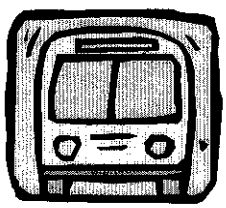
5.7 Transportation

The CALFED Bay-Delta Program would result in short-term traffic and railway disruptions due to road closings and traffic diversions. Long-term transportation benefits could include road improvements and rerouting traffic to improve flow.



5.7 Transportation

5.7.1 SUMMARY

Transportation plays a vital role in the functioning of society by providing for the mobility of people and goods. Transportation systems enable people to access job markets and participate in recreational, cultural, educational, and social activities. Transportation substantially affects the economy, both as a consumer of resources and a supplier of jobs.

The Program study area is served by a complex system of roads, highways, freeways, and rail lines.

The CALFED Bay-Delta Program (Program) study area is served by a complex system of roads, highways, freeways, and rail lines. New roadway networks have facilitated growth and urbanization along their corridors. Commercial shipping routes originate at the Golden Gate and traverse the San Francisco, San Pablo, and Suisun Bays. These routes continue to commercial and industrial ports in the Delta waterways. An extensive system of commercial ports also extends from San Luis Obispo to San Diego within the Program's geographic area.

Preferred Program Alternative. Program elements would not alter or modify any existing commercial shipping routes or commercial ports in any Program region.

The Preferred Program Alternative could involve relocating highways, constructing new bridges, and replacing or relocating local roads. During construction of bridges or road segments, traffic may be temporarily detoured. If detour locations are nearby, easily accessed, and adequate for the traffic demand, impacts on traffic likely would be minimal. If detours are extensive during the construction period, some impact on existing traffic volumes could occur from the rerouted traffic. Some roads could be improved or permanently rerouted, potentially diverting traffic from or attracting traffic to established routes.

Construction activities associated with the Levee System Integrity Program would directly affect only the Delta Region. Construction activities could affect traffic if roads along or adjacent to the levees were temporarily closed, requiring traffic to be detoured. A potentially significant unavoidable impact could occur if a road was closed permanently, causing traffic volume to shift to an alternate route.

Alternatives 1, 2, and 3. Impacts under Alternatives 1, 2, and 3 would be similar to those described for the Preferred Program Alternative. Alternative 3 has the greatest potential for construction-related impacts on transportation because of its larger-scale conveyance

features. Alternative 1, conversely, has the least potential for construction-related impacts on transportation because it involves fewer conveyance facilities.

The following table presents the potentially significant adverse impacts and mitigation strategies associated with the Preferred Program Alternative. Mitigation strategies that correlate to each listed impact are noted in parentheses.

Potentially Significant Adverse Impacts and Mitigation Strategies Associated with the Preferred Program Alternative

Potentially Significant Adverse Impacts	Mitigation Strategies
Changing traffic flows as roads are temporarily rerouted around construction sites (1,3).	1. Providing convenient and parallel detours to routes closed during construction.
Relocating or permanently closing roads (3).	2. Allowing trains to use existing tracks while bridges are being built.
Detouring traffic as new roadways and railroad bridges are constructed around storage facility construction (1,2).	3. Expanding public transportation facilities, freeways, and highways.
Adding construction vehicles to existing traffic levels, especially on narrow, two-lane local roads with winding routes (4).	4. Clearly marking roadway intersections with warnings where visibility is poor in the project vicinity.
Closing two-lane roads to one lane in order to facilitate roadway improvements or relocations in association with the Watershed Program (1,4).	5. Providing boat portage or a stationary jib crane, relocating boat launch facilities, or relocating emergency access roads.
Impeding or blocking patrol or rescue boats in Delta sloughs where fish barriers and flow control structures are installed (5).	6. Requiring contractors to use appropriate state and federal safety protocols.
Creating safety conflicts by operating large, slow-moving, dredging equipment on Delta waterways (6).	

Bold indicates a potentially significant unavoidable impact.

5.7.2 AREAS OF CONTROVERSY

Areas of controversy as defined by CEQA involve differences of opinion among technical experts or information that is not available and cannot be readily obtained. According to this definition, no areas of controversy are related to transportation.

