

CHAPTER 20

TRANSPORTATION AND TRAFFIC

This chapter describes transportation and traffic issues in the study area and potential changes that could occur due to implementation of the alternatives.

STUDY AREA

The study area is defined as the geographical area where the large majority of potential impacts are expected. The study area for transportation and traffic focuses on facilities that would be used to transport materials and people to the Salton Sea. Regional access to the Salton Sea is provided by Interstates 8 and 10 and State Highways 78, 86, and 111, as shown in Figure 20-1.

Amtrak does not provide passenger service to the Salton Sea area, but the Union Pacific Railroad maintains a freight railroad to the east of the Salton Sea. Additional freight railroads extend from Eagle Mountain Mine and Mesquite Mine to the Union Pacific Railroad.

Local airports are included in the study area. Regional airports at San Diego and Ontario are not included in the study area because it is not anticipated that activities at the Salton Sea would noticeably affect these larger facilities.

REGULATORY REQUIREMENTS

The Federal Highway Administration, California Department of Transportation (Caltrans), Federal Railroad Administration, and Federal Aviation Administration establish standards and regulations for construction and operations and maintenance of federal highways, State highways, railroads, and aviation, respectively. Additionally, regional transportation planning in the Imperial and Coachella valleys is provided by the Southern California Association of Governments, Imperial Association of Governments, and the Coachella Valley Association of Governments. Imperial and Riverside counties and incorporated cities provide transportation planning services for their jurisdictions.

HISTORICAL PERSPECTIVE

Roadways, railroads, and airports have been expanded and extended in response to recreational demand and population growth.

DATA SOURCES

Information regarding roadway conditions was obtained from Caltrans and previous planning documents. Information regarding railroads was obtained through personal communication with a representative of the Union Pacific Railroad. Information regarding airports is from the AirNav.com website.

DATA LIMITATIONS

Level of service (LOS) information for the highways near the Salton Sea is based on the most recent data available from Imperial and Riverside counties. Specific traffic analyses would be completed as part of project-level analyses.

EXISTING CONDITIONS

This section describes recent conditions of roadways, railroads, and airports near the Salton Sea.

Roadways

The transportation network in the Imperial and Coachella valleys consists of freeways, highways, local roads, and rural roads. This section describes the roads, traffic volumes, and level of service on Interstates 8 and 10 and State Highways 78, 86, and 111. The transportation network in Imperial County is considered critical to the regional economy due to the movement of agricultural goods and services and recreational travel.

Interstate 10, located to the north of the Salton Sea, extends in a west to east direction and provides access from Los Angeles County. Interstate 8, a highway located to the south of the Salton Sea, extends in a west to east direction and provides access from San Diego County.

