

## 2.0 PROJECT DESCRIPTION AND MAJOR PROJECT FEATURES

### 2.1 INTRODUCTION TO PROJECT ALIGNMENT ALTERNATIVES

The following project design alignment alternatives are being considered:

- Six lane Freeway - North, Central, and South Alignment Alternatives, with ROW for a wide median for two additional (future) high-occupancy vehicle (HOV) lanes.
- Six-lane Tollway - North, Central, and South Alignment Alternatives, with ROW for a wide median for two additional (future) HOV lanes.

The six-build alignment alternatives diverge in the Middle Segment of Route 905 (i.e. between Caliente Boulevard and Cactus Road), but are identical in the West and East segments. The North Alignment Alternative was designed to minimize impacts to sensitive Diegan coastal sage scrub and MSCP lands. The Central Alignment Alternative was designed to minimize impacts to another sensitive habitat: vernal pools and their associated watersheds. The South Alignment Alternative corresponds closely with the "adopted route" identified for the Route 905 corridor in regional and local planning documents. This alignment has been incorporated into the design of existing, proposed and approved developments on Otay Mesa.

The designs (Freeway and Tollway) vary with respect to project features, such as intersections, interchanges, and ROW requirements, and were chosen to take advantage of a range of possible funding options.

In addition to the two designs listed above, two interchange options are under consideration:

- A partial interchange at La Media Road, for the Freeway and Tollway Alignment Alternatives.
- In the event that Route 905 is constructed before Route 125, construction of the connection to Route 125 would be deferred. This would apply to all alignment alternatives.

The Siempre Viva Interchange project, with limits from Airway Road to the POE, has been processed as a separate project from the proposed Route 905 project, to expedite its construction. The proposed Route 905 and Siempre Viva Road interchange would link up at Airway Road. This interchange, previously identified as an integral element of the Route 905 project, was considered and evaluated as a stand-alone project with independent utility. This option was pursued under a separate environmental process, and a Categorical Exclusion (NEPA) was approved on April 28, 2000.

Finally, as required by NEPA and CEQA, the No Project Alternative (i.e., no Route 905 construction project) is addressed.

The proposed project would require new right-of-way (ROW). [Figure 2-1](#), [Figure 2-2](#), and [Figure 2-3](#) show the project alignment alternatives with generalized project features and proposed right of way lines; these figures provide a general overview of the alignment alternatives on an air photo of Otay Mesa. Detailed project features maps are provided in

Appendix I. [Figure 2-4](#), [Figure 2-5](#), [Figure 2-6](#), and [Figure 2-7](#) show typical roadway cross-sections for the alignment alternatives.

A Study Corridor has been identified for the proposed Route 905 Alignment Alternatives. This corridor extends between I-805 and the Otay Mesa POE, and is approximately 10 kilometers (6.2 miles) long and ranges from approximately 60 to 430 meters (200 to 1,410 feet) wide.

## 2.2 PROJECT DESCRIPTION AND FEATURES

The proposed project would construct Route 905 from 0.8 kilometer (0.5 mile) east of Interstate 805 (I-805) to the Otay Mesa Border Port of Entry (POE), a distance of approximately 10 kilometers (6.2 miles). The following descriptions of the Freeway and Tollway North, Central, and South Alignment Alternatives are divided into descriptions of the West, Middle, and East Segments. The West Segment is identical for all design and Alignment Alternatives while the East Segment is identical for all Alignment Alternatives, but varies by designs.

### 2.2.1 Freeway Alignment Alternative

The Freeway Alignment Alternative would include six travel lanes (three in each direction), with sufficient ROW to accommodate a wide median for the addition of two future HOV lanes. The total roadway length for this alignment alternative would be approximately 10 kilometers (6.2 miles), with ROW area varying from approximately 124 to 127 hectares (306 to 314 acres) depending on the alignment alternative. The project boundaries would be fenced along the north and south ROW lines of the selected alignment. Local interchanges would be provided at Caliente Boulevard, Heritage Road, Britannia Boulevard, La Media Road, and Siempre Viva Road. A freeway-to-freeway interchange would be provided at Route 125 (the 905/125 Interchange). Grading for the Freeway would depend on the selected alignment, and would involve 2.4 to 2.6 million cubic meters (3.1 to 3.3 million cubic yards) of excavation cut, and the same amount of fill. Figure I-1 is a key map for the Freeway project features map sheets (Figures I-4 through I-21, I-41 and I-42).

