

3.4 Relationship between Local Short-Term Uses of the Human Environment and the Maintenance of Long-Term Productivity

Implementation of either of the project alternatives (and their fundable first phases) will result in attainment of short-term and long-term transportation, safety, and economic objectives at the expense of some long-term social, aesthetic, biological, noise, parkland, and other land use impacts. Implementation of Alternative B or Alternative C would further address the objectives as well as long-term inspection and enforcement objectives with the construction of the improved westbound truck scales facility. The attainment of these objectives (long-term productivity) comes at the expense of some short-term costs that would be incurred during construction and some long-term term losses of valuable uses of the environment. These long-term losses include impacts on biological resources, agricultural and community land uses, air quality, and noise.

3.4.1 Build Alternatives

The build alternatives would have similar impacts. Because of the magnitude of the proposed project, the fundable first phase of the alternatives would have similar impacts and the full build alternatives would have similar impacts.

Alternative B, Phase 1 and Alternative C, Phase 1

The fundable first phase of the alternatives would have similar impacts.

- **Short-term losses would include:** economic losses experienced by businesses that relocate; construction impacts such as noise, traffic detours or delays; access inconveniences; temporary disturbance to biological resources; visual impacts during construction.
- **Short-term benefits would include:** increase in jobs and revenue due to construction.
- **Long-term losses would include:** permanent loss of plant and wildlife resources; loss of agricultural land; noise increase; displaced businesses and a displaced residence; use of construction materials and energy; possible decreased air quality or increase in greenhouse gas emissions.
- **Long-term gains would include:** improvement of transportation network in the vicinity; reduction of congestion on local roads and highways.

Alternative B and Alternative C

These alternatives would have similar impacts.

- **Short-term losses would include:** economic losses experienced by businesses that relocate; construction impacts such as noise, traffic detours or delays; access inconveniences; temporary disturbance to biological resources; visual impacts during construction.
- **Short-term benefits would include:** increase in jobs and revenue due to construction.

- **Long-term losses would include:** permanent loss of plant and wildlife resources; loss of agricultural land; noise increase; displaced businesses and a displaced residence; use of construction materials and energy; possible decreased air quality or increase in greenhouse gas emissions.
- **Long-term gains would include:** improved truck weight and safety inspection and enforcement system; improvement of transportation network in the vicinity; reduction of congestion on local roads and highways; encouragement of use of HOV lanes.

3.4.2 No-Build Alternative

This alternative would not result in any of the gains or losses listed under the above alternatives. It would not address the issues of worsening traffic and truck congestion, increasingly unreliable freight transport, or worsening traffic safety.

3.5 Irreversible and Irretrievable Commitments of Resources

Irretrievable commitments of resources would occur as a result of implementing any of the proposed project alternatives because all of the project alternatives involve a commitment of natural, physical, human, and fiscal resources. Land converted from its present uses to a transportation facility is considered an irreversible commitment. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material would be expended in the construction of any of the alternatives. Additional building materials would be used in the construction of the westbound truck scales facility under both Alternative B and C. Additionally, extensive expenditure of labor and natural resources (e.g., woodlands, wetlands, and other natural habitat) are used in the production of construction and building materials. These materials are typically not retrievable. However, they are generally not in short supply and their use would not have an adverse effect on continued availability of these resources. Any construction would also require a substantial one-time expenditure of both state and federal funds, which are not retrievable. In addition to the costs of construction and right-of-way, costs for roadway maintenance, including pavement maintenance and resurfacing, roadside, litter/sweeping, signs and markers, electrical and storm maintenance would be incurred. However, savings in energy use, travel time, and a reduction of accidents would offset these costs.

The commitment of these resources is based on the concept that the residents in the immediate area, region, and state, as well as commuters would benefit from the improved quality of the transportation system. In the case of the ultimate alternatives, the safety of the nation would benefit from the improved security and enforcement at the new westbound truck scales facility. These benefits would consist of improved accessibility, functioning, safety, and homeland security, which are expected to outweigh the commitment of these resources.

3.6 Cumulative Impacts

3.6.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts on resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and the introduction or promotion of predators. They also can contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

3.6.2 Approach to Cumulative Impact Analysis

The cumulative analysis for the proposed project takes into consideration the other ongoing projects in the same geographic area as the proposed project, as well as planned land uses and transportation and circulation projections identified in city and county general plan and policy documents.

The existing and proposed transportation projects listed below in order of anticipated completion have been included in this analysis because they either are close to the project area or could affect regional resources. This information represents the most up-to-date information available as of the date of publication of this document.