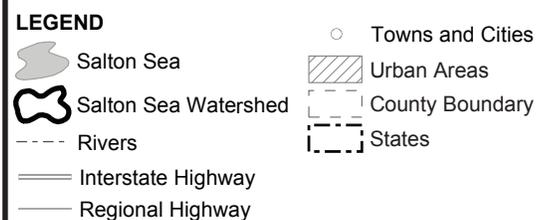
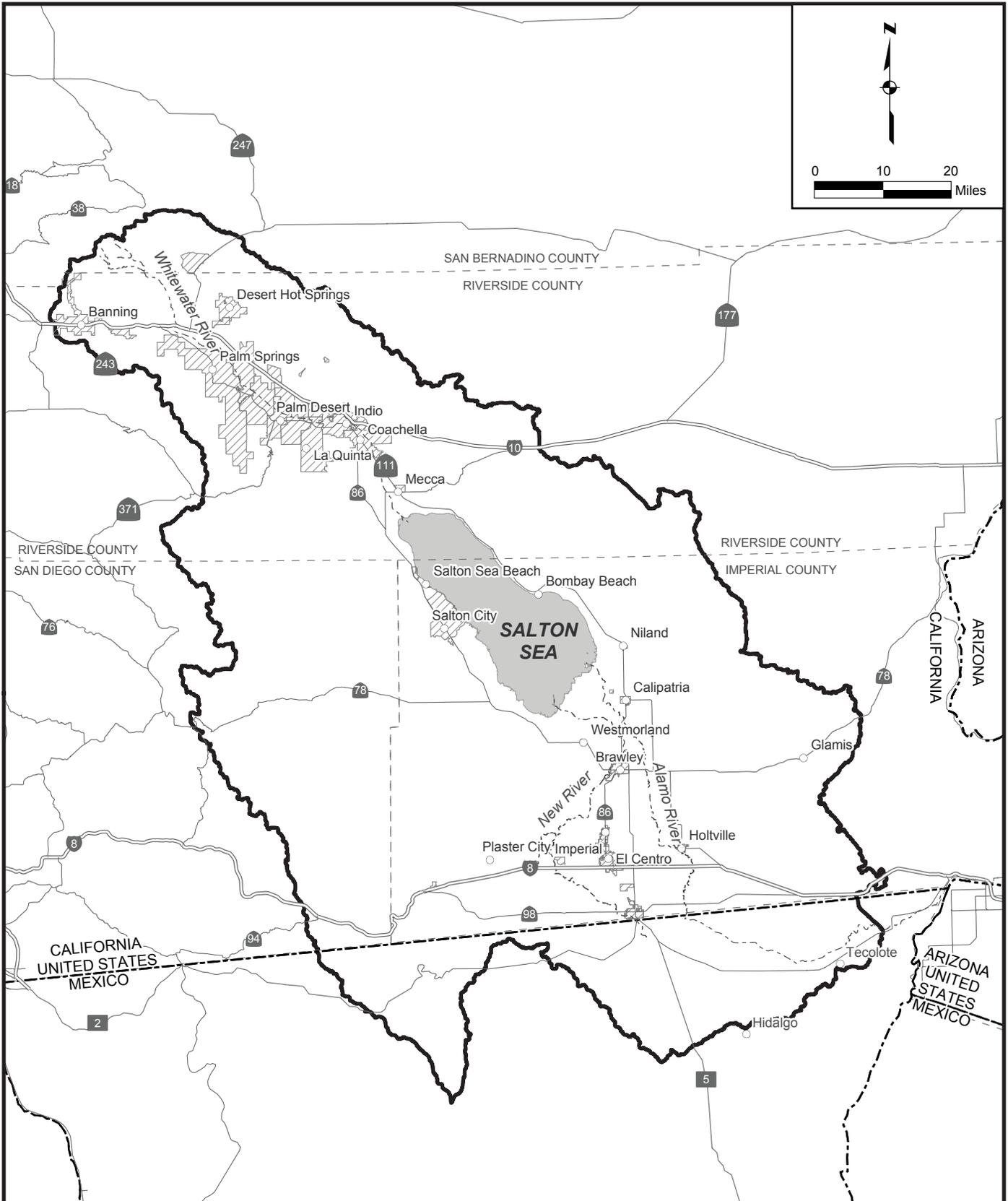
State Highway 86, located to the west of the Salton Sea, extends in a north to south direction from Interstate 10 near Indio to Interstate 8 near El Centro. State Highway 111 extends in a north to south direction from Interstate 10 near Indio to United States-Mexico border at Calexico, and includes a crossing of Interstate 8 near El Centro. State Highway 78 extends in an west to east direction from San Diego County to State Highway 86 near the southwestern Salton Sea shoreline. Portions of the State highways include dual classifications, such as a portion of State Highway 86 is concurrent with State Highway 78 from Brawley to the southwestern Salton Sea shoreline. State Highway 115 parallels State Highway 111 and extends from Holtville to Niland. Caltrans is constructing a new expressway near the intersection of State Highways 78, 86, and 111 at Brawley. This improvement is scheduled to be completed by 2008.

Roadway operating conditions are established by federal, State, regional, and local agencies and are generally expressed in terms of LOS. LOS is a qualitative measure based upon judgment of the traffic planners. Basic definitions, as presented in Table 20-1, are used in Imperial and Riverside counties. In addition, LOS classifications generally consider width of paved and unpaved rights-of-way, changes in speeds to accommodate cross walks and municipal speed zones (such as in Imperial County when State Highway 86 crosses both municipal and agricultural areas), percentage of vehicles that are trucks versus cars or agricultural vehicles (especially if there are no available parallel routes), accidents/million vehicle miles on the route, and travel time and velocity. Under Existing Conditions, CalTrans publishes Peak Traffic and Average Daily Traffic based upon traffic counts that are periodically updated. Therefore, LOS can be different along adjacent portions of a route, and can change from a LOS A to LOS B to reflect additional traffic entering the roadway, to LOS A if the roadway is widened or speed limit is increased in the adjacent portion of the route.