5.7.3 AFFECTED ENVIRONMENT/ EXISTING CONDITIONS

5.7.3.1 DELTA REGION

The Delta Region is serviced by several major freeways. I-5 and State Route 99 (SR 99) run north-south through the region. I-80 and U.S. 50 run east-west through Sacramento. Other minor highways run from Sacramento and Stockton to small cities and towns in the region. New roadway networks have facilitated growth and urbanization along their corridors and within parts of the upper watershed areas of each Program region.

New roadway networks have facilitated growth and urbanization along their corridors and within parts of the upper watershed areas of each Program region.

Local roads in the Delta are often narrow with winding routes and can be hazardous to the unwary traveler. Traffic occasionally includes slow, over-sized farm equipment, which also poses safety problems.

The rail lines servicing the Delta Region are the Southern Pacific; Western Pacific; and Atchison, Topeka and Santa Fe (ATSF) lines. These lines run from Sacramento to Stockton, with the Southern Pacific line extending from these major cities to other smaller cities in the Delta Region.

Commercial shipping routes originating at the Golden Gate traverse the San Francisco Bay, San Pablo Bay, Suisun Bay, and Delta waterways, continuing to commercial and industrial ports. In the Delta Region, commercial and industrial ports are situated along rivers. Two ports are located along the Sacramento River between Sacramento and Walnut Grove. Another commercial port is at Isleton, also along the Sacramento River. An additional commercial port is near Terminous, on the Little Potato Slough; and two ports are adjacent to one another—on the Old River and Middle River, northeast of Brentwood. Finally, a commercial port, the Port of Stockton, is located in Stockton on the San Joaquin River.

The commercial Port of Stockton is on the San Joaquin River.

5.7.3.2 BAY REGION

The Bay Region is served by numerous interstate and U.S. freeways. On the west side of the San Francisco Bay, I-280 and U.S. 101 run north-south. U.S. 101 continues north of San Francisco into Marin County. I-880 and I-680 run north-south on the east side of the Bay. I-80 starts in San Francisco, crosses the Bay Bridge, and runs northeast toward Sacramento. SR 92 and SR 84, both highways that allow at-grade crossings, in certain parts of the region become freeways that run east-west and cross the Bay. I-580 starts in San Leandro on the east side of the Bay and runs eastward toward Livermore.

Southern Pacific is the predominant rail line in the Bay Region; however, minor spurs of the Western Pacific and ATSF lines also are present.

The leading ports of California include the complex of harbors in San Francisco Bay. The presence of these natural harbors led to the growth of San Francisco. Numerous commercial ports are located along the northeastern and eastern bayshores of San Francisco, and also at Treasure and Yerba Buena Islands. Shipping routes extend southward into San Francisco Bay, where commercial ports are located along the peninsula in South San Francisco and San Carlos. On the east side of San Francisco Bay, commercial ports are found in Alameda and Oakland. Shipping routes that head north into San Pablo Bay have ports at San Rafael and along the bayshores of Richmond, San Pablo, Hercules, Rodeo, Vallejo, and Mare Island. The shipping route continues through the Carquinez Strait and into Suisun Bay, with ports at Crockett, Martinez, Port Chicago, Pittsburg, and Antioch.

The leading ports of California include the complex of harbors in San Francisco Bay. The presence of these natural harbors led to the growth of San Francisco.

5.7.3.3 SACRAMENTO RIVER REGION

SR 45 follows the Sacramento River north from Sacramento. I-5 parallels SR 45 and the Sacramento River to the west and passes through Redding. SR 99 and SR 70, portions of which are expressway, also run north-south from Sacramento northward toward Chico.

The upper watershed areas west and east of the Sacramento Valley contain a network of state freeways. Major routes on the west side of the valley include SR 29, which runs north-south through Napa and Lake Counties; and several east-west freeways, including SR 20 in Lake County, SR 162 in Glenn County, and SR 36 in Tehama and Trinity Counties. SR 299, also an east-west route, traverses Trinity, Shasta, Lassen, and Modoc Counties in the northern watershed areas. Major east-west routes on the east side of the valley include SRs 70, 49, and 88; U.S. 50; and I-80.

