Chapter 1  Proposed Project

1.1  Introduction

The California Department of Transportation (the Department) proposes to rebuild the eastbound Cordelia Truck Scales at a new location on Interstate 80 (I-80) in Solano County, California. The I-80 Eastbound Cordelia Truck Scales Relocation Project (project) would consist of the construction of a larger truck scale facility with more capacity, a longer off-ramp, and braided highway on-ramps that provide access to I-80 and State Route (SR) 12 East (SR 12E). The truck scale facility is less than 0.1 mile long, but the length of the project area with the ramps and utilities is approximately two miles.

The existing truck scales were constructed in 1958. They lack sufficient capacity to accommodate the current volume of truck traffic, and trucks entering and exiting the existing facility contribute to congestion and weaving, reducing the operating efficiency of I-80. Truck traffic on this stretch of I-80 is anticipated to increase dramatically over the next 30 years. As a result, the new truck scales facility would be designed with increased capacity to accommodate future truck traffic and to improve the enforcement of weight and safety requirements. The new off-ramp and braided on-ramps would address the issues related to weaving trucks and would improve safety along this stretch of I-80.

Due to the importance of I-80 and the Cordelia Truck Scales Facilities in freight movement, the project has been included by the California Transportation Commission (CTC) in the Proposition 1B Trade Corridors Improvement Fund (TCIF) program for infrastructure improvements along corridors that have a high volume of freight movement. The project is included in the Metropolitan Transportation Commission (MTC) 2005 Regional Transportation Plan (RTP) and the 2009 Transportation Improvement Program (TIP). It was previously recommended as a mid-term project (ranked 10 out of 50 projects) in the I-80/I-680/I-780 MIS and Corridor Study (July 14, 2004). It was also included in the Cordelia Truck Scales Relocation Study: Summary Report and Recommendations (Solano Transportation Authority 2005a) that was prepared by the Solano Transportation Authority (STA), in coordination with the Department and the California Highway Patrol (CHP). This study identified the need to construct replacement scales and evaluated several alternative locations. It was concluded from this study that the best location was within the existing I-80/Interstate 680 (I-680)/SR 12 interchange complex.

1.2  Purpose and Need

The project area is located south of I-80 between the I-80/Suisun Valley Road interchange and the I-80/SR 12E interchange within Solano County. The project includes the relocation and reconstruction of the eastbound Cordelia Truck Scales and associated on- and off-ramps.
1.2.1 Purpose of the Project

The purpose of the project is to accommodate anticipated growth in truck traffic in the corridor by 2040. The project will improve the reliability of the truck weight and safety inspection and enforcement system and thereby protect the structural integrity of California roads. The project will also improve mainline safety by reducing truck/auto weaving and queuing and will provide traffic congestion relief along this segment of I-80.

- **Accommodate anticipated growth in truck traffic:** The new scales facility will be sized to accommodate anticipated truck traffic growth to at least 2040, ensuring that all trucks are weighed and inspected according to CHP requirements. The new facility is designed to process 1,000 trucks per hour, compared to 400 per hour with the current facility.

- **Improve the reliability of the truck weight and safety inspection and enforcement system:** The new scales will improve reliability by processing trucks with more redundancy and fewer unplanned closures of the facility. The project also will improve overall system reliability by reducing congestion and improving safety in an unreliable section of the regional highway corridor.

- **Improve mainline safety:** By providing adequately-sized off- and on-ramps to serve truck merge and diverge movements, and adequately sized scales to serve the projected 2040 truck volume, the proposed project would reduce collisions and improve highway safety in the area.

- **Provide traffic congestion relief:** The scales are intended to reduce truck-related traffic congestion upstream and downstream of the facility, by providing adequate truck storage on the higher-capacity scales facility, standard-length off-ramp and on-ramps, and braided on-ramps to I-80 and SR 12 East. The facility capacity and ramp lengths and design are being designed to serve 2040 traffic and truck volumes.

1.2.2 Need for the Project

**Overview of Project Need**

The Cordelia Truck Scales are located within the I-80/I-680/SR 12 interchange, a point at which two major interstate freeways and one state highway converge. When the facility was constructed in 1958, the interchange and truck scales were located in a relatively rural setting immediately surrounded by agricultural lands, with mountains to the north and the vast Suisun Marsh to the south.