Table 20-1
Level of Service Definitions

Level of Service	Description
A	Free flow, with users unaffected by others on the roadway.
B	Stable flow, but the presence of others in the traffic stream becomes noticeable.
C	Stable flow, but users become affected by others in the traffic stream.
D	High-density but stable flow; speed and freedom of movement are severely restricted; poor level of comfort and convenience.
E	High-density, with traffic demand usually at capacity, resulting in long traffic delays.
F	Forced or breakdown flow, with traffic demand exceeding capacity; unstable stop-and-go traffic.

Source: Transportation Research Board (TRB). 2000. Highway Capacity Manual, pages 12-7 and 12-8.



**FIGURE 20-1
REGIONAL ACCESS ROUTES
TO THE SALTON SEA**

Recent traffic volumes and LOS in the study area along Interstates 8 and 10 and State Highways 78, 86, and 111 are shown in Table 20-2. Peak-hour traffic and average daily traffic (ADT) are based on traffic volumes and peak-hour volumes published by Caltrans. For the peak-hour and peak-direction traffic, CalTrans assumed directional traffic to be 60 percent of the total peak-hour traffic in both directions for the roadway segments where no data are available (TRB, 2000). Additionally, Caltrans and Imperial County has assumed that freeway capacity is 2,000 vehicles/hour/lane, four-lane highway capacity is 1,800 vehicles/hour/lane, and two-lane highway capacity is 1,500 vehicles/hour/lane (Highway Capacity Manual, 2000). Directional traffic and capacity values are based on guidance from the Transportation Research Board’s Highway Capacity Manual with adjustments for truck percentages.

Railroads

The Union Pacific Railroad along the Salton Sea is classified as a “critical route” that carries up to 70 trains/day. Virtually all of the trains are intermodal trains that move rapidly between Los Angeles and Texas, and do not stop in the Salton Sea area. Local trains use the tracks occasionally, but they must be scheduled to not conflict with the intermodal trains (Lucas, 2005). A new 5-mile rail spur will be constructed to connect the Mesquite Regional Landfill, located northeast of Brawley on State Highway 78, with the Union Pacific mainline. The rail spur is expected to be operational by late 2009 (Sanitation Districts of Los Angeles County, 2005). The privately owned railroad track that runs between the Eagle Mountain Mine and the Salton Sea includes sidings. This track has been damaged during storms and is not currently functional. Repairs to this track could occur within a short period of time (Kaiser Ventures LLC, 2006).

Airports

Local airports that provide passenger service near the Salton Sea include the Imperial County Airport in Imperial and Palm Springs International Airport. The Holtville Airport is closed indefinitely. Regional airports include San Diego International Airport and Ontario International Airport, which are not included in the study area, as described above. Smaller general aviation airports are located in the communities surrounding the Salton Sea. Information regarding the types of air traffic experienced at each of the local airports and the average number of daily aircraft operations is summarized in Table 20-3.

**Table 20-2
Recent Traffic Volumes and Level of Service on Key Roadways Near the Salton Sea**

County	Location	Peak Traffic in Peak Direction	Average Daily Traffic	Lanes in One Direction	Level of Service
Interstate 8					
Imperial	Junction State Highway 98	1,088	14,700	2	A
Imperial	El Centro, Junction State Highway 86	2,640	32,000	2	C
Imperial	Junction State Highway 111	2,040	34,000	2	B
Imperial	Junction State Highway 115	657	10,800	2	A
Imperial	Junction State Highway 98	900	11,500	2	A
Imperial	Junction State Highway 186	1,020	13,200	2	A
Interstate 10					
Riverside	Indio, Jefferson Street/Indio Boulevard	3,693	73,000	2	E
Riverside	Indio, North Junction State Highway 111	2,760	52,000	3	B
Riverside	Indio, South Junction State Highway 86	2,610	49,000	2	C
Riverside	Eagle Mountain Road	1,470	22,600	2	B
Riverside	Junction State Highway 177	1,470	22,600	2	B