- **North Connector Project:** The North Connector Project would construct a parallel route to the north of I-80 between Abernathy Road at I-80 on the east and SR 12 at Red Top Road on the west. This project would provide increased east/west capacity and provide an alternative to I-80 for local traffic. Construction of the first phase of the North Connector Project started in summer 2009, with completion anticipated by December 2010.

- **Interstate 80 High-Occupancy Vehicle Lanes Project:** Eastbound and westbound high-occupancy vehicle (HOV) lanes have been constructed along an approximately 8.5-mile-long segment of I-80 from the Red Top Road interchange in Solano County to approximately 0.5 mile east of the Air Base Parkway interchange in Fairfield. This project (EA-04-0A5304) increases the overall carrying capacity of I-80 in the project area and facilitates the already high demand for ridesharing on I-80. Construction of this project was completed in late 2009.
- **Jepson Parkway:** This project would provide a route for local Vacaville-Fairfield traffic to bypass I-80 in Fairfield and instead enter Fairfield from the east on Air Base Parkway or from the south on State Route 12. The project would include widening of existing roads, and could include construction of new roadway through an existing area of grassland and wetlands.
- **2010 State Highway Operation and Protection Program (SHOPP) Projects:** These projects include two collision reduction projects scheduled for construction in program year 2010/11 and one mobility project scheduled for construction in program year 2012/2013. One collision reduction project is to construct a concrete barrier on I-80 in Vallejo between the Redwood Street on-ramp and the Route 37 connector. The other collision reduction project is to widen the shoulder on SR 12 near Rio Vista between Azevedo Road and Liberty Island Road. The mobility project includes lengthening an on-ramp and widening a bridge on I-80 in Vacaville, from west of the Alamo Creek Bridge to the Alamo west-bound on-ramp.
- **I-80 Eastbound Cordelia Truck Scales Relocation Project:** The I-80 Eastbound Cordelia Truck Scales Relocation Project (EA-04-0A5350) would include the construction of a larger, more efficient truck scales facility on eastbound I-80, approximately 2,500 feet east of the existing facility. The project would also include the construction of on- and off-ramps to both I-80 and eastbound SR 12E. The environmental document for the project was approved in fall 2009. Construction is expected to begin in 2011 and be completed in 2013.
- **Jameson Canyon (SR 12) Widening from I-80 to SR 29:** This project would provide a continuous four-lane expressway between I-80 and SR 29. The project is currently in the final design phase and construction is planned to begin in late 2011, with completion in 2013.
- **I-80 Express Lanes Projects:** Two projects are planned as part the construction of the I-80 express lanes. The I-80 Express Lanes (HOV Conversion) Project would convert the existing HOV lanes between Red Top Road and Airbase Parkway Project to express lanes. The I-80 Express Lanes (New Lanes) Project would construct new express lanes between Airbase Parkway and I-505. These improvements are in the early planning phase. No construction date has been determined.
- **I-80 Improvements through Fairfield:** Several projects are planned between SR 12W and Air Base Parkway. They include the removal of existing hook ramps at Auto Mall Parkway and construction of westbound auxiliary lanes on I-80 between Green Valley Road and SR 12W, Waterman Boulevard and Travis Boulevard, and West Texas Street and Abernathy Road. These improvements are in the early planning phases. No construction date has been determined.
- **Transit Improvements:** To support increased transit ridership and expanded bus routes in the county, the *I-80/I-680/I-780 Transit Corridor Study* identifies numerous potential locations for park-and-ride lots in these major corridors, four of which could be located in the

project area: Red Top Road at I-80, a surface lot at Abernathy Road between I-80 and SR 12 or an expanded parking structure at the Fairfield Multimodal Transportation Center, and Gold Hill Road at I-680. These potential lots are expected to be constructed between 2010 and 2015.

Additionally, local non-transportation projects currently planned and underway in the general project area are provided in Tables 3.1.1-1 and 3.1.1-2. These projects represent development covered in county and city planning documents and approved under building permits. The cumulative analysis for the individual resource areas are based on analysis of different geographic boundaries or resource study areas. The resource study area and pertinent projects are identified under each resource area.

3.6.3 Assessment of Cumulative Impacts

The project alternatives would not contribute to a cumulative impact in the following resource areas because the resources are in generally good health and the project alternatives would result in either beneficial impacts, no impacts, or minor impacts that would be fully mitigated (to a less than significant level) and the alternatives' contribution to the cumulative impact would not be considerable.