#### 2.2.1.1 West Segment

The West Segment extends from I-805 approximately 0.9 kilometer (0.6 mile) to the east, and along northbound (NB) I-805 for 1.7 kilometers (1.1 miles) from the Route 905/ I-805 Interchange to the Palm Avenue Interchange. The West Segment of the Freeway Alignment Alternative includes the following design elements:

- Immediately east of I-805, Route 905 would have a total of four lanes in each direction, to accommodate the merging traffic to and from I-805. The southbound (SB) I-805 to eastbound (EB) Route 905 connector would remain two lanes. Route 905 would transition to three lanes in each direction, just east of the I-805/ Route 905 Interchange.
- A 730-meter (2,400-foot) long auxiliary lane would be constructed along NB I-805 between Palm Avenue and the WB Route 905 to NB 805 connector. This feature would accommodate the merging traffic from WB Route 905.

### 2.2.1.2 Middle Segment

The Middle Segment would incorporate either the North, Central or South Alignment Alternatives, each with varying ROW and grading requirements. The Middle Segment extends from the West Segment to a point approximately 325 meters (1,070 feet) east of Britannia Boulevard.

The common elements of the three alignment alternatives are as follows:

- Diamond-type interchanges would be constructed at Caliente Boulevard, Heritage Road and Britannia Boulevard. Caliente Boulevard and Britannia Boulevard would cross over the freeway, while the freeway would cross over Heritage Road.
- Access from Otay Mesa Road (OMR) to Route 905 would be terminated at a cul-de-sac approximately 350 meters (1,150 feet) west of its intersection with Caliente Boulevard. Old Otay Mesa Road would be cut off, in accordance with past freeway agreements between the City of San Diego and Caltrans. Access would be provided by the Caliente Boulevard interchange. The project would allow for the future installation of an overcrossing at Old Otay Mesa Road by others.
- Two alternate Park-and-Ride locations, with provisions for public bus service, are proposed. Either one (or both) may be selected for the project. One would be constructed at the northwest corner of the Britannia Boulevard interchange, providing for approximately 87 parking spaces in a 0.6 hectare (1.5-acre) lot. The other is proposed at the northeast corner of the Caliente Boulevard interchange, and would provide approximately 210 parking spaces in a 0.9 hectare (2.2 acre) lot. This location would conform to long range transit plans, since it would coincide with a planned park-and-ride/ light rail station.
- Cactus Road, south of OMR, would be interrupted by Route 905. North of Route 905, Cactus Road would end in a cul-de-sac. On the south side of Route 905, a two-lane frontage road would provide access by connecting Gateway Park Drive to Cactus Road. The interruption of Cactus Road would be in accordance with past freeway agreements between the City of San Diego and Caltrans. The cost of a frontage road is substantially less than for an overcrossing, however the project would allow for the future installation of an overcrossing at Cactus Road by others.
- Provide roosting areas for bat species in structural design of bridge or culvert, at Spring Canyon.
- An existing gas utility main would be relocated within the project footprint. Further details are provided in [Section 2.2.5](#), Utility Relocation.

The above-described features are included in all three alignment alternatives. The major differences between the three alignment alternatives within the Middle Segment are described separately below.

### ***North Alignment Alternative***

Unique characteristics of the North Alignment Alternative include:

- The ROW for the entire 10 kilometer (6.2-mile) Freeway - North Alignment Alternative would be approximately 124 hectares (306 acres).
- The Middle Segment, within the North Alignment Alternative, would be approximately 4.9 kilometers (3.1 miles) long. This construction would include approximately 2,000 linear meters (6,560 linear feet) of fill slopes, with heights of up to 11 meters (36 feet). Approximately 2,900 linear meters (9,510 linear feet) of cut slope would be required, with maximum heights of 8 meters (26 feet).
- A 64-meter (210-foot) long, 3.7-meter (12-foot) wide and 3.9-meter (13-foot) high arch culvert would be constructed at the Route 905 crossing of Spring Canyon, approximately 610 meters (2,000 feet) west of Heritage Road. See Figure I-17. This culvert is to provide an undercrossing for wildlife in Spring Canyon, along the identified regional wildlife corridor in the MSCP area.

### ***Central Alignment Alternative***

Unique characteristics of the Central Alignment Alternative are:

- The Central Alignment Alternative involves cut and fill slopes within Spring Canyon. The ROW for the entire Freeway - Central Alignment Alternative would be approximately 127 hectares (314 acres).
- This segment would be constructed over a length of approximately 5.2 kilometers (3.2 miles). Construction would include approximately 2,000 linear meters (6,560 linear feet) of fill slope, extending to maximum heights of approximately 20 meters (66 feet). Approximately 2,900 linear meters (9,510 linear feet) of cut slope would be required, with maximum heights of 10 meters (33 feet).
- A wildlife undercrossing (culvert) would be constructed at Spring Canyon, as described above for the North Alignment Alternative, with the same dimensions. See Figure I-8.