**Table 20-2
Recent Traffic Volumes and Level of Service on Key Roadways Near the Salton Sea**

County	Location	Peak Traffic in Peak Direction	Average Daily Traffic	Lanes in One Direction	Level of Service
State Highway 78					
Imperial	North Junction State Highway 86	108	880	1	A
Imperial	Brawley, West Junction State Highway 111	960	19,000	2	B
Imperial	Brawley, East Junction State Highway 111	437	8,900	2	A
Imperial	West Junction State Highway 115	412	3,800	1	A
Imperial	East Junction State Highway 115	279	3,100	1	A
State Highway 86					
Imperial	El Centro, Junction State Highway 8	1,032	20,500	2	B
Imperial	Imperial, Imperial Avenue	1,410	24,600	2	B
Imperial	Brawley, South Junction State Highway 78	660	12,100	2	A
Imperial	North Junction State Highway 78	975	11,500	2	B
Imperial	Salton City, South Marina Drive	720	11,300	2	A
Imperial	Salton Sea Beach Road (Brawley Avenue)	1,000	12,500	2	B
Imperial	Desert Shores Drive	780	12,000	2	A
Riverside	Coachella, Junction State Highway 111	960	18,800	2	B
Riverside	Junction State Highway 10	1,140	21,500	2	B
State Highway 111					
Imperial	Calexico, Second Street	2,453	43,500	2	D
Imperial	West Junction State Highway 86 West	1,585	34,000	2	C
Imperial	Junction State Highway 8	2,190	37,000	2	C
Imperial	Brawley, East Junction State Highway 78	444	7,500	1	A
Imperial	Calipatria, Junction State Highway 115	396	6,300	1	A
Imperial	Niland, Niland Avenue	324	5,100	1	A
Imperial	Bombay Beach Road	211	2,300	1	A
Riverside	Salton Sea State Park Road	168	3,000	1	A
Riverside	Mecca, West Junction State Highway 195	219	3,450	1	A
Riverside	Coachella, South Junction State Highway 86	660	11,000	1	B

Source: Caltrans, 2005a and 2005b.

**Table 20-3
Public Airports near the Salton Sea**

Airport Name	Location	Uses	Average Daily Aircraft Operations
Bermuda Dunes	Palm Springs, California	Transient general aviation – 55% Local general aviation – 27% Air taxi – 18% Military – Less than 1%	121
Brawley Municipal Airport	Brawley, California	Transient general aviation – 40% Local general aviation – 59% Air taxi – 1%	137
Calexico International Airport	Calexico, California	Transient general aviation – 71% Local general aviation – 22% Air taxi – 7%	74
Chiriaco Summit Airport	Chiriaco Summit, California	Transient general aviation – 100%	16
Cliff Hatfield Memorial Airport	Calipatria, California	Transient general aviation – 100%	4
Desert Center Airport	Desert Center, California	Transient general aviation – 100%	Less than 1
Imperial County Airport	Imperial, California	Transient general aviation – 43% Local general aviation – 41% Air taxi – 14% Military – 2%	202
Jacqueline Cochran Regional Airport	Palm Springs, California	Transient general aviation – 62% Local general aviation – 36% Air taxi – 1% Military – 1%	209
Palm Springs International Airport	Palm Springs, California	Transient general aviation – 45% Local general aviation – 19% Air taxi – 27% Military – Less than 1% Commercial – 9%	279
Salton Sea Airport	Salton City, California	Transient general aviation – 78% Local general aviation – 22%	38/month

Source: AirNav.com, 2005.

ENVIRONMENTAL IMPACTS

Analysis Methodology

The impact assessment methodology used to support the transportation and traffic analysis presented in this chapter is based upon comparing the projected traffic in the peak hour in the peak direction to Existing Conditions and the No Action Alternative.

Significance Criteria

The following significance criteria were based on CEQA and used to determine if changes as compared to Existing Conditions and the No Action Alternative would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system; or exceed either individually or cumulatively, a LOS standard established by the county for designated roads or highways;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity; and
- Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Application of Significance Criteria

Significance criteria have been applied to the alternatives considered in the Draft Programmatic Environmental Impact Report (PEIR). The following list summarizes the overall methodology in the application of the criteria to the alternatives:

- **Cause a Substantial Increase in Traffic that may or may not exceed LOS** – The peak increase in traffic would occur in the peak construction period. Vehicle use by employees during operations and maintenance would be less than under the peak construction period. Therefore, the analysis is based upon the peak construction period;
- **Substantially Increases Hazards due to Design Features or Incompatible Use** – The alternatives do not include new roads. Use of existing roads would be in accordance with design criteria. Therefore, the analysis in the PEIR does not evaluate an increase in hazards due to design features or incompatible use;
- **Result in Inadequate Emergency Access** – The alternatives do not include construction along existing roads that would affect emergency access. It is recognized that as part of project-level analyses, specific traffic plans would be completed to reduce substantial traffic increases that could reduce emergency response times, as addressed in the first criterion described above;
- **Result in Inadequate Parking** – The alternatives do not include construction along existing roads that would affect parking. The construction sites would be of substantial size and located at some distance from roadways. It assumed that parking for construction and operations and maintenance workers would be provided at the facility sites. Therefore, parking capacity is not considered in the PEIR; and
- **Conflict with Policies Related to Alternative Transportation** – The alternatives do not include construction along existing roads that would affect access for alternative transportation. Project-level analyses would be completed to reduce substantial traffic increases including car pooling or use of alternative transportation. Therefore, the analysis in the PEIR does not evaluate alternative transportation opportunities.

Summary of Assumptions

The assumptions related to the descriptions of the alternatives are described in Chapter 3. The specific assumptions related to the analysis of transportation and traffic are summarized in Table 20-4.

Table 20-4
Summary of Assumptions for Transportation and Traffic

Assumptions Common to All Alternatives	
1.	The alternatives do not include any new or expanded roadways, railroads, or airports.
2.	Most of the truck traffic would be involved in transporting rock and gravel; the amount of truck traffic required to deliver other construction materials would be incidental in comparison. Specific quarry locations and transportation routes are not known, nor is the method of transporting quarried rock. However, it is assumed that all rock and gravel, even if delivered to the area by rail, would need to be transported on roadways for at least part of the route. During project-level analysis, the use or extension of railroads and/or airports could be considered and evaluated based upon specific details.
3.	Each construction worker would generate two trips/day, arriving at and departing from the construction sites located in or adjacent to the Sea Bed or shoreline.
4.	The minimum number of trips that would be required to create an unacceptable LOS on a given roadway segment was determined for the Peak Construction Year: a) LOS C is the minimum acceptable; b) annual traffic growth rate for the Imperial County is 2 percent, except for State Highways 78 and 111; c) State Highways 78 and 111 will be widened once the ADT exceeds 10,000 vehicles (Imperial County, 2006); d) annual traffic growth rate for the Riverside County is 1.1 percent (Riverside County, 2004); and e) LOS calculations based on the number of passenger vehicles and 1.5 "passenger-car equivalent" for trucks.
Assumptions Specific to the Alternatives	
No Action Alternative and Alternatives 1, 2, 3, 4, 5, 6, 7, and 8	No additional assumptions were made.

Summary of Impact Assessment

The impacts shown in Table 20-5 assume implementation of the Next Steps to reduce the adverse impacts.

No Action Alternative

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Pupfish Channels, and Salton Sea. The construction activities would be identical under the No Action Alternative-CEQA Conditions and the No Action Alternative-Variability Conditions. Therefore, impacts related to disturbance would be the same for both conditions.

Population and related use of transportation facilities in the study area and in Southern California are expected to increase. Projected peak daily traffic on the key roadways to provide LOS C for 2020 and 2078 are summarized in Tables 20-6 and 20-7 (CalTrans, 2005a and 2005b). Projected peak hourly traffic in peak direction was calculated using the same ratios between daily traffic and peak hourly traffic used by CalTrans and Imperial County for Existing Conditions in Table 20-2. The 2020 traffic levels are used to compare the impacts of construction of Air Quality Management facilities under the No Action Alternative. The 2078 traffic levels are used to compare the impacts of operations and maintenance of Air Quality Management facilities under the No Action Alternative.