Since 1958, the San Francisco Bay Area (Bay Area) and northern California region have experienced rapid population growth. The Bay Area’s population has increased by more than 86% during this time, and Solano County’s population has more than tripled. This tremendous growth has resulted in substantial increases in truck and regional traffic passing through the interchange area, as well as substantial changes in the land uses immediately surrounding the interchange.

The truck scales significantly contribute to the congestion on I-80 because of the large number of trucks exiting and entering I-80 and the close proximity of the scales to the Suisun Valley Road,
Chapter 1. Proposed Project

I-680, and SR 12E interchanges. The location of the truck scales is ideal for monitoring and enforcing truck weight and safety requirements because it provides one location that can monitor truck traffic on I-80, I-680, and SR 12. However, because of the high volume of trucks within the corridor, it is frequently necessary for the CHP to close the scales when queuing trucks begin to back up onto the mainline freeway. The large volume of trucks exiting and entering the highway creates a severe weaving problem, which is made worse by the size, limited maneuverability, and lower speeds of large trucks.

The specific deficiencies to be addressed by the project are described below.

Deficiencies to be Addressed by the Project

Inadequate Enforcement
The Cordelia Truck Scales are currently in an optimum location for truck inspections and weight enforcement, capturing virtually all freeway truck traffic traveling on I-80, I-680, and SR 12. These inspections are an important function of a truck scales facility. Because the existing facility has inadequate inspection capacity and a substandard-length off-ramp, the queue of waiting trucks periodically extends back onto the I-80 mainline, causing a traffic safety hazard. When the queue gets too long, the CHP, which controls operations at the facility, temporarily closes the scales. Although the closures are necessary for traffic safety, allowing trucks to bypass the scales altogether compromises the enforcement of weight and safety requirements. These closures typically occur about 15 times per week, according to the CHP.

The current facility cannot reliably serve existing truck volumes, and it will be even less able to serve the projected volume of trucks in the future, to the year 2040. The volume of trucks traveling on the regional freeway and highway system has increased dramatically as the economy in northern California has grown. Within the project area, trucks constitute about 5% of the total daily traffic volume. The total daily truck volume in 2003 passing through the interchange area was 11,800. Truck traffic is forecast to increase by 70% by 2025 and by 115% by 2040 (Solano Transportation Authority 2005a). This increase result in more than 25,300 trucks passing through the interchange area each weekday. Table 1-1 shows the existing and forecast peak hour truck volumes.

Table 1-1. Existing and Forecast Peak Hour Truck Volumes

<table>
<thead>
<tr>
<th>Location</th>
<th>Existing Peak-Hour Truck Volumes</th>
<th>Year 2025 Peak-Hour Truck Volumes</th>
<th>Year 2025 Peak-Hour Truck Volumes with 15% Reduction Assumed for Increased PrePass Use</th>
<th>Year 2040 Peak-Hour Truck Volumes</th>
<th>Year 2040 Peak-Hour Truck Volumes with 15% Reduction Assumed for Increased PrePass Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westbound I-80 at scales</td>
<td>524</td>
<td>890</td>
<td>757</td>
<td>1,127</td>
<td>958</td>
</tr>
<tr>
<td>Eastbound I-80 at scales</td>
<td>552</td>
<td>940</td>
<td>799</td>
<td>1,187</td>
<td>1,009</td>
</tr>
<tr>
<td>Westbound I-80 at Travis Boulevard</td>
<td>401</td>
<td>680</td>
<td>578</td>
<td>863</td>
<td>734</td>
</tr>
<tr>
<td>Eastbound I-80 at Travis Boulevard</td>
<td>417</td>
<td>710</td>
<td>604</td>
<td>897</td>
<td>763</td>
</tr>
</tbody>
</table>

Source: Solano Transportation Authority 2005a.
The STA, the Department, and the CHP have recognized the need to reconstruct the scales to accommodate the current and projected volume of truck traffic. New scales within the interchange area are planned to process 1,000 trucks per hour, which—in combination with the forecasted use of the PrePass system—would accommodate the estimated increase in truck traffic to the year 2040.