### ***South Alignment Alternative***

Unique characteristics of the South Alignment Alternative are:

- The ROW associated with the Freeway - South Alignment Alternative, would be approximately 125 hectares (309 acres).
- This segment would be constructed over a length of approximately 4.9 kilometers (3.1 miles). Construction would include approximately 2,400 linear meters (7,870 linear feet) of fill slope extending to maximum heights of approximately 8 meters (26 feet). Approximately 2,500 linear meters (8,200 linear feet) of cut slope would be required, with maximum heights of 9 meters (30 feet).

- A 158-meter (518-foot) long bridge structure would be constructed over the MSCP Corridor that passes through Spring Canyon, approximately 210 meters (690 feet) west of Heritage Road. It would provide a wildlife undercrossing. See Figure I-20.

### 2.2.1.3 East Segment

The East Segment of the Freeway would be identical for all three alignment alternatives. It would extend approximately 4.1 kilometers (2.5 miles) east and south, from the Middle Segment to the POE. Major design elements are as follows:

- Approximately 2,070 linear meters (6,790 linear feet) of cut slope would extend to maximum heights of approximately 20 meters (65 feet), and 5,070 linear meters (16,630 linear feet) of fill slope would be required. The largest fill slope would be approximately 1,800 meters (5,900 feet) long and up to 18 meters (59 feet) high near the 905/125 interchange.
- A diamond interchange would be built at La Media Road.
- OMR would be widened from two to six lanes between its connection to Interim Route 905 and Sanyo Avenue. Sanyo Avenue would be widened from two to four lanes from OMR southerly for approximately 580 meters (1,900 feet).
- A four-lane local access road would extend approximately 2.0 kilometers (1.2 miles) east from the 905/125 Interchange to the existing intersection of Enrico Fermi Drive and Siempre Viva Road (see [Figure 2-3](#), I-12 and I-13). To minimize impacts to existing adjacent industrial uses, retaining walls up to 6.5 m (21 feet) high are planned adjacent to this road, extending from Sanyo Road easterly for approximately 400 m (1300 feet). Grading for the proposed local access road would also include an adjacent material site area just west of the intersection with proposed Enrico Fermi Drive. Each side of the access road would be inclined at a slope of 1:6 (1 vertical to 6 horizontal units of distance), and contour graded to blend with the existing terrain. This would generate sufficient fill material to balance the earthwork for the Freeway Alignment Alternatives. A temporary construction easement would allow excavation of the area outside the ROW. A ramp is also proposed for WB traffic on the local access road to access NB Route 125.
- Route 125 is scheduled for completion by the year 2004, prior to construction of Route 905. Current preferred alternative plans for Route 125 anticipate a connection at OMR, plus an interim transition from Route 125 to existing interim Route 905. The Route 905 project would include a multi-level 905/125 Interchange, with connectors for SB Route 125 to WB Route 905, EB Route 905 to NB Route 125, SB Route 125 to EB Route 905, and WB 905 to NB 125. A number of bridge structures would be required for the various ramp and roadway crossings. The 905/125 Interchange would require removal of some facilities, including existing Interim Route 905 between Airway Road and OMR.
- Relocation of overhead electric power lines would be required along the east side of Harvest Road. Further details are provided in [Section 2.2.5](#), Utility Relocation.
- Harvest Road would be deleted between OMR and Airway Road.

- A single loop interchange (SB to EB) is planned at Siempre Viva Road, replacing the existing signalized intersection.
- The Federal Port of Entry (POE) at Otay Mesa lies between Mexico and the existing (interim) Route 905. The proposed project would construct three southbound lanes to its terminus at the northern property line of the POE. Currently, only two southbound traffic lanes pass through the POE. If the Federal General Service Administration does not increase the number of southbound lanes to three, then the proposed project would incorporate a transition to the two lanes; pavement would be reduced south of the Siempre Viva Overcrossing as the facility would merge from three lanes to two.

### ***La Media Road Partial Interchange Option***

The Partial Interchange Option would only include access to the west of La Media Road, (i.e., an off-ramp from EB Route 905 and an on-ramp to WB Route 905). See Figure I-41 and I-42. This option is being considered in the event that funding for the full interchange is not obtained. The ROW for the full interchange would be purchased under this option (the option would not alter ROW requirements for any alignment alternative). The full interchange would include the WB Route 905 off-ramp, which would extend from the SB connector from Route 125. To accommodate this ramp, two bridge structures would be required immediately west of the 905/125 Interchange. The WB Route 905 off- and EB Route 905 on-ramps, as well as the above noted bridge structures, require substantial funds, and the partial interchange option is therefore being considered. .

