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# Chapter 3

## Affected Environment, Environmental Consequences, and Mitigation Measures

### Introduction

This section provides an overview of the environmental analysis chapter, which includes sections 3.1 through 3.19. The environmental analysis sections describe the setting, environmental consequences, and avoidance, minimization, and mitigation measures of the proposed alternatives. This section also provides background information that will assist the reader in understanding the analysis.

### Scope of Supplemental DEIS

In keeping with FTA's "Keys to the Efficient Development of Useful Environmental Documents" (September 2007), the Supplemental DEIS focuses on resources where significant environmental issues associated with the alternatives are expected to occur. These resources were identified based on previous environmental studies conducted for the state environmental document and on comments received during the environmental scoping process. These areas include:

- Transportation
- Air Quality and Climate Change
- Energy
- Environmental Justice
- Noise and Vibration
- Safety and Security
- Construction

For other resources where no significant environmental issues are expected to occur or where the public and agencies did not express concerns, they are summarized or simply referenced commensurate with the adversity of the impact.

## Resource Study Area

The general study area is shown in Figure 3-1, however each environmental resource area is defined in the corresponding resource section.

## Technical Assumptions

Specific assumptions for determining environmental impact for the alternatives are summarized in each section. For example, land use assumptions are derived from the Association of Bay Area Governments Projections series, and are released at the Census tract level. Demographic characteristics are based on 2000 U.S. Census data.

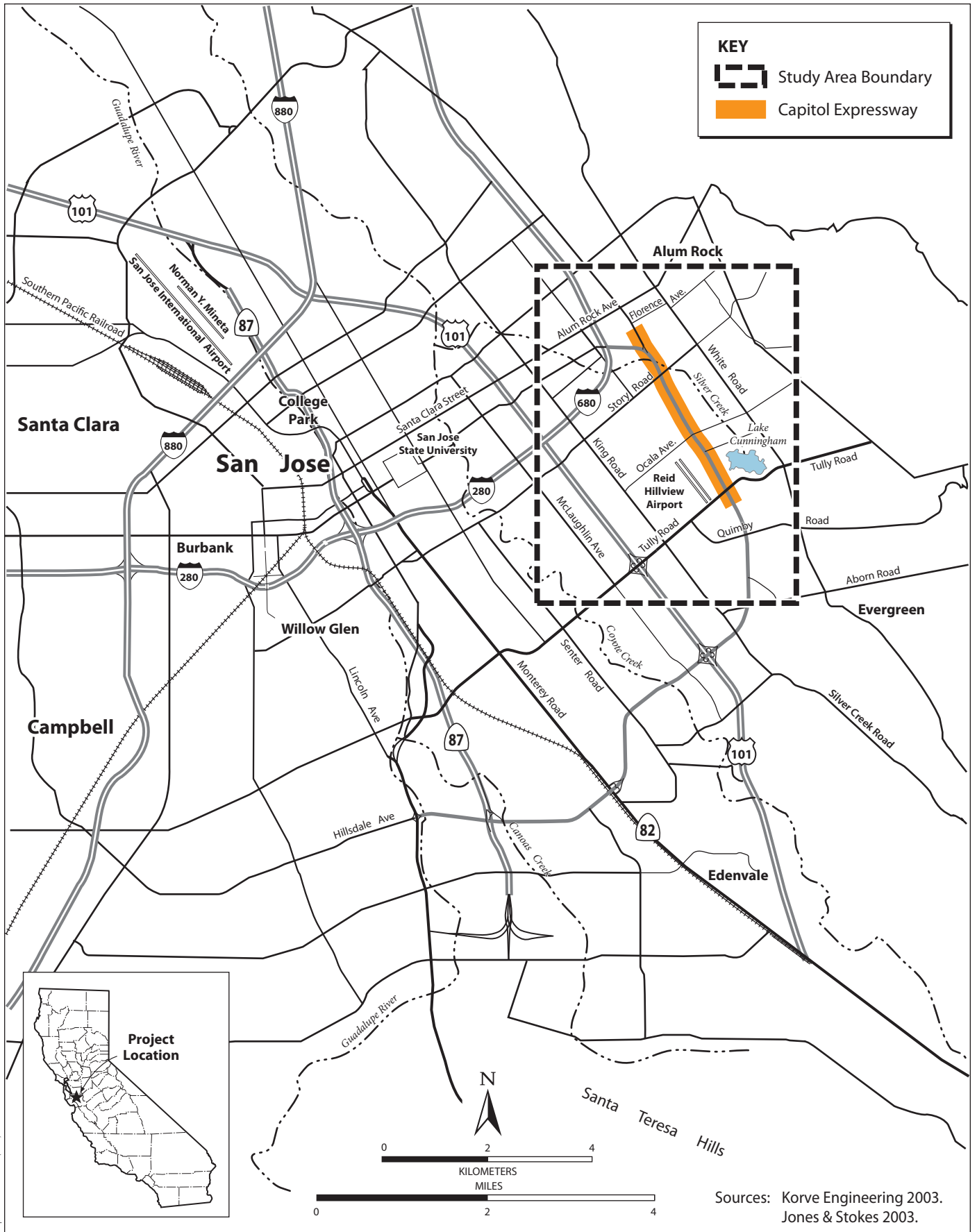
## Overview and Terminology of Impacts and Mitigation Measures

This environmental document complies with National Environmental Policy Act (NEPA) requirements for the preparation of a Supplemental Draft Environmental Impact Statement (Supplemental DEIS or SDEIS). Previous environmental documents prepared for this project also complied with CEQA. Use of the term “significant” differs under these two laws. The determination of significance under CEQA is based upon impact thresholds. The impact thresholds are based upon Appendix G of the State CEQA Guidelines, thresholds adopted by VTA and professional practice. While CEQA requires that a threshold be applied to the determination of significant impacts stated in an EIR, NEPA does not require such thresholds in an EIS. Since impact thresholds are not applicable under NEPA, they are not discussed in the SDEIS. Pursuant to NEPA regulations (Code of Federal Regulations, Title 40, Sections 1500-1508), project effects are evaluated based on the criteria of context and intensity. Context means the affected environment in which a proposed project occurs. The severity of the effect is examined in terms of the type, quality, and sensitivity of the resource involved; the location and extent of the effect; the duration of the effect (short- or long-term) and other considerations of context. Intensity means the degree or magnitude of a potential adverse effect. Each section of this chapter includes a discussion of environmental impacts under NEPA that is consistent with the previous environmental documents.

## Types of Effects and Impacts

According to 40 CFR§1508.8, the type of effects include:

- (a) Direct effects, which are caused by the action and occur at the same time and place.
- (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.



**Figure 3-1**  
**Capitol Expressway Study Area**

According to 40 CFR§1508.7, a *cumulative impact* is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The terms, “effects” and “impacts”, as used in this document are synonymous. Effects can be beneficial, adverse, or both. According to NEPA, the significance of an effect is based on context and intensity of the proposed action that can vary depending on the setting.

## Mitigation Measures

Under NEPA, an EIS must include a discussion of the means to mitigate adverse environmental effects. In developing mitigation measures for the effects of the proposed alternatives under consideration in this EIS, VTA is guided by definitions in the Council on Environmental Quality’s NEPA Regulations.

Adequate mitigation is defined as one or more of the following:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.
- Compensating for secondary impacts caused by mitigation measures proposed in one resource area that may indirectly affect another.

As stated in 23 CRF 771.105(d), it is FTA policy that measures necessary to mitigate adverse impacts (both significant and not significant) be incorporated into the proposed action.

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