**Truck-Related Congestion**

Although the truck scales are currently in an optimum location to capture virtually all freeway truck traffic traveling on I-80, I-680, and SR 12, they also are located on the most congested freeway segment in Solano County. Trucks slowing to enter the short (approximately 500 feet) off-ramp to the scales, and accelerating to enter I-80 on the short on-ramp from the scales, exacerbate the congestion problem, as do trucks queuing onto the mainline from the short off-ramp to the facility. The *I-80/I-680/I-780 MIS and Corridor Study* states,

The Cordelia Truck Scales generate significant congestion in Segment 1 [the I-80/I-680/SR 12 Interchange complex] during peak hours. The scales also constrain the widening of I-80 in Segment 1 in their current location, and need to be relocated prior to additional improvements being pursued in this section. The recommendation of the STA Board of Directors is to relocate/reconstruct the scales in a location east of Suisun Creek within Segment 1.

Currently, congestion develops during the commute peak hours as a result of trucks weaving with traffic streams to and from the I-680 connector ramps, the local Suisun Valley/Green Valley ramps, and the SR 12E and SR 12W connector ramps. This congestion will worsen significantly by 2035. The a.m. peak hour congestion in the westbound direction extends from the I-80/I-680 junction to West Texas Street, a distance of nearly 4.5 miles. Heavy westbound on-ramp volumes from the SR 12E and Air Base Parkway interchanges also contribute to the congestion during the a.m. peak period. During the p.m. peak period, heavy eastbound on-ramp volumes from SR 12W, I-680, Suisun Valley Road and the truck scales combine to create congestion on eastbound I-80 in the I-80/I-680/SR 12 interchange.

While the current combination of general vehicle traffic volumes and truck volumes create congestion, the I-80 mainline traffic volume is projected to increase by about 2% per year, to 270,000 daily vehicles, in 2035. Along with the truck traffic increase described above, the traffic increases will severely worsen current congestion and safety conditions if the scales are not expanded to accommodate the higher truck volumes and moved to a location that provides for maximum weaving lengths and for braiding critical traffic streams. Table 1-2 shows the projected 2035 eastbound p.m. weave volumes at the truck scales.

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Volume (Weaving Volume Plus Through Volume to Points Farther East)</th>
<th>To Suisun Valley Road</th>
<th>To Truck Scales</th>
<th>To SR 12E</th>
</tr>
</thead>
<tbody>
<tr>
<td>From I-680</td>
<td>3,935</td>
<td>495</td>
<td>95</td>
<td>810</td>
</tr>
<tr>
<td>From I-80 west of SR 12W</td>
<td>9,580</td>
<td>340</td>
<td>320</td>
<td>1,765</td>
</tr>
<tr>
<td>From Suisun Valley Road</td>
<td>1,985</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>435</td>
</tr>
<tr>
<td>From SR 12W</td>
<td>2,420</td>
<td>5</td>
<td>70</td>
<td>555</td>
</tr>
</tbody>
</table>

*Source:* Solano-Napa Travel Demand Model, November 2006 (Solano Transportation Authority 2006).


**Unreliable Freight Transport**

Currently, travel times for truck trips through the corridor are unpredictable due to the queues that develop within the scales facility and congestion that is partially caused by trucks maneuvering into and out of the scales facility, described above. This unpredictability will increase as vehicle and truck volumes grow, also as described above. Further unpredictability results from the increased likelihood of breakdowns due to un-inspected trucks that have been allowed to bypass the scales when they are periodically closed due to queues backing up onto the mainline.

**Traffic Safety**

The combination of high vehicle and truck volumes, truck diverge and merge maneuvers on substandard-length ramps, and substandard distances between adjacent interchanges (all described above) contribute to safety concerns in the project area. The large volume of trucks exiting and entering the highway creates a severe weaving problem, which is compounded by the size, limited maneuverability, and lower speed of large trucks. Additionally, truck traffic sometimes backs up on the off-ramp to the scales, slowing approaching truck traffic further (the scales are closed when the queues reach the mainline).

Recent accident rates demonstrate that accidents occur more frequently along I-80 near the scales than on similar freeway facilities statewide. Accident data for three years, 2004–2006, from the Department’s Traffic Accident Surveillance and Analysis System (TASAS) for I-80 in the vicinity of the Cordelia Truck Scales are shown in Table 1-3. Locations where the actual accident rate on I-80 exceeds the statewide average for similar facilities are shaded in the table.