Southern Pacific is the main rail line serving the Sacramento River Region, roughly following the I-5 route. Western Pacific has lines in this area, traveling farther east through Marysville and Oroville. Western Pacific also provides rail service in the upper watershed areas east of the Sacramento Valley through Plumas and Lassen Counties.

A deep water ship channel runs from Cache Slough in the Delta Region to the City of West Sacramento, where the Port of Sacramento is located.

A deep water ship channel runs from Cache Slough in the Delta Region to the City of West Sacramento, where the Port of Sacramento is located.

5.7.3.4 SAN JOAQUIN RIVER REGION

I-5 and SR 99 are the two major freeways that run north-south from Stockton through the Central Valley to Bakersfield. SR 41 runs in a north-south direction south of Fresno. Other minor highways connect smaller cities and towns in the Central Valley with the two interstate freeways and SR 152, an expressway that runs east-west and connects Los Banos and Chowchilla.

Several east-west routes traverse areas in the upper watershed on the east side of the San Joaquin Valley, including SR 180 that terminates in Yosemite National Park, SR 168 in Fresno County, and SR 190 and SR 198 in Tulare County.

The San Joaquin River Region is served mainly by the Southern Pacific and ATSF lines, which roughly follow the route of I-5 through the San Joaquin Valley.

No commercial ports or shipping routes are located in this region.

No commercial ports or shipping routes are located in the San Joaquin River Region.

5.7.3.5 Other SWP and CVP Service Areas

The Other SWP and CVP Service Areas region includes two distinct, noncontiguous areas: in the north, are the San Felipe Division's CVP service area and the South Bay SWP service area; to the south, are the SWP service areas. The northern section of this region encompasses parts of the central coast counties of Santa Clara, San Benito, Santa Cruz, and Monterey. The southern portion includes parts of Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura Counties.

Numerous freeways and expressways serve the southern portion. U.S. 101 travels north and south near the coast from San Luis Obispo south to Los Angeles. I-5 travels north and south through the Central Valley to Los Angeles and on to San Diego. An extensive and intricate freeway system serves the Los Angeles area. I-10 runs east from Los Angeles toward Arizona, while I-8 runs east-west from San Diego to Arizona.

The Southern Pacific line runs north and south near the coast, from the Bay Area through Los Angeles, then southeast toward the Arizona-Mexico border.

The Los Angeles-Long Beach installation on San Pedro Bay is one of the leading ports of California. The growth of Los Angeles led to the creation of its artificial harbors. Other harbors in this area serving commercial shipping are at San Luis Obispo, Santa Barbara, Carpinteria, Port Hueneme, El Segundo, Los Angeles, Long Beach, and San Diego.

The growth of Los Angeles led to the creation of its artificial harbors.

5.7.4 Assessment Methods

Features of each Program action were reviewed to determine whether any roads, rail lines, or shipping routes would be modified or relocated. Any feature that would change existing conditions was considered a potential impact. Construction-related impacts would occur only during the period of construction and are considered direct short-term impacts. Operations-related impacts would continue throughout the operation of the Program and are considered indirect long-term impacts.

Most transportation-related impacts are linked to construction activities for restoration actions, levee improvements, and storage and conveyance facilities. Few operations-related

Long-term transportation impacts could result from roads improved or rerouted during construction of storage and conveyance facilities and from such features as flow control barriers.

impacts are anticipated for transportation resources; however, long-term impacts could result from roads improved or rerouted during construction of storage and conveyance facilities and from such features as flow control barriers.

5.7.5 SIGNIFICANCE CRITERIA

The significance of impacts was based primarily on the extent to which activities would change the flow of existing traffic or the volume of traffic on an existing route. Significance of impacts also relates to actions that could affect existing railroad tracks, commercial shipping routes, or ports. Any of the following changes that result from Program actions are considered potentially significant impacts:

- Changes to traffic flows or patterns.
- Attraction to or diversion from an existing route of substantial traffic volumes.
- Changes to a railway route by a major relocation of railroad tracks.
- Changes to commercial shipping routes or ports.
- Creation of a substantial hazard to navigation or a substantial change to the ease of navigation.

