**2,770 to 5,228**	**-**	**3,289 to 5,747**	**3 (3–6PM)**
CT 57	**I-5 SB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**4,333 to 5,631**	**3 (7–8AM; 4–6PM)**	**4,940 to 6,419**	**8 (6–9AM; 1–6PM)**	**5,459 to 6,938**	**13 (6AM–7PM)**
CT 58	**I-205 EB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,350 to 5,071**	**4 (3–7PM)**	**1, 480 to 5,560**	**4 (3–7PM)**	**1,671 to 5,751**	**4 (3–7PM)**
CT 59	**I-205 WB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,873 to 4,867**	**2 (6–8AM)**	**2,058 to 5,348**	**3 (6–9AM)**	**2,249 to 5,539**	**3 (6–9AM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 60	**I-205 EB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,431 to 5,068**	**4 (3–7PM)**	**1,574 to 5,575**	**5 (2–7PM)**	**1,765 to 5,766**	**5 (2–7PM)**
CT 61	**I-205 WB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,875 to 4,117**	**-**	**2,063 to 4,529**	**1 (6–7AM)**	**2,254 to 4,720**	**1 (6–7AM)**
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	D	5,410	1,525 to 4,200	-	1,678 to 4,620	-	2,006 to 4,948	-
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	D	5,410	1,852 to 3,079	-	2,037 to 3,387	-	2,365 to 3,715	-
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	D	5,410	1,511 to 4,182	-	1,662 to 4,600	-	1,990 to 4,928	-
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	D	5,410	2,083 to 3,446	-	2,291 to 3,791	-	2,619 to 4,119	-
ISL 01	A St/4th St/ Jackson Blvd.	SR 160	Isleton City Limits	D	1,410	17 to 75	-	17 to 75	-	17 to 75	-
OAK 01	Main Street (Old SR 4)[1]	SR 160	Cypress Rd	C	1,920	752 to 1,663	-	-	-	-	
				D	3,540	-	-	795 to 1,759	-	1,285 to 2,249	-
OAK 02	**Main Street (Old SR 4)[1]**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	C	970	722 to 1,335	10 (7–9AM; 11AM–7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**823 to 1,522**	**-**	**1,313 to 2,012**	**5 (8–9AM; 2–6PM)**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	D	1,600	304 to 764	-	304 to 764	-	304 to 764	-
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	D	1,410	140 to 367	-	140 to 367	-	140 to 367	-
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	D	1,410	155 to 334	-	155 to 334	-	155 to 334	-
SAC 01	Pocket Rd	I-5	Freeport Blvd (Old SR 160)	D	3,540	789 to 2,191	-	789 to 2,191	-	1,721 to 3,123	-
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	D	1,760	152 to 492	-	164 to 531	-	1,096 to 1,463	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	D	1,410	98 to 346	-	98 to 346	-	626 to 874	-
SC 02	**Hood Franklin Rd**	**SR 160 (River Rd)**	**I-5**	**D**	**1,410**	**77 to 137**		**80 to 142**	**-**	**1,534 to 1,596**	**13 (6AM–7PM)**
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	D	1,410	10 to 29	-	11 to 31	-	347 to 367	-
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	D	1,410	19 to 38	-	19 to 39	-	355 to 375	-
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	D	1,410	41 to 71	-	41 to 72	-	377 to 408	-
SC 06	Twin Cities Rd	River Rd	I-5	D	1,410	130 to 248	-	133 to 253	-	241 to 361	-
SC 07	Twin Cities Rd	I-5	Franklin Blvd	D	1,410	141 to 318	-	151 to 340	-	487 to 676	-
SC 08	Sutter Slough Bridge Rd	Sacramento Co./ Yolo Co. Line	Paintersville Bridge	D	1,410	51 to 113	-	55 to 122	-	437 to 504	-
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	D	1,410	85 to 134	-	85 to 134	-	85 to 134	-
SC 10	River Rd (Sac Co.)	Twin Cities Rd	Walnut Grove Bridge	D	1,600	223 to 365	-	228 to 373	-	336 to 481	-
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./ SJ Co. Line	D	1,410	175 to 332	-	182 to 345	-	341 to 504	-
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	D	1,410	61 to 283	-	61 to 283	-	61 to 283	-
SC 13	Race Track Rd/ Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	D	1,410	17 to 34	-	17 to 34	-	17 to 34	-
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	D	1,410	14 to 39	-	14 to 39	-	14 to 39	-
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	D	1,410	4 to 53	-	4 to 53	-	4 to 53	-
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	D	1,410	16 to 52	-	16 to 52	-	16 to 52	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SJ 01	Walnut Grove Rd	Sacramento Co./ SJ Co. Line	I-5	C	790	141 to 232	-	146 to 241	-	647 to 742	-
SJ 02	Peltier Rd	Blossom Rd	I-5	C	680	8 to 23	-	8 to 23	-	350 to 365	-
SJ 03	**Tracy Blvd**	**SR 4**	**Clifton Court Rd**	**C**	**790**	**108 to 209**	**-**	**108 to 209**	**-**	**764 to 865**	**6 (6–7AM; 2–7PM)**
SJ 04	**Tracy Blvd**	**Clifton Court Rd**	**Tracy City Limits**	**C**	**790**	**69 to 171**	**-**	**75 to 185**	**-**	**731 to 841**	**8 (9–11AM; 12–1PM; 2–7PM)**
SJ 05	Byron Hwy	Alameda Co./San Joaquin Co. Line	Mountain House Pkwy	D	1,600	521 to 824	-	563 to 890	-	945 to 1,272	-
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	D	1,410	190 to 298	-	205 to 322	-	587 to 704	-
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	D	3,540	418 to 769	-	477 to 877	-	859 to 1,259	-
STK 01	Eight Mile Rd	Stockton City Limits	I-5	E	1,870	309 to 769	-	340 to 846	-	734 to 1,240	-
TRA 01	Tracy Blvd	Tracy City Limits	I-205	E	1,870	309 to 759	-	334 to 820	-	990 to 1,476	-
WS 01	Harbor Blvd	Industrial Blvd	US 50	D	3,540	1,140 to 2,317	-	1,218 to 2,476	-	1,600 to 2,858	-
WS 02	**Industrial Blvd/ Lake Washington Blvd**	**Harbor Blvd**	**Jefferson Blvd (Old SR 84)**	**C**	**1,920**	**773 to 1,858**	**-**	**835 to 2,007**	**1 (5–6PM)**	**1,217 to 2,389**	**3 (7–8AM; 4–6PM)**
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**C**	**1,920**	**546 to 1,718**	**-**	**586 to 1,843**	**-**	**968 to 2,225**	**3 (8–9AM; 4–6PM)**
WS 04	Jefferson Blvd (Old SR 84)	Southport Pkwy	West Sacramento City Limits	C	680	42 to 146	-	45 to 155	-	427 to 537	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	C	680	74 to 249	-	74 to 249	-	74 to 249	-
YOL 02	River Rd (Yolo Co.)	Courtland Rd	Sacramento Co./ Yolo Co. Line	C	680	25 to 63	-	27 to 68	-	409 to 450	-
YOL 03	Courtland Rd	SR 84 (Jefferson Blvd)	River Rd	C	680	28 to 77	-	30 to 83	-	412 to 465	-

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

[1] Facility is analyzed as a Caltrans facility under Baseline Conditions and a local facility under Baseline Plus Construction Conditions – roadway is relinquished to local jurisdiction after Baseline Year (2009). LOS Threshold is LOS C under Baseline Conditions and changes to LOS D under Baseline Plus Construction Conditions.

[2] Facility is analyzed as a local facility under Baseline Conditions and a Caltrans facility under Baseline Plus Construction Conditions – roadway is adopted as a State facility after Baseline Year (2009). LOS Threshold is LOS D under Baseline Conditions and changes to LOS C under Baseline Plus Construction Conditions.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-17 because construction associated with Alternative 1B would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 1B would also exacerbate an already unacceptable LOS under BPBG conditions at **20** roadway segments (39 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 1B would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-17). As shown in Table 19-17, traffic volumes during construction of Alternative 1B would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: Construction truck traffic may damage roadway surfaces. During construction, various materials would be transported to and from the construction areas in load-bearing trucks. As shown in Table 19-18, construction of Alternative 1B would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **46** roadway segments (see table entries in **bold** type). Figure 19-4a shows all of the study roadway segments that could experience substantial pavement condition effects.

Table 19-18. Pavement Condition for East Alignment Alternatives (1B, 2B, and 6B)

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Project Results in Construction Trips Added to Roadway	Project Results in Impact on Deficient Roadway
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./San Joaquin Co. Line	Acceptable	Yes	No
BRE 01	Brentwood Blvd (old SR 4)	Delta Rd (Oakley City Limits)	Balfour Rd	Acceptable	Yes	No
BRE 02	Brentwood Blvd (old SR 4)	Balfour Rd	Brentwood City Limits (South)	Acceptable	Yes	No
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	Acceptable	No	No
CC 01	Bethel Island Rd	Oakley City Limits	End	Deficient	No	No
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	Deficient	No	No
CC 03	**Old SR 4**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	**Deficient**	**Yes**	**Yes**
CC 04	Byron Hwy	Delta Rd	Old SR 4	Acceptable	No	No
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./ Alameda Co. Line**	**Deficient**	**Yes**	**Yes**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	Yes	No
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	Yes	No
CT 09	**I-5 NB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 10	**I-5 SB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 11	**I-5 NB**	**Twin Cities Rd**	**Walnut Grove Rd**	**Deficient**	**Yes**	**Yes**
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	Acceptable	Yes	No
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Project Results in Construction Trips Added to Roadway	Project Results in Impact on Deficient Roadway
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 15	I-5 NB	Peltier Rd	Turner Rd	Acceptable	Yes	No
CT 16	I-5 SB	Peltier Rd	Turner Rd	Acceptable	Yes	No
CT 17	I-5 NB	Turner Rd	SR 12	Acceptable	Yes	No
CT 18	I-5 SB	Turner Rd	SR 12	Acceptable	Yes	No
CT 19	**I-5 NB**	**SR 12**	**Eight Mile Rd**	**Deficient**	**Yes**	**Yes**
CT 20	I-5 SB	SR 12	Eight Mile Rd	Acceptable	Yes	No
CT 21	**I-5 NB**	**Eight Mile Rd**	**Hammer Ln**	**Deficient**	**Yes**	**Yes**
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	Acceptable	Yes	No
CT 23	**SR 160 (Freeport Blvd)**	**Sacramento City Limits**	**Freeport Bridge**	**Deficient**	**Yes**	**Yes**
CT 24	**SR 160 (Freeport Blvd/River Rd)**	**Freeport Bridge**	**Scribner Rd**	**Deficient**	**Yes**	**Yes**
CT 25	**SR 160 (River Rd)**	**Scribner Rd**	**Hood Franklin Rd**	**Deficient**	**Yes**	**Yes**
CT 26	**SR 160 (River Rd)**	**Hood Franklin Rd**	**Lambert Rd**	**Deficient**	**Yes**	**Yes**
CT 27	**SR 160 (River Rd)**	**Lambert Rd**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	Not Applicable	Yes	No
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	Acceptable	Yes	No
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**Deficient**	**Yes**	**Yes**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**Deficient**	**Yes**	**Yes**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**Deficient**	**Yes**	**Yes**
CT 34	SR 84 (Courtland Rd/Ryer Ave)	Courtland Rd	Cache Slough Ferry	Deficient	No	No
CT 35	I-80 EB	Suisun Valley Rd	SR 12	Acceptable	Yes	No
CT 36	I-80 WB	SR 12	Suisun Valley Rd	Acceptable	Yes	No
CT 37	SR 12 EB	I-80	Beck Ave	Acceptable	Yes	No
CT 38	SR 12 WB	Beck Ave	I-80	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Project Results in Construction Trips Added to Roadway	Project Results in Impact on Deficient Roadway
CT 39	SR 12	Beck Ave	Sunset Ave/Grizzly Island Rd	Acceptable	Yes	No
CT 40	SR 12	Sunset Ave/Grizzly Island Rd	Walters Rd/Lawler Ranch Pkwy	Acceptable	Yes	No
CT 41	**SR 12**	**Walters Rd/Lawler Ranch Pkwy**	**SR 113**	**Deficient**	**Yes**	**Yes**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**Deficient**	**Yes**	**Yes**
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Rd)	SR 160 (River Rd)	Not Applicable	Yes	No
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./SJ Co. Line**	**Deficient**	**Yes**	**Yes**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**Deficient**	**Yes**	**Yes**
CT 47	I-80 WB	Pedrick Rd	SR 113	Acceptable	Yes	No
CT 48	SR 113	I-80	Dixon City Limits	Acceptable	Yes	No
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 50	SR 4 (Marsh Creek Rd)	Vasco Rd	Byron Hwy (Old SR 4)	Acceptable	Yes	No
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**Deficient**	**Yes**	**Yes**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**Deficient**	**Yes**	**Yes**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 54	**I-5 NB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 58	I-205 EB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 59	I-205 WB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Project Results in Construction Trips Added to Roadway	Project Results in Impact on Deficient Roadway
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
ISL 01	A St/4th St/Jackson Blvd.	SR 160	Isleton City Limits	Deficient	No	No
OAK 01	**Main Street (Old SR 4)**	**SR 160**	**Cypress Rd**	**Deficient**	**Yes**	**Yes**
OAK 02	**Main Street (Old SR 4)**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	**Deficient**	**Yes**	**Yes**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	Acceptable	No	No
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	Deficient	No	No
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	Deficient	No	No
SAC 01	**Pocket Rd**	**I-5**	**Freeport Blvd (Old SR 160)**	**Deficient**	**Yes**	**Yes**
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	Acceptable	Yes	No
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	Not Applicable	No	No
SC 02	**Hood Franklin Rd**	**SR 160 (River Rd)**	**I-5**	**Deficient**	**Yes**	**Yes**
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	Acceptable	Yes	No
SC 04	**Lambert Rd**	**Herzog Rd**	**Franklin Blvd**	**Deficient**	**Yes**	**Yes**
SC 05	**Franklin Blvd**	**Lambert Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
SC 06	Twin Cities Rd	River Rd	I-5	Acceptable	Yes	No
SC 07	**Twin Cities Rd**	**I-5**	**Franklin Blvd**	**Deficient**	**Yes**	**Yes**
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./ Yolo Co. Line**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	Deficient	No	No
SC 10	**River Rd (Sac Co.)**	**Twin Cities Rd**	**Walnut Grove Bridge**	**Deficient**	**Yes**	**Yes**
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./SJ Co. Line	Acceptable	Yes	No
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	Acceptable	No	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Project Results in Construction Trips Added to Roadway	Project Results in Impact on Deficient Roadway
SC 13	Race Track Rd/Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	Deficient	No	No
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	Deficient	No	No
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	Acceptable	No	No
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	Acceptable	No	No
SJ 01	**Walnut Grove Rd**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
SJ 02	**Peltier Rd**	**Blossom Rd**	**I-5**	**Deficient**	**Yes**	**Yes**
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	Acceptable	Yes	No
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	Acceptable	Yes	No
SJ 05	Byron Hwy	Alameda Co./San Joaquin Co. Line	Mountain House Pkwy	Acceptable	Yes	No
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	Acceptable	Yes	No
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	Acceptable	Yes	No
STK 01	**Eight Mile Rd**	**Stockton City Limits**	**I-5**	**Deficient**	**Yes**	**Yes**
TRA 01	**Tracy Blvd**	**Tracy City Limits**	**I-205**	**Deficient**	**Yes**	**Yes**
WS 01	Harbor Blvd	Industrial Blvd	US 50	Acceptable	Yes	No
WS 02	Industrial Blvd/Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	Acceptable	Yes	No
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**Deficient**	**Yes**	**Yes**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**Deficient**	**Yes**	**Yes**
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	Deficient	No	No
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./Yolo Co. Line**	**Deficient**	**Yes**	**Yes**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**Deficient**	**Yes**	**Yes**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

As shown in Table 19-18, construction during Alternative 1B would contribute to substantial deterioration of pavement conditions on **46** roadway segments that would exceed applicable thresholds summarized in Table 19-7. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided. Collectively, these measures include stipulations to limit/prohibit construction activity on deficient roadways and improve the physical condition of affected segments.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 46 locations shown in Table 19-18. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 1B would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with

farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 1B would increase the amount of trucks using the transportation system in the study area. Compared to Alternative 1A, construction trips would be higher due to culvert installation; therefore, the effects under Alternative 1B would be the similar to the effect under Alternative 1A, but greater in magnitude. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes identified in Table 19-11 would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 1B would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 1B a temporary barge unloading facility for construction material is planned on the San Joaquin River at Hog Island. Approximately 4,500 barge trips are projected to carry construction materials to this unloading facility, a substantial increase over the estimated 3,000 trips for Alternative 1A (averaging approximately less than 2 barge trips per day over the estimated 9-year-long construction period). Barge traffic would occur primarily in San Joaquin River. Although barges are relatively slow and have less maneuverability than smaller vessels, commercial barge operators are required to operate in compliance with navigational guidelines. The barge unloading facilities would be temporary and removed following construction. Increased barge traffic related to delivery of materials to the project site is not anticipated to cause impediments to the passage of other vessels, and would not require additional raising of draw bridges in the study area.

Although some in-water work would be necessary for intake construction along the Sacramento River, the river would remain open to boat traffic at all times during construction. The intake cofferdams would extend into the river channel up to 120 feet, depending on location. The width of the river near the intakes (approximately 500–700 feet) would therefore allow for passage of the types of boats typically observed on the Sacramento River (channel width during construction 380–580 feet). (Refer to Chapter 15, *Recreation*, for additional discussion of the effects of intake construction on boating.)

This potential effect is not considered adverse because construction of Alternative 1B would not substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). As noted in Chapter 15, *Recreation*, Impact REC-3, the temporary barge unloading facility would occupy 1,000 feet of riverbank. The slough is about 150 feet wide at this location. Therefore, the barge facility and barge operations would occupy a substantial portion of the slough. However, all barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 1B would not substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The potential for Alternative 1B to disrupt rail service on the UPRR Tracy Subdivision branch line would be the same as Alternative 1A with regard to construction of the new forebay. (See Table 19-19 for construction impacts on rail lines). Both conveyance alignments would cross the existing BNSF Railway/Amtrak line just East of Holt. Maintaining freight and passenger service on the BNSF railroad line with canal construction would be achieved by way of a siphon to be constructed under the railroad. Construction of the siphon may temporarily affect BNSF/Amtrak railroad operations.

If the currently out of service UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic can be managed, if needed, through implementation of Mitigation Measure TRANS-1a. Construction could interfere with operation of the BNSF line. The effect would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect.

Table 19-19. Construction Impacts on Rail Traffic for East Alignment Alternatives (1B, 2B, and 6B)

Affected Railroad	Crosses and/or Immediately Adjacent to Construction Zone	Level of Train Volume	Construction Impacts on Rail Traffic
BNSF Railway and Amtrak San Joaquin Line	Yes	High	Substantial—railroad crosses construction of new canal and siphon just east of Holt
Union Pacific Railroad--Tracy Subdivision	Yes	Low (Out of Service)	Minimal to Non-Existent

***CEQA Conclusion*:** Construction of east canal siphons may temporarily affect BNSF/Amtrak railroad operations through physical railroad crosses. If the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. This is a potentially significant impact. Implementation of Mitigation Measure TRANS-1a would reduce this impact to a less than significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: Construction of the canal conveyances and other project elements under Alternative 1B could require construction detours or contribute to congestion during lane closures and other construction activities, thereby affecting transit routes and schedules. Table 19-20 summarizes the transit service potentially affected under Alternative 1B.

Table 19-20. Construction Impacts on Bus Routes for East Alignment Alternatives (1B, 2B, and 6B)

Affected Transit Service	Roadway Operated On and Location	Estimated Trips per Day	Construction Impacts on Bus Route
SCT/Link Delta Route	SR 12 just west of I-5	4 trips per weekday (2 in each direction)	Construction of the new canal as it intersects with SR 12 work area.

As shown in Table 19-17, construction activities would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 8 segments on SR-12. Accordingly, construction could affect operation of the SCT Link/Delta Route. Intercity Greyhound bus lines primarily operate on the interstate highway system in this vicinity and are not anticipated to be delayed. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 1B would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 8 segments on SR-12 (see Table 19-17). Accordingly, construction could significantly affect operation of the SCT Link/Delta Route. To the extent that other roadways affected by Alternative 1B construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: Increased traffic and vehicle delays during construction (see Table 19-17) could interfere with bicycle routes along SR 12. The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the

potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-17) could interfere with bicycle routes along SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities roadway operations under Alternative 1B would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16). Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: Similar to Alternative 1A, Alternative 1B would require realignment of SR 160 and Randall Island Road at the intakes. Because of canal construction, multiple bridges would be constructed across the alignment to maintain connectivity. Alternative 1B would intersect several public roadways, state routes, and one railroad requiring bridges at most of these locations to maintain connectivity along the canal.

- Blossom Road: The canal would intersect Blossom Road between Barber Road and Walnut Grove Road. Several options for re-routing Blossom Road on the east side of the canal are available.
- Holt Road: Holt Road between Neugebauer Road and W McDonald Road is within the canal footprint in a couple of places and would be realigned.
- Bonetti Road: The canal would intersect Bonetti Road near the intersection with Clifton Court Road. Bonetti Road would be realigned along the canal to utilize the new Clifton Court Road bridge.