The total accident rates for most segments of I-80 between Red Top Road and Air Base Parkway exceed the average rates for similar facilities. Rates for fatal accidents or fatal plus injury accidents, or both, exceed the statewide average on each I-80 segment. The highest total accident rate is on I-80 between the I-80/I-680 connector structure and the Suisun Valley Road overcrossing; this segment is located just west of the eastbound off-ramp to the eastbound scales.

### 1.3 Project Description

The project area is located within Solano County, south of I-80 between the I-80 Suisun Valley Road interchange and the I-80/SR 12E interchange (Figure 1-1). It encompasses approximately 2 miles along eastbound I-80 (post mile [PM] 13.8 to PM 15.7) and SR 12 (PM L1.8 to PM L2.0). Portions of the project area not currently part of the highway are used primarily for agriculture.

The project consists of constructing a new expanded truck scale facility to accommodate truck traffic in the eastbound direction, constructing associated on- and off-ramps, and removing the existing eastbound truck scales.

The existing eastbound truck scales were constructed in 1958. The facility consists of four inspection bays and limited parking.
Table 1-3. Accident History, January 1, 2004, to December 31, 2006

<table>
<thead>
<tr>
<th>Location</th>
<th>Post Mile</th>
<th>Number of Accidents</th>
<th>Actual Accident Rate (accidents per million vehicle miles)</th>
<th>Average Accident Rate (accidents per million vehicle miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total Fatal Fatal plus Injury Total Fatal Fatal plus Injury Total Fatal Fatal plus Injury</td>
<td></td>
</tr>
<tr>
<td>I-80—westerly project limit to Red Top Road</td>
<td>10.89 to 11.39</td>
<td>86</td>
<td>1.29 0.000 0.29</td>
<td>0.82 0.004 0.26</td>
</tr>
<tr>
<td>undercrossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-80—Red Top Road undercrossing to SR 12W/I-80 undercrossing</td>
<td>11.39 to 11.98</td>
<td>83</td>
<td>1.05 0.000 0.24</td>
<td>0.83 0.004 0.24</td>
</tr>
<tr>
<td>I-80—SR 12W/I-80 undercrossing to Green Valley Road overcrossing</td>
<td>11.98 to 12.74</td>
<td>157</td>
<td>1.20 0.008 0.27</td>
<td>0.94 0.005 0.30</td>
</tr>
<tr>
<td>I-80—Green Valley Road overcrossing to 680/I-80 connector structure</td>
<td>12.74 to 13.09</td>
<td>117</td>
<td>1.63 0.014 0.33</td>
<td>1.05 0.005 0.33</td>
</tr>
<tr>
<td>I-80—680/I-80 connector structure to Suisun Valley Road overcrossing</td>
<td>13.09 to 13.49</td>
<td>158</td>
<td>1.81 0.000 0.39</td>
<td>1.10 0.006 0.35</td>
</tr>
<tr>
<td>I-80—Suisun Valley Road overcrossing to SR 12E/I-80 connector structure</td>
<td>13.49 to 15.81</td>
<td>598</td>
<td>1 137 1.10 0.002 0.25</td>
<td>1.04 0.006 0.34</td>
</tr>
<tr>
<td>I-80—SR 12E/I-80 connector structure to Abernathy Road overcrossing</td>
<td>15.81 to 16.17</td>
<td>61</td>
<td>0.83 0.014 0.24</td>
<td>1.05 0.005 0.33</td>
</tr>
<tr>
<td>I-80—Abernathy Road overcrossing to West Texas Street undercrossing</td>
<td>16.17 to 17.20</td>
<td>200</td>
<td>0.95 0.010 0.30</td>
<td>1.05 0.005 0.33</td>
</tr>
<tr>
<td>SR 12E—SR 12E/I-80 connector to Chadbourne Road undercrossing</td>
<td>1.85–2.22</td>
<td>7</td>
<td>0.48 0.000 0.21</td>
<td>0.76 0.008 0.28</td>
</tr>
<tr>
<td>SR 12E—Chadbourne Road undercrossing to Beck Avenue</td>
<td>2.22–3.20</td>
<td>64</td>
<td>1.54 0.048 0.75</td>
<td>1.13 0.011 0.44</td>
</tr>
<tr>
<td>SR 12E—Beck Avenue to Pennsylvania Avenue</td>
<td>3.20–4.07</td>
<td>108</td>
<td>2.49 0.023 1.15</td>
<td>1.82 0.022 0.84</td>
</tr>
<tr>
<td>SR 12E—Pennsylvania Avenue to Civic Center Boulevard</td>
<td>4.07–4.74</td>
<td>55</td>
<td>1.51 0.000 0.68</td>
<td>1.27 0.012 0.50</td>
</tr>
</tbody>
</table>

Note: Shading denotes locations that exceed the statewide average accident rate.