### **2.2.2 Tollway Alignment Alternative**

The Tollway Alignment Alternative was studied because it provided an alternate way of funding the facility. The Tollway funding assumes that bond purchasers would be repaid over the life of the facility by toll fees. Physically, the Tollway Alignment Alternatives would be identical to the Freeway Alignment Alternatives in [Section 2.2.1](#), except for the addition of toll facilities.

Grading requirements for the Tollway would vary from approximately 2.5 – 2.7 million cubic meters (3.3 - 3.5 million cubic yards) of excavation and embankment, depending on the selected alignment. The Tollway Alignment Alternatives and segments are the same as described in [Section 2.2.1](#) for the same Freeway Alignment Alternative. Due to the addition of toll facilities, the ROW requirements and impact footprints for the Tollway Alignment Alternatives would be slightly greater than for the Freeway Alignment Alternatives. Figure I-2 is a key map for the Tollway project features map sheets (Figures I-4 through I-7, I-11 through I-16, I-19, and I-22 through I-28).

Unique features associated with the Tollway Alignment Alternatives include the following:

- A number of toll facilities would be constructed along the Route 905 segment between the Heritage Road and Britannia Boulevard interchanges. These would include tollbooths along the EB off-ramp and WB on-ramp at Heritage Road, and the EB on-ramp and WB off-ramp at Britannia Boulevard. A 1.9-hectare (4.7-acre) area, to accommodate a parking lot and utility structure, would be located along the south side of Route 905 approximately mid-way

between Heritage and Cactus roads. Two toll plazas would be incorporated, between the Heritage Road and Britannia Boulevard interchanges, as well as a 2.4-hectare (5.9-acre) site for the toll administration building and parking, located on the north side of Route 905 approximately 200 meters (650 feet) east of Cactus Road.

- Toll facilities would be constructed along the four-lane local access road from the 905/125 Interchange to Enrico Fermi Drive. These would include two tollbooths and two parking lots for toll operators located along the EB and WB lanes, approximately 1,300 meters (4,270 feet) east of the 905/125 Interchange.

### **2.2.3 Expressway Staging Option [Presented for informational purposes only]**

The Expressway Staging Option (ESO) was originally developed to evaluate the minimum facility (cost constrained) that could be constructed to mitigate the congestion on OMR and provide a second arterial between I-805 and the POE. It was initially meant to be a full alternative to the Freeway Alignment Alternative. Upon review of the Transportation technical report and traffic forecasts, however, it became evident that the Expressway could only serve as an interim improvement – an initial phase of the ultimate facility. It is now considered only as a stage of the Freeway Alignment Alternative. The expressway would improve conditions on Otay Mesa, but only for approximately three years after the facility opens. Because of this, the Expressway Staging Option includes the ROW necessary for the Freeway Alignment Alternative (i.e. sufficient ROW to accommodate six mixed-flow lanes plus ROW for two future HOV lanes). This applies to each alignment alternative. However, the ROW for the local access road from the 905/125 Interchange to Enrico Fermi Drive would not be included as part of the Expressway Staging Option. The Expressway Staging Option would have the same design as the Freeway Alignment Alternative west of Caliente Boulevard. East of Caliente Boulevard, however, the Expressway Staging Option would narrow to four lanes and would include several at-grade, signalized intersections.

The total roadway length would be approximately 9.4 kilometers (5.9 miles), with the associated ROW varying from approximately 107 to 110 hectares (264 to 272 acres), depending on the alignment alternative selected (North, Central or South). The project boundaries would be fenced along the north and south ROW lines of the selected alignment. Interchanges would be constructed at Caliente Boulevard and Heritage Road identical to those proposed for the Freeway Alignment Alternative. Signalized at-grade intersections, would be provided at Britannia Boulevard, La Media Road, Route 125 and Airway Road.

### **2.2.4 No Project Alternative**

Under the No Project Alternative, proposed Route 905 would not be constructed and the existing Route 905/OMR/Interim Route 905 would continue to serve as the principal access between I-805 and the POE. None of the above-described alternative facilities would be constructed, and the noted modification, or removal, of existing or proposed facilities would not occur.

## **2.2.5 Other Features and Strategies**

### **High Occupancy Vehicle Lanes (HOV)**

Caltrans District 11 and SANDAG have jointly developed a high occupancy vehicle (HOV) express lane plan for the San Diego region, which has been incorporated into the Regional Transportation Plan (RTP). Route 905 allows for six mixed-flow lanes, with all build alignment alternatives, plus two future HOV lanes. The HOV lanes would be separated from the mixed-flow lanes by a 1.2-m (4.0') buffer. These HOV lanes are planned to be built as traffic demand grows and would accommodate transit modes. A six-lane freeway would accommodate the 2020 forecast traffic. Should traffic growth increase more rapidly than expected, the HOV lanes could be constructed in the median, providing additional capacity for the corridor once separate environmental review is completed.

