

Chapter 3 **Affected Environment; Environmental Consequences; and Avoidance, Minimization, and/or Mitigation Measures**

3.0 Introduction

The purpose of this introduction is to describe the organization and approach for this joint State/federal document (EIR/EIS). This EIR/EIS has been prepared to comply with the requirements of NEPA and CEQA (Public Resources Code [PRC] 21000 et seq.). Caltrans is the federal lead agency under NEPA pursuant to 23 U.S.C 327 and STA is acting as State lead agency under CEQA. This EIR/EIS has been prepared based on the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.); President's Council on Environmental Quality's (CEQ's) NEPA regulations (40 Code of Federal Regulations [CFR] 1500 to 1508); and U.S. Department of Transportation's Environmental Impact and Related Procedures (23 CFR 771). The intent of the preparers of this joint document is to provide the reader with a clear description of the environmental analysis conducted for the project within the framework of applicable regulations.

3.0.1 Approach for Joint NEPA/CEQA Document

NEPA and CEQA both require agencies to prepare environmental documents assessing the impacts of their projects and to circulate these documents to agencies and the public for comment. However, there are several key differences between NEPA and CEQA. In particular, the concept of significance is applied differently in each law. Under NEPA, significance is used to determine what type of environmental document would be required; an action with a significant overall impact on the environment would require an EIS. Under CEQA, determinations of significance are applied to individual impacts, not to the overall impact of the project. Further, NEPA does not require federal agencies to avoid or mitigate individual project impacts, only to propose mitigation measures, while CEQA requires mitigation to be provided for any impact determined to be significant, when feasible, regardless of whether the mitigation would reduce the impact to a less-than-significant level.

Caltrans is overseeing the preparation of this EIS under NEPA for the proposed action because they have determined that the whole of the proposed action may result in a significant overall impact on the quality of the human environment. STA has determined that the appropriate level of CEQA environmental documentation is an EIR because the project may have one or more significant individual impacts on the environment.

The NEPA and CEQA evaluations for this joint document are contained in Chapters 3, Affected Environment; Environmental Consequences; and Avoidance, Minimization, and/or Mitigation Measures and Chapter 4, California Environmental Quality Act Evaluation, respectively. In most instances, the affected environment, or environmental setting, reflects the physical environmental

conditions in the project area at the time the CEQA Notice of Preparation (NOP) and NEPA Notice of Intent (NOI) are published, per the requirements of both CEQA and NEPA. Since 2000, the conditions in the corridor have continually evolved, and the EIR/EIS and supporting technical reports have been updated to reflect current conditions. Additional field reviews and/or research was conducted for biological resources, visual resources, land use, traffic, noise, air quality, and hydrology/water quality.

3.0.2 Cumulative Impact Analysis

Potential cumulative impacts of the project and impact assessment under both NEPA and CEQA are described in each technical section of Chapter 3. The requirements of each law relative to cumulative analysis are described below. In addition, this section identifies the approach used for the cumulative analysis throughout Chapter 3. As shown throughout the chapter, there are no cumulative impacts associated with any of the four build alternatives.

3.0.2.1 Requirements for Cumulative Impact Analysis

Cumulative Analysis under NEPA

Under NEPA, a cumulative impact is the impact on the environment that results from the incremental impact of the project when added to other past, present, and reasonably foreseeable future projects regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR § 1508.7).

A cumulative impact includes the total effect on a natural resource, ecosystem, or human community due to past, present, and reasonably foreseeable future activities or actions of federal, non-federal, public, and private entities. Cumulative impacts may also include the effects of natural processes and events, depending on the specific resource in question. Cumulative impacts include the total of all impacts to a particular resource that have occurred, are occurring, and will likely occur as a result of any action or influence, including the direct and indirect impacts of a federal activity. Accordingly, there may be different levels of cumulative impacts on different environmental resources.

Cumulative Analysis under CEQA

Under CEQA, cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time (CEQA Guidelines Section 15355). CEQA requires that the EIR analyze the project's incremental impact in the context of the cumulative impact to determine whether the project will make a considerable contribution to that cumulative impact. A considerable contribution is significant.

A project's contribution to a cumulative impact may be considered less than significant if it is implementing a plan or program designed to avoid the cumulative impact (CEQA Guidelines Section 15064[h]) or if it will implement or fund its fair share of a mitigation measure designed to alleviate the cumulative impact (CEQA Guidelines Section 15130[a]).

The cumulative impact analysis may be less detailed than the analysis of the project's individual effects. The cumulative impact analysis must identify related projects through a "list" or a "projection" approach, summarize effects of the related projects, and contain a reasonable analysis of cumulative impacts and mitigation measures (State CEQA Guidelines Section 15130[b]).

3.0.2.2 Approach to Cumulative Impact Analysis

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

The analysis of cumulative impacts is largely based on information provided by STA; the Cities of Vacaville, Fairfield, and Suisun City; and Solano County regarding other projects which have been recently completed or are in the planning stages. The existing and proposed projects listed below have been included in this analysis because they either are close to the corridor or could affect regional resources.