1.4 Alternatives

1.4.1 Project Alternatives

Based on extensive planning conducted by the Department, the CHP, and the STA, which is documented in the Cordelia Truck Scales Relocation Study: Summary Report and Recommendations (Solano Transportation Authority 2005a), one build alternative for the project is being considered in this environmental impact report/environmental assessment (EIR/EA).
Figure 1-1
Project Location
The California Environmental Quality Act (CEQA) also requires that a no-project alternative be considered in the EIR. The alternatives are described below.

### 1.4.2 Build Alternative

The build alternative (the proposed project) would consist of the construction of a new eastbound truck scale facility; the construction of associated ramps, including one bridge and one overcrossing; and the removal of the existing eastbound truck scale facility and associated ramps (Figure 1-2).

**Truck Scales**

The Eastbound Cordelia Truck Scales facility would be reconstructed approximately 2,500 feet to the east of its present location. The new facility would be a Class B Commercial Vehicle Enforcement Facility (CVEF) (*Class B* being defined as an independent command facility of the CHP located along a major highway route), which would have the capacity to inspect all eastbound I-80 trucks passing the facility, 24 hours per day, seven days a week. The facility would contain up to four sets of scales to accommodate two lines of empty and loaded trucks. The new facility would contain seven inspection bays, parking for automobiles and semi-truck trailer combinations, and a roadway along the outer edge of an oval to allow weighed trucks to be driven around into the inspection bays or to be reweighed. A single-story operations building would be constructed to facilitate the vehicle inspection and weighing process.

The facility will be designed to be compliant with the Americans with Disabilities Act guidelines. All parts of the building will be accessible to the physically disabled in compliance with the requirements of Chapter 11 of the California Building Code. The only exceptions are the inspection pits, which will not be accessible. In addition, accessible parking for the disabled will be provided.

**Associated Ramps**

Associated ramps would include an off-ramp providing access to the truck scale facility from eastbound I-80 and on-ramps providing access to eastbound I-80 and SR 12E.

The off-ramp to the new truck scale facility would use the existing off-ramp location and geometry, which consists of a single-lane exit. The new off-ramp would widen to a two-lane facility through the existing truck scale site and would widen to four lanes immediately west of Suisun Creek. The new off-ramp would cross over Suisun Creek on a new bridge before entering the new truck scale facility. Truck traffic would be sorted along the approach roadway into the appropriate lane by means of weigh-in-motion scales and signal bridges.

Trucks leaving the facility would use a new two-lane eastbound roadway that splits approximately 1,300 feet east of the facility, with one lane merging onto eastbound I-80 and the other lane connecting to the eastbound I-80–to–eastbound SR 12E connector.

**Eastbound I-80–to–SR 12E Connector**

The eastbound I-80–to–eastbound SR 12E connector would be reconstructed as a two-lane ramp crossing over (braided with) the truck scale on-ramp to eastbound I-80. The eastbound I-80–to–
eastbound SR 12E connector would consist of a two-lane connection (one dedicated SR 12E lane and a shared through-exit lane) and would be supported by a two-column central support and retaining walls on both approaches as it crosses over the truck scale on-ramp. The new dedicated lane on I-80 would begin approximately 2,500 feet west of the exit point to the connector. The two-lane connector would continue east, becoming SR 12E, with the truck scale on-ramp joining as an auxiliary lane that would end at the SR 12E/Chadbourne Road interchange off-ramp.

**Bridge over Suisun Creek**
A four-lane, precast, single-span bridge would be constructed to carry truck traffic on the off-ramp over Suisun Creek. Abutments for the bridge would be located above the ordinary high water mark (OHWM) of the creek.