This project provides space for the implementation of the HOV lanes in the future, but does not include them in the project design. The design of the future HOV lanes and their connections, at the I-805 and at the Route 125 interchanges, will be the subject of separate project planning, design, and environmental review. HOV lane connections at the Freeway to Freeway interchanges may include additional interchange structures, widening of the structures planned in this project, or a combination, but are not part of this project's design.

### **Transportation Demand Management**

On September 3, 1988, Governor George Deukmejian signed Executive Order D-7388, which directed the formation of the Caltrans Office of Transportation Improvement to oversee the management of several nation-leading congestion relief programs. In addition, this office is responsible for coordinating the State's efforts to increase ridesharing and transit use among State employees, developing partnerships with local government and private industry to implement traffic management strategies, researching and applying new technologies to improve the free-flow of traffic, and actively promoting ridesharing throughout the urban areas of California.

Proposition 111 (June 1990) requires the preparation, implementation, and updating of a Congestion Management Program (CMP) in each of California's urbanized counties. SANDAG, as the designated Congestion Management Agency (CMA) for the San Diego region, must develop, adopt, and update the CMP. The purpose of the CMP is to help ensure a balanced transportation system is developed that relates population growth, traffic growth, and land use decisions to transportation system level of service performance standards and air quality improvement. It is an effort to more directly link land use, transportation, and air quality, as an integral and complementary part of the region's transportation plan and programs.

The Federal 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) required each state to develop and implement a traffic Congestion Management System (CMS) which would be incorporated into the Metropolitan Planning Process. The law which replaced ISTEA, Transportation Equity Act-21 (TEA-21), continues this process. The purpose of the CMS is to identify areas where congestion occurs or may occur, identify the causes of the congestion, evaluate strategies for managing congestion and enhancing mobility, and develop a plan for implementation of the most cost-effective strategies. The SANDAG CMP provides the foundation for the CMS.

In December 1996, SANDAG approved the combined Regional Transportation Plan (RTP) and CMP update process to serve as the region's CMS process. SANDAG has indicated that since the Route 905 project has evolved from and is included in the 1996 RTP, the 1996 CMP Update, and the 1998-04 Regional Transportation Improvement Program (RTIP), it fully conforms to the CMS program requirements.

### **Ramp Metering**

With the exception of the Siempre Viva Road entrance ramp to EB Route 905, ramp metering would be incorporated into each entrance ramp for all build alignment alternatives. Ramp metering would also be incorporated into the local access road, the connectors from SB Route 125 to WB and EB Route 905, as well as the WB 905 to NB I-805 connector.

### **Utility Relocation**

A variety of utility lines traverse the project area, including natural gas, telephone, water, and both overhead and underground electricity. Several conflicts with the proposed project have been identified. The following utilities impacted by the proposed project would be relocated, all within the project footprint (disturbance limits) as shown on Figures I-4 through I-42.

#### ***Underground Utilities:***

- A 250-mm (ten inch) gas line owned by San Diego Gas & Electric along Old Otay Mesa Road. This utility is a “High Hazard” facility. The recommended solutions are to depress the gas line along its present alignment (beneath the Route 905 facility), or to relocate the facility. This applies to all alignment alternatives.
- Relocate a 50-mm (two inch) gas line at Britannia Boulevard, for all alignment alternatives.
- Relocate underground electric power lines at Cactus Road, for all alignment alternatives.
- Relocate underground electric power lines at Britannia Boulevard, for all alignment alternatives.
- Encase in concrete: a 300-mm (12 inch) water line at Station 171+60 and a 250-mm (10 inch) water line at Cactus Road, for all alignment alternatives.
- Relocate a 400-mm (16 inch) water line at Airway Road and a 300-mm (12 inch) water line at Britannia Boulevard, for all alignment alternatives.
- Relocate underground telephone lines at Britannia Boulevard, for all alignment alternatives.

#### ***Overhead Utilities:***

- Relocate overhead electric transmission power lines along Caliente Boulevard for all alignment alternatives.

- Relocate overhead electric transmission power lines between Gateway Park Drive and Cactus Road, for all alignment alternatives.
- Relocate overhead electric power lines at Cactus Road for all alignment alternatives.
- Relocate overhead electric transmission power lines along La Media Road for all alignment alternatives.
- Relocate overhead electric transmission power lines along OMR between Harvest Road and Sanyo Avenue, for all alignment alternatives.
- Relocate overhead electric transmission power lines along Harvest Road, between Airway Road and OMR, for all alignment alternatives, to provide vertical clearance for the 905/ 125 interchange.