5.7.6 NO ACTION ALTERNATIVE

Under the No Action Alternative, no major changes to the existing railway system and commercial shipping routes are likely for any Program region. Traffic flows or patterns in each region could change as outlined below.

Under the No Action Alternative, no major changes to the existing railway system and commercial shipping routes are likely for any Program region.

5.7.6.1 DELTA AND BAY REGIONS

Existing trends in highway traffic patterns in the Delta and Bay Regions are expected to continue. The Delta Region has experienced considerable growth over the last several years, as people seeking affordable housing move to the area. Because many of these people work in the Bay Region, traffic on the major freeways and highways has increased—directly affecting highway traffic in both regions.

The Bay Region is one of the most populated regions in the study area. Numerous freeways and highways serve the traffic demands of the region. Growth in the area is continuing, as is the traffic demand for the existing roadway system. The anticipated continued increase in traffic volumes on the existing roadways most likely would exacerbate existing highway traffic.

5.7.6.2 Sacramento River and San Joaquin River Regions

Highway traffic in the Sacramento metropolitan area is heavily congested. The area is expected to continue to experience growth, resulting in continued impacts on traffic. North of the Sacramento urbanized area, however, the major freeways and highways are not heavily congested. Impacts on traffic in the future are unlikely, as this area is not projected for heavy growth.

Areas of the Central Valley that are near urban centers experience fairly heavy highway traffic congestion. Growth near these urban centers is expected to continue, which would further increase impacts.

Areas of the Central Valley that are near urban centers experience fairly heavy highway traffic congestion.

5.7.6.3 Other SWP and CVP Service Areas

The Other SWP and CVP Service Areas include San Luis Obispo, Santa Barbara, Ventura, eastern Kern, Los Angeles, Orange, San Bernardino, Riverside, and San Diego Counties—some of the most populated regions in the study area. Numerous freeways and highways serve these counties. Growth in the area is continuing, and so is the traffic demand for the existing roadway system. Continued increases in traffic volumes and associated impacts are anticipated.

The portion of the region served by the CVP's San Felipe Division is not as heavily populated as other portions of the region but is experiencing growth, particularly in the San Jose area.

The portion of the region served by the CVP's San Felipe Division is not as heavily populated as other portions of the region but is experiencing growth, particularly in the San Jose area.

5.7.7 CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES

For transportation, the environmental consequences of the Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, and Watershed Programs and the Storage element are similar under all Program alternatives, as described below. The environmental consequences of the Conveyance element vary among Program alternatives, as described in Section 5.7.8.

No Program alternative would alter or modify any existing commercial shipping routes or commercial ports in any Program region.

No Program alternative would alter or modify any existing commercial shipping routes or commercial ports in any Program region.

5.7.7.1 DELTA REGION

Ecosystem Restoration Program

Potential restoration activities associated with the Ecosystem Restoration Program, such as wetland development or habitat development on levees, could result in local, short-term, potentially significant adverse impacts on transportation. These impacts can be mitigated to less-than-significant levels.

Water Quality, Water Use Efficiency, Water Transfer, and Watershed Programs

The Water Quality, Water Use Efficiency, Water Transfer, and Watershed Programs would not affect transportation in the Delta Region.

Levee System Integrity Program

Roads that are on or near levees being improved could be affected by levee construction work, and traffic would need to be detoured during construction. This potentially significant adverse impact can be mitigated to a less-than-significant level. A potentially significant unavoidable adverse impact could occur if a road was closed or permanently relocated, causing traffic to find an alternate route and increasing the traffic volume and congestion on the new route.

Roads that are on or near levees being improved could be affected by levee construction work, and traffic would need to be detoured during construction.

Storage

New storage facilities could require constructing new roadway and railroad bridges, and relocating some local roads. Construction activities could include constructing a bridge for the ATSF Railroad. If the bridge construction takes place on the current rail line, it would be necessary to temporarily divert train traffic or alter train schedules. This impact is considered potentially significant, but mitigation is available to reduce the impact to a less-than-significant level.