**Utilities**

**Relocation**
As part of the proposed project, several utilities would need to be relocated as identified below. Relocating the utilities would occur during the construction phase of the proposed project. A pole on the 12-kilovolt (kV) line crossing I-80 adjacent to Suisun Creek would be relocated to accommodate the proposed truck scale off-ramp. From this point, the line to the southeast, consisting of seven poles, would be relocated within an easement around the south side of the proposed truck scale inspection and parking facility to the existing warehouses south of the proposed facility. Two parallel 115-kV lines cross I-80 immediately west of the I-80/SR 12E interchange. The two towers (one on each line) on the south side of I-80 would be relocated within the existing tower line easement. A pole on the 12-kV line crossing I-80 immediately west of the I-80/SR 12E interchange near Hale Ranch Road would be relocated to accommodate the proposed eastbound I-80–to–eastbound SR 12E connector. Impacts associated with the various utility relocations are addressed in this EIR/EA pursuant to California Public Utilities Commission (PUC) General Order (GO)-131 D filing requirements. The precise field location of high-risk utilities will be identified during final design in accordance with the Department’s procedures.

**Service to Site**
Water, sewer, communication, and electrical services for the truck scales would be provided by underground utilities. The underground lines would connect to existing utilities to the west (in the vicinity of the Scandia amusement park) and would follow the road shoulder, remaining entirely within the existing Department right-of-way. It is expected that excavation for these utilities would be approximately eight to 10 feet deep and would parallel existing underground utilities. The utilities, attached to the I-80 bridges, would cross both Suisun and Dan Wilson Creeks.

**Removal of Existing Truck Scales**
The existing eastbound facility would be removed after the new facility becomes operational.

**Construction Activities**
Construction activities would include grading and paving, excavation for bridge foundations and utilities, pile driving, and power pole/tower replacement. Construction equipment would access
Eastbound Cordelia Truck Scales Relocation Project Features
the project area from the road shoulder on the south side of I-80 or Hale Ranch Road. Staging areas would be located within 20 feet of the new ramp alignments.

Excavation associated with project construction would include grading for the new on- and off-ramp alignments and the new facility location, excavation for the installation of underground utilities and power poles/towers, excavation for retaining wall footings, and excavation for pile caps. Grading is not expected to exceed five feet of cut as part of the project construction. Underground utilities would be located within the Department’s right-of-way and the new truck scale facility footprint. Excavation for utilities would extend to a maximum depth of 10 feet.

The clear span bridge over Suisun Creek would be precast and lowered into place. The abutments would be supported by piles that would extend approximately 70 feet below the abutment. The two central columns for the eastbound I-80–to–eastbound SR 12E connector would be supported by pile caps that extend 13 to 15 feet below the ground surface and by piles that extend 70 feet below the bottom of the pile caps.

Construction equipment would not cross Suisun Creek. Access would be from the north, and all creek crossings would occur from I-80.

The new truck scales facility would be constructed on fill. Excavation for building foundations and underground utilities is not expected to extend beyond the fill.

1.4.3 No-Build (No Action) Alternative

Under the no-build alternative, the existing truck scales would remain in operation, and no expanded facility would be constructed. The facility would retain the two dynamic and one static scale and four inspection bays, and the capacity of the existing truck scales would not be enhanced. Truck traffic exceeding the capacity of the facility would continue to result in scale closures. A single lane off-ramp would remain, continuing to contribute to congestion in the area as trucks queued as a result of the limited capacity of the facility and the increasing number of trucks exiting the highway. The single on-ramp with a 705-foot acceleration lane would not be extended or improved and trucks would continue to enter the highway at slow speeds and contribute to safety concerns associated with trucks weaving into highway traffic.

1.4.4 Alternatives Considered but Eliminated from Further Discussion

In February 2005 the STA, in coordination with the Department and the CHP, completed the Cordelia Truck Scales Relocation Study: Summary Report and Recommendations (Solano Transportation Authority 2005a). This study identified the need to construct replacement scales and evaluated several alternative locations along the I-80, I-505, SR 12, and SR 113 corridors. The study was conducted as a four-tier technical analysis. Tier 1 initially screened 24 sites for physical size, impact of freeway operations, and environmental fatal flaws. Eleven of the 24 sites were evaluated further in Tier 2, which screened for specific geometric requirements, traffic operations, additional environmental impacts, and right-of-way requirements. Three options were
subjected to a detailed technical analysis in Tier 3. The three potential options analyzed are listed below.