### **2.3 ALTERNATIVES AND VARIATIONS NO LONGER UNDER CONSIDERATION**

Evaluations of project alignment alternatives have been ongoing since 1995, and have indicated that some alternative alignments should not be evaluated in greater detail. A comprehensive effort by the project team over a three-month period (February through April, 1995) using detailed resource constraint mapping resulted in four preliminary alternatives, which are discussed below. An alternatives analysis was conducted using the prepared land use and resource constraints maps for the Otay Mesa area. Alternatives were considered and rejected, based on impacts to the identified land uses and resources.

#### **Alternative alignments north of Otay Mesa Road**

Alternatives, which would traverse areas north of Otay Mesa Road (OMR), were considered and rejected because they would have severe impacts to the Brown Field airport, commercial development along OMR, and biological resources (Coastal Sage Scrub, vernal pools, and sensitive wildlife habitats within the Otay River Valley).

#### **Alternative alignments south of the current alternatives**

Alternatives to the south were also considered and rejected based on impacts to high quality wildlife habitat within Spring Canyon, MSCP lands, and higher construction costs. Subsequent to the preliminary alternatives analysis, identification of the current study corridor was finalized: alternative alignments were developed within this corridor.

#### **Alternative alignments within the study corridor**

Alternative alignments were evaluated during a May 11, 1995 meeting with representatives of the U.S. Army Corps of Engineers (USCOE), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (DFG) and the City of San Diego. The meeting with these agencies provided early involvement and assisted in the development of the most prudent alternatives, which would minimize biological impacts. Using the detailed resource constraint maps, four alternatives had been created and color-coded (Brown, Green, Blue, and Pink), as

shown on [Figure 2-8](#). Alternatives were evaluated during the meeting. The meeting participants agreed that the Brown alternative should be eliminated, since it presented excessive disruption to existing development, buildings and local streets along OMR. This alternative passed slightly north of OMR and would have been excessively costly and disruptive to existing development. Any alignment, which impacted OMR, would have required realignment of OMR as a frontage road in order to allow continued access to existing businesses. The meeting participants also agreed that neither the blue nor green alternatives would be biologically preferred, and that a new hybrid alternative should be found between the two which balanced impacts to vernal pools and to occupied coastal sage scrub. The resulting hybrid alternative (now known as the North Alignment Alternative) was developed and proposed for further detailed technical study. This new alignment alternative improved on the previous blue and green alternatives by preserving some of the smaller vernal pools and by reducing impacts to the coastal sage within Spring Canyon. The blue alternative was retained for further study because it presented the vernal pool avoidance alternative. The pink alternative was retained for further study because it was the adopted route, an alignment alternative that the community and developers have been aware of, resulting in a corridor being reserved from development.

A pre-application meeting for the Section 404 permit was held on June 15, 1995 with the COE, EPA, FWS, DFG and the County Department of Health Services in attendance. The three alignment alternatives selected, were presented and proposed for further detailed study as part of the ultimate EIS/EIR. The resource agency representatives concurred that the three alignment alternatives proposed were sufficient for the EIS/EIR, and could be carried forward for further detailed study. These alignment alternatives were also renamed as North (hybrid), Central (blue), and South (pink) alignments. No additional alternatives were suggested by the agencies.

### **Transportation Systems Management (TSM)**

TSM consists of actions that increase the efficiency of existing facilities. TSM encourages auto, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Techniques to encourage ridesharing include preferential treatment through the allowed use of bypass or high occupancy (HOV) lanes, or diverting traffic to other routes.

An examination of TSM shows it is not realistic to expect that the existing roads, or planned local roads without proposed Route 905, when combined with TSM actions would efficiently serve the traffic predicted in the corridor. TSM actions are on-going or planned by Caltrans and local agencies; these would continue as separate projects.

### **Mass Transit**

Mass transit, as described in [Section 1.5](#) above, would not meet the project objectives. The Metropolitan Transit Development Board (MTDB) has future plans for a light rail transit (LRT) system to operate between Otay Mesa and South Bay/ Chula Vista. These plans are long range (greater than 20 years into the future). Future proposed LRT extensions include a line from Iris Avenue to Otay Mesa and the POE. After meeting with MTDB representatives, it seemed most likely that the future light rail line would pass along OMR and Interim Route 905, under any of the Route 905 build alignment alternatives. Caltrans has agreed to provide enough horizontal and vertical clearance under the proposed OMR and Sanyo Avenue bridge structures to

accommodate the future LRT. The proposed Route 905 project profile does not preclude the potential future implementation of mass transit. MTDB is planning to implement a transit network that will initially provide bus service until development grows to support an LRT extension.