The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Structures would be constructed as necessary to provide connectivity across canals (either bridges or siphons) for active railroads to cross without disruption. Water operations would not modify the river stage above the water levels seen in the river today. Therefore, no change would be expected to affect boat traffic associated with changes in water levels. Operations and maintenance of the facilities would not have any substantive impact on barge traffic (or the roadway network) due to operation of moveable bridges. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage (refer to Chapter 15, *Recreation*, for more discussion of effects on boating.) The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** Alternative 1B would require realignment of SR 160 and Randall Island Road at the intakes. Because of canal construction, multiple bridges would be constructed across the alignment to maintain connectivity. Alternative 1B would intersect several public roadways, state routes, and one railroad requiring bridges. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Water operations would not modify the river stage above the water levels seen in the river today. Therefore, no change would be expected to affect boat traffic associated with changes in water levels. Operations and maintenance of the facilities would not have any substantive impact on barge traffic. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 1B would be the same as Alternative 1A because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse

effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 1B would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.4 Alternative 1C—Dual Conveyance with West Alignment and Intakes W1–W5 (15,000 cfs; Operational Scenario A)

A total of five intakes would be constructed under Alternative 1C. They would be sited on the west bank of the Sacramento River, directly opposite the locations identified for the tunnel and east canal alignments. This alternative would also include an intermediate forebay, and the conveyance facility would be a canal and buried pipeline (see Figures 3-6 and 3-7 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: As shown in Table 19-21, under BPBG conditions, a total of 19 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-21, construction associated with Alternative 1C would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 56 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 1C would therefore exacerbate an already unacceptable LOS under BPBG conditions on **37** roadway segments (56 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation effects.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-21 because construction associated with Alternative 1C would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 1C would also exacerbate an already unacceptable LOS under BPBG conditions at 37 roadway segments (56 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, including all segments studied in West Sacramento and Yolo County.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

Table 19-21. Level of Service for West Alignment Alternatives (1C, 2C, and 6C)

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
ALA 01	**Byron Hwy**	**Contra Costa Co./ Alameda Co. Line**	**Alameda Co./San Joaquin Co. Line**	**D**	**1,600**	**385 to 656**	**-**	**416 to 708**	**-**	**1,491 to 1,522**	**6 (6-10AM; 3-7PM)**
BRE 01	**Brentwood Blvd (old SR 4)[1]**	**Delta Rd (Oakley City Limits)**	**Balfour Rd**	C	970	586 to 1,516	11 (7–9AM; 10AM–7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**590 to 1,526**	**-**	**1,665 to 2,601**	**12 (7AM-7PM)**
BRE 02	Brentwood Blvd (old SR 4)[1]	Balfour Rd	Brentwood City Limits (South)	C	1,920	369 to 1,013	-	-	-	-	
				D	3,540	-	-	346 to 950	-	1,421 to 2,025	-
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	D	3,540	437 to 1,300	-	481 to 1,430	-	774 to 1,723	-
CC 01	Bethel Island Rd	Oakley City Limits	End	D	1,600	124 to 330	-	139 to 370	-	291 to 522	-
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	D	1,600	90 to 297	-	99 to 327	-	392 to 620	-
CC 03	**Old SR 4[1]**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	C	790	1,133 to 1,682	13 (6AM–7PM)	-	-	-	-
				D	**1,600**	**-**	**-**	**1,220 to 1,811**	**3 (3–6PM)**	**2,295 to 2,886**	**13 (6AM-7PM)**
CC 04	Byron Hwy	Delta Rd	Old SR 4	D	1,410	108 to 240	-	106 to 236	-	732 to 862	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./ Alameda Co. Line**	**D**	**1,600**	**483 to 907**	**-**	**522 to 980**	**-**	**1,597 to 2,055**	**12 (6-11AM; 12-7PM)**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**2,589 to 5,820**	**-**	**2,842 to 6,389**	**1 (7–8AM)**	**3,894 to 7,441**	**2 (7-9AM)**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**1,647 to 5,705**	**-**	**1,789 to 6,198**	**2 (4–6PM)**	**2,841 to 7,250**	**2 (4-6PM)**
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	F	6,060	2,359 to 5,156	-	2,513 to 5,492	-	2,839 to 5,818	-
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	F	6,060	1,543 to 5,243	-	1,651 to 5,611	-	1,977 to 5,937	-
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,820 to 3,339	-	1,820 to 3,339	-	1,820 to 3,339	-
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,254 to 3,332	-	1,254 to 3,332	-	1,254 to 3,332	-
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,504 to 2,162	-	1,504 to 2,162	-	1,504 to 2,162	-
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,217 to 2,236	-	1,217 to 2,236	-	1,217 to 2,236	-
CT 09	I-5 NB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,414 to 1,851	-	1,602 to 2,097	-	1,678 to 2,173	-
CT 10	I-5 SB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,207 to 1,964	-	1,369 to 2,227	-	1,445 to 2,303	-
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,312 to 1,720	-	1,446 to 1,896	-	2,172 to 2,622	-
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,111 to 1,813	-	1,225 to 1,999	-	1,951 to 2,725	-

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	C	2,880	1,374 to 1,803	-	1,566 to 2,055	-	**2,449 to 2,938**	**1 (4-5PM)**
CT 14	**I-5 SB**	**Walnut Grove Rd**	**Peltier Rd**	**C**	**2,880**	**1,128 to 1,894**	**-**	**1,286 to 2,159**	**-**	**2,169 to 3,042**	**2 (3-5PM)**
CT 15	I-5 NB	Peltier Rd	Turner Rd	C	2,880	1,421 to 1,885	-	1,421 to 1,885	-	1,421 to 1,885	-
CT 16	I-5 SB	Peltier Rd	Turner Rd	C	2,880	1,145 to 1,974	-	1,145 to 1,974	-	1,145 to 1,974	-
CT 17	I-5 NB	Turner Rd	SR 12	C	2,880	1,288 to 1,985	-	1,520 to 2,342	-	1,879 to 2,701	-
CT 18	I-5 SB	Turner Rd	SR 12	C	2,880	1,124 to 1,482	-	1,326 to 1,749	-	1,685 to 2,108	-
CT 19	I-5 NB	SR 12	Eight Mile Rd	C	4,400	1,533 to 2,267	-	1,748 to 2,584	-	1,900 to 2,736	-
CT 20	I-5 SB	SR 12	Eight Mile Rd	C	4,400	1,243 to 2,070	-	1,417 to 2,360	-	1,569 to 2,512	-
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	D	5,410	1,937 to 3,452	-	1,937 to 3,452	-	1,937 to 3,452	-
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	D	5,410	1,817 to 2,760	-	1,817 to 2,760	-	1,817 to 2,760	-
CT 23	**SR 160 (Freeport Blvd)**	**Sacramento City Limits**	**Freeport Bridge**	**E**	**1,740**	**136 to 476**	**-**	**145 to 506**	**-**	**2,246 to 2,607**	**13 (6AM-7PM)**
CT 24	SR 160 (Freeport Blvd/ River Rd)	Freeport Bridge	Scribner Rd	E	1,740	94 to 180	-	94 to 180	-	94 to 180	-
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	E	1,740	41 to 125	-	41 to 125	-	41 to 125	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	E	1,740	105 to 170	-	105 to 170	-	105 to 170	-
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	E	1,740	69 to 122	-	69 to 122	-	69 to 122	-
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	E	1,740	75 to 150	-	77 to 154	-	1,528 to 1,605	-
CT 29	**SR 160**	**Paintersville Bridge**	**Walnut Grove Bridge**	**E**	**1,740**	**78 to 128**	**-**	**89 to 147**	**-**	**3,265 to 3,323**	**13 (6AM-7PM)**
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**E**	**1,740**	**173 to 465**	**-**	**173 to 465**	**-**	**3,349 to 3,641**	**13 (6AM-7PM)**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**E**	**1,740**	**193 to 378**	**-**	**193 to 378**	**-**	**3,369 to 3,554**	**13 (6AM-7PM)**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**F**	**1,740**	**530 to 894**	**-**	**549 to 926**	**-**	**3,725 to 4,102**	**13 (6AM-7PM)**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**B**	**200**	**40 to 169**	**-**	**42 to 177**	**-**	**1,926 to 2,061**	**13 (6AM-7PM)**
CT 34	SR 84 (Courtland Rd/ Ryer Ave)	Courtland Rd	Cache Slough Ferry	C	680	10 to 25	-	11 to 26	-	239 to 254	-
CT 35	**I-80 EB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**3,079 to 6,994**	**-**	**3,510 to 7,973**	**-**	**5,100 to 9,563**	**4 (2-6PM)**
CT 36	**I-80 WB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**5,751 to 8,892**	**2 (6–8AM)**	**6,556 to 10,137**	**2 (6–8AM)**	**8,146 to 11,727**	**12 (6AM-6PM)**
CT 37	**SR 12 EB**	**I-80**	**Beck Ave**	**C**	**2,880**	**528 to 1,847**	**-**	**612 to 2,143**	**-**	**2,202 to 3,733**	**8 (11AM-7PM)**
CT 38	**SR 12 WB**	**I-80**	**Beck Ave**	**C**	**2,880**	**829 to 1,625**	**-**	**962 to 1,885**	**-**	**2,552 to 3,475**	**4 (6-10AM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 39	**SR 12**	**Beck Ave**	**Sunset Ave/ Grizzly Island Rd**	**C**	**5,060**	**2,408 to 3,573**	**-**	**2,772 to 4,114**	**-**	**5,948 to 7,290**	**13 (6AM-7PM)**
CT 40	**SR 12**	**Sunset Ave/ Grizzly Island Rd**	**Walters Rd/ Lawler Ranch Pkwy**	**C**	**5,060**	**1,607 to 2,353**	**-**	**1,864 to 2,729**	**-**	**5,040 to 5,905**	**12 (6-9AM; 10AM-7PM)**
CT 41	**SR 12**	**Walters Rd/ Lawler Ranch Pkwy**	**SR 113**	**C**	**790**	**627 to 1,075**	**10 (6–8AM; 9–1PM; 2–6PM)**	**727 to 1,247**	**12 (6AM–6PM)**	**3,903 to 4,423**	**13 (6AM-7PM)**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**C**	**790**	**1,073 to 1,544**	**13 (6AM–7PM)**	**1,245 to 1,791**	**13 (6AM–7PM)**	**4,421 to 4,967**	**13 (6AM-7PM)**
CT 43	**SR 12 (Rio Vista Bridge)**	**SR 84 (River Rd)**	**SR 160 (River Rd)**	**C**	**970**	**1,135 to 1,685**	**13 (6AM–7PM)**	**1,317 to 1,955**	**13 (6AM–7PM)**	**4,493 to 5,131**	**13 (6AM-7PM)**
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./ SJ Co. Line**	**C**	**790**	**704 to 1,030**	**12 (6AM–6PM)**	**788 to 1,154**	**12 (6AM–6PM)**	**1,658 to 2,024**	**13 (6AM-7PM)**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**773 to 1,164**	**12 (6AM–6PM)**	**813 to 1,224**	**13 (6AM–7PM)**	**1,683 to 2,094**	**13 (6AM-7PM)**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**2,508 to 4,632**	**2 (3–5PM)**	**2,765 to 5,107**	**3 (3–6PM)**	**3,303 to 5,645**	**6 (7-9AM; 2-6PM)**
CT 47	**I-80 WB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**3,068 to 4,191**	**-**	**3,280 to 4,481**	**2 (4–6PM)**	**3,818 to 5,019**	**5 (6-8AM; 3-6PM)**
CT 48	**SR 113**	**I-80**	**Dixon City Limits**	**C**	**1,920**	**569 to 1,341**	**-**	**569 to 1,341**	**-**	**1,644 to 2,416**	**11 (7-9AM; 10AM-7PM)**
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**C**	**680**	**174 to 294**	**-**	**188 to 318**	**-**	**1,263 to 1,393**	**13 (6AM-7PM)**

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions: Hourly Volume Range (6AM to 7PM)	Baseline Conditions: Hours Operating Worse Than LOS Threshold	Baseline Plus Background Growth Conditions: Hourly Volume Range (6AM to 7PM)	Baseline Plus Background Growth Conditions: Hours Operating Worse Than LOS Threshold	BPBGPP Conditions: Hourly Volume Range (6AM to 7PM)	BPBGPP Conditions: Hours Operating Worse Than LOS Threshold
CT 50	**SR 4 (Marsh Creek Rd)[2]**	**Vasco Rd**	**Byron Hwy (Old SR 4)**	**D**	**1,600**	**442 to 733**	**-**	**-**	**-**	-	-
				C	**790**	**-**	**-**	**477 to 792**	**1 (4–5PM)**	**1,552 to 1,867**	**13 (6AM-7PM)**
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**D**	**1,600**	**554 to 1,224**	**-**	**601 to 1,327**	**-**	**1,676 to 2,402**	**13 (6AM-7PM)**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**C**	**790**	**412 to 746**	**-**	**412 to 746**	**-**	**1,487 to 1,821**	**13 (6AM-7PM)**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**D**	**1,410**	**867 to 1,492**	**1 (4–5PM)**	**867 to 1,492**	**1 (4–5PM)**	**1,942 to 2,567**	**13 (6AM-7PM)**
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	2,552 to 4,815	-	2,855 to 5,386	-	3,393 to 5,924	-
CT 55	I-5 SB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	4,550 to 5,913	-	5,108 to 6,639	-	5,646 to 7,177	-
CT 56	**I-5 NB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**2,430 to 4,586**	**-**	**2,770 to 5,228**	**-**	**3,308 to 5,766**	**3 (3-6PM)**
CT 57	**I-5 SB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**4,333 to 5,631**	**3 (7–8AM; 4–6PM)**	**4,940 to 6,419**	**8 (6–9AM; 1–6PM)**	**5,478 to 6,957**	**13 (6AM-7PM)**
CT 58	**I-205 EB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,350 to 5,071**	**4 (3–7PM)**	**1,480 to 5,560**	**4 (3–7PM)**	**2,018 to 6,098**	**5 (2-7PM)**
CT 59	**I-205 WB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,873 to 4,867**	**2 (6–8AM)**	**2,058 to 5,348**	**3 (6–9AM)**	**2,596 to 5,886**	**3 (6-9AM)**
CT 60	**I-205 EB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,431 to 5,068**	**4 (3–7PM)**	**1,574 to 5,575**	**5 (2–7PM)**	**2,112 to 6,113**	**5 (2-7PM)**
CT 61	**I-205 WB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,875 to 4,117**	**-**	**2,063 to 4,529**	**1 (6–7AM)**	**2,601 to 5,067**	**2 (6-8AM)**
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	D	5,410	1,525 to 4,200	-	1,525 to 4,200	-	1,525 to 4,200	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	D	5,410	1,852 to 3,079	-	1,852 to 3,079	-	1,852 to 3,079	-
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	D	5,410	1,511 to 4,182	-	1,511 to 4,182	-	1,511 to 4,182	-
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	D	5,410	2,083 to 3,446	-	2,083 to 3,446	-	2,083 to 3,446	-
ISL 01	A St/4th St/ Jackson Blvd.	SR 160	Isleton City Limits	D	1,410	17 to 75	-	17 to 75	-	17 to 75	-
OAK 01	Main Street (Old SR 4)1	SR 160	Cypress Rd	C	1,920	752 to 1,663	-	-	-	-	-
				D	3,540	-	-	795 to 1,759	-	1,870 to 2,834	-
OAK 02	**Main Street (Old SR 4)[1]**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	C	970	722 to 1,335	10 (7–9AM; 11AM–7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**823 to 1,522**	**-**	**1,898 to 2,597**	**13 (6AM-7PM)**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	D	1,600	304 to 764	-	340 to 856	-	906 to 1,422	-
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	D	1,410	140 to 367	-	157 to 411	-	309 to 563	-
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	D	1,410	155 to 334	-	129 to 278	-	755 to 904	-
SAC 01	**Pocket Rd**	**I-5**	**Freeport Blvd (Old SR 160)**	**D**	**3,540**	**789 to 2,191**	**-**	**789 to 2,191**	**-**	**2,890 to 4,292**	**8 (7-9AM; 1-7PM)**
SAC 02	**Freeport Blvd (Old SR 160)**	**Pocket Rd**	**Sacramento City Limits**	**D**	**1,760**	**152 to 492**	**-**	**164 to 531**	**-**	**2,265 to 2,632**	**13 (6AM-7PM)**

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SC 01	**Freeport Bridge**	**River Rd**	**SR 160 (Freeport Blvd)**	**D**	**1,410**	**98 to 346**	**-**	**105 to 371**	**-**	**2,206 to 2,472**	**13 (6AM-7PM)**
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	D	1,410	77 to 137		77 to 137	-	77 to 137	-
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	D	1,410	10 to 29	-	10 to 29	-	10 to 29	-
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	D	1,410	19 to 38	-	19 to 38	-	19 to 38	-
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	D	1,410	41 to 71	-	41 to 71	-	41 to 71	-
SC 06	**Twin Cities Rd**	**River Rd**	**I-5**	**D**	**1,410**	**130 to 248**	**-**	**133 to 253**	**-**	**1,584 to 1,704**	**13 (6AM-7PM)**
SC 07	Twin Cities Rd	I-5	Franklin Blvd	D	1,410	141 to 318	-	141 to 318	-	141 to 318	-
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./ Yolo Co. Line**	**Paintersville Bridge**	**D**	**1,410**	**51 to 113**	**-**	**55 to 122**	**-**	**3,231 to 3,298**	**13 (6AM-7PM)**
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	D	1,410	85 to 134	-	86 to 135	-	**1,537 to 1,586**	**13 (6AM-7PM)**
SC 10	River Rd (Sac Co.)	Twin Cities Rd	Walnut Grove Bridge	D	1,600	223 to 365	-	230 to 377	-	382 to 529	-
SC 11	**Walnut Grove Rd/River Rd**	**Walnut Grove Bridge**	**Sacramento Co./ SJ Co. Line**	**D**	**1,410**	**175 to 332**	**-**	**179 to 340**	**-**	**1,943 to 2,104**	**13 (6AM-7PM)**
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	D	1,410	61 to 283	-	61 to 283	-	61 to 283	-
SC 13	Race Track Rd/ Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	D	1,410	17 to 34	-	17 to 34	-	17 to 34	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	D	1,410	14 to 39	-	14 to 39	-	14 to 39	-
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	D	1,410	4 to 53	-	4 to 53	-	4 to 53	-
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	D	1,410	16 to 52	-	16 to 52	-	16 to 52	-
SJ 01	**Walnut Grove Rd**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**141 to 232**	**-**	**145 to 238**	**-**	**1,909 to 2,002**	**13 (6AM-7PM)**
SJ 02	Peltier Rd	Blossom Rd	I-5	C	680	8 to 23	-	8 to 23	-	8 to 23	-
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	C	790	108 to 209	-	108 to 209	-	108 to 209	-
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	C	790	69 to 171	-	69 to 171	-	69 to 171	-
SJ 05	**Byron Hwy**	**Alameda Co./San Joaquin Co. Line**	**Mountain House Pkwy**	**D**	**1,600**	**521 to 824**	**-**	**563 to 890**	**-**	**1,638 to 1,965**	**13 (6AM-7PM)**
SJ 06	**Mountain House Pkwy**	**Byron Hwy**	**Arnaudo Blvd**	**D**	**1,410**	**190 to 298**	**-**	**205 to 322**	**-**	1,280 to 1,397	-
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	D	3,540	418 to 769	-	477 to 877	-	1,552 to 1,952	-
STK 01	Eight Mile Rd	Stockton City Limits	I-5	E	1,870	309 to 769	-	309 to 769	-	309 to 769	-
TRA 01	Tracy Blvd	Tracy City Limits	I-205	E	1,870	309 to 759	-	309 to 759	-	309 to 759	-
WS 01	**Harbor Blvd**	**Industrial Blvd**	**US 50**	**D**	**3,540**	**1,140 to 2,317**	**-**	**1,218 to 2,476**	**-**	**3,102 to 4,360**	**10 (7-10AM; 12-7PM)**

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
WS 02	**Industrial Blvd/ Lake Washington Blvd**	**Harbor Blvd**	**Jefferson Blvd (Old SR 84)**	**C**	**1,920**	**773 to 1,858**	**-**	**835 to 2,007**	**1 (5-6PM)**	**2,719 to 3,891**	**13 (6AM-7PM)**
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**C**	**1,920**	**546 to 1,718**	**-**	**586 to 1,843**	**-**	**2,470 to 3,727**	**13 (6AM-7PM)**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**C**	**680**	**42 to 146**	**-**	**45 to 155**	**-**	**1,929 to 2,039**	**13 (6AM-7PM)**
YOL 01	**River Rd (Yolo Co.)**	**Freeport Bridge**	**Courtland Rd**	**C**	**680**	**74 to 249**	**-**	**76 to 254**	**-**	**2,177 to 2,355**	**13 (6AM-7PM)**
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./ Yolo Co. Line**	**C**	**680**	**25 to 63**	**-**	**27 to 68**	**-**	**3,203 to 3,244**	**13 (6AM-7PM)**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**C**	**680**	**28 to 77**	**-**	**30 to 83**	**-**	**1,914 to 1,967**	**13 (6AM-7PM)**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

Notes: Facility is analyzed as a Caltrans facility under Baseline Conditions and a local facility under Baseline Plus Construction Conditions – roadway is relinquished to local jurisdiction after Baseline Year (2009). LOS Threshold is LOS C under Baseline Conditions and changes to LOS D under Baseline Plus Construction Conditions.

Facility is analyzed as a local facility under Baseline Conditions and a Caltrans facility under Baseline Plus Construction Conditions – roadway is adopted as a State facility after Baseline Year (2009). LOS Threshold is LOS D under Baseline Conditions and changes to LOS C under Baseline Plus Construction Conditions.

CEQA Conclusion: Construction under Alternative 1C would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-21). As shown in Table 19-21, traffic volumes during construction of Alternative 1C would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The effect under Alternative 1C would be similar to the effects under Alternatives 1A and 1B, but greater in magnitude because of the higher amount of truck traffic. As shown in Table 19-22, Alternative 1C would cause physical condition thresholds (see Table 19-7) to be exceeded on a total of **43** roadway segments (see entries in **bold** text). Figure 19-4a shows all of the study roadway segments that could experience substantial pavement condition effects.

Table 19-22. Pavement Conditions for West Alignment Alternatives (1C, 2C, and 6C)

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Alternative Results in Construction Trips Added to Roadway	Alternative Results in Impact on Deficient Roadway
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./ San Joaquin Co. Line	Acceptable	Yes	No
BRE 01	Brentwood Blvd (old SR 4)	Delta Rd (Oakley City Limits)	Balfour Rd	Acceptable	Yes	No
BRE 02	Brentwood Blvd (old SR 4)	Balfour Rd	Brentwood City Limits (South)	Acceptable	Yes	No
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	Acceptable	Yes	No
CC 01	**Bethel Island Rd**	**Oakley City Limits**	**End**	**Deficient**	**Yes**	**Yes**
CC 02	**Balfour Rd**	**Brentwood City Limits**	**Byron Hwy**	**Deficient**	**Yes**	**Yes**
CC 03	**Old SR 4**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	**Deficient**	**Yes**	**Yes**
CC 04	Byron Hwy	Delta Rd	Old SR 4	Acceptable	Yes	No
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./ Alameda Co. Line**	**Deficient**	**Yes**	**Yes**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 03	**I-5 NB**	**Pocket Rd**	**Laguna Blvd**	**Deficient**	**Yes**	**Yes**
CT 04	**I-5 SB**	**Pocket Rd**	**Laguna Blvd**	**Deficient**	**Yes**	**Yes**
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	No	No
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	No	No
CT 09	**I-5 NB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 10	**I-5 SB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 11	**I-5 NB**	**Twin Cities Rd**	**Walnut Grove Rd**	**Deficient**	**Yes**	**Yes**
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 15	I-5 NB	Peltier Rd	Turner Rd	Acceptable	No	No
CT 16	I-5 SB	Peltier Rd	Turner Rd	Acceptable	No	No
CT 17	I-5 NB	Turner Rd	SR 12	Acceptable	Yes	No
CT 18	I-5 SB	Turner Rd	SR 12	Acceptable	Yes	No
CT 19	**I-5 NB**	**SR 12**	**Eight Mile Rd**	**Deficient**	**Yes**	**Yes**
CT 20	I-5 SB	SR 12	Eight Mile Rd	Acceptable	Yes	No
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	Deficient	No	No
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	Acceptable	No	No
CT 23	**SR 160 (Freeport Blvd)**	**Sacramento City Limits**	**Freeport Bridge**	**Deficient**	**Yes**	**Yes**
CT 24	SR 160 (Freeport Blvd/River Rd)	Freeport Bridge	Scribner Rd	Deficient	No	No
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	Deficient	No	No
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	Deficient	No	No
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	Deficient	No	No
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	Not Applicable	Yes	No
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	Acceptable	Yes	No
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**Deficient**	**Yes**	**Yes**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**Deficient**	**Yes**	**Yes**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**Deficient**	**Yes**	**Yes**
CT 34	**SR 84 (Courtland Rd/ Ryer Ave)**	**Courtland Rd**	**Cache Slough Ferry**	**Deficient**	**Yes**	**Yes**
CT 35	I-80 EB	Suisun Valley Rd	SR 12	Acceptable	Yes	No
CT 36	I-80 WB	SR 12	Suisun Valley Rd	Acceptable	Yes	No
CT 37	SR 12 EB	I-80	Beck Ave	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 38	SR 12 WB	Beck Ave	I-80	Acceptable	Yes	No
CT 39	SR 12	Beck Ave	Sunset Ave/Grizzly Island Rd	Acceptable	Yes	No
CT 40	SR 12	Sunset Ave/Grizzly Island Rd	Walters Rd/Lawler Ranch Pkwy	Acceptable	Yes	No
CT 41	**SR 12**	**Walters Rd/Lawler Ranch Pkwy**	**SR 113**	**Deficient**	**Yes**	**Yes**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**Deficient**	**Yes**	**Yes**
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Rd)	SR 160 (River Rd)	Not Applicable	Yes	No
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./SJ Co. Line**	**Deficient**	**Yes**	**Yes**
CT 45	**SR 12**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**Deficient**	**Yes**	**Yes**
CT 47	I-80 WB	Pedrick Rd	SR 113	Acceptable	Yes	No
CT 48	SR 113	I-80	Dixon City Limits	Acceptable	Yes	No
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 50	SR 4 (Marsh Creek Rd)	Vasco Rd	Byron Hwy (Old SR 4)	Acceptable	Yes	No
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**Deficient**	**Yes**	**Yes**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**Deficient**	**Yes**	**Yes**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 54	**I-5 NB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 58	I-205 EB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 59	I-205 WB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	Acceptable	No	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	Acceptable	No	No
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	Acceptable	No	No
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	Acceptable	No	No
ISL 01	A St/4th St/Jackson Blvd.	SR 160	Isleton City Limits	Deficient	No	No
OAK 01	**Main Street (Old SR 4)**	**SR 160**	**Cypress Rd**	**Deficient**	**Yes**	**Yes**
OAK 02	**Main Street (Old SR 4)**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	**Deficient**	**Yes**	**Yes**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	Acceptable	Yes	No
OAK 04	**Bethel Island Rd**	**Cypress Rd**	**Oakley City Limits**	**Deficient**	**Yes**	**Yes**
OAK 05	**Delta Rd**	**Main Street (Old SR 4)**	**Byron Hwy**	**Deficient**	**Yes**	**Yes**
SAC 01	**Pocket Rd**	**I-5**	**Freeport Blvd (Old SR 160)**	**Deficient**	**Yes**	**Yes**
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	Acceptable	Yes	No
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	Not Applicable	Yes	No
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	Deficient	No	No
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	Acceptable	No	No
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	Deficient	No	No
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	Deficient	No	No
SC 06	Twin Cities Rd	River Rd	I-5	Acceptable	Yes	No
SC 07	Twin Cities Rd	I-5	Franklin Blvd	Deficient	No	No
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./Yolo Co. Line**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
SC 09	**River Rd (Sac Co.)**	**Paintersville Bridge**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
SC 10	**River Rd (Sac Co.)**	**Twin Cities Rd**	**Walnut Grove Bridge**	**Deficient**	**Yes**	**Yes**
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./SJ Co. Line	Acceptable	Yes	No
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	Acceptable	No	No
SC 13	Race Track Rd/Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	Deficient	No	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	Deficient	No	No
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	Acceptable	No	No
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	Acceptable	No	No
SJ 01	**Walnut Grove Rd**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
SJ 02	Peltier Rd	Blossom Rd	I-5	Deficient	No	No
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	Acceptable	No	No
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	Acceptable	No	No
SJ 05	Byron Hwy	Alameda Co./San Joaquin Co. Line	Mountain House Pkwy	Acceptable	Yes	No
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	Acceptable	Yes	No
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	Acceptable	Yes	No
STK 01	Eight Mile Rd	Stockton City Limits	I-5	Deficient	No	No
TRA 01	Tracy Blvd	Tracy City Limits	I-205	Deficient	No	No
WS 01	Harbor Blvd	Industrial Blvd	US 50	Acceptable	Yes	No
WS 02	Industrial Blvd/Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	Acceptable	Yes	No
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**Deficient**	**Yes**	**Yes**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**Deficient**	**Yes**	**Yes**
YOL 01	**River Rd (Yolo Co.)**	**Freeport Bridge**	**Courtland Rd**	**Deficient**	**Yes**	**Yes**
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./ Yolo Co. Line**	**Deficient**	**Yes**	**Yes**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**Deficient**	**Yes**	**Yes**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

As shown in Table 19-22, construction during Alternative 1C would contribute to substantial deterioration of pavement conditions on **43** roadway segments that would exceed applicable thresholds summarized in Table 19-7. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided. Collectively, these measures include stipulations to limit/prohibit construction activity on deficient roadways and improve the physical condition of affected segments.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-22. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 1C would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with

farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 1C would increase the amount of trucks using the transportation system in the study area. The effect under Alternative 1C would be the similar to the effect under Alternatives 1A and 1B, but greater in magnitude because the higher amount of total construction-related trips and locations of LOS effects. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 1C would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 1C a temporary barge unloading facility for construction material is planned on the Sacramento River adjacent to SR 160 west of Isleton. Approximately 4,500 barge trips are projected to carry construction materials to this unloading facility, the same amount as estimated for Alternative 1B (on average, only 2 additional barge trips per day are expected through the 9-year construction period) and substantially more than the 3,000 trips estimated for Alternative 1A. Although barges are relatively slow and have less maneuverability than smaller vessels, commercial barge operators are required to operate in compliance with navigational guidelines. The barge unloading facilities would be temporary and removed following construction. Increased barge traffic related to delivery of materials to the project site is not anticipated to cause impediments to the passage of other vessels, and would not require additional raising of draw bridges in the study area.