- Land Use
- Growth
- Community Impacts
- Utilities and Emergency Services
- Visual and Aesthetic Resources
- Cultural Resources
- Hydrology and Floodplain
- Water Quality and Stormwater Runoff
- Geology/Soils/Seismic/Topography
- Paleontology
- Hazardous Waste/Materials
- Air Quality
- Noise
- Energy
- Biological Resources (Plant Species and Animal Species)

3.6.3.1 Human Environment

Farmlands

Farmland resources are most commonly managed at the County and Statewide level. For the proposed project the study area for cumulative farmlands effects is Solano County. As discussed in Chapter 3.1.3, Solano County had a total of 360,562 acres of land under cultivation in 2006. Of this total, 139,536 acres were designated as Prime Farmland, 7,164 acres were designated as Farmland of Statewide Importance, 11,036 acres were designated as Unique Farmland, and 202,826 acres were used for grazing purposes (California Department of Conservation 2006). Between 1984 and 2006, 40,537 acres (1,843 acres per year) of agricultural land was converted to non-agricultural uses in Solano County. This conversion included 23,221 acres of Important Farmland at a rate of 1,056 acres per year. Approximately half of the converted acreage, or 12,689 acres, was considered Prime Farmland (California Department of Conservation 2006). During this same period, about 13,000 acres inside the cities' (Fairfield and Suisun City) spheres of influence were converted to non-agricultural uses. This trend has caused local and regional governments to implement measures to preserve farmland (see discussion in Section 3.1.3, County of Solano).

As discussed in Section 3.1.3, the project alternatives would result in the conversion of farmlands to non-farm uses. Alternative B would convert roughly 140 acres of agricultural land to roadway, while Alternative B, Phase 1 would not affect agricultural land. Alternative C would convert roughly 122 acres of agricultural land, while Alternative C, Phase 1 would convert roughly 77 acres of agricultural land.

The direct impact of the project alternatives is not considered adverse, as measured by its LESA score (see discussion at page 3.1.3-8).

The project alternatives in combination with other ongoing and reasonably foreseeable projects in the study area (see discussion under 3.6.2 above and Tables 3.1.1-1 and 3.1.1-2) would contribute to additional conversion of farmland to non-farm uses. The amount of farmland conversion could cause a cumulatively adverse effect. However, farmland conversion in the County of Solano is governed by the County General Plan which has strong policies and guidelines for the protection and mitigation of impacts to farmland including the following implementation measure:

“AG.I-1: Create and adopt a farmland conversion mitigation program and ordinance.”

Implementation of this measure will limit the cumulative impact on farmlands on a county wide basis. The project alternatives would also be required to mitigate farmland impacts (see discussion at page 3.1.3-9).

Given the strong policies of the Solano County General Plan to limit and mitigate impacts to farmlands and the project alternatives would also include mitigation that would preserve additional farmland within the County, the long-term health of the resource would be preserved and maintained and therefore no cumulative effect to farmlands would occur.

Traffic and Transportation/Pedestrian and Bicycle Facilities

The resource study area for cumulative traffic and transportation impacts is the same as that used for the traffic analysis. Projects that would contribute to potential cumulative impacts include all the transportation projects listed in section 3.6.2 and development projects included in local planning documents. These impacts are analyzed in Section 3.1.6 for each alternative in 2035. Because the project alternatives, to varying degrees, would result in net beneficial effects on traffic and transportation, they would not contribute to a cumulative impact on traffic and transportation.

The resource study area for cumulative impact to pedestrian and bicycle facilities includes those facilities within the project area and the local planning areas. Projects that may contribute to a potential cumulative impact would include the development projects in Section 3.1.1 and the transportation projects listed in Section 3.6.2. Pedestrian and bicycle facilities in the area are accounted for in local planning documents. Effects to bicycle and pedestrian facilities during construction of the project would be temporary. Project design will ensure that existing facilities can be maintained or replaced and that planned facilities can be provided. The proposed project would not contribute to a cumulative impact on pedestrian and bicycle facilities.

3.6.3.2 Biological Environment

Natural Communities

Implementation of the project alternatives would directly impact riparian woodlands and native trees, and in combination with other local and regional projects, would contribute to the cumulative loss of riparian woodland and native trees in the project vicinity. Historic loss of riparian vegetation and native trees in Solano County has occurred from conversion of riparian and native tree habitat for agriculture and development. Although riparian vegetation and native trees remains along some of the major streams in the county and in isolated areas, including Suisun Creek, these riparian corridors are substantially narrower than historically because of development. The project alternatives would contribute incrementally to cumulative impacts on riparian woodland and native trees in Solano County by directly impacting less than two acres of riparian habitat. Other existing and reasonably foreseeable projects within the county, such as Fairfield Corporate Commons, Green Valley Corporate Park, and other business and residential projects in the area, have the potential to contribute to the cumulative loss of riparian habitat (Table 3-6.1).