**Table 20-5
Summary of Benefit and Impact Assessments to Transportation and Traffic**

Alternative	Basis of Comparison	Changes by Phase				Comments	Next Steps
		I	II	III	IV		
Criterion: Cause a substantial increase in traffic.							
No Action Alternative	Existing Conditions	L	L	L	L	Peak traffic could be 502 vehicles during construction and 100 vehicles during operations. This could exceed LOS C if all vehicles accessed the site at one time on the same roads.	Construction and operations and maintenance activities would be required through permit requirements to comply with all applicable traffic regulations and maintain emergency access. Traffic studies would be conducted to identify methods to minimize impacts during all phases, including: Extension of railroads, use of conveyors, user of carpools, work hours to avoid employee and construction vehicles during peak hours, on-site parking areas for employee vehicles, and use of flagpersons.
	No Action Alternative	NA	NA	NA	NA		
Alternatives 1 - 8	Existing Conditions	L	L	L	L	Peak traffic during construction and operations and maintenance activities could exceed LOS C if all vehicles accessed the site at one time on the same roads.	Same as No Action Alternative.
	No Action Alternative	L	L	L	L		

Legend for Types of Benefits or Impacts in Each Phase:
 S = Significant Impact
 O = No Impact
 L = Less Than Significant
 B = Beneficial Impact
 NA = Not Analyzed

**Table 20-6
Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2020**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon 30 percent of Peak Trucks per Day plus Other Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
Interstate 8											
Junction State Highway 98	1,494	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
El Centro, Junction State Highway 86	3,624	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Junction State Highway 111	2,800	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Junction State Highway 115 North	902	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Junction State Highway 98	1,236	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Junction State Highway 186	1,400	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Interstate 10											
Indio, Jefferson Street/Indio Boulevard	4,166	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Indio, North Junction State Highway 111	3,114	4,440	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Indio, South Junction State Highway 86	2,944	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Eagle Mountain Road	1,658	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Junction State Highway 177	1,658	2,960	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900

**Table 20-6
Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2020**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon 30 percent of Peak Trucks per Day plus Other Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
State Highway 78											
North Junction State Highway 86	148	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Brawley, West Junction State Highway 111	1,318	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Brawley, East Junction State Highway 111	601	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
West Junction State Highway 115	566	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
East Junction State Highway 115	383	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
State Highway 86											
El Centro, Junction State Highway 8	1,416	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Imperial, Imperial Avenue	1,936	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Brawley, South Junction State Highway 78	906	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
North Junction State Highway 78	1,339	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Salton City, South Marina Drive	988	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900

**Table 20-6
Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2020**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon 30 percent of Peak Trucks per Day plus Other Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
Salton Sea Beach Road (Brawley Avenue)	1,373	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Desert Shores Drive	1,071	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Coachella, Junction State Highway 111	1,083	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Junction State Highway 10	1,286	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
State Highway 111											
Calexico, Second Street	3,368	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
West Junction State Highway 86	2,176	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Junction State Highway 8	3,006	2,232	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Brawley, East Junction State Highway 78	609	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Calipatria, Junction State Highway 115	544	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Niland, Niland Avenue	445	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Bombay Beach Road	289	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Salton Sea State Park Road	190	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900

**Table 20-6
 Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2020**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon 30 percent of Peak Trucks per Day plus Other Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
Mecca, Junction State Highway 195 West	247	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900
Coachella, Junction State Highway 86	745	1,050	501	1,016	1,533	1,900	1,530	1,966	2,833	2,733	2,900

Source: Caltrans, 2005a and 2005b.

**Table 20-7
Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2078**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
Interstate 8											
Junction State Highway 98	4,710	2,960	100	200	300	300	25	300	350	200	300
El Centro, Junction State Highway 86	11,429	2,960	100	200	300	300	25	300	350	200	300
Junction State Highway 111	8,832	2,960	100	200	300	300	25	300	350	200	300
Junction State Highway 115 North	2,844	2,960	100	200	300	300	25	300	350	200	300
Junction State Highway 98	3,896	2,960	100	200	300	300	25	300	350	200	300
Junction State Highway 186	4,416	2,960	100	200	300	300	25	300	350	200	300
Interstate 10											
Indio, Jefferson Street/Indio Boulevard	5,880	2,960	100	200	300	300	25	300	350	200	300
Indio, North Junction State Highway 111	4,394	4,440	100	200	300	300	25	300	350	200	300
Indio, South Junction State Highway 86	4,156	2,960	100	200	300	300	25	300	350	200	300
Eagle Mountain Road	2,341	2,960	100	200	300	300	25	300	350	200	300
Junction State Highway 177	2,341	2,960	100	200	300	300	25	300	350	200	300