Possible road relocations and new bridges could involve the long-term rerouting of traffic. Localized highway traffic impacts could occur if the use of the new roads and bridges directs travel through already congested areas. Mitigation exists to reduce this potentially significant impact to a less-than-significant level. Highway traffic may be temporarily detoured during construction of bridges or road segments. If detour locations are nearby, easily accessed, and adequate for the traffic demand, impacts on traffic likely would be less than significant. If a road was closed and no nearby detour was available, traffic would be rerouted altogether. This impact is considered potentially significant and unavoidable.

Dredging operations, spoils disposal, and construction of setback levees could substantially affect transportation. Dredging activities could create additional safety conflicts on Delta roadways and waterways. The addition of construction vehicles to existing roadway traffic levels could affect vehicle safety in areas where congestion already exists or on narrow, two-lane local roads with winding routes. The operation of large, slow-moving dredging equipment on Delta waterways could create safety conflicts for recreational boaters and commercial or rescue craft. Mitigation is available to reduce these potentially significant impacts to a less-than-significant level.

Project construction could create additional safety conflicts on Delta roadways and waterways.

Potential operations-related beneficial impacts on highway transportation could occur if roads are improved during construction of facilities or if traffic is rerouted in a manner that improves the flow of traffic. Potential adverse operations-related transportation impacts are expected to be less than significant.

Fish barriers and flow control structures at Old River near Tracy could interfere with emergency response efforts by impeding or blocking patrol or rescue boats. This potentially significant adverse impact can be mitigated to a less-than-significant level.

5.7.7.2 BAY REGION

No direct construction-related impacts on transportation facilities would occur in the Bay Region because no roads, railways, or commercial shipping routes would be modified.

No roads, railways, or commercial shipping routes would be modified in the Bay Region.

5.7.7.3 SACRAMENTO RIVER AND SAN JOAQUIN RIVER REGIONS

Ecosystem Restoration Program

Restoration activities, such as those planned for the Sacramento River and San Joaquin River Regions, could result in localized impacts on traffic flows during construction. The short-term, potentially significant impacts on transportation that are associated with these activities can be mitigated to a less-than-significant level.

Restoration activities could result in localized impacts on traffic flows during construction.

Water Quality, Levee System Integrity, Water Use Efficiency, and Water Transfer Programs

The Water Quality, Levee System Integrity, Water Use Efficiency, and Water Transfer Programs are not expected to affect transportation in the Sacramento River or San Joaquin River Region.

Watershed Program

Highway traffic volumes in the upper watershed areas of the Sacramento River and San Joaquin River Regions, away from the metropolitan areas, are expected to grow, along with regional traffic and population. Road improvements and deconstruction of roads in upper watershed areas could result in construction impacts on transportation. Improvements may include road widening, regrading, or paving to minimize sediment erosion. Traffic may be diverted during construction. Impacts on traffic would not be considered potentially significant if detour locations are convenient to the existing traffic demand. If alternative routes are not available, the affected route could be closed to one traffic lane during construction. This potentially significant adverse impact can be mitigated to a less-than-significant level.

Road improvements and deconstruction of roads in upper watershed areas could result in construction impacts on transportation.

Storage

Reservoir projects would generate additional vehicular traffic on roadways serving project sites during the multi-year construction period. Construction-related traffic would include equipment and supply deliveries, concrete trucks, service vehicles, and construction worker transportation. Increased construction traffic would cause some delays but probably would not preclude the use of county roads. Delays and disruptions would be temporary but are considered potentially significant adverse impacts that can be mitigated to a less-than-significant level. Project construction also could result in potentially significant safety conflicts on roadways by adding construction vehicles and equipment to existing roadway traffic levels. This impact is considered potentially significant but can be mitigated to a less-than-significant level.

During reservoir and facility construction, some roads may require improvement or relocation, and traffic diversion may be required. Detours also may be necessary when facilities intersect with roadways. Impacts could be minimal if detour locations are convenient to the existing traffic route; however, travel time could increase and cause some delay. If detours substantially affect traffic flows, a portion of the existing traffic could choose an alternate route, further affecting traffic volumes. This impact is considered potentially significant, and mitigation is available to reduce the impact to a less-than-significant level.