Three undercrossing bridges could potentially need to accommodate the LRT extension. The horizontal and vertical clearances to be provided at these undercrossings is as follows:

1. Sanyo Avenue undercrossing
  - Minimum Clearance – 5.6 meters (18.4 feet)
  - Superstructure Thickness – 1 meter (3.3 feet)
  - Total Height (at minimum clearance) 6.6 meters (21.7 feet)
  - Total Bridge Width – 27.7 meters (90.9 feet)
2. Otay Mesa Road undercrossing
  - Minimum Clearance – 6.4 meters (21 feet)
  - Superstructure Thickness – 1.5 meters (4.9 feet)
  - Total Height (at minimum clearance) – 7.9 meters (25.9 feet)
  - Total Bridge Width – 12.7 meters (41.7 feet)
3. SR-125/ Otay Mesa undercrossing
  - Minimum Clearance 5.5 meters (18.1 feet)
  - Superstructure Thickness – 2.3 meters (7.6 feet)
  - Total Height (at minimum clearance) – 7.8 meters (25.6 feet)
  - Total Bridge Width (ultimate) – 49.2 meters (161.4 feet)

## 2.4 MAJOR INVESTMENT STUDY

A Major Investment Study (MIS) has been completed for this project (May, 2000). Statewide and Metropolitan Planning regulations under ISTEA became effective November 29, 1993. An important provision of the regulations addresses Major Metropolitan Transportation Investments (MMTI) in 23 CFR 450.318. All projects funded or approved by the Federal Highway Administration (FHWA) and/ or the Federal Transit Administration (FTA) are subject to the requirements of MMTI.

Guidance on implementing MMTI, also known as Major Investment Strategies (MIS), provides direction specifically on how projects administered by the FHWA that have not completed the NEPA process should address the requirements. Although TEA-21 changes the requirements of ISTEA, MMTI still applies. It was therefore decided that the Major Investment Study for Route 905 would be completed. For the Route 905 NEPA document, FHWA requested Caltrans consult with transit operators, SANDAG and FTA to identify and consider the full range of reasonable system design alternatives for the project. This consultation has occurred. The final meeting with the agencies was held on February 3, 2000. Attendees unanimously concurred that sufficient evaluation had been provided in the Route 905 Major Investment Study to document MIS compliance. A concurrence letter from the San Diego Association of Governments

(SANDAG) and Metropolitan Transit Development Board (MTDB) dated February 28, 2000 is included in Appendix G.

## **2.5 NEPA EIS - 404 CONCURRENCE PROCESS**

On December 27, 1993, Caltrans signed an interagency Memorandum of Understanding (MOU) committing to integrating NEPA and Section 404 of the Clean Water Act in transportation planning, programming, and implementation stages for projects requiring an individual permit under Section 404. In letters dated July 15, 1998; August 27, 1998; and July 22, 1998; the FWS, EPA, and COE, respectively, concurred with the project purpose and need, and alignment alternatives under study. These letters are included in Chapter Six, Comments and Coordination, ([Figure 6-3](#), [Figure 6-4](#), and [Figure 6-5](#)). Final concurrence from ACOE on alignment alternatives and the wetland delineation was received on March 23, 2000.

### **Concurrence Process Update**

In 1995, Caltrans began coordinating with the federal resource agencies, including the FWS, ACOE, EPA, and FHWA to implement the NEPA-404 Integration Process for the Route 905 project. The project's alternatives were developed during meetings with these resource agencies, along with the California Department of Fish and Game, in order to minimize biological resource impacts. Further minimization of impacts to natural resources during the preliminary design phase has occurred. The new revised interim thresholds for the NEPA-404 Integration Process issued by the United States Department of Transportation (October 30, 2000), prompted Caltrans to request the Route 905 Project's withdrawal from the NEPA-404 Integration Process. These interim thresholds stated that projects with impacts of five acres or less to special aquatic sites, or impacts of five acres or less to other waters of the U.S. are no longer required to follow the NEPA-404 Integration Process. The impacts to waters and wetlands for this project have been minimized substantially, through coordination with the resource agencies, and as a result of design modifications. The proposed project impacts are well below the new interim thresholds. Based on this coordination the FWS, EPA, ACOE, and FHWA have concurred with Caltrans' request to withdraw the Route 905 Project from the NEPA-404 Integration Process. Caltrans will continue to work closely with all of the resource agencies to maintain communication and coordination throughout the proposed project's development.

## **2.6 CONSTRUCTION SCHEDULING AND PHASING**

Establishing detailed property requirements will be the first order of work for final design following environmental approval. This will allow property acquisition to proceed within the first few months. Construction of the project will be awarded to a contractor subsequent to final design.