Avoidance, minimization, and/or mitigation measures identified in Section 3.3.1.1 to avoid and minimize disturbance and to compensate for loss of riparian vegetation and native trees that would be impacted by the project alternatives would reduce this impact. However, to fully address the cumulative impact to the resource other agencies such as Solano County, City of Fairfield and Suisun City would need to require and implement similar mitigation to protect and restore riparian woodlands impacted by other existing and reasonably foreseeable projects in the study area.

Wetlands and Other Waters

Implementation of the proposed project, in combination with other local and regional projects, without mitigation, would contribute to the cumulative loss of wetlands and drainages that are waters of the United States within the Suisun Bay hydrologic unit (HUC 18050001). Most

drainages that historically occurred in the rivers in the Solano County have been modified over the last century or more to improve water transport, flood protection, and agricultural development (Solano County Water Agency 2009). Wetlands and drainages have been filled for development and agricultural improvements, including features that are waters of the United States.

California now has approximately 2.9 million acres of wetlands, which is approximately 10% of the wetland area that was present two hundred years ago. Around the San Francisco Estuary, almost 200,000 acres of tidal marshes existed historically, much of which were large marshes of 50,000 acres or more in Suisun, North Bay, and South Bay. Approximately half of the grasslands above the tidal marshes were seasonally moist. By the 1950s, there were only about 50,000 acres of tidal marshes in the entire estuary, about 25% of the historical amount. Loss has continued more slowly since then. Currently, less than 1% of the non-saline historic wetlands and about 15% of the historic salt marsh in the San Francisco Estuary remain due to direct conversion of wetlands to other land uses and changes in watershed land use that indirectly result in wetland loss. Since the mid-1800s, moist grasslands in the Estuary have declined from about 60,000 acres to about 7,000 acres, and moist grassland/vernal pool habitat has declined from about 24,000 acres to about 15,000 acres, as a result of farming and urban uses.

In the eastern part of Suisun Marsh, wetlands were first diked in 1865 to be used for livestock grazing, and by the early 1900s, these areas were also farmed to produce various crops. Natural marsh ponds in the western portion of the marsh were established as duck clubs in the 1870s and 1880s. Today, Suisun Marsh is the largest contiguous protected area in the San Francisco Estuary, and includes a primary management area (89,000 acres of wetlands, channels, and bays) and a secondary management area (22,500 acres of adjacent uplands). (California Natural Resources Agency 2009; Goals Project 1999.)

Direct loss of waters of the United States in drainages and wetlands would be caused by the proposed project, and indirect effects on waters of the United States due to sedimentation could also occur. Additional projects proposed within the hydrologic unit, such as Fairfield Corporate Commons, Green Valley Corporate Park, and other business and residential projects in the area, have the potential to cause cumulative direct and indirect impacts on wetlands and drainages. Direct impacts can result from the placement of fill within a wetland or drainage. Indirect impacts can be caused by the accumulation of sediment in wetlands and drainages resulting from adjacent disturbances. Both direct and indirect impacts have the potential to add to the cumulative loss of wetland and drainage habitat.

The project alternatives would result in the direct and indirect loss of up to 22 acres of wetland habitat and 3.7 acres of drainage habitat. However, the proposed project, as well as all other existing and reasonably foreseeable projects in the project area, are required by Section 404 of the Clean Water Act, to result in no net loss of wetlands. Indirect impacts would be minimized through avoidance and minimization measures and BMPs also required under Section 404 permit conditions. The no net loss requirement under Section 404 of the Clean Water Act is implemented by the U.S. Army Corps of Engineers through their Section 404 permitting process. As such the cumulative impacts of the proposed project in combination with other existing and reasonably foreseeable projects on wetland resources would be reduced to a less than significant

level through implementation and compliance with the no net loss requirements under Section 404 of the Clean Water Act.

3.6.3.3 Threatened and Endangered Species

Eight threatened or endangered species occur or have the potential to occur within the project area. These species include:

- Contra Costa goldfields
- Callippe silverspot butterfly
- Vernal pool fairy shrimp
- Vernal pool tadpole shrimp
- Valley elderberry longhorn beetle
- California red-legged frog
- Swainson's hawk
- Central California coastal steelhead

Project alternatives would result in both direct and indirect impacts to these species. Avoidance, minimization and/or mitigation measures have been identified in Chapter 3.3. In addition, consultation under Section 7 of the Endangered Species Act and issuance of a Biological Opinion will be required prior to project approval. It is anticipated that avoidance, minimization and/or mitigation measures identified in Chapter 3.3 for these species, along with consultation under Section 7 will result in reducing and/or mitigating project impacts so that no long term impact to the health or stability of these species, or cumulative impact, would occur from project implementation.