- Option 1: relocating and expanding the scales within the I-80/I-680/SR 12 interchange.
- Option 2: building new scales on I-80 between Fairfield and Vacaville and on SR 12 between I-80 and SR 113.
- Option 3: building new scales on I-80 between Vacaville and Dixon, on SR 12 between I-80 and SR 114, and on I-505 between Vacaville and Winters.

The Tier 3 detailed technical analysis of these three options considered the following five criteria:

- Capital cost.
- Thirty-five–year operations and maintenance.
- Right-of-way requirements.
- Environmental considerations.
- Traffic operations.

The initial conclusion from the Tier 3 analysis was that Option 3 provided the best relocation option because it provided the lowest capital investment and the best flexibility in implementation and had the least impact on traffic operations. Additionally, the sites were in relatively rural areas, consistent with similar facilities in the state.

The Tier 4 analysis was initiated by the release of the draft Cordelia Truck Scales Relocation Study: Summary Report and Recommendations for public review and comment. This document addressed all three options. In addition to public comments, STA received input from the Department and CHP staff. CHP staff expressed opposition to moving the truck scale facility outside the I-80/I-680/SR 12 Interchange because of concerns about increased operating costs for multiple facilities, as well as concerns regarding capturing all truck traffic.

As a result of public input, Options 1 and 3 were revised, and Option 2 was eliminated. Option 1 was revised to reflect a modified design, developed through a cooperative effort of the STA, the CHP, and the Department, for the scale facilities within the I-80/I-680/SR 12 interchange. The revised design significantly reduced capital costs and increased the peak hour truck throughput when compared with the original proposed design. The revisions to Option 3 consisted of moving the proposed locations for facilities on I-80 and SR 12.

Based upon the findings of the four-tiered analysis conducted for the Cordelia Truck Scales Relocation Study: Summary Report and Recommendations, the STA board of directors recommended to the State of California that the truck scales be relocated as identified in the revised Option 1. Option 1 allowed for a comparable capital investment to Revised Option 3 and was better accepted by the public. Additionally, Option 1 allowed for more reliable enforcement, as fewer alternate routes enabling trucks to avoid the scales would need to be patrolled.
1.5 Funding and Programming

The proposed project is fully funded for $99.6 million, with $49.8 million coming from Transportation Corridor Improvement Funds (TCIF) and $49.8 million coming from Toll Bridge Funds. The proposed action is included in the MTC’s 2005 Regional Transportation Program (RTP) and the 2007 Transportation Improvement Program (TIP). The proposed project is also included in STA’s I/80/I-680/I-780 Major Investment and Corridor Study (STA 2004) and STA’s Cordelia Truck Scales Relocation Study (STA 2005a).

1.6 Permits and Approvals Needed

Table 1-4, below, lists the permits and other approvals that would likely be necessary for the various project elements.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit, Approval, or Consultation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Fish and Wildlife Service (USFWS)</td>
<td>Consultation under Section 7 of the federal Endangered Species Act (ESA)</td>
<td>Pending</td>
</tr>
<tr>
<td>National Marine Fisheries Service (NMFS)</td>
<td>Consultation under Section 7 or the federal Endangered Species Act</td>
<td>Pending</td>
</tr>
<tr>
<td>U.S. Army Corps of Engineers</td>
<td>Section 404 nationwide permit for placement of fill</td>
<td>Pending</td>
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<tr>
<td>California Department of Fish and Game (DFG)</td>
<td>Section 1602 streambed alteration agreement for waters of the state; potential consultation under Section 2081 of the California Endangered Species Act (CESA); CEQA trustee agency</td>
<td>Pending</td>
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<tr>
<td>San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB)</td>
<td>Non-point Section 402, National Pollutant Discharge Elimination System (NPDES) permit (General Construction Permit), 401 Water Quality Certification</td>
<td>Pending</td>
</tr>
<tr>
<td>Bay Area Air Quality Management District (BAAQMD)</td>
<td>Permit for air emission generating equipment</td>
<td>Pending</td>
</tr>
<tr>
<td>California Public Utilities Commission</td>
<td>GO-131 D filing requirements for high-voltage electrical lines</td>
<td>Pending</td>
</tr>
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