During reservoir and facility construction, some roads may require improvement or relocation, and traffic diversion may be required.

Operations-related transportation impacts are expected to be less than significant.

No impacts on railways or commercial shipping routes would occur in the Sacramento River or San Joaquin River Region.

5.7.7.4 Other SWP and CVP Service Areas

No direct or construction-related impacts on transportation facilities would occur in the Other SWP and CVP Service Areas because no roads, railways, or commercial shipping routes would be modified in the region.

No roads, railways, or commercial shipping routes would be modified in the Other SWP and CVP Service Areas.

5.7.8 Consequences: Program Elements That Differ Among Alternatives

For transportation, the Conveyance element results in environmental consequences that differ among the alternatives, as described below.

Because conveyance facilities would be constructed only in the Delta Region, impacts on transportation associated with the Conveyance element are not anticipated for the other Program regions. The discussions below relate only to the Delta Region.

5.7.8.1 Preferred Program Alternative

This section describes the consequences of a pilot diversion project. If the pilot project is not built, these consequences would not be associated with the Preferred Program Alternative.

Constructing a pilot diversion facility near Hood could involve relocating several miles of local roads, relocating highways, and constructing new bridges.

Constructing a pilot diversion facility near Hood could involve relocating several miles of local roads, relocating highways, and constructing new bridges. Several bridges may need to be constructed over the conveyance facility. Traffic would need to be detoured during construction and relocation. The magnitude of the impact would depend on the location and length of time of the detours. These potentially significant adverse impacts can be mitigated to less-than-significant levels.

Fish barriers and flow control structures at Old River near Tracy could cause potentially significant adverse impacts on transportation by impeding or blocking patrol or rescue boats. Mitigation is available to reduce the potentially significant impact to a less-than-significant level.

5.7.8.2 Alternative 1

Transportation impacts under Alternative 1 would be similar to those described for the Preferred Program Alternative, without those impacts associated with the pilot diversion facility near Hood and enlargement of the Mokelumne River Channel.

5.7.8.3 ALTERNATIVE 2

The impacts on transportation for Alternative 2 would be similar to those described for the Preferred Program Alternative if a pilot diversion facility is built, although the magnitude may be greater given the difference in size of the diversion facility.

5.7.8.4 ALTERNATIVE 3

Alternative 3 involves an isolated facility. Consequently, the level of direct, short-term, construction-related impacts on transportation is potentially greater than for all the other Program alternatives.

The level of direct, short-term, construction-related impacts on transportation is potentially greatest for Alternative 3 because the amount of construction would be greatest.

5.7.9 PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS

This section presents the comparison of the Preferred Program Alternative and Alternatives 1, 2, and 3 to existing conditions. This programmatic analysis found that the potentially beneficial and adverse impacts from implementing any of the Program alternatives when compared to existing conditions were the same impacts as those identified in Sections 5.7.7 and 5.7.8, which compare the Program alternatives to the No Action Alternative.

At the programmatic level, the comparison of the Program alternatives to existing conditions did not identify any additional potentially significant environmental consequences than were identified in the comparison of Program alternatives to the No Action Alternative.

Long-term benefits to transportation could include road improvements and rerouting traffic to improve flow.

Long-term benefits to transportation could include road improvements and rerouting traffic to improve flow.

The following potentially significant transportation impacts are associated with the Preferred Program Alternative.

- Changing traffic flows as roads are temporarily rerouted around construction sites.
- **Relocating or permanently closing roads.**
- Detouring traffic as new roadways and railroad bridges are constructed around storage facility construction.
- Adding construction vehicles to existing traffic levels, especially on narrow, two-lane roads with winding routes.

- Closing two-lane roads to one lane in order to facilitate roadway improvements or relocations in association with the Watershed Program.
- Impeding or blocking patrol or rescue boats in Delta sloughs where fish barriers and flow control structures are installed.

Bold indicates a potentially significant unavoidable impact.

5.7.10 ADDITIONAL IMPACT ANALYSIS

Cumulative Impacts. For a summary comparison of cumulative impacts for all resource categories, refer to Chapter 3. For a description of the programs and projects that contributed to this cumulative impacts analysis, see Attachment A.