### **2.6.1 Transportation Management Plan For Use During Construction**

Since this would be a new facility on a new alignment, traffic disruption would be minimized. A detailed traffic management plan will be developed, with special consideration given to locations where the new alignment would join the existing roadway. Between the I-805/Route 905

interchange and the Caliente Boulevard interchange, temporary detours would be placed within the project footprint as it is shown on the project features maps (Appendix I). No additional right of way or footprint would be needed. Some delays may occur for short-term traffic handling. Between Airway Road and the Siempre Viva interchange, further study will determine the specific detours required and whether any impacts would occur beyond those assessed for the project footprint. It is likely that the majority of the detours will be placed within the current project footprint or would use existing paved roads. No substantial impacts are expected as a result of these detours.

Existing local roads, which may have increased traffic due to construction, include Caliente Boulevard, Heritage Road, Britannia Boulevard, La Media Road, Otay Mesa Road, Sanyo Road and Paseo De Las Americas. This increased use would vary depending on specific construction operations. The addition of construction-related traffic is not expected to substantially affect congestion on these local streets.

Construction would be performed in accordance with Caltrans' standard specifications, to minimize traffic delays and inconvenience. Delays would be mitigated by using temporary message signs and by implementation of a public awareness program. Project bulletins would be periodically given to the print media, radio stations, and Caltrans and California Highway Patrol Public Affairs Offices. A construction outreach program would be developed to inform local residents and businesses about construction activities. All construction zones would have appropriate warning signs. Night and weekend work in residential areas will be minimized.

### **2.6.2 Construction Phasing**

The proposed project is expected to be constructed in phases. The following description of phasing and construction contract limits was determined by consideration of the dollar amount and other requirements. The detailed project phasing plan and contract limits will be determined in the design phase.

#### **Freeway and Tollway Alignment Alternatives Phasing**

Four phases are proposed, as described below.

Phase 1: Construction of Route 905 on its new alignment from Airway Road to the Otay Mesa POE. This piece of the original construction phases encompasses the Siempre Viva Road interchange project, which as previously discussed, was approved under a separate environmental review. The remaining phases 2-4 now constitute the proposed Route 905 extension project.

Phase 2: Britannia Boulevard to Airway Road. The interchanges at La Media Road and the eastern half of the interchange at Britannia Boulevard would be constructed during this phase, as well as improvements to Sanyo Avenue, Otay Mesa Road, Harvest Road and Airway Road. Structures which would be constructed are the La Media Road undercrossing, Airway Road undercrossing, and the SB 125 connection to EB 905 (S-line). Under the La Media Road Partial Interchange Option, for the Freeway Alignment Alternative, this partial interchange (half diamond) would be constructed in this phase.

Phase 3. From 0.8 kilometer (0.5 mile) east of I-805 to Britannia Boulevard. An auxiliary lane along northbound I-805 between Route 905 and Palm Avenue would be constructed during this phase, as well as interchanges at Caliente Boulevard, Heritage Road, and the remainder of the Britannia Boulevard interchange. A frontage road from Gateway Park Drive to Cactus Road, Park and Ride lot(s), and the following structures would be constructed: widening of the Del Sol Boulevard undercrossing, Caliente Boulevard overcrossing, Heritage Road undercrossing, and Britannia Boulevard overcrossing. Direct access to and from Route 905, at the west end of OMR, would be terminated in a cul-de-sac. Traffic on OMR would be redirected to the Caliente Boulevard interchange for access to Route 905. The South Alignment Alternative would construct a bridge structure over Spring Canyon. The North and Central Alignment Alternatives would construct a wildlife undercrossing/ culvert in Spring Canyon.

Phase 4: The Route 905/ Route 125 Freeway to Freeway interchange would be constructed during this phase. The four-lane local access road would be constructed from the Route 905/ Route 125 interchange, east to the intersection with Enrico Fermi Drive.

The following structures would be built:

- SB 125 to WB 905 connection over OMR,
- SB 125 to WB 905 connection over the WB 905 to La Media Road ramp,
- WB local access road over WB 905 to La Media Road ramp,
- WB local access road over the WB 905 to NB125 and SB 125 to EB 905 connections,
- EB local access road over the WB 905 to NB125 and SB 125 to EB 905 connections,
- EB local access road over Route 905 and the WB 905 to La Media Road connection,
- Sanyo Avenue undercrossing.

The preliminary cost estimates for the proposed project construction phases indicate the following:

- Phase 1 cost estimate - \$27 million
- Phase 2 cost estimate - \$92 million
- Phase 3 cost estimate - \$93 million
- Phase 4 cost estimate - \$55 million

### **Expressway Staging Option (ESO) [Presented for informational purposes only]**

Based upon funding available, the ESO could be considered as a phase of the Freeway Alignment Alternative. Project features would include several signalized at grade intersections as an interim project feature. This option would provide Caltrans with the ability to begin construction on schedule and enable traffic to move along the project corridor, from I-805 to the Otay Mesa POE, using signalized intersections. The remaining project features, grade separated interchanges, would be completed upon the commitment of additional funding for those phases.