Although some in-water work would be necessary for intake construction along the Sacramento River, the river would remain open to boat traffic at all times during construction. The intake cofferdams would extend into the river channel up to 120 feet, depending on location. The width of the river near the intakes (approximately 500–700 feet) would therefore allow for passage of the types of boats typically observed on the Sacramento River (channel width during construction 380–580 feet). (Refer to Chapter 15, *Recreation*, for additional discussion of the effects of intake construction on boating.)

This potential effect is not considered adverse because construction of Alternative 1C would not substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). As noted in Chapter 15, *Recreation*, Impact REC-3, the Cache Slough barge facility would occupy between 1,200 feet of riverbank. The slough is about 650 feet wide at this location. Therefore, even if the barge facility and barge operations at this location occupied a substantial portion of the river. However, all barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 1C would not substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The potential for Alternative 1C to disrupt rail service on the UPRR Tracy Subdivision branch line would be the same as Alternative 1A and 1B with regard to construction of the new forebay. The proposed conveyance (new canal and siphon) crosses the existing BNSF Railway/Amtrak San Joaquin Line approximately between Sunset Road and Orwood Road. Because this crossing is in a major work area, the train operations along the BNSF Railway/Amtrak San Joaquin Line could be affected. (See Table 19-23 for construction impacts on rail lines).

Table 19-23. Construction Impacts on Rail Traffic for West Alignment Alternatives (1C, 2C, and 6C)

Affected Railroad	Crosses and/or Immediately Adjacent to Construction Zone	Level of Train Volume	Construction Impacts on Rail Traffic
BNSF Railway and Amtrak San Joaquin Line	Yes	High	Significant—railroad crosses construction of proposed new canal and siphon between Sunset Road and Orwood Road in a proposed major work area.
Union Pacific Railroad--Tracy Subdivision	Yes	Low (Out of Service)	Minimal to Non-Existent

If the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic can be managed, if needed, through implementation of Mitigation Measure TRANS-1a. Construction would temporarily disrupt rail operations on the BNSF. The effect of disruption to rail traffic during construction would be adverse. Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way is available to reduce the effect.

***CEQA Conclusion*:** The proposed conveyance (new canal and siphon) crosses the existing BNSF Railway/Amtrak San Joaquin Line approximately between Sunset Road and Orwood Road. Because this crossing is in a major work area, the train operations along the BNSF Railway/Amtrak San Joaquin Line could be affected. Likewise, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. This is a potentially significant impact. Implementation of Mitigation Measure TRANS-1a would reduce this impact to a less than significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: Construction of the canal conveyances and other project elements under Alternative 1C could require construction detours or contribute to congestion during lane closures and other construction activities, thereby affecting transit routes and schedules. Table 19-24 summarizes the transit service potentially affected under Alternative 1C.

Table 19-24. Construction Impacts on Bus Routes for West Alignment Alternatives (1C, 2C, and 6C)

Affected Transit Service	Roadway Operated On and Location	Estimated Trips per Day	Construction Impacts on Bus Routes
Tri-Delta Transit—Route 386	SR 4 west of Bixler Road	6 trips per weekday (3 in each direction)	Affected by canal construction at SR 4.
Rio Vista Transit—Route 50	SR 160, west of Isleton	4 trips per weekday (2 in each direction)	Marginal (if any)—Deep bore tunnel construction below the roadway

The Tri-Delta Transit Route 386 could experience delays during construction as a result of decreased delay on SR-4 (see Table 19-21). The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 1C would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 4 segments on SR-4 (see Table 19-21). Accordingly, construction could significantly affect operation of the Tri-Delta Transit Route 386. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: Increased traffic and vehicle delays during construction (see Table 19-21) could temporarily disrupt bicycle routes on SR 160, River Road, and SR 12 (and potentially SR 220). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

CEQA Conclusion: Increased traffic and vehicle delays during construction (see Table 19-21) could temporarily disrupt bicycle routes on SR 160, River Road, and SR 12 (and potentially SR 220), resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities roadway operations under Alternative 1C would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16). Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even

assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: Alternative 1C would require realignment of South River Road at the intakes, and multiple bridges across the alignment to maintain connectivity. Each intake/pumping plant site would require realignment of the adjacent levee road. The levee road adjacent to Intakes W1, W2, W3, W4, and W5 is County Highway E9 (South River Road). Alternative 1C would intersect several public roadways, state routes, and one railroad requiring bridges at most of these locations to maintain connectivity along the canal.

- County Road 141: Connectivity of County Road 141 between County Highway E9 (S River Road) and County Road 144 would be maintained. County Road 141 would continue over buried pipelines from Intakes W1 and W2 and stay north and west of the beginning embankments for the canal.
- N Courtland Road: N Courtland Road between Waukeena Road and Widgeon Road is close to or within the canal footprint.
- Z Line Road (County Road 150): No bridge is proposed for this location and connectivity would not be maintained. The road adjacent to the ship canal does not appear to extend north of Courtland.
- Teal Road: No bridge is proposed for this location, and therefore connectivity would not be maintained
- Kellogg Creek Road: No bridge is proposed for this location. The project would realign this roadway to intersect with Bixler Road.
- Western Farms Ranch Road: Connectivity would not be maintained.
- Bruns Road: No bridge is proposed, and connectivity would not be maintained.

The design and construction of all project components (i.e., conveyances, intakes, and forebays) will provide for on-going continuity of all transportation operations following completion of construction. Structures would be constructed as necessary to provide connectivity across canals (either bridges or siphons) for active railroads to cross without disruption. Water operations would not modify the river stage above the water levels seen in the river today. Therefore, no change would be expected to affect boat traffic associated with changes in water levels. Operations and maintenance of the facilities would not have any substantive impact on barge traffic (or the roadway network) due to operation of moveable bridges. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or

usage (refer to Chapter 15, *Recreation*, for more discussion of effects on boating.) The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** Alternative 1C would require realignment of South River Road at the intakes, and multiple bridges across the alignment to maintain connectivity. Each intake/pumping plant site would require realignment of the adjacent levee road. The design and construction of all project components (i.e., conveyances, intakes, and forebays) will provide for on-going continuity of all transportation operations following completion of construction. Water operations would not modify the river stage above the water levels seen in the river today. Therefore, no change would be expected to affect boat traffic associated with changes in water levels. Operations and maintenance of the facilities would not have any substantive impact on barge traffic (or the roadway network) due to operation of moveable bridges. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 1C would be the same as Alternatives 1A and 1B because the acreage of conservation is identical. The effect of increased traffic volumes during construction and maintenance of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** The impact of increased traffic volumes during construction and operation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 1C would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.5 Alternative 2A—Dual Conveyance with Pipeline/Tunnel and Five Intakes (15,000 cfs; Operational Scenario B)

A total of five intakes would be constructed under Alternative 2A. For the purposes of this analysis, Alternative 2A was assumed to include Intakes 1–5 or Intakes 1–3 and Intakes 6 and 7. This alternative would also include an intermediate forebay, and the conveyance facility would be a buried pipeline (see Figures 3-2 and 3-3 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities would slightly higher compared to Alternative 1A due to the addition of an operable barrier at the head of Old River. As shown in Table 19-8, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 2A would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 33 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 2A would therefore exacerbate an already unacceptable LOS under BPBG conditions on **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience a substantial roadway operation effects.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-8 because construction associated with Alternative 2A would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 2A would also exacerbate an already unacceptable LOS under BPBG conditions at **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of

construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 2A would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-8). As shown in Table 19-8, traffic volumes during construction of Alternative 2A would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: Construction truck traffic may damage roadway surfaces. During construction, various materials would be transported to and from the construction areas in load-bearing trucks. As shown in Table 19-10, construction of Alternative 2A would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **43** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse.

Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-10. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 2A would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 2A would increase the amount of trucks using the transportation system in the study area. The effect of increased safety hazards from increased heavy construction traffic on local roadways and

emergency routes identified in Table 19-11 would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

CEQA Conclusion: Construction of Alternative 2A would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 2A, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities and estimates of trips and in-water work are the same as for Alternative 1A. This potential effect is not considered adverse because construction of Alternative 2A would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

CEQA Conclusion: Construction of Alternative 2A would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would

be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The effects under Alternative 2A on the BNSF Railway and Amtrak San Joaquin Line and the Union Pacific Railroad--Tracy Subdivision would be similar to that described for Alternative 1A. Construction would not be likely to disrupt rail service but if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic could be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.

***CEQA Conclusion*:** Construction of Alternative 2A would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 2A on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1A. Tunnel construction could substantially affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

CEQA Conclusion: Construction activities associated with Alternative 2A would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12 (see Table 19-8). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that

facility. To the extent that other roadways affected by Alternative 2A construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 2A on bicycle routes along SR 160/River Road and potentially along SR 12 would be similar to that described for Alternative 1A (see Table 19-8). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities roadway operations under Alternative 2A would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16). Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the project under Alternative 2A would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 2A would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 2A would be the same as Alternative 1A because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM2 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 2A would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.6 Alternative 2B—Dual Conveyance with East Alignment and Five Intakes (15,000 cfs; Operational Scenario B)

During construction, temporary impacts on roadways under Alternative 2B would be similar to those described for Alternative 1B. For the purposes of this analysis, Alternative 2B was assumed to include Intakes 1–5 or Intakes 1–3 and Intakes 6 and 7, the intermediate forebay, an east side canal conveyance, and an operable barrier at the head of Old River (see Figures 3-4 and 3-5 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities for Alternative 2B would be similar to Alternative 1B but slightly higher due to the addition of an operable barrier at the head of Old River. As shown in Table 19-17, under BPBG conditions, a total of 19 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-17, construction associated with Alternative 1B would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 39 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 2B would therefore exacerbate an already unacceptable LOS under BPBG conditions on **20** roadway segments (39 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation effects.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-17 because construction associated with Alternative 2B would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 2B would also exacerbate an already unacceptable LOS under BPBG conditions at **20** roadway segments (39 minus the 19 that would already be operating at an

unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 2B would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-17). As shown in Table 19-17, traffic volumes during construction of Alternative 2B would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities would be slightly higher for Alternative 2B compared to Alternative 1B due to the addition of an operable barrier at the head of Old River. As shown in Table 19-18, construction of Alternative 1B would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **46** roadway segments (see table entries in bold type). Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 46 locations shown in Table 19-18. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 2B would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 2B would increase the amount of trucks using the transportation system in the study area. The effect under Alternative 2B would be the similar to the effect under Alternative 1B, but slightly higher due to the additional vehicle trips associated with an operable barrier at the head of Old River. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 2B would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 2B, commercial barges would be used to transport construction materials and equipment from the ports to a temporary barge unloading facility and some in-water work will occur for construction of the intakes. Locations of temporary barge unloading facilities and estimates of trips and in-water work are the same as for Alternative 1B. This potential effect is not considered adverse because construction of Alternative 2B would not substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year

construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 2B would not substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The potential for Alternative 2B to disrupt rail service on the UPRR Tracy Subdivision branch line and BNSF/Amtrak railroad operations would be similar to the effect under Alternative 1B. (See Table 19-19 for construction impacts on rail lines). The effect of disruption to rail traffic during construction would be adverse. Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way, is available to reduce the effect.

***CEQA Conclusion*:** Construction of east canal siphons may temporarily affect BNSF/Amtrak railroad operations through physical railroad crosses. If the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. This is a potentially significant impact. Implementation of Mitigation Measure TRANS-1a would reduce this impact to a less than significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact REC-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 2B on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1B. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before

the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 2B would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 8 segments on SR-12 (see Table 19-17). Accordingly, construction could significantly affect operation of the SCT Link/Delta Route. To the extent that other roadways affected by Alternative 2B construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The potential for Alternative 2B to interfere with bicycle routes along SR 12 would be similar to the effect under Alternative 1B (see Table 19-17). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the

public, including cycling organizations and bike shops, of construction activities that could affect transportation.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-17) could interfere with bicycle routes along SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities under Alternative 2B would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16). Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

CEQA Conclusion: Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities under Alternative 2B would be similar to Alternative 1B. Roadway realignment would be necessary and multiple bridges would be constructed across the alignment to maintain connectivity. Alternative 2B would intersect several public roadways, state routes, and one railroad requiring bridges. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Impediments to boat traffic

associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 2B would be similar to Alternative 1B. Roadway realignment would be necessary and multiple bridges would be constructed across the alignment to maintain connectivity. Alternative 2B would intersect several public roadways, state routes, and one railroad requiring bridges. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 2B would be the same as Alternative 1B because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 2B would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.7 Alternative 2C—Dual Conveyance with West Alignment and Intakes W1–W5 (15,000 cfs; Operational Scenario B)

A total of five intakes would be constructed under Alternative 2C. They would be sited on the west bank of the Sacramento River, directly opposite the locations identified for the tunnel and east canal alignments. This alternative would also include an intermediate forebay, and the conveyance facility would be a canal and buried pipeline (see Figures 3-6 and 3-7 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The number of vehicles generated by construction activities would be slightly higher for Alternative 2C due to the addition of an operable barrier at the head of Old River. As shown in Table 19-21, under BPBG conditions, a total of 19 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As shown in Table 19-21, construction associated with Alternative 2C would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 56 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 2C would therefore exacerbate an already unacceptable LOS under BPBG conditions on **37** roadway segments (56 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation effects.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-21 because construction associated with Alternative 2C would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 2C would also exacerbate an already unacceptable LOS under BPBG conditions at **37** roadway segments (56 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, including all segments studied in West Sacramento and Yolo County.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 2C would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-21). As shown in Table 19-21, traffic volumes during construction of Alternative 2C would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The effect under Alternative 2C would be similar to the effects under Alternative 1C, but greater in magnitude because of the higher amount of truck traffic due to addition of an operable barrier at the head of Old River. As shown in Table 19-22, Alternative 1C would cause pavement condition thresholds (see Table 19-7) to be exceeded on a total of **43** roadway segments (see entries in bold text). Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-22. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 2C would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 2C would increase the amount of trucks using the transportation system in the study area. The effect under Alternative 2C would be the similar to the effect under Alternative 1C, but slightly higher due to the additional vehicle trips for construction of an operable barrier at the head of Old River. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 2C would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 2C, commercial barges would be used to transport construction materials and equipment from the ports to a temporary barge unloading facility and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities and estimates of trips and in-water work are the same as for Alternative 1C. This potential effect is not considered adverse because construction of Alternative 2C would not substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year

construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 2C would not substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The potential for Alternative 2C to disrupt rail service on the UPRR Tracy Subdivision branch line and BNSF/Amtrak railroad operations would be similar to the effect under Alternative 1C. The effect of disruption to rail traffic during construction would be adverse. Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way, is available to reduce the effect.

***CEQA Conclusion*:** The proposed conveyance (new canal and siphon) crosses the existing BNSF Railway/Amtrak San Joaquin Line approximately between Sunset Road and Orwood Road. Because this crossing is in a major work area, the train operations along the BNSF Railway/Amtrak San Joaquin Line could be affected. Likewise, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. This is a potentially significant impact. Implementation of Mitigation Measure TRANS-1a would reduce this impact to a less-than-significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 2C on the Tri-Delta Transit Route 386 would be the same as that of Alternative 1C. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is

not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 2C would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 4 segments on SR-4 (see Table 19-21). Accordingly, construction could significantly affect operation of the Tri-Delta Transit Route 386. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 2C on bicycle routes along SR 160, River Road, and SR 12 (and potentially SR 220) would be similar to that of Alternative 1C (see Table 19-21). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B,

Environmental Commitments, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-21) could temporarily disrupt bicycle routes on SR 160, River Road, and SR 12 (and potentially SR 220), resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities roadway operations under Alternative 2C would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16). Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: Alternative 2C would affect the same transportation facilities as Alternative 1C, including County Road 141, N Courtland Road, County Road 150, Teal Road, Kellogg Creek Road,

Western Farms Ranch Road, and Bruns Road. Connectivity would be maintained through bridging or rerouting. The potential effect of permanent alteration of transportation patterns during operations would be the same as for Alternative 1C and would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 2C would be similar to Alternative 1C. Roadway realignment would be necessary to maintain connectivity. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 2C would be the same as Alternative 1C because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Increased traffic volumes during implementation of CM2–CM22. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 2C would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.8 Alternative 3—Dual Conveyance with Pipeline/Tunnel and Intakes 1 and 2 (6,000 cfs; Operational Scenario A)

A total of two intakes would be constructed under Alternative 3. For the purposes of this analysis, Alternative 3 was assumed to include Intakes 1 and 2. This alternative would also include an intermediate forebay, and the conveyance facility would be a buried pipeline (see Figures 3-2 and 3-8 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities would be lower compared to Alternative 1A due to the reduction in the number of intakes (approximately 60% reduction). Localized impacts in the vicinity of Intakes 3, 4, and 5 would not occur.

As shown in Table 19-8, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 3 would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 33 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 3 would therefore exacerbate an already unacceptable LOS under BPBG conditions on **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation effects.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-8 because construction associated with Alternative 3 would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 3 would also exacerbate an already unacceptable LOS under BPBG conditions at **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 3 would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-8). As shown in Table 19-8, traffic volumes during construction of Alternative 3 would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: Construction truck traffic may damage roadway surfaces. During construction, various materials would be transported to and from the construction areas in load-bearing trucks. As shown in Table 19-10, construction of Alternative 3 would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold(see Table 19-7), on a total of **43** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-10. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 3 would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 3 would increase the amount of trucks using the transportation system in the study area. The effects under Alternative 3 would be similar to those described for Alternative 1A although of lesser magnitude because Alternative 3 would construct two intake structures rather than five, with an approximately 60% reduction in vehicle generation. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 3 would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 3, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities are the same as for Alternative 1A but the estimate of trips and amount of in-water work would be less because of the reduction in the number of intakes to be constructed. This potential effect is not considered adverse because construction of Alternative 3 would not

require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 3 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The effects under Alternative 3 on the BNSF Railway and Amtrak San Joaquin Line and the Union Pacific Railroad--Tracy Subdivision would be similar to that described for Alternative 1A. Construction would not be likely to disrupt rail service but if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic could be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.

***CEQA Conclusion*:** Construction of Alternative 3 would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 3 on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1A. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 3 would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12 (see Table 19-8). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. To the extent that other roadways affected by Alternative 3 construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 3 on bicycle routes along SR 160/River Road would be less than that identified for Alternative 1A because of the reduction in the number of intakes. Potential effects along SR 12 would be the same as Alternative 1A (see Table 19-8). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities on roadway operations under Alternative 3 would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16) but slightly less in magnitude because only two intakes would be operated and maintained and fewer employee trips would be anticipated. Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial

increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effects under Alternative 3 would be similar to Alternative 1A but slightly less in magnitude because only two intakes would be operated and maintained and fewer employee trips would be anticipated. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The impact of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 3 would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 3 would be the same as Alternative 1A because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. Increased traffic volumes during implementation of CM2–CM22 If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 3 would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.9 Alternative 4—Dual Conveyance with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H)

A total of three intakes would be constructed under Alternative 4. For the purposes of this analysis, Alternative 4 was assumed to include Intakes 2, 3, and 5. This alternative would also include an intermediate forebay, and the conveyance facility would be a buried pipeline (see Figures 3-9 and 3-10 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: As shown in Table 19-25, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-25, construction associated with Alternative 4 would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 36 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 4 would therefore exacerbate an already unacceptable LOS under BPBG conditions on **13** roadway segments (36 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3b shows the study roadway segments that could experience substantial roadway operation (LOS) impacts.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-25 because construction associated with Alternative 4 would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 4 would also exacerbate an already unacceptable LOS under BPBG conditions at 13 roadway segments (36 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, I-5, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento. Minor delays and congestion may also be created during temporary realignment of Byron Highway/South Pacific Railroad, which is needed to construct the siphon connecting the new approach canal and Jones PP approach canal.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

Table 19-25. Level of Service for Modified Pipeline/Tunnel Alternative 4

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./San Joaquin Co. Line	D	1,600	385 to 656	-	477 to 813	-	1,057 to 1,393	-
BRE 01	**Brentwood Blvd (old SR 4)[1]**	**Delta Rd (Oakley City Limits)**	**Balfour Rd**	C	970	586 to 1,516	11 (7-9AM; 10AM-7PM)	**-**	**-**	**-**	**-**
				D	**1,760**	**-**	**-**	**598 to 1,547**	**-**	**1,178 to 2,127**	**9 (8-9AM; 11-7PM)**
BRE 02	Brentwood Blvd (old SR 4)[1]	Balfour Rd	Brentwood City Limits (South)	C	1,920	369 to 1,013	-	-	-	-	-
				D	3,540	-	-	301 to 825	-	881 to 1,405	-
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	D	3,540	437 to 1,300	-	533 to 1,586	-	885 to 1,938	-
CC 01	Bethel Island Rd	Oakley City Limits	End	D	1,600	124 to 330	-	124 to 330	-	124 to 330	-
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	D	1,600	90 to 297	-	90 to 297	-	90 to 297	-
CC 03	**Old SR 4[1]**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	C	790	1,133 to 1,682	13 (6AM-7PM)	**-**	**-**	**-**	**-**
				D	**1,600**	**-**	**-**	**1,320 to 1,959**	**4 (7-8AM; 3-6PM)**	**1,900 to 2,539**	**13 (6AM-7PM)**
CC 04	Byron Hwy	Delta Rd	Old SR 4	D	1,410	108 to 240	-	108 to 240	-	108 to 240	-
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./ Alameda Co. Line**	**D**	**1,600**	**483 to 907**	**-**	**599 to 1,125**	**-**	**1,179 to 1,705**	**3 (8-9AM; 3-4PM; 5-6PM)**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**2,589 to 5,820**	**-**	**2987 to 6,714**	**1 (7-8AM)**	**3,364 to 7,091**	**1 (7-8AM)**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**F**	**6,060**	**1,647 to 5,705**	**-**	**1,870 to 6,479**	**2 (4-6PM)**	**2,247 to 6,856**	**2 (4-6PM)**
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	F	6,060	2,359 to 5,156	-	2,359 to 5,156	-	2,359 to 5,156	-
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	F	6,060	1,543 to 5,243	-	1,543 to 5,243	-	1,543 to 5,243	-
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,820 to	-	1,820 to	-	1,820 to	-