**Table 20-7
Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2078**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
State Highway 78											
North Junction State Highway 86	468	1,050	100	200	300	300	25	300	350	200	300
Brawley, West Junction State Highway 111	4,156	2,232	100	200	300	300	25	300	350	200	300
Brawley, East Junction State Highway 111	1,894	2,232	100	200	300	300	25	300	350	200	300
West Junction State Highway 115	1,785	1,050	100	200	300	300	25	300	350	200	300
East Junction State Highway 115	1,207	1,050	100	200	300	300	25	300	350	200	300
State Highway 86											
El Centro, Junction State Highway 8	4,467	2,232	100	200	300	300	25	300	350	200	300
Imperial, Imperial Avenue	6,104	2,232	100	200	300	300	25	300	350	200	300
Brawley, South Junction State Highway 78	2,858	2,232	100	200	300	300	25	300	350	200	300
North Junction State Highway 78	4,223	2,232	100	200	300	300	25	300	350	200	300
Salton City, South Marina Drive	3,117	2,232	100	200	300	300	25	300	350	200	300

**Table 20-7
Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2078**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
Salton Sea Beach Road (Brawley Avenue)	4,329	2,232	100	200	300	300	25	300	350	200	300
Desert Shores Drive	3,377	2,232	100	200	300	300	25	300	350	200	300
Coachella, Junction State Highway 111	1,529	2,232	100	200	300	300	25	300	350	200	300
Junction State Highway 10	1,195	2,232	100	200	300	300	25	300	350	200	300
State Highway 111											
Calexico, Second Street	10,621	2,232	100	200	300	300	25	300	350	200	300
West Junction State Highway 86	6,863	2,232	100	200	300	300	25	300	350	200	300
Junction State Highway 8	9,481	2,232	100	200	300	300	25	300	350	200	300
Brawley, East Junction State Highway 78	1,920	1,050	100	200	300	300	25	300	350	200	300
Calipatria, Junction State Highway 115	1,714	1,050	100	200	300	300	25	300	350	200	300
Niland, Niland Avenue	1,403	1,050	100	200	300	300	25	300	350	200	300
Bombay Beach Road	911	1,050	100	200	300	300	25	300	350	200	300
Salton Sea State Park Road	267	1,050	100	200	300	300	25	300	350	200	300

**Table 20-7
 Comparison of Projected Peak Traffic Volumes in Peak Direction and Level of Service C on Key Roadways in 2078**

Location	Projected Peak Traffic without Alternatives	LOS C Criteria	Maximum Number of Additional Vehicles for Projected Peak Traffic under the Alternatives based upon Employee Vehicles								
			No Action Alternative	1	2	3	4	5	6	7	8
Mecca, Junction State Highway 195 West	349	1,050	100	200	300	300	25	300	350	200	300
Coachella, Junction State Highway 86	1,051	1,050	100	200	300	300	25	300	350	200	300

Source: Caltrans, 2005a and 2005b.

These projections do not include proposed improvements defined in the Southern California Association of Government (SCAG) Destination 2030, a Regional Transportation Plan (RTP) that includes Imperial and Riverside counties. The RTP proposes 23 projects to be completed through 2022 and beyond.

Projects that could be completed by 2012 if funding is available, include improvements along Interstate 8; and State Highways 78, 98, 111, and 115.

Construction of the Air Quality Management facilities under the No Action Alternative would increase traffic by 4 trucks/day to transport rock and gravel. It also is estimated that there would be 500 other construction workers. Due to the programmatic nature of this analysis, project-level traffic plans were not prepared or evaluated. Therefore, it is not known if all of the traffic would access the site at the same time or on the same routes. In 2020, it is projected that a portion of State Highway 111 would exceed LOS C without the additional vehicles. If this route were used, there could be a significant impact.

During operations, it is assumed that there would be 100 employees. As described above, traffic plans were not developed for the alternatives. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

Alternative 1 – Saline Habitat Complex I

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Pupfish Channels, Saline Habitat Complex, and Brine Sink.

Alternative 1 would increase traffic by 50 trucks/day to transport rock and gravel. It also is estimated that there would be 1,000 other construction workers. As described above, traffic plans were not developed for the alternatives. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 200 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles. Therefore, if all vehicles accessed the area at the same time and there were no road improvements, there could be a significant impact.