For all regions except the Bay Region and the Other SWP and CVP Service Areas, Program actions and the projects listed in Attachment A would result in cumulative impacts on transportation. Most adverse impacts, both short and long term, are related to constructing permanent storage or conveyance facilities for the Program and the following projects: American River Watershed Project, CCWD Multi-Purpose Pipeline Project, ISDP, and the Pardee Reservoir Enlargement Project. Actions under the Preferred Program Alternative could be coordinated with present and proposed projects, thereby reducing the extent of the cumulative impacts on transportation.

Most adverse cumulative impacts, both short and long term, are related to constructing permanent storage or conveyance facilities.

Mitigation strategies have been identified that would reduce the impacts of Program actions and the projects listed in Attachment A. Nevertheless, cumulative transportation impacts are considered potentially significant.

Growth-Inducing Impacts. Growth-inducing impacts could be caused by benefits to transportation associated with the Preferred Program Alternative. These impacts could include economic or population growth, or the construction of new housing caused by new roadways needed for access to new facilities. Improved levees may induce growth in the Delta. The degree of growth-inducing impact would depend on the locations of these activities and other factors dependent on the location. The significance of the growth-inducing impact cannot be determined at the programmatic level.

The Delta Region has experienced considerable growth over the last several years. Because many people who live in the Delta work in the Bay Region, traffic on the major highways has increased, directly affecting highway traffic in both regions.

For example, the Delta Region has experienced considerable growth over the last several years, as people seeking affordable housing have moved to the area. Because many of these people work in the Bay Region, traffic on the major highways has increased, directly affecting highway traffic in both regions. Population growth and the resulting demand for increased transportation resources also affect the Sacramento River and San Joaquin River Regions, as well as the Other SWP and CVP Service Areas.

If improvements in water supply are caused by the Preferred Program Alternative, the Preferred Program Alternative could induce growth, depending on how the additional water supply was used. If the additional water was used to expand agricultural production

or urban housing development, the proposed action would foster economic and population growth. Expansion of agricultural production and population could affect transportation resources, but the significance of the transportation impact would depend on where agricultural or population growth occurred and how it was managed.

Short- and Long-Term Relationships. Most short-term uses of the environment relate to construction and would cease when construction is complete. Where possible, avoidance and mitigation measures would be implemented as a standard course of action to lessen impacts on transportation.

Some impacts on long-term productivity would be associated with new or relocated roads around existing reservoirs that would be enlarged. These transportation impacts were identified as potentially significant and unavoidable in the impact analysis.

Irreversible and Irretrievable Commitments. Long-term beneficial irreversible changes include accessibility to newly created wildlife or recreation areas developed under the Preferred Program Alternative. Long-term adverse irreversible changes include displacement of roads.

Long-term beneficial irreversible changes include accessibility to newly created wildlife or recreation areas.

Construction of storage and conveyance features could result in the irretrievable commitment of resources, such as construction materials, labor, energy resources, and land conversion.

5.7.11 MITIGATION STRATEGIES

These mitigation strategies will be considered during specific project planning and development. Specific mitigation measures will be adopted, consistent with the Program goals and objectives and the purposes of site-specific projects. Not all mitigation strategies will be applicable to all projects because site-specific projects will vary in purpose, location, and timing.

Mitigation strategies can be used to avoid or minimize construction- and operations-related transportation impacts.

Measures to avoid impacts include:

- Providing convenient and parallel detours to routes closed during construction.
- Allowing trains to use existing tracks while bridges are being built.

Measures to reduce impacts include:

- Expanding public transportation facilities, freeways, and highways.

- Clearly marking roadway intersections with warnings where visibility is poor in the project vicinity.
- Providing boat portage or a stationary jib crane, relocating boat launch facilities, or relocating emergency access roads.
- Requiring contractors to use appropriate state and federal safety protocols.

5.7.12 POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS

Relocating or permanently closing roads could result in a potentially significant unavoidable transportation impact.

Relocating or permanently closing roads could result in a potentially significant unavoidable transportation impact.