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
						3,339		3,339		3,339	
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,254 to 3,332	-	1,254 to 3,332	-	1,254 to 3,332	-
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,504 to 2,162	-	1,751 to 2,517	-	2,210 to 2,976	-
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,217 to 2,236	-	1,425 to 2,619	-	1,884 to 3,078	-
CT 09	I-5 NB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,414 to 1,851	-	1,644 to 2,152	-	2,021 to 2,529	-
CT 10	I-5 SB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,207 to 1,964	-	1,405 to 2,285	-	1,782 to 2,662	-
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,312 to 1,720	-	1,561 to 2,047	-	2,020 to 2,506	-
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,111 to 1,813	-	1,322 to 2,158	-	1,781 to 2,617	-
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	C	2,880	1,374 to 1,803	-	1,704 to 2,236	-	1,812 to 2,344	-
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	C	2,880	1,128 to 1,894	-	1,399 to 2,349	-	1,507 to 2,457	-
CT 15	I-5 NB	Peltier Rd	Turner Rd	C	2,880	1,421 to 1,885	-	1,421 to 1,885	-	1,421 to 1,885	-
CT 16	I-5 SB	Peltier Rd	Turner Rd	C	2,880	1,145 to 1,974	-	1,145 to 1,974	-	1,145 to 1,974	-
CT 17	I-5 NB	Turner Rd	SR 12	C	2,880	1,288 to 1,985	-	1,623 to 2,501	-	1,664 to 2,542	-
CT 18	I-5 SB	Turner Rd	SR 12	C	2,880	1,124 to 1,482	-	1,416 to 1,867	-	1,457 to 1,908	-
CT 19	I-5 NB	SR 12	Eight Mile Rd	C	4,400	1,533 to 2,267	-	1,870 to 2,766	-	1,911 to 2,807	-
CT 20	I-5 SB	SR 12	Eight Mile Rd	C	4,400	1,243 to 2,070	-	1,516 to 2,525	-	1,557 to 2,566	-
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	D	5,410	1,937 to 3,452	-	1,937 to 3,452	-	1,937 to 3,452	-
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	D	5,410	1,817 to 2,760	-	1,817 to 2,760	-	1,817 to 2,760	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge	E	1,740	136 to 476	-	153 to 536	-	906 to 1,289	-
CT 24	SR 160 (Freeport Blvd/ River Rd)	Freeport Bridge	Scribner Rd	E	1,740	94 to 180	-	94 to 180	-	847 to 933	-
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	E	1,740	41 to 125	-	41 to 125	-	794 to 878	-
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	E	1,740	105 to 170	-	124 to 201	-	1,042 to 1,119	-
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	E	1,740	69 to 122	-	77 to 136	-	995 to 1,054	-
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	E	1,740	75 to 150	-	81 to 163	-	999 to 1,081	-
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	E	1,740	78 to 128	-	97 to 161	-	1,015 to 1,079	-
CT 30	SR 160 (River Rd)	Walnut Grove Bridge	A St (Isleton)	E	1,740	173 to 465	-	173 to 465	-	1,091 to 1,383	-
CT 31	SR 160	A St (Isleton)	SR 12	E	1,740	193 to 378	-	193 to 378	-	1,111 to 1,296	-
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**F**	**1,740**	**530 to 894**	**-**	**578 to 975**	**-**	**1,658 to 2,055**	**9 (6-10AM; 2-7PM)**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**B**	**200**	**40 to 169**	**-**	**46 to 194**	**-**	**626 to 774**	**13 (6AM-7PM)**
CT 34	SR 84 (Courtland Rd/ Ryer Ave)	Courtland Rd	Cache Slough Ferry	C	680	10 to 25	-	10 to 25	-	10 to 25	-
CT 35	**I-80 EB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**3,079 to 6,994**	**-**	**3,880 to 8,812**	**3 (3-6PM)**	**4,421 to 9,353**	**3 (3-6PM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 36	**I-80 WB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**5,751 to 8,892**	**2 (6-8AM)**	**7,246 to 11,204**	**6 (6-9AM; 3-6PM)**	**7,787 to 11,745**	**9 (6-10AM; 1-6PM)**
CT 37	**SR 12 EB**	**I-80**	**Beck Ave**	**C**	**2,880**	**528 to 1,847**	**-**	**676 to 2,364**	**-**	**1,217 to 2,905**	**2 (5-7PM)**
CT 38	SR 12 WB	I-80	Beck Ave	C	2,880	829 to 1,625	-	1,061 to 2,080	-	1,602 to 2,621	-
CT 39	**SR 12**	**Beck Ave**	**Sunset Ave/ Grizzly Island Rd**	**C**	**5,060**	**2,408 to 3,573**	**-**	**3,046 to 4,519**	**-**	**4,086 to 5,559**	**3 (3-6PM)**
CT 40	SR 12	Sunset Ave/ Grizzly Island Rd	Walters Rd/ Lawler Ranch Pkwy	C	5,060	1,607 to 2,353	-	2,057 to 3,012	-	3,097 to 4,052	-
CT 41	**SR 12**	**Walters Rd/ Lawler Ranch Pkwy**	**SR 113**	**C**	**790**	**627 to 1,075**	**10 (6-8AM; 9-1PM; 2-6PM)**	**803 to 1,376**	**13 (6AM-7PM)**	**1,843 to 2,416**	**13 (6AM-7PM)**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**C**	**790**	**1,073 to 1,544**	**13 (6AM–7PM)**	**1,373 to 1,976**	**13 (6AM-7PM)**	**2,413 to 3,016**	**13 (6AM-7PM)**
CT 43	**SR 12 (Rio Vista Bridge)**	**SR 84 (River Rd)**	**SR 160 (River Rd)**	**C**	**970**	**1,135 to 1,685**	**13 (6AM–7PM)**	**1,453 to 2,157**	**13 (6AM-7PM)**	**2,493 to 3,197**	**13 (6AM-7PM)**
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./ SJ Co. Line**	**C**	**790**	**704 to 1,030**	**12 (6AM–6PM)**	**845 to 1,236**	**13 (6AM-7PM)**	**926 to 1,317**	**13 (6AM-7PM)**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**773 to 1,164**	**12 (6AM–6PM)**	**840 to 1,264**	**13 (6AM-7PM)**	**921 to 1,345**	**13 (6AM-7PM)**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**2,508 to 4,632**	**2 (3-5PM)**	**3,108 to 5,741**	**6 (7-9AM; 2-6PM)**	**3,398 to 6,031**	**7 (7-9AM; 1-6PM)**
CT 47	**I-80 WB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**3,068 to 4,191**	**-**	**3,563 to 4,867**	**4 (7-8AM; 3-6PM)**	**3,853 to 5,157**	**6 (6-9AM; 3-6PM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 48	**SR 113**	**I-80**	**Dixon City Limits**	**C**	**1,920**	**569 to 1,341**	**-**	**569 to 1,341**	**-**	**1,149 to 1,921**	**1 (5-6PM)**
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**C**	**680**	**174 to 294**	**-**	**216 to 365**	**-**	**796 to 945**	**13 (6AM-7PM)**
CT 50	**SR 4 (Marsh Creek Rd)[2]**	**Vasco Rd**	**Byron Hwy (Old SR 4)**	D	1,600	442 to 733	-	-	-	-	-
				C	**790**	**-**	**-**	**548 to 909**	**2 (4-6PM)**	**1,128 to 1,489**	**13 (6AM-7PM)**
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**D**	**1,600**	**554 to 1,224**	**-**	**654 to 1,445**	**-**	**1,234 to 2,025**	**11 (8AM-7PM)**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**C**	**790**	**412 to 746**	**-**	**412 to 746**	**-**	**992 to 1,326**	**13 (6AM-7PM)**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**D**	**1,410**	**867 to 1,492**	**1 (4-5PM)**	**867 to 1,492**	**1 (4-5PM)**	**1,447 to 2,072**	**13 (6AM-7PM)**
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	2,552 to 4,815	-	3,201 to 6,039	-	3,781 to 6,619	-
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**D**	**7,280**	**4,550 to 5,913**	**-**	**5,747 to 7,468**	**2 (7-8AM; 5-6PM)**	**6,327 to 8,048**	**5 (7-8AM; 2-6PM)**
CT 56	**I-5 NB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**2,430 to 4,586**	**-**	**3,159 to 5,962**	**3 (3-6PM)**	**3,739 to 6,542**	**4 (2-6PM)**
CT 57	**I-5 SB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**4,333 to 5,631**	**3 (7-8AM; 4-6PM)**	**5,633 to 7,320**	**13 (6AM-7PM)**	**6,213 to 7,900**	**13 (6AM-7PM)**
CT 58	**I-205 EB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,350 to 5,071**	**4 (3-7PM)**	**1,629 to 6,118**	**5 (2-7PM)**	**1,919 to 6,408**	**5 (2-7PM)**
CT 59	**I-205 WB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,873 to 4,867**	**2 (6-8AM)**	**2,270 to 5,898**	**3 (6-9AM)**	**2,560 to 6,188**	**3 (6-9AM)**
CT 60	**I-205 EB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,431 to 5,068**	**4 (3-7PM)**	**1,803 to 6,386**	**5 (2-7PM)**	**2,093 to 6,676**	**5 (2-7PM)**
CT 61	**I-205 WB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,875 to 4,117**	**-**	**2,363 to 5,187**	**2 (6-8AM)**	**2,653 to 5,477**	**3 (6-9AM)**
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	D	5,410	1,525 to 4,200	-	1,769 to 4,872	-	1,833 to 4,936	-
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	D	5,410	1,852 to	-	2,148 to	-	2,212 to	-

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
						3,079		3,572		3,636	
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	D	5,410	1,511 to 4,182	-	1,753 to 4,851	-	1,817 to 4,915	-
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	D	5,410	2,083 to 3,446	-	2,416 to 3,997	-	2,480 to 4,061	-
ISL 01	A St/4th St/ Jackson Blvd.	SR 160	Isleton City Limits	D	1,410	17 to 75	-	17 to 75	-	17 to 75	-
OAK 01	Main Street (Old SR 4)[1]	SR 160	Cypress Rd	C	1,920	752 to 1,663	-	-	-	-	-
				D	3,540	-	-	882 to 1,951	-	1,462 to 2,531	-
OAK 02	**Main Street (Old SR 4)[1]**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	C	970	722 to 1,335	10 (7-9AM; 11AM-7PM)	**-**	**-**	**-**	**-**
				D	**1,760**	**-**	**-**	**939 to 1,736**	**-**	**1,519 to 2,316**	**11 (7-9AM; 10AM-7PM)**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	D	1,600	304 to 764	-	304 to 764	-	304 to 764	-
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	D	1,410	140 to 367	-	140 to 367	-	140 to 367	-
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	D	1,410	155 to 334	-	155 to 334	-	155 to 334	-
SAC 01	Pocket Rd	I-5	Freeport Blvd (Old SR 160)	D	3,540	789 to 2,191	-	789 to 2,191	-	1,542 to 2,944	-
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	D	1,760	152 to 492	-	176 to 571	-	929 to 1,324	-
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	D	1,410	98 to 346	-	98 to 346	-	98 to 346	-
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	D	1,410	77 to 137		84 to 150	-	1,002 to 1,068	-
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	D	1,410	10 to 29	-	12 to 34	-	930 to 952	-
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	D	1,410	19 to 38	-	20 to 40	-	938 to 958	-
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	D	1,410	41 to 71	-	42 to 72	-	960 to 990	-
SC 06	Twin Cities Rd	River Rd	I-5	D	1,410	130 to 248	-	134 to 255	-	512 to 633	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SC 07	Twin Cities Rd	I-5	Franklin Blvd	D	1,410	141 to 318	-	141 to 318	-	141 to 318	-
SC 08	Sutter Slough Bridge Rd	Sacramento Co./ Yolo Co. Line	Paintersville Bridge	D	1,410	51 to 113	-	63 to 140	-	643 to 720	-
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	D	1,410	85 to 134	-	85 to 134	-	85 to 134	-
SC 10	River Rd (Sac Co.)	Twin Cities Rd	Walnut Grove Bridge	D	1,600	223 to 365	-	230 to 377	-	608 to 755	-
SC 11	Walnut Grove Rd/ River Rd	Walnut Grove Bridge	Sacramento Co./ SJ Co. Line	D	1,410	175 to 332	-	185 to 351	-	401 to 567	-
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	D	1,410	61 to 283	-	61 to 283	-	61 to 283	-
SC 13	Race Track Rd/ Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	D	1,410	17 to 34	-	17 to 34	-	17 to 34	-
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	D	1,410	14 to 39	-	14 to 39	-	14 to 39	-
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	D	1,410	4 to 53	-	4 to 53	-	4 to 53	-
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	D	1,410	16 to 52	-	16 to 52	-	16 to 52	-
SJ 01	Walnut Grove Rd	Sacramento Co./ SJ Co. Line	I-5	C	790	141 to 232	-	149 to 245	-	365 to 461	-
SJ 02	Peltier Rd	Blossom Rd	I-5	C	680	8 to 23	-	8 to 23	-	8 to 23	-
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	C	790	108 to 209	-	108 to 209	-	460 to 561	-
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	C	790	69 to 171	-	84 to 209	-	436 to 561	-
SJ 05	**Byron Hwy**	**Alameda Co./San Joaquin Co. Line**	**Mountain House Pkwy**	**D**	**1,600**	**521 to 824**	**-**	**646 to 1,022**	**-**	**1,226 to 1,602**	**1 (7-8AM)**
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	D	1,410	190 to 298	-	236 to 370	-	816 to 950	-
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	D	3,540	418 to 769	-	543 to 1,000	-	1,123 to 1,580	-
STK 01	Eight Mile Rd	Stockton City Limits	I-5	E	1,870	309 to 769	-	309 to 769	-	309 to 769	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
TRA 01	Tracy Blvd	Tracy City Limits	I-205	E	1,870	309 to 759	-	377 to 926	-	729 to 1,278	-
WS 01	Harbor Blvd	Industrial Blvd	US 50	D	3,540	1,140 to 2,317	-	1,374 to 2,793	-	1,954 to 3,373	-
WS 02	**Industrial Blvd/ Lake Washington Blvd**	**Harbor Blvd**	**Jefferson Blvd (Old SR 84)**	**C**	**1,920**	**773 to 1,858**	**-**	**959 to 2,304**	**2 (7-8AM; 5-6PM)**	**1,539 to 2,884**	**9 (7-9AM; 12-7PM)**
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**C**	**1,920**	**546 to 1,718**	**-**	**665 to 2,094**	**1 (5-6PM)**	**1,245 to 2,674**	**6 (7-9AM; 3-7PM)**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**C**	**680**	**42 to 146**	**-**	**50 to 174**	**-**	**630 to 754**	**6 (7-9AM; 2-6PM)**
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	C	680	74 to 249	-	74 to 249	-	74 to 249	-
YOL 02	River Rd (Yolo Co.)	Courtland Rd	Sacramento Co./ Yolo Co. Line	C	680	25 to 63	-	31 to 78	-	611 to 658	-
YOL 03	Courtland Rd	SR 84 (Jefferson Blvd)	River Rd	C	680	28 to 77	-	35 to 95	-	615 to 675	-

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the segment IDs mapped on Figures 19-2a through 19-2c.

Notes:

[1] Facility is analyzed as a Caltrans facility under Baseline Conditions and a local facility under Baseline Plus Construction Conditions – roadway is relinquished to local jurisdiction after Baseline Year (2009). LOS Threshold is LOS C under Baseline Conditions and changes to LOS D under Baseline Plus Construction Conditions.

[2] Facility is analyzed as a local facility under Baseline Conditions and a Caltrans facility under Baseline Plus Construction Conditions – roadway is adopted as a State facility after Baseline Year (2009). LOS Threshold is LOS D under Baseline Conditions and changes to LOS C under Baseline Plus Construction Conditions.

[3] Modified pipeline/tunnel (Alternative 4) construction traffic estimates for construction of the pipelines, intermediate Forebay, intermediate outlet are based on construction features shared with the pipeline/tunnel alternatives. This analysis does not reflect potential reductions in construction traffic associated with the modified pipeline/tunnel for these features due to differences in the scale of construction activity. Traffic volumes for all other construction features (e.g., intakes, pumping plants) are based on estimates specific to the modified pipeline/tunnel alignment.

***CEQA Conclusion*:** Construction under Alternative 4 would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-25). As shown in Table 19-25, traffic volumes during construction of Alternative 4 would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Prior to construction, the BDCP proponents will be responsible for project management and may contract with one or more construction management firms to assist in ensuring that construction contractors' crews and schedules are coordinated and that the plans and specifications are being followed. The BDCP proponents will also ensure development of site-specific construction traffic management plans (TMPs) that address the specific steps to be taken before, during, and after construction to minimize traffic impacts, including the mitigation measures and environmental commitments identified in this EIR/EIS. This will include potential expansion of the study area identified in this EIR/EIS to capture all potentially significantly affected roadway segments.

The BDCP proponents will be responsible for developing the TMPs in coordination with the applicable jurisdictions, including Caltrans for state and federal facilities and local agencies for local roads, transit providers, rail operators, and commercial barge operators, the U.S. Coast Guard, boating organizations, marinas, city and county parks departments, and the California Department of Parks and Recreation (DPR), where applicable. The BDCP proponents will also ensure that the TMPs are implemented prior to beginning construction at a site, including in-water construction sites. If necessary to minimize unexpected operational impacts or delays experienced during real-time construction, the BDCP proponents will also be responsible for modifying the traffic management plan to reduce these effects.

Each TMP will address the following, as needed. Implementation of this measure will ensure operational traffic impacts and delays experienced during construction will be minimized to the greatest extent feasible.

- Signage warning of roadway surface conditions such as loose gravel, steel plates or similar conditions that could be hazardous to road cycling activity on roadways open to bicycle traffic.
- Signage and barricades to be used around the work sites.
- In-water work areas will be indicated by buoys, signage, or other effective means to warn boaters of their presence and restrict access. Warning devices and signage (e.g., "boats keep out" or "no wake zone" labeled buoys) will be in compliance with the U.S. Coast Guard Private Aid to Navigation requirements (U.S. Coast Guard 2012) and effective during non-daylight hours and periods of dense fog.
- Use of flag people or temporary traffic signals/signage as necessary to slow or detour traffic.

- Notifications for the public, emergency providers, cycling organizations, bike shops, and schools, the U.S. Coast Guard, boating organizations, marinas, city and county parks departments, and DPR, where applicable, describing construction activities that could affect transportation and water navigation.
- Outreach (via public meetings and/or flyers and other advertisements)
- Procedures for construction area evacuation in the case of an emergency declared by county or other local authorities.
- Alternate access routes via detours and bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders, pedestrians, and boaters, where applicable.
- Description of construction staging areas, material delivery routes, and specification of construction vehicle travel hour limits.
- Notifications to commercial and leisure boating community of proposed barge operations in the waterways, including posting notices at Delta marinas and public launch ramps. This information will provide details regarding construction site location(s), construction schedules, and identification of no-wake zone, speed restricted zones, and/or detours, where applicable.
- No-wake zone and speed-restrictions will be established as part of development of the site-specific plans and will be determined to protect the safety of construction workers and recreationists.
- Designation of areas where nighttime construction will occur.
- Plans to relocate school bus drop-off and pick-up locations if they will be affected during construction.
- Scheduling for oversized material deliveries to the work site and haul routes.
- Provisions that direct haulers are to pull over in the event of an emergency. If an emergency vehicle is approaching on a narrow two-way roadway, specify measures to ensure that appropriate maneuvers will be conducted by the construction vehicles to allow continual access for the emergency vehicles at the time of an emergency.
- Control for any temporary road closure, detour, or other disruption to traffic circulation, including any temporary partial water channel closures.
- Designated offsite vehicle staging and parking areas.
- Posted information for contact in case of emergency or complaint.
- Daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.
- Coordination with rail providers (BNSF Railway, Amtrak, and UPRR) to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures.
- Coordination with transit providers (SCT, Tri-Delta, Rio Vista, and Greyhound Bus Lines) to develop daily construction time windows during which transit operations would not be either detoured or significantly slowed.

- Routinely post information to the 511.org website regarding construction delays and detours.
- Other actions to be identified and developed as may be needed by the construction manager/ resident engineer to ensure that temporary impacts on transportation facilities are minimized.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Where feasible, limit construction activity to fit within available reserve capacity or shift construction activity to hours with more reserve capacity so as to achieve acceptable LOS conditions (see Table 19-7). The BDCP proponents will include in the bid specifications a requirement that the contractor submit a proposal for a process for determining when the hours of construction can feasibly be limited to avoid operational deficiencies on identified roadway segments as specified in Table 19-9.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Prior to commencement of construction activities substantially affecting transportation facilities, the BDCP proponents will make a good faith effort to enter into mitigation agreements with affected state, regional, or local agencies ("affected agencies") to verify the location, extent, timing, and fair share cost to be paid for capacity enhancements to the identified roadway segments specified in Table 19-9.

Implementation of this measure is intended to provide funding from BDCP proponents sufficient to provide their fair share of the cost of capacity expansion so that traffic operating conditions (i.e., LOS) on study area roadways do not operate at a level of service or delay that is worse than the pre-project conditions (to the extent feasible in light of costs, logistics, and other factors). The BDCP proponents will include in the bid specifications requirements that the contractor(s) ensure that all enhancements are conducted in compliance with applicable standards of affected agencies and with any applicable mitigation agreements, as described below.

In attempting in good faith to enter into mitigation agreements with affected agencies, BDCP proponents shall be guided by the following principles. The BDCP proponents shall be responsible for their fair share costs of all feasible capacity-expanding physical improvements jointly determined by BDCP proponents and the affected agencies to be necessary, feasible, and available to reduce the severity of the BDCP's significant construction-related transportation impacts. Fair share calculations shall account not only for traffic levels as they existed at the time of the public release of the BDCP Draft EIR/EIS, but also for "background growth" between that time frame and the commencement of BDCP construction activities, as well as any probable future projects in the affected agency or neighboring agencies that will likely contribute to the need for, and directly benefit from, increased capacity.

The BDCP proponents' contribution toward such improvements may take any, or some combination, of the following forms:

1) Construction of improvements, which may be subject to fee credits and/or reimbursement, coordinated by the affected agency, from other fee-paying development projects if available with respect to improvements that would also benefit such fee-paying development projects;

2) The payment of impact fees to the affected agency in amounts that constitute the BDCP proponents' fair share contributions to the construction of the required improvements, consistent with the affected agency's Capital Improvement Program ("CIP") or other funding program that meets the definition of a "reasonable plan for mitigation" under CEQA case law (i.e., a plan that ensures that (i) the fees collected from the BDCP proponents will be used for their intended purposes, and (ii) the improvements will actually be built within a reasonable period of time);

3) The payment of adopted regional impact fees that would provide funding for transportation facilities that are affected by multiple agencies, except where the BDCP proponents' payments of other fees or construction of improvements within the affected agency will create credit against the payment of regional impact fees;

4) The payment of impact fees to the affected agency in amounts that constitute the BDCP proponents' fair share contributions to the construction of improvements within other agencies and not the affected agency, which payments to the affected agency and transmittal of fees to other agency would occur through one or more enforceable agreements, provided that for each required improvement there is a reasonable plan for mitigation that ensures that (i) the fees collected from the BDCP proponents will be used for their intended purposes, and (ii) the improvements will actually be built within a reasonable period of time; and/or

5) The payment of impact fees to the California Department of Transportation ("Caltrans") in amounts that constitute the BDCP proponents' fair share contributions to the construction of improvements on federal or state highways or freeways needed in part because of the BDCP, to be made available to Caltrans if and when Caltrans, DWR, and any other the affected agency enter into an enforceable agreement consistent with state law, provided that, for each required improvement, Caltrans has a reasonable mitigation plan that ensures that (i) the fees collected from the BDCP proponents will be used for their intended purposes, and (ii) the improvements will actually be built within a reasonable period of time.

In order to obtain the most fair, accurate, and up-to-date calculations of the BDCP proponents' fair share of the costs of required improvements, the agreement(s) reached between BDCP proponents and the affected agency or agencies shall also provide for the following: (i) that the traffic models to be used be operated by transportation consultant mutually acceptable to both BDCP proponents and the affected agency or agencies; and (ii) that the calculations account for (A) newly approved projects cumulatively that contribute to transportation-related impacts and that therefore should contribute to the funding of necessary improvements, and (B) up-to-date cost calculations for the construction of needed improvements based on recent changes in the costs of materials, labor, and other inputs.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: As shown in Table 19-26, construction of Alternative 4 would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **42** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4b) on various local and state roads, as well as on a few interstates.