- **Leisure Town Road Overcrossing and Interchange at I-80, City of Vacaville.** The City of Vacaville and Caltrans replaced the existing Leisure Town Road/I-80 overcrossing with a new bridge structure similar to the Allison/I-80 overcrossing. This project is located at the end of Leisure Town Road outside the project limits for Alternative B, Alternative C, and Alternative D. Potential resources affected by the overcrossing project include traffic and visual resources.
- **Al Patch Park, City of Vacaville.** The City of Vacaville constructed a 34.3-acre sports complex consisting of five lighted softball fields, a lighted football field surrounded by an all-weather track, a playground/tot lot area, group picnic shelters, off-street parking, batting cages, and a single-story building complex housing a food concession area and restrooms. The park is located on the northwest corner of Peabody Road and California Drive.
- **Elmira Road Widening—Peabody Road to Allison Drive, City of Vacaville.** The City of Vacaville is acquiring right-of-way to widen the north side of Elmira Road between Peabody Road and Allison Drive.
- **Fairfield-Vacaville Multimodal Train Station, City of Fairfield (Sphere of Influence).** This station is planned as a multimodal transportation hub for the Capitol Corridor intercity passenger train service and for feeder bus systems serving the train station. Also, the Fairfield/Suisun Short-Range Transit Plan projects that an additional route to the northern part of Fairfield would be needed. The Fairfield-Vacaville Multimodal Train Station was identified in the Solano County Rail Facility Plan as one of three priority projects. This rail station would be located at the corner of

Peabody Road and Cement Hill/Vanden Road, a major intersection along the corridor. Each of the four build alternatives include roadway segments adjacent to the site of the proposed train station. Resources potentially affected by the train station would be similar to those described for the Jepson Parkway Project. However, all four build alternatives have been designed to accommodate the train station.

- **Technology Park, City of Fairfield.** Vanden Road travels through an area designated in the City of Fairfield General Plan for an 800-acre technology park. It should be noted that the actual development area of Technology Park is expected to result in about 310 acres due to environmental constraints relating to wetlands. Similar to the Jepson Parkway Project, development of the Technology Park could impact biological resources, traffic, and visual resources.
- **Travis Air Force Base expansion, City of Fairfield.** Vanden Road travels through an area to be reserved for expansion of Travis Air Force Base. Similar to the development of the Technology Park, the Air Base expansion could impact biological resources, traffic, and visual resources.
- **Petersen Ranch, City of Suisun.** Petersen Ranch is a 153-acre residential development adjacent to Walters Road between Bella Vista Drive and East Tabor Avenue. Resources potentially affected by Petersen Ranch include visual, biological resources, and traffic.
- **Villages at Fairfield Residential Development, City of Fairfield.** The Villages at Fairfield residential development is located on approximately 440 acres in the northeastern area of the City of Fairfield, north of Air Base Parkway between Claybank Road and Peabody Road. The corridor is adjacent to the Woodlake Estates residential development to the west, and adjacent to the Goldridge residential development to the east. The Villages at Fairfield includes approximately 2,400 housing units, a commercial shopping center, an elementary school, two neighborhood parks, a portion of the Fairfield Linear Park, and associated public facilities, roadways and utilities. The Villages project could impact traffic, biological resources, and visual resources.
- **Solano Countywide Bicycle Plan.** A continuous bike path is proposed along Leisure Town Road, Vanden Road, Cement Hill Road, and Walters Road. Each of these roadways is included in one or more of the project alternatives. The updated Countywide Bicycle Plan describes bikeways along the corridor as priority projects. Implementation of the bike path could impact biological resources along the alignment.
- **Improvements to the I-80/I-505 Interchange.** Caltrans is preparing a project study report for improvements to the I-80/I-505 interchange in Vacaville. The report focuses on improvements that address existing weave conditions of traffic entering and exiting these roadways from local on- and off-ramps. Implementation of the plan could impact traffic, visual quality, noise, air quality, and biological resources.
- **High-Occupancy Vehicle (HOV) Lane on I-80.** The Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP) and the Solano Comprehensive Transportation Plan

include a HOV lane on I-80 in Solano County. This project is now under construction and could impact traffic, biological resources, air quality, and noise.

- **I-80/North Texas Street Interchange and Manuel Campos Parkway Extension.** The City of Fairfield will improve the I-80/North Texas Street interchange by widening the existing bridge over I-80 from two to four lanes and reconstructing the I-80 eastbound ramps. Manuel Campos Parkway would extend from this interchange to Cement Hill Road, connecting to the Jepson Parkway at either Walters Road or Peabody Road. Manuel Campos Parkway would be a major east-west arterial. Implementation of this project could impact biological resources, air quality, traffic, noise, water quality, and, visual resources.