Alternative 2 – Saline Habitat Complex II

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Saline Habitat Complex, Shoreline Waterway, Saltwater Conveyance, and Brine Sink.

Alternative 2 would increase traffic by 100 trucks/day to transport rock and gravel. It also is estimated that there would be 1,500 construction workers. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 300 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

Alternative 3 – Concentric Rings

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, First and Second rings, and Brine Sink.

Alternative 3 would increase traffic by 1,200 trucks/day to transport rock and gravel. The Perimeter Dike would need to be constructed continuously for 24-hours/day, 7 days/week to avoid differential settling

when placing the rock. It also is estimated that there would be 1,500 construction workers. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 300 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

Alternative 4 – Concentric Lakes

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins; First, Second, Third, and Fourth lakes; and Brine Sink.

Alternative 4 would increase traffic by 90 trucks/day to transport rock and gravel. It also is estimated that there would be 1,500 construction workers. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 25 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

Alternative 5 – North Sea

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Saline Habitat Complex, Shoreline Waterway, Saltwater Conveyance, Marine Sea, Marine Sea Recirculation Canal, and Brine Sink.

Alternative 5 would increase traffic by 1,400 trucks/day to transport rock and gravel. The Barrier would need to be constructed continuously for 24-hours/day, 7 days/week to avoid differential settling when placing the rock. It also is estimated that there would be 1,500 construction workers. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 300 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

Alternative 6 – North Sea Combined

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basin, Air Quality Management, Pupfish Channels, Saline Habitat Complex, Shoreline Waterway, Saltwater Conveyance, Marine Sea, Marine Sea Mixing Zone, Marine Sea Recirculation Canal, and Brine Sink.

Alternative 6 would increase traffic by 2,500 trucks/day to transport rock and gravel. The Barrier and Perimeter Dike would need to be constructed continuously for 24-hours/day, 7 days/week to avoid differential settling when placing the rock. It also is estimated that there would be 2,000 construction workers. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 350 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

Alternative 7 – Combined North and South Lakes

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basin, Air Quality Management using Protective Salt Flat on Exposed Playa below -255 feet msl, Exposed Playa without Air Quality Management above -255 feet msl, Saline Habitat Complex, Recreational Saltwater Lake, Recreational Estuary Lake, Marine Sea Recirculation Canal, IID Freshwater Reservoir, two Treatment Plants, and Brine Sink.

Alternative 7 would increase traffic by 2,200 trucks/day to transport rock and gravel. The Barrier and Perimeter Dike would need to be constructed continuously for 24-hours/day, 7 days/week to avoid differential settling when placing the rock. It also is estimated that there would be 2,000 construction workers. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 200 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

Alternative 8 – South Sea Combined

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Saline Habitat Complex, Shoreline Waterway, Marine Sea, Marine Sea Recirculation Canal, and Brine Sink.

Alternative 8 would increase traffic by 2,700 trucks/day to transport rock and gravel. The Barrier and Perimeter Dike would need to be constructed continuously for 24-hours/day, 7 days/week to avoid differential settling when placing the rock. It also is estimated that there would be 2,000 construction workers. In 2020, the additional vehicles could cause traffic to exceed LOS C on portions of Interstates 10 and 8 and State Highways 78, 86, and 111.

During operations, it is assumed that there would be 300 employees. In 2078, portions of Interstates 10 and 8 and State Highways 78, 86, and 111 would exceed LOS C without additional vehicles.

NEXT STEPS

During the project-level analysis, a traffic study would be conducted to identify methods to minimize impacts during all phases. The following measures could be used to reduce impacts on roadways:

- Extend railroad sidings to the shoreline or trestles to construction sites in the Sea;
- Use conveyors and railroads to deliver rock, gravel, sand, and other construction materials to the shoreline or construction sites on the Sea Bed;
- Encourage carpooling or the use of vans to minimize the use of construction worker vehicles;
- Stagger start and stop times of shifts to avoid arrivals and departures at the same time;
- Route construction vehicles to avoid vehicles on roads during peak hours and to avoid communities;
- Establish parking areas for construction worker vehicles at the construction site;
- Use flagpersons as needed to ensure the safe ingress and egress onto public roads;
- Maintain adequate emergency access at all times; and
- Design appropriate entrance and exit lanes to minimize dangers to traffic.