Table 19-26. Pavement Conditions for Modified Pipeline/Tunnel Alternative 4

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
ALA 01	Byron Hwy	Contra Costa Co./Alameda Co. Line	Alameda Co./ San Joaquin Co. Line	Acceptable	Yes	No
BRE 01	Brentwood Blvd (old SR 4)	Delta Rd (Oakley City Limits)	Balfour Rd	Acceptable	Yes	No
BRE 02	Brentwood Blvd (old SR 4)	Balfour Rd	Brentwood City Limits (South)	Acceptable	Yes	No
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	Acceptable	Yes	No
CC 01	Bethel Island Rd	Oakley City Limits	End	Deficient	No	No
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	Deficient	No	No
CC 03	**Old SR 4**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	**Deficient**	**Yes**	**Yes**
CC 04	Byron Hwy	Delta Rd	Old SR 4	Acceptable	No	No
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./Alameda Co. Line**	**Deficient**	**Yes**	**Yes**
CT 01	**I-5 NB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 02	**I-5 SB**	**Florin Rd**	**Pocket Rd**	**Deficient**	**Yes**	**Yes**
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	Yes	No
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	Yes	No
CT 09	**I-5 NB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 10	**I-5 SB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 11	**I-5 NB**	**Twin Cities Rd**	**Walnut Grove Rd**	**Deficient**	**Yes**	**Yes**
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	Acceptable	Yes	No
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 15	I-5 NB	Peltier Rd	Turner Rd	Acceptable	No	No
CT 16	I-5 SB	Peltier Rd	Turner Rd	Acceptable	No	No
CT 17	I-5 NB	Turner Rd	SR 12	Acceptable	Yes	No
CT 18	I-5 SB	Turner Rd	SR 12	Acceptable	Yes	No
CT 19	**I-5 NB**	**SR 12**	**Eight Mile Rd**	**Deficient**	**Yes**	**Yes**

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 20	I-5 SB	SR 12	Eight Mile Rd	Acceptable	Yes	No
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	Deficient	No	No
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	Acceptable	No	No
CT 23	**SR 160 (Freeport Blvd)**	**Sacramento City Limits**	**Freeport Bridge**	**Deficient**	**Yes**	**Yes**
CT 24	**SR 160 (Freeport Blvd/River Rd)**	**Freeport Bridge**	**Scribner Rd**	**Deficient**	**Yes**	**Yes**
CT 25	**SR 160 (River Rd)**	**Scribner Rd**	**Hood Franklin Rd**	**Deficient**	**Yes**	**Yes**
CT 26	**SR 160 (River Rd)**	**Hood Franklin Rd**	**Lambert Rd**	**Deficient**	**Yes**	**Yes**
CT 27	**SR 160 (River Rd)**	**Lambert Rd**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	Not Applicable	Yes	No
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	Acceptable	Yes	No
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**Deficient**	**Yes**	**Yes**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**Deficient**	**Yes**	**Yes**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**Deficient**	**Yes**	**Yes**
CT 34	SR 84 (Courtland Rd/Ryer Ave)	Courtland Rd	Cache Slough Ferry	Deficient	No	No
CT 35	I-80 EB	Suisun Valley Rd	SR 12	Acceptable	Yes	No
CT 36	I-80 WB	SR 12	Suisun Valley Rd	Acceptable	Yes	No
CT 37	SR 12 EB	I-80	Beck Ave	Acceptable	Yes	No
CT 38	SR 12 WB	Beck Ave	I-80	Acceptable	Yes	No
CT 39	SR 12	Beck Ave	Sunset Ave/Grizzly Island Rd	Acceptable	Yes	No
CT 40	SR 12	Sunset Ave/ Grizzly Island Rd	Walters Rd/ Lawler Ranch Pkwy	Acceptable	Yes	No
CT 41	**SR 12**	**Walters Rd/ Lawler Ranch Pkwy**	**SR 113**	**Deficient**	**Yes**	**Yes**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**Deficient**	**Yes**	**Yes**
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Rd)	SR 160 (River Rd)	Not Applicable	Yes	No
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./SJ Co. Line**	**Deficient**	**Yes**	**Yes**
CT 45	**SR 12**	**Sacramento Co./ San Joaquin Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**Deficient**	**Yes**	**Yes**
CT 47	I-80 WB	Pedrick Rd	SR 113	Acceptable	Yes	No
CT 48	SR 113	I-80	Dixon City Limits	Acceptable	Yes	No
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**Deficient**	**Yes**	**Yes**

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 50	SR 4 (Marsh Creek Rd)	Vasco Rd	Byron Hwy (Old SR 4)	Acceptable	Yes	No
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**Deficient**	**Yes**	**Yes**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**Deficient**	**Yes**	**Yes**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 54	**I-5 NB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 58	I-205 EB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 59	I-205 WB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
ISL 01	A St/4th St/Jackson Blvd.	SR 160	Isleton City Limits	Deficient	No	No
OAK 01	**Main Street (Old SR 4)**	**SR 160**	**Cypress Rd**	**Deficient**	**Yes**	**Yes**
OAK 02	**Main Street (Old SR 4)**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	**Deficient**	**Yes**	**Yes**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	Acceptable	No	No
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	Deficient	No	No
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	Deficient	No	No
SAC 01	**Pocket Rd**	**I-5**	**Freeport Blvd (Old SR 160)**	**Deficient**	**Yes**	**Yes**
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	Acceptable	Yes	No
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	Not Applicable	No	No
SC 02	**Hood Franklin Rd**	**SR 160 (River Rd)**	**I-5**	**Deficient**	**Yes**	**Yes**
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	Acceptable	Yes	No
SC 04	**Lambert Rd**	**Herzog Rd**	**Franklin Blvd**	**Deficient**	**Yes**	**Yes**
SC 05	**Franklin Blvd**	**Lambert Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
SC 06	Twin Cities Rd	River Rd	I-5	Acceptable	Yes	No
SC 07	Twin Cities Rd	I-5	Franklin Blvd	Deficient	No	No
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./ Yolo Co. Line**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	Deficient	No	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
SC 10	**River Rd (Sac Co.)**	**Twin Cities Rd**	**Walnut Grove Bridge**	**Deficient**	**Yes**	**Yes**
SC 11	Walnut Grove Rd/ River Rd	Walnut Grove Bridge	Sacramento Co./ San Joaquin Co. Line	Acceptable	Yes	No
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	Acceptable	No	No
SC 13	Race Track Rd/Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	Deficient	No	No
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	Deficient	No	No
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	Acceptable	No	No
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	Acceptable	No	No
SJ 01	**Walnut Grove Rd**	**Sacramento Co./ San Joaquin Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
SJ 02	Peltier Rd	Blossom Rd	I-5	Deficient	No	No
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	Acceptable	Yes	No
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	Acceptable	Yes	No
SJ 05	Byron Hwy	Alameda Co./ San Joaquin Co. Line	Mountain House Pkwy	Acceptable	Yes	No
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	Acceptable	Yes	No
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	Acceptable	Yes	No
STK 01	Eight Mile Rd	Stockton City Limits	I-5	Deficient	No	No
TRA 01	**Tracy Blvd**	**Tracy City Limits**	**I-205**	**Deficient**	**Yes**	**Yes**
WS 01	Harbor Blvd	Industrial Blvd	US 50	Acceptable	Yes	No
WS 02	Industrial Blvd/Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	Acceptable	Yes	No
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**Deficient**	**Yes**	**Yes**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**Deficient**	**Yes**	**Yes**
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	Deficient	No	No
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./Yolo Co. Line**	**Deficient**	**Yes**	**Yes**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**Deficient**	**Yes**	**Yes**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 42 locations shown in Table 19-26. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

The BDCP proponents will, to the extent feasible, include in the bid specifications prohibitions against construction traffic from using roadway segments with pavement conditions below the thresholds identified in this study (i.e., an IRI rating greater than 170 or a PCI rating worse than 55). Implementation of this measure would prohibit all construction traffic on the physically deficient roadway segments listed in Table 19-26, if feasible.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

If complete avoidance of physically deficient roadway segments as described in Mitigation Measure TRANS-2a is not feasible, construction activity will be limited to the extent possible on the deficient roadways identified in Table 19-26. Implementation of this measure will reduce continuing deterioration of pavement conditions on the most damaged roadways in the study area. The BDCP proponents will include in the bid specifications requirements that limit the amount of construction traffic on roadway segments with pavement conditions below the thresholds identified in this study (i.e., an IRI rating greater than 170 or a PCI rating worse than 55), if feasible. Trucks would be prohibited and construction traffic would be limited to passenger vehicles on travel routes with pavement conditions worse than the thresholds identified in this study (i.e., an IRI rating greater than 170 or a PCI rating worse than 55).

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

If use of physically deficient roadways cannot be avoided or limited as specified in Mitigation Measures TRANS-2a and TRANS-2b, it may be necessary to improve the deficient roadways identified in Table 19-26 or make other necessary infrastructure improvements, if any, before construction to make them suitable for use during construction. Additionally, all affected roadways would be returned to preconstruction condition or better following construction. Implementation of this measure will ensure that construction activities will not worsen pavement conditions, relative to Existing Conditions.

Prior to construction, the BDCP proponents will make a good faith effort to enter into mitigation agreements with or to obtain encroachment permits from affected agencies to verify what the location, extent, timing, and fair share cost to be paid by the BDCP proponents for any necessary pre- and post-construction physical improvements. The fair share amount would be either the cost to return the affected roadway segment to its preconstruction condition. Repairs may occur before or after construction and may include overlays, other surface treatments, or roadway reconstruction. The flood protection benefits of roadways will also be considered in developing and implementing activities pursuant to this measure.

Pre-construction analyses of existing pavement conditions will be conducted just prior to starting construction for any proposed construction traffic travel routes. The preconstruction pavement analysis will establish the baseline for required improvements and will be based on the PCI or IRI methodologies described in this EIR/EIS or an equivalent method as agreed to by the BDCP proponents and the affected agencies. Relevant flood protection agencies will also be consulted during the design of roadway improvements.

The BDCP proponents will include in the bid specifications stipulations that require the contractor(s) to conduct the pre-construction pavement analysis and conduct all improvements in compliance with applicable standards of affected agencies, as stipulated in the mitigation agreements or encroachment permits.

It is not anticipated that project construction could cause the need for major transportation infrastructure improvements, such as the need to upgrade or repair existing bridges or the need to construct new highway interchanges. To the extent that construction activities could cause the need for such major transportation infrastructure improvements, the BDCP proponents retain the flexibility to seek alternative means of transporting people, equipment, and materials to construction sites, such as via barges, to avoid the need for such major infrastructure improvements, if any.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 4 would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 4 would increase the amount of trucks using the transportation system in the study area. The effects under Alternative 4 would be similar to those described for Alternative 1A. However, Alternative 4 would require temporary realignment of Byron Highway/South Pacific Railroad during construction of the siphon connecting the new approach canal and Jones PP approach canal. Minor delays and congestion created by rerouted traffic could interfere with emergency service response times in the vicinity of Bryon Highway.

The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 4 would increase the amount of trucks using the transportation system in the study area. The alternative would also require traffic on Byron Highway be rerouted during construction of the siphon connecting the new approach canal and Jones PP approach canal. The increase in heavy truck traffic and potential delays created by realignment of Byron Highway/South Pacific Railroad could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 4, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 4, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites. The materials and equipment would then be unloaded and trucked to the construction sites. Temporary barge unloading facilities for construction materials are planned at the following locations.

- SR 160 west of Walnut Grove
- Venice Island
- Bacon Island

- Woodward Island
- Victoria Island
- Tyler Island

Approximately 3,000 barge trips are projected to carry construction materials from ports to the sites listed above via the Sacramento River under Alternative 1A, averaging approximately 1 trip per day through a 9-year-long construction period. It is likely that under Alternative 4, the estimated number of trips and amount of in-water work would be less because of the reduction in the number of intakes to be constructed. Although barges are relatively slow and have less maneuverability than smaller vessels, commercial barge operators on the Sacramento River are required to operate in compliance with navigational guidelines. The majority of commercial barge activity in the Delta travels from the San Francisco Bay to the Sacramento area via the SRDWSC (Delta Protection Commission 2012).

Alternative 4 would avoid direct effects on this barge traffic because the alternative features would be located along the Sacramento River (not the Deep Water Channel) and no modifications to the Deep Water Channel would be required. The barge unloading facility by Venice Island would not be expected to interfere with navigation to the Port of Stockton because it would be outside the main channel and would be designed to facilitate barge operations. The barge unloading facilities would be temporary and removed following construction. Increased barge traffic related to delivery of materials to the alternative work site would average less than 1 barge trip per day over the 9-year-long construction period and is not anticipated to cause impediments to the passage of other vessels. There is 135 feet of open air clearance at the Antioch UPRR bridge and 144 feet at the Rio Vista bridge, and additional raising of draw bridges in the study area would not be required.

Although some in-water work would be necessary for intake construction, the Sacramento River would remain open to boat traffic at all times during construction. The intake cofferdams would extend into the river channel up to 120 feet, depending on location. The width of the river near the intakes (approximately 500–700 feet) would therefore allow for passage of the types of boats typically observed on the Sacramento River (channel width during construction 380–580 feet). (Refer to Chapter 15, *Recreation*, for additional discussion of the effects of intake construction on boating.). This potential effect is not considered adverse because construction of Alternative 4 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, less than 1 additional barge trip per day is expected through the 9-year construction period). As noted in Chapter 15, *Recreation*, Impact REC-3, temporary barge unloading facilities would occupy between 800 to 2,000 feet of riverbank, depending on the location. Based on the river channel width, all barge facilities except the San Joaquin River facility could occupy substantial portions of the waterway. However, all barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 4 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period).

Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 4, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The proposed Alternative 4 conveyance crosses under the existing BNSF/Amtrak San Joaquin line between Bacon Island and Woodward Island. Maintaining freight and passenger service on the BNSF line is included in the design, and the effect of this crossing would be minimal to non-existent because the proposed conveyance would traverse the railroad in a deep bore tunnel.

As discussed in Impact TRANS-5 under Alternative 1A, the UPRR Tracy Subdivision (branch line) runs parallel to Byron Highway, between the highway and the proposed new forebay (Byron Tract forebay) adjacent to the existing Clifton Court Forebay. The construction impact of the new forebay would be unlikely to disrupt rail service because much of this line has not been in service recently. The UPRR may return it to freight service in the future.

Construction of Alternative 4 would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic could be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.

***CEQA Conclusion*:** Construction of Alternative 4 would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 4, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: Construction of conveyances and other project elements may affect various roadways upon which transit service operates. To the extent that construction detours are necessary and/or significant congestion occurs during lane closures and other construction activities, transit routes and schedules would be affected. Transit service disruptions under Alternative 4 would be similar to the pipeline/tunnel alignment (refer to Impact TRANS-6 in Alternative 1A, Table 19-13).

Construction activities associated with Alternative 4 would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along on SR-12 (see Table 19-25). Accordingly, tunnel construction could substantially affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. Intercity Greyhound bus lines primarily operate on the interstate highway system in this vicinity. To the extent that other roadways affected by Alternative 4 construction also carry Greyhound bus lines, those routes may be affected as well. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 4 would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along SR-12 (see Table 19-25). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. To the extent that other roadways affected by Alternative 4 construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 4, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 4, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 4, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: Increased traffic and vehicle delays during construction (see Table 19-25) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12. The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-25) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 4, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: Maintaining and operating BDCP facilities could affect roadway operations in the vicinity by increasing vehicle trips. However, operations and maintenance activities would only require minimal labor. Consistent with the assumptions used for the air quality/GHG analyses in Chapter 22, *Air Quality and Greenhouse Gases,* of this EIR/EIS, it was estimated that routine operations and maintenance activities and yearly maintenance activities would require the crews and equipment identified in Tables 19-14 and 19-15 (refer to Impact TRANS-8 in Alternative 1A). For comparative purposes, Table 19-16 summarizes direct and indirect employment quantified using the IMPLAN model.

The effect of maintaining and operating the facilities on roadway operations under Alternative 4 would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16), but slightly less in magnitude because only three intakes would be operated and maintained and correspondingly fewer employee trips would be anticipated. Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during project operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: Due to the buried tunnel configuration, Alternative 4 does not intersect public roadways, state routes, railroads, and bridges except for the intake areas where the SR 160 and Randall Island Road would be permanently rerouted.

Each intake/pumping plant site would require realignment of the levee road (SR 160) adjacent to Intakes 2, 3, and 5. The levee road adjacent to Intake 5 is Randall Island Road. A project study report (PSR) prepared by the California Department of Transportation (Caltrans) describes the assumptions and requirements for the permanent realignment of SR 160 as follows.

- Offsetting the realigned levee road 200 feet from the existing levee road.
- Use of a two-lane, two-way road, with a total cross-sectional width of 24 feet.
- Use of a maximum speed limit of 60 miles per hour.
- Provide horizontal and vertical alignments per Caltrans Highway Design Manual.
- The realigned levee road will be level, straight, and parallel to the intake for the length adjacent to the intake.
- The realigned levee road will be set at the same elevation as the top of the intake and the pumping plant building pad for the length adjacent to the intake.

- A single cross intersection will be centered on the intake length to provide access to the intake and pumping plant.

Except for the intakes, Alternative 4 does not have surface intersections with public roadways, state routes, or railroads, and would not require bridges. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Structures would be constructed as necessary to provide connectivity across canals (either bridges or siphons) for active railroads to cross without disruption. Water operations would not modify the river stage above the water levels seen in the river today. Therefore, no change would be expected to affect boat traffic associated with changes in water levels. Operations and maintenance of the facilities would not have any substantive impact on barge traffic (or the roadway network) due to operation of moveable bridges. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage (refer to Chapter 15, *Recreation*, for more discussion of effects on boating.) The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** Each intake/pumping plant site constructed under Alternative 4 would require realignment of the levee road (SR 160) adjacent to Intakes 2, 3, and 5. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: Habitat restoration and enhancement conservation measures are anticipated to include a number of construction and maintenance activities, including the following.

- Grading, excavation, and placement of fill material.
- Breaching, modification, or removal of existing levees and construction of new levees.
- Modification, demolition, and removal of existing infrastructure (e.g., buildings, roads, fences, electric transmission and gas lines, irrigation infrastructure).
- Construction of new infrastructure (e.g., buildings, roads, fences, electric transmission and gas lines, irrigation infrastructure.
- Removal of existing vegetation and planting/seeding of vegetation.
- Levee maintenance.
- Mowing, burning, and trimming to manage vegetation.

In particular, implementation of CM2 and CM3–CM10 would generate traffic on area roadways during implementation due to transport of construction vehicles, equipment, and employees to and from the sites for the purposes of modifying or installing new facilities, or making changes in operation of existing facilities. Because the specific areas for implementing these conservation measures have not been determined, this effect is evaluated qualitatively.

- Yolo Bypass Fishery Enhancement (CM2)
  - Installing fish ladders and experimental ramps at Fremont Weir or widening the existing fish ladder.
  - Installing fish screens on small Yolo Bypass diversions.
  - Constructing new or replacement operable check-structures at Tule Canal/Toe Drain.
  - Replacing the Lisbon Weir with a fish-passable gate structure.
  - Realigning Lower Putah Creek.
  - Increasing operation of upstream unscreened pumps.
  - Installing operable gates at Freemont Weir.
  - Constructing physical barriers in the Sacramento River.
  - Constructing associated support facilities (operations buildings, parking lots, access facilities such as roads and bridges).
  - Improving levees adjacent to the Fremont Weir Wildlife Area.
  - Replacing agricultural crossings of the Tule Canal/Toe Drain with fish-passable structures such as flat car bridges, earthen crossings with large, open culverts.
  - Grading, removal of existing berms, levees, and water control structures, construction of berms or levees, re-working of agricultural delivery channels, and earthwork or construction of structures to reduce Tule Canal/Toe Drain channel capacities.
- Tidal Habitat Restoration (CM4)
  - Breaching and lowering levees, installing new or modified levees to protect adjacent areas from flooding.
  - Connecting remnant sloughs or channels to improve circulation.
  - Modifying ground elevations to reduce impacts of subsidence to restore freshwater tidal habitat in the Cache Slough, Cosumnes/Mokelumne, West Delta, South Delta, and Suisun Marsh ROAs.
- Seasonally Inundated Floodplain Restoration (CM5)
  - Restoring seasonally inundated floodplain habitat within the north, east, and/or south Delta.
- Channel Margin Habitat Enhancement (CM6)
  - enhancing channel margin habitat on the Sacramento River between Freeport and Walnut Grove, the San Joaquin River between Vernalis and Mossdale, Steamboat and Sutter Sloughs, and the North and South Forks of the Mokelumne River
- Riparian Habitat Restoration (CM7)
  - Restoring riparian habitat in Cosumnes/Mokelumne, east, west, and south Delta
- Grassland Communities Restoration (CM8)
  - Sowing native species using a variety of techniques (e.g., seed drilling, native hay spreading, plugs.

    - Recontouring graded land.
- Vernal Pool Complex Restoration (CM9)
    - Recontouring historical vernal pools and swales to natural bathymetry.
- Nontidal Marsh Restoration (CM10)
    - Grading to establish an elevational gradient to support both open water perennial aquatic habitat intermixed with shallower marsh habitat.
    - Planting and maintaining native marsh vegetation.

For the purposes of the EIR/EIS, it is assumed that during implementation, impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around construction work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. As described in Impact TRANS-3 in Alternative 1A, the following roadways in the Delta subregion are anticipated to be affected.

- Interstate 680
- State Route 12
- Chadbourne Road
- Ramsey Road
- Jacksnipe Road
- Collinsville Road
- Grizzly Island Road
- Gum Tree Road
- Van Sickle Road
- Joyce Island Road
- Branscombe Road
- Potrero Hills Lane
- Scally Road
- Shiloh Road
- Little Honker Bay Road

The effect would vary according to the amount of traffic generated by implementation of the specific conservation measure, the location and timing of the actions called for in the conservation measure, and the roadway and traffic conditions at the time of implementation. The effect of increased traffic volumes during construction and maintenance of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before

the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 4, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 4, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 4, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 4 would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.10 Alternative 5—Dual Conveyance with Pipeline/Tunnel and Intake 1 (3,000 cfs; Operational Scenario C)

One intake would be constructed under Alternative 5. For the purposes of this analysis, Alternative 5 was assumed to include Intake 1, an intermediate forebay, and a buried pipeline/tunnel conveyance (see Figures 3-2 and 3-12 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities for Alternative 5 would be similar to Alternative 1A. The estimate of the number of vehicles generated by construction activities would be lower compared to Alternative 1A due to the reduction in the number of intakes (approximately 80% reduction). Localized impacts in the vicinity of Intakes 2–7 would not occur.

As shown in Table 19-8, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 5 would cause LOS thresholds to be exceeded for at least one hour during the 6 AM to 7 PM analysis period on a total of 33 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 5 would therefore exacerbate an already unacceptable LOS under BPBG conditions on **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation impacts).

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-8 because construction associated with Alternative 5 would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 5 would also exacerbate an already unacceptable LOS under BPBG conditions at **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 5 would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-8). As shown in Table 19-8, traffic

volumes during construction of Alternative 5 would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The effects under Alternative 5 would be similar to Alternative 1A but slightly less in magnitude because only one intake would be constructed, with less overall traffic impacts during construction (truck traffic and workers traffic generated by intake construction is reduced by approximately 80% compared to Alternative 1A). Localized impacts in the vicinity of Intakes 2–7 would not occur.

As shown in Table 19-10, construction of Alternative 5 would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **43** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-10. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 5 would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 5 would increase the amount of trucks using the transportation system in the study area. The effects under Alternative 5 would be similar to those described for Alternative 1A although of lesser magnitude because Alternative 5 would construct one intake structure rather than five, with an approximately 80% reduction in trip generation. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes identified in Table 19-11 would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all

improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 5 would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 5, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities are the same as for Alternative 1A but the estimate of trips and amount of in-water work would be substantially less because of the reduction in the number of intakes to be constructed. This potential effect is not considered adverse because construction of Alternative 5 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 5 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The effects under Alternative 5 on the BNSF Railway and Amtrak San Joaquin Line and the Union Pacific Railroad--Tracy Subdivision would be similar to that described for Alternative 1A. Construction would not be likely to disrupt rail service but if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic could be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.

***CEQA Conclusion*:** Construction of Alternative 5 would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 5 on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1A. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 5 would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12 (see Table 19-8). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. To the extent that other roadways affected by Alternative 5 construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations

would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 5 on bicycle routes along SR 160/River Road would be substantially less than that identified for Alternative 1A because of the reduction in the number of intakes. Potential effects along SR 12 would be the same as Alternative 1A (see Table 19-8). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via

detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities on roadway operations under Alternative 5 would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16) but slightly less in magnitude because only one intake would be operated and maintained and substantially fewer employee trips would be anticipated. Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effects under Alternative 5 would be similar to Alternative 1A but slightly less in magnitude because only one intake would be operated and maintained and fewer employee trips would be anticipated. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The impact of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 5 would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and

would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 5 would be similar to Alternative 1A; however, tidal habitat restoration under CM4 would be limited to 25,000 acres. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 5 would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.11 Alternative 6A—Isolated Conveyance with Pipeline/Tunnel and Intakes 1–5 (15,000 cfs; Operational Scenario D)

A total of five intakes would be constructed under Alternative 6A. For the purposes of this analysis, Alternative 6A was assumed to include Intakes 1–5. This alternative would also include an intermediate forebay, and the conveyance facility would be a buried pipeline (see Figures 3-2 and 3-13 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities for Alternative 6A would be the same as Alternatives 1A, assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic or close off existing roadways.