3.0.3 Section Organization

Each section of this chapter discusses a specific resource area (e.g., air quality, land use) and generally includes the following sections:

- **Regulatory Setting:** This section lists federal, State, and local policies, regulations, and standards that apply to the resource area, as well as applicable federal, State, and local agencies. For example, Section 3.15.6, Invasive Species, lists Executive Order 13112 (Invasive Species), the California Department of Food and Agriculture's invasive plant species list, and the California Invasive Plant Council's plant species list.
- **Affected Environment:** This section describes the existing project site and study area conditions with respect to the resource area. For example, Section 3.15.6, Invasive Species, lists potential invasive species that would occur in the biological study area, including the potential for infestation by specific species at particular locations.
- **Impacts (Including Permanent, Temporary, Direct, Indirect, and Cumulative):** This section first describes the technical methodology for impact assessment. If models were used to assess impacts, the models are described in this section, in addition to other technical tools. It also discusses the adverse effects of the project with respect to the resource area. Each impact discussion begins with a summary comparing the impacts of each alternative, and then continues to describe each alternative in detail. For example, in Section 3.3, Farmlands/Agricultural Lands, Impact FA-1 is followed by a description of the impacts under Alternatives A to E, respectively. Significance thresholds and conclusions relative to CEQA are contained in Chapter 4, California Environmental Quality Act Evaluation.
- The following two letter codes are used to identify the environmental issues discussed in this section:
 - LU – Land Use
 - GR – Growth
 - FA – Farmlands/Agricultural Lands
 - CI – Community Impacts
 - UT – Utilities/Emergency Services
 - VIS – Visual/Aesthetics
 - CR – Cultural Resources
 - TRA – Traffic and Transportation/
Pedestrian and Bicycle Facilities

- HYD – Hydrology and Floodplains
 - WQ – Water Quality and Stormwater Run-Off
 - GEO – Geology, Soils, and Seismicity
 - HAZ – Hazardous Waste and Materials
 - AQ – Air Quality
 - N – Noise
 - BR – Biological Environment
- **Avoidance, Minimization, and/or Mitigation Measures:** This section lists measures that shall be implemented to reduce adverse effects. For example, Section 3.3, Farmlands/Agricultural Lands, lists Mitigation Measure FA-1 (Compensate for Conversion of Important Farmland, including Prime Farmland).

3.0.4 Overview and Terminology of Impacts and Mitigation Measures

As provided in Caltrans' Annotated EIR/EIS Outline, impacts are identified as permanent, temporary, direct, or indirect effects (the terms *effects* and *impacts* are synonymous).¹ Under NEPA, effects include ecological, aesthetic, historic, cultural, economic, social, and health effects, whether they are direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the overall effect would be beneficial (40 CFR 1508.8). For the purposes of this analysis, these terms are defined as follows:

- **Permanent impacts** are irreversible changes and changes that would occur from operation of the proposed action.
- **Temporary impacts** would occur only during the construction period of the proposed action.
- **Direct impacts** would occur within the project footprint or temporary construction areas. Direct impacts are caused by the proposed action and occur at the same time and place (40 CFR 1508.8).
- **Indirect impacts** would be caused by the proposed action and would occur later in time or farther removed in distance, but would still be reasonably foreseeable. Indirect impacts may include growth-inducing and other effects related to induced changes in the pattern of land use, population density, or growth rate, as well as related effects on air, water, and other natural systems, including ecosystems (40 CFR 1508.8).
- **Cumulative impacts**, according to the NEPA regulations, occur as a result of the incremental impact of the project when added to other past, present, and reasonably foreseeable future projects, regardless of what agency (federal or nonfederal) or person undertakes the other projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time (40 CFR 1508.7). According to CEQA Guidelines Section 15355, cumulative impacts are defined as two or more individual effects that when considered together are

¹ California Department of Transportation (Caltrans). 2003. Environmental Impact Report/Environmental Impact Statement Annotated Outline. Last Revised: July 2007. Available: <http://www.dot.ca.gov/ser/downloads/templates/EIR-EIS_outline.doc>

considerable or compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time.

3.0.5 Background Technical Studies

The following technical studies have been prepared for the Jepson Parkway Project and form the basis for the analysis in the following resource sections. As reflected below, the technical reports were updated as needed to reflect current conditions in the corridor. These reports are also listed in Appendix H.

- An Initial Site Assessment was completed in 2005. A new Initial Site Assessment was prepared in 2008.
- A Transportation/Circulation Impacts Report was prepared in 2006. A new Transportation/Circulation Impacts Report was completed in 2007. A Visual Impact Assessment was prepared in 2005; an addendum to the assessment was prepared in 2008.
- A Hydrology and Water Quality Technical Report was prepared in 2005.
- An Air Quality Technical Report was prepared in 2005. A new Air Quality Technical Report was prepared in 2008.
- A Noise Study Technical Report was prepared in 2005. A new Noise Technical Report was prepared in 2008.
- A Delineation of Waters of the United States was submitted to the Corps in March 2006.
- The Draft Section 4(f) Evaluation was updated in 2007.
- The Historic Property Survey Report was completed in 2006.
- A Natural Environment Study was prepared in 2006; an addendum to the study was prepared in 2007.
- A Location Hydraulic Study was prepared in 2005. A new Location Hydraulic Study was completed in 2008.
- A Community Impact Assessment was prepared in 2006; an addendum to the assessment was prepared in 2008.
- A Relocation Impact Report was prepared in 2006; an addendum to the report was prepared in 2007.
- The Mobile Source Air Toxics Technical Report was completed in 2008.