As shown in Table 19-8, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 6A would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 33 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 6A would therefore exacerbate an already unacceptable LOS under BPBG conditions on **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation impacts.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-8 because construction associated with Alternative 6A would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 6A would also exacerbate an already unacceptable LOS under BPBG

conditions at 10 roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 6A would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-8). As shown in Table 19-8, traffic volumes during construction of Alternative 6A would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: Construction truck traffic may damage roadway surfaces. During construction, various materials would be transported to and from the construction areas in load-bearing trucks. As shown in Table 19-10, construction of Alternative 6A would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **43** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-10. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 6A would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

The potential for increased safety hazards during construction would be the same under Alternative 6A as Alternative 1A. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes identified in Table 19-11 would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 6A would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 6A, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities and estimates of trips and in-water work are the same as for Alternative 1A. This potential effect is not considered adverse because construction of Alternative 6A would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize

continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 6A would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The effects under Alternative 6A on the BNSF Railway and Amtrak San Joaquin Line and the Union Pacific Railroad--Tracy Subdivision would be similar to that described for Alternative 1A. Construction would not be likely to disrupt rail service but if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic could be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.

***CEQA Conclusion*:** Construction of Alternative 6A would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 6A on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1A. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures

TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 6A would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12 (see Table 19-8). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. To the extent that other roadways affected by Alternative 6A construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 6A on bicycle routes along SR 160/River Road and potentially along SR 12 would be similar to that described for Alternative 1A (see Table 19-8). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in

and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities roadway operations under Alternative 6A would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16). Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the project under Alternative 6A would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 6A would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 6A would be the same as Alternative 1A because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the

impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 6A would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.12 Alternative 6B—Isolated Conveyance with East Alignment and Intakes 1–5 (15,000 cfs; Operational Scenario D)

During construction, temporary impacts on roadways under Alternative 6B would be similar to those described for Alternative 1B. A total of five intakes on the east bank of the Sacramento River would be constructed under Alternative 6B. For the purposes of this analysis, Alternative 6B was assumed to include Intakes 1–5. This alternative would also include an intermediate forebay, and the conveyance facility would be a canal on the east side of the Sacramento River (see Figures 3-4 and 3-14 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities for Alternative 6B would be similar to Alternative 1B (assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic or close off existing roadways).

As shown in Table 19-17, under BPBG conditions, a total of 19 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-17, construction associated with Alternative 6B would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 39 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 6B would therefore exacerbate an already unacceptable LOS under BPBG conditions on **20** roadway segments (39 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation effects.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-17 because construction associated with Alternative 2B would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 6B would also exacerbate an already unacceptable LOS under BPBG conditions at 20 roadway segments (39 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 6B would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-17). As shown in Table 19-17, traffic volumes during construction of Alternative 2B would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The potential for damage to the roadway surface would be the same under Alternative 6B as Alternative 1B (assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic). As shown in Table 19-18, construction of Alternative 6B would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **46** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 46 locations shown in Table 19-18. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 6B would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

The potential for increased safety hazards during construction would be the same under Alternative 6B as Alternative 1B (assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic or close off existing roadways). The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 6B would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 6B, commercial barges would be used to transport construction materials and equipment from the ports to a temporary barge unloading facility and some in-water work will occur for construction of the intakes. Locations of temporary barge unloading facilities and estimates of trips and in-water work are the same as for Alternative 1B. This potential effect is not considered adverse because construction of Alternative 6B would not substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 6B would not substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The potential for Alternative 6B to disrupt rail service on the UPRR Tracy Subdivision branch line and BNSF/Amtrak railroad operations would be similar to the effect under Alternative 1B. (See Table 19-19 for construction impacts on rail lines). The effect of disruption to rail traffic during construction would be adverse. Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way is available to reduce the effect.

***CEQA Conclusion*:** Construction of east canal siphons may temporarily affect BNSF/Amtrak railroad operations through physical railroad crosses. If the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. This is a potentially significant impact. Implementation of Mitigation Measure TRANS-1a would reduce this impact to a less-than-significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 6B on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1B. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 6B would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 8 segments on SR-12 (see Table 19-17). Accordingly, construction could significantly affect operation of the SCT Link/Delta Route. To the extent that other roadways affected by Alternative 6B construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The potential for Alternative 6B to interfere with bicycle routes along SR 12 would be similar to the effect under Alternative 1B, assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic or close off existing roadways (see Table 19-17). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-17) could interfere with bicycle routes along SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities roadway operations under Alternative 6B would be similar to Alternative 1B. Like Alternative 1B, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

CEQA Conclusion: Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities under Alternative 6B would be similar to Alternative 1B. Roadway realignment would be necessary and multiple bridges would be constructed across the alignment to maintain connectivity. Alternative 6B would intersect several public roadways, state routes, and one railroad requiring bridges. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 6B would be similar to Alternative 1B. Roadway realignment would be necessary and multiple bridges would be constructed across the alignment to maintain connectivity. Alternative 6B would intersect several public roadways, state routes, and one railroad requiring bridges. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic or close off existing roadways, the impact under Alternative 6B would be the same as Alternative 1B because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 6B would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.13 Alternative 6C—Isolated Conveyance with West Alignment and Intakes W1–W5 (15,000 cfs; Operational Scenario D)

A total of five intakes would be constructed under Alternative 6C. They would be sited on the west bank of the Sacramento River, directly opposite the locations identified for the tunnel and east canal alignments. This alternative would also include an intermediate forebay, and the conveyance facility

would be a canal and buried pipeline (see Figures 3-6 and 3-15 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities for Alternative 6C would be similar to Alternative 1C. As shown in Table 19-21, under BPBG conditions, a total of 19 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 6C would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 55 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 6C would therefore exacerbate an already unacceptable LOS under BPBG conditions on **37** roadway segments (56 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a above shows the study roadway segments that could experience substantial roadway operation effects.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-21 because construction associated with Alternative 6C would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 6C would also exacerbate an already unacceptable LOS under BPBG conditions at **37** roadway segments (56 minus the 19 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, including all segments studied in West Sacramento and Yolo County.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 6C would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-21). As shown in Table 19-21, traffic volumes during construction of Alternative 6C would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and

constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The potential for damage to road surfaces during construction would be the same under Alternative 6C as Alternative 1C (assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic or close off existing roadways). As shown in Table 19-22, Alternative 1C would cause pavement condition thresholds (see Table 19-7), on a total of **43** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-22. The impact of roadway damage during construction would be potentially significant Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement

of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 6C would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

The potential to increase safety hazards during construction would be the same under Alternative 6C as Alternative 1C (assuming that discontinuing the use of the SWP and CVP south Delta export facilities would not generate any significant traffic or close off existing roadways). The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 6C would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid

significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 6C, commercial barges would be used to transport construction materials and equipment from the ports to a temporary barge unloading facility and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities and estimates of trips and in-water work are the same as for Alternative 1C. This potential effect is not considered adverse because construction of Alternative 6C would not substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day are expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 6C would not substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 2 additional barge trips per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The potential for Alternative 6C to disrupt rail service on the UPRR Tracy Subdivision branch line and BNSF/Amtrak railroad operations would be similar to the effect under Alternative 1C. The effect of disruption to rail traffic during construction would be adverse. Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way, is available to reduce the effect.

***CEQA Conclusion*:** The proposed conveyance (new canal and siphon) crosses the existing BNSF Railway/Amtrak San Joaquin Line approximately between Sunset Road and Orwood Road. Because this crossing is in a major work area, the train operations along the BNSF Railway/Amtrak San

Joaquin Line could be affected. Likewise, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. This is a potentially significant impact. Implementation of Mitigation Measure TRANS-1a would reduce this impact to a less than significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 6C on the Tri-Delta Transit Route 386 would be the same as that of Alternative 1C. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 6C would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 4 segments on SR-4 (see Table 19-21). Accordingly, construction could significantly affect operation of the Tri-Delta Transit Route 386. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 6C on bicycle routes along SR 160, River Road, and SR 12 (and potentially SR 220) would be similar to that of Alternative 1C (see Table 19-21). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-21) could temporarily disrupt bicycle routes on SR 160, River Road, and SR 12 (and potentially SR 220), resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities roadway operations under Alternative 6C would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16). Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even

assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: Alternative 6C would affect the same transportation facilities as Alternative 1C, including County Road 141, N Courtland Road, County Road 150, Teal Road, Kellogg Creek Road, Western Farms Ranch Road, and Bruns Road. Connectivity would be maintained through bridging or rerouting. The potential effect of permanent alteration of transportation patterns during operations would be the same as for Alternative 1C and would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 6C would be similar to Alternative 1C. Roadway realignment would be necessary to maintain connectivity. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all transportation facilities following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 6C would be the same as Alternative 1C because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads

and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 6C would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.14 Alternative 7—Dual Conveyance with Pipeline/Tunnel, Intakes 2, 3, and 5, and Enhanced Aquatic Conservation (9,000 cfs; Operational Scenario E)

For the purposes of this analysis, Alternative 7 was assumed to include Intakes 2, 3, and 5. This alternative would also include an intermediate forebay, and the conveyance facility would be a buried pipeline (see Figures 3-2 and 3-11 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: The estimate of the number of vehicles generated by construction activities for Alternative 7 would be the similar to Alternative 1A except only three intakes would be constructed, resulting in a 40% reduction in overall traffic impacts during construction. Localized impacts in the vicinity of Intakes 1, 4, 6, and 7 would not occur.

As shown in Table 19-8, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 7 would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 33 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 7 would therefore exacerbate an already unacceptable LOS under BPBG conditions on **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation impacts.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-8 because construction associated with Alternative 7 would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 7 would also exacerbate an already unacceptable LOS under BPBG conditions at 10 roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 7 would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-8). As shown in Table 19-8, traffic volumes during construction of Alternative 7 would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form

of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The potential to damage road surfaces during construction under Alternative 7 would be similar to Alternative 1A, except only three intakes would be constructed, resulting in less overall traffic impacts during construction (truck traffic and workers traffic generated by intake construction is reduced by 40% compared to 1A). Localized impacts in the vicinity of Intakes 4 and 5–7 would not occur.

As shown in Table 19-10, construction of Alternative 7 would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **43** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-10. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement

conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 7 would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

The potential for increased safety hazards during construction would be similar to those described for Alternative 1A, although of lesser magnitude because Alternative 7 would construct fewer intakes. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes would be would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 7 would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is

made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 7, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities are the same as for Alternative 1A but the estimate of trips and amount of in-water work would be less because of the reduction in the number of intakes to be constructed. This potential effect is not considered adverse because construction of Alternative 7 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 7 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The effects under Alternative 7 on the BNSF Railway and Amtrak San Joaquin Line and the UPRR Tracy Subdivision would be similar to that described for Alternative 1A. Construction would not be likely to disrupt rail service but if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic could be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could

be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.

***CEQA Conclusion*:** Construction of Alternative 7 would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 7 on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1A. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 7 would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12 (see Table 19-8). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. To the extent that other roadways affected by Alternative 7 construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 7 on bicycle routes along SR 160/River Road would be less than that identified for Alternative 1A because of the reduction in the number of intakes. Potential effects along SR 12 would be the same as Alternative 1A (see Table 19-8). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities on roadway operations under Alternative 7 would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16)but slightly less in magnitude because fewer intakes would be operated and maintained and correspondingly fewer employee trips would be anticipated. Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effects under Alternative 7 would be similar to Alternative 1A but slightly less in magnitude because fewer intakes would be operated and maintained and correspondingly fewer employee trips would be anticipated. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 7 would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 7 would be similar to Alternative 1A; however, additional 20 linear miles of channel margin habitat would be enhanced and approximately 10,000 acres of acres of seasonally-inundated floodplain would be restored.

Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 7 would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.15 Alternative 8—Dual Conveyance with Pipeline/Tunnel, Intakes 2, 3, and 5, and Increased Delta Outflow (9,000 cfs; Operational Scenario F)

The impacts of Alternative 8 would be similar to Alternative 7. Both are assumed to construct Intakes 2–4 and an intermediate forebay, and the conveyance facility would be a buried pipeline (see Figures 3-2 and 3-11 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: As with Alternative 7, the estimate of the number of vehicles generated by construction activities for Alternative 8 would result in a 40% reduction in overall traffic impacts during construction, compared to Alternative 1A, and localized impacts in the vicinity of Intakes 1 and 4 would not occur.

As shown in Table 19-8, under BPBG conditions, a total of 23 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 8 would cause LOS thresholds to be exceeded for at least one hour during the 6 AM to 7 PM analysis period on a total of 33 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 8 would therefore exacerbate an already unacceptable LOS under BPBG conditions on **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3a shows the study roadway segments that could experience substantial roadway operation impacts.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-8 because construction associated with Alternative 8 would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 8 would also exacerbate an already unacceptable LOS under BPBG conditions at **10** roadway segments (33 minus the 23 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the

event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 8 would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-8). As shown in Table 19-8, traffic volumes during construction of Alternative 8 would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: The impact under Alternative 8 would be less than under Alternative 1A due to the reduction in intakes constructed (estimated 40% reduction in vehicle trips).

As shown in Table 19-10, construction of Alternative 8 would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **43** roadway segments. Damage to roadway pavement is expected throughout the study area (Figure 19-4a) on various local and state roads, as well as on a few interstates. The effect of roadway damage to these segments during construction would be adverse.

Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 43 locations shown in Table 19-10. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce the severity of this impact, but not necessarily to less-than-significant levels, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this impact could be significant and unavoidable. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 8 would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

The potential for increased safety hazards during construction would be less than under Alternative 1A due to the reduction in intakes constructed and the correspondingly fewer vehicle trips. The effect of increased safety hazards from increased heavy construction traffic on local roadways and

emergency routes would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 8 would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: Under Alternative 8, commercial barges would be used to transport construction materials and equipment from the ports to temporary barge unloading facilities near construction sites and some in-water work would occur for construction of the intakes. Locations of temporary barge unloading facilities are the same as for Alternative 1A but the estimate of trips and amount of in-water work would be less because of the reduction in the number of intakes to be constructed. This potential effect is not considered adverse because construction of Alternative 8 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area, such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways.

***CEQA Conclusion*:** Construction of Alternative 8 would not require modification to existing deep water channels, interfere with Port of Stockton navigation, or substantially increase the volume of barge movement within the study area such that existing marine traffic would be disrupted (on average, only 1 additional barge trip per day is expected through the 9-year construction period). Moreover, Mitigation Measure TRANS-1a would reduce any potential disruptions as it includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways. Accordingly, the impact of disruption to marine traffic during construction would

be less than significant with implementation of Mitigation Measure TRANS-1a. No additional mitigation is required.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The effects under Alternative 8 on the BNSF Railway and Amtrak San Joaquin Line and the Union Pacific Railroad--Tracy Subdivision would be similar to that described for Alternative 1A. Construction is not likely to disrupt rail service but if the UPRR Tracy Subdivision branch line is reopened prior to construction, the continuity of rail traffic can be managed, if needed, through implementation of Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way.

CEQA Conclusion: Construction of Alternative 8 would not physically cross or require modification to an existing or proposed railroad. Rather, the water conveyance will cross the BNSF Railway and Amtrak San Joaquin Line well below grade in a deep bore tunnel. Accordingly, construction would not be likely to disrupt rail service. However, if the UPRR Tracy Subdivision branch line is reopened prior to construction, traffic associated with of the Byron Tract forebay may minimally impact rail service through vehicle crossing. Implementation of Mitigation Measure TRANS-1a would ensure this impact remains less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: The effect of Alternative 8 on operation of the SCT Link/Delta Route, traffic on SR 12, and Intercity Greyhound bus lines would be similar to that described for Alternative 1A. The effect of disruption to transit service during construction would be adverse. Although Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of disruptions to transit service would occur. Therefore, this effect would be adverse.

***CEQA Conclusion*:** Construction activities associated with Alternative 8 would decrease LOS below applicable thresholds, as well as exacerbate already unacceptable LOS conditions along 6 segments on SR-12 (see Table 19-8). Accordingly, tunnel construction could significantly affect operation of the SCT Link/Delta Route, and construction of the shaft adjacent to SR 12 would affect traffic on that facility. To the extent that other roadways affected by Alternative 8 construction also carry Greyhound bus lines, those routes may be affected as well. Mitigation Measures TRANS-1a through

TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. Under Mitigation Measure TRANS-1a, the BDCP proponents would coordinate with transit providers to develop, to the extent feasible, daily construction time windows during which transit operations would not be either detoured or significantly slowed, avoiding a substantial disruption of transit service. Additionally, under Mitigation Measure TRANS-1b, construction traffic would be minimized around peak periods, to the extent feasible. Finally, under Mitigation Measure TRANS-1c, the BDCP proponents would make good faith efforts to enter into mitigation agreements to enhance the capacity of congested roadway segments, likely reducing associated disruptions to transit service. However, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form disruptions to transit service would occur. Therefore, this impact would be significant and unavoidable. However, such impacts are likely to occur during the middle of the day because construction traffic would be minimized around peak periods.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: The effect of Alternative 8 on bicycle routes along SR 160/River Road would be less than that identified for Alternative 1A because of the reduction in the number of intakes. Potential effects along SR 12 would be the same as Alternative 1A (see Table 19-8). The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-8) could temporarily disrupt bicycle routes on SR 160/River Road and potentially on SR 12, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities on roadway operations under Alternative 8 would be the same as under Alternative 1A (see Tables 19-14, 19-15, and 19-16) but slightly less in magnitude because fewer intakes would be operated and maintained and correspondingly fewer employee trips would be anticipated. Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effects under Alternative 8 would be similar to Alternative 1A but slightly less in magnitude because fewer intakes would be operated and maintained and correspondingly fewer employee trips would be anticipated. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the

intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 8 would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., conveyances, intakes, and forebays) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 8 would be the same as Alternative 1A because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 8 would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.16 Alternative 9—Through Delta/Separate Corridors (15,000 cfs; Operational Scenario G)

Alternative 9 would construct two intakes, at the entrances to the Delta Cross Channel and Georgiana Slough. These intakes would be smaller sized than for the other alternatives. Two pumping plants would be constructed on the San Joaquin River at the Head of Old River and on Middle River upstream of Victoria Canal. There would be no new forebay. The conveyance would be through existing canals and Delta channels, with modifications to the levees and channels, operable barriers, a fish movement corridor around Clifton Court Forebay, and a water supply corridor (see Figures 3-16, 3-17, and 3-18 in Chapter 3, *Description of Alternatives*).

Impact TRANS-1: Increased Construction Vehicle Trips Resulting in Unacceptable LOS Conditions

NEPA Effects: As shown in Table 19-27, under BPBG conditions, a total of 17 roadway segments would exceed LOS for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. As also shown in Table 19-8, construction associated with Alternative 9 would cause LOS thresholds to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period on a total of 51 roadway segments under BPBGPP conditions (see entries in **bold** type). Alternative 9 would therefore exacerbate an already unacceptable LOS under BPBG conditions on **34** roadway segments (51 minus the 17 that would already be operating at an unacceptable LOS under BPBG conditions). Figure 19-3b shows the study roadway segments that could experience substantial roadway operation effects.

Table 19-27. Level of Service for Through Delta/Separate Corridors – Alternative 9

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
ALA 01	**Byron Hwy**	**Contra Costa Co./ Alameda Co. Line**	**Alameda Co./San Joaquin Co. Line**	**D**	**1,600**	**385 to 656**	**-**	**416 to 708**	**-**	**2,184 to 2,476**	**13 (6AM-7PM)**
BRE 01	**Brentwood Blvd (old SR 4)[1]**	**Delta Rd (Oakley City Limits)**	**Balfour Rd**	C	970	586 to 1,516	11 (7-9AM; 10AM-7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**590 to 1,526**	**-**	**3,417 to 4,353**	**13 (6AM-7PM)**
BRE 02	**Brentwood Blvd (old SR 4)[1]**	**Balfour Rd**	**Brentwood City Limits (South)**	C	1,920	369 to 1,013	-	-	-	-	-
				D	**3,540**	**-**	**-**	**346 to 950**	**-**	**3,173 to 3,777**	**8 (6-7AM; 9AM-4PM)**
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	D	3,540	437 to 1,300	-	437 to 1,300	-	437 to 1,300	-
CC 01	Bethel Island Rd	Oakley City Limits	End	D	1,600	124 to 330	-	124 to 330	-	124 to 330	-
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	D	1,600	90 to 297	-	90 to 297	-	90 to 297	-
CC 03	**Old SR 4[1]**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	C	790	1,133 to 1,682	13 (6AM-7PM)	-	-	-	-
				D	**1,600**	**-**	**-**	**1,220 to 1,811**	**3 (3-6PM)**	**4,047 to 4,638**	**13 (6AM-7PM)**
CC 04	Byron Hwy	Delta Rd	Old SR 4	D	1,410	108 to 240	-	108 to 240	-	108 to 240	-
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./ Alameda Co. Line**	**D**	**1,600**	**483 to 907**	**-**	**522 to 980**	**-**	**2,290 to 2,748**	**13 (6AM-7PM)**
CT 01	I-5 NB	Florin Rd	Pocket Rd	F	6,060	2,589 to 5,820	-	2,589 to 5,820	-	2,589 to 5,820	-
CT 02	I-5 SB	Florin Rd	Pocket Rd	F	6,060	1,647 to 5,705	-	1,647 to 5,705	-	1,647 to 5,705	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	F	6,060	2,359 to 5,156	-	2,359 to 5,156	-	2,359 to 5,156	-
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	F	6,060	1,543 to 5,243	-	1,543 to 5,243	-	1,543 to 5,243	-
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,820 to 3,339	-	1,820 to 3,339	-	1,820 to 3,339	-
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	F	4,010	1,254 to 3,332	-	1,254 to 3,332	-	1,254 to 3,332	-
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,504 to 2,162	-	1,504 to 2,162	-	1,504 to 2,162	-
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	F	4,010	1,217 to 2,236	-	1,217 to 2,236	-	1,217 to 2,236	-
CT 09	I-5 NB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,414 to 1,851	-	1,560 to 2,043	-	1,980 to 2,463	-
CT 10	I-5 SB	Hood Franklin Rd	Twin Cities Rd	F	4,010	1,207 to 1,964	-	1,333 to 2,169	-	1,753 to 2,589	-
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,312 to 1,720	-	1,312 to 1,720	-	1,312 to 1,720	-
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	C	2,880	1,111 to 1,813	-	1,111 to 1,813	-	1,111 to 1,813	-
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	C	2,880	1,374 to 1,803	-	1,594 to 2,091	-	1,967 to 2,464	-
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	C	2,880	1,128 to 1,894	-	1,308 to 2,197	-	1,681 to 2,570	-
CT 15	I-5 NB	Peltier Rd	Turner Rd	C	2,880	1,421 to 1,885	-	1,421 to 1,885	-	1,421 to 1,885	-
CT 16	I-5 SB	Peltier Rd	Turner Rd	C	2,880	1,145 to 1,974	-	1,145 to 1,974	-	1,145 to 1,974	-
CT 17	I-5 NB	Turner Rd	SR 12	C	2,880	1,288 to 1,985	-	1,443 to 2,223	-	1,554 to 2,334	-
CT 18	I-5 SB	Turner Rd	SR 12	C	2,880	1,124 to 1,482	-	1,259 to 1,660	-	1,370 to 1,771	-
CT 19	I-5 NB	SR 12	Eight Mile Rd	C	4,400	1,533 to 2,267	-	1,656 to 2,448	-	1,767 to 2,559	-
CT 20	I-5 SB	SR 12	Eight Mile Rd	C	4,400	1,243 to 2,070	-	1,342 to 2,236	-	1,453 to 2,347	-
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	D	5,410	1,937 to 3,452	-	1,937 to 3,452	-	1,937 to 3,452	-
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	D	5,410	1,817 to 2,760	-	1,817 to 2,760	-	1,817 to 2,760	-
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge	E	1,740	136 to 476	-	136 to 476	-	136 to 476	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 24	SR 160 (Freeport Blvd/ River Rd)	Freeport Bridge	Scribner Rd	E	1,740	94 to 180	-	94 to 180	-	94 to 180	-
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	E	1,740	41 to 125	-	41 to 125	-	41 to 125	-
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	E	1,740	105 to 170	-	105 to 170	-	105 to 170	-
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	E	1,740	69 to 122	-	69 to 122	-	69 to 122	-
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	E	1,740	75 to 150	-	78 to 156	-	823 to 901	-
CT 29	**SR 160**	**Paintersville Bridge**	**Walnut Grove Bridge**	**E**	**1,740**	**78 to 128**	**-**	**89 to 147**	**-**	**2,593 to 2,651**	**13 (6AM-7PM)**
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**E**	**1,740**	**173 to 465**	**-**	**173 to 465**	**-**	**2,677 to 2,969**	**13 (6AM-7PM)**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**E**	**1,740**	**193 to 378**	**-**	**193 to 378**	**-**	**2,697 to 2,882**	**13 (6AM-7PM)**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**F**	**1,740**	**530 to 894**	**-**	**549 to 926**	**-**	**4,112 to 4,489**	**13 (6AM-7PM)**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**B**	**200**	**40 to 169**	**-**	**42 to 177**	**-**	**2,546 to 2,681**	**13 (6AM-7PM)**
CT 34	SR 84 (Courtland Rd/ Ryer Ave)	Courtland Rd	Cache Slough Ferry	C	680	10 to 25	-	10 to 25	-	10 to 25	-
CT 35	**I-80 EB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**3,079 to 6,994**	**-**	**3,510 to 7,973**	**-**	**5,292 to 9,755**	**5 (2-7PM)**
CT 36	**I-80 WB**	**Suisun Valley Rd**	**SR 12**	**C**	**8,350**	**5,751 to 8,892**	**2 (6-8AM)**	**6,556 to 10,137**	**2 (6-8AM)**	**8,338 to 11,919**	**12 (6AM-6PM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
CT 37	**SR 12 EB**	**I-80**	**Beck Ave**	**C**	**2,880**	**528 to 1,847**	**-**	**612 to 2,143**	**-**	**2,394 to 3,925**	**11 (7-9AM; 10AM-7PM)**
CT 38	**SR 12 WB**	**I-80**	**Beck Ave**	**C**	**2,880**	**829 to 1,625**	**-**	**962 to 1,885**	**-**	**2,744 to 3,667**	**12 (6AM-6PM)**
CT 39	**SR 12**	**Beck Ave**	**Sunset Ave/ Grizzly Island Rd**	**C**	**5,060**	**2,408 to 3,573**	**-**	**2,772 to 4,114**	**-**	**6,335 to 7,677**	**13 (6AM-7PM)**
CT 40	**SR 12**	**Sunset Ave/ Grizzly Island Rd**	**Walters Rd/ Lawler Ranch Pkwy**	**C**	**5,060**	**1,607 to 2,353**	**-**	**1,864 to 2,729**	**-**	**5,427 to 6,292**	**13 (6AM-7PM)**
CT 41	**SR 12**	**Walters Rd/ Lawler Ranch Pkwy**	**SR 113**	**C**	**790**	**627 to 1,075**	**10 (6-8AM; 9-1PM; 2-6PM)**	**727 to 1,247**	**12 (6AM-6PM)**	**4,290 to 4,810**	**13 (6AM-7PM)**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**C**	**790**	**1,073 to 1,544**	**13 (6AM–7PM)**	**1,245 to 1,791**	**13 (6AM-7PM)**	**4,808 to 5,354**	**13 (6AM-7PM)**
CT 43	**SR 12 (Rio Vista Bridge)**	**SR 84 (River Rd)**	**SR 160 (River Rd)**	**C**	**970**	**1,135 to 1,685**	**13 (6AM–7PM)**	**1,317 to 1,955**	**13 (6AM-7PM)**	**4,880 to 5,518**	**13 (6AM-7PM)**
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./ SJ Co. Line**	**C**	**790**	**704 to 1,030**	**12 (6AM–6PM)**	**746 to 1,092**	**12 (6AM-6PM)**	**967 to 1,313**	**13 (6AM-7PM)**
CT 45	**SR 12**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**773 to 1,164**	**12 (6AM–6PM)**	**793 to 1,194**	**13 (6AM-7PM)**	**1,014 to 1,415**	**13 (6AM-7PM)**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**2,508 to 4,632**	**2 (3-5PM)**	**2,808 to 5,186**	**3 (3-6PM)**	**4,590 to 6,968**	**13 (6AM-7PM)**
CT 47	**I-80 WB**	**SR 113**	**Pedrick Rd**	**C**	**4,400**	**3,068 to 4,191**	**-**	**3,316 to 4,529**	**2 (3-5PM)**	**5,098 to 6,311**	**13 (6AM-7PM)**
CT 48	**SR 113**	**I-80**	**Dixon City Limits**	**C**	**1,920**	**569 to 1,341**	**-**	**569 to 1,341**	**-**	**4,132 to 4,904**	**13 (6AM-7PM)**
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**C**	**680**	**174 to 294**	**-**	**188 to 318**	**-**	**3,751 to 3,881**	**13 (6AM-7PM)**
CT 50	**SR 4 (Marsh**	**Vasco Rd**	**Byron Hwy**	D	1,600	442 to 733	-	-	-	-	-

ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
						Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
	Creek Rd)[2]		**(Old SR 4)**	**C**	**790**	**-**	**-**	**477 to 792**	**1 (4-5PM)**	**3,304 to 3,619**	**13 (6AM-7PM)**
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**D**	**1,600**	**554 to 1,224**	**-**	**601 to 1,327**	**-**	**3,428 to 4,154**	**13 (6AM-7PM)**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**C**	**790**	**412 to 746**	**-**	**412 to 746**	**-**	**3,239 to 3,573**	**13 (6AM-7PM)**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**D**	**1,410**	**867 to 1,492**	**1 (4-5PM)**	**867 to 1,492**	**1 (4-5PM)**	**3,694 to 4,319**	**13 (6AM-7PM)**
CT 54	I-5 NB	SR 4 (Freeway)	SR 4 (Charter Way)	D	7,280	2,552 to 4,815	-	2,855 to 5,386	-	4,269 to 6,800	-
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**D**	**7,280**	**4,550 to 5,913**	**-**	**5,108 to 6,639**	**-**	**6,522 to 8,053**	**7 (6-8AM; 1-6PM)**
CT 56	**I-5 NB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**2,430 to 4,586**	**-**	**2,770 to 5,228**	**-**	**4,184 to 6,642**	**5 (1-6PM)**
CT 57	**I-5 SB**	**SR 4 (Charter Way)**	**Eighth Street**	**D**	**5,410**	**4,333 to 5,631**	**3 (7-8AM; 4-6PM)**	**4,940 to 6,419**	**8 (6-9AM; 1-6PM)**	**6,354 to 7,833**	**13 (6AM-7PM)**
CT 58	**I-205 EB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,350 to 5,071**	**4 (3-7PM)**	**1,480 to 5,560**	**4 (3-7PM)**	**2,364 to 6,444**	**5 (2-7PM)**
CT 59	**I-205 WB**	**I-580**	**Mountain House Pkwy**	**C**	**4,400**	**1,873 to 4,867**	**2 (6-8AM)**	**2,058 to 5,348**	**3 (6-9AM)**	**2,942 to 6,232**	**4 (6-10AM)**
CT 60	**I-205 EB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,431 to 5,068**	**4 (3-7PM)**	**1,574 to 5,575**	**5 (2-7PM)**	**2,458 to 6,459**	**5 (2-7PM)**
CT 61	**I-205 WB**	**Mountain House Pkwy**	**Eleventh St**	**C**	**4,400**	**1,875 to 4,117**	**-**	**2,063 to 4,529**	**1 (6-7AM)**	**2,947 to 5,413**	**3 (6-9AM)**
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	D	5,410	1,525 to 4,200	-	1,617 to 4,452	-	2,300 to 5,135	-
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	D	5,410	1,852 to 3,079	-	1,963 to 3,264	-	2,646 to 3,947	-
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	D	5,410	1,511 to 4,182	-	1,602 to 4,433	-	2,285 to 5,116	-
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	D	5,410	2,083 to 3,446	-	2,208 to 3,653	-	2,891 to 4,336	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
ISL 01	A St/4th St/ Jackson Blvd.	SR 160	Isleton City Limits	D	1,410	17 to 75	-	17 to 75	-	17 to 75	-
OAK 01	**Main Street (Old SR 4)[1]**	**SR 160**	**Cypress Rd**	C	1,920	752 to 1,663	-	-	-	-	-
				D	**3,540**	**-**	**-**	**795 to 1,759**	**-**	**3,622 to 4,586**	**13 (6AM-7PM)**
OAK 02	**Main Street (Old SR 4)[1]**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	C	970	722 to 1,335	10 (7-9AM; 11AM-7PM)	-	-	-	-
				D	**1,760**	**-**	**-**	**823 to 1,522**	**-**	**3,650 to 4,349**	**13 (6AM-7PM)**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	D	1,600	304 to 764	-	304 to 764	-	304 to 764	-
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	D	1,410	140 to 367	-	140 to 367	-	140 to 367	-
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	D	1,410	155 to 334	-	155 to 334	-	155 to 334	-
SAC 01	Pocket Rd	I-5	Freeport Blvd (Old SR 160)	D	3,540	789 to 2,191	-	789 to 2,191	-	789 to 2,191	-
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	D	1,760	152 to 492	-	152 to 492	-	152 to 492	-
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	D	1,410	98 to 346	-	98 to 346	-	98 to 346	-
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	D	1,410	77 to 137		77 to 137	-	77 to 137	-
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	D	1,410	10 to 29	-	10 to 29	-	10 to 29	-
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	D	1,410	19 to 38	-	19 to 38	-	19 to 38	-
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	D	1,410	41 to 71	-	41 to 71	-	41 to 71	-
SC 06	Twin Cities Rd	River Rd	I-5	D	1,410	130 to 248	-	133 to 254	-	878 to 999	-
SC 07	Twin Cities Rd	I-5	Franklin Blvd	D	1,410	141 to 318	-	149 to 335	-	252 to 438	-
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./ Yolo Co. Line**	**Paintersville Bridge**	**D**	**1,410**	**51 to 113**	**-**	**55 to 122**	**-**	**2,559 to 2,626**	**13 (6AM-7PM)**

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
SC 09	River Rd (Sac Co.)	Paintersville Bridge	Twin Cities Rd	D	1,410	85 to 134	-	86 to 135	-	831 to 880	-
SC 10	River Rd (Sac Co.)	Twin Cities Rd	Walnut Grove Bridge	D	1,600	223 to 365	-	229 to 375	-	974 to 1,120	-
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./ SJ Co. Line	D	1,410	175 to 332	-	181 to 343	-	926 to 1,088	-
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	D	1,410	61 to 283	-	61 to 283	-	429 to 651	-
SC 13	Race Track Rd/ Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	D	1,410	17 to 34	-	17 to 34	-	17 to 34	-
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	D	1,410	14 to 39	-	14 to 39	-	14 to 39	-
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	D	1,410	4 to 53	-	4 to 53	-	4 to 53	-
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	D	1,410	16 to 52	-	16 to 52	-	16 to 52	-
SJ 01	**Walnut Grove Rd**	**Sacramento Co./ SJ Co. Line**	**I-5**	**C**	**790**	**141 to 232**	**-**	**145 to 239**	**-**	**890 to 984**	**13 (6AM-7PM)**
SJ 02	Peltier Rd	Blossom Rd	I-5	C	680	8 to 23	-	8 to 23	-	8 to 23	-
SJ 03	**Tracy Blvd**	**SR 4**	**Clifton Court Rd**	**C**	**790**	**108 to 209**	**-**	**108 to 209**	**-**	**1,472 to 1,573**	**13 (6AM-7PM)**
SJ 04	**Tracy Blvd**	**Clifton Court Rd**	**Tracy City Limits**	**C**	**790**	**69 to 171**	**-**	**72 to 178**	**-**	**1,436 to 1,542**	**13 (6AM-7PM)**
SJ 05	**Byron Hwy**	**Alameda Co./San Joaquin Co. Line**	**Mountain House Pkwy**	**D**	**1,600**	**521 to 824**	**-**	**563 to 890**	**-**	**2,331 to 2,658**	**13 (6AM-7PM)**
SJ 06	**Mountain House Pkwy**	**Byron Hwy**	**Arnaudo Blvd**	**D**	**1,410**	**190 to 298**	**-**	**205 to 322**	**-**	**1,973 to 2,090**	**13 (6AM-7PM)**
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	D	3,540	418 to 769	-	477 to 877	-	2,245 to 2,645	-

						Baseline Conditions		Baseline Plus Background Growth Conditions		BPBGPP Conditions	
ID	Segment	From	To	LOS Threshold	LOS Hourly Volume Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold	Hourly Volume Range (6AM to 7PM)	Hours Operating Worse Than LOS Threshold
STK 01	Eight Mile Rd	Stockton City Limits	I-5	E	1,870	309 to 769	-	309 to 769	-	309 to 769	-
TRA 01	**Tracy Blvd**	**Tracy City Limits**	**I-205**	**E**	**1,870**	**309 to 759**	**-**	**321 to 789**	**-**	**1,685 to 2,153**	**10 (8AM-6PM)**
WS 01	**Harbor Blvd**	**Industrial Blvd**	**US 50**	**D**	**3,540**	**1,140 to 2,317**	**-**	**1,218 to 2,476**	**-**	**3,722 to 4,980**	**13 (6AM-7PM)**
WS 02	**Industrial Blvd/ Lake Washington Blvd**	**Harbor Blvd**	**Jefferson Blvd (Old SR 84)**	**C**	**1,920**	**773 to 1,858**	**-**	**835 to 2,007**	**1 (5-6PM)**	**3,339 to 4,511**	**13 (6AM-7PM)**
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**C**	**1,920**	**546 to 1,718**	**-**	**586 to 1,843**	**-**	**3,090 to 4,347**	**13 (6AM-7PM)**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**C**	**680**	**42 to 146**	**-**	**45 to 155**	**-**	**2,549 to 2,659**	**13 (6AM-7PM)**
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	C	680	74 to 249	-	74 to 249	-	74 to 249	-
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./ Yolo Co. Line**	**C**	**680**	**25 to 63**	**-**	**27 to 68**	**-**	**2,531 to 2,572**	**13 (6AM-7PM)**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**C**	**680**	**28 to 77**	**-**	**30 to 83**	**-**	**2,534 to 2,587**	**13 (6AM-7PM)**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*.

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

[1] Facility is analyzed as a Caltrans facility under Baseline Conditions and a local facility under Baseline Plus Construction Conditions – roadway is relinquished to local jurisdiction after Baseline Year (2009). LOS Threshold is LOS C under Baseline Conditions and changes to LOS D under Baseline Plus Construction Conditions.

[2] Facility is analyzed as a local facility under Baseline Conditions and a Caltrans facility under Baseline Plus Construction Conditions – roadway is adopted as a State facility after Baseline Year (2009). LOS Threshold is LOS D under Baseline Conditions and changes to LOS C under Baseline Plus Construction Conditions.

The decrease in LOS below applicable thresholds during construction would be adverse at the locations identified in Table 19-27 because construction associated with Alternative 9 would cause LOS thresholds (see Table 19-7) to be exceeded for at least 1 hour during the 6:00 AM to 7:00 PM analysis period. Alternative 9 would also exacerbate an already unacceptable LOS under BPBG conditions at **34** roadway segments (51 minus the 17 that would already be operating at an unacceptable LOS under BPBG conditions). While decreases in traffic conditions will occur throughout the study area, the highest concentration of roadway segments below applicable LOS threshold occurs on state roadways, including SR-12, I-80, SR-4, and I-205. Standards will also be exceeded on several local roadways, include all segments studied in West Sacramento and the majority of segments in San Joaquin County.

Mitigation Measures TRANS-1a through TRANS-1c are available to reduce this effect. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction under Alternative 9 would add hourly traffic volumes to study area roadways that would exceed acceptable LOS threshold (Table 19-25). As shown in Table 19-27, traffic volumes during construction of Alternative 9 would exacerbate already unacceptable LOS under BPBG conditions during the 6:00 AM to 7:00 PM analysis period. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-2: Increased Construction Vehicle Trips Exacerbating Unacceptable Pavement Conditions

NEPA Effects: Construction truck traffic may damage roadway surfaces. During construction, various materials would be transported to and from the construction areas in load-bearing trucks. As shown in Table 19-28, construction of Alternative 9 would contribute to further deterioration of the existing pavement condition, to less than the acceptable PCI or similar applicable threshold (see Table 19-7), on a total of **32** roadway segments (see table entries in **bold** type). Figure 19-4b shows the study roadway segments that could experience substantial pavement condition effects.

The effect of roadway damage during construction would be adverse. Mitigation Measures TRANS-2a through TRANS-2c are available to reduce this effect, but not necessarily to a level that would not be adverse, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, an adverse effect in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, adverse effects could be avoided.

***CEQA Conclusion*:** Construction would add trips, exacerbating unacceptable pavement conditions to below acceptable thresholds (Table 19-7) at the 36 intersections shown in Table 19-28. The impact of roadway damage during construction would be potentially significant. Mitigation Measures TRANS-2a through TRANS-2c would reduce this impact, but not necessarily to a level that would be less than significant, as the BDCP proponents cannot ensure that the agreements or encroachment permits will be obtained from the relevant transportation agencies. If an agreement or encroachment permit is not obtained, a significant impact in the form of deficient pavement conditions would occur. Accordingly, this effect could remain adverse. If, however, mitigation agreement(s) or encroachment permit(s) providing for the improvement or replacement of pavement are obtained and any other necessary agreements are completed, impacts would be reduced to less than significant.

Mitigation Measure TRANS-2a: Prohibit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2a in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2b: Limit Construction Activity on Physically Deficient Roadway Segments

Please refer to Mitigation Measure TRANS-2b in Alternative 1A, Impact TRANS-2.

Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Please refer to Mitigation Measure TRANS-2c in Alternative 1A, Impact TRANS-2.

Table 19-28. Pavement Conditions for Through Delta/Separate Corridors – Alternative 9

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Alternative Results in Construction Trips Added to Roadway	Alternative Results in Impact on Deficient Roadway
ALA 01	Byron Hwy	Contra Costa Co./ Alameda Co. Line	Alameda Co./San Joaquin Co. Line	Acceptable	Yes	No
BRE 01	Brentwood Blvd (old SR 4)	Delta Rd (Oakley City Limits)	Balfour Rd	Acceptable	Yes	No
BRE 02	Brentwood Blvd (old SR 4)	Balfour Rd	Brentwood City Limits (South)	Acceptable	Yes	No
BRE 03	Balfour Rd	Brentwood Blvd (Old SR 4)	Brentwood City Limits	Acceptable	No	No
CC 01	Bethel Island Rd	Oakley City Limits	End	Deficient	No	No
CC 02	Balfour Rd	Brentwood City Limits	Byron Hwy	Deficient	No	No
CC 03	**Old SR 4**	**Brentwood City Limits (South)**	**Marsh Creek Rd**	**Deficient**	**Yes**	**Yes**
CC 04	Byron Hwy	Delta Rd	Old SR 4	Acceptable	No	No
CC 05	**Byron Hwy**	**SR 4**	**Contra Costa Co./Alameda Co. Line**	**Deficient**	**Yes**	**Yes**
CT 01	I-5 NB	Florin Rd	Pocket Rd	Deficient	No	No
CT 02	I-5 SB	Florin Rd	Pocket Rd	Deficient	No	No
CT 03	I-5 NB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 04	I-5 SB	Pocket Rd	Laguna Blvd	Deficient	No	No
CT 05	I-5 NB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 06	I-5 SB	Laguna Blvd	Elk Grove Blvd	Deficient	No	No
CT 07	I-5 NB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	No	No
CT 08	I-5 SB	Elk Grove Blvd	Hood Franklin Rd	Acceptable	No	No
CT 09	**I-5 NB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 10	**I-5 SB**	**Hood Franklin Rd**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
CT 11	I-5 NB	Twin Cities Rd	Walnut Grove Rd	Deficient	No	No
CT 12	I-5 SB	Twin Cities Rd	Walnut Grove Rd	Acceptable	No	No
CT 13	I-5 NB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No
CT 14	I-5 SB	Walnut Grove Rd	Peltier Rd	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 15	I-5 NB	Peltier Rd	Turner Rd	Acceptable	No	No
CT 16	I-5 SB	Peltier Rd	Turner Rd	Acceptable	No	No
CT 17	I-5 NB	Turner Rd	SR 12	Acceptable	Yes	No
CT 18	I-5 SB	Turner Rd	SR 12	Acceptable	Yes	No
CT 19	**I-5 NB**	**SR 12**	**Eight Mile Rd**	**Deficient**	**Yes**	**Yes**
CT 20	I-5 SB	SR 12	Eight Mile Rd	Acceptable	Yes	No
CT 21	I-5 NB	Eight Mile Rd	Hammer Ln	Deficient	No	No
CT 22	I-5 SB	Eight Mile Rd	Hammer Ln	Acceptable	No	No
CT 23	SR 160 (Freeport Blvd)	Sacramento City Limits	Freeport Bridge	Deficient	No	No
CT 24	SR 160 (Freeport Blvd/River Rd)	Freeport Bridge	Scribner Rd	Deficient	No	No
CT 25	SR 160 (River Rd)	Scribner Rd	Hood Franklin Rd	Deficient	No	No
CT 26	SR 160 (River Rd)	Hood Franklin Rd	Lambert Rd	Deficient	No	No
CT 27	SR 160 (River Rd)	Lambert Rd	Paintersville Bridge	Deficient	No	No
CT 28	SR 160 (Paintersville Bridge)	Sutter Slough Bridge Rd	SR 160 (River Rd)	Not Applicable	Yes	No
CT 29	SR 160	Paintersville Bridge	Walnut Grove Bridge	Acceptable	Yes	No
CT 30	**SR 160 (River Rd)**	**Walnut Grove Bridge**	**A St (Isleton)**	**Deficient**	**Yes**	**Yes**
CT 31	**SR 160**	**A St (Isleton)**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 32	**SR 160**	**SR 12**	**Brannan Island Rd**	**Deficient**	**Yes**	**Yes**
CT 33	**SR 84 (Jefferson Blvd)**	**West Sacramento City Limits**	**Courtland Rd**	**Deficient**	**Yes**	**Yes**
CT 34	SR 84 (Courtland Rd/Ryer Ave)	Courtland Rd	Cache Slough Ferry	Deficient	No	No
CT 35	I-80 EB	Suisun Valley Rd	SR 12	Acceptable	Yes	No
CT 36	I-80 WB	SR 12	Suisun Valley Rd	Acceptable	Yes	No
CT 37	SR 12 EB	I-80	Beck Ave	Acceptable	Yes	No
CT 38	SR 12 WB	Beck Ave	I-80	Acceptable	Yes	No
CT 39	SR 12	Beck Ave	Sunset Ave/Grizzly Island Rd	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Alternative Results in Construction Trips Added to Roadway	Alternative Results in Impact on Deficient Roadway
CT 40	SR 12	Sunset Ave/Grizzly Island Rd	Walters Rd/Lawler Ranch Pkwy	Acceptable	Yes	No
CT 41	**SR 12**	**Walters Rd/Lawler Ranch Pkwy**	**SR 113**	**Deficient**	**Yes**	**Yes**
CT 42	**SR 12**	**SR 113**	**SR 84 (River Rd)**	**Deficient**	**Yes**	**Yes**
CT 43	SR 12 (Rio Vista Bridge)	SR 84 (River Rd)	SR 160 (River Rd)	Not Applicable	Yes	No
CT 44	**SR 12**	**SR 160 (River Rd)**	**Sacramento Co./SJ Co. Line**	**Deficient**	**Yes**	**Yes**
CT 45	**SR 12**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 46	**I-80 EB**	**SR 113**	**Pedrick Rd**	**Deficient**	**Yes**	**Yes**
CT 47	I-80 WB	Pedrick Rd	SR 113	Acceptable	Yes	No
CT 48	SR 113	I-80	Dixon City Limits	Acceptable	Yes	No
CT 49	**SR 113**	**Dixon City Limits**	**SR 12**	**Deficient**	**Yes**	**Yes**
CT 50	SR 4 (Marsh Creek Rd)	Vasco Rd	Byron Hwy (Old SR 4)	Acceptable	Yes	No
CT 51	**SR 4**	**Marsh Creek Rd**	**Discovery Bay Blvd**	**Deficient**	**Yes**	**Yes**
CT 52	**SR 4**	**Discovery Bay Blvd**	**Tracy Blvd**	**Deficient**	**Yes**	**Yes**
CT 53	**SR 4 (Charter Way)**	**Tracy Blvd**	**I-5**	**Deficient**	**Yes**	**Yes**
CT 54	**I-5 NB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 55	**I-5 SB**	**SR 4 (Freeway)**	**SR 4 (Charter Way)**	**Deficient**	**Yes**	**Yes**
CT 56	I-5 NB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 57	I-5 SB	SR 4 (Charter Way)	Eighth Street	Acceptable	Yes	No
CT 58	I-205 EB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 59	I-205 WB	I-580	Mountain House Pkwy	Acceptable	Yes	No
CT 60	I-205 EB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 61	I-205 WB	Mountain House Pkwy	Eleventh St	Acceptable	Yes	No
CT 62	I-205 EB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No
CT 63	I-205 WB	Grant Line Rd	Tracy Blvd	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions: Alternative Results in Construction Trips Added to Roadway	BPBGPP Conditions: Alternative Results in Impact on Deficient Roadway
CT 64	I-205 EB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
CT 65	I-205 WB	Tracy Blvd	MacArthur Dr	Acceptable	Yes	No
ISL 01	A St/4th St/Jackson Blvd.	SR 160	Isleton City Limits	Deficient	No	No
OAK 01	**Main Street (Old SR 4)**	**SR 160**	**Cypress Rd**	**Deficient**	**Yes**	**Yes**
OAK 02	**Main Street (Old SR 4)**	**Cypress Rd**	**Delta Rd (Oakley City Limits)**	**Deficient**	**Yes**	**Yes**
OAK 03	Cypress Rd	Main Street (Old SR 4)	Bethel Island Rd	Acceptable	No	No
OAK 04	Bethel Island Rd	Cypress Rd	Oakley City Limits	Deficient	No	No
OAK 05	Delta Rd	Main Street (Old SR 4)	Byron Hwy	Deficient	No	No
SAC 01	Pocket Rd	I-5	Freeport Blvd (Old SR 160)	Deficient	No	No
SAC 02	Freeport Blvd (Old SR 160)	Pocket Rd	Sacramento City Limits	Acceptable	No	No
SC 01	Freeport Bridge	River Rd	SR 160 (Freeport Blvd)	Not Applicable	No	No
SC 02	Hood Franklin Rd	SR 160 (River Rd)	I-5	Deficient	No	No
SC 03	Lambert Rd	SR 160 (River Rd)	Herzog Rd	Acceptable	No	No
SC 04	Lambert Rd	Herzog Rd	Franklin Blvd	Deficient	No	No
SC 05	Franklin Blvd	Lambert Rd	Twin Cities Rd	Deficient	No	No
SC 06	Twin Cities Rd	River Rd	I-5	Acceptable	Yes	No
SC 07	**Twin Cities Rd**	**I-5**	**Franklin Blvd**	**Deficient**	**Yes**	**Yes**
SC 08	**Sutter Slough Bridge Rd**	**Sacramento Co./Yolo Co. Line**	**Paintersville Bridge**	**Deficient**	**Yes**	**Yes**
SC 09	**River Rd (Sac Co.)**	**Paintersville Bridge**	**Twin Cities Rd**	**Deficient**	**Yes**	**Yes**
SC 10	**River Rd (Sac Co.)**	**Twin Cities Rd**	**Walnut Grove Bridge**	**Deficient**	**Yes**	**Yes**
SC 11	Walnut Grove Rd/River Rd	Walnut Grove Bridge	Sacramento Co./SJ Co. Line	Acceptable	Yes	No
SC 12	Isleton Rd	River Rd (Walnut Grove)/Isleton Rd Bridge	1.5 miles west of Isleton Rd Bridge	Acceptable	Yes	No

Segment ID*	Roadway	From	To	Baseline Year 2009 Conditions	BPBGPP Conditions	
					Alternative Results in Construction Trips Added to Roadway	Alternative Results in Impact on Deficient Roadway
SC 13	Race Track Rd/Tyler Island Rd	Walnut Grove Rd	Southern End of Tyler Island	Deficient	No	No
SC 14	Tyler Island Rd	Southern End of Tyler Island	SR 160 (River Rd)	Deficient	No	No
SC 15	Jackson Slough Rd	Isleton City Limits	SR 12	Acceptable	No	No
SC 16	Jackson Slough Rd	Brannan Island Rd	SR 12	Acceptable	No	No
SJ 01	**Walnut Grove Rd**	**Sacramento Co./SJ Co. Line**	**I-5**	**Deficient**	**Yes**	**Yes**
SJ 02	Peltier Rd	Blossom Rd	I-5	Deficient	No	No
SJ 03	Tracy Blvd	SR 4	Clifton Court Rd	Acceptable	Yes	No
SJ 04	Tracy Blvd	Clifton Court Rd	Tracy City Limits	Acceptable	Yes	No
SJ 05	Byron Hwy	Alameda Co./San Joaquin Co. Line	Mountain House Pkwy	Acceptable	Yes	No
SJ 06	Mountain House Pkwy	Byron Hwy	Arnaudo Blvd	Acceptable	Yes	No
SJ 07	Mountain House Pkwy	Arnaudo Blvd	I-205	Acceptable	Yes	No
STK 01	Eight Mile Rd	Stockton City Limits	I-5	Deficient	No	No
TRA 01	**Tracy Blvd**	**Tracy City Limits**	**I-205**	**Deficient**	**Yes**	**Yes**
WS 01	Harbor Blvd	Industrial Blvd	US 50	Acceptable	Yes	No
WS 02	Industrial Blvd/Lake Washington Blvd	Harbor Blvd	Jefferson Blvd (Old SR 84)	Acceptable	Yes	No
WS 03	**Jefferson Blvd (Old SR 84)**	**Lake Washington Blvd**	**Southport Pkwy**	**Deficient**	**Yes**	**Yes**
WS 04	**Jefferson Blvd (Old SR 84)**	**Southport Pkwy**	**West Sacramento City Limits**	**Deficient**	**Yes**	**Yes**
YOL 01	River Rd (Yolo Co.)	Freeport Bridge	Courtland Rd	Deficient	No	No
YOL 02	**River Rd (Yolo Co.)**	**Courtland Rd**	**Sacramento Co./Yolo Co. Line**	**Deficient**	**Yes**	**Yes**
YOL 03	**Courtland Rd**	**SR 84 (Jefferson Blvd)**	**River Rd**	**Deficient**	**Yes**	**Yes**

Source: Appendix 19A, *Bay Delta Conservation Plan Construction Traffic Impact Analysis*

* Segment IDs correspond to the roadway segment IDs shown on Figures 19-2a through 19-2c.

Impact TRANS-3: Increase in Safety Hazards, Including Interference with Emergency Routes during Construction

NEPA Effects: Alternative 9 would require a heavy volume of materials to be hauled to the construction work zones, increasing the amount of trucks using the transportation system in the study area. The increase in heavy construction traffic on local roadways would increase the potential for safety hazards such as conflicts with recreational and commuter traffic and with farming operations. The increase in heavy construction traffic using emergency routes could result in interference with emergency service response times. Emergency routes in the study area are identified in Table 19-11.

As discussed above and in Chapter 22, *Air Quality and Greenhouse Gases*, construction of Alternative 9 would increase the amount of trucks using the transportation system in the study area. The effect of increased safety hazards from increased heavy construction traffic on local roadways and emergency routes identified in Table 19-11 would be adverse. Although TRANS-1c will reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of increased safety hazards would occur. Accordingly, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Construction of Alternative 9 would increase the amount of trucks using the transportation system in the study area. This increase in heavy truck traffic could interfere with emergency services on designated routes (Table 19-11), resulting in significant safety hazards. Mitigation Measure TRANS-1c will reduce the severity of this impact, but not to less-than-significant levels. BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-4: Disruption of Marine Traffic during Construction

NEPA Effects: In-water construction of operable barriers and barge unloading facilities could result in impediments to marine traffic on the San Joaquin River at the confluence with (1) the Old River and (2) Fisherman's Cut. The construction of an operable barrier at the confluence of Threemile Slough and the Sacramento River may have some adverse impact on marine traffic. The effect of disruption to marine traffic during construction would be adverse. As noted in Chapter 15, Recreation, Impact REC-3, the barge unloading facilities built on Middle River would occupy between 900 and 1,100 feet of riverbank. The Middle River in both locations is about 600–650 feet

wide and is characterized by a split channel, with a vegetated island in the middle of the river. The barge unloading facilities and barge operations at these two locations could therefore occupy a substantial portion of the west channel of the river depending on the location. However, all barge routes and landing sites will be selected to maximize continuous waterway access and a minimum waterway width greater than 100 feet. Moreover, Mitigation Measure TRANS-1a is available to reduce this effect.

***CEQA Conclusion*:** Construction of Alternative 9 could result in impediments to marine traffic on the San Joaquin River at the confluence with (1) the Old River and (2) Fisherman's Cut. The construction of an operable barrier at the confluence of Threemile Slough and the Sacramento River may have some adverse impact on marine traffic. The impact of disruption to marine traffic during construction would be significant. Mitigation Measure TRANS-1a would reduce this impact to a less-than-significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-5: Disruption of Rail Traffic during Construction

NEPA Effects: The effect of Alternative 9 on rail operations is shown in Table 19-29. Train operations along the BNSF Railway/Amtrak San Joaquin Line could be affected during construction of the proposed operable barrier at the Middle River entrance of the Railroad Cut (between the Middle River and the Old River).

Table 19-29. Construction Impacts on Rail Traffic for Through Delta/Separate Corridors – Alternative 9

Affected Railroad	Crosses and/or Immediately Adjacent to Construction Zone	Level of Train Volume	Construction Impacts on Rail Traffic
BNSF Railway and Amtrak San Joaquin Line	Yes	High	Substantial—rail line operates down the center of the Railroad Cut and crosses construction of proposed operable barrier at the Middle River (on the eastern end of the Railroad Cut) in a proposed major work area.
Union Pacific Railroad--Tracy Subdivision	No	Low (Out of Service)	Minimal to Non-Existent

Construction of Alternative 9, which physically crosses the BNSF Railway and Amtrak San Joaquin Line, could disrupt BNSF rail operations. The effect of disruption to rail traffic during construction would be adverse. Mitigation Measure TRANS-1a, which includes stipulations to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures and daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within railroad rights of way, is available to reduce this effect.

***CEQA Conclusion*:** Construction of Alternative 9 may temporarily affect BNSF/Amtrak railroad operations through physical railroad crosses. This is a potentially significant impact. Implementation of Mitigation Measure TRANS-1a would reduce this impact to a less than significant level.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-6: Disruption of Transit Service during Construction

NEPA Effects: Construction of Alternative 9 would not affect area roadways upon which transit service operates. Table 19-30 summarizes the transit service that intersects with Alternative 9.

Table 19-30. Construction Impacts on Bus Routes for Through Delta/Separate Corridors – Alternative 9

Affected Transit Service	Roadway Operated On and Location	Estimated Trips per Day	Construction Impacts on Bus Routes
SCT/Link Delta Route	SR 12 across the North Mokelumne River and Little Potato Slough (on existing bridges)	4 trips per weekday (2 in each direction)	None. SR 12 currently crosses both waterway corridors. No additional construction is identified at either bridge crossing location.

Although the SCT/Link Delta Route crosses Alternative 9 waterways on existing bridges, no construction-related impacts on transit operations are anticipated. However, transit routes and services may change over time and consultation with affected transit agencies would be advisable prior to construction. Mitigation Measure TRANS-1a, which includes stipulations to maintain continual circulation in and around construction zones and coordinate with transit providers to develop daily construction time windows during which transit operations would not be either detoured or significantly slowed is available to reduce this effect.

***CEQA Conclusion*:** Construction of Alternative 9 would not affect area roadways upon which transit service operates. Accordingly, the impact of disruption to transit service during construction would not be significant; however, Mitigation Measure TRANS-1a, which includes stipulations to maintain continual circulation in and around construction zones and coordinate with transit providers to develop daily construction time windows during which transit operations would not be either detoured or significantly slowed would further reduce the potential for this effect.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-7: Interference with Bicycle Routes during Construction

NEPA Effects: Several bicycle routes traverse or are adjacent to the proposed water conveyance features and their construction zones. Bicycle routes may be separated non-motorized paths (Class

I); bike lanes on a street or highway (Class II); or designated signed routes without a marked lane operating in mixed flow with motorized traffic (Class III). Bicycles may also operate legally on any roadway, regardless of whether or not a bike route class designation exists. The effect of disruption to bicycle routes during construction would be adverse. Mitigation Measure TRANS-1a is available to reduce this effect. Under this measure, BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path.

***CEQA Conclusion*:** Increased traffic and vehicle delays during construction (see Table 19-27) could temporarily disrupt bicycle routes within and adjacent to the proposed project and its construction zones, resulting in a significant impact. However, Mitigation Measure TRANS-1a would reduce the severity of this impact to less-than-significant levels because BDCP proponents would provide alternate access routes via detours or bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders; provide signage warning of loose gravel, steel plates, etc. that could be hazardous to road cycling activity on roadways open to bicycle traffic; provide signage, barricades, and flag people as necessary to slow or detour traffic around construction sites; and notify the public, including cycling organizations and bike shops, of construction activities that could affect transportation. Additionally, another project commitment, as described in Appendix 3B, *Environmental Commitments*, and Chapter 15, *Recreation,* could enhance recreational access to areas in the vicinity of the proposed intakes, including enhancement of bicycle and foot access to the Delta and the potential conversion of an abandoned rail line between Sacramento and Walnut Grove into a bicycle path. Because implementation of this mitigation measure and project commitment would avoid a substantial disruption to bicycle facilities as a result of increased roadway traffic and/or roadway closures, this impact would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Impact TRANS-8: Increased Traffic Volumes and Delays during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities on roadway operations under Alternative 9 have not been estimated, but are assumed to be similar the effect under Alternative 1A (see Tables 19-14, 19-15, and 19-16), but substantially less in magnitude. Like Alternative 1A, O&M activities would occur along the entire alternative alignment. Even assuming the higher employment range in Table 19-16, given the limited number of workers involved and the large number of work sites, it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The effect of increased traffic volumes and delays during operations would not be adverse.

***CEQA Conclusion*:** Given the limited number of workers involved and the large number of work sites (see Tables 19-14, 19-15, and 19-16), it is not anticipated that routine operations and maintenance activities or major inspections would result in substantial increases of traffic volumes or roadway congestion. The impact of increased traffic volumes and delays during operations would therefore be less than significant. No mitigation is required.

Impact TRANS-9: Permanent Alteration of Transportation Patterns during Operations and Maintenance

NEPA Effects: The effect of maintaining and operating the facilities on transportation patterns under Alternative 9 would be similar to Alternative 1A, but substantially less in magnitude. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., intakes, gates) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. The effect of permanent alteration of transportation patterns during operations would not be adverse.

***CEQA Conclusion*:** The impact of maintaining and operating the project under Alternative 9 would be similar to Alternative 1A. Impacts on public roadways would be limited to the intake areas and would not substantially alter traffic patterns. The design and construction of all project components (i.e., intakes, gates) would provide for on-going continuity of all rail operations following completion of construction. Impediments to boat traffic associated with the intakes would continue for the life of the project, but would not substantially impact boat passage or usage. Accordingly, the impact of permanent alteration of transportation patterns during operations would be less than significant. No mitigation is required.

Impact TRANS-10: Increased Traffic Volumes during Implementation of CM2–CM22

NEPA Effects: At the program-level of analysis, the impact under Alternative 9 would be the same as Alternative 1A because the acreage of conservation is identical. Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The effect of increased traffic volumes during implementation of CM2–CM22 would be adverse. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.

***CEQA Conclusion*:** Impacts on roadways could result in circulation delays or the inability to maintain adequate vehicular access in or around restoration or enhancement work zones. Roads and highways in and around Suisun Marsh and the Yolo Bypass could experience increases in traffic volumes, resulting in localized congestion and conflicts with local traffic. These roadways could

function as haul routes or to bring construction personnel to the work sites. Maintenance and monitoring of the restoration areas would also generate some vehicle trips. The impact of increased traffic volumes during implementation of CM2–CM22 would be significant. Mitigation Measures TRANS-1a through TRANS-1c would reduce the severity of this impact, but not to less-than-significant levels. The BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact is made, a significant impact would occur. Therefore, the project's impacts to roadway segment LOS would be conservatively significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1c in Alternative 1A, Impact TRANS-1.

Impact TRANS-11: Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Plans and Policies

NEPA Effects: The potential for inconsistencies with plans or polices would be similar to the discussion in Alternative 1A, Impact TRANS-11. Construction and implementation of Alternative 9 would be compatible with applicable plans and policies related to transportation and circulation.

***CEQA Conclusion*:** The physical effects are discussed in impacts TRANS-1 through TRANS-10, above and no additional CEQA conclusion is required related to the consistency of the alternative with relevant plans and polices. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Chapter 13, *Land Use,* Section 13.2.3.

19.3.3.17 Cumulative Analysis

Assessment Methodology

Transportation systems in the Delta region are expected to change as a result of past, present, and reasonably foreseeable future projects, related to population growth and changes in economic activity (Chapter 30, *Growth Inducement and Other Indirect Effects*). The effects of the alternatives on transportation were considered in connection with the potential effects of projects listed in Attachment 3D-A to Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions.* Projects with the greatest potential to affect the transportation network are identified in Table 19-31. Please note that infrastructure projects

included in the Sacramento County General Plan Update and the metropolitan and regional transportation plans prepared by SACOG, SJCOG, and MTC may also affect traffic operations throughout the Plan Area. Projects on the interstate and highway system that add additional vehicle trips or significantly change the location of existing trips are likely to have the largest potential effect.

Table 19-31. Effects on Transportation from a Selection of Plans, Policies, and Programs Considered for Cumulative Analysis

Agency	Program/ Project	Description of Program/Project	Effects on Transportation
California High Speed Rail Authority and Federal Railroad Administration	Altamont Corridor Rail Project	The project would incrementally upgrade the Altamont Corridor Express System as part of the statewide High Speed Rail Initiative on a separate, dedicated passenger track and may ultimately be fully grade-separated, electrified, and compatible with the high speed train equipment	Project could result in temporary transportation effects during construction, including increased vehicle delays and road closures. Project may have a long-term beneficial effect on regional transportation by reducing vehicle trips.
California High Speed Rail Authority and Federal Railroad Administration	California High-Speed Rail System Sacramento to Merced Section	The project would construct a new rail corridor between Merced and Sacramento, with various alignments under study including alignments adjacent to the existing Union Pacific Railroad and Burlington Northern Santa Fe (BNSF) railroad routes. The new corridor would be fully grade-separated and electrified.	Project could result in temporary transportation effects during construction, including increased vehicle delays and road closures. Project may have a long-term beneficial effect on regional transportation by reducing vehicle trips.

The above list of related projects evaluated for cumulative impacts includes projects that would affect transportation conditions, including land use and network changes. The proposed BDCP, in conjunction with other projects identified in Table 19-31 and regional transportation plans, would cumulatively effect transportation operations during project construction, as discussed further below.

No Action Alternative

The No Action Alternative is not anticipated to cumulatively contribute to changes in the characteristics of the transportation systems in the transportation study area. Roadways currently experiencing congestion and delays, as identified in Table 19-3, would continue to experience level of service impacts. Ongoing and reasonably foreseeable future projects are expected to provide capacity enhancements, although traffic congestion is still likely to increase in future years as growth occurs in the Bay Area and Valley. However, none of the projects or programs assumed under the No Action Alternative would create new growth that would cumulatively effect traffic volumes, increase vehicle delays, or deteriorate pavement conditions. Effects on other

transportation modes such as bicycle, marine, rail, bus, and air traffic are also not expected as a result of the No Action Alternative.

The Delta and vicinity are within a highly active seismic area, with a generally high potential for major future earthquake events along nearby and/or regional faults, and with the probability for such events increasing over time. Based on the location, extent and minimally engineered nature of many existing levee structures in the Delta area, the potential for significant damage to, or failure of, these structures during a major local seismic event is generally moderate to high. For major earthquakes along larger faults, ground rupture can extend for considerable distances (hundreds or thousands of feet), with associated risks for surface structures such as roadways. (See Appendix 3E, *Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies* for more detailed discussion) In instances of a catastrophic event due to climate change or a seismic event, there would also be a potential for adverse effect on transportation (such as decreased level of service) or closure of roadways and other transportation systems in the affected portion of the study area. While similar risks would occur under implementation of the action alternatives, these risks may be reduced by BDCP-related levee improvements along with those projects identified for the purposes of flood protection in Table 19-31.

Impact TRANS-13: Cumulative impacts on transportation systems from construction

NEPA Effects: Construction of planned projects throughout the study area would have temporary, discrete effects such as traffic disruption resulting in delays to travelers and users of the transportation system, although these effects would not be necessarily be substantial from a regional perspective.

Construction of these projects could result in temporary impacts on levels of service because of increases in vehicle trips associated with movement of personnel, goods, and materials. Heavy construction equipment on local roadways could contribute to existing pavement deterioration. Conflicts with other users of the transportation roadway network, such as cyclists, transit services, or emergency service providers could occur. Marine highway corridors along between the ports of Oakland, Stockton, and Sacramento could be affected if commercial barges are used to transport materials to construction sites during work on the ship channel.

Although it is difficult to determine when major infrastructure projects would be constructed, the cumulative impact may be substantial if these projects occur during the same time frame and location as the proposed project because the magnitude of effects would be greater. If these projects occurred sequentially, the construction-related effects could be drawn out for an extended period, again. If one local area experiences several large construction projects simultaneously, there could be substantial localized impacts.

The effects are relatively similar between the alternatives and vary in location according to the type of conveyance. Decreases in level of service from construction of water conveyance facilities associated with BDCP alternatives using the pipeline/tunnel conveyance (Alternatives 1A, 2A, 3, 5, 6A, 7, and 8) affect fewer roadway segments (33), compared to alternatives using the modified pipeline/tunnel (Alternative 4) (36), east canal conveyance (Alternatives 1B, 2B, and 6B) (39), west canal conveyance (Alternatives 1C, 2C, and 6C) (56), or Alternative 9 (51). Pavement deterioration under Alternative 9 affects the fewest road segments (32), compared to all the other alternatives (42-46). Effects would also be lessened with alternatives constructing fewer intakes.

The effect related to implementation of restored habitats associated with CM2–CM22 could also result in similar construction-related effects depending on the location and duration of the construction activities, but these effects are not distinguishable between the alternatives at the current program level of design.

Construction of cumulative projects within the Delta could result in cumulative impacts on transportation systems because of substantial increases in construction traffic volumes affecting level of service and contributing to pavement deterioration. This cumulative impact is considered adverse and the contribution from Alternatives 1A-9 would be cumulatively considerable.

Mitigation Measures TRANS-1 through TRANS-7 are available to reduce this effect, but would not reduce the severity to a level that would not be considered adverse. The BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. Moreover, coordinating with the construction schedules of other large projects in the region is heavily dependent on availability. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, construction of BDCP water conveyance facilities combined with other projects in the study area would make a cumulatively considerable contribution to the effects on transportation systems in the Delta. Accordingly, this effect would be adverse.

CEQA Conclusion. Construction of cumulative projects within the Delta would result in cumulative impacts on transportation systems because of substantial increases in construction traffic volumes affecting level of service and contributing to pavement deterioration. This cumulative impact would be significant and the contribution from Alternatives 1A-9 would be cumulatively considerable. Although TRANS-1 through TRANS-7 would reduce the severity of this impact, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the effect is made, construction of BDCP facilities combined with other projects in the study area would make a cumulatively considerable contribution to the effects on transportation systems in the Delta. Accordingly, this effect would be significant and unavoidable.

Impact TRANS-14: Cumulative impacts on transportation systems from operation and maintenance (post-construction)

NEPA Effects: Traffic and transportation impacts include increased congestion and exceedances of roadway levels of service, which most jurisdictions consider significant and unavoidable. Other impacts identified by some jurisdictions include impacts on parking capacity, emergency access, conflicts with or increased demand for alternative transportation, and altered air traffic patterns: these are considered by some jurisdictions to be significant but mitigable and by at least one jurisdiction to be significant and unavoidable (refer to Chapter 30, *Growth Inducement and Other Indirect Effects*). Identified mitigation measures include implementation of general plan traffic and circulation policies; provision of alternative means of transportation; implementation of traffic signal improvements; and coordination with Caltrans and local councils of government to apportion traffic impact mitigation.

None of the alternatives would construct new public transportation facilities, demolish existing public transportation facilities, or add substantial traffic to transportation facilities during routine operation and maintenance (refer to Tables 19-14, 19-15, 19-16). Operation and maintenance of the project would not result in the construction of new transportation systems or increases in capacity

in existing transportation systems and therefore would not make a cumulatively considerable contribution to effects on transportation systems. This cumulative impact is not distinguishable between the alternatives.

The effect related to operation and maintenance of restored habitats associated with CM2–CM22 could also result in similar minor contributions to traffic on transportation facilities, depending on the location and duration of the O&M activities, but these effects are not distinguishable between the alternatives at the current program level of design.

CEQA Conclusion: Operation and maintenance of cumulative projects within the Delta could result in cumulative impacts on transportation systems because of increases in traffic volumes affecting level of service and contributing to pavement deterioration. Development within the Delta region is limited. Any development that would occur in the future would occur as part of planned growth, and would include any necessary supporting infrastructure improvements. The minor contribution of traffic from the project for routine operation and maintenance during the post construction period would not be considered cumulatively considerable.

19.4 References

19.4.1 